

IN HIS OWN WORDS

DIALOGUES WITH REN

VOLUME III

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Huawei's AI Technology: Protecting Rainforests

Rainforests are called the "lungs of the Earth" since they are a great help in alleviating global warming. In Costa Rica, a group of rainforest guardians and biologists are no longer working alone; they are using Huawei's AI technology to help protect rainforests. This is how we help everyone benefit from technology and build a fully connected, intelligent world.



Communications in Albania Rapidly Restored

In January 2010, Albania was hit by an unusually heavy snowstorm, which interrupted communications. Shortly after the snow, a rainstorm flooded nearly a third of the country. On our way to the affected regions, we shoveled roads and towed or pushed cars to get them on their way. We even used a helicopter to deliver equipment. Ultimately, we managed to quickly get communications back up and running in the regions hit.



Offering Higher Education Opportunities to Women in Bangladesh

Bangladeshi women face many obstacles in their pursuit of higher education. Due to their lack of latest knowledge and skills, they face many challenges finding jobs and seeking further personal development. To address these challenges, Huawei partnered with the ICT Division of Bangladesh and local carriers to empower the sustainable development of female education using ICT technologies. We used six buses equipped with training facilities to help women master digital skills. Our goal is to allow 240,000 women in the 64 regions of Bangladesh to benefit from this program within three years.



Rebuilding after Floods in Thailand

In November 2011, Thailand was hit by severe floods – the worst flooding over the past 50 years. Huawei worked side by side with customers to protect network equipment and keep communications running smoothly. We actively supported cleanup efforts in local communities after the floods.



Heroes are forged, not born.

During World War II, the famous IL-2 kept flying even after being riddled by anti-aircraft shells and machine-gun fire from other planes. Although badly damaged, it finally made its way back home.

Contents

September 2019

01. Ren Zhengfei's Interview with The New York Times	01
02. Ren Zhengfei's Interview with The Economist	23
03. Ren Zhengfei's Interview with Fortune	51
04. A Coffee with Ren II: Innovation, Rules & Trust	72

October 2019

05. Ren Zhengfei's Northern European Media Roundtable	133
06. Ren Zhengfei's Interview with Kyodo News	182
07. Ren Zhengfei's Arabic Media Roundtable	212
08. Ren Zhengfei's Interview with Euronews	242

November 2019

09. Ren Zhengfei's Interview with The Wall Street Journal	281
10. Ren Zhengfei's German Media Roundtable	318
11. A Coffee with Ren III: Digital Sovereignty, From Words To Action	337



Ren Zhengfei's Interview with The New York Times

September 9, 2019 Shenzhen, China

Thomas L. Friedman, Op-Ed Columnist: I just want to first thank you. I've had a fantastic day here at Huawei with your team. I could write a book on what I learned this morning.

Ren: This afternoon, please ask whatever questions you want. I will be very frank in my answers, including with any of your trickier questions.

01 Thomas L. Friedman: I'm looking forward to it. I know you will be. Let's get right to business. As I have explained to your colleagues, there are two stories in the world right now. There's the US-China trade story and then there's the US-Huawei story. My view is that the US-Huawei story is more important than the US-China story.

Ren: I am flattered.

Thomas L. Friedman: US-China will figure that out, more soybeans, more Chinese goods. But US-Huawei, I think, is so important because of what Huawei represents. And I'll explain.

Ren: Actually, we can also find solutions to the US-Huawei problem. For example, Huawei can buy more chips from Qualcomm and Intel, and buy more software suites from Google and Microsoft. We can also support the research of more professors from US universities

without asking for the results of their research in return. Doing this will help ease the conflict.

Thomas L. Friedman: So let me ask, let's go right to that issue. To me, over the last 30 years, trade between America and China was mostly of what I call "surface things" and "shallow things"; the clothes we wore on our back and the shoes on our feet. What Huawei represents in wanting to sell 5G to America is not "surface trade" any more, it's "deep trade". You're the front end of China now, making many technologies that actually go deep in our streets, our homes, our bedrooms, and our privacy, and that is a new thing.

When it comes to the exchange of "deep things", we were able to sell China these kinds of "deep things" because you didn't have any other options. We had it and if you wanted it, you had to buy from Microsoft or Apple. But now that China wants to sell us "deep things". Because it's advanced technologically, the problem is we don't actually have the level of trust yet needed to be trading in "deep things". That's why, I believe, either we solve the Huawei problem, or globalization is going to fracture.

Ren: Well first, we have no plans to sell our equipment to the US, so I don't really think there is such a deep-rooted contradiction between Huawei and the US.

Second, we have been more than open to sharing

our 5G technologies and techniques with US companies, so that they can build up their own 5G industry. That would create a balanced situation between China, the US, and Europe. This is something we have been ready to do, but the US side has to accept us at some level for that to happen.

Thomas L. Friedman: So let's talk about that. That's a very interesting proposal. So, in that case, maybe a company like Cisco could license your 5G, the entire set of 5G production techniques and software. Is that the idea that an American company could license all of that and use Huawei's technology to build a 5G network on a kind of license basis, so then Americans wouldn't have to worry about Huawei spying on America?

Ren: Yes. It doesn't have to be Cisco. It could be Amazon. They have a lot of money. Apple could do as well.

Thomas L. Friedman: Interesting. Mr. Ren, that's a very important proposal. Has this proposal ever been made in public before?

Ren: This interview is considered public, right? I guess you are the first to hear it.

Thomas L. Friedman: So this has not been discussed with any American companies yet?

Ren: No.

Thomas L. Friedman: So another question that we have is, would you consider listing Huawei shares on the New York Stock Exchange or the NASDAQ for transparency assurance?

Ren: What I just said has nothing to do with Huawei doing business in the US. It's about helping US companies use our technologies to do business in the US. Based on the 5G technology we provide, US companies can continue to work on 6G. They can also modify our 5G technologies to meet their security requirements. It is impossible to develop successful 6G without having 5G. Millimeter wave spectrum is too short for 6G, so it would be very difficult for US companies to build a 6G network without our technology. That won't happen for another 10 years though.

Thomas L. Friedman: Interesting, so if I were Amazon or Microsoft and I wanted to do this, I would pay Huawei like a licensing fee. Would that be the idea?

Ren: Yes. It would be even better if you hired me as well. I am good with a salary a bit less than Tim Cook's. I am always blown away by the high salaries executives have in the US.

Thomas L. Friedman: While we are on that subject,

can I buy just one share in Huawei while I'm here?

Ren: Not possible. You aren't a Huawei employee. Only Huawei employees can buy Huawei shares. We'd welcome you if you want to come on board though.

02

Thomas L. Friedman: One of the things we'd heard was that Huawei was in talks with the Department of Justice about trying to settle some of the outstanding issues of the past. Do you think there's a deal to be had there? Are you in talks? Would you be ready to be in talks with the Department of Justice on these issues to try to clear up all the old baggage?

Ren: I don't think we have had these kinds of talks, and we wouldn't proactively reach out to the US government. We instead will continue to follow the legal procedures. During that process, if the US reaches out to us in good faith and promises to change their irrational approach to Huawei, then we are open to a dialogue.

Thomas L. Friedman: Let's talk about that for a second. When you say, "change their irrational approach", what specifically would be required?

Ren: The US shouldn't try to destroy Huawei over something trivial. If the US feels we have done something wrong, then we can discuss it in good faith and find a reasonable solution. I think we can accept

that approach.

Thomas L. Friedman: Open to a dialogue with the Department of Justice on those terms?

Ren: Yes.

Thomas L. Friedman: Some people say Huawei and Mr. Ren would be happy to settle, but Beijing won't let them?

Ren: No. This is an issue about Huawei itself; it has nothing to do with Beijing. Beijing is not interested in these problems. Without 5G, there would be 6G; without 6G, there would be 7G. We see a long road ahead of us. With money, we can buy almost anything. We planned to sell our business to US companies, but they didn't want us.

03 Thomas L. Friedman: So this is a sensitive question. They're all sensitive but this one in particular. Are you comfortable with the way that Beijing has treated two Canadians who are detained in connection with your daughter's situation in Canada?

Ren: I cannot say whether these two cases are connected. My daughter is innocent and I'm not satisfied with her detention by the Canadian government. I don't really know about the relationship between the two countries.

Thomas L. Friedman: You're not being consulted on it?

Ren: Never.

04

Thomas L. Friedman: One of the interesting things I learned today with Vincent and the team is, if Huawei were able to build 5G in America on a competitive basis with other countries, that it could save up to 240 billion US dollars in the buildout of 5G across America, if Huawei were there competing with its alternative. Talk for a minute, Mr. Ren, what America loses by not having Huawei compete to build our 5G infrastructure?

Ren: I just said that I would agree to transfer our 5G technology to US companies. If that becomes a reality, the 240 billion US dollars you mentioned would go to those US companies, not us.

05

Thomas L. Friedman: Mr. Ren, if President Trump were sitting here, and you got to talk to him directly about Huawei's situation and its aspirations for the American market, what would you say to President Trump?

Ren: First, it's unlikely that he might be sitting here. Second, I think collaboration for shared success is the way forward in the future. I read your book, *The World Is Flat*. Globalization will lead to optimal allocation and utilization of global resources. For example, if

there is only one company that produces a component and supplies it worldwide, then there is no need to make repeated investments into the research of that component. This will translate into lower R&D costs. In addition, the global market is big enough to help bring down the cost of the component. If the product is both high-quality and affordable, it will contribute a lot to humanity. Actually, it is the US that put forward the notion of globalization in the first place. It was a very smart move back then, and they should stick with it.

When it comes to the security of the supply chain in the natural environment, no company would rely on only one vendor for a component, or put all their eggs in one basket. They may find alternative vendors. When there is an earthquake, fire, or when a machine breaks down, one vendor alone cannot ensure the security of the global supply chain. So a component needs at least two vendors to limit risks because it can help secure supply in the event of a natural disaster. However, this causes redundant R&D investments, halves the market share, and drives up costs.

If security is approached from a political perspective and there is a lack of mutual trust, the world would be split into two or even three different parts. Even the US does not dare to place all their bets on a single company. The reason why the US passed the Antitrust Act is that they wanted to have at least two players in

every sector in the US market and in markets outside the US. As a result, a company that used to serve the global market now only serves a quarter of it at most. And R&D expenses have quadrupled. This is a huge waste for our society.

Globalization is in the best interests of humanity. The US is best positioned in the tech sector. Everyone wants to buy chipsets from US companies. If US companies sell more chipsets, quality will go up and costs will go down. Then other companies will find it hard to compete with them. Microsoft Windows and Office are good examples of this. It's unlikely that we will see another vendor in that field.

Thomas L. Friedman: If President Trump says, "Sorry, Microsoft, you cannot sell Windows to Huawei. Google, you cannot put Android on Huawei's phone. Intel, you cannot sell chips for Huawei handsets." What will Huawei do? Will it go out of business or develop its own version of Windows, its own version of Android, and its own chips?

Ren: No matter which company decides not to sell a product, there will always be other alternatives. We should believe that humanity will not just die out. When there was not enough food, people ate wild fruits or even tree bark and survived, right?

Thomas L. Friedman: Huawei will not die either. I

mean, you will survive this.

Ren: As long as there is market demand, there will always be alternatives.

06

Thomas L. Friedman: It seems Huawei has a lot of enemies. It has challengers in our intelligence community. They say it's a front for PLA spying. It has competitive enemies like Qualcomm and Cisco. All these companies are saying Huawei stole this and that. Is that just competitive jealousy? Is it just conspiracy theories? What are the things that Huawei has done in its rapid growth that it regrets now?

Ren: You said the world is flat. Maybe not necessarily 100% flat, in my opinion. There are also bumps, and ups and downs. There may even be glaciers in between. From that perspective, Huawei is mentally prepared to embrace all the different ways people see us.

If you look at the history of China and also the development trajectory of the Chinese society, Huawei was born by accident. During the 10-year Cultural Revolution, China's economy stagnated and even went backwards to the extent that the economy was on the brink of collapse.

That was a time when tens of millions of young people had no jobs and were sent to rural parts of

China. After the Cultural Revolution ended, those tens of millions of young people looked to return to cities, causing much unrest in society. The central government agreed to have them come back to the cities where they originally came.

At that time, workers in factories did not have enough work to do, let alone extra jobs for those young people coming back. The country was concerned about the employment of these people because if they had nothing to do, it would only lead to social unrest and instability.

Then the government mobilized some businesses to set up labor services subsidiaries to work on stuff like cleaning. But still, there were not enough jobs for all of those young people.

Some people who could not find their way out started to sell big bowls of tea or steamed buns in street stalls. That's how China's private sector started, from those stalls selling big bowls of tea, steamed buns, and things like that.

The government then found this was a feasible way to create sufficient jobs. So they gave permission to these small private businesses selling noodles, steamed buns, and big bowls of tea. This was not the delicate tea like we are having now. Back then, they only sold big bowls of cheap tea under shabby tents in the street, a

cent or two each.

After some time, some businesses did quite well and grew bigger. But the central government issued a document saying businesses were not allowed to employ more than five or eight people; otherwise, they would be capitalistic. China's private sector was forced into existence, not planned.

Huawei was founded at that time. We had more than eight employees, and we operated under huge pressure. It was very difficult for us to add even one more person to the workforce, because we could not get licenses from the government of the Shenzhen Special Economic Zone.

However, as we often say in China, you cannot keep spring in just one garden. Since private businesses were more efficient, and their employees worked much more diligently, they grew very fast. In the end, the government acknowledged the private sector as a new economic form in China.

But that only happened after a long time of struggling with the old mindset. I would say it was only until recent years that the private sector got a legitimate social status in China. At that time, we were considered communists outside of China; back in China, we were considered capitalists, because people in China saw us holding corporate shares and thought having money

was a form of capitalism. Therefore, the challenges that we have encountered do not necessarily come from outside of China, but also from within.

Thomas L. Friedman: One thing that strikes me in learning the Huawei story today and talking to your colleagues and listening to Mr. Ren now, is that you guys really had to fight your way to the top.

Ren: You know, we have always had lots of cuts and bruises, so we're not that concerned to add several more.

07 Thomas L. Friedman: When I talk to Chinese people, I find they're proud of Huawei. Are you like a rock star in China, Mr. Ren, when you go down the street or into a restaurant, like Steve Jobs and Bill Gates have been in the US?

Ren: I actually think I'm quite a pathetic person. If I go out on the street, people will take photos of me. This means I have no freedom at all. I'm not like the pop stars in other countries, who have their own private jets and can go wherever they want for their holidays, and I cannot hide myself from the public. I can't even enjoy a cup of coffee on the street.

I'm actually afraid of holidays, because there is nowhere I can go. I could only choose to stay at home,

drinking tea, watching TV, or taking a nap. So holidays actually feel like tough periods for me. The mid-autumn festival is approaching, but I have no clue where I will spend those three days.

Thomas L. Friedman: But what do Chinese people say to you on the street?

Ren: They say, "Can I take a photo with you?" And then they post the photo on the Internet. I have very little privacy. Wherever I go, people spot me, take photos with me, and post the photos on the Internet. I often feel like a rat that can't find a hole to hide myself in.

08

Thomas L. Friedman: So I want to go back to one of the hard questions. I had a senior American official say to me that Huawei has a little device, the size of a pin head, which can be installed on its PCBs or cell phones for the purpose of espionage, to create backdoors. This official said that we can't trust Huawei. He said to me, "Tom, if you only knew what I know, you would never buy a Huawei phone or use Huawei's 5G equipment."

Ren: I would say that this is more like fantasy or science fiction. If Huawei was that capable, why would we sell 5G equipment? I think, for any company, there will always be some areas that are highly sensitive and closed off to journalists. But when The Associated Press came to Huawei, we gave them a lot of time to film

our entire exhibition hall, including the circuit boards of our new 5G base stations. We also allowed them to take photos of all our equipment. Huawei is a business organization. What is the point of Huawei developing a tiny device, like what you just mentioned?

09 Thomas L. Friedman: It's very interesting. I've never seen a company that so many people had such strong and contradictory feelings about. "Great." "Love it." "Dangerous." "Espionage." Why is that?

Ren: The world will always have two extreme positions on things. If those who call Huawei a great company said Huawei was actually a little squirrel missing its big tail, then those who currently call Huawei a dangerous company would stop saying so. The two sides compete with each other, making exaggerations and trying to see who can get more attention.

10 Thomas L. Friedman: Who are your role models in technology? Bill Gates, Steve Jobs, Gordon Moore, Robert Noyce, or Jeff Bezos? Who are the people you look up to as role models?

Ren: Since I was young, I've held great admiration for all those outstanding figures, including great scientists like Einstein and Turing. When I was young, China was

still quite closed, and I couldn't see much of the outside world. But I still admired them a lot, because they had created great development opportunities for humanity.

11

Thomas L. Friedman: As we come to the limits of Moore's law, what's the next frontier for Huawei? 6G or basic breakthroughs in science and physics? What's the next mountain that Mr. Ren wants to climb?

Ren: AI.

Thomas L. Friedman: So what do you mean by that? Why and how?

Ren: We are building a platform to support AI.

Thomas L. Friedman: So this is a software platform, basically?

Ren: Both hardware and software. On September 18, we'll announce an AI cluster that connects 1,024 Ascend chips. This will be the fastest and largest AI platform in the world. So we don't create all the AI applications ourselves. Instead, we will provide a platform to enable all of society to participate in the development of AI.

Thomas L. Friedman: Are there other competitors around the world with an AI engine as powerful as Huawei's? Is Huawei catching up or is it leading in that area?

Ren: Google and NVIDIA can do similar things. It's just that Huawei is currently doing this better.

Thomas L. Friedman: What do you think AI will unlock in the next 10 years? What changes will we see with such a powerful AI engine? What will be its impact?

Ren: Our production line can now turn out a complete premium mobile phone every 20 seconds with basically no manual operations. If you have time, you are very welcome to visit our production line.

Thomas L. Friedman: What about the future? Would it take just two seconds to produce a phone in the future?

Ren: I think it will be faster in the future. We will have more advanced manufacturing with even fewer manual operations. It won't be down to just two seconds though.

Thomas L. Friedman: Incredible.

12

Thomas L. Friedman: When you look at America today, with our President saying, "No Huawei, nothing, you'll never eat in this town again", "We're going to pull American businesses out of China", "I'm going to win, you're going to lose." What do we look like to you?

Ren: I think the reality might be the opposite of what you just said. The US might lose.

Thomas L. Friedman: Why and how?

Ren: If the US opts out from globalization, how would it win? The US is sitting at the top of the world with many cutting-edge sciences and technologies. It's like the snow on the top of the Himalayas. This snow creates value only when it melts into water, and then flows down the slopes of the Himalayas to irrigate the land at the foot of the mountains. The land can then produce harvests, and people can share in these harvests.

If the US blocks the snow water from flowing down the slope, those companies at the very top of the mountain will be left out in the cold. Their employees will have to feed themselves. If there is no water to irrigate the farmland at the foot of the mountains and they cannot share in the harvest, then how can they have enough money to buy, say, steaks?

The US has strong advantages in the high-tech sector. If the US does not sell its technologies to other countries, I think it's highly unlikely that the US will achieve a trade balance. If that happens, then how can US workers expect a pay rise?

Thomas L. Friedman: Are we possibly facing, therefore, a digital Berlin Wall and an end to globalization?

Ren: Possibly. If the US government continues its current approach, it's possible that a wall like this could come down between us. If that happened, US companies who

have dominant positions in the global market would see a reduction of their global market shares. They would probably be able to only maintain half of the market share that they hold now. As a result, they would have to slash their budgets and lay off employees. The lives of Americans will be made more difficult, instead of better.

Thomas L. Friedman: So if Google can't sell Android and Microsoft can't sell Windows and Intel can't sell chips to Huawei, that won't be a small thing for American workers and companies. There'll be a huge impact.

Ren: Indeed. They will have to reduce their operating budgets.

13 Thomas L. Friedman: You've talked about AI and the next-generation technology businesses being a natural evolution of Huawei's business. Are there other businesses Huawei is interested in exploring in the future which don't follow this natural evolution?

Ren: We don't have time or resources to solve other problems. Huawei's addition to the Entity List has caused a lot of holes in our businesses, and our priority now is to fix these holes. It's not a time for us to get involved in other businesses. Huawei is like a bullet-riddled aircraft with hundreds or even thousands of holes. We need to fix these holes, or we will be unable to fly back home.

14

Thomas L. Friedman: So, on the Department of Justice, one last question, would there be any restrictions on what they could bring to the table to discuss? Or is it simply that you're open to talking with them about whatever is on their mind, you're saying, provided they come with a proper attitude? Just so I can clarify that.

Ren: There are no restrictions on what we would be willing to discuss with the Department of Justice.

Thomas L. Friedman: As long as they came with the right attitude?

Ren: Yes, exactly.

Thomas L. Friedman: I can't wait to get to Hong Kong and share this with the world.

Ren: I think that once the information is shared, something will happen. You know, the US is in a leading position when it comes to AI. The US has the most advanced super computers and the most advanced storage capabilities in the world. But the two must be connected at high speeds. The analogy is this: On an ordinary road, once the vehicle arrives at the destination, it is already late.

Thomas L. Friedman: And that's where 5G comes in?

Ren: Yes. You either need fiber or 5G. And fiber and 5G are the very areas where the US is currently lacking capabilities. The US is placing hope in 6G. But even for

6G research, Huawei is leading the world. However, we do not think the commercial use of 6G will begin for at least another 10 years. I don't think the US can afford to miss out on the next 10 years of AI development. At the moment, the speed of evolution for AI is doubling every three or four months. So, everyone has to run very fast to catch up. Maybe by the time we catch up, I will have already died. But no matter what, society will continue to develop.

Thomas L. Friedman: But what you're saying is that they can't run fast without Huawei right now?

Ren: Yes.

Thomas L. Friedman: I'm really excited to be the conveyer belt for what I think is a very important conversation. Thank you.



Ren Zhengfei's Interview with The Economist

September 10, 2019 Shenzhen, China

01

David Rennie, Beijing Bureau Chief and "Chaguan" Columnist, *The Economist*: Mr. Ren, before we ask you questions about Huawei, we would like to ask you a question about globalization and about how technology is challenging globalization, because you're also a very important global business leader, and you now have big companies that are selling products and services that can only make sense in a world of a great degree of trust. You know, it's not selling tennis shoes or tennis rackets. It's selling an autonomous car or a medical device. So this globalization is now seeing trade in products that requires a lifetime of trust, at the same time as countries like China and America find it very difficult to trust one another. Can this problem be resolved? What is your view on how this problem can be solved?

Ren: Please be straightforward in your questions. I will also be very frank in my answers.

Economic globalization can bring substantial benefits to all of humanity. This is because it will play a significant role in driving the optimal allocation of resources and reduction of service cost, thereby accelerating the pace of social progress. Economic globalization was a concept put forward by Western countries. Their guiding principle was to allow the West to trade their advanced technology and equipment for developing countries' raw materials and cost-efficient labor forces. This

enabled global trade. But the West did not expect that developing countries would slowly begin to move up the value chain with low-end production.

The West had a serious economic crisis in the 1960s and 1970s, brought about by conflicts between employers and employees. Some Western economists suggested higher pay, higher commodity prices, and higher consumption would solve this crisis. This theory worked well to address the West's problems for a while. For the next several decades until the end of the last century, their economy grew very quickly. Sustaining such an economic model requires very high yields though. Without high yields, it's going to be very difficult to ensure that you have enough wealth to distribute. Although developing countries created a massive market for Western countries to sell in, many products from these developing countries also entered developed markets. The clashes and contradictions that arose during the process are not an inherent problem with globalization, but occurred because of a lack of effective coordination between countries of these two different development stages.

Let me use the Europe-China relationship as an example to explain how we could possibly address this problem. China has made a commitment to the World Trade Organization (WTO) that it will significantly open up its service and manufacturing sectors. Over the last

two years, this opening up has been accelerating, even though it is still a bit behind the promised schedule.

The UK and Europe have accumulated hundreds of years of experience in the service sector. China has a huge demand for services. In this sense, if the export of large quantities of services is allowed from the West into China, it will facilitate the social advancement of China. In addition, the money earned by China from Europe through the export of products will return to Europe through the export of products and services, creating a more balanced economic situation.

Let's look at another example. China will reduce automobile tariffs to a very low level over the next five years. The UK and Europe produce the world's highest quality automobiles, while Japan produces the most cost-effective quality automobiles. Today, we need to address the problems arising from globalization one at a time, through consultation. There is nothing wrong with globalization itself. These problems are arising because the development mechanism has failed to adapt to some of the changes in our new environment and the different players involved are not sitting down to have good discussions about how best to coordinate on these problems.

Let's take Russia as another example. If Russia had been accepted as a member of the European Union,

I estimate that the trade between Russia and other Western countries would represent at least one trillion euros, because of Russia's energy exports and Western countries' machinery and equipment exports. These transactions would bring a lot of money into Europe, which would help Europe address the issues they are seeing related to increasing economic disparity.

I've had very good talks with George Osborne and David Cameron in the past. Back then, Osborne had already lowered the UK's tax rate to 21%, but these cuts didn't impact their national revenue. Why? Because the UK only allowed welfare to be distributed under certain conditions. To receive welfare, recipients would have to be actively seeking a job or make some form of contributions to community service, such as caring for the elderly or engaging in public health activities. The reduction in tax revenue equaled their reduced social welfare spending, and thus ensuring stability within the country.

Afterwards, Theresa May's administration announced that it would further lower the tax rate to 17%. All of these policies adopted in the UK are serving as the DNA for it to become an investment center again. All in all, this proves that different players have to keep adapting to the new globalized environment. A one-size-fits-all approach won't work.

This is my humble opinion.

02

David Rennie: I know my colleagues have many questions about Huawei. The one country you have not mentioned is the US. So you have talked about Europe and Japan. They can see the economic globalization. When you look at the US-China relationship, are you worried about the future of globalization?

Ren: Yes, I think China-US relations will affect the future of globalization. The US is the most powerful country in the world. It used to maintain order as the "policeman" of the world, and in return it was rewarded with the US dollar becoming the world's currency. The US collects seigniorage from the world by issuing US dollars. If the US continued to maintain world order, it would not stand to lose anything.

However, the US has destroyed this mechanism. People no longer believe that the US is trying to maintain order in the world, or that the US dollar is the most reliable reserve currency. When the world's confidence in the US and the US dollar starts to wane, the national debts and stock markets in the US will face crises, which will cause great economic and political turmoil in the US.

03

Patrick Foulis, Business Affairs Editor, *The Economist*: During 2019, US diplomats have made a big effort to persuade its allies not to use Huawei. Could Mr. Ren talk about how successful those efforts have been? Clearly it's focusing on its core allies like Britain and Australia, but it also looks as though countries like Vietnam have been put under heavy pressure not to use Huawei products. So how successful has the US boycott been?

Ren: First of all, it's perfectly normal for customers not to buy Huawei's equipment. In fact, many customers did not buy Huawei's equipment in the past. Most customers make their decisions based on commercial considerations.

When it comes to 5G, I think the US may be wrong to politicize 5G or treat it as something dangerous. Countries should make their decisions about 5G to facilitate their development rather than fulfil political agendas.

Let me give you an example. About 1,000 years ago, China was the most powerful country in the world. The prosperity depicted in the famous painting "Along the River During the Qingming Festival" was not made up; it was real.

Several hundred years ago, the philosophical thoughts and social systems in the UK led to the Industrial

Revolution. The British invented the train and steamship. However, China continued to rely mainly on horse-drawn carriages for transportation. Those carriages travelled at much slower speeds than trains, and they could carry far less cargo than steamboats. That's why China was left behind.

The UK became an industrial powerhouse, and managed to sell its products all over the world, hugely impacting social progress in many countries. Today, about two-thirds of the world's population speak English. With this example, I want to say that speed determines social progress.

5G is a connectivity technology that delivers high speeds, high bandwidth, and low latency. 5G represents speed in the information society. Countries that have speed will move forward rapidly. On the contrary, countries that give up speed and excellent connectivity technology may see economic slowdown.

The British are very intelligent, and British universities are among the best in the world. If the UK wants to make a comeback in industry, it needs speed in the information society.

Optical fibre networks and 5G technology that is based on optical fibre networks will connect supercomputers and super storage systems to support AI. If AI is able to increase productivity by ten-fold, then

the UK will become an industrial power with a workforce equivalent to hundreds of millions of people. When I say AI can increase productivity by ten-fold, this is just an estimation. The truth is that in some rare cases, with the aid of AI, efficiency can increase by 100 times or even 1,000 times.

Alan Turing, the father of AI, was British, as was the scientist who cloned Dolly the sheep. I simply cannot imagine what the world will be like when genetic and electronic technologies come together. I believe the UK has enormous potential for revitalization. Speed will determine whether the UK can be successful again.

04

Patrick Foulis: Could I ask some questions about Huawei in the last few months and the implications of the American actions against the company? So the first question is, could you talk about the financial performance of the business since May when the Entity List began? Have you seen a drop off in your revenues?

Ren: Our revenue has grown by 19.7% by the end of August, while our profits were similar to last year's. Our growth rate has declined from about 30% in the beginning of the year, to 23% by the end of June, and now down to 19.7%. Our profits didn't increase largely due to a significant increase in our strategic investments.

We have recruited a few thousand more employees worldwide, mostly high-end talent like young geniuses and fresh PhD graduates, to help patch our holes caused by the Entity List.

We have patched our holes in our network business, from 5G to core networks. On September 18, we will announce an AI cluster that connects 1,024 Ascend chips. This will be the fastest AI platform in the world.

Currently, the Entity List still impacts our consumer business, and it will take some time to patch our holes in this area.

Patrick Foulis: Can I ask, so if you look at the consumer business now and just take a snapshot, is it declining? Is it shrinking outside of China?

Ren: Our smartphone sales once declined in markets outside China, but the rate of that decline is now decreasing, now at around 10%.

05

Patrick Foulis: Later this month, I think you'll be launching the Mate 30, the new handset. At the moment, will it have Android and Google apps available on it? What's the latest on that?

Ren: The Mate 30 series won't have the Google Mobile Services (GMS) ecosystem pre-installed.

Patrick Foulis: That leads to my next question. If you

launch a handset that doesn't have the full suite of Google apps on it, is it correct to think that the volume you sell outside of China will be much lower than in the past? And following from that, does that suggest that the company faces quite a big financial hit in the second half of the year, in the fourth quarter?

Ren: We would like to continue using Android, because we remain on good terms with Google. Even if the US government won't allow us to continue using Android, we have our alternatives. It will take us two to three years to replace Android with our own system, during which time our phone sales in markets outside China will see some decline. We think it is understandable. Our smartphones have their unique features in addition to ecosystem applications, so we believe there will be many more customers who will like and accept our products. We will launch the Mate 30 series in Munich on September 19, and you can find out what features they will have then.

Patrick Foulis: Over this period when you may have to roll out your own system, do you think it's possible that a company can be pushed into making a loss?

Ren: No, our growth will slow down, but we won't see losses.

Patrick Foulis: If I was running Google and Huawei ends up pushing its operating system out globally, how

worried should I be?

Ren: Google is trying to persuade the US government to allow us to use their ecosystem. In this regard, we are willing to work with Google. Our operating system wasn't initially intended for smartphones. Moreover, Google's operating system is open source, so we can continue to use it. The US limits our use of Google Mobile Services, GMS. That ecosystem includes thousands of partners, and Huawei wouldn't be able to build a comparable ecosystem in just a couple of days. If the US government allows us to continue to use Google's ecosystem, the US would maintain its dominant position in this field. If the US government refuses to grant the license, it will hurt them in the long run.

06

Patrick Foulis: Part of your job is to try to rebuild trust. Are there some radical options open to the company that tries to rebuild trust? For example, welcoming a foreign investor or perhaps even selling parts of the 5G business operated outside of China. Could Mr. Ren talk a bit about the radical options of changing the structure of the company that might help rebuild trust?

Ren: It's unlikely that we will consider introducing external investors, because they often focus on profit. For Huawei, we put our aspiration above profit. Would we license our technologies to Western countries? Yes. We

would even be open to licensing all of our technologies. Our aspiration is to "serve humanity and achieve the pinnacle of science". Collaboration is consistent with our values, so we are willing to license our equipment to Western countries.

Patrick Foulis: Would this be a sale of the business, perhaps, the 5G business in some geographies, or licensing the technology to other manufacturers? Perhaps you could elaborate.

Ren: We can license technologies and production techniques. Whoever gets the technologies can develop new things based on them.

Patrick Foulis: Would Huawei employees and facilities be transferred to the new owners or just the intellectual property?

Ren: We would most certainly not transfer our employees. It would just be the technological know-how.

Patrick Foulis: Who do you think would be the partners? What kind of companies in America, for example, might be counterparts?

Ren: I haven't had any of this kind of discussion with anyone else yet, so I have no idea.

Patrick Foulis: Many people in Silicon Valley and in America will read this article, so this is the chance to explain to them the plan.

Ren: Right. I hope this article can help clear up some conflicts.

David Rennie: Both Mr. Foulis and I were based in America for many years. So more than half of our readers live in America. So if you're telling the American political world and the business world that you understand trust is a very important question, some American politicians really say, "I'm not interested in hearing about this piece or that piece of Huawei technology." They have a bigger problem: Why would you let a Chinese company build something as sensitive as 5G? So the political problem that you have in America is very hard to solve. Could you just explain a little bit more how big a transfer you could imagine? How big a solution are you thinking about to solve this problem? How radical a transfer of 5G technology?

Ren: If we transfer all our technologies to the US, then they can modify the code themselves. Neither Huawei nor anyone else in the world will be able to access these technologies anymore. The US will have independent 5G. Security won't be an issue as long as the US can properly manage its own companies. Then it will not be about us selling 5G in the US, but rather about US companies selling their own 5G in the US.

Hal Hodson, Asia Technology Correspondent, *The Economist*: Mr. Ren, would you envisage Huawei

competing with this hypothetical new entity in 5G technologies, outside of China, obviously not inside the United States, but in Africa or parts of Europe? Would you imagine competing with this new entity or how would that work?

Ren: Huawei can compete with new entities in those markets as well.

Stephanie Studer, Senior China Business Correspondent, *The Economist*: Is that a ballpark figure, Mr. Ren, on how much this sale would cost?

Ren: I don't have a number right now. This was just brought up, and I haven't done any calculations yet.

Stephanie Studer: Not even a range?

Ren: No, but we can talk about the range of technologies.

David Rennie: Politically, would it be better to have an American partner for 5G, or a European or Japanese partner? Or do you think your problem is American, so you should look for an American company willing to buy your 5G technology?

Ren: It depends on how big a market the potential partner would be able to carve out. If they could only capture a little market share through the purchase of our technologies, then that wouldn't be worthwhile. Such a deal is only feasible when they can anticipate

a large market share using our technologies. This is an evaluation process our potential partners will have to go through.

Patrick Foulis: What would be the time horizon for a radical project like this? Would it take a couple of years to achieve or could it be done quickly?

Ren: Pretty quickly.

Patrick Foulis: Before the 2020 election, perhaps?

Ren: This has nothing to do with the US general election. When I talk to you all, the general election is never a topic.

07

David Rennie: Can I ask you another political, kind of cultural question? When I worked in America, many very important American politicians would say, "China is rising very fast, but America has a magic weapon. Its magic weapon is it's a democracy and we have freedom of speech, and our university students are free to study and think whatever they want. China is an autocratic country so they cannot achieve real innovation." Now, people look at China and companies like Huawei are innovating. The Chinese political system is a one-party system, where students cannot see everything on the Internet and cannot read any book they want. Does that impose any limit on Chinese

innovation or creativity? Is there an advantage to being a democratic country in the field of innovation?

Ren: Academic freedom is the foundation of innovation. The freedom to have different academic ideas and to study whatever you want is very important. Undoubtedly, the US has the world's most innovation-friendly environment. Thanks to the Internet, people have easier access to information. Science and engineering papers have nothing to do with ideology, so they can be published and shared all over the world.

For example, the very source of 5G technology is a mathematical paper written in 2007 by Erdal Arikan, a Turkish mathematics professor. Two months after he published the paper, we read it. Then we put a lot of work into researching the paper and turned it into today's 5G standard.

China still has an inclusive environment when it comes to science and technology. On top of that, Huawei has a large number of non-Chinese scientists. We are doing our best to take in the nutrients of the times we are in, so we can move forward faster.

David Rennie: Clearly on the Internet you can see scientific papers, but there are also large parts of the global Internet that talk about politics, that talk about history, that are not available inside China to most people, because the Chinese government closes that

off. You have built this beautiful campus in Dongguan, full of beautiful European buildings. Do you also make sure that your designers and your researchers have VPNs so that they can see foreign news or foreign politics to look at big important questions that are not available to Chinese people?

Ren: If our engineers became politicians, Huawei would have collapsed. Engineers should focus on developing good products. They don't need to read about politics. What's the point of them caring about political issues? If our engineers are all out protesting, who is going to pay them?

David Rennie: To ask on that point, there was a famous speech that Deng Xiaoping gave in March 1978 about science in China, and he said exactly that it was time to allow scientists to do science and not to ask them to read too many political essays or to study politics. When I talk to professors at Chinese universities, they complain that the pressure now is to study Xi Jinping's thoughts and to study a lot of politics, and they feel that the time to think is being limited. You're a private company. Do you feel pressured to have your scientists studying politics, or do you protect them, like Deng Xiaoping said, from studying politics to let them focus?

Ren: I was there when Deng Xiaoping made those remarks at a national science conference. I was one of

the 6,000 representatives, and I burst into tears when hearing his speech. Deng said we should spend five days at work and one day for political studies. Back then, Chinese people worked six days a week, and too much time was spent on political studies. We were very happy that we could spend five days a week at work. I have always believed that politics should be done by politicians, and engineers should focus on technology. Engineers who don't understand technology aren't worth their wages.

David Rennie: You are a Party member, and party members now have an app for studying Xi Jinping's thoughts on their phones. Do they worry that some people in the Chinese Communist Party are forgetting the wisdom of that speech in 1978, and they now want engineers and busy people like you to spend maybe an hour or two every day studying politics?

Ren: President Xi's speeches cover a lot of areas, such as agriculture, healthcare, and rural development. These topics are not strongly related to us. As we are a technology company, we mainly study his speeches about science and technology development. Of course, those who work for the Party or government or those who want to become party or country leaders may need to spend more time learning about all those areas.

I listen to President Xi's speeches. In his speech at

the Boao Forum for Asia, he spoke about China further opening up to foreign investment. When it came to his speech at the China International Import Expo in Shanghai, he talked about reducing tariffs for vehicles. These speeches contain his instructions, and we are pleased that our country continues to develop under these instructions. The tax for small and medium-sized enterprises in Shenzhen has been significantly reduced, and low-income workers such as taxi drivers no longer need to pay income tax. This is a lesson learned from Hong Kong. China Central Television broadcasted lessons learned from Hong Kong. Caring about poor people's lives is one such lesson. We should provide poor people with accommodation. If their lives are up to a certain standard, there is a much lower chance they will cause problems. Even if a small number of people do stir up trouble, they will have few supporters. These points are also part of President Xi's thoughts, which I saw on TV.

08

David Rennie: Just on the question of Hong Kong. We recently saw that a private company, Cathay Pacific Airways, was forced to change its senior leaders and some employees for reasons that are 100% political and related to the protests in Hong Kong. When you see the Chinese central government using its strength to make a private company take political decisions, does that make life more difficult for every private

company in China, when you want to tell foreigners that you are not controlled by politics? When they did that to Cathay Pacific, did they make your life more difficult?

Ren: The issue in Hong Kong has been caused by extreme capitalism. Large capitalist institutions have made enormous amounts of money, and they even control many newsstands, underground garages, and coffee shops in Hong Kong. They have gained a lot of benefits, but the general public don't have much money, and many have fairly low living standards.

I saw the notice issued by Civil Aviation Administration of China (CAAC) in relation to Cathay Pacific. This notice said that some pilots and cabin crew members who worked for Cathay Pacific had been involved in questionable activities related to the Hong Kong protests. So CAAC had concerns about these pilots. That's why CAAC asked Cathay Pacific to regulate and control its flights to the Chinese mainland. I think CAAC's action makes sense, because it was taken to ensure aviation security. In addition, there have been no such limitations to Cathay Pacific's flights to other places.

I personally believe the Chinese central government has acted sensibly in dealing with Hong Kong. China adheres to the "one country, two systems" principle. The system in the Chinese mainland and the system in

Hong Kong are different. Demonstrations, protests, and shouting slogans are allowed in Hong Kong, but I do not think violence is appropriate.

The Chinese central government still hasn't taken any action in Hong Kong. If the current situation in Hong Kong continues, business, finance, and tourism in Hong Kong will be affected, and it will be more difficult to address the issues with the poor there.

A lesson we are learning from the current situation in Hong Kong is that the divide between the rich and the poor shouldn't be too large, and extreme poverty should be eliminated.

The Chinese central government has made great efforts to eliminate poverty. In recent years, I have personally travelled through several provinces along the Chinese border, such as Xinjiang, Tibet, and Yunnan, places previously known for being very poor. From what I saw, the living standards of the people there have improved a lot, especially in Tibet. Tibet has improved faster than Xinjiang, and both places seem to be enjoying much stability. I didn't know the real situation there until I had gone there and seen how people's lives had improved with my own eyes.

I think more foreign journalists should also be able to visit these places. I have been to some of the most poverty-stricken areas in Yunnan, Guizhou, Tibet,

Xinjiang, and other regions, and I don't think a color revolution will happen in China.

09

David Rennie: One last quick question about politics. So many interviewers have asked you about your daughter Meng Wanzhou in Canada, but there are also two Canadian citizens currently being detained in China, and the Chinese foreign administration has said that the detention should be a lesson to the Canadian government. We know that because the Canadian embassy said these two Canadian detainees, one of whom is a former diplomat, are not allowed to see their family or make any phone calls. They have not spoken to anyone except some Canadian diplomats. They were allowed a book, and then they had their glasses taken away, so they can't read a book. I'm sure people have described the situation to you. Do you think that the conditions of these two Canadian detainees, Michael Kovrig and Michael Spavor, are appropriate conditions, or do you think that the Chinese government should give them access to a lawyer? They have no access to a lawyer or access to their families. But your daughter has access to a lawyer and access to her family, and can travel around Vancouver. But they are locked up in an unknown location with no access to lawyers. What do you think of the conditions of the detention of the two

Canadians citizens?

Ren: I don't know anything about these two individuals. I don't know how the government deals with such cases. I only know Meng Wanzhou has not committed any crime. Her arrest was wrong from the beginning, and her case needs to be addressed according to the law. No one has told me anything about the situation you just mentioned, because they would have no reason to. I also have no channels to get that kind of information.

10

Hal Hodson: Huawei is one of the biggest infrastructure companies in the world. And surely over the last 20 years, it has become larger and larger, and has been the target of intelligence agencies. I'm not just talking about backdoors, but in terms of infiltration, and in terms of operational security. Can you tell us a bit about how Huawei approaches operational security and how much you spend on counter intelligence?

Ren: First of all, at Huawei, cyber security and privacy protection are the company's top priorities. Huawei resolutely incorporates requirements of the EU's General Data Protection Regulation (GDPR) into all of our business processes. We are now investing heavily to upgrade existing networks and build new networks.

Second, for more than 30 years, Huawei has provided network services to over 1,500 carriers in more than

170 countries and regions, serving approximately three billion users. We have maintained a proven track record in security. In fact, we have never had any major security incidents.

Besides, we are more than willing to submit ourselves to strict oversight in countries where we operate. At present, the UK has conducted the most stringent oversight of Huawei. Why is the UK determined to continue using our equipment? Because they still trust us despite the few problems and flaws they have found with our equipment. They may even trust us more than other suppliers because we have been more rigorously reviewed.

11 **Stephanie Studer: Mr. Ren, one of the other pioneers of China's technology sector, Ma Yun of Alibaba, retires today, September 10. When he announced this last year, he was the great exception in handing over the reign. As I'm sure you know, many other Chinese bosses don't do this until too late to the detriment to their companies. What do you think the costs and benefits would be to your retirement? Do you think it could be an expedient to have an earlier one, given the current political climate that Huawei finds itself in?**

Ren: I will retire when my thinking slows down. Currently, I still have many creative ideas, so I will

continue working for some time.

Stephanie Studer: How soon do you think that retirement might be?

Ren: I don't know. It depends on the circumstances.

12 David Rennie: Have you seen the American documentary called "American Factory"? If you have seen it, did you get any ideas about the difference between American and Chinese ways of working?

Ren: I heard this was produced by Obama. Someone described it to me, but I have not seen it yet.

13 Stephanie Studer: You spoke earlier, this rather bold idea you had this morning, to sell the core of your business really. I imagine by that you mean 5G, and you would continue to work on 6G, the next generation. So could you tell us more about what motivates you to do this? Because I imagine that it might just be pushing the problem down the road. Your 6G may be also not accepted when it is up and running globally. So how does this help you exactly? What would be the main reason for doing this?

Ren: I'm talking about licensing our 5G technology. Licensing 5G to others does not mean that Huawei would stop working on 5G itself. We hope that the

speed of technological development in the West can increase, so we are looking at the licensing of all our 5G technology to help facilitate this process. I think Huawei will continue to take the lead when it comes to 6G research, but our judgment is that the commercial use of 6G won't begin for at least 10 years.

Therefore, transferring 5G technology to other companies does not mean we will stop working on it. Instead, the money we get from this transfer will allow us to make greater strides forward.

Patrick Foulis: Just to be clear, it's not licensing in the sense that there's an annual payment, like what Arm does. It's a one-off transaction which gives the buyer the permanent right to use the technology and intellectual property.

Ren: Yes. It is a one-off payment.

Patrick Foulis: What do the executives of the company think about this plan? I'm not sure you had a chance to discuss it but would they be shocked to hear that you are preparing to do something so dramatic?

Ren: I don't think they would be shocked. Because for Huawei, we hope to see a balanced world. A balanced distribution of interests is conducive to Huawei's survival in this world. This same concept was put forward by the UK more than 100 years ago.

David Rennie: You sometimes use this very powerful image of the old Soviet airplane that is still flying with many holes. When I hear you talking about your thinking about 5G, it is a bit like an airplane pilot who is worried about going down so you maybe throw something heavy out of the airplane and you can keep flying. Does that reflect your thinking?

Ren: No. Licensing 5G to other companies would allow Huawei to get some money. It's just like adding more firewood to fuel our scientific research efforts.

Hal Hodson: Mr. Ren, do you think that the US business and political community has what it takes to take this 5G IP package and make it a global competitor to Huawei?

Ren: I don't think so.

Hal Hodson: So just a nice gesture then?

Ren: Yes. But if the US wants to buy from us, we will be serious about pursuing that option.

Hal Hodson: So you see it as creating a fair technological race and giving up your lead and resetting the clock if America will go for it?

Ren: Yes, that's right.

David Rennie: Thank you very much for your time.

Ren: Welcome to see us often. If you want to know if Huawei can survive, you can come and see us at the same time next year.



Ren Zhengfei's Interview with Fortune

September 19, 2019 Shenzhen, China

01

Alan Murray, CEO, *Fortune*: Thank you very much for taking the time to meet with us. We really appreciate it. I think the main question I have, which relates to your picture here, is whether this reflects a kind of a short-term bump in the globalization of the global economy. Or do you think we are heading towards some kind of decoupling that's going to profoundly change the way the global technology economy works in the future?

Ren: When we use this picture to symbolize our situation, there are not such profound implications. We just feel as though we've been riddled with bullet holes since the US added us to its Entity List. If we can't patch up these holes, our "aircraft" may not be able to land safely. Still, we remain an advocate of globalization. Patching up these holes won't stop us moving forward along the road of globalization. We are still waiting for the US Department of Commerce to approve requests from US companies, allowing them to continue supplying us.

The longer this process drags on, the more harm it will cause to the US. The US is the world's most powerful country in terms of science and technology, but US tech companies need a global market. If the US heads towards decoupling its tech from the rest of the world and creating a digital divide, that would be a blow

to its leading companies. Take Microsoft as an example. This company has established its dominance in the global market through Windows and Office. But if the US government doesn't allow certain markets to access Microsoft's products, alternatives will appear in these markets. This will then eat into the shares of this leading company.

When you pull out of a market, you leave your market space to emerging companies. It's like grass. Without the weight of a stone, grass grows even more happily. Therefore, from this point of view, it makes sense if an underdeveloped country chooses to back away from globalization and gives up on certain markets. But if a developed economy does so, that's not a smart move.

I have always been a firm supporter of globalization. Once the US corrects some of their ideas, we may slow down the speed at which we are patching up the holes in our "aircraft" or simply stop flying even after we have fixed these holes. We will be willing to do so if it is in the best interests of our US partners.

02 Alan Murray: And what about in the other case? What if Huawei remains on the Entity List, and then US companies can't sell to Huawei? Obviously, it hurts in the short term, but if you look five years, ten years

down the road, what effect will it have on Huawei?

Ren: In the short term, it won't have a substantial impact on us. We don't need US components at all in our 5G and core networks, which are what the US is most concerned about. It will only affect our consumer product ecosystem, but we believe that impact can be mitigated within the next two to three years.

Alan Murray: By building your own ecosystem?

Ren: Yes.

Alan Murray: And is it possible that in the long run, you'd be better off to go that direction and have your own ecosystem?

Ren: In the long run, it might be a good thing for us. As Huawei grows larger and larger, our fate will be increasingly not up to us. This makes us uneasy. We firmly embrace globalization, but how can we survive? To survive, we'd better build our own ecosystem. Meanwhile, we will not turn away from ecosystems built by others, and will instead support them. We have signed agreements with some companies, and we will continue to work with them if circumstances permit.

The US was among the first to propose globalization, but now it is also the US that breaches the rules of globalization. I have always been pro-US, and have tried to temper our employees' impulsiveness. Recently,

I signed off something for our Business Process and IT Management Department. In that document, I encouraged them to use American, European, and Japanese bricks to build our Great Wall. I have done everything I can to make sure our employees don't try to go it on their own for our internal IT management platform. Doing that is not only costly but a huge burden to us.

03

Alan Murray: You made an extraordinary offer the other day to license your technology, for the first time, I think, to someone in the US in order to allay security concerns. I'm curious about two things. One, has anyone suggested they will take you up on it yet? And two, do you think anyone will take you up on it?

Ren: I would like to start by explaining why I made this offer. We think there should be a balanced technology ecosystem between the US, Europe, China, Japan, and South Korea. This technology ecosystem is different from the Google ecosystem. We are entering an era of artificial intelligence (AI), but the US has fallen behind in the rollout of Fiber To The Home (FTTH) networks. If the US also lags behind in 5G, it might lose its leading position in AI.

So first, we are willing to license our 5G patents to a US company following the fair, reasonable, and

non-discriminatory (FRAND) principles. Second, we are open to licensing our proprietary 5G technologies, including the whole suite of 5G network technologies and solutions, such as software source code, hardware design, manufacturing techniques, network planning and optimization, and testing methods. We are willing to license all of these technologies without reserve to a US company. By doing this, American, European, and Chinese companies will be able to run from the same starting line and continue to compete on new technologies. Third, the US can either choose to use general-purpose chips that they make themselves or "American chips + Huawei chips" to power their 5G base stations. We are also open to licensing our 5G chipset technologies.

This is in the best interests of Huawei. By doing this, we can allay international concerns while simultaneously enhancing the strengths of our competitors. If our competitors were not strong enough to compete with us, we would begin to decline. Therefore, we are rather open in this regard. We think the information market will be huge in the future, and that there is a lot of room for further development. The market size will be large enough for several big companies and tens of thousands of small companies to compete and provide services. When Huawei takes a dominant position in too many fields, it may also be closer to collapse.

Alan Murray: "When Huawei takes a dominant position in too many fields, it may also be closer to collapse." What do you mean by that? Could you elaborate on that?

Ren: There are numerous examples of this in history. Dynasties waxed and waned. When a nation is at its prime, it becomes the target of others. Take the swimmer Michael Phelps for example. He won many world champion titles, but eventually stopped. Athletes around the world set him as a goal post and tried their best to beat him in terms of swimming techniques. How could Phelps continue to win gold medals in face of that? We had been on the brink of ending up like that before Trump launched his campaign against us.

Alan Murray: So Trump did you a favor?

Ren: Yes. He pushed Huawei to change. For one thing, our technology is advanced, so it is not that difficult for us to win contracts. Our employees in local offices might not have to work hard to get their work done, and they can slack off after winning contracts with customers. This can breed laziness and eventually undermine the whole company. In addition, our headquarters have been scaling up, and our office environment has been improving. Employees could easily get paid, even if they were just tapping away on a keyboard to handle some very simple processes. If it were that easy, we wouldn't

have anyone willing to work in hardship countries and regions. The revenue of our regional HQ in Dusseldorf hasn't increased much, but the number of employees has increased several times over. When Trump launched his campaign against Huawei, we keenly felt a threat to our very survival. For our employees, that means if they don't work hard, they might get replaced. This applies to our senior managers as well. Over the last year, Huawei has been revitalized. Everyone is working hard.

04 Alan Murray: So back to the offer, have you had discussions with American companies about this licensing idea?

Ren: This is a major issue. It's not something that will be decided overnight. There are many big players in the US reaching out to us about this.

Alan Murray: You must have had a company in mind when you made that offer. What company would it be?

Ren: First of all, it should be a large company. If they bought the license for this technology but couldn't carve out a big market, it wouldn't be a good deal for them.

Second, there is no geographical limitation on which markets that company can sell. It can sell in the US market or any other market on this planet, including China. Maybe not on Mars, the moon, or the sun. Then

we can fully compete with each other.

Third, that company needs to have some expertise in communications and come from an industry similar to Huawei's. It can modify the source program or the source code of the technology we offer, so that it becomes a totally independent system from ours. Then the technologies used in their system will be unknown to Huawei. Perhaps this approach could help alleviate the national security concerns of the US.

Before they've finished making the modification, we can share in real time Huawei's technological advancement with them in a very transparent way. This will ensure they can keep pace with our technological advancement.

After they've finished modifying our technology to the point that Huawei no longer knows what's in their system, Huawei will continue to work with that company for the next 10 years. We will be sharing the concepts of Huawei's own progress with them.

We are very sincere in our offer for this technical licensing arrangement and will do it in good faith. We will not hide anything or keep any trade secret to ourselves. We will be open and transparent to the potential licensee. This is not because we are stupid, but because we want to create a strong competitor for Huawei's 190,000 employees to stop them from

becoming complacent.

Alan Murray: I think this is unprecedented. I can't think of anything like this in my 40 years of covering business. I think some people would say it's crazy, and because it seems so crazy, they might question your sincerity.

Ren: Now I have the whip in my hands to urge Huawei to move forward. In the future, I'll hand it over to a US company. When the US company becomes a strong competitor, it will push our 190,000 employees to always be on their toes.

05

Clay Chandler: When you were asked whether you had a particular company in mind when you made this licensing offer, you listed a series of conditions. But it leaves me wondering: What are the subsets of companies that would meet those conditions? Can you name some companies or people who would be worthy partners for Huawei in this endeavor?

Ren: I don't think it is appropriate for me to name specific companies because that would be an offense to them. But I believe there must be one US company out there that is ambitious enough to seize a dominant position in the global market. If there are speculations in the media, that's out of my control.

Alan Murray: Who should they call if they're interested in this extraordinary one-time offer?

Ren: They can call anyone at Huawei, because they will definitely get transferred to top management. They can get in touch with our PR department or send an email to me.

Alan Murray: May we print your email address?

Ren: Of course!

Clay Chandler: OK, I will print this and see what comes in.

Ren: You have my support.

06

Clay Chandler: And what about the regulatory complications of this arrangement? Have you thought through whether there might be some government opposition or reservations about this arrangement? And have you heard anything from the US side?

Ren: No, I don't think there will be any regulatory complications. Some people in the political community in the US will pay attention to this offer. This is purely a business transaction, so I don't think it's necessary for it to be approved by the Chinese government. We are not selling all of our technologies. We are just planning to license our 5G technology to a US company, but will continue to build our 6G on this technology. The US

company to be licensed can also develop their 6G on the basis of this technology. Then we can compete with each other on equal footing.

I don't think it's necessary for the US government to approve the transfer, either. 5G base stations are a completely transparent system, where data packages are not opened and are just directly transmitted to other parts of the network. Security issues that people often talk about are about the core network, which is software-centric. Many US companies have the ability to develop core networks. If the US needs Huawei's core networks, we are also open to licensing related technology. As I just said, we're even open to licensing our chipset technology.

So this is a very transparent model. After a US company gets our technology, they can modify it as they see fit and build an independent security system that Huawei has no access to. We'd then have no idea what changes they make.

In the future, we will be entering a world of AI. However, it will continue to be based on the architecture put forward by John von Neumann, a great US scientist. He put forward this brilliant architecture in 1946. This architecture is about supercomputing and mass storage, and the US leads the world in these two areas.

However, supercomputing and mass storage require

super-fast connections. If the US does not use the best 5G technology, a lot of advanced AI technologies will not be widely adopted in the country. As a result, the US might fall behind in the future. When that happens, some people in the US will attack whoever is in the lead, and it's possible that Huawei will become targeted again.

To avoid this situation, we'd rather help the US address the issues they are currently facing regarding super-fast connections. By licensing our 5G technology to a US company, we'll be running from the same starting line. I would rather have that US company outpacing Huawei so that we can sustain our success.

Clay Chandler: I just want to confirm that this is an offer that is extended only to American companies, and that it's not something you would consider if a European company would come forward, or Japanese company, or perhaps, even a South Korean company, saying, "Yeah, it sounds great, we're interested."

Ren: Europe has its own companies, so they don't need this offer. On top of that, the US is a relatively large market.

Alan Murray: Cisco? Are you okay with that?

Ren: I'm okay with that. Why are we so sincere in making this offer? It's because the US is still moving in the wrong direction on many future technologies. I want

to tell you a few stories.

At one time, the telecommunications standard that Germany chose was ISDN. With ISDN, the data rate was only 128 Kbit/s. When the German market was saturated and a German telecom vendor wanted to expand its business to the global market, they suddenly realized that the world had changed and ISDN was no longer needed. Today, the world has evolved further towards GPON. With this standard, homes can have data speeds of up to 1 Gbit/s or even 10 Gbit/s. This is one reason why this German company declined.

To prevent foreign telecom vendors from entering the Japanese market, Japan used the uplink frequency for downlink and the downlink frequency for uplink, which was the reverse of the global standard. Then when the Japanese market was saturated and Japanese vendors sought to expand in the global market, they found that their equipment could not be accepted. And as a result, Japanese telecom vendors also declined.

Now let's look at the then three major telecom equipment vendors in North America: Lucent, Nortel, and Motorola. They pushed the world to accept CDMA and then WiMAX, because they believed that WiMAX was a great technology. As WiMAX was designed by computer companies, this technology worked perfectly in local area networks but not in global networks.

These companies started in home networks with WiFi and aimed to build a global network with WiFi as well. European and Chinese companies all chose WCDMA and worked on wider area networks before extending their reach to home networks.

As it turned out, US companies chose the wrong path, because WCDMA turned out to be the global communications network standard. And after that, US telecom vendors collapsed. Only European and Chinese companies are still standing. The collapse of US companies was not because of the rise of Huawei.

I'd like to tell you another story. Japan had the strongest expertise in the electronics industry in the 1970s and 80s. They made a lot of money and were purchasing many properties in the US. Then, in the 1990s, the US used digital circuits on a large scale, getting a higher yield rate than that of the analog circuits which used operational amplifiers in Japan. Operational amplifiers required very stringent linearity, resulting in a yield rate of only about 5%.

But the US was designing products with digital circuits, meaning the yield rate for their chipsets was over 33%. The US staged a comeback in the electronics industry. Of course, the yield for chip fabrication today is higher than 99%. The same is true for a company. If a company is too overwhelmed by their past, it's likely

they will fail.

Now, let's get back to Huawei. Once Huawei becomes strong in every aspect, will our leadership also become stubborn and rigid? Is it possible that they could become like the US, jumping to conclusions without thorough consideration.

The US often attacks any country they want, and only tries to find evidence to justify these attacks afterwards. I'm concerned that our next generation of leadership might be overwhelmed by the success the company has achieved. So I would rather support the development of several strong competitors in the US so that our next generation of leadership will stay on their toes.

After my explanation, you may not find my idea mysterious. Actually, this is something that everyone in our top leadership agrees on. It's not simply nonsense that I am saying while taking an interview.

Alan Murray: When you find your partner, will you tell us first?

Ren: I cannot guarantee that. We may need to sign an NDA before we enter into serious negotiations. Once the negotiations are complete, we will inform the public. It's hard to say who will get the news first.

07

Clay Chandler: Can I ask a quick question about something that's in the news today? It is that in Munich at 8:00 tonight you'll be unveiling the Mate 30 phone. There are a lot of speculations about whether you would actually put that on sale in Europe without permission to use the apps from Google, like Gmail, Google Maps, the Play Store, etc. Some people think you'll just go ahead and roll it out anyway even without the apps and see what happens. But other people have speculated that it would be sort of useless for European consumers to buy an expensive piece of hardware like that without those apps that they often use. What's going to happen? Are you going to sell it in Europe? Or not roll it out at all?

Ren: For now, we cannot precisely predict the outlook of our consumer business in overseas markets. Our phones though have some unique features that do not necessarily depend on Google's ecosystem. Even if Google Maps cannot be used in our new phones, there are other map developers in different countries, so we can download their map apps.

No matter what happens, we remain committed to offering Huawei smartphones in overseas markets, even if the sales in these markets may slow down or decline. We will see how these markets react to this.

08

Clay Chandler: It's fascinating. Can I ask a quick question about the Harmony operating system? How confident are you that you can develop this into being the equivalent of say, an Apple operating system over the next two or three years? Would it take longer than that?

Ren: I think it will take less than two to three years. Since I'm part of the company's leadership, I need to be a bit more conservative when discussing timelines; otherwise, I may end up putting too much pressure on our staff. But in truth, I personally don't think they need a full two to three years.

Alan Murray: But your strength has always been hardware, not software?

Ren: That's true, and we need to further improve in terms of software. We're somewhat weak when it comes to big software architecture, but we are the world's strongest player in embedded software – software that is built into hardware systems. We need to improve our software capabilities. Working on a big operating system is difficult, but we are confident that we can do it. We are not just saying we are confident; we have already started preparing.

That said, we hope the world does not split into different camps. We still hope to continue to use Google's operating system, and we remain committed to

friendly cooperation with Google. We hope that the US government will approve Google's request.

Alan Murray: When do you think you'll know if you're going to get approval to use the full suite of Google's software?

Ren: We don't know. It would be better if you asked the US government.

09

Clay Chandler: The Huawei issue and the trade issue have become tangled up over last year. This is partly because of certain actions, deliberately at the choice of the US President, who has said we will settle all these deals together and Huawei might be part of the trade deal. What's your view on that? Is that something that's helpful for you? Or would you rather these things be kept on entirely separate tracks and in separate discussions?

Ren: Huawei has virtually no business presence in the US, so the trade talks between China and the US have nothing to do with us.

The only connection between Huawei and the US is that we buy chips and electronic components from the US. If the US government doesn't allow US companies to sell to us, then those companies will suffer financially, but there has been no real impact on us. If you go and

see our production lines, you'll find that everything is business as usual. But the impact on the US has been quite substantial, with many US companies losing orders worth billions of US dollars a year.

If the US government approves the requests of US companies currently affected by the Entity List, this will help those companies.

Alan Murray: Who are the companies? Who are your larger suppliers? Obviously, Google and Qualcomm. Who are the main companies that sell equipment to Huawei?

Ren: It is reported that the US Department of Commerce has received more than 130 applications from US companies who wish to continue their supply to Huawei.

10 Alan Murray: You said that it would not hurt even in the short term. Won't this hurt European sales if you can't use Google products?

Ren: We are currently seeing a drop of 10 billion US dollars in our sales revenue. That's not a big impact on us.

Alan Murray: Well, we look forward to reporting on your new partner.

Ren: I look forward to welcoming you back to our campus, so you will know our company is surviving.

Alan Murray: We have little doubt about your survival.

Ren: We are also confident about our own survival. We definitely do not want to see a situation where globalization becomes fragmented because of the conflicts between Huawei and the US.



A Coffee with Ren II: Innovation, Rules & Trust

September 26, 2019 Shenzhen, China



Christine Tan, Anchor, Managing Asia, *CNBC*: Welcome to another session of A Coffee with Ren. Today we're talking about a very interesting topic: Innovation, Rules, and Trust. We will focus on innovation simply because there are so many changes happening in the world of technology and such huge impacts that new technology can bring. We will also look at rules and how to manage risks and disputes when it comes to new technologies. This is without mentioning the issue of trust, which has become very critical as we explore new technologies, as has the prospect of a global framework that can really govern new technologies, and what this means for everyone.

Let me introduce today's panel to you. The man himself, Ren Zhengfei, CEO and founder of Huawei. And with him, two celebrated scientists and futurists on my left from the US – Jerry Kaplan also a futurist,

best known as a pioneer in pen computing and tablet computers. Welcome Jerry. Please also welcome Peter Cochrane, fellow of the Royal Academy of Engineering, winner of the Queen's Award for Innovation, and the former CTO of British Telecom. And last but not least, we have President of Corporate Strategy Department, Zhang Wenlin. Thank you all for being with us.

Let me start with Mr. Ren.

01

Christine Tan: Mr. Ren, this is a discussion about innovation. How do you see the future? What new technologies do you see evolving?

Ren: I believe that society is on the eve of another explosion of new theories and technologies. Electronic technologies will evolve towards being three nanometers or even one nanometer in size and won't stop there as Moore's law approaches its limits. It's just that technology will continue evolving in a manner that we cannot predict yet. In the past, we thought graphene would be this evolution. However, we don't know for certain if that's still true until today.

Significant breakthroughs will be made in genetic technology over the next two to three decades, which will help trigger huge breakthroughs in life science, biotechnology, and nanomedicine. We are not sure how these breakthroughs will change people's lives. If

our electronic technology is reduced to one nanometer precision and to a level that can be combined with genetic technology, what new scenarios will emerge? What surprises will be in store for society? This is beyond our imagination. Today, science and technology are so advanced that we can use molecular technology to synthesize materials that never existed before. An endless stream of new materials and technologies are constantly being discovered. We can't tell what the trends of the future will be.

AI will certainly start being applied on a large scale. But still, we cannot envision how it will drive society forward or create more wealth. The breakthrough and penetration of quantum computing will trigger the explosion of the information society. Although we know the impact will be significant, it won't be the same as we thought, not to mention the extensive application of optical technologies... During this period, breakthroughs in a single discipline will present us with a dizzying variety of new opportunities. The reverberations from breakthroughs in interdisciplinary studies will hugely shock us all. Any breakthroughs will be accompanied by an explosive growth in data traffic. We can't foresee what demands there will be in terms of computing, storage, transmission, and processing of this super large amount of data.

All these new technologies, which will be applied on a large scale, are likely to generate breakthroughs over the next 20 to 30 years. How will we usher in a new era in the face of these opportunities? I have no ready answer to this question.

This new era will open an enormous window of opportunity for us. We need to work even harder and join the forces of scientists and engineers from around the world to welcome this new era. This is what we expect. Despite this, we don't need to feel uneasy about the unpredictability. Instead, we should embrace this new era with great courage.

Christine Tan: Let's talk about AI, which is artificial intelligence. A lot of people have been focusing on artificial intelligence and worry that it might displace jobs. How do you see this?

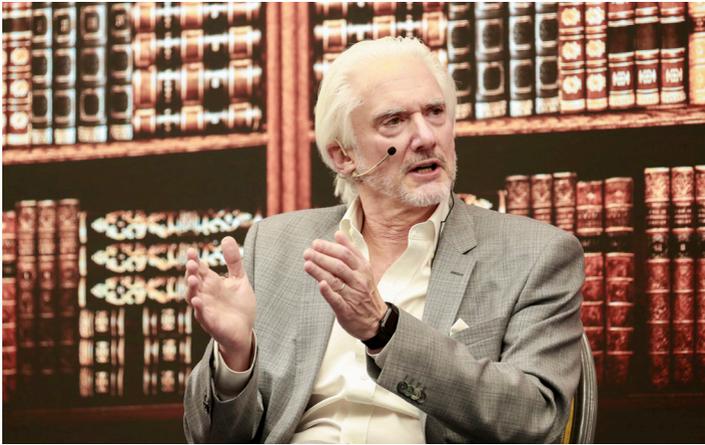
Ren: AI will just create greater wealth and generate higher efficiency for society as a whole. This greater wealth and increased efficiency will then address the employment issue in a new way. AI will be the core variable that will influence and shape a country's future capabilities and bring disruptive changes to that country. This means AI will fundamentally change how the international community develops. The development of a nation depends on its basic capabilities. Basic capabilities are about education,

talent, industry maturity, algorithms/computing power, and infrastructure. With support from infrastructure that includes supercomputers, super-large storage systems, and ultra-high-speed connectivity, humanity will welcome a new level of prosperity.

As for jobs, I believe this raises new requirements for each society and each country. We've already been through the Industrial Revolution. At that time, each worker was a good fit for society as long as they had received secondary education. In the AI era, we must improve the education and sharpen the skills of the world's entire population. Every country should endeavor to do so. To succeed, they don't have to be a big country. Thanks to AI, many small and middle-sized countries will be able to significantly boost their production capacities. As long as these countries are capable of creating more wealth, they will offer their people more opportunities.

Christine Tan: You're an expert in AI. Do you agree with what Mr. Ren just said?

Jerry Kaplan: First of all, it's an honor to be on the panel with such a prominent entrepreneur who is respected around the world, so thank you very much for having me. Following Mr. Ren, he's made such an eloquent explanation, I feel a little bit like I'm being asked to talk after Shakespeare though. So I'm not sure that I'll have too much to add.



You also want us to be a bit argumentative on the panel. So, there are a couple of things that are important to understand. AI is not magic. It's not really about intelligence at all. It's simply a new wave of automation. To understand what's going to happen with AI, you simply have to look at previous waves of automation. And then you can understand how it will affect labor markets and what is likely to happen.

Now, while it may seem technology is moving very quickly today, the people who study this, the academics, have surprisingly found that the rate of change in the past was actually faster than it is today. We are seeing an age in which technology and innovation is actually quite a bit slower. The invention of the railroad, the electric light, the computer, the television, all of these transformed society. And we haven't seen that kind of pace of transformation.

But I think that ultimately, Mr. Ren is correct, the future will be bright. While automation disrupts labor markets, it doesn't cause the jobs to disappear. New jobs will be created. As we become wealthier, demands will be created. We get a new middle class and new demands for goods and services. And in fact, automation will change the nature of labor, not put people out of work.

Christine Tan: Peter, I've got to ask you. On AI, who do you think is going to dominate in AI? Will it be China or will it be the West?



Peter Cochrane: I think that AI will decide. Right now, it's very task-specific in the same way that when Jerry and I and Mr. Ren first entered the industry, if you bought a computer for the payroll and that's all it did. Nothing else! And right now, we've got general-purpose computing. We don't have general-purpose AI yet! But I would like to frame this against a bigger picture,

a bigger ambition. What are we trying to do? First of all, we have to try and create sustainable societies. To do that, we have to get away from the idea that we can polish and improve what we've got. It won't work. Transformation demands biotech, nano tech, AI, robotics, and the Internet of Things.

Because anything we create for the future has to be recycled, repurposed, reused, and the only way we can orchestrate this is with the IoT. And there's a further thing that we have to achieve, and it's a big challenge. I don't know if Mr. Ren would favor this, but I would phrase it like this, we have to stop producing more and more for the few, and we have to start providing sufficient for the many. If we do not, we will never see a stable planet where people are living equitable lives.

There is sufficient on this planet to support every human, but with the technology we have right now, we stand to destroy our ecosystem. So we have to change the way we live and the way we do things.

02 Christine Tan: Innovation changes the way we do things and where we go. Another big word that has become very important is "trust". Mr. Ren, let me address this question to you, because Huawei has been under a lot of scrutiny as a leader in 5G. Why is there so much distrust around what you do?

Ren: Hundreds of years ago during the Industrial Revolution, some people did not trust the machines used in textile mills. Some even saw them as symbols of devilry and tried to destroy the machines. Eventually though, people accepted the machines. Without these machines, the high-quality fabrics we use today wouldn't exist. Now some of the highest quality fabrics in the world are still produced in the UK. The emergence of these machines did not deprive textile workers of their rights, but improved the quality of their textiles. When the train was first created, it was ridiculed because it was slower than a horse-drawn carriage. Today, trains are widely recognized as one of the fastest ways to transport heavy cargo. When the train was introduced to China in the beginning of last century, people thought they were powered by ghosts, and couldn't figure out how they ran. Similarly, when China's high-speed rail began operation, an accident occurred on the Ningbo-Taizhou-Wenzhou line. At that time, almost everyone was against high-speed rail. But now no one complains about them at all. I think almost all people would say high-speed rail is a good thing.

Now AI is still in an early stage of its development. Advances in super computing, super-large storage, and super-fast connectivity technologies are creating opportunities for AI applications. Now people are very concerned about AI. They are worried that AI will cause

unemployment, disrupt social structures, and distort our ethics. They worry too much. If we look back, our population is several times larger than it was a few decades ago. Before, huge swathes of the human race were hungry. Now though, we are in an era of excessive material abundance; we have more than we can consume. That's because advancements in technology have helped us create more wealth.

The emergence of 5G was something unexpected. 10 years ago, Turkish Professor Erdal Arıkan published a mathematics research paper. Huawei came across this paper earlier than some others, invested heavily into that area, and kicked off our 5G. 5G itself is a tool, just like the ballast beds that train tracks are laid on. That's all it is about. Right now, there are heated debates around 5G, but only history will tell if 5G, AI, and other new technologies will create value for humanity.

In short, people should have more trust and tolerance towards new things. The most prominent feature of innovation is that it gives everyone academic freedom, allowing people to explore. With a little more tolerance in the world, Copernicus's theory of a heliocentric universe would have been accepted long before his death. People also suspect that genetic engineering has negative effects. But that can only be proved after experimentation. We should be more understanding of genetic scientists.

Christine Tan: Are you disappointed and sad that there's so much distrust around your 5G technology?

Ren: China used to be very poor and lag behind the rest of the world. People thought that China would never catch up. However, China turned out to be a crazy sprinter, able to catch up with everyone else. It's just like a train, which eventually runs faster than carriages. When new things are discovered, people don't trust them, but I think eventually the trust will grow.

Now, Europe still presents Huawei with a wide scale of opportunities. Actually we still see many opportunities all around the world. I think many people are quite tolerant of us, and that makes me happy. After all, we cannot expect everyone to understand us, at least not within a short period of time.

Zhang Wenlin: For what we see about distrust, I think that was caused by a lack of knowledge about 5G and the industry. For those that have a sufficient knowledge of 5G and the industry, such as telecom carriers, industry partners, standards organizations, and the governments of countries seeking economic and industrial development, they generally trust us. That's why our 5G business is developing very well despite all the noise and obstacles.



03

Christine Tan: Actually you offered to license all your 5G technology to Western companies for a one-off fee. You put the proposal out there. Any interest so far?

Ren: First, we don't intend to license our technology to all Western companies. We'll license it to only one Western company. We'll give it an exclusive license, so that there will be a large market for them. We think this company should be a US company. Europe already has its own 5G technology, so do South Korea and Japan. They just need to make some improvements and adjustments to its development. Since the US doesn't yet have any 5G technology, we should exclusively license it to a US company. With our 5G technology, that US company will be able to compete with us worldwide, not just in the US market. Of course, competing on

Mars, the moon, and the sun, is another story. But we can compete anywhere on the earth. Our aim is to start from the same place with the rest of the world in this new race. I believe we'll still be able to win on that new horizon.

5G is not that amazing; its power is exaggerated by politicians. AI will have an even brighter future. I hope we will not be added to the Entity List again in the AI era. Anyway, that would be unlikely, because AI is a software-based technology and we will probably surpass other companies in this area. Hopefully, we won't run into any new conflicts over this. We want to work together to serve humanity and the new digital society.

Peter Cochrane: I think it's totally distorted. There's no distrust between the engineers, the scientists, the managers or the companies.

Christine Tan: Then what is the issue?

Peter Cochrane: The issue is political. It has nothing to do with the technology or the people working on it. It is political. The technology fear factor is normal; it happened with 3G and 4G. But there's a subtle difference, social networks are now distorting perceptions. People associated truth with quantity. And if the social networks do anything, they generate quantity!

A single blog can generate 20 million postings it just keeps going. And so, there's been no concerted effort by

the industry to allay people's fears. We should be doing that. There is no proven problem with any of these technologies. If there were, we would have policemen queuing at the hospital with brain cancer. We've had mobile technology for a long time. We've been using military radios with far more power in close proximity to human beings with no difficulty at all. There's no proven problem.

There are problems such as influenza or gun-shot wounds. But there's no proven danger with 5G. In the UK, for example, the number one concern is that everybody wants service but nobody wants to see towers or masts.

Christine Tan: Mr. Ren, a follow-up, very quick question, in terms of licensing out your 5G to one US company. What would that package look like? Would it be, hardware, software, or codes? What would it involve essentially?

Ren: First, we'll license all our patents to this partner on fair, reasonable and non-discriminatory (FRAND) terms. Second, we'll license them everything related to 5G network technology, including software source codes, hardware designs, production technologies, as well as network planning and optimization and testing solutions. If they need, we can also license our chip design technology to them. We just hope that we'll be

able to start on an equal footing with companies from Europe, Japan, South Korea, and the US, so that we can continue to contribute to humanity together. We are confident that we will win the race, so we're open to offering the license.

Christine Tan: But essentially this opens up the opportunity for another Western company to be a giant competitor to you. Are you willing to accept the fact you might lose your 5G leadership? Is that something you're willing to accept?

Ren: First, we will get a lot of money from the licensing. That will be like adding firewood to fuel our innovation on new technologies. It will mean that we will have a better chance of maintaining our leading position.

Second, we will bring in a strong competitor. This will prevent our 190,000 employees from becoming complacent. They'll know that if they sleep on the job, they might wake up and find they have lost their jobs. It is simply not enough for me to keep pushing our employees to work hard every day. Sheep become stronger when they are chased by wolves. I don't worry that a strong competitor will emerge and drag Huawei down. In fact I would be happy to see that, because this would mean that the world is becoming stronger. The slower sheep from a herd will be eaten by wolves. Therefore, if we think of Huawei like a herd, it doesn't

need to lay off its slow-moving employees, as they will be eaten by "wolves". This is not a bad thing. I don't think a competitor poses a threat to us; instead, it will push us to move forward.

Christine Tan: Jerry, how do you think this would sound to a US company and is licensing a way to rebuild that trust?

Jerry Kaplan: Let me address the trust issue. First of all, in this conversation we're conflating two issues. Peter is talking about trust and fear about the technology. Mr. Ren is talking about trust and concern about suppliers. Trust in English is a fraught word. It's an emotional word, like you don't trust me. It's about emotions. The truth is you don't need trust to do business; what you need is predictability to do business. Those are very different things. It's just like marriage. You don't need love to be married; it helps. But you need respect to have a good marriage.

So the issues are the same here. What we need is a better expression of mutual respect, which, to be frank, the United States at a political level is not doing and therefore is not able to engage in a productive dialogue. Licensing is just one possible approach to this. There's a whole variety of technical approaches. There's clean room. There's second sourcing. There're all kinds of techniques to ensure that every nation, including the US,

has a right to protect its critical infrastructure. But that doesn't mean Huawei cannot be an effective supplier and there's no reason, in my view, Mr. Ren should give away his business. If he can outcompete American companies, that's the American way.

Christine Tan: Mr. Ren, would you want to give away your business?

Ren: I can understand that.

Christine Tan: Peter, what do you think about this issue?

Peter Cochrane: I don't actually think it's about the technology or 5G or networks. I think the real power in this situation is what we are going to do with it. It's the enabling function of 5G that I think is the real driver. We can transform things like healthcare, logistics, and manufacturing. It's a really good way of very quickly orchestrating the resources of a country, and the planet, to great effect.

I don't think that some new company coming in to this field, or a company that's already in the field, that takes the technology from Mr. Ren, is suddenly going to become superior. There's a very powerful research team here. They've got terrific scientists and engineers already thinking what's beyond 5G.

The reality is, if we're going to get 5G rolled out

across the planet really quickly, we need more than one company doing it. When any market becomes stabilized, and a product becomes a commodity, you usually only finish up with only 3 or 4 suppliers, but in the early stages you need a lot of suppliers to get it out there. I think the urgency is related to global warming and transforming societies.

04 Christine Tan: Mr. Ren, I read that you're open to the idea signing a no-backdoor agreement, something you're exploring with some countries in Europe. Can you clarify your situation? Is that happening? What's the latest?

Ren: Over the past 30-plus years, Huawei has maintained a solid track record in cyber security worldwide. This has proved that Huawei's equipment has never caused a large-scale network breakdown, and has never experienced malicious security incidents.

In the UK and Germany, we are subject to stringent scrutiny. No other equipment vendor has been subject to the same kind of rigorous tests. These tests have proven that there are no problems with our products and solutions. It's true that the UK has found some issues with our solutions, but we will take them seriously and make improvements accordingly.

We have never had any malicious intentions. We

support Europe in subjecting equipment vendors and carriers everywhere to these tests. The purpose is to ensure that no one installs backdoors. We have full confidence in signing no-backdoor agreements with various countries, and we are sure that we can deliver on this commitment.

We are investing heavily in R&D to ensure that we are at least up to the EU's cyber security standards and the requirements of the General Data Protection Regulation (GDPR). We have determined that our top goal for the next five years will be to ensure cyber security and privacy protection. On top of that, we will build simplified network architecture; simplified base stations, transmission networks, and core networks; and simplified transaction models. We will also build secure and trustworthy networks while protecting privacy. This will make networks faster, simpler, more secure, and more reliable.

We are working hard on these goals. And that's why we dare to promise to governments worldwide that our equipment contains no backdoors.

05

Christine Tan: So the issue of trust is very real. Even though you want to sign a no-backdoor agreement, there is the issue of "if I don't trust you, I'm going to develop my own technology instead." This talk

has given rise to the fact we are facing a scenario where we could see two separate tech worlds, a tech decoupling of sorts. One in China and one in the US. How real is this possibility, Jerry?

Jerry Kaplan: Well, it would be a terrible economic travesty for both sides and both countries, as Mr. Ren has written about extensively. However, if you're just talking about 5G, let me point out that this is a replay of things that happened between Europe and the United States with 3G and 4G. The standards were different, and your phone didn't work in the other place. Ultimately chips were developed that operated on both standards. It's a surmountable problem. This isn't the end of the world.

Christine Tan: Peter, if we get one standard in China and one standard in the US, where does that put Europe?

Peter Cochrane: I don't think it's a sustainable solution for the planet. It's just very expensive. What really happens in the tech world is, we spend billions developing technology. We have to get it out there in large numbers to amortize that investment, and then the prices fall and we can spread that technology across mankind in general. But if we have a smaller market, the prices are going to be higher. The cost of development is much higher.

The reality is, not the United States, not Europe,

China, or India, or Russia has got all the resources, all the people, all the technologies, all the manufacturing facilities, or all the know-how. We are in a global market; we are dependent upon each other. And I don't think the politicians understand either the technology, or the globalization, or the markets. Otherwise, they wouldn't be doing such stupid things.

Christine Tan: Mr. Ren, to what extent do you think Huawei can decouple from technology in the West? To what extent can you reduce your reliance on foreign technology? And does this force you to develop your own technology instead?

Ren: In the early years of railways, there were narrow tracks, wide tracks, and standard tracks. These differences impeded international transportation and hindered industrial development. The same problem has occurred in the communications industry. There are three standards for 3G and two standards for 4G, and it's widely agreed that these different standards have slowed down the development of communications worldwide and imposed high costs. For 5G, there is only one unified standard, which is the result of collective discussion among tens of thousands of scientists from more than 100 countries over the past two decades. As a result, the whole world will be connected by one standard network architecture, and this will bolster the

development of AI and social progress.

I don't support any technological decoupling, whatever the cause. My position is very clear: If US companies are allowed to sell components to Huawei, we will buy from them, even if this means cutting the production of components we have developed in-house. We support globalization and we will never seek to develop entirely on our own. We will never close ourselves off. The actions we are taking now in response to suspension of supplies don't represent our long-term ideal, which is to become an integral part of the world.

US companies are constantly making changes so that they can gradually resume their supplies to Huawei. We welcome this and we are happy about it. Decoupling is the last thing I want to see. It takes a lot of work to create a unified technology. Decoupling will only jeopardize the creation of new wealth for humanity.

Market fragmentation can only lead to high costs, even if it's possible to develop the required technology. The purpose of globalization is to support large-scale adoption of technologies and reduce the costs of quality services to benefit the seven billion people who share this planet. This is something we have been working hard to achieve. Fragmentation and decoupling should be avoided whenever and wherever possible.

06

Christine Tan: Operating systems are the next big technology for China. What would you say to that?

Ren: The development of HarmonyOS has taken us seven to eight years. This OS is originally intended for the Internet of Things and industrial control. Low latency is the biggest feature of HarmonyOS. You may be wondering whether it will be used for consumer devices. In fact, we are working to make that happen. Google has been friendly to us, and it is very capable. If the US government prohibits Google from providing Google Mobile Services to us, we will have to work hard to solve the issue.

Jerry Kaplan: I want to talk about the standards issue for a second. We're conflating a whole series of things. Standards allow interchange and permit innovation if they're good standards that can be different underneath. Now 5G is a much more complicated thing than the two letters, 5 and G, sound like. It's a whole series, a stack of layers. It's quite possible for the US to adopt the same standard as China and yet for the world to bifurcate because of silly trade issues and commercial issues that neither government has any business imposing on the world's corporations. So I think it's important to understand that. But, we've been through this before, fax machines, same story. Everyone had their own standard, and nobody profited. When there was one standard,

everybody's machines could talk to each other, so there was plenty of room for people to make money. Personal computers were just in the United States. IBM released the personal computer in 1982, if I'm remembering correctly. I'm old enough that I was around with the horse and buggy, so I think in 1982 they released that and it wasn't until they opened it up and licensed the design to everybody that the personal computer revolution really took off through standardization. So we can have that standardization and interchangeability. We do it with telephones, we do it with airplanes, we do it all over the place, and it's separate from other economic issues.

Peter Cochrane: The worst case scenario is we have to put a box in the middle to translate between the two. It's an awful engineering solution, but it does cure the problem. But I think you should recognize that it's not just Huawei that's being affected here. I'm over here with my Apple computer. I have two Gmail accounts. I have other American products that are suddenly not working so well or not working at all. This is not the technology or the people engaged in the markets; it's brought on by politicians. So these somewhat ridiculous impositions have no place in the future.

07

Christine Tan: So, gentlemen, I'm going to be really controversial here. Let's just say we did have that two

tech worlds and there was a decoupling, and we could never say "No" because the world is so uncertain these days. Who would win out the tech race? Will it be the US or will it be China eventually? Indulge me with an answer.

Peter Cochrane: It will be China and all its customers, because you have to remember that the entire United States population is less than 4% of the world population and so where are people going to go?

Zhang Wenlin: The standards that are most open and global will win. This has already been proven in the communications industry. In the 2G era, the standard of 3GPP was more open than another standard which was relatively closed even though it was more technologically advanced. Since then, from 3G to 4G and now with 5G, the standards of 3GPP have been embraced all over the world. Companies that supported advanced but closed standards have taken the wrong track. Huawei has witnessed this historic journey, and we are a staunch supporter of globalization, openness, innovation, and collaboration for shared success.

Ren: I think it's unlikely that our world will be divided into two camps.

Though we have not been allowed to interact with US scientists and professors, sooner or later we will still see the papers they release. For example, we can see

the papers of a Turkish professor two months after they are released. We may end up seeing the papers of a US professor three years after they are released. It's just a matter of time. And when we can see their papers, there will be impacts on our technology. It always takes time to transform new theories into engineering practice, but we can catch up if we run as fast as we are able during this period.

Even though the US is a bit ahead of us, the "snow water" on top of the Himalayas may still be the same. The US is the world's most powerful country and has the best technologies, which are like the snow water on top of the Himalayas. Technological decoupling is like building a dam to prevent snow water from flowing downhill, and the crops growing at the foot of the mountains will die from drought. In this way, the water will not be put to effective use to create value. The better approach would be to let the snow water flow down the slope, so that it can be used to irrigate the crops at the foot of the mountains. That way, the water itself creates value from crop yields. This is what globalization achieves.

How can the US become more prosperous if its companies are not allowed to sell their great products? Crops can't survive without water. When the mountain streams stop flowing, a farmer can dig a well for

irrigation. If a developing country is barred from buying from a certain country, they will find alternative suppliers. If water can't flow down the mountain, it brings no benefit to those at the top of the mountain, either. Scientists and ordinary workers have to make a living. A country's economy will shrink if its technologies can't be turned into products or can't secure the global market. Objectively speaking, no country can thrive if it distances itself from the rest of the world. No country can create a regional market that keeps foreign countries out. That said, I have to admit that the landscape is very rugged.

There's a book named *The World Is Flat*. I have always believed that the world is flat, albeit with glaciers in some places. It takes great effort to traverse the glaciers, and you have to be extremely careful even where the surface is flat. All roads in the world, however rugged, are connected to each other. We are in an Internet era, where technological decoupling and regional separation are impossible.

A moment ago, Zhang Wenlin explained which type of standards will win. In the 2G era, CDMA was more technologically advanced than GSM. Who saved GSM? It was China. The country refused to accept the harsh requirements of CDMA, so China bought GSM products in huge quantities. The call drop rate of GSM networks was high at first due to poor product quality, but issues

were identified and fixed as China put GSM products into wider use, and the products themselves became better during the process. Against this backdrop, 3GPP has made rapid advances. GSM is more open. Tens of thousands of companies have come on board to support the 3GPP standards, form an ecosystem, and make achievements, including today's 5G. The success of 5G is the success of the 3GPP organization.

Christine Tan: So you are sure technology decoupling will not take place. Are you willing to say to this crowd and people tuning in that it will not take place?

Ren: Why am I sure that decoupling won't take place? Because the Internet has made widespread communication possible. With the Internet, it's impossible for US professors to hide their paper in a fridge from everyone else. Otherwise, American engineers wouldn't be able to make products based on this paper either. So the paper will be visible to everyone if it gets published, and those who read it will build on the theories developed by US scientists. They could also follow the theories of European scientists or Russian mathematicians. Eventually, they will form parallel ecosystems, with some on a higher level and some lower. However, there will be no fundamental differences with regard to the entire ecosystem.

Peter Cochrane: There's not a single instance in

our history where isolation has succeeded. Not for a company, not for a country, not for the planet. Mr. Ren is right. It's just a question of time.

Jerry Kaplan: However, with respect to artificial intelligence, it's a bit of a different dynamic. There's this mythology about who's going to win. There's some kind of race. Politicians, and I'm talking about a lot of the media people here, love to talk about it as though it's an international competition. But artificial intelligence is a software technology. It consists of two parts, you have programs, and mostly the value is in data, large amounts of data. And all that AI is, when you really look at it, it's programs that analyze and find patterns in very large collections of data. That's what current AI is. Now the problem is that everybody is going to have the technology and it's easy to transport and American companies are giving it away. That's not going to be an issue. The question is what happens with the data.

What I would like to point out is that the data that is collected in China is not necessarily useful or as useful as in other places. A bifurcation in terms of the data is just as true in artificial intelligence as it is in any other kind of database. AT&T can't use China Unicom's data. It's not a useful thing to do. The technology that does face recognition in China isn't necessarily going to work well on the range of faces that it's going to see in the United

States. The best analogy I can use is the movie industry. It's like saying "Who is going to win?" American films or Chinese films? Because it is also data. And with that I think you can see, I don't think anybody in the US is worried about Chinese films taking over Hollywood, and I don't think anybody here is worried about Hollywood films taking over whatever wonderful films you have here in China that I've never watched. So this is a big myth, and the investment and worry the governments have about this is completely misplaced. It is not like nuclear energy where you can in fact bottle it up and have a unique advantage.

Peter Cochrane: Just correct me on this, but the only other instance I can think of like this in the US was with Japan and it was over automobile manufacturing. Autoworkers in the United States were being laid off because the Japanese were producing cheaper, better quality, and reliable cars. A trade war broke out, as I recall.

Jerry Kaplan: I thought you were going to mention the 5th generation computing project, which is a complete coincidence, ironically, it's 5G. This went on for years. Japan and the US were worried. They had a major reaction and started a big government project. And the same thing happened in Japan, because it was happening in the United States. Both countries wasted their money. It came to nothing. And we can go through

that same pattern and replay it with artificial intelligence, but if we're smart, we're not going to do that.

08

Christine Tan: Jerry, I'm glad you talked about data, because that's something I want to bring up. In the West and in the US, there are lots of issues about data protection and privacy. In China, Mr. Ren, correct me if I'm wrong, there's a willingness to share the data to improve on existing technology. I know you may say the West is still going to be ahead in terms of technology. Don't you think that's a big point for China to drive ahead? Because data and privacy protection is going to drag down technology innovation in the West.

Zhang Wenlin: I'm a fan of Jerry, and I've read many of his books. I admire his in-depth insights, but I do disagree with him on this particular issue. Data is obviously very important to AI. For AI, data varies with regions, and has unique value to particular regions. This is what I like most about data. Data of one region may not be as attractive when it is transferred somewhere else. This means that AI will create business for every region, and every region can get deeply involved in the development of the new AI industry.

In terms of technological breakthroughs, the more pressing, key issue is computing power. The concept of

AI has actually existed for a while. But it has just begun its basic application now, 60 years after the concept was put forward, because many related technologies have only recently become ready to support the use of AI. These include connectivity technology and high performance computing.

Only after extraordinary breakthroughs are made in information infrastructure, especially computing power, will AI likely become ubiquitous and always available like electricity is today. Therefore, we believe infrastructure capabilities, including connectivity and computing, are vital to AI.

Ren: First, different countries have very different views on data and privacy protection. China used to be a conservative country that lagged behind the rest of the world, but it's becoming increasingly open these days. Many young people post their daily lives online, voluntarily. Some people may say that you should not post your pictures online for safety considerations. But many people just keep posting. Chinese young people today are different from my generation. They don't see protection the way we do.

Second, I think privacy protection should be done in a way that promotes the safety of individuals and the security of society as a whole, and drives social progress. Excessive protection will do more harm than good for

society.

Let me give you an example. About 10 years ago, there were an annual average of 18,000 cases of motorcycle riders snatching purses from female pedestrians in Shenzhen. But last year there were 0 cases like this. And all of the 94 serious cases last year were solved. It turns out China has become one of the safest places in the world now. But during this process, many people have experienced a reduced level of privacy. Whenever I go out for a drive, I get photographed by CCTV; we all do. Those photos go into databases, but the access to the photos is limited, even to the police. They have to get certain permission to access them. As a result, security in the city of Shenzhen has improved significantly.

When the economy doesn't work, some people may risk engaging in wrongdoing. But China has been changing in many ways, which is good for productivity and employment. There is a common feeling in the West that privacy should not be given up, but this could actually reduce the security of societies. The US, in particular, has suffered from gun violence from time to time. If they are willing to give up on their privacy a little bit more, then when a security guard spots a customer carrying a gun entering a department store, they can stop them to prevent a shooting. Otherwise, this one person's privacy may be protected, but many lives may

be at stake.

When it comes to protecting privacy, we must take a scientific approach. This is particularly true for a sovereign state in how it should manage its information and data, and it is ultimately up to the sovereign state to decide this for itself. There's no universal standard on this. Every sovereign state is entitled to choosing their own approach to data governance as long as no innocent people get hurt during this process and the security level of the society as a whole changes for the better.

Christine Tan: That's the plan to protect their data, trying to protect their privacy. Where are innovative companies, where are technology companies going to get their data from, to improve their technologies?

Peter Cochrane: People will volunteer for free. Let me give you an example. Suppose I'm ill tonight, and my medical records are in the UK, you can't get them. They are now constrained by GDPR. They're my records, and I want to give them to you, but at the moment I'm prevented from doing so. But believe me, there are many personal things and a lot of my personal information I will gladly give away. So if we have a study on some ailment or illness, I will gladly donate all my data. The question is, does it pose a security threat for me or my family, and does it make a contribution? And best of all, for me, does it make my life easier and safer?

Christine Tan: Does it? Does it make your life easier?

Peter Cochrane: If you want my medical record, I will give it to you on a memory stick, and then while I'm here you can act as my agent, if I'm ill, you can look after me.

Jerry Kaplan: It's perfectly appropriate to have different laws for protecting privacy in different places, because this is a social and cultural issue. People have a different attitude in China than they do in the United States for long historical reasons, and the same thing is true in Europe. The only problem is AI likes a lot of data. It so happens that China is in a much better position to take advantage of artificial intelligence and to benefit from it more than it would have been in the US, even if you completely separate the data sets, because China simply has more data. People in the United States don't realize and they don't appreciate the scale. I found out today that Shenzhen has 15 million people. It's more than Los Angeles. I was in Shanghai. The population in Shanghai is more than the State of Texas. There are more English speakers in China than there are in the United States. There are all kinds of amazing facts and figures about this. It's a big market. There is more data, and the barriers to being able to centralize the data into large data sets are smaller here than they are in other places.

Zhang Wenlin: I'd like to add something else. I don't

think we need all the data to make technological advancements. In most cases, we only need data that is valuable for training, such as data corrected or labelled by specialists. We don't need to acquire every kind of data, especially not personal data. In the early stages, some Internet companies didn't actually know what types of data they really needed. However, people have gradually realized the importance of respecting data and privacy and protecting data sovereignty in order to sustain robust industry development. As Peter said, we will use our data in exchange for services. Tech companies are responsible for creating maximum value by taking only minimal amounts of data. At the same time, they should try their best to keep users informed and give them the choice to decide whether to participate in the exchange.

Christine Tan: Is it only a matter of time before China puts in place privacy and data protection laws? Do you think that'll happen?

Ren: I believe China should enact a very stringent Privacy Protection Law, and under this law, anyone who illegally acquires and uses others' data should be punished. Just now I said sovereign states have the right to manage their data. For example, police officers and people with judicial power can control data. I did not mean regular citizens should.

In China, some people sell off data for a quick profit. For example, some sell data about expectant and new mothers to infant formula manufacturers, who then target their product promotions to these mothers. It's wrong to leak personal information like this. There are also people who steal private phone numbers and send them to scammers. I think China should strengthen privacy protection and legislation in these areas and impose severe punishments against those who infringe upon privacy. This is a necessary step to move society forward.

I firmly support the EU's GDPR, and our equipment fully complies with this regulation. I also support China in making step-by-step progress in information management. In fact, significant progress has been made and regulation has been tightened in this area over the past two years. China needs to gradually improve its privacy protection to create a more secure and harmonious environment for its people. This is the happiness people desire most.

09

Christine Tan: This brings us nicely to regulations, rules of governments. What policies and controls should they put in place to manage these risks? In terms of companies, what sorts of principles should they put in place when it comes to developing new technology

so they don't breach any privacy issues or data protection issues? What are some of the ideas that you have about how this could take place? The broad framework, how we can come up with some sorts of viable regulations that everybody can agree upon and can move forward in this tech world?

Peter Cochrane: I don't think we have to make this very difficult. Any company and organization that comes to me and says: "We would like your data, this is what we are going to do with it, and we guarantee that we will protect that data." Then on that basis, I will afford them my data. If then as a matter of negligence, my data gets out, I think there's a price to pay for being careless. I always feel any organization that is attacked by a 15-year-old in a bedroom using a laptop, this is a good punishment, because if their security is so poor, they really have not spent enough money. But I have seen governments. I have seen defense departments. I have seen banks, all kinds of big organizations that have lost a huge amount of data. Fortunately, it's not been too damaging.

Christine Tan: Isn't that dangerous also, when it comes to technology? Companies like Huawei are developing technology so fast, but at the same time government officials don't quite understand how it works. This is skepticism. (Peter: That's an understatement.) Yeah, they don't know the risks. They think "Oh,

it's new technology. It's dangerous. Let's ban it completely," because they don't understand. If they don't understand the new technology, how are they expected to put rules and regulations in place to govern this new technology? Jerry?

Jerry Kaplan: Well, there is no good answer to that question, but when you talk about protection of data, there are ways to parse this part that I think really gave point to some kind of an answer.

The issue is not the collection of the data. The issue is the use of the data, and the retention of the data. If it is collected, you have to be informed about the purpose and it has to be restricted to be used for that purpose and you should know that it expires after some period of time. So it can't fall into the wrong hands or be used for purposes which you did not know. And transparency about what these purposes are and communicating them so they're understood by the person providing data is very important. That's the problem we're having in the United States right now. People on Facebook and Twitter, their data is being used for purposes that they did not know. People might not want it to be used for political purposes or police work or something like that. And so we need to put those kinds of restrictions in place.

Christine Tan: Mr. Ren? Do you have an opinion on that?

Ren: I think our society needs to show more tolerance

towards new technologies. Inventions and innovations would be impossible without academic freedom and freedom of thought. Some innovations and inventions benefit people and some don't. Whether or not innovations and inventions will bring benefits must be verified gradually through practice.

Take atomic bombs for example. They were invented based on nuclear fission theory and are obviously disastrous for humanity. But after further research into nuclear theory, nuclear energy will provide huge benefits for humanity. So we should take a tolerant attitude towards new technologies. If we adopt a stereotypical approach to assessing scientific breakthroughs, I think it would be very hard for new technologies to emerge, and social progress would be very slow, just like what we saw in the Middle Ages.

Let's take genetic technology as another example. I think it takes time to tell whether genetic technology will ultimately be beneficial or harmful for humanity. Some gene editing technology may do harm. However, the experiments on a few people may bring happiness to billions of people. We shouldn't jump to conclusions about whether a technology is good or bad.

At Huawei, we adopt AI primarily to improve our production process and products. We do not study the social or ethical implications of this technology. Some

sociologists have put forward some pessimistic ideas about AI, but I don't think those ideas will prove true, not at least over the next three decades. I think we should also adopt a more tolerant approach to AI. We cannot prevent advancements in AI due to some hypothetical fears about it.

New technologies, sciences, and ideas are often not easily accepted by the general public. The truth is in the hands of the few. If you put a new idea or technology in a poll on the Internet, you may not get a lot of support for it, as most people just don't understand the value that it will create. So I think we should show tolerance towards and protect the few innovators in our society through government policies, laws, and ethics. Even if the innovators go past the boundaries, we should show tolerance towards them, so that they will come back. If we don't show a tolerant attitude towards new things, social progress will slow down, and it will take a long time for a country to improve its competitiveness.

When Huawei was founded, China was in the early stages of its reform and opening-up period. At that time, 20 million young intellectuals had just come back to the cities from rural areas. They didn't want to continue staying in rural areas where the environment was tough and they felt lonely. The government agreed to let them come back to the cities they originally came from. However, they weren't able to find jobs in cities

and were thus allowed to sell big bowls of tea, steamed buns, and things like that from street stalls. That's how China's private sector started.

The central government issued a document saying businesses were not allowed to employ more than eight people; otherwise, they would be considered capitalistic and would not be allowed to move forward. At that time, Huawei already had more than eight employees. Fortunately, the local government showed tolerance towards us. We were not labeled as being capitalistic and were allowed to develop step by step.

Every year, we pay 20 billion US dollars in taxes to the Chinese government and other governments around the world. This does not include the social progress facilitated by our employees' consumption, and other contributions. Huawei would not have become what it is today without the tolerance we benefited from in our early years.

We should be more tolerant towards new things and give them more free rein. This is the only way we will be able to create a brighter future.

Zhang Wenlin: This is a very key topic in the industry. People have concerns, fears, and high expectations for technology. I think the best way forward is to have an open discussion about the nature and stages of technology with people like sociologists, scientists,

regulators, and tech companies. ISO and IEC have established the JTC 1/SC 42. Huawei is actively participating in this initiative. It is the most important platform that collects people's concerns and feedback about technology and seeks global solutions. As digital technology develops rapidly, tech companies really need to take any negative impact that may be caused by data protection very seriously, and help find solutions to mitigate the impact. Tech companies must first abide by the laws of every country where they operate. Also, they must use trustworthy and secure technologies to protect customer privacy and data sovereignty, and then provide secure, trustworthy, and high-quality products.

Ren: No matter how many people sit down together and talk about this, I don't think a consensus will ever be reached. We should let everyone express their thoughts, and then let society assess those thoughts.

Zhang Wenlin: I think our industry is making progress, and we need the industry to sit down to make a common framework and generate trust. Otherwise, those who don't understand technology will cause a stir, and those who do understand it will refuse to share information about it. If they don't understand and talk with each other, technological advancements will not be possible. Take this HUAWEI Mate 30 smartphone for example. The pages turn automatically even without

me touching the screen. Even tech-savvy people find it cool and amazing. The technology behind this is actually not mysterious. We use AI to identify gestures, which is similar to facial and image recognition technology. It's like revealing the secrets of a magic trick. People will understand and believe it if the truth is not something that is beyond their imaginations.

With more dialogue among industry players, I think we will work out a trustworthy management framework based on a more reasonable and clear understanding of technology. Then we will help more people understand technology and see it in a rational way.

No tech company should try to use their expertise in technology to deprive users of their right to having a choice. As tech companies, we should do everything in our power to take on complexity ourselves, enable our users to understand the key nature of technology and the rights they have, and give them more choices. We should also help regulators understand technology and establish governance rules to avoid the misuse of technology. This way, we will gradually earn users' trust and continue building trust from society as a whole.

10

Christine Tan: Mr. Ren, my question to you is: since you operate here in China, how open are Chinese officials or Chinese regulators when it comes to new

technologies? Do they always understand and support what you're trying to develop at Huawei?

Ren: I think the priority for China is to enhance basic education and basic science. This will allow China to stay abreast with the rest of the world. Currently, Western countries like the US and the UK have very advanced education systems, which are very open and encourage academic freedom and intellectual freedom. Some students in the US, for example, can choose from 1,600 courses to study. Each student can only choose four courses each semester, which means one student could select just 32 courses over eight semesters. However, two students in the same class may have selected completely different courses for their 31 remaining credits.

This is not the case in China. China has unified textbooks and unified exams, meaning that most students are basically at the same level. Of course, both of you are at a level a little higher than me, but not by too much. Breakthroughs in science and technology in China need pioneers and leaders.

I believe the current situation represents a historical opportunity for us. At Huawei, we take a global approach to research. We do not confine ourselves to just China. We have research presence in countries on and above the Tropic of the Cancer, including the US, Canada, the UK, Russia, and Japan. We have more

than 30,000 non-Chinese employees, including a huge group of scientists spread across those countries. We have about 70,000 to 80,000 R&D staff, and some of them are also scientists and top experts in their fields. When they concentrate their efforts, they can make breakthroughs. We are currently frontrunners in this area, unfettered by restrictions.

We want to contribute more to humanity in terms of new technology. We have never thought of completely dominating the market. We are not a public company, so we don't pursue pretty financial reports. Instead, what we want is to become stronger. Nothing limits us.

11

Christine Tan: We have come to the end of our discussion but very quickly I would like to get each of you to think ahead. We're talking about new technologies and innovation. Now we are looking at AI, what's the next big technology you think is going to happen? What's going to be the next big thing in the world of technology? Can you make a prediction for us? Jerry, let's start with you.

Jerry Kaplan: Well, some things will impact consumers and others will impact the industry, but people are interested in what's going to be for them. I think it's going to be a concept called augmented reality. That's going to make a big difference. And that's basically

being able to put on a pair of glasses which will overlay images over what you're seeing, so that you can play games or interact with images of other people. You'll be able to have a conversation with a friend who appears to be sitting at your dining room table, with their arms over the table and legs underneath. It'll bring people closer together and create a very different feel in the way we care about other people and the ways in which we interact. It will be so realistic. It would be like having a very realistic ghost right there in front of you. I think that's probably the way in which people will see the impact of 5G and AI most effectively over the next decade or two.

Peter Cochrane: Last week a paper appeared and quickly disappeared. It was a paper by Google, and it claimed quantum supremacy, that is, a quantum computer that could outclass any super-computer on the planet. I'm not sure why that paper disappeared but it was a 72-qubit machine.

Why is quantum computing very important? If we can get it to work, it would allow us to truly understand chemistry, biology, life, and intelligence for the first time, and it would allow us to tackle some very difficult, deep-seated problems like protein-folding and communication between the genome and protein, which is probably the source of about 98% of all human illnesses.

But without quantum computing, we're going to struggle to make a giant leap in our understanding and technology that will impact all humanity in positive ways that are hard to quantify. Quantum computing will change everything; we can get 100 qubits, and we become powerful. If we can get 1,000 qubits, we effectively become gods!

Christine Tan: Mr. Ren, what are you getting your engineers to develop at your labs? Is it going to be the next big thing? What's the secret you're working on?

Ren: I'm not sure what the world will look like in the future. We are on the cusp of breakthroughs in multiple frontiers. I can hardly imagine what the world will be like when there are multi-disciplinary breakthroughs. I hope our company can find its place, a strategic high ground, in the future. I think our strategy will remain focused on the strategic high ground. Our current goal is to channel data traffic, and process and distribute data.

I think there will be a huge flood of data traffic coming, just like the flood shown in the movie 2012. It will become increasingly huge. As long as you can deal with the huge amounts of data traffic, you will have opportunities to succeed. I think the amount of traffic that 5G networks can support is still relatively small. Even if optical networks can enable data rates up to 800 gigabit/s, I think this would still be insufficient to handle

huge amounts of data traffic. We can continue down this path.

Zhang Wenlin: In general, I share the same idea, but my way of expression or focus is different. Simply put, I think AI will be the most important technology in the future. AI is not a single technology; it is a combination of multiple technologies. AI is just beginning to be used because technological breakthroughs are only beginning to support its application today. AI still has a long way to go. During this process, further breakthroughs need to be made in many domains, including materials science, biotechnology, and molecule-level manufacturing, which will very likely drive AI to develop rapidly.

As AI continues to evolve, it will generate more data, just as Mr. Ren said, massive amounts of data traffic, like the floods shown in the movie 2012. The ideal of Huawei is to make data processing and computing simpler, more efficient and affordable, as well as ubiquitous. It's just like how you use electricity. You don't know where the electricity is generated or how it is transmitted, but it is plug-and-play anytime anywhere. That's the breakthrough that we at Huawei want to make – computing power.

12

Christine Tan: Huawei is developing the next generation, 6G? Is that in the work? Is that in the

pipeline?

Ren: Development is being done on 5G and 6G in parallel. We started our 6G research quite a long time ago. 6G is mainly a millimeter wave technology. It will have high bandwidth, but it might not be able to cover long distances. We still have a long way to go before we can roll out 6G on a large scale.

Zhang Wenlin: What will 6G look like? It'll be something we will see 10 years from now. In our industry, we see a new generation of technology every 10 years. I was involved in the conceptual phase of 5G development. What impressed me most was the 5G concept that a professor at the University of Surrey shared with us when we discussed how 5G should look 10 years ago. He said that within one kilometer, the number of connections will reach one million. We found it difficult to understand because it was different from our traditional understanding of communications. At the time, I even thought it was irrelevant to the technology we were talking about.

But it happens to be what we are seeing today. As Mr. Ren just said, we are still exploring 6G. Right now, we are still exploring, looking at the concept and making theoretical verifications. In our communications industry, if any company or any country wants to wait or skip a certain generation of technology, they will miss many

opportunities. The next generation of technology has to be built on the previous generations. If one country performs well in 3G, they generally do well in 4G. The same is true for 5G. A solid foundation in 4G is key to success in 5G. If a country or company wants to skip 5G and go directly for 6G, they are bound to fail. All cases we have seen are failures.

Christine Tan: Do you think Huawei will lead in 6G?

Ren: Yes, definitely.

13

Audience: I'm Glen Gilmore from the United States. I'm a member of the adjunct faculty at Rutgers University and also a Huawei KOL. A question for Mr. Ren, if I might, what will it take to liberate technology to rise above national boundaries so that tech for good will truly become tech for all?

Ren: We think technology is only a tool, like a screw driver or a wrench that can be used anywhere in the world. We should think of 5G as a base station, and not as an atomic bomb. It can be used by anyone. Technology should not be politicized. People should choose technologies based on their business needs and market competition. This way people can share the benefits brought by a new technology.

Christine Tan: Does anyone else here want to answer

the question? Whether tech for good can be made tech for all?

Peter Cochrane: I think it's inevitable with globalization. If a nation decides to isolate themselves from that globalization, there is a cost. And we've never actually seen that policy succeed anywhere in the past. I can't see it lasting very long.

14 Audience: With the development of AI, do you worry that this technology will increase social inequality? People that only have small amount of data to use and the majority of us that generate data may not able to use the data. Mr. Ren, at your last coffee talk, you mentioned that Huawei's revenue will decrease by 30 billion US dollars due to the recent incidents. Last month, a Huawei executive said it would not be as much as that, and that the revenue decrease could be about 10 billion US dollars. What changes and adjustment have you made to change the forecast?

Ren: Will AI widen the gap between countries? Definitely. AI's development needs the support of education and talent. Second, it needs the support of infrastructure. AI is an all-inclusive set of software that needs a support system. That system requires tens of thousands of high-performance computers or supercomputers, instead of just one or two. It also needs

the support of large-scale data storage systems and super-fast connectivity systems. Building this kind of infrastructure will also require heavy investment. If the software is good but the investment into infrastructure is lacking, the software will not be able to work. It'll be like having cars but no roads. Your car won't be able to do anything.

Wealth disparity will continue to be a problem in the future, so the world needs to come up with rules. Well-off countries should help poorer countries with things like education. This will gradually help the world prosper as a whole. However, AI is set to contribute to increasing disparities between countries, and those disparities are going to widen faster.

Regarding the predicted drop in our company's revenue, we have not said that our annual revenue would be less than last year's. We have simply lowered our expectations for this year's revenue growth. Some people say, that drop will be about 10 billion US dollars. I think that sounds kind of accurate, but it may end up being less than that. It's hard to say. I cannot tell you the exact figure, or else our Finance Department won't have anything to announce next year. I will leave the opportunity to them.

Jerry Kaplan: Briefly, artificial intelligence is automation. And as Karl Marx explained and understood, automation

is the substitution of capital for labor. Therefore, the people with capital are in the position to reap the primary economic benefits of the technology. And like other forms of automation, artificial intelligence will be a force for increasing wealth inequality. What we need to do is to stop thinking about our social policy as being in the service of economics, but start thinking about economic policy as being in the service of the goals of society. We should be trying to maximize overall happiness, not trying to build a GDP solely for the benefit of the few.

15 Audience: The guests here today mentioned issues with trust. One of the professors thinks that trust contains one's attitude and stance, and it is subjective. I would like to ask Mr. Ren and the two guests, for people who inherently oppose you or are biased against you, do you think it's even possible to gain their trust? We have also noticed that Mr. Ren has been speaking with the international media more frequently this year. Previously, this was uncommon for Huawei and Mr. Ren. How effective do you think Huawei's communication has been over the past year?

Ren: As we continue to talk with the media and share real facts through the media, I think the media coverage on Huawei has gradually improved from being very

negative last year to being almost good. It wouldn't be possible for all of the media coverage on Huawei to be completely good. The media helps us to communicate what we are doing across the world. At the beginning of this crisis, no one believed we would make it. However, we survived. Some people say it's because we had enough inventory to support our production. We produce over 100 billion US dollars in hardware, which would need 70 billion to 80 billion US dollars in materials. We don't have the capital to hoard that much material. We aren't relying only on our previous inventory to support current production. Our financial results in the first half of this year were not bad, so people are interested in this. The sympathy of our customers may be the reason that we did well. The results from the latter half of this year will prove that we can do well because we have real strength.

Why do customers trust us? We have spent 20 to 30 years building our relationships with them, and they believe that Huawei is a good company with integrity. Second, many Western companies have already started receiving products from us that contain no US components. Their confidence has increased and they believe that we can continue to supply them goods. Why have guest visits to our offices increased by 69%? Because they want to see if we are still up and running. First we take reporters to see the company

shuttles that employees take to come to work and get home. If people are coming to work, then they are still working. Second, we take them to our canteens to see how full they are. Then we take them to the production lines which haven't gone down once yet. We do this to strengthen our customer's trust in us. Trust spreads little by little as we show people how we are doing. Of course, the media also helps us a lot by reporting what we show them.

I estimate that the financial results for H1 of next year will continue to be good. There will not be any sharp increases though. When we see the financial results for the first half of next year, we will know that we have survived the storm. By the end of next year, people will also see that Huawei has made it. In 2021 and beyond, people will see our revenue growth continue to recover, and they will say that we have started to grow again by solving our own problems. We will gain their trust not by talking but by working hard. We can only gain their trust through our own efforts. Whether people will trust us or not depends on facts, so we believe that we can regain their trust.

Jerry Kaplan: Just very briefly, if you listen to the political dialogue, what you hear is mistrust, insults, and accusations. But it's important to understand that the political dialogue is actually not aimed at each other but aimed at the local audiences. The truth of the matter is,

if you live like where I live, in San Francisco, you would understand something that is not well reported in the press here in China, which is that the Chinese people are very highly respected and they're excellent neighbors and members of the community. So the distrust and conflict you see at the political level makes constructive dialogue impossible. But from people to people, it is a very different story. I want the people here in China to understand that they're highly respected and treated as real members of the community inside the United States.

16 Audience: I have two questions, the first one I want to ask Mr. Ren about licensing technology to an American company. Do you mean that Huawei do not rely on US suppliers so you can produce the products? I mean for all the products you ship now, are they fully independent of US supplies? And another question is that since Huawei has registered for a bond issuance for around 30 billion, is that the correct number and what is the timetable to finish that kind of bond issuance? Because it is the first time Huawei has issued this bond in China. Will banks offer preferential policies to you?

Ren: First, can Huawei survive without relying on the US supply chain? The answer should be yes. However, we

can still use US components. In August and September, we are undergoing a run-in period so we can only produce around 5,000 base stations each month during that period. However, we will begin mass production in October. In 2019, we will be able to produce 600,000 base stations. Next year, we will produce 1.5 million base stations. Of course, we hope that the West will resume their supplies of components to us. We have been working with our Western partners for 30 years, and we have formed close ties with them, so we cannot just make money on our own, without them making any money. We cannot do that.

Second, regarding the issuance of bonds, I didn't initially know about this. After the bonds were issued, I learned about it from the news, so I called people in the treasury management department and asked why they had done this. They said that we must issue bonds while our company was experiencing its best period to increase people's understanding of Huawei so they would trust us more. They also said that we shouldn't postpone the issuance of bonds until we meet with difficulties.

In addition, the cost of bond issuance is low. If we keep increasing employee investment in the company, the cost will be too high, because the dividends are often too high. However, the cost of financing from bond issuance is much lower, with an interest rate of only 4%.

So why can't we increase our financing through this means?

In the past, our financing mainly came from Western banks. Now that the channels of financing through these banks have become less smooth, we are now trying a shift to Chinese banks for our financing. I don't know what the exact amount of total financing is this time. Maybe it will be 30 or 20 billion yuan. The amount will be decided by the treasury management department because we have sufficient funds right now.

Peter Cochrane: In the last decade the center of gravity for many technologies has moved from the United States and the West towards the East. Flat panel displays, the latest 7nm chips, and batteries, are all sourced in Southeast Asia. So it's not such a giant step to conceive of autonomy. But it's not really a good policy to put everything into one basket. It is better to share technology and encourage its spread. Bilateral trade is absolutely essential.

17

Audience: I am with *The Times of India*. I'm a little surprised that India is so advanced in science, basic research, and technology, but you don't have much of a center there. However, you're looking for a market in India. What do you think about the Indian market and what kind of challenges, regulatory or legal

challenges, do you expect in India? This is a question to Mr. Ren.

Zhang Wenlin: India has very good talent and a very solid foundation. That was why we established a large research center in Bangalore 15 years ago. This research center has more than 3,000 employees, and has been playing an important role at Huawei. The Indian market has always been important to us. Over the years, our operations in this market have been quite good. In addition, the Indian government has been relatively open in communicating its regulatory policies and has had smooth communications with us.

Ren: In the past, the regulations of the Indian government were based on rules for voice communications. Today, after they shift to data communications through broadband networks, they need to adjust their regulations and policies. Infrastructure is the foundation for a country's economic development, and communications is a very important part of this.



Ren Zhengfei's Northern European Media Roundtable

October 15, 2019 Shenzhen, China

Ren: Good afternoon. Welcome to our company. Feel free and speak up about any questions you might have, and I will try and be very direct in my answers. Challenging questions are welcome too.

01 ***S/V:* Maybe it's not a challenging one, but more, if you could just tell us a bit about where your inspiration comes from? What does this building mean for your inspiration? This is a very European setting and it feels like we're back in turn-of-the-century France or something.**

Ren: Well, first of all, this building was designed by a Japanese architect and decorated by companies and artists from Russia, Greece, China, and Japan. The layout of this building has the basement be an exhibition hall of our products and technologies, and our customers can chat over a cup of coffee up here after their visit. The architect had several different ideas and combined them all together in order to finish this entire building.

The Songshan Lake campus, Xi Liu Bei Po Cun, which you visited this morning, was also designed by a Japanese master architect Okamoto. He got his bachelor's, master's, and doctorate in the US but doesn't speak good English. His designs you see here today with elements of European classicism are accepted by our review panel. But this design has nothing to do with our

company's philosophies.

02

***SVT:* Your building here feels like it has an international environment, but still there are a lot of countries like the US, maybe the UK, and now potentially even Sweden that want to make laws banning companies that they think might be a security threat. What does this mean for Huawei and what does it mean for a country like Sweden?**

Ren: I fully support the EU's new strategy about digital sovereignty. In the past, we cared a lot about material wealth, so geopolitics was very important. Today, we are in an information society. Since information has no boundaries, digital sovereignty really matters. The new strategy of the EU requires that everything should be based on facts, a company should promise to not commit any wrongdoing, and then be subject to review. If this company has not broken its promises, it is a good company and can survive in Europe.

Of course, these EU rules apply to every company, not just Huawei. I think the coordinated risk assessment report the EU has published on the cybersecurity of 5G networks can be carried out in any part of the world.

So I see this report as being positive. We are not worried about it at all because we have never done anything wrong. So we are not worried about more

rules and may have more opportunities as long as the rules are only about stringent reviews.

03

***NRK:* Huawei is at the forefront of two big international struggles. One is the trade conflict between China and the US which also spills over into Europe. The other has to do with the allegations that Huawei can be a tool for espionage. What is your straight answer on Huawei's position, and how do you defend Huawei on these two fronts?**

Ren: First, I want to make it clear that the trade conflict between China and the US has nothing to do with Huawei. Huawei has virtually no business presence in the US, so whatever the result of the China-US trade talk ends up being, it won't have an impact on us.

Second, though the US has put us on its Entity List, we have now used our own chips in the vast majority of our products. In the past, we limited the use of our own chips and used more chips from the US. We did this so that we could keep good ties with US companies, which have maintained strong relationships with us over the past three decades. Why did we stop using their chips all of a sudden? When the US suspends our supply, we have to start using our own chips on a larger scale. We have been preparing this for years. It didn't happen all of a sudden. The US government thinks cutting supply

to Huawei will give them a leg up in its trade war with China, but really, it fails to hit its target. The sales of its own companies have been weakened instead.

Third, in terms of cyber security, Huawei has been faced with accusations from the US. But as you know, these accusations are groundless. Our sound track record has proven that Huawei is a reliable company. Over the past 30 years, we have served three billion people in more than 170 countries and regions. Even today, there hasn't been a single incident of data theft. An article published by the Lithuanian newspaper *Lrytas UAB* implied that the leaked information of the African Union was allegedly related to Huawei. The Lithuanian court has obliged *Lrytas UAB* to publish a statement to retract its false statements and apologize to Huawei. Our 30 years of sound track record is a testimony to people in Northern Europe that we are credible.

What will things be like in the next 30 years?

Mr. Yang Jiechi, a member of the Political Bureau of the Communist Party of China (CPC) Central Committee and Director of the Office of the Foreign Affairs Commission of the CPC Central Committee, made a statement at the Munich Security Conference that China has no law requiring companies to install backdoors. Premier Li Keqiang reiterated this point at a press conference following a recent session of the National

People's Congress. So, from simply a policy perspective, we would never install backdoors in our equipment.

And from the perspective of our best interests, the backlash of a wrongdoing like this would spread around the world, and our business credibility earned through 30 years of hard work would be damaged. With all our employees running away, I would need to repay tens of billions in bank loans for the company. So I have no motivation for doing something like this. I can promise people in Northern Europe that we respect their digital sovereignty and would never do anything that would violate it.

Fourth, let me make a quick example. When a truck manufacturer sells a truck, the driver decides what the truck will carry, not the truck manufacturer. So, when our telecom equipment is sold to a carrier, it is the carrier and the local government that control and govern the data, we don't. So it is impossible for us to steal anything. We are a firm supporter of digital sovereignty.

That's why the US's accusations are groundless and they haven't presented any solid evidence to support these accusations. These are purely speculative and not the truth.

04 NRK: Norway is an ally of the US and a member of NATO. It's under pressure from the US, and just

recently, Telia, who is its second biggest carrier, decided that they would use Ericsson for their 5G technology. And then there's Telenor, Norway's biggest carrier and one of Huawei's big global clients, who will make their decision about 5G later this year. Do you think that the decision by Telia was made based on network speed and quality or did political factors come into play?

Ren: We respect whatever decisions our customers make, which is basically the same as buying clothes at the mall. Everyone has different tastes, so our customers are going to buy whatever they want. There are countless carriers around the world, and it's impossible to make every single one of them like us. We were not able to do this in the past, and it is even less likely for us to do so given the current situation we find ourselves in.

NRK: Are you excluding the possibility that the political climate has influenced Telia's decision?

Ren: I'm not a decision-maker at Telia, so I could not tell you if their decision was politically influenced or not. As of now, we have signed 60 contracts for 5G and have shipped 400,000 5G base stations. And these numbers are still going up. Decisions made by one or two customers do not represent how the majority of our customers feel about Huawei.

05

Y/e: You mentioned shortly that you have been able to become self-reliant. I would like to hear more about this. How did you get to that point? Where do you feel you have been able to do it well and where do you feel the difficulties of being on the Entity List?

Ren: To be frank, we have not seen a substantial impact of the US's attack on our communications domain. The attack is primarily against 5G and core networks. I can tell you that our revenue from the communications domain, including 5G and core networks, will not decline this year; in fact, it is estimated to grow a little. We will see growth with our communications domain, especially with 5G. There is little impact in this domain.

Our consumer business, however, will be affected. If the US does not allow us to participate in the Google ecosystem, we will see it play out in overseas markets.

We also find ourselves slightly behind US companies in intelligent computing and need to double our efforts to catch up.

Y/e: What's your view on what's happening in the industry as this divide seems to grow? If it continues, do you think you will be able to build sort of another ecosystem besides Google? Will you be able to match their strength?

Ren: We have a good working relationship with Google. Even if we develop our own ecosystem, that ecosystem

will not be used to compete with them. I think if the world has ecosystems by Apple, Google, as well as Huawei, it will help advance our societies. We have never considered anyone as an adversary.

06 DR: You've said very clearly that if Beijing ever asked Huawei to spy on their behalf, you would close this company. I'm very fascinated by this answer. How would you in practice do this? It's very clear that you have a very powerful Chinese government and you have a president who doesn't tolerate dissent. How would you in practice close Huawei and make sure that was not a state takeover?

Ren: The Chinese government has never asked Huawei to spy on their behalf. In the past, they didn't even know networks could have backdoors. Since the US started making baseless accusations against Huawei, the Chinese government started to take cyber security seriously. It has taken some time for China to come to this level of awareness.

We have been subject to the strictest evaluations in the UK, performed by world-class technical experts. According to their findings, Huawei has no malicious cyber security issues, but the quality of our software has room for improvement. The UK has placed trust in Huawei, and our business has developed very quickly

there over the past decade. We also place huge trust in the UK and have established our own cyber security evaluation center there.

***DR:* Even as powerful as you are, can you say no to Beijing, say no to the Chinese President and leadership?**

Ren: At the Munich Security Conference, Yang Jiechi, a member of the Political Bureau of the Communist Party of China (CPC) Central Committee and Director of the Office of the Foreign Affairs Commission of the CPC Central Committee, made it very clear that China has no law requiring companies to install backdoors in their equipment. During a press conference held after a recent session of the National People's Congress, Chinese Premier Li Keqiang reiterated this point. These are all directives from top government officials.

07

***Dagens Industri:* In an interview with *The Economist*, you recently proposed that you could license all your 5G technology to a non-Chinese company and allow them to use your 5G patents on fair, reasonable and non-discriminatory (FRAND) terms. Have you had any reactions to that statement yet? And have you had conversations about using your 5G patents with Ericsson?**

Ren: First of all, this is a very big decision that will not be made quickly by any company that might be

interested. Ericsson does not need to buy 5G patents from us because we have already signed cross-licensing agreements with each other. Patents are shared between our two companies. Ericsson has what it needs to develop 5G technology and does not need to spend huge sums of money to buy 5G patents from us.

I think US companies are the ones who need our 5G patents, because they don't have these 5G technologies or patents in the US. Without them, it would be difficult for the US to move forward. So far, we haven't seen any reactions to our offer from big US companies.

***Dagens Industri:* No reactions from any big American companies on this?**

Ren: Correct. We've heard from some intermediaries who want to play the middleman, but they don't represent any big US companies. I don't think the reactions from the intermediaries are that important at the moment. What's important is for us to directly communicate with big US companies.

08 *Dagens Industri:* My second question, so the United States is contemplating funding money to issue credit to your competitors, including Ericsson, to make it easier for them to compete with you. What's your view on this business practice, this trade practice? Do you find that fair, especially off the back of the fact that

the United States is blaming Beijing for state support of its companies?

Ren: First, it is understandable if the US government issues credit to Ericsson and Nokia, or customers that buy equipment from them. It is a positive measure that we understand and support. I think this is good for society, because new things cannot collect funds as soon as they start developing. So I understand and support what the US government is doing.

Second, Huawei is unable to receive such financial support. Over the years, our business operations have provided 90% of the capital we need and are continuing to contribute cash flows to the company. So we have sufficient cash. Our rapid growth over the years is attributed to sufficient money and simple decision-making processes.

In the capital market, many shareholders often spend so long arguing that an age has passed before they have finished. However, we have a unified will at Huawei when it comes to decision making, so that we can quickly decide and invest large amounts of money in certain areas. This is a characteristic of our management.

Providing buyer's credit is a common practice internationally, so it is understandable for any country to help its export companies. For example, airplanes are bought through financing and leasing. Airlines have

to pay off the money to banks in seven or eight years before they own the planes. Financing and leasing are common practices all over the world, so we support the US government's funding for Ericsson and Nokia. If their market shares increase while ours decrease, there would be no conflicts between us.

09

***Helsingin Sanomat:* My question is about reputation. Some people see Nokia's reputation as more transparent and more reliable compared with Huawei's. Can you describe your personal view on that? Is Nokia as pure and innocent as some people see?**

Ren: Finland is a great country. I have two reasons for believing this. First, today's Android system originated from Linux, which was invented in 1991 by a Finnish person. Linux then went open source and evolved into today's Android. Finland has made significant contributions in this regard.

Second, we worked with the University of Tampere and invented block-matching and 3D filtering (BM3D) technology for noise reduction. With this technology, people can use cellphone cameras to take clear photos in the dark. This technology was initially found in an academic paper from a Finnish university.

Third, Nokia is a role model that we used to admire. Nokia started as a pulp mill and developed into a

leading global cellphone maker. But Nokia later took a detour during the course of its development. The company stuck with the path of the Industrial Age, which placed quality as its top priority. Nokia phones were the only phones that could be sustained for almost 20 years. Someone once asked me to help repair his phone. When I found that it was a Nokia phone dating back over 20 years ago, I thought he should take it to Nokia's museum in exchange for a new one. This example showed that Nokia was determined to follow the path of the Industrial Age.

Technologies evolve very rapidly in the information society. The quality of mobile phones is now overshadowed by customer experience, but Nokia has failed to keep pace with this trend. However, Nokia is still a great company.

Some people always think that Huawei is not transparent. But in fact, Huawei is highly transparent. Our financial reports have been audited by KPMG for over a decade, and our financial statements clearly explain where our money comes from. The US government should take a look at these statements.

Some people think we are not transparent because we haven't gone public, but this doesn't make sense to me. Huawei adopts a new model under which its funds are collected from its employees. This may even

become a model for most companies in the future. How is this model different from those of Northern Europe? There is no difference at all. In other words, we embrace employee capitalism, instead of the large-shareholder capitalism adopted by Wall Street, and there are no zillionaires at our company. Under employee capitalism, many employees are getting a certain amount of shares, providing assurances to them once they are retired or if they get sick. Isn't this modeled after those of Northern Europe? Don't you embrace people's capitalism? Northern Europe does not have zillionaires, but it is still one of the richest places in the world.

Norway is very wealthy, but the people there still drive small cars and live in small houses. Every time I return from Norway, I ask our employees to learn from the country. In China, people tend to buy big cars and big houses. Since we are still a developing country, how can we live such luxurious lifestyles? We should be saving money for production and investments.

Our company is transparent throughout and exposed under the sunshine. Over the past 30 years, people around the world have kept a close eye on Huawei, including the Central Intelligence Agency and other US government agencies. They've continued watching us but haven't found any problems. Isn't this a proof of our transparency? We are just as transparent as Nokia.

10 *Helsingin Sanomat:* About Mr. Xi, you are a really powerful man in China and member of the party. Can you describe your personal relationship with Mr. Xi Jinping and the last time you met?

Ren: I only met President Xi once at Huawei's UK office in 2015.

Helsingin Sanomat: You don't think you will meet the Chinese President again?

Ren: Maybe. It would be nice to see him again, but I haven't got any invitation yet.

11 *SVT:* Still you may have been personally affected by this rift between the US and China since your daughter has been arrested in Canada. How do you see that? Is that designed to put pressure on you and your company or designed to put pressure on China more?

Ren: As for the case regarding my daughter's detainment in Canada, this will be decided by the law.

SVT: You don't think that has any relationship to the tense situation between the US and China?

Ren: Right now we can't know for sure if there is a relationship. My daughter is a grown woman, and she can handle the challenges herself. I have three kids, and they are all independent and strong-willed. I have been married twice. Right now, I am married to Yao Ling.

She is a kind and responsible mother. For 20 years, she chose to stay home to take care of our daughter, teach her to be diligent in her studies, and help her form good habits. My youngest's achievements are the result of her own strength and the education she received from her mother. I have always been busy with my work and didn't spend much time with my kids during their childhoods.

I think letting kids face some challenges isn't necessarily bad for them. As for the challenge now facing Wanzhou, I hope it won't get tangled up with state affairs. I don't think the country should make concessions for us, because they may have to sacrifice the interests of the less privileged. We think we should solve the issue by relying on the law and the courts.

12

***NRK:* In the current political climate, what is your advice to the big carriers that will now decide on 5G? What should they base their decisions on regarding which to choose and to what extent should they listen to their own government? What would be your advice to European countries' governments in the current political situation?**

Ren: I fully support the digital sovereignty proposed by the EU. Digital sovereignty is as important to a state as their geographical sovereignty. Geographical

sovereignty relates to geopolitics. This is not the case with digital sovereignty because information flows globally, so digital sovereignty is necessary. I agree with the idea that every country should establish their own digital sovereignty, and I fully support the strategies and requirements of digital sovereignty. We will try our best to contribute to the infrastructure they need in the EU. We are committed to going open source with our key technologies such as compilers and MindSpore framework for AI and Kunpeng products for European and global developers. European companies can innovate based on these open platforms, and their innovations will impact the world and extend to China. This will help improve their economic and revenue structures. We aspire to support the development of at-scale digital ecosystems in Europe.

***NRK:* Given the current political climate, how important is technology, speed, and quality in products? How important should each of these things be in decision making?**

Ren: It's very hard to say. Different people like to buy different things. There is no standard way to decide what to buy. It wouldn't be practical for shops to only sell Hermès bags and not sell any other brands. Shops will sell different commodities for different uses. I don't think it's appropriate to buy things based on political factors. Products related to infrastructure have long lifecycles,

and if you lag behind at the beginning, it becomes hard to catch up.

For example, Europe lagged behind China more than a thousand years ago. China's prosperity in its Tang and Song Dynasties is reflected in classical Chinese paintings like *Along the River During the Qingming Festival* (Qingming Shanghe Tu). Why did Europe develop faster while China fell into poverty over the last few hundred years? Because Europe invented the train and steamship, while China was still using horse-drawn carriages. Carriages move much slower than trains and carry less cargo than ships. Therefore, Europe developed, and China lagged behind in terms of industrialization. Speed determines achievement.

As for 5G, I think people should choose products that are able to deliver fast speeds, large bandwidths, and low latency for the development of an information society. 5G has presented new development opportunities, and we should choose the best equipment. I think products made by Ericsson, Nokia, Huawei, and Samsung are good choices, and are able to support decent networks. Carriers make their own choices based on their own decision-making mechanisms. They need to take speed into consideration, because speed is critical to social advancement. Trains and ships were faster than Chinese carriages, so Europe developed faster than China.

13 Ye: One thing that has certainly happened is that China has caught up on the ship and horse carriage game. So how did Huawei manage to overtake Nokia and Ericsson and why is there no mobile network company in the US? What is the Chinese idea? Why has it worked so well?

Ren: First, Huawei, Ericsson, and Nokia are on good terms. We worked together to create industry organizations like the 5G Automotive Association (5GAA) and the 5G Alliance for Connected Industries and Automation (5G-ACIA), which are set to contribute significantly to Europe's industrial development. Europe is known as a talent hub with a small population. With AI, Europe will be able to produce a massive quantity of goods with a relatively small workforce. There's a lot to look forward to in terms of what AI can bring to Europe. 5G is just a supporting pillar of AI. We are working with Ericsson and Nokia in good faith to advance the development of 5G.

As we move forward, conflicts between us will inevitably arise. But I would characterize our relationships as competitive and cooperative. Both competition and cooperation are important to drive us forward.

Ye: For the telecom companies in the US, there were competitors from there, and now there aren't any. Do you think that there's some sort of difference between

you? Why did they vanish? Why didn't they manage to compete with you and the Nordics?

Ren: The US companies chose the wrong path. In terms of technology, the US is the most powerful country in the world. With its strong influence, the US strong armed the world into accepting CDMA and WiMAX. However, European standards – WCDMA – eventually became mainstream. US companies failed to follow through the 3GPP approach in their research. As a result, their tech didn't sell well abroad, which hurt their financial performance. Huawei's rise can't be blamed for US companies' decline. They vanished because they chose the wrong path.

14

DR: In the interviews you actually praised the American President. You've even said it's good that he lowered the taxes in the US. At the same time, a lot of people would probably say that he's also the architect of a lot of your troubles – your personal troubles, your company's troubles. What do you actually think of the American President?

Ren: I think the world should learn from the US president and lower the taxes so that businesses can earn more and develop more rapidly. Tax cuts aside, Mr. Trump is also wielding the stick against many countries, which is deterring foreign investment. Tax cuts were

meant to attract foreign investment. If everyone is afraid to invest in the US, who will fill the revenue gap caused by the tax cuts? With less tax revenue, the US will find itself in a difficult financial situation.

If the US were nicer to other countries while lowering taxes, it would be a great boost to the US economy. However, the US is lowering taxes on one hand, and getting into trouble on the other hand.

The Chinese government is also cutting taxes, bit by bit, to reduce pressures on businesses and inject vitality. We believe all countries will eventually go down this path, because no country will be able to afford an excessively expensive welfare system.

***DR:* You must have some days or evenings when you dream a little bit of Donald Trump losing the next election.**

Ren: First of all, Trump has never appeared in my dreams. I don't miss him that much.

Second, whether or not he is re-elected will not affect us all that much. Whoever the next president is, we don't expect Huawei will be removed from the Entity List. No one in the US will speak for Huawei. Therefore, we are mentally prepared to remain on the Entity List for a long time. We must get used to living with it.

At Huawei University, classes often begin with a

warm-up video of students from China's Hengshui High School doing morning exercises. It is a high school in an underdeveloped county. We all know that it's very difficult to change China's education system and the general teaching methods, and the school knows this too. But they changed their methods to adapt to the external environment and achieve success.

What have we learned from this high school? We can't change the world and we can't change our external environment, but we can change our own methods so that we can achieve success within the existing environment.

The US may or may not elect a new president, but this will not change their policy towards us. We must be mentally prepared for this for a long time to come. If we rely too much on luck, we may one day fail.

15 *Dagens Industri*: **I would like to come back to the issue of Huawei and possibly other Chinese tech companies becoming self-reliant on equipment, and how this turbulence has added more urgency to this issue. You said, for example, using your own chips will boost your profits, which I found interesting. I would like to hear a little bit more about how it would boost your profits. And could we draw the conclusion that this trade war, this tech war, has actually been in favor of Huawei and**

Chinese tech companies in your push to become more self-reliant on equipment?

Ren: First of all, we don't want to see de-globalization happen. We should firmly pursue globalization. We have been forced to use our own components as a last ditch effort because the US stopped supplying us with their components. We don't want to collapse, so we are using more of our own components. But in the long run, we believe globalization will create more wealth for humanity. We firmly believe in globalization.

Will some Chinese companies grow big enough to overtake US companies? That's possible. But we are not counting on this possibility. I think the US is still the most powerful country in the world. We are not seeking de-Americanization or trying to decouple from the US. We have contingency plans in place to offset the impact caused by the US denying our access to US suppliers.

16

***Helsingin Sanomat:* How do you see China's national security law and how does it affect Huawei? For example, a part of the law says individuals and organizations must cooperate with national security officers if needed. So does Huawei need to obey the law, too?**

Ren: I don't quite get what this part means. Chinese leaders have clearly stated that no Chinese law requires

Chinese companies to install backdoors in their equipment, and we comply with this instruction.

17 *S/V*: What's next after 5G? How do you see the future for Huawei and for competitor companies?

Ren: I think that following 5G, we will see the large-scale adoption of AI, but there are three basic preconditions for that. First, the availability of super-computing systems. Second, the availability of super-large-capacity data storage systems. And third, there must be super-fast connections between these two systems. When these conditions are met, AI will have huge potential.

In fact, AI was proposed by Alan Turing of the UK in the 1940s, but it only began to be applied 60 to 70 years later. Why is that? It's because these three preconditions had not been met until now. 5G is only a tool that supports AI with its low latency and large bandwidth. I believe that AI will develop rapidly around the world.

I think Europe will benefit most from AI, because European industry has very advanced systems engineering. They can use less labor to make more and better products. Europe is well positioned in this regard, because it has a relatively small population and has a well-trained workforce. With AI applied in production systems, they will be able to make more products. That's why I think that Europe will benefit most from 5G and

AI. Huawei, Ericsson, and Nokia have set up the 5GAA and the 5G-ACIA. Both of them will promote better use of AI in production systems.

Will China also benefit this much from AI? I don't think that will be possible in the near future. This is because China's industry has just moved from manual to mechanical. The next step will be to move to automation and then to digitization. Only after we go digital will AI have a major role to play. So it will take a longer time for AI to play a role in China.

18 *NRK*: How do you think that 5G and artificial intelligence will change society and the way we live?

Ren: This question is too complex for me and I don't have enough knowledge to give a proper answer, but I can give you two examples.

In China, there is a 500-hectare farm that entirely relies on AI for production management, with no farmers working there. There is also a mine in Northeast China, but its operators are located in Shanghai.

If there were another disaster like the explosion at the Chernobyl nuclear power plant, we wouldn't have to send 600,000 soldiers for rescue and cleanup operations, like the Soviet Union did; we could use AI to operate robotics instead for the rescue efforts. Even today, we

are moved by the spirit of sacrifice demonstrated by these Soviet Union soldiers. The first one to charge in, shovel in hand, was a lieutenant general. People can be exposed to high levels of radiation for 45 seconds at most; any longer could be fatal. At the time, 600,000 soldiers and thousands of helicopters carrying earth were sent to bury nuclear waste.

I don't know whether you have visited our mobile phone production lines. If you have, you may find that we have only a few people on the production lines. This is only partially intelligent production. If Europe uses this mode of production on a large scale, they would make more products with relatively few workers. This will translate into higher yields and returns and significantly reduce social conflicts.

What will AI ultimately bring to future society? I'm not sure. I'm still envisioning what AI will bring as it continues to develop.

Europe is the first region that has proposed the concept of digital sovereignty. I think it's a very wise decision. It acts as a lighthouse and sets a benchmark for the development of information society around the world. We used to emphasize physical boundaries because of geopolitical factors. We used to claim that things like mines and trains were all ours. Now when information travels around the world, digital sovereignty

becomes necessary to support national development. We will resolutely support this concept.

We will go open source with our AI ecosystem to support the innovation and development of European start-ups and small businesses. Our goal is to share success with our European partners, not to be the sole winner.

19

Y/e: It seems that everybody is happy with the cyber security report that the EU made. Even the US is happy with it and you're happy with it because it doesn't mention names, but the US thinks that some names are written between the lines. How do you see this? Is there a Chinese company name between the lines of the EU cyber security report?

Ren: I don't think so. First, the EU has proposed that everything should be determined based on facts as that is fair to all vendors. Second, vendors should first promise that they will not build backdoors into their equipment and then should subject themselves to review. I think this is a scientific approach as it applies to all vendors. We support and welcome this approach. Different countries and people, including lawmakers, may have different interpretations or opinions. I think the conclusions of the report are fair.

20

DR: You started your career in the Chinese army, the PLA, and later on you created this empire. Do you understand why some people outside China are very confused? Are you basically a good old communist inside, or a capitalist? Do you have to choose between those two?

Ren: First, every soldier that chooses to leave the army is going to look for a new job. It's like this in every country. In total, the Chinese army has discharged tens of millions of soldiers; it would be ridiculous for all of them to stay at home and not work. I was just one of these soldiers.

Second, regarding what kind of ideology Huawei follows, we don't really have a pretty label for what we are. There are over 90,000 employees who hold shares at Huawei. Even though I have more shares than any other individual, I only have less than 1% of all shares. Of course, our mechanism may not work for other companies, but it works for us as a technology company. The company's wealth is in the brains of our employees instead of any special quality of mine. If I were to hoard all the rewards, people wouldn't stay with Huawei, and nothing would be left. We distribute shares to employees according to the value of their brains. This is the foundation of our so called ideology. It's not specifically based on any traditional ideology. I don't

know what to call it exactly, but I guess it may be called employee capitalism.

21 ***DR:* Decisions about this company, also about the Union and the stakeholders. Aren't you still the actual person who, at least for a couple of years, will guide the direction of Huawei?**

Ren: Operational decisions are actually out of my hands, and I don't directly manage anything in particular. Instead, the Board of Directors does all of that. I do have the right to veto decisions on certain major issues, but I've never actually used this right. I just consult with members of the Board of Directors on major issues.

22 ***Dagens Industri:* I would like to ask you again about how you see your chips increasing profits. To me, it sounds tremendously expensive. Could you explain to me how developing your own chips and your own operating system, developing other equipment and services will affect your revenue and profits going forward?**

Ren: When people buy chips, what they are actually buying is the use of a bunch of math and physics equations. We had already been developing the data models for those equations, and that cost was already

covered by our operational budgets over the years. Companies that don't develop their own chips need to bear this cost when they buy chips from other companies. This part is rather profitable.

Second, we manufacture a large number of chips. We will produce 270 million smartphones this year. Producing such a huge number of smartphones means that we may need to source chips from several different chip makers. We don't just use things on a small scale. Once you scale out these things, the cost drops.

***Dagens Industri:* Will you start selling chips to other companies too? Is it possible in the future?**

Ren: We don't currently plan to do this.

23 *Helsingin Sanomat:* What are your personal views on Huawei products? Do you use social media? Do you prefer to read your news online or in the paper? Are you a tech nerd or more of a traditional type of man?

Ren: I use social media, and I look at stuff online. I mainly look at criticisms towards us, and I pass those criticisms on to relevant staff. I do this to remind them to check for problems with our products. As we all know, our products are used by billions of people. When people use our products, they are likely to find problems that are hard to identify in the lab. Some people post

what they identify online, and when I see such posts, I am grateful, because then I can check with the relevant department as soon as possible to see if any improvements can be made.

We have an internal web forum at Huawei called the Xinsheng Community, where many employees criticize the company. We don't think they are bad employees for criticizing us, and instead understand that most of them are probably really good employees. If an employee's criticism is useful, our Human Resource Management Department checks their performance records for the last three years. If they have done well, we actually bring them to our headquarters to work for three to six months. During that time, we give them training to equip them with more knowledge, and then send them back to their original posts. They might be promoted in the future after that. We wouldn't promote an employee just because they identify problems. Instead, we promote them after they make contributions on the frontlines. Our internal criticism platform is open to all our employees, and is like a Roman Forum where large-scale debates take place. It's a tool that helps us self-correct. This is similar to what happens in the US. Being able to self-correct makes the US a great nation. Trump is a great man, but his staff also criticize him. The US can correct itself if it makes mistakes. Like the US, we also have a self-correction mechanism. I've made

looking at online posts a bit of a habit. I skip the good things people say, but look at the bad and pass it onto the relevant people.

After dinner, I normally read news, go for a walk, and take a shower. After that, I do a bit of email and look at people's comments about us before going to sleep around one o'clock. I forward anything I find to relevant people, sometimes as late as midnight. I know this makes some people wonder whether I actually sleep or not. In fact, I just send the comments when I wake up and see them in the middle of the night.

***STV*: So no nightmares about Donald Trump?**

Ren: No, none. I actually feel like I need to thank Trump. After the company's 30 years of development, the majority of our employees have become fairly rich. However, this has made them complacent and they have started slacking off. Shenzhen is a great place to live, so why would they want to go and work hard in places like Africa and risk diseases like malaria? If all employees think this way, the company is bound to collapse soon.

However, with Trump brandishing his stick, our employees became nervous and aware that they must work hard to till the soil. That's why our sales revenue has increased, and our company has not collapsed yet. This is the result of our employees' collective efforts.

In this sense, I don't think Trump is a bad guy. Our

employees were scared because he intimidated Huawei. I also used to intimidate our employees, but the stick I used was not as large as Trump's. So his intimidation played a big role in driving our employees to work harder than ever before.

24 *STV:* **What would other Western countries risk if they follow the US example and ban Huawei?**

Ren: I think other Western countries make their own decisions based on their own interests. There is no way they will all follow in the US's footsteps, because the US doesn't share what it earns with these countries.

If the US shared the money that it earned equally with other Western countries, it would make sense for these countries to follow the US. But the US only cares about its own interests, and even adopts its "America First" policy, showing it doesn't put its allies first.

That's why we believe that all countries will make their own independent decisions.

25 *NRK:* **People are saying that you and President Trump are men of the same generation. If he said "I want to see Huawei for my own eyes," "I want to visit Mr. Ren," what would you show him?**

Ren: I would show him anything he's interested in, and

even give him a hug. It's just like when you visit our exhibition halls, you can film and photograph what you see. When reporters from AP visited our facilities, they even took photos of our circuit boards. I don't think it matters. If he wants to, he is even welcome to visit my office, though my office is not as nice as his.

26 *Ye:* **5G is a political thing, a cyber security thing. And next, there is AI, as you just said, it will be the same. As you said, you don't expect to be removed from the Entity List soon. So isn't it certain that there will be some divides or de-globalization in the technological world?**

Ren: I don't think that would happen. If we build a localized ecosystem in Europe, and support the separate development of companies in different countries, then these companies would not necessarily have strong relationships with Huawei. It would be impossible for the US to impose sanctions on each and every one of these companies, so they would still have the opportunity to develop. Huawei alone is not sufficient to change the trajectory of globalization or the way things work.

27 *DR:* **A lot of people are scared of the rise of China, probably because of the different political system here. Do you think China has any responsibility for this fear,**

not only in Denmark, but in many countries? And what would you say to people who are somewhat afraid of a powerful China?

Ren: Denmark is a great country that I have a lot of appreciation for. It is a country that encourages intellectual and academic freedom. That's why Danish people have come up with many great inventions, like Niels Henrik David Bohr, the father of quantum mechanics, and Hans Christian Ørsted, who discovered electric currents create magnetic fields.

I have visited Denmark several times, and I've also studied Denmark's social structure. Denmark implements flexible labor laws, which allows companies to fire incompetent employees for justifiable reasons. But the Danish government has also established training institutions to help these people upskill. Companies in Denmark have become more flexible and efficient in terms of workforce deployment, and pay more taxes. In doing so, Denmark has become a country where employees enjoy decent pay and huge benefits.

If a country overprotects labor, companies operating there would not dare to hire large numbers of employees, making it difficult for them to develop into larger companies. This would bring about many difficulties for this country. So without overprotection of labor, a country actually protects its labor to the largest

possible extent. In this sense, Denmark has made huge historical contributions. That's the way forward.

I think China needs to learn from the education and labor systems in Denmark. Why can't China build technical training centers on a large scale, so that the unemployed can receive training and upskill themselves at the government's expense? Without these burdens, companies can go all out to make more money, and pay more taxes, which could then fund more workforce training. This would then help upgrade China's entire workforce, making the entire country progress faster.

28

***DR:* China has been good enough to explain what it wants with all this power and all this wealth that has come to this country over the last four decades.**

Ren: Actually, China's top priority is to lift people out of poverty, because there are still tens of millions of people in China living below the poverty line. The Chinese government is determined to eliminate poverty by the end of next year.

You've been to some coastal cities in China, like Shenzhen and Shanghai, but I would imagine you haven't been to many remote areas here. These coastal cities are not fully representative of all of China. There are many less developed, poor areas in West China.

China must build its strength if it wants to address the poverty issue in its less developed areas. It needs to build infrastructure like railways, roads, and power grids, which can help modernize those poverty-stricken areas. China should remain dedicated to eliminating poverty.

Another important issue for China is to improve its education systems. For example, 70 years ago, 70% of the Chinese population were illiterate, like a person in the West who doesn't understand A or B. Now, there are basically no illiterate people in the country, but there are still many who know little to nothing about science and technology. This is why I think China should establish more vocational and technical schools, so that ordinary people can master technical skills for better employment. This will ensure greater stability in the country, and stability is the foundation of development.

China has been exploring the right path for decades, and shifted from the planned economy to the current system.

30 years ago, Shenzhen was nowhere near as ordered as it is today, and China has been establishing this order gradually. Now, China has developed its own well-organized system. As long as you don't go over the top, you can say anything. That was not the case 30 or 40 years ago. At that time, I would not have even dared to talk to you. If I saw you in the street, I had to turn

around and run away immediately. I could have been suspected of wrongdoing if I even brushed past you.

Now China is much more open, and I can talk with you as I like. I'm telling you the truth without polishing anything. I believe China is moving further towards modernization and democracy. It might not be considered satisfactory by people in the West, because you tend to compare China to Western countries, and because you have been on a journey of modernization for several centuries. But people in China are quite satisfied because the country has been improving day by day.

29

***Dagens Industri*: A question about this wolf culture that Huawei is so famous for. I met several people who worked many years for Huawei, long before you were a world leader, when Huawei was still a challenger. Would you say this last year's turbulence has brought back the feeling of the company being a challenger again and how important is this wolf culture, this fighting spirit, and how does it apply internally when you compete globally?**

Ren: The term "wolf culture" was coined by people outside Huawei to satirize us. We didn't come up with the term ourselves. The idea originated from an article where I said that we could learn from wolves' teamwork

and perseverance. In the article, I talked about how wolves have sensitive noses, and can smell meat from far away. I hope our employees can learn from wolves to be sensitive to market opportunities and technological development trends. Second, wolves do not hunt alone, but work in teams. This teaches us to value teamwork, and not to fight alone. Third, wolves are tenacious and unyielding. They keep fighting even if they fail at first. We hope our teams can learn from this spirit.

Since not all people can become wolves, they can learn from an animal called "Bei" from ancient Chinese legends instead. Bei were very smart animals, but had short front legs and long hind legs, so they couldn't hunt alone. They had to work with wolves to capture their prey. When they hunted, they held onto a wolf's back. If they saw the wolf running to the wrong direction, they would push it onto the right path. Together, these two animals made a perfect team.

However, in Chinese, the names of these two animals have negative connotations. For over 5,000 years, Chinese society has always been relatively conservative. In our culture, people tend to dislike being too aggressive, and view acting proactively as a negative thing.

Because of this, we didn't come up with a "wolf culture" metaphor on our own. It was proposed by

outsiders. In fact, when people first used this term, they thought badly of Huawei. Some experts even wrote that wolves were cruel because they would steal meat from other animals. But that is not what my article was talking about at all. I doubt whether those people read the full article I wrote. But Huawei was not developing very well back then, and many people had a negative perception of Huawei, so this term became quite widely known.

***Dagens Industri:* Do you feel the fighting spirit in the organization has increased over the last six months or the last year because of the turbulence, the trade war, and the tech war?**

Ren: Yes. It has increased. We no longer slack off now, and are becoming stronger and stronger.

30 ***Helsingin Sanomat:* Thinking about the future, where is Huawei looking to down the road? And where will Huawei's revenue mainly be from? Maybe Africa or Asia?**

Ren: I think most of our revenue will still come from China and Europe.

31 ***SVT:* Being from Sweden, I have to ask, what do you think about Swedish ICT ecosystems and knowledge in**

IT and telecom?

Ren: I think Sweden is a great country. Over 20 years ago, when I told the Head of the Guangdong Communications Administration Cui Xun that one day we would catch up with Ericsson, he just laughed at me and said it was impossible. He told me how Sweden does a great job providing universal education and facilitating scientific and technological innovation, and how many new technologies emerge from Sweden.

We are now building a new campus for our Huawei University and the first phase will be finished in the beginning of next year. Its design was inspired by the buildings in Sweden's coastal areas. I think we can learn a lot from Sweden, in terms of both dedicated spirit of the Swedish people and Swedish culture as a whole. Chinese people are beginning to win the Nobel Prize awards. I truly feel that China is making much progress.

***SVT:* Twenty years ago you didn't think you would reach Ericsson's level, but today you think you're ahead of them, at least on 5G. Why? What happened?**

Ren: I think the first reason is that we knew we were lagging behind. So we spent more time on our work to try to catch up, even sacrificing the times that other people use to have coffee. Second, we are very open. We collaborate with research institutes and universities all around the world, and provide funding for their

research. For example, the theory behind massive MIMO, a key 5G technology, was first proposed by a professor at Linköping University in Sweden, and Huawei was the first to apply the technology to products. To sum up, since we knew we were lagging behind, we have been working all out with partners around the world to catch up with other world leaders.

32

***NRK:* Your life is in many ways a testimony to China's development. Your generation experienced the Cultural Revolution. You have talked about how you saw French textile machinery and how that influenced your thoughts during the Cultural Revolution. How did China's Cultural Revolution shape the way you think and the way you shaped Huawei?**

Ren: I'm an eye-witness to how the People's Republic of China has grown into what it is today from when it was founded. I lived in an extremely poor region when I was a kid, and I saw what life was like for poor people with my own eyes. I also witnessed many political campaigns and how China struggled and kept moving in the wrong directions by constantly swinging one way to another.

I think the Cultural Revolution is the biggest mistake China has ever made, and it had an enormous impact on the country. At that time, China built the Liaoyang Synthetic Fiber Factory with equipment imported from

two French companies, Technip and Speichim. During my time at the factory, I had access to world-leading technologies, and was able to distance myself from the radical revolutionary movement. As China sought revival after the collapse of the Gang of Four, I had the opportunities to put what I had learned into practice. As a result, I grew rapidly during that period. Later, China significantly downsized its military so that it could focus on economic development. After my entire military unit was disbanded, I came to Shenzhen, which was then at the forefront of China's reform and opening-up.

At that time, I knew very little about the market economy. For instance, I didn't even know what supermarkets were when many friends who had studied abroad came back and told me about them. I knew nothing about them and could only guess what they were like or why they were called supermarkets. Just imagine how difficult it was for someone as ill-informed as I was to go into the market economy!

At first, I worked as the deputy manager of a small company and had very little power. Other managers were directly appointed top-down with certain titles; some of them never reported to me, but any mistakes they made would be my responsibility. With a poor grasp of the market economy, I made a big mistake that got me cheated out of a ton of money. Reclaiming that money took me more than a year. I couldn't afford

to hire a lawyer for my lawsuit, so I studied all the law books I could get my hands on and tried to be my own lawyer. In the end, what I got back were assets, rather than cash. Turning those assets into cash caused some losses to the company, so they decided to let me go. I had no option but to start a company of my own. After I started making some money, I helped my former employer repay some of its debt. It was not until then that I started to grasp a little bit about the market and the economy, and I ran my company without knowing what the world of communications was about.

The first generation of Huawei employees made communications products by referencing a textbook written by a university professor. This simple approach to R&D was the beginning of our journey. One thing that sets Huawei apart is that we spend less on our own meals or clothes but more on the company's future. You may wonder why Huawei is more successful than many other companies. Most Americans throw their money into Wall Street. Most Europeans spend their money on personal wellbeing. At Huawei, we invest all our money into the company's future. And our investments have been enormous. Our annual investments into R&D are around 15 to 20 billion US dollars, and we have about 90,000 R&D employees who throw themselves into their work no matter what. Our immense, focused investments have led to breakthroughs.

At Huawei, there is no legacy holding us back, and we are always open to new things. Our 5G technology is based on a mathematics paper by Turkish professor Erdal Arıkan. We came across this paper just two months after it was released ten years ago. We have dedicated several thousand employees to analyzing the paper, turning out patents, and getting our 5G business up and running.

We are supporting universities all over the world. This practice has the same spirit as the US's Bayh-Dole Act, which provides funds for universities without demanding their research findings or returns on investment. The US government often gives funds to universities, and whatever patents come out of these funds still belong to the universities. We provide funds to universities the same way. Research findings that our funds make possible belong to the universities themselves, and we only want to be informed of the findings. This way, universities are like beacons that light the way for us and others. And we can stay one step ahead of others if we are the first to understand how these beacons work.

At Huawei, a team of 15,000 scientists, experts, and senior engineers focus on understanding the findings of scientists and turning money into knowledge. Another 70,000 engineers turn that knowledge into products and finally money. This is how we have gradually explored our own path and learned new things. Having been

through many ups and downs over the past three decades, we are now just beginning to scratch the surface of how things work. But there's still a long way to go, and we can't say for sure that we will never make the wrong step.

NRK: Did the Turkish professor ever receive revenue for his family or dividends from Huawei for using his formula?

Ren: No. We wanted to offer him some rewards, but he rejected outright. But we have been supporting his lab.

33

Yle: One thing that was briefly mentioned was the relationship between the Chinese government and Huawei. I had a discussion with the Nokia chairman two or three years ago. He said their customers really didn't expect Nokia to give them the kind of financial benefits or terms that you can provide. He might have meant Huawei or Chinese companies in general, I don't remember, but we were talking about Huawei at that time. So there is a possibility that you have strong financial backing from government export credit organizations, and that there's a whole movement in China to make this company global. That would mean Huawei's success is not just Huawei's success; it's sort of the whole of China's push that none of the other technology companies can benefit from. Am I right?

Ren: First of all, export credit was first adopted by Western companies. When China was just starting its reform and opening up, it was still very poor and underdeveloped. As carriers didn't have money to buy equipment from Nokia, Ericsson, or Alcatel, the Western governments provided loans to these carriers to buy equipment from these vendors. However, the Chinese government at that time couldn't provide such loans to carriers, so they didn't buy our equipment. That was how things were in the beginning.

Later, the Chinese government mimicked its Western peers and started to provide loans to carriers in Africa and some other underdeveloped countries. The loans were offered to carriers, not us, because we couldn't afford to take on the debt ratio. In fact, we weren't eligible for that much export credit, and most of the credit was allocated to large-scale infrastructure projects, like bridges and railways. Generally, telecom contracts were relatively small, and most telecom carriers had enough money to buy equipment, so export credit wasn't a critical issue for our equipment sales. In China, export credit was first introduced by Western countries exporting to China. At that time, China was just opened up, and it had very little money.

Export credit has become a common practice around the world.

Ye: Do you agree that Nokia and Ericsson are stuck with OECD or some other rules, or other terms on financing, while your hands are freer when you negotiate with customers?

Ren: We have to abide by the rules too; otherwise, it would be difficult for us to survive.

34 DR: Influential people in China don't like the press, especially the foreign press. Until recently, you didn't give interviews like this. How come you feel comfortable doing this? For instance, just a moment ago, you criticized the Cultural Revolution. Don't you sometimes think that even you should be more careful about what you say in China?

Ren: This criticism of the Cultural Revolution isn't mine alone; the government also recognizes the impact of that mistake. It's not like we're not allowed to criticize anything in China. As long as we speak the truth based on real facts, we don't need to worry about what we say. Like in Western countries, China also respects people's freedom of speech. We are just more careful about not crossing the line.



Ren Zhengfei's Interview with Kyodo News

October 16, 2019 Shenzhen, China

Ren: Thank you for coming. Before we start, I would like to express my sincere sympathy for those affected by Typhoon Hagibis in Japan. I would also like to congratulate Akira Yoshino on winning the Nobel Prize. He has remained dedicated to his study for 38 years. To Huawei, this kind of spirit is worth learning. If scientists in China could concentrate their efforts on single projects and work relentlessly on them for 38 years straight, we would have an even more prosperous country.

Japan is a country that has left a very good impression on me. My family and I all have great admiration for your country. I think there are many philosophies we can learn from the Japanese people. I am so glad to have an interview with you today. Please feel free to speak up about any questions you might have. Challenging questions are welcome too.

01 Tomoji Tatsumi, China Bureau Chief, *Kyodo News*: Thank you for your time, Mr. Ren. The first time I met a Huawei employee was in Shanghai, 2012. At that time, I was still in charge of our Shanghai Bureau. I was attending a launch event there hosted by Huawei's Shanghai Research Center. Before then, I knew nothing about Huawei. That was the first time I realized China had such a large private company. Since then, I have had the honor to keep in contact

with a number of Huawei employees. If I'm not wrong, the media affairs director at Huawei HQ at the time was Scott, an American. Huawei happened to develop a mobile phone prototype at the time, and he cheerfully introduced the phone to us. Ever since then, I have paid much attention to Huawei and have always wanted an opportunity to interview you. Today, we can see that Huawei phones are very popular around the world. Also, my dream of interviewing you has come true. So this is a great pleasure and an honor. Let me officially say that it is a pleasure to meet you.

Ren: I am very glad to hear that you previously visited our Shanghai Research Center. We actually entered the mobile phone sector by accident. When we were preparing to sell 3G systems to the world, we realized it was impossible without 3G phones. So we tried to make such phones ourselves.

Can you guess how big the earliest 3G mobile phones were? You may well know the Toyota Coaster. Well, each Coaster car could only carry one phone. That is to say, the phone's components could fill up the entire car. That car drove the phone around Shanghai to test our base stations. Following that, it took us more than 10 years to shrink this "Coaster phone", step by step, to what you see today. In the early phases when we expanded into the mobile phone sector, we had more failures than successes and experienced twists and turns. Today, we

have started to see small successes in this sector, but no big ones yet. So we need to work even harder.

Our Japan Research Center has a solid partnership with Japanese firms. Japanese people are best in the world at making many items very exquisite. For example, mobile phones in your country are so compact. This is one of your key strengths. So we will invest heavily in Japan and work even more closely with Japanese firms.

02 Tomoji Tatsumi: I want to ask a question about the trade war between China and the US. We are not clear about the outcomes of this trade war. Some people are saying that China and the US are now in a new Cold War. What's your view on this? Do you think they are already there? If not, do you think it's possible in the future?

Ren: I don't think China and the US will enter a new Cold War. The US is becoming increasingly closed off from the rest of the world while China is becoming increasingly open. For every step the US takes to close itself off, China takes one towards openness. A Cold War will only happen when both countries become closed off. But since China is continuing to open itself up, I don't think there will be a new Cold War.

The US cannot afford to abandon the Chinese market because without this market, its economy will

be affected. Take cars for example. China now has 400 million cars on the road. If a car is replaced on average every 10 years, China will need around 40 to 50 million new cars every year. Last year, China set a schedule for opening up its automotive industry over the next five years. Foreign carmakers will be able to set up wholly foreign-owned subsidiaries in China without having to transfer their technologies to China. In this five-year period, tariffs for cars will also drop significantly.

Chinese people love European and Japanese cars. European cars are known for their luxury and Japanese cars are known for their quality. American cars are generally spacious but consume more fuel. The US should work harder to get Chinese people to like American cars. However, due to the trade war, an extra 25% tariff has been levied against American cars. It is already difficult enough for American cars to compete with Japanese cars even without the tariff hike. Wouldn't an extra 25% make it even harder for them to compete?

If the US government has second thoughts and wants to open up again in a few years, it would be too late, since European and Japanese cars would have already taken over the Chinese market by then. It's impossible for the US to abandon globalization. It still needs the Chinese market.

China's finance industry has been relatively open

over the past two years. As long as China remains open, the world will never be split in half within the context of globalization. The trade conflicts between China and the US can be resolved through negotiations, and China and Japan have set a good example for this. China and Japan have had some conflicts over the years, but the Japanese government has always separated politics from economics. There have been some political conflicts between the two countries over the years, but there is still a very close economic relationship. President Xi will visit Japan next year, and I believe Sino-Japan relations are going to reach new heights after the visit. Political relations will be improved and economic cooperation will be strengthened, which will greatly benefit these two countries.

China and Japan are highly complementary. China is good at system integration, and Japan is home to cutting-edge materials science and precision manufacturing. Working together, they could create great products.

I've always hoped that China, Japan, and South Korea would establish a free trade zone, where these three industrial powers can take full advantage of each other's strengths. We would still need agricultural products though. ASEAN could then propose to join in by providing agricultural products and buying industrial

products. This way, the free trade zone could be connected with ASEAN countries.

Seeing this bloc, with such a large population, the EU would also want to join and sell its products. What would be lacking if a China–Japan–South Korea Free Trade Zone, ASEAN, and the EU came together? Energy. Countries in the Middle East and Central Asia will be more than happy to transport their oil and natural gas over to this huge market, with a huge population and well-developed economies. This will result in a huge partnership combining Europe and Asia being established, which will definitely help us get out of an economic recession.

For this big partnership to come to fruition, Sino-Japan relations are key. If China and Japan settle their differences and work together, they can play a pivotal role in connecting the entire region. I really hope that President Xi will come to some good conclusions with Prime Minister Abe during his visit to Japan next year.

03 Tomoji Tatsumi: Moving on to 5G. The conflicts between China and the US are mainly about competing for dominance in high technology. Which company can represent China's IT sector? I think the answer is Huawei. Do you agree that there are competitions for technological dominance in the

global market?

Ren: I don't agree with the idea of competing for technological dominance. In a globalized market, everyone is interdependent. If a company produces a product entirely on its own, it will eventually fall behind. The second law of thermodynamics is about entropy. An isolated system never breaks the balance within it because it doesn't exchange energy with the outside world. As a result, the system's entropy will only increase and the system will end in entropy death.

I don't agree with the pursuit of self-reliance. We should all play our own roles in the globalized market and integrate the world's best components from different companies into the best products for human beings. If we make every component alone, we can never produce the best products. We are currently using our own components so that we can survive the crisis when the US cuts its supplies to us. I believe we can survive, but I cannot guarantee that we will remain the most advanced company in three to five years' time. Therefore, we must rely on the global division of labor to stay advanced.

Japan, the US, and Europe each have their own unique strengths, and the Chinese are a very dedicated people. Only by working together can we make the best things in the world. Therefore, we must unswervingly

follow the path of globalization.

I'm not worried that the Entity List may endanger Huawei's survival, but I'm really concerned that we may lose our position as an advanced company in three to five years. We will firmly rely on globalization, and I hope Chinese scientists can learn from Akira Yoshino, who spent 38 years of his life working on one thing. In doing so, they will then be able to provide advanced elements to drive humanity forward.

The US is a great country because it has used advanced culture and systems, as well as stringent IP protection mechanisms to attract the world's top talent to innovate in the country. Innovations are the result of decades or hundreds of years of hard work. These innovations have helped cultivate very fertile soil in the US. The US claimed that they would make better equipment than us in a few years. I have no doubt about that. I'm concerned that people may think we can continue to thrive after we survive the crisis. But this is not possible. Therefore, I'm determined to follow the path of globalization and oppose self-isolation.

04 Tomoji Tatsumi: My questions are about the Entity List and Sino-US relations. If the US doesn't remove Huawei from the Entity List, does it mean the US wants to decouple from China? Is the Chinese

government also considering the possibility of this? Do you think the current situation between China and the US will remain what it is for some time?

Ren: I do not think the technologies of China and the US will be decoupled. On the contrary, they will remain interdependent. Even if Huawei is not removed from the Entity List, it only blocks Huawei, and other companies can still buy things from the US. We are not powerful enough to change the trend of globalization. Many other companies not on the Entity List will drive globalization forward. Huawei is a very tiny thing during the course of economic development, and won't have a big impact on all of society. I hope people will not isolate themselves from the US because of their sympathy for Huawei. We are being attacked, so others who are not being attacked should take this opportunity to develop and grow.

Tomoji Tatsumi: It is said that if we entered a new Cold War where China and US were completely decoupled, the world would have two economic communities separately led by China and the US. Do you think this could happen?

Ren: I don't think it will happen. History shows that closing doors only moves us backwards. We can only make progress by staying open. Some politicians are trying to decouple the US and the Chinese economies,

but many companies are reluctant to do so, because it would affect their sales. How could they just accept that kind of thing? They want to sell more of what they have, be it airplanes, cars, or electronic components. Vendors aren't just going to accept having to sell fewer products. Selling more products is the purpose of businesses. The two economies won't split as long as people still try to buy and sell things.

05 Tomoji Tatsumi: Japan was in a fast-growing stage in the 1960s and 1970s. Many Japanese companies tried to catch up and even overtake the US. Do you have a similar goal?

Ren: We can only overtake some US companies in some domains. We can't overtake the US in all domains, because the US is so powerful and has rich technology resources. We are only able to make some breakthroughs in certain domains. That's what we can possibly achieve.

06 Tomoji Tatsumi: This question is about 5G and future communications. Right now, the world is entering a 5G era, and will even enter a 6G era in the future. During this process, what changes will be seen in China or at Huawei? What will be Huawei's role in a 5G society?

Ren: For 5G, Huawei is temporarily in the lead because we invested earlier and heavier. But this doesn't mean we will be the leader forever. We have also been researching 6G. 6G will use higher frequency spectrums, so the bandwidth will be larger while the network coverage will be limited. That's why we haven't considered it as a mainstream technology yet. We may still need to wait another 10 years to see real applications of 6G. Our achievements in 5G wouldn't have been possible without Japan, and we will continue purchasing Japanese components at scale.

Tomoji Tatsumi: When you say 6G will arrive in about 10 years, do you mean 6G will see commercial use 10 years from now?

Ren: It's my personal conservative estimate. Maybe less than 10 years. In countries like Japan which is quite advanced in fiber, 6G will probably see faster commercial use if 6G is introduced only into the access network, instead of the entire wireless communications network. On Huawei's part, we actually worry whether it is necessary to pursue larger bandwidth, since the bandwidth provided by 5G is already too large to use up. We still need to measure the actual social needs for bandwidth based on the actual use of 5G in our society.

As our society evolves, consumer demands will increase. The application of new technologies must

be driven by demand. Any new technology that goes beyond what consumers actually need could easily fail.

07 Tomoji Tatsumi: 5G and AI are now seen as closely related. It follows naturally that 6G will drive even wider application of AI. In the current 4G era, smartphones are already ubiquitous. Do you think the way we live will be further reshaped in the future?

Ren: How the way we live will be changed is simply beyond my imagination. The information society is evolving so fast. Let's not forget the fact that a few years ago, or maybe earlier, journalists like you might find data transmission quite a challenge in your work. Data transmission that used to take two days and two nights over a telecom network with a speed of 64 kbps now only takes one second.

Back then, if you wanted to use the Internet in your home, you had to get your home wired to a telephone line. Mr. Jobs' invention [of the iPhone] gave birth to the mobile Internet which erupted like a volcano, creating a huge impact. 5G and AI combined will definitely drive tremendous social progress to an extent I can't even imagine.

Tomoji Tatsumi: In the future 5G and AI era, do you think there will be revolutionary innovation or invention like Mr. Jobs' that led to the boom of

the mobile Internet? Will that invention come from Huawei?

Ren: I think AI will have an even more profound impact than that of Mr. Jobs' invention. But the revolutionary invention will not necessarily come from Huawei.

Tomoji Tatsumi: You mentioned that 5G and 6G will significantly contribute to the world. In what direction will Huawei develop? Will Huawei play a role in driving the adoption of 5G and 6G?

Ren: When massive amounts of data are generated, the next key step is data transmission and channeling. Huawei will remain focused on the channeling, distribution, storage, and processing of information traffic. Our business will not deviate from this path.

08

Tomoji Tatsumi: It is globally acknowledged that Huawei is a very powerful player in technology, and may even guide the development of many technologies. Some have said that the reason behind the US's attack on Huawei is that it needs to weaken or even restrain Huawei's growth to curb China's growth? What do you think of this idea?

Ren: In fact, they are doing us a favor by attacking us. Because we at Huawei are afraid to see the company collapse, the US campaign against us has pushed us to

work even harder than before. In fact, we achieved a year-on-year revenue growth rate of 24.4% for the first three quarters in 2019. In this sense, their attack is not stopping us from working hard.

09 Tomoji Tatsumi: Four days ago, China and the US reached a deal for the first phase following trade talks. For example, tariffs that were expected to be raised on October 15 were postponed. An agreement was also reached on agricultural products. However, the export ban on Huawei was not mentioned in the trade talks. What are your views on this?

Ren: I don't think that anyone in the US government will speak for us when it comes to the export ban on Huawei. It's virtually impossible that the US will lift the ban. If a member of US Congress were to speak out in defense of Huawei, they would be condemned by other members. There is a general consensus in the US government about the ban on Huawei. We are prepared to remain on the Entity List for a long time to come.

10 Tomoji Tatsumi: Before the interview, I read the book *Huawei: Leadership, Culture, and Connectivity* written by Tian Tao. He mentioned you had predicted that there would be some conflicts between Huawei and European and US companies back in 2003. Are the

conflicts you are facing now the same as those you predicted? It has been 15 years since 2003. What have you done to get prepared?

Ren: In fact, the conflicts we are facing today are much more serious than those we once imagined. The US is a member of the Wassenaar Arrangement and has its own rules for items with an Export Control Classification Number (ECCN) whose third and fourth digits are both 0. These rules prohibit the use of US technologies for military purposes by other countries. Huawei only makes products for civilian use. Many years ago, we were worried that the US would expand the scope of controlled items, leaving us unable to buy components from them, so we began to develop some components for our own use. We never imagined that the US would attack us so hard. It is indeed a heavy blow to us.

11

Tomoji Tatsumi: Just now you mentioned that there is a consensus in the US about imposing an export ban on Huawei and adding Huawei to the Entity List. Why is that?

Ren: I think there is a consensus among US politicians; I didn't say that businesses are on board.

Tomoji Tatsumi: The US has two major parties: the Democratic Party and the Republican Party. How is it that they hold the same position on Huawei?

Ren: I don't know. In the 1970s and 1980s when Japan's growth rate hit an all-time high and could have afforded to buy pretty much anything in the world, the US launched a campaign against Japan. When the US thought that the military forces of the Soviet Union were too strong, they also worked to contain the state, which was one of the key factors that ultimately led it to break up into 15 countries.

Now the US wants to do the same to China – to limit its growth as they did to Japan and the Soviet Union. But they haven't realized that China can only buy more airplanes, cars, food, and other things from the US when China develops and has money to spend. If the Chinese economy collapsed, the US economy would also suffer.

12

Tomoji Tatsumi: You have just mentioned that Huawei will remain on the Entity List for a long time to come. You also said that Huawei will help increase 5G penetration, and you also have a conservative forecast of 6G in the next decade. Will the US attack have a negative impact on the development of 5G and 6G? How will Huawei deal with these negative impacts?

Ren: We need to make more investment in basic research and theoretical research to develop new theories and new technologies that we cannot buy from elsewhere. This will help us keep up with the times.

Tomoji Tatsumi: Can Huawei continue to maintain its current growth momentum even if the US does not export components or technologies to Huawei for a long time to come?

Ren: Even if the US doesn't export to us, we can import from many other countries and regions like Europe and Japan.

Tomoji Tatsumi: Regarding basic research or theoretical research you mentioned just now, some US universities and research institutions have stopped collaborating with Huawei. Has this affected Huawei?

Ren: There are many other universities around the world. The US is not the only country that has top-notch universities.

Tomoji Tatsumi: The US has all kinds of technologies and products, like semiconductors, operating systems, as well as Google's products, and Qualcomm's chips. Without US technologies and products, do you think 5G will continue to develop?

Ren: Yes.

Tomoji Tatsumi: Some people think that we are currently heading towards a technology decoupling or split between China and the US, even if that isn't what the US may intend to achieve with their actions. It looks like in the future, China and the US will have

their respective technologies that they will not share with each other. The technology world is going to be split into two, and there even will be a Chinese economic circle and an American one. Do you think this is possible in the future?

Ren: No, I don't think so. If Qualcomm's and Huawei's chips are not interoperable, people would have to have two phones. In the past, it was difficult to send files from one device to another, but now it only takes a second. That's because there is a common set of standards. Two or three sets of standards will only hinder global development. Even if some politicians want this, the people will not accept this kind of change.

13

Kosuke Kinashi, Shanghai Bureau Chief, *Kyodo News*:
I would like to ask you two questions. First, Germany officially announced this morning that it will not exclude Huawei from its 5G rollout. What do you think of this? Second, the Japanese government decided to exclude Huawei from its 5G rollout early on, without even trying to verify Huawei's security. What do you think of this?

Ren: First, we really welcome Germany's and the EU's adoption of a fact-based approach to set higher security standards for all vendors instead of banning any one of them from its 5G rollout. I very much support the EU's

digital sovereignty strategy. Previously, wealth came from things such as mining and agricultural products. Wealth was strongly related to how much land you owned. This is the basis for geopolitics. However, information has no national boundaries, and is transmitted all over the world. If a country defines its digital sovereignty, it establishes its sovereignty over its information-based wealth. We support Germany and the EU's practices in this respect. According to the rules they set, a company should promise to not commit any wrongdoing, and then be subject to review. If this company has not broken its promises, it is a good company. Their conclusions are based on facts and are not subjective.

Second, we understand the Japanese government's choice. Customers have the right to choose the products they like, and to choose how they decide what they prefer. We may sell some products, but not everyone has to buy it just because it has a big brand name like Hermès.

14 Tomoji Tatsumi: A question about Huawei's presence in the Japanese mobile phone market. Huawei smartphones are now very popular in Japan. But if Huawei phones couldn't use Google's operating system, Japanese people might not use Huawei's new smartphones in the future. This is also my concern as a

user. How does Huawei respond to this or what plans do you have?

Ren: We understand that some consumers might stop using Huawei mobile phones for a certain period, but we are working to change the status quo.

Tomoji Tatsumi: Are you working to develop your own operating system and create an ecosystem around it?

Ren: I cannot say for sure that we will nail it. But we are working hard to make it happen.

Tomoji Tatsumi: 5G and 6G networks will become prevalent. Does this mean that 5G and 6G devices will be available on the market at the same time?

Ren: Yes.

Tomoji Tatsumi: Personally, I use devices like phones, tablets, and PCs quite a lot. Will there be any innovative devices that we have never seen before in the future?

Ren: Yes, there will be a wide range of devices in the future. All of them will be interconnected, and there will be no need to re-import data to new devices. Software is not something we can touch, so how does software deliver an experience to us? That's where devices come in. There will be various devices, not just mobile phones.

Tomoji Tatsumi: The future is beyond our imagination. I was based in Beijing as a correspondent between

1997 and 2000. At that time, a staff member at a TV station told me that in theory, smartphones could be developed, and that we would be able to film a video with a smartphone and send it to another phone. We laughed at him as we thought he was just kidding. But now, what he said has become a reality.

Ren: I'd like to give you a CD as a gift. This CD is about the grand evening gala that was held to celebrate China's 70th National Day. There were tens of thousands of people performing, and our 5G technology helped transmit these immersive performances to TV stations.

You are media professionals, so you must know that with traditional technologies, it's impossible to capture high-quality, crystal clear videos of such grand events, along with the movements of tens of thousands of performers in real time. There was not a single freeze frame throughout.

With this CD, you can experience how 5G is applied in broadcasting and TV. During the parade, we can see that some people have a small backpack, which is actually a base station. These people are holding their camera in front of them, which transmits the videos filmed back to CCTV for editing via the base station in their backpack. As experts in the media industry, you will understand the incredible applications of 5G after seeing such high-quality videos.

Tens of thousands of people were moving quickly as they gave their performances. It just shows how happy the Chinese people are. The 5G networks used were all provided by Huawei.

15 Tomoji Tatsumi: US Congress imposed a series of sanctions on Huawei on the grounds that Huawei's communications equipment might be used to steal information. However, so far the US has provided no solid evidence supporting this. Has the US directly shown you the evidence that they have obtained?

Ren: Over the past 10-plus years, we have received the world's most rigorous oversight. Almost every country has cast doubts on us, and almost every intelligence agency has their eyes fixed on us. If there were really something wrong with us, they would have found it early on.

The firewall for our IT network was actually built with bricks from the US. Our network does not guard against the US or other countries. It only defends against our malicious competitor trying to steal our technologies. Everything is crystal clear to those who monitor us. Thus far, there is no evidence showing that we have committed any wrongdoing.

Tomoji Tatsumi: It is widely believed that the US and European countries are very strict with domestic

information management. Some people say that Chinese laws and regulations allow the Chinese government to access certain information. Some even claim that Huawei is not trustworthy because of the Chinese social system. What do you think?

Ren: We are a company of integrity and are responsible to our customers. We will not do anything unethical.

16 Kosuke Kinashi: If I remember correctly, you will celebrate your 75th birthday on October 25. You are a very successful leader, but no one is immortal though. Have you started to consider who your successor will be? Has there been a decision on your successor? If there isn't yet, what kind of successor do you think can help maintain Huawei's leading position for the next 10 or 20 years?

Ren: Our company has developed an institutional succession mechanism. We will not appoint an individual as my successor, but instead will follow an institutional succession mechanism. We can send you a copy of my speech to the company's Fourth Representatives' Commission. In this speech, I talked about this topic in detail.

Right now, I actually don't have any authority regarding the specifics of corporate operations. I only have the right to veto, but I've never used it. This right

was set to expire at the end of last year. However, we worry that emergencies may happen. Then if a vote by all employees ended up accidentally setting the company down the wrong path, that decision would have to be vetoed. So we decided to keep this veto right.

The veto right will not be mine alone, and it will not be passed down to any of my family members. Instead, it will be eventually passed down to a Core Elite Group consisting of seven people who will be selected from former board members, supervisory board members, and senior executives. We set up this veto system to ensure that the company will not accidentally make a mistake that ends up destroying everything we've built.

17 Tomoji Tatsumi: We talked about your family just now. Is there any new progress regarding Ms. Meng in Canada?

Ren: We are still following the judicial procedures to resolve this issue one step at a time.

18 Tomoji Tatsumi: The Chinese government is promoting the Belt and Road Initiative. Has Huawei participated in or supported this initiative?

Ren: Huawei has not participated in the Belt and Road Initiative. This initiative focuses on large-scale

infrastructure projects, and generally, telecom contracts are relatively small. So we haven't signed any contracts under this initiative.

19

Tomoji Tatsumi: The latest figures show that Huawei has 188,000 employees worldwide. Has the China-US trade war affected the number of employees? Will the number decrease?

Ren: The number of our employees has increased to 194,000. Since we have many holes to patch, we need more talent, so we recruited several thousand more people this year.

Tomoji Tatsumi: You aren't just recruiting people in China, right?

Ren: No, globally.

Tomoji Tatsumi: If you are hiring people globally, are there any regions that you focus on? For example, countries like India have strengths in science and technology. Are you focusing on these countries?

Ren: When it comes to recruitment, we don't have any restrictions. Nevertheless, there are some restrictions in the US. The US government doesn't let Americans work with us, and they will intervene in any engagements that they believe may have US elements. We are not hiring talented people from the US, which is a big loss for us.

In other countries and regions, there aren't restrictions like this.

Tomoji Tatsumi: Many outstanding Chinese people at American universities, research institutions, and Silicon Valley are also under fire. Are Chinese people returning in droves from the US to join Huawei?

Ren: Chinese students who have studied in the US can join us, but Chinese-Americans, including those with green cards, cannot since they fall under the US's jurisdiction.

20 Tomoji Tatsumi: What is it that you want most right now?

Ren: Trust. I hope more people in the world will place their trust in us. I have frequently met with media representatives because I want our messages to be shared, which will help people know more about us and pull back the "veil". Actually, there is no veil at all. Made-up stories have just muddied the waters.

21 Tomoji Tatsumi: We are the first Japanese media outlet you have had an exclusive interview with, Mr. Ren. It's such an honor and pleasure. Your candid replies today represent your high expectations for Japan, don't they?

Ren: I have always had high expectations for Japan.

My younger daughter speaks Japanese as her second language and French as her third language.

Tomoji Tatsumi: It's said that you have come to Japan not just for work, but also for personal reasons.

Ren: Yes, to travel.

Tomoji Tatsumi: What do you like the most about Japan?

Ren: There's too much to name. I have visited almost every corner of Japan, from Kyushu to Hokkaido, and most of its cities and villages, big or small. I tell a lot of people that Japan has the world's best tourist attractions. You don't have to really decide where to go. Any small mountain village can be a good place to stay a while because it's always clean and the Ramen noodles are fantastic.

Tomoji Tatsumi: What are your hobbies, Mr. Ren?

Ren: Working and watching TV.

Tomoji Tatsumi: President Xi will visit Japan next year. Have you considered coming to Japan during President Xi's visit?

Ren: I'm willing to visit Japan at any time.

Tomoji Tatsumi: Do you have concerns or worries about your personal safety when visiting Japan?

Ren: I don't think I have anything to worry about.

22

Kosuke Kinashi: Huawei has business in more than 170 countries and regions and employs 194,000 people. But we have noticed that there are only Chinese employees on Huawei's board; if we look at the local offices or subsidiaries around the world, the majority of the executives are from China as well. Very few are local. Has Huawei considered appointing some non-Chinese board directors or more local executives for local subsidiaries? This would be helpful in making Huawei more open and transparent, wouldn't it?

Ren: We do have quite a few locally hired executives. We have more than 30,000 non-Chinese employees, and our subsidiaries also have many non-Chinese board directors. All of our board directors at HQ must have a solid work history with the company. Even if a non-Chinese employee was put on the board, if they haven't started from an entry-level position and climbed their way up step by step, then they would be on the board in name only, because they wouldn't have any real authority. I don't appoint our board members. All of them earned their seat on the board by working from the ground up at Huawei. So non-Chinese employees can also join the board, but they need to work their way up step by step. Places on our board are definitely open to non-Chinese employees. Almost two-thirds of our Huawei Fellows are non-Chinese.

Tomoji Tatsumi: Thank you for your time today. This interview turned out to be very different from what we imagined. You've been very frank and straightforward over the course. It's been very helpful. Thank you so much!



Ren Zhengfei's Arabic Media Roundtable

October 20, 2019 Shenzhen, China

Ren: It's a great honor to have an interview with world-class media like everyone here today. I've been to many Arab countries and regions, traveling across almost all of the countries in the Middle East and Northern Africa. I have great admiration for the splendid culture and long history of the Arab world.

I have a good friend Wang Hanjiang who once served as Director of the West Asia and Africa Division of the Ministry of Foreign Economic Relations and Trade of China, the predecessor of China's Ministry of Commerce. He majored in Arabic. Over the 20 years of knowing each other, he has constantly told me about the profoundness of Arab culture. Though I can't read the parchment scrolls, his explanation has helped me understand and appreciate the beauty of the Arabic script, and it has ignited my heartfelt admiration for the splendor of the culture.

The Arab world has so much more than just the Hanging Gardens of Babylon and majestic pyramids. I felt shocked when I first saw the Baalbek temple complex. I was speechless for several hours. The guide was saying a lot, but I was awestruck by this civilization that could be traced back to four or five millennia ago, to the extent that I couldn't say a word. Even for today's master architects, building this huge complex would still be very difficult and challenging. We just don't know how these ancestors living four to five thousand years

ago did floor planning, three-dimensional design, and construction coordination to get this huge project done.

We have no answers to any of these questions. The stone columns are so big that you need several people holding hands to wrap around the base, but how did they make them so round? What geometry theories did they apply? How did they make the hundreds of columns so even? How did they measure them and what dimension did they use? How did they do the calculations? The columns are about 22 meters high, so how did they even stand them up? The roof is made up of a single piece of stone weighing about 900 tons. How could they put the stone on top of the columns? There are several hundred of these 900-ton stone roof slabs. How could they pile them up and transport them here? The design of the whole complex is so harmonious and perfect. But it was built four or five millennia ago. So I was deeply touched and impressed by the ingenuity and greatness of our ancestors.

I had the same kind of feeling at many other Arab tourist destinations, like the Luxor Temple, the ancient city Petra, and the Egyptian Museum. In the Egyptian Museum, you can see that the bright piercing eyes on statues made 4,500 years ago are still so vivid and lifelike. The civilization there must have been 1,000 years ahead of the Chinese civilization. The Middle East built these unparalleled architectures over four or

five thousand years ago. I have so much respect for the Middle East civilization. Even today's top architects would feel it a huge challenge to design such buildings.

It would have been impossible to make these temples a reality without a very good mastery of mathematics, geometry, and engineering design. From history of the world, the splendid Arab civilization emerged even earlier than Greek civilization, which discovered Euclidean geometry and the Archimedes' principle. Things like spices, carrots, green onions, and garlic weren't the only things the Silk Road brought from the Arab world to China; geometry, algebra, engineering design, and Arabic numerals came too.

Today, we are all aware that Arabic numerals laid a great foundation for mathematics. In particular, the addition of the numeral "0" triggered an epoch-making technological revolution and innovation for the world, though it entailed a bit of controversy for a few hundred years. Overall though, the addition of "0" to the Arabic numerals gave a strong impetus to the progress of human civilization.

As we stand on the Great Wall and look in the direction of the pyramids, we can imagine how our ancestors used camels to transport our silk and tea to the Arab world, and then transport spices, carrots, and garlic to China. This was a tough but great journey. The

Silk Road established by our ancestors connected the cultures of China and Central Asia, and we have great admiration for it. I believe we should continue in the spirit of the Silk Road today. In the past, camels passed along the Silk Road, and today 5G and high-speed rail should be allowed to do the same. This will drive the economic growth of Africa and Asia.

Thank you! I am ready to take your questions now.

01

***Al-Ahram:* First of all, thank you, Mr. Ren, for giving us this opportunity. We all know that Huawei has been investing heavily in scientific research, and is a world leader in 5G. What future-proof 5G technologies will Huawei bring us over the next five years?**

Ren: First, Egypt is a great country, and I really admire it. Around 2,000 years ago, Egypt had the Great Library of Alexandria, the world's largest at the time. You also have the ancient pyramids and the more modern Suez Canal. These all represent great things in human civilization. I believe Egyptian society is stable, and Egyptian people are friendly, which has nurtured a booming tourism industry. When I took a boat and traveled along the Nile, I wondered why we can't sing on the Huangpu River in China like they do on the Nile. We really have a lot to learn from Egypt.

The key to rejuvenating a country and a nation lies

in education. I hope Huawei can help rejuvenate Egypt, a great country that is home to the pyramids, the Great Library of Alexandria, and the Suez Canal. We will use 5G and other cutting-edge technologies to help Egypt bridge the digital divide, contributing to the country's cultural and educational development.

02

***Al Bayan:* First of all, I'd like to thank Huawei for giving me this opportunity. My question is about the recent conflict between China and the US. It focuses on economy and technology. You have often distanced Huawei from this conflict. However, during an interview with *The Economist*, you said Huawei is willing to share technology with the West. Wouldn't such an offer put Huawei at the center of the storm between China and the US?**

Ren: In 1996, the UN implemented an Oil-for-Food Program in Iraq, which was also when I visited Dubai for the very first time. At that time, Dubai was tearing down houses to begin mass construction. I was impressed by Dubai's open culture. It does not actually have that many resources, but is open and has an unshakeable "can-do" spirit. I admire it greatly. I also read a book by Sheikh Zayed, and greatly respect his views.

After returning to China from Dubai, I wrote an article titled Resources Can Be Exhausted and Only Culture

Endures. Huawei also has few resources to depend upon. What we do have is the brainpower of our employees. This is our oil, our coal, and our forests. So we strive to promote an open culture of dedication.

During the same period in 1996, I also visited Tunisia. At the time, the per capita GDP there was 1,400 US dollars, and people lived happy lives. Neither Dubai nor Tunisia has a lot of resources. Religious reforms in these two countries have brought new life to their cultures, making Tunisia and Dubai role models for reformation across the Arab world.

The UAE is now one of the world's prominent business centers, and has become a country full of immigrants. It has managed to build a world-class business center amidst desert, and I have every reason to believe that it is also capable of making itself a global center of scientific and technological innovation. I believe that the UAE should learn from the US, which attracted a great number of outstanding talent from other countries, and made itself the world's most powerful nation in just 200 years.

Is it possible for the UAE to also become the global center of scientific and technological innovation? Your UAE Centennial 2071 Plan means you are well positioned to achieve that. Many great Americans originally came from Eastern Europe, and fully leveraged

their potential to make the US the most powerful country in the world. The UAE has a wonderful business environment, and I think you have the tools to build the world's best center of scientific and technological innovation by attracting immigrants like the US did in the past.

In the past, Arab civilization was ahead of some parts of the world for around 3,000 years. Why did it lag behind Europe later on? The Europeans invented trains and steam-powered ships, which allowed them to transport more goods far more efficiently than camels. That's why the Industrial Revolution took place in Europe first. From this we can see that speed and bandwidth determine how strong and prosperous a country is. In the past, speed was about how fast physical goods were shipped. Today, speed is about how fast data can be transmitted, and this will be powered by 5G. I believe the UAE should take this opportunity to surpass other countries.

We think that many countries in the Middle East may become the world's highest ground when it comes to 5G deployment, where a new, splendid Arab civilization may emerge with 5G's high speed, low latency, and high bandwidth. Saudi Arabia boasts the largest number of YouTube visitors every day, and the per-capita per-month data traffic consumed in Kuwait was among the world's highest, at 60 gigabytes. 5G from these countries will

spread to other Arab countries and then to the rest of the world. In the 4G era, Japan and South Korea led the world; while in the 5G era, the Middle East is taking the lead. Therefore, a new splendid civilization will emerge in the Middle East. I strongly support the UAE Centennial 2071 Plan and its national strategy to develop 5G, AI, and cloud.

03 ***Al Bayan:* You just mentioned that Huawei is willing to share its technologies with Western companies, such as US and European companies. What are your thoughts on that?**

Ren: Europe does not need our technologies, because they have their own communications technologies. We have signed cross-licensing agreements with European companies, so we are open to each other. The US lacks the most advanced communications technologies, so we hope to strengthen our cooperation with US companies. If we could help them catch up in terms of communications, it would be helpful to strike a balance around the world and resolve the conflicts we face.

The Middle East tends to remain politically neutral. The US has sanctioned only Huawei, and Huawei is only ahead of US companies in the communications sector, not in all sectors. We are ahead of the US only in 5G, and still lag behind them in AI, cloud, and intelligent

computing. The Middle East can select the best technologies from the US, Europe, Japan, South Korea, and China to build a technology high ground in the region. Just like its culture, Dubai's ICT infrastructure can also be diversified in the future. A platform that is made up of various technologies from various countries will be the strongest platform.

04 ***Sabq Online:* I'd like to know if the US sanctioned Huawei based more on political grounds than on security grounds.**

Ren: Of course. Huawei hasn't done anything wrong, so the US sanction should be politically motivated. Saudi Arabia has a culture of wisdom, and it is clear to see the country's greatness today. I admired the government for remaining poised when its oil facilities were attacked. This allowed the country to quickly restore its global oil supply, helping the world avoid a huge crisis. I also admire Ahmed Zaki Yamani, former Minister of Oil of Saudi Arabia. When oil prices skyrocketed to 140 US dollars per barrel, he said, "The Stone Age ended not because of a shortage of stones." These words really impressed me, and showed the amazing foresight that the Arab world has developed over its thousands of years of civilization.

The minister has discussed how the oil reserves will

dry up one day, and how Saudi Arabia is worried about the rise of non-fossil energy. Saudi Arabia can use some of its oil wealth to research technology for non-fossil energy. When the oil reserves dry up, Saudi Arabia will then continue to be the greatest country in non-fossil energy. Saudi Arabia can take the lead to use non-fossil energy, and supply the oil and natural gas it would have otherwise consumed to the rest of the world. This will facilitate the development of technologies for non-fossil energy. The most critical technology for non-fossil energy is storage, and Japan has the most advanced technology regarding large-scale storage. If these strengths are brought together, a powerful non-fossil energy belt can form, ranging from the Sahara, to the Tibetan Plateau, to China and Japan, and finally to the Amazon and Latin America. When oil reserves dry up, Saudi Arabia will emerge as a key provider of energy machinery and non-fossil energy, and your wealth from oil can be transformed into cultural and digital wealth, meaning AI and other new technologies.

Oil will dry up and currency will depreciate. The way forward is to use the money earned from oil to improve education, enhance innovation in science and technology, and invest in digital technologies, keeping the country young forever.

Huawei can survive only in 5G without relying on the

US. Saudi Arabia can consider using other technologies of the US.

***Sabq Online:* How can Saudi Arabia benefit from the technologies of China and the US?**

Ren: Introducing AI to energy technologies will generate huge wealth. I worked in petrochemicals over 40 years ago, and then later, about 20 years ago, I visited an oil refinery that China helped build, which could produce ten million tons of oil. When I got a glimpse of its control room, I was shocked by how much progress the industry had made. I haven't been to a plant or refinery again over the latest 20 years, so I can't imagine how advanced they must be now. The progress to be made in the future will be unimaginable.

Saudi Arabia is great because it invests heavily in education, such as its huge investment in Princess Nourah Bint Abdulrahman University, the world's largest university for women. Saudi Arabia has been opening up and constantly adapting itself to changes in society. With the huge wealth it has, the country will certainly witness the rise of other industries in addition to the oil industry. Like highways, 5G is a sort of infrastructure that provides high bandwidth and low latency. 5G itself does not create wealth, but it enables new technologies that can create wealth.

05 **Leaders:** Thank you, Mr. Ren. I represent the Tunisian magazine *Leaders*. You said that Tunisia left a deep impression on you. Tunisia's experience shows that reforms and technological innovation can help rejuvenate our civilization. Based on your experience visiting Tunisia, how can Tunisian young people truly benefit from and contribute to Huawei's development and technological innovation?

Ren: Let me tell you a story which happened during my first visit to Tunisia. My colleague Lv Xiaofeng was accompanying me there but left one day earlier than me. Unfortunately, his plane crashed before landing in Tunisia. He was among the 40 people who survived the crash. I was supposed to be on that plane too, but I was delayed by other matters. It was raining heavily on the day of the plane crash. Lv called the police amidst the rain and saved a little girl from the plane. Seeing the girl shivering, he took off his coat and gave it to her. When I arrived the next day, I bought a suit for him. It was 2002.

At that time, per-capita GDP in Tunisia was over 2,000 US dollars, compared to about 1,000 US dollars in China. I felt like the Tunisian society was harmonious and pleasant, and the Mediterranean coastal regions were very beautiful. I was quite impressed by Tunisia the first time I was there and was even more impressed during my later visits there.

The development of Tunisia will require further religious reforms. I think they should be more open. Tunisia is situated across the sea from Europe and labor costs are lower than in Europe. Europe should undertake a large-scale relocation of its manufacturing centers. So how can you make sure you are prepared for such a relocation? First, you need to cultivate talent. Second, you need to improve your infrastructure, which of course includes communications networks. Networks can greatly improve access to education.

South Korea was among the earliest to invest heavily in 4G. This investment didn't bring high returns to telecom carriers, but it did greatly boost the country's GDP. Every dollar invested in ICT will generate multiple dollars in GDP. That's why AI and 5G are crucial to Tunisia. If you are to embrace Europe's relocation of its manufacturing centers here, you will need to adapt to their system and meet their standards and requirements.

Yesterday, you visited our production lines. From design to manufacturing and supply, we use management software from Germany's Siemens and Bosch, and from Dassault of France. A lot of equipment on our production lines is from Japan and Germany, though our AI software was developed in-house. Our production lines can now turn out a mobile phone every 20 plus seconds with basically no manual operations. Therefore, I believe the industrial relocation will take

place tier by tier. We all need to prepare ourselves for the relocation and unwaveringly embrace globalization.

06 ***Al Raya:* Thank you, Mr. Ren, especially for your remarks on the exchanges between the civilizations of the Arab world and China. As an Arabian, I will never forget the huge contributions that the Chinese civilization has made to the world's development, for example, papermaking and other advanced science and technology. Now Huawei is providing advanced 5G technologies to the world, which, I believe, will greatly fuel the development of the world's civilization. What role will Huawei's four sustainability strategies play in environmental protection?**

Ren: I think Qatar is a great country. I'm especially impressed by the importance that Her Highness Sheikha Moza bint Nasser attaches to education.

The UAE constantly sends its natives to the UK and other parts of the world to receive training. If grandfathers cannot make it, their sons will; if their sons cannot make it, their grandchildren will. By doing so, they want to make sure that their future generations can effectively manage their huge economy and maintain their high ground in the world.

Her Highness Sheikha Moza bint Nasser greatly values education, which, I think, is wonderful. She

has introduced advanced elements of education from around the world and integrated them into Arab culture. She has also established lots of museums, allowing Qatari children to have access to the world's civilization from childhood. I really admire her on this.

One year I went to Qatar for a meeting. Before the meeting, I was told that Her Highness Sheikha Moza bint Nasser wanted to meet with me, but later I was told she wouldn't, so I didn't take my suit there. After I arrived, her secretary visited me and said the prime minister wanted to meet with me. I hadn't taken my suit, and felt it would be impolite to meet with the prime minister in casual wear, so I asked the board chair of the company to meet with the prime minister. The meeting focused on how to ensure smooth and secure communications during the 2022 World Cup. Now, with 5G, I'm sure that the 2022 World Cup will be a great success.

During that meeting, we briefed the prime minister on Huawei's contributions to the Hajj pilgrimage in Saudi Arabia. For 15 straight years, there has not been a single network interruption, accident, or complaint throughout the event. Each year, 3 to 4 million Muslims gather in an area of just 10 square kilometers. They turn off their mobile phones before praying, and when they turn their phones on again, they need to get all of their phones authenticated almost immediately. This puts

great pressure on networks, but we have managed to guarantee secure communications during the event for 15 years running.

We also worked together on the safe city project. The goal is to prevent terrorist attacks. This project was also developed from our experience in Hajj. The day after the meeting, the prime minister sent people to Mecca to examine our work. Here I'd like to wish Qatar a great success as the host of the 2022 World Cup. If you choose our equipment, we will do everything we can to provide communications assurance.

I will give each of you a CD, which shows a performance marking the 70th anniversary of the founding of the People's Republic of China. The video was shot over 5G networks. Although there were tens of thousands of people performing, the video flowed smoothly and there was no buffering. You are all media insiders, so I'm sure you see the value 5G brought to this event.

Since our safe city project at Mecca, safety management has already come a long way. We can help ensure safety in Qatar during the 2022 World Cup. Of course, Huawei only provides equipment, and the police officers of Qatar will be responsible for the specific operations.

***Al Raya:* Has Huawei reached any agreement with the**

Qatari government on the 2022 World Cup?

Ren: We are currently building communications networks for the 2022 World Cup stadiums in Qatar. We are still in talks with our local customers on some other projects.

07 KUNA: China and the US seemed to have sent positive signals about the trade negotiations. Will this affect Huawei? Will the US's sanctions against Huawei affect Huawei's overseas business and future development?

Ren: The US's sanctions against Huawei have little to do with the trade negotiations between China and the US. Currently, we haven't seen any improvement in our overall environment. Regardless, this will not affect our innovations and advancement. It does slightly affect our overseas markets by making some customers hesitant to do business with us, but we will be patient with them.

08 KUNA: Kuwait is moving forward with smart city development in the Silk City and five northern islands. Could you explain to me what Huawei can do for Kuwait in this area? What are the two parties' future cooperation plans?

Ren: The per-capita per-month data traffic consumed in Kuwait was among the world's highest, at 60 gigabytes.

With the most advanced 5G technologies, we want to help all the countries in the Middle East become the world's highest ground when it comes to the volumes of data traffic. With the support of 5G, the region will continue to create innovative new technologies and inventions.

The Middle East has chosen to use the 2.6 GHz to 3.5 GHz band for 5G, which is also used commonly around the world. By doing this, the Middle East can share in the value of the global 5G value chain, as they are the most suitable bands for 5G networks. China has also chosen to use these bands for 5G. In addition, the telecom regulator in Kuwait has allocated over 100 MHz of spectrum to every carrier and thus provided sufficient support to 5G's development. This means they can make full use of 5G. Why have I said that the Silk Road of camels could evolve to a 5G road? We think that the Middle East will become the world's highest ground for 5G. How to rejuvenate the culture of the Arab world is a topic we need to discuss together. 5G will be the infrastructure of this new, rejuvenated civilization. Similarly, China will also become one of the world's high grounds for 5G.

Huawei is now participating in the planning and designing of Kuwait's five northern islands. When the Emir of Kuwait visited China in 2018, we signed a smart city cooperation agreement with Citra on the five

northern islands. Huawei is now one of the consulting companies for this project. Huawei provides Kuwaiti carriers with 5G solutions, and works with the Kuwaiti telecom regulator to develop 5G use cases. In addition, we will also support the rollout of the New Kuwait Vision 2035.

09

***Le Matin:* I have learned a lot from your wisdom. You have spoken a lot about education and how important elementary education is, particularly how education is crucial to enhancing national competitiveness, in your media interviews. Your views have a lot in common with those we have in Morocco. Our country is committed to improving education. How can Huawei's technologies be used to transfer knowledge and skills in the future? How can the younger generations in Morocco contribute in this regard?**

Ren: Morocco is a very beautiful country. I have visited several times, and Casablanca has left a vivid impression in my mind. I have known the name Casablanca since I was very young, because it was famous for being a "nest of spies" in World War II. I used to hear a lot about Rick's Café, but I didn't get a chance to have a cup of coffee there, even though I had been to Morocco many times. Later, I asked someone to make a reservation several days in advance, and took my wife there. I finally

managed to have a cup of coffee there, and enjoyed what I had seen in the movie *Casablanca* – the beauty of Casablanca's coasts and the vastness of the sea.

We are aware that Morocco takes education very seriously. Morocco's University of al-Qarawiyyin is the oldest university in the world. Teachers and students used to sit in the corridors or the gardens reading scripture, exchanging ideas, and cultivating morality. That's how the term "academy" was coined. Universities evolve from academies, but are larger academies.

I think to rejuvenate a country, we need both hard and soft infrastructure. Hard infrastructure includes roads and networks, while soft infrastructure includes education, regulations, and institutions. Since ancient times, government officials have said that building bridges, roads, and schools is their primary responsibility.

Morocco should leverage advanced networks to make basic education easily accessible to children. You need to give quality elementary education to children on a large scale, ensuring no one is left behind. In fact, I believe the educational model in Northern Europe would be a good fit for Morocco. I think the elementary education in both Finland and the UK is very good.

It would be beneficial if Morocco could make basic education more accessible, vigorously promote vocational and technical education, and provide the

best students with elite education. In terms of elite education, the US has set a good example. Only a few US universities advocate elite education, which is not just about full marks in college entrance exams.

US elite education focuses not only on students' academic performance, but also morality. When admitting excellent students, these top US universities follow 10 standards, two of which are the most important: Have you ever taken care of the elderly? Have you ever volunteered to help orphans?

If a student fails to meet either of these two standards, their scores for entering these universities will see a huge decrease.

What is elite education for? To cultivate leaders. What are the responsibilities of leaders? Caring about all of society, including those who don't have the ability to take care of themselves. Top universities should not cultivate people who are too calculating or self-interested. Instead, elite universities should cultivate people who care about society.

If Morocco is able to classify education into these three levels, I believe you will have a huge number of engineers who can combine the industrial culture of Europe with your own culture. This way, you will see amazing new developments.

The only thing that separates you from Europe is the Mediterranean. If you have a large number of excellent engineers, you will definitely develop into a technological power.

10 **ADTV:** First of all, thank you, Mr. Ren. You mentioned the UAE's diversified environment. Because of this, the UAE has achieved rapid economic growth in a short period of time without relying on oil. Now the UAE's economy ranks 29th in the world and second in the Arab world, next only to Saudi Arabia. The oil industry accounts for only about 30% of the UAE's economy, and the other 70% are non-oil industries. The UAE government has appointed a Minister for Happiness and Wellbeing and a Minister of Tolerance. The government also has a diversified workforce with talent from nearly 200 countries. Not long ago, we saw the first UAE astronaut board the International Space Station. The friendly partnership between China and the UAE is also developing rapidly. The UAE has been an early adopter of 5G, along with a number of other countries in the Middle East. However, some people claim that Huawei's 5G technologies pose information security risks. How do you respond to such claims?

Ren: First, Abu Dhabi is one of the richest places in the world. I fully understand and firmly support the UAE's

Centennial Plan, and the plan to convert your oil wealth into scientific, technological, and digital wealth. Because one day, oilfields will be exhausted and the value of money will change, but digital science and technology will keep creating value through continuous innovation. The UAE has freed its reliance on oil. At the current historical moment, it is absolutely correct for the UAE to make this strategic decision.

When countries regard physical resources as wealth, geographical boundaries are very important. However, the wealth of digital technologies is global and transcends boundaries. We must respect the UAE's digital sovereignty as it can guarantee national information security. Huawei is currently in discussions with countries around the world about signing a "no-backdoor" agreement. We can also sign this kind of agreement with the UAE.

***ADTV:* Could you talk more specifically about the concept of a "backdoor"?**

Ren: The term "backdoor" comes from the US. Through backdoors, data could be stolen from your networks.

***ADTV:* Does signing a "no backdoor" agreement mean Huawei will not acquire data from the networks of its customers?**

Ren: Yes.

***Al-Ahram*: Unemployment is a serious, global issue.****Can new technologies help fix this issue?**

Ren: AI can create more wealth than ever for a society, but of course, people who can't find a place in this new society may have a hard time getting a job. In a traditional, industrial society, getting a job is not a problem for anyone who finished high school, vocational school, or higher-level education. In the new era, when AI and IT become the main drivers of productivity, people who don't have an advanced skillset might not be able to find a job. That said, society will keep growing its wealth, and with more money at its disposal, it will need to consider how to put it to good use. The more money a country has, the easier it can solve its problems. The money can be used to provide support for people or to give them training.

As AI is becoming more widely adopted, employees who have been let go during this transformation can shift to sectors that focus on work related to user experience. People won't ever quite get used to having coffee with robots. I watched the movie *Star Trek* the other day, and I felt really down when I left the theater. In the spaceship, there were no human attendants at all, and all of the services were done by robots. This movie shows how lonely and horrifying life could be in the AI era. While AI is able to meet some human needs, people

will still need a human touch. In the AI era, more people will work in sectors related to user experience.

Employment is a topic of sociology. I'm not a sociologist or a government official, so I'm not in a position to answer your question. What I can say is that AI can increase productivity. Take AI in agriculture as an example. AI-powered tractors can work 24 hours a day, no matter how scorching or cold the weather is, or how annoying the bugs are. These tractors can work around the clock to plough the land along rivers like the Nile. They can turn stony ground into arable land by taking out the pebbles and rocks, and channel water from the Nile to irrigate the crops. Life may be a little less fun for people because they no longer need to do these things, but material wealth will increase.

12

***Le Matin:* Shenzhen has a beautiful environment. What is Huawei's social responsibility in terms of developing the green economy? Do you have any policies that require you to take greater social responsibility for environmental protection and green development? What are your contributions in these areas?**

Ren: Our main direction is to move forward with new technology and explore what's next. The exploration itself is a contribution to society. During this process, our tax payments and consumption are also part of our

contributions.

In terms of environmental protection and the green economy, there are two types of contributions: direct and indirect. Huawei makes indirect contributions. For example, our AI-powered base stations can reduce two tons of CO2 emissions every year per site.

13 *Al Bayan:* I have two questions. First, will the US sanctions affect the future cooperation between Huawei and the UAE on 5G? Will Huawei launch 5G services and applications in the UAE? Second, will Huawei sign a "no backdoor" agreement with the UAE in the future?

Ren: For 5G base stations, transmission networks, and core networks, we don't rely on US parts or components at all, so we won't be affected by US sanctions. We will have no problem supplying the UAE with 5G products, and we will continue to make progress and innovate. We are willing to sign a "no backdoor" agreement with the UAE government whenever they want.

14 *Al Raya:* Huawei's sales increased by 24.4% in the first three quarters of 2019. What's the key reason for Huawei's continued growth? Considering the current pressures and challenges, will Huawei be able to

sustain this growth in the future?

Ren: Before the US's May 16 sanctions against Huawei, we saw high levels of uninterrupted growth. After May 16, our growth was somewhat affected. We have to switch some versions of our products, and the production process and network quality testing of these new versions have to be certified. We are affected in this regard, but we have managed to complete this shift. We had expected the sales for products affected by the US sanctions to decline at the end of this year, but now we estimate sales to increase slightly.

The overall growth rate of 24.4% we saw in the first three quarters of 2019 was the result of the hard work from all Huawei employees. Sales for some products ended up not being affected at all. Our employees have been working even harder because of the pressure we are facing, so the growth turned out to be higher. We are confident that we will continue to see growth through the end of the year. We believe we'll be able to maintain this same level of growth next year as well. Any growth we see next year will have been achieved under the US sanctions. By the end of next year you'll see that Huawei has been able to survive. By 2021 or 2022 when these new versions of our products have matured, we may witness massive growth.

15

***Sabq Online:* When you founded Huawei, did you expect Huawei to grow into what it is today?**

Ren: We founded the company when we were at the edge of starving. Despite that, we didn't just focus on earning money; we focused on our vision. That vision has changed as the world around us changes. I'd never thought about whether we would grow to this size. It's just happened naturally.

16

***Leaders:* Last September, China-Africa cooperation reached a new level, and China agreed to invest more in Africa to boost its development. What role will Huawei play in this process?**

Ren: China is investing heavily in infrastructure in Africa. Overall, the value of telecom contracts is small, so we can develop on our own, with our own money.

17

***KUNA:* It is being said that Huawei has begun its research on 6G. What is your progress in 6G?**

Ren: We are actually researching 5G and 6G simultaneously. 6G provides higher bandwidth, but its scope of coverage is limited, as it uses millimeter waves. If we want to apply 6G in real-world scenarios, we need to make both theoretical and technological breakthroughs in communications. I estimate it may be

10 years before we see its application.

18

***Al-Ahram:* I am from Egypt, from Africa. How do you think Africa can catch up in terms of the development of information science and technology?**

Ren: How can Africa catch up? I think the key lies in reducing taxes, adopting technology neutrality policies on spectrums, and sharing infrastructure. In large cities like Cairo, every carrier can build their own networks. However, in small cities, they don't need to build their own network, because costs will be too high. Instead, all carriers can just build one shared network, where they pay when they use it. Therefore, Africa needs to strengthen its communications infrastructure, including fiber and broadband networks.



Ren Zhengfei's Interview with Euronews

October 22, 2019 Shenzhen, China

01

Damon Embling, Correspondent, *Euronews*: Ren, CEO and founder of Huawei. Thank you very much indeed for joining us on the Global Conversation here on Euronews.

Mr. Ren, I would like to start by taking you back to your early days of life, back to your childhood. You were born into one of the poorest provinces in China back then in 1944. What were your years like growing up in China? What do you remember of those years?

Ren: Well, I had a pretty carefree childhood. Today, children have so much homework to do due to the knowledge explosion. But at that time, we didn't have all this homework and our parents weren't that strict, so we could hang around and had a lot of freedom. We could just spend a lot of time playing around after school, like swimming in rivers, catching fish, and hunting birds with a slingshot.

Back then, we didn't have an abundance of material possessions and had no idea what it was like to be well-off. There was no way for us to know how our European counterparts lived their lives. Having no comparison meant that we didn't feel sad for not having it. Today, we are well aware that psychological wellbeing is actually more important than material wealth to children. Children today have a lot of stress at school because their parents set the bar too high. Though they

are much more well-off than we were, they are not necessarily happy.

So anyway I think I had a happy childhood.

02 Damon Embling: In fact, you described yourself in your early years as being a nobody, I think, in your own words. But then you went on to join the military here in China as an engineer in the army. How do you look back upon your time within the military services here?

Ren: When I was young, China's economy was developing very slowly, but young people at the time had high hopes and were in search for new opportunities. Serving in the military offered more opportunities than other jobs. We really wanted to join because we thought of it as an honor. Being part of the military meant that we were disciplined and working hard. The Cultural Revolution made the entire country a mess. There was a prevailing view that knowledge and education were useless, and the construction of infrastructure in China was stagnated. No one wanted to work in hardship regions to support some key projects, like a major synthetic fiber factory that introduced foreign technologies. That was why the country commissioned the military to get the project up and running. I was a member of the project. By being part of it, we had access to some of the most advanced equipment and

technologies from France during the Cultural Revolution. The synthetic fiber production equipment was provided by Technip and Speichim. Life working on the project was tough, but I felt very lucky.

03 Damon Embling: You stayed in the Chinese army for nine years I think and then you spent a couple of years in the oil industry. Then, Huawei was born. Back then in the late 1980s, what was your vision for the company? Why did you want to set it up and what were you trying to achieve really?

Ren: When we were in the military, China still had a planned economy that didn't pursue profit or cost-effectiveness. We just needed to get our jobs done. But when we got disbanded from the military, China had started its reform and opening-up and was transitioning towards a commodity economy. We weren't accustomed to the commodity economy and had no clue what commodities were. You see how unfamiliar the market economy sounded to us. The country issued documents requesting a transition into the commodity economy, triggering a heated discussion among those at the top. This was because we had no idea what commodities were, not to mention how big of a change this was for our society. I had difficulty finding my way in this societal change. I was working in a state-owned company then

and suffered a setback. The company just let me go. To survive, I had this idea of starting my own business, but doing so meant a lot of risks, because it was likely that I'd fail. But there was no other choice. I could only move forward with the idea.

Damon Embling: You set up Huawei with a very limited amount of funds. It was around 3,000 US dollars, wasn't it? How did you manage to launch a company from that small pot of cash?

Ren: At that time, Chinese people were very poor. Startup companies like Huawei didn't have the money to really get up and running and were in a very tight spot. Registering a private tech company required five shareholders and around 3,000 US dollars in registered capital. I didn't have that much, so I had to raise it before I could register. After we registered, we barely had any cash left.

In the beginning, our company mainly worked as an agent selling equipment made by other companies, and we only paid the manufacturers after their equipment was sold. This model let us grow, but the development process was extremely difficult. My monthly salary was extremely low at the beginning, less than 100 US dollars, and I didn't even ask for the salary for the first few months.

Damon Embling: Given those challenges and difficulties that you faced starting the company, what

was your driving force? What kept you going? What was your vision?

Ren: To survive.

Damon Embling: Simple as that?

Ren: Yeah, it was as simple as that. I had to take responsibility for my kids' education and growth. In truth, I didn't take good care of my kids, but I had to earn enough money to feed them. I applied for several other jobs at the time, but they wouldn't hire me. I just wanted a job in the beginning, but no one would take me. There were two reasons for that. First, I had made some mistakes in a previous job, so they didn't trust me. Second, the technology I was trained in was not needed at the time, because society was in a period of speculative buying and selling. I had nowhere to go. At that time, China was beginning to allow for private tech companies, so on an impulse I started Huawei.

04

Damon Embling: Now, all these years on, since you started the company in the late 1980s, you have grown into a giant, a technology, a telecommunications, mobile communication company around the world... 188,000 employees. How would you explain your relatively rapid growth into the company that you are today? And now you've gone from those humble beginnings that you described into one of China's

super-rich.

Ren: We learned early on that the only way to survive is to respect our customers, which includes respecting their values and interests. Our customers will only pay us when we deliver high-quality products and superior services to them. At the time, we served our customers heart and soul, and we would rather take on hardships ourselves so that we could meet our customers' needs and respect their values. Through this, we gradually improved our brand image among customers, and our sales went up.

After our growth continued for a while, the manufacturers we represented thought we might dominate the market, so they stopped supplying us with equipment. So the situation we are currently facing is nothing new to us. That was when we knew we had to develop our own products in order to survive. We started by developing 40-line analog switches. Those seem extremely simple today, but back then, we were under a great deal of pressure to develop them. At that time, China had just started its reform and opening-up, and small hotels and shops needed small bits of equipment, which was an opportunity for us. By developing our own small equipment, we started to build the talent, capital, experience, and customer trust we needed. From there we were able to grow step-by-step.

Throughout the whole process, we did not rush to spend our earnings on entertaining ourselves. Instead, we saved it, put everything we had into R&D, and devoted ourselves to serving our customers. That's how we gained their trust. Our customers still place enormous trust in us today. The US has frequently campaigned against us in Europe, who is their close ally, but our European customers have continued to buy our equipment despite all the pressure from the US. This is because we have been building trust with our customers over decades.

05

Damon Embling: We'll talk more about America, the United States, in a few moments. But I just want to talk to you a little bit more for now about how you grew and developed your company here in China. How difficult was it growing your type of business in China over those years? Because actually, on the face of it, you were going against the grain, weren't you?

Ren: At that time, 100% of China's communications equipment was supplied by Western vendors, mainly the big eight vendors from seven countries: Ericsson from Sweden, Nokia from Finland, Alcatel from France, Siemens from Germany, Lucent from the US, Nortel from Canada, and NEC and Fujitsu from Japan. However, the switches supplied by these vendors were the larger

ones used in cities. They were too large to meet the needs of rural areas. Additionally, the rural market just couldn't afford such large switches.

At the time, China's rural communications market was just starting out. That was where we came in and developed 40-line switches, which were later expanded to 100-line, 200-line, and 2,000-line switches. After that, we began developing larger program-controlled switches for towns and gradually expanded from there.

06

Damon Embling: Alongside those technical and logistical issues, what I really want to know is how you developed a company in China when actually, at one point, the Chinese state, the government, really didn't like you, did they? They wanted to close you down, didn't they?

Ren: Yes, the government didn't know us very well when we first started out, because we adopted the Employee Stock Ownership Plan, under which employees owned the company's capital. We might have been misunderstood as a capitalist company, which was not in line with socialism. But these misunderstandings began to disappear over 10 years ago, as we paid an increasing amount of tax to the government.

We now pay a total of 20 billion US dollars of tax to governments around the world every year, most of

which goes to the Chinese government. The government has seen our contributions to society, as well as our integrity and legal compliance. That's how they have come to know us better and accept us. This was the first window of opportunity for us.

The second opportunity dates back to over two decades ago, when we first began doing business in Africa. Some African countries were embroiled in conflict at that time, so all Western companies had withdrawn from these countries and were no longer providing communications equipment to them. However, the equipment we sold in China's rural areas could also be used in Africa. By selling equipment to such countries, we managed to gain a strong foothold in many countries outside China and started to accumulate capital.

The success we achieved in countries outside China gave the Chinese government confidence in us: We didn't develop by taking advantage of the domestic market; we grew our business in countries outside China too. After we started operating in Europe, the Chinese government started believing we were performing well because we had managed to enter developed markets. This was how the government's misunderstandings about Huawei were dispelled.

The third opportunity is that we encountered many

coincidences after entering Europe. A young Russian employee had been working on an algorithm for over a decade, which integrated algorithms for 2G and 3G software. That meant that 2G and 3G could be integrated into one piece of equipment, saving half of the costs and reducing half of the weight. In reality it may have been less than that, but the costs and weight were still reduced by 30%–40%. What was most important about the algorithm was that it helped reduce the weight of equipment. This was especially important for Europe, because Europe didn't have many towers or utility poles on which to install network equipment. Previously, most equipment had been installed on the roofs of old houses. If the equipment was too heavy, it could cause the houses to collapse. So our equipment was very popular in Europe, and this was made possible by an algorithm that integrated 2G and 3G in our equipment. With this equipment, we quickly entered the European market.

This was how SingleRAN helped us establish a business presence in Europe. Later, we used that algorithm to integrate the algorithms of 2G, 3G, and 4G software. That meant that the same equipment could support 2G, 3G, and 4G, significantly boosting efficiency and increasing profits. That provided us with more money which we invested in R&D.

In the past, there used to be several different

communications standards for 3G around the world, such as Europe's WCDMA, the US's CDMA2000, and China's TD-SCDMA. This algorithm was able to integrate all communications standards into one piece of equipment. That meant that we could sell the same equipment to Europe, China, and other places around the world, better satisfying our customers' needs. This again enhanced the company's competitiveness and profitability.

By integrating different standards into one piece of equipment, we significantly decreased our costs while increasing our revenue. We didn't use this revenue for consumption, but continued to invest it into the future.

The fourth opportunity is that global communications have been developing for seven to eight decades. At each stage of development, governments tended to allocate one block of spectrum in one band at one time, and another block in another band the next time. Therefore, established carriers would often have over 10 blocks of spectrum, requiring over 10 corresponding antennas. Every antenna is made up of different electronic components, which increases its own weight and costs. We used this algorithm to integrate the 10-plus antennas into one that could accommodate several standards, which is called multi-mode and multi-band technology. This is one of our unique technologies, pushing us to the forefront of the world stage. Our

leadership didn't begin with 5G; we were already a leader in 4G. This technology allows us to lead the world in wireless communications. All of this success can be attributed to the mathematical algorithm developed by the Russian young man I mentioned earlier. He is now a scientist and Fellow at Huawei, who is only about 40.

Polar code is a key technology of 5G, originating from a mathematical paper published by Turkish Professor Erdal Arıkan over a decade ago. We discovered this paper two months later and dedicated several thousand people to analyze it and developed polar code.

We are now leading the world in 5G, which was actually the result of these two coincidences. Both turning points were related to basic theories.

The fifth opportunity, another coincidence, is also worth mentioning. Huawei was almost declining a few years ago because the market was becoming saturated. But thanks to the iPhone invented by Steve Jobs, the mobile Internet developed rapidly, enabling the telecoms equipment market to begin expanding. Carriers started purchasing more equipment, and we made more money, which helped us survive until today.

07

Damon Embling: Clearly there's been a big technological path, success for your company. Within China, obviously, you have a strong foothold in the business. How

difficult and challenging has it been – before the latest US trade row – how difficult has it been to build your business overseas? Or, in your view, has it been fairly straightforward? Because countries have a view of China, and some have suspicions about China.

Ren: Before we were added to the Entity List on May 16, we didn't face many difficulties in developing overseas markets. Customers made their own decisions even if politicians held different views on Huawei. Customers can decide about us for themselves after using our products. The US politicians and state leaders have launched a campaign against Huawei across Europe, but our European customers continue buying our products. Despite the huge pressure from the big shots and their US ally, they are still buying our products. It proves that they recognize us for who we are.

Before May 16, customers were not facing the significant pressure that they are now. They chose to use our equipment after considering our technologies and services, as well as the benefits our products would bring.

Damon Embling: You say customers still support you and they make the choice. But ultimately if their politicians, their governments are blocking Huawei, which has happened in some cases, how do you get beyond that?

Ren: If we can't overcome this opposition on a particular country, then we will give up on that country and probably the customers involved. We will only work with customers who want to work with us. We are not asking every customer or country to accept us. If all customers listened to politicians, would they make profits? It's not politicians but their customers who determine their fate. Customers always buy products that help them make profits, because this is the only way they can survive.

08

Damon Embling: Now, the US is embroiled in a trade row with China at the moment. You find yourselves in the middle of that, as Huawei. You have the US administration accusing Huawei of possibly using its networks, its telecommunications, and its technology to spy on other countries. Have you spied on any other countries? Have you spied on customers?

Ren: First, the US-China trade dispute has nothing to do with us. We barely had any sales in the US, and US cyber and information security has nothing to do with us. It is a fact that the US networks and information are not safe even though no Huawei technology is present in them.

Second, we have served three billion people in more than 170 countries and regions for over 30 years. We have a strong track record. If we were involved in

any security issues, the US would have used them as evidence to convince Europe. History has proved that we haven't done anything they've accused us of, nor would we have any reason to do these things.

Third, what should we do in the future? An EU report states that Huawei's 5G technology is very advanced, but the EU also has concerns regarding risks caused by non-technical issues. Therefore, we are committed to complying with all applicable laws and regulations of the EU. We will make commitments to these governments about what we will and won't do, and be audited accordingly. This will help increase their trust in us. The UK has the most stringent oversight of Huawei. We trust the UK and Germany, so we are open to their checks. They also pay a lot of attention to our problems and provide us with constructive criticism. This process has further helped build trust. We are happy to make these commitments and submit ourselves to audits according to the EU's management requirements. We respect the EU's regulations, so we have opportunities there.

Damon Embling: So, can we just be clear then... You're saying that Huawei has never spied, never will spy, and has never been asked to spy?

Ren: Yes. We have never and will never spy.

Damon Embling: But it could be tempting, couldn't it? Because information and data, described as the new

oil today.

Ren: We acknowledge the digital sovereignty of every country. Digital sovereignty lies with countries, not us. The data is of no value to us, so what's the point of us getting others' data? If we did this even once, the news would spread across the world. Customers would no longer buy our equipment and Huawei would go bankrupt. Then our employees would leave Huawei, leaving me to repay our debts. But would I still have the ability to repay then?

Damon Embling: But maybe you're hiding it?

Ren: Why would we do that? I don't think there's a good reason for it. It's unnecessary and unlikely. It's like selling a car. If I sell you a car, it's up to you what will be loaded into the car. Likewise, when we sell equipment to a carrier, it's the carrier that will operate the equipment. That carrier is subject to the oversight of its country. We can't even access the data [without permission], how can we possibly obtain the data? We can't access the data, and we don't need the data.

09

Damon Embling: Whether the US is right or wrong, Australia has barred Huawei, and the UK is still trying to make a decision over it. There are concerns in other parts of the world about the way Huawei operates. Rightly or wrongly, as I say, the US allegations, they're

deeply damaging for you, aren't they?

Ren: I don't think the US allegations have hurt or affected us that much. In fact, the lobbying of so many US politicians around the world has had a positive impact on Huawei. Seeing such a powerful country attack Huawei, customers in many countries take that as a sign of Huawei's strength. And so, they are rushing to buy our equipment as they're afraid our equipment will sell out.

Since the US campaign against Huawei began, the number of customers visiting us has increased by 69%. They came and checked whether we could make our equipment without US components. Today you have visited our company and you have seen that we survive very well without US components. We have shipped the equipment to our customers and their test results show that our equipment works very well. Even without US components, we can continue to supply our customers. This has greatly boosted customer trust in us. The US has been doing amazing PR work for us, so no, I don't think the US campaign has created any obstacles for us.

Damon Embling: So you don't think there's a financial risk to your company and you really think the general public, the consumers, haven't lost trust in you?

Ren: First, there won't be any financial risks. In fact, we might be growing even faster. This is because the

existing crisis and pressure have pushed our employees to work harder than before. They were getting complacent before the US campaign began, but now they are on their toes. As a result, our productivity has improved. This is the first reason – an internal reason.

There is also an external reason. Some customers choose not to buy from Huawei. That's understandable. But there are also many customers who continue to buy from us. That's because they see the unique advantages of our technology.

In a minute I want to give you a CD. It's a high-definition video that shows a performance marking the 70th anniversary of the founding of the People's Republic of China. It was broadcast over 5G. Although there were tens of thousands of people performing, there was no buffering. You work in the media, so you understand how advanced we are. We used our 5G base station, which is very compact. It actually fits in a backpack, and no wires are needed.

Projects like this have shown that we are well ahead of the competition, so we have plenty of opportunities. We are not worried that some customers may not choose us. In fact, we are a bit concerned that we may be unable to meet our customer demand if too many customers buy from us. We may even have to ask our Chinese customers to buy less from us, because we want

to supply our equipment to overseas customers first. It is more difficult for us there.

So I don't think we'll have financial difficulties. Customers may trust us more as time goes by. They can come and visit our base stations, or they can buy and install some. They will then realize that our equipment works very well even without US components.

Damon Embling: You say you're not overly concerned about what's going on right now, but, for example, when you launch your latest smartphone outside of China, maybe in Europe or elsewhere around the globe, and people for example don't have access to Google services because of what's going on with the US at the moment. Surely that's going to deter people buying that phone, isn't it? So that will harm your company.

Ren: Well, I think first of all, it won't cause much harm because we are on very friendly terms with Google and we have previously signed many agreements. Second, Huawei smartphones have a lot of unique features. Though users in some regions may be unable to use Google services, they still love the other features of our smartphones. We estimate that our consumer business will sell more than 240 million units this year. So there will still be rapid growth. I don't think the overall impact will be larger than 10 billion US dollars. In fact, this is

not a big number to us, so I don't think a 10-billion-US-dollar decrease in our forecasted sales revenue will be a big problem. When it comes to the ecosystem, we are confident that it will only take us two to three years to overcome that difficulty.

10 Damon Embling: I want to talk more about the US trade blacklist. You find yourself on this US trade blacklist, effectively locking you out of the US. How have you tried to engage with the US administration about this?

Ren: First, we haven't negotiated with the US government. We chose to file a lawsuit against the US government in court. I think we should let the courts solve this problem based on the evidence.

Second, I don't expect the US to remove Huawei from the Entity List, even if a new administration is in power. We need to adapt so we can endure pressure from the US for a long time to come. We must mentally prepare ourselves for that. But ultimately, it will be US companies that suffer most. Huawei provides services to three billion people in 170 countries and regions. If US companies are not allowed to supply to us, they will lose many markets, especially the Chinese market. This is not in their best interests.

Damon Embling: It seems that you're being quite

stubborn. I mean the US does have a lot of influence around the world. Surely you should be trying to talk to Donald Trump. What would you say to him if you could?

Ren: I haven't had any opportunity to talk with him. He's very busy.

Damon Embling: But if you did, what would you say to him?

Ren: If I did have the opportunity, I would ask him not to let US companies lose their foothold in the Chinese market. I would also say that the US will only see its companies performing better and benefitting from globalization when they can expand into the Chinese market.

I really don't understand why the US is unwilling to sell its high-quality products to China. What's the point? If you have good apples, you should sell those apples to whoever wants them and earn money from that. If you just keep the apples in your warehouse, they rot and then nobody wants them anymore.

The US government needs to think about the interests of its own companies and make sure they don't lose the Chinese market. Globalization is good for the US. If the US gave up on globalization, it would give Europe a huge opportunity.

11

Damon Embling: In the wider trade war between China and the US that's going on, obviously, there are ongoing talks around that. How do you think it got to this stage, this much wider trade war, with your issue alongside that? How did it get to this and how much hope do you have that the whole thing can be resolved? What needs to happen in your view?

Ren: I don't care what the dispute is about or how the negotiations have played out. After all, we sell almost nothing in the US. If the negotiations end well, we still won't be selling in the US. If the negotiations break down, we don't stand to lose much. So why would we care about the negotiations? This is something that should be settled between the two governments. I'm only concerned about the relationships between Huawei and US companies and our relationships with customers around the world.

Damon Embling: But it's part of a wider spat, isn't it? You are part of it.

Ren: It won't work. If China buys more soybeans from the US, will the US sell more chips to us? It doesn't work that way. With less soybeans, we can make do by consuming less oil. It's not a matter of life or death for the country. I don't think there will be a big problem.

12

Damon Embling: The difficulties you face with the US right now, the challenges, they've extended sort of personally to your family with your daughter Meng in Canada. The US issued an arrest warrant over suspicions she was covering up links with a company that was apparently supplying Huawei equipment to Iran. Apparently, it was in breach of sanctions that are in place. How is your daughter? And how much is that worrying you right now?

Ren: We believe that the legal system in Canada is fair, just, and transparent. Evidence speaks for itself. We trust the judiciary system in Canada. We have no other thoughts apart from that.

Damon Embling: Is she innocent?

Ren: Of course.

Damon Embling: But you said that she might do jail time and she might study while she's in jail. You think she's going to go to jail?

Ren: I didn't say she would study in jail. I said she has been studying while under partial house arrest.

Damon Embling: How is she? How much do you worry about her as a family?

Ren: She is out on bail and remains under partial house arrest. She has filled up her schedule. She goes out and talks with all sorts of people in Canada to show who she

really is. She is living a comparatively normal life.

13 Damon Embling: With that, and with the US trade blacklist, you really don't feel the house of Huawei is collapsing?

Ren: I think that Huawei might develop even faster. Over the past 30 years, our employees have worked really hard, and the lives of most of them have improved significantly. Naturally though, people tend to want a comfortable life, rather than working hard. This attack from the US has given us a sense of crisis that inspires our employees to be even more dedicated. Our sales revenue was supposed to be hurt by this attack, but instead it is still growing. Because of this, the house of Huawei will not collapse. As you can see, our production in all regions is still on track, our employees still come to work and go back home as usual, and our canteens are packed with employees at meal times. There has been no change to their salaries. I do worry that the company's profits may actually grow too fast because our employees work so hard. How do we deal with these profits? This is an actual problem we face. We are not experiencing a decline in business but instead are seeing rapidly growing profits. We will have to further increase our strategic investment in the future.

Damon Embling: How important are your staff to

Huawei? I mean we know that the vast majority of the shares are owned by the staff. How important is that, in the running of your company, do you think, and the performance of your company?

Ren: I think holding shares has little to do with the dedication of our employees. They are dedicated to their work because they have a sense of mission. They aren't just driven by economic benefits. We implemented the Employee Stock Ownership Plan so that our employees could continue to share in the value they created in the past. The kind of value isn't just reflected in their bonuses. Their previous work continues to create value for years after their initial contribution was made. Holding shares enables employees to get returns on that, and share holding is used as a way to make sure employees are reasonably compensated. Their dedication comes from their sense of mission rather than these economic benefits. Our sense of mission has not been weakened by these attacks, but instead strengthened.

Damon Embling: What kind of boss are you?

Ren: I don't have any special skills. I don't know much about finance, management, or technology. I actually don't know much in terms of the specifics. Instead, we have many competent and capable experts and managers who run the company.

Damon Embling: It's very surprising you say that, given

the growth of the company?

Ren: There are objective factors behind this year's growth. In the first half of the year, our growth was not affected by attacks from the US, and we maintained stable growth before we were added to the Entity List on May 16. Since then, we have been proactively patching up our holes, and we've quickly fixed most of them. This has enabled us to maintain reasonable growth despite some slowdown.

We were not affected by the US Entity List in the first half of this year, but we have been feeling the hit in the second half. Next year, we will feel it throughout the year, but we expect our business to maintain good momentum. You are welcome to visit us at the end of next year.

We have seen a huge increase in our total number of employees, and now employ nearly 194,000 people. This is because we have brought in many brilliant minds to patch up the holes caused by the US. We are fully confident in our performance next year. You are welcome to visit us at the end of next year again to see how we are doing.

14

Damon Embling: And as you look to the future, obviously 5G is a big part of your business. It's clear from what I've seen on my tour of your headquarters here.

But also obviously for a lot of technology companies, 5G is big. Is it a game-changer in your view, 5G? How is it going to change our lives?

Ren: 5G will be like highways, whereas previous generations of communications technology are normal roads. Cars can run on both, but they can go faster on highways. 5G offers high bandwidth and low latency, and can create a pivotal foundation for the information society and AI. 5G does not directly create value for society, but the information systems that it supports will play a critical role in promoting social progress.

Damon Embling: So what kind of things, for people watching this, how will 5G change their lives because 5G will facilitate all types of new technologies that cross right across our lives, won't they, public services, the way we get around, health even?

Ren: I'll give you a slightly abstract example to show what kind of value 5G can bring to our lives. An Airbus A320 has signaling cables that weigh about 17 tons. If wireless networks, rather than cables, were used to connect various types of equipment in the airplane, the airplane would be far lighter and need far less fuel. In addition, flight conditions would be improved. That would create tremendous value. We even nicknamed that particular wireless network project our Airbus A320 project.

In the past, a well-off family would also need many cables to support broadband connections in every corner of their house. But now, a small wireless box can make all of this a reality. This is the simplest example of how 5G could affect our lives.

We can also install small base stations in certain types of industrial machines, which can connect to other machines. This can provide real-time, autonomous connections to the systems that control all the machines.

5G's low latency can support autonomous driving, optimization of industrial automation, and other similar applications. Ultimately though, how 5G will change our lives is something we can't fully imagine at the moment. What I am describing now is just the initial impact.

I'd like to give you another example about remotely operated machines. You are media professionals, so you must be familiar with latency. If you operate machines several thousand kilometers away, this latency can cause operational mistakes. Latency in 5G networks can be kept lower than one millisecond, so it can support remote machine operations in real time. These applications will bring tremendous changes to humanity. But right now, this is just a vision.

How can we tap into the potential of 5G and create more value? This will require the concerted efforts of tens of millions of companies working together, not just

us. At Huawei, we just provide a platform that is like fertile soil, and it's up to innovative companies to decide what crops they want to grow in this soil.

Damon Embling: Because that's the risk, isn't it? Because 5G and all the things it will enable will generate a lot more data, a lot more information. But the challenge is really using that data in a safe, secure way that actually does change lives, right?

Ren: A new thing will never be purely good or bad. Everything has its pros and cons. The correct way to deal with a new thing is to better leverage its benefits, while controlling and mitigating its negative impacts. Nothing is inherently perfect.

Damon Embling: The European Union very recently published a report about cyber security and 5G and this report concluded there could be an increased exposure to attacks because of 5G and they were saying attacks could come from non-EU states and state-backed actions... The European Union is clearly worried about security in 5G, while also they want to grasp 5G, they realise the potential... How risky is 5G in reality?

Ren: How risky is driving a car? You may get into an accident if you drive too fast. But if you drive a car responsibly, it can take you to many beautiful places. It's the same for 5G. Nothing is purely good or bad. The key

lies in management.

The EU understands that 5G will bring a lot of benefits, as well as risks. The best approach is to manage and control those risks, rather than rejecting it.

15 Damon Embling: In the EU, privacy is a big issue. We have new regulations protecting data in the European Union. People do worry about how information and data about them is being used. At the same time, there have been concerns about states meddling in other states' affairs through using the Internet, social media, and what you have. There are some serious concerns in Europe right now. So, you as a big giant of this industry, Huawei, what are you saying to the European Union to actually reassure us, the consumers?

Ren: I can understand those concerns. I'm also concerned as I don't know whether someone from the US is tapping my phone calls every day. Huawei is trying to reassure Europeans by complying with the EU's cyber security management regulations, the General Data Protection Regulation (GDPR), and all other EU laws and regulations. But of course, the European people will need some time to verify our compliance before they truly feel reassured. So for now, all we can do is to promise that we will strictly abide by all applicable EU regulations and support the EU's digital sovereignty. We

will never waver from this principle.

Damon Embling: As 5G begins to be rolled out in the European Union over the coming months and coming years and the EU really positions itself about how it's going to use 5G and all the safeguards that go around that, what kind of relationship do you want to have with the European Union with 5G and other future digital technologies?

Ren: First, Huawei respects and supports the EU's digital sovereignty. Without in any way encroaching on that, we will work our best to provide Europe with AI-based technologies, intelligent computing systems under Arm architectures, the Atlas deep learning platform, etc. We will offer innovative open-source platforms and resources for European SMEs, and help the EU or European countries establish their own digital ecosystems. In this way, we will achieve shared success.

Second, we will also invest in and support the growth of European SMEs, and offer guidance where we can. This kind of cooperation will lead to shared success for all. To compare a tech ecosystem to soil, we aim to provide fertile soil in Europe, and then European companies can plant crops on it. In other words, we will work hard to help European countries build their digital ecosystems step by step.

Damon Embling: Amid all the difficulties the European

Union has been facing recently, it's having a bit of an identity crisis to be honest. There are a lot of deep political divisions that have been going on. From your perspective, looking in at the European Union, and all that has been going on of late, how difficult a market is it now to crack when countries aren't necessarily agreeing with each other very much?

Ren: It won't be too difficult. What's important for Huawei is doing what we do well and gaining customer trust. We will never engage in [political] conflicts or take sides in politics. When we do our job well, it's not difficult for us to crack the market.

16

Damon Embling: Of course, one of the big political earthquakes in the European Union has been Brexit, Britain leaving the European Union. How do you see the future of China's relationship with Britain if and when Brexit happens? From a business perspective, what would you like to see in terms of a future trade, business, economic relationship with Britain?

Ren: No matter whether they exit or not, the UK has to work harder in order to become stronger. They have to rely on their own strength, because the impact of the external environment isn't as big as some people have thought.

Global trade is important for every country in the

world. China will need to buy more airplanes from Europe than from anywhere else, and to meet this demand, Europe needs to ramp up production. China's growing demand for European products like machinery and cars is a great opportunity for European countries, especially the UK, so these countries should work harder to seize these opportunities. Government relationships are about building an environment. The macro environment has an impact on trade between countries, but this impact is not that large.

Damon Embling: And do you worry, as big telecoms company that it could affect you? Or do you think Brexit could bring a company like yours new opportunities as well?

Ren: I don't think Brexit will affect Huawei at all. Our presence in a market is determined by its population. Everyone needs telecom services, and if there aren't any changes in the population, then Brexit won't have an impact on us. The Brexit decision was made by British people themselves. For Huawei, we only need to adapt to the situation and do what we do well.

17

Damon Embling: Closer to home, there's obviously been the ongoing unrest in Hong Kong. From a business perspective, how worrying is the instability in Hong Kong for your business and for this region, do

you think?

Ren: The impact of Hong Kong on China's mainland and the world is not that big. Hong Kong is capitalist, while China's mainland is socialist, so what's happening in Hong Kong will not affect politics in China's mainland.

People in Hong Kong have freedom of speech and the right to demonstrate lawfully, but demonstrators shouldn't vandalize others' property, private or public. Vandalism is counter-productive. People who are neutral will distance themselves from these demonstrators. And if the demonstrators keep starting riots, they will ultimately be isolated from the rest of society.

In my opinion, demonstrators should use words to peacefully express their opinions, which is an important aspect of capitalist democracy. No country in the world will ever support vandalism.

18

Damon Embling: I want to look to the future now... You're 75 and still running the company as the CEO. How do you see the future of Huawei? Where do you want it to go over the coming years? And how are you going to achieve that?

Ren: In truth, I haven't gotten involved in any of the company's specific operations for many years. I simply have the veto right. I've never exercised this right, but

the company has been running on the right track. This has little to do with my age.

Now I have time on my hands, and I'm in good health. So our public relations department asked me to work for them and meet with journalists. I didn't meet with journalists in the past, but now I have more time to do this. Huawei's fate doesn't rely on me personally, so there is no need to worry about the company's continued development.

Damon Embling: You say the fate of the company doesn't rely on you. But with the fate of the company – some would say – in question right now, what would you say to those critics that say Huawei is meddled in by the Chinese government – it's carrying out espionage, spying; it's not a company we should trust? What do you say to those critics?

Ren: I don't want to say anything to them. The facts will determine whether those critics are right.

Damon Embling: As I said, you're 75 years old now, you're still running the company. Although I think you play that down quite a lot in terms of your involvement. But clearly you've been at the helm for many years now and have been behind a lot of the company's success. Where do you personally go from here? When are you going to finally throw that hat on the floor and say, "Okay, it's enough now"?

Ren: First, my authority is limited within the company. It's not that I have the authority to do whatever I want. Second, Huawei has a democratic, collective decision-making system, which means I'm bound by collective decisions and vetoes. It may look like I'm here working every day, and while I'm an employee, I don't have any specific operational responsibilities. I just have the veto right, but I've never used it.

Anyone could fill this "figure head" role the same way I do in the future. As long as an executive is willing to take this position, they will also become a "figure head". Because I've been in this position all along, it might seem that we haven't had any personnel changes for 30 years. In fact, our personnel change all the time. My presence or absence doesn't affect the actual operations of this company.

Damon Embling: You still haven't responded directly to my question regarding when you are going to retire.

Ren: First, when I become slow in thinking. Second, when the US government approves my retirement. Huawei is now in a state of crisis, so sometimes I need to act as a figure head and come out to meet with journalists.

Damon Embling: Would you describe yourself as a workaholic, since you put your life into growing this company? You have said that you didn't see much of

your children. You have been through a divorce. Do you think all the success in your life has come at the cost of your family? Do you look back now with any regrets?

Ren: I do have some regrets. During the company's early days, I used to go on long business trips in Africa and Latin America, staying there for several months. When I returned home, I often stayed for just a couple of days and then went out on business trips again. To survive, I didn't have much time to stay with my wife, and I often forgot to buy gifts for my wife and little daughter.

One time I did buy a gift for my little daughter, but she said she wouldn't accept my gift next time if I didn't buy one for her mother as well. That reminded me that I wasn't taking full responsibility for my family. There are many things I could make it up to my current family. However, I didn't take good care of my parents and I couldn't make it up to them, as they are no longer with us. This is a great regret for me. Everyone has regrets, because no one lives a perfect life. But it's of no use to feel sorry. What we should do is to move forward.

If the company encounters greater frustrations or even collapses, the regrets will be greater than any of my other regrets. Today, all of us at Huawei are working hard to row this big boat of the company. Even though I am old and no longer strong, I will do my part.

When I was young, I played a lot of sports casually,

but I was never a good athlete in any of them, even at a lower level. I was just a little short of the standards. That was a regret. Now I don't play sports anymore, so my physical condition will weaken. I will handle my retirement wisely. Please be assured that I will not dedicate my whole life to Huawei, and I have never considered that. I will leave myself some time to travel and relax.

Damon Emling: Who would you like to replace you, because you have said you don't think your children have the right qualities to lead Huawei? Who would you like to see take your position?

Ren: Later on, I would ask our PR staff to give you a copy of my speech to the company's fourth Representatives' Commission. In this speech, I spoke about our systematic successions. Actually, we completed our succession a long time ago, not recently. The company has been operating smoothly. I am just a figure head in the middle. Please don't worry about this issue.

Damon Emling: But you won't keep the company in your family?

Ren: My family don't share enough of the company's benefits. Why should we shoulder this big responsibility? In the future, there will be someone who can take on this responsibility, depending on their wisdom, capabilities, and virtue. This has nothing to do with my family.



Ren Zhengfei's Interview with The Wall Street Journal

November 5, 2019 Shenzhen, China

01

Matt Murray, Editor in Chief, *The Wall Street Journal*: Mr. Ren, thank you. It's a real pleasure to be here and thank you so much for inviting us to visit you here to ask a few questions. We're very grateful. So, we just toured your European campus and saw your Russian corridors. It's a grand series of buildings you've constructed. Is there a message in this about the power of Huawei at this point in time? Or the power of China as a corporate presence at this time? It's hard for me as an American not to feel that, coming in here, this grand space and all the things you wanted us to see, is there some message in it?

Ren: To start with, I want to say thank you for this interview. Please feel free to ask me the most challenging questions you have. I will try and be very direct in my answers.

Both the Xi Liu Bei Po Cun on our Songshan Lake campus and the exhibition hall in the Jijia Center were designed by Japanese architects. Each of our product lines has an exhibition hall like this, usually in the basement. After customers tour the halls, we invite them upstairs for a coffee and a chat. These two halls were designed for big meetings. So my point is, all these artistic designs came from these architects. They have nothing to do with the culture that we want to disseminate.

We are also building another new R&D campus in Qingpu, Shanghai that is about 430 acres across. Five world-renowned Western architecture companies are participating in its design. They have come up with a modern but classical design that references the views along Chicago's waterfront. Of course, this design will be influenced by old Shanghai glamor. When it's ready, scientists from outside China will be sent there to get to work. The designs of these buildings have a lot to do with the taste of architects and their bids and nothing to do with Huawei's culture.

Matt Murray: While your employee was guiding us down one corridor to the exhibition hall, they said that it was the "Trump Corridor". So no message in the corridor?

Ren: No. But it's very beautiful. Those paintings are the works by over 150 famous Russian artists. Due to US sanctions, they are living a difficult life. They came to paint for us because of the economic difficulties in their country. Otherwise, it was unlikely that they would have come to do this work for us. When they were having a coffee here, they joked that this corridor could be called the "Trump Corridor". They said that we should thank Trump, because even the Kremlin doesn't have such a beautiful corridor.

Matt Murray: Do you think President Trump would

ever come to see this corridor? Can you imagine him coming here and seeing it?

Ren: I would really like to have him here. If it's not convenient for him when he's still in office, he's also welcome to come later. We will certainly give him a warm welcome. Many years ago, President Carter visited Huawei after he left office. We will also show our warmest welcome to US congresspersons, other senior government officials, and journalists. The US is a great and innovative nation.

02

Matt Murray: Let me ask about the US. Long before President Trump, or even President Obama, there have been difficulties with Huawei in the US, under both administrations. What do you think is the root cause of the long history of complications between the US government and Huawei?

Ren: In essence, I don't think there has been confrontation between the US government and Huawei. Our company has always had great admiration for the US. We have learned a lot from its culture and management.

Since Huawei was founded, the sleepless spirit of Silicon Valley has been engraved in the hearts of all our employees. We've been working so hard to learn from the US. Many startups in Silicon Valley were started in garages. Huawei didn't even have one of those.

We started in a shabby apartment and have become what we are today by taking one step at a time. The experiences of US companies are good examples for us to keep in mind.

Over the past 20-plus years, we have invited dozens of American consulting firms, to advise us on our management. They have a clear big picture of our organizational structure and processes, which are suffused with American culture. KPMG has also audited us annually for over 10 years. If you want to know about our financial position, just check the reports for the past 10-plus years stored at KPMG.

We have been through so much over the past three decades and are used to difficulties. So I never saw being under the Obama administration as a hardship. For us, the Trump administration is also just a motivator that has forced us out of our complacency. To stay afloat, we need to row intensely. Our hard efforts have driven up revenue and profits. If we have higher profits at the end of the year, despite the fact that we are being targeted, I am worried about how the world will perceive us. Thanks to our employees' increased efforts, we are seeing much better results. So I don't feel like there is a true confrontation with the US.

03

Matt Murray: Let me try again, how do you explain American hostility then? And for all you have been done, is there more in hindsight that you might have done or should have done given how the US government now seems to view Huawei?

Ren: I think their hostility is largely because they do not know enough about Huawei. Many big US companies started small. Companies like Amazon, Google, and Facebook were founded after us but grew faster. We were a bit conservative, so we have not grown as fast as them and need more time to grow.

If we look at the history of US companies, they have adopted an excellent approach that combines business model innovation with technological innovation, meaning they have a global business plan even before their products are fully developed. However, Huawei was not as visionary. We started in rural areas, and our horizons were not as broad as US companies'. We started with technological innovation, and our R&D staff were extremely confident in themselves. We only started developing our business model once our products were there. As a result, our growth has been slower than US companies' and that's why we do not have real business leaders within Huawei, even today.

We are still focusing on technological innovation, and we often don't know how to sell products even one or

two years after they are developed. So we still have a lot to learn. We still develop products first, and then think about how to sell them.

04

Matt Murray: But you are now in more than 170 countries and regions, you are a leading supplier in most of those countries and regions, and you're ahead on 5G as we've seen. Do you threaten the US because of your success? What do you think?

Ren: I didn't think the US would feel threatened by this. They are very strong when it comes to scientific and technological innovation. We published an article yesterday outlining the inventions made by the US over the last 100 years and commending the US as a great country. You could go to our internal messaging board, Xinsheng Community, to have a look.

The US has a very strong mechanism for technological innovation, and I don't think they will be stressed about lagging behind in a certain technology for a short while. I saw the remarks Commerce Secretary Ross recently made in India. He said the US can catch up with and overtake Huawei in three years. I believe it's totally possible.

The US has made the wrong call on 5G. They went directly for 6G because they thought it had higher bandwidth and would be more valuable. They went

for high-frequency bands for millimeter waves. They had not thought that 5G would come so quickly, and instead thought that they had enough time to make breakthroughs on the theories and technologies that address the short coverage distances for 6G. But 5G was commercialized in less than 10 years.

Huawei chose intermediate-frequency bands. This was actually also a bet for us. Most countries did not choose intermediate-frequency bands at the time, and instead went for high-frequency bands because they didn't think 5G could be commercialized so quickly.

They didn't realize the mathematical paper from Turkish professor Erdal Arıkan would mean that 5G could create an industry in less than 10 years. They thought that they could make breakthroughs with 6G if the development of 5G was slower. When more transmission distance theories are developed and technological innovations are made, 6G will definitely be superior.

However, these theoretical and technological breakthroughs have yet to be made, so 6G just means higher bandwidth. But since transmission distance is very short, commercialization is still not possible. All the while, a wide rollout of 5G has started around the world.

So I don't think the US has lost to Huawei. They just made the wrong bet in the first place. Huawei

bet on centimeter wave technology while the US bet on millimeter wave. If the US changes their direction, I believe they could soon catch up with Huawei, and I don't think they would attack us simply because we pulled ahead for a bit.

05

Dan Strumpf, Reporter, *The Wall Street Journal*:

Thanks a lot, Mr. Ren, for meeting with us again. We really appreciate your time. On the topic of the US and Huawei and your long history of both cooperation and confrontation, you've talked, quite a number of times this year, about the idea of selling the licenses of your 5G technology to a Western, but specifically an American company. Could you give us an idea of how that process is going? Have you had any interest from any American buyers? Have you hired any investment banks or intermediaries to help you try to sell that technology? Where do you see this process going?

Ren: First, we are completely sincere in our offer to license our 5G technology to the US and are not playing tricks. Why do we want US companies to become stronger? Because the world will be more balanced with three 5G "super powers". If the US lacked 5G, we would face longstanding difficulties and Europe would also find itself in trouble. Therefore, we really hope to license all of our 5G to the US. We will give the US whatever it

wants and will not withhold anything. After licensing, we can move forward side by side with the US, and I believe we can still outrun others. This is our motivation and purpose for licensing 5G.

Second, the US cannot bypass 5G and jump directly to 6G. Every step counts in the communications sector. If one leapfrogs one step, they may encounter huge problems down the road. It would take a long time to develop technologies from scratch. The US has a lot of money, and the biggest challenge for Huawei is that we lack money. If the US gives us money to obtain our 5G license, we can use that money to fund our research and development of 5G and other new technologies and make bolder steps forward. And the US can use our technology to grow faster because they have already established a huge foundation of science and technology. We can then pursue peaceful development and competition.

No US companies have approached us yet. Once there is a need from a US company, we will ask investment banks to help with our deal.

Matt Murray: They can call you, right?

Ren: Yes, but they haven't yet. Perhaps they are afraid too? Afraid of being suspected if they engage with us?

Dan Strumpf: I would just follow up and ask, why do you think no companies have come forth to take you

up on this offer? Huawei is widely seen as the most advanced company offering 5G technology. It seems like an opportunity that companies should at least express they are interested in, but it sounds like no one is coming forward at all?

Ren: I don't know why either. They may be afraid of political suspicions if they engage with Huawei. Or perhaps they don't want to enter this market, so they don't necessarily have this need. We cannot proactively reach out to US companies because the Entity List prevents us from doing so.

06

Matt Murray: I have to ask, actually, as you know, throughout the history of Huawei, there have been allegations of theft from big companies, from individuals, from Cisco to CNEX. We wrote about it this year, as you probably know. Why have they been so persistent over so many years? And have there ever been any challenges at the company, even in the past, that have been addressed about theft?

Ren: Allegations are not necessarily facts. Trump has received more allegations than us. We have always respected the intellectual property (IP) of third parties. Although many large US companies pay large sums in IP royalties to us every year, we pay more to the US. If we deduct the amount of IP royalties that we receive

from the amount that we pay, we have still paid more than six billion US dollars of IP royalties to the US over the years. In addition, Huawei invests about 15 to 20 billion US dollars in research and development each year, and we have over 80,000 R&D staff. We are not a world leader because of stealing. A good person can still face criticisms. We still believe in decisions made by the US courts.

07

Eva Dou, Reporter, *The Wall Street Journal*: We recently went to your hometown in Guizhou, and we wanted to know more about your background and your experiences. My parents are from Jinan, Shandong. They lived near the Baotu Spring.

Ren: The place where I grew up was rather closed off, and had little impact on my growth. I was a little naughty when I was a child, and grew up free of many restraints. It was impossible for me to develop high aspirations for the latter half of my life in such a closed-off environment. And I had access to a library only after I was admitted to university, so I read extensively, like it was a hunger. That didn't have a big impact on my life either. Because the political background for my family was not good, there weren't great prospects for me. It was already good that I didn't develop pessimistic sentiments.

In the late 1970s, my old army unit was stationed on Yaotou Road in Jinan's suburbs, near Shandong Normal University. I feel like Jinan is partially my hometown as well.

Eva Dou: At that time, many people were in the army. Many members of my family joined the army as well. I was reading some articles you wrote when I saw the name Jinan. You were with Troop 00229 in Jinan from 1979 to 1984. Could you describe your work there? That experience wasn't talked about too much in your official biography. You were born in 1944 but the details after that are a little vague, and there are many years you have not written about in detail.

Ren: After the construction of the Liao Yang Chemical Fiber Factory was finished, the Chinese government decided to initiate 10 big projects, and we were assigned to the construction of the Yi Zheng Chemical Fiber Factory. However, before our transfer went through, that project was terminated due to some political criticism from the central government surrounding these 10 big projects, so I stayed in Jinan. I was then appointed to be the deputy director of a construction research institute, leading a team of just over 20 people. We were responsible for researching machines used in construction.

Eva Dou: It seems that the research institute mainly

focused on developing pressure balances.

Ren: I had used my background in mathematics to invent an apparatus for automatic chemical control systems in Liaoyang. While at that institute, I was allowed to continue my previous research, because I was a celebrity then and a heroic benchmark. That was why I could do some research irrelevant to my military unit. Unfortunately, my research proved to be unsuccessful.

When I was younger, I had received a high level of recognition from the government, so I became very ambitious and set even higher goals that were beyond my reach at the time. I was determined to achieve those goals and often worked overtime. However, the results of my research in later years were not satisfactory. That happened around the time when the government decided to downsize the army, so our project ended and I was forced to transfer to a civilian job. That project had lasted five years, and we hadn't created anything useful in that period. At that time, the computer in Shandong University was only 16 KB of memory, which wasn't enough for proper calculations. So we had to give up in the end. Looking back, I'd say we had wasted those years.

Eva Dou: My father studied in Shandong University at that time.

Ren: We were not far from each other. Our unit was

stationed nearby in Yaotou, near Shandong Normal University. My kids were enrolled in the Majiagou Primary School nearby.

Eva Dou: Didn't you start your career at the Guizhou 011 army base? What did you do there?

Ren: Yes. I worked in a construction company at the 011 army base, where I was involved in factory construction.

Eva Dou: But you were an engineer, right?

Ren: I wasn't even a technician at that time. I was an intellectual, one of the "Nine Black Categories", so I had to undergo re-education. I was first a cook for two years. Then I was a worker for several years and was only transferred to Northeast China in 1974. After I had been with the army for a while, I became a technician. It was only after the Gang of Four was taken down that I finally became an engineer.

Eva Dou: Guizhou is close to Vietnam which was at war with the US back then. Guizhou was also developing military communications infrastructure at that time, wasn't it? Were you involved in that?

Ren: What I did back then had nothing to do with communications. I was just an ordinary construction worker, just like today's migrant workers in cities. After I moved to the military in Northeast China, I worked in the Liao Yang Chemical Fiber Factory where I was

responsible for building automation control systems. It was about simulation control systems, or proportional-integral-derivative (PID) controllers. This had nothing to do with either today's communications technology or computer science. I taught myself automation and control when I was a cook. This turned out to be a useful skill when I moved to Northeast China, because I understood it better than anyone else there. I didn't enter the communications industry until I started my own business in Shenzhen.

08

Matt Murray: You talked about five years wasted and different jobs. How did you get from there to founding Huawei, and how did you find investors to back you and start the company based on the record you started?

Ren: China downsized its military on a large scale, leaving a lot of us feeling completely out of step with the times. The country was undergoing a fundamental change in its economic system, moving from a planned economy to a market economy. We had no idea what that transition meant, and we just came to Shenzhen. We knew nothing about the market economy, either. The monthly pay for jobs at the regimental-commander level was over 200 yuan, which I thought was a decent pay. Then I found out that the average salary for

ordinary workers in Shenzhen was more than 500 yuan. So, we asked for compensation from the government for the demobilization without needing to retain the political and economic benefits. The compensation was about 1,800 yuan for each, and my ex-wife and I got more than 3,000 yuan in total. I then worked in a state-owned enterprise (SOE) in Shenzhen. I didn't know much about how SOEs worked and I didn't do a good job there. I made some mistakes, so I had to leave.

I was then left with two options: going abroad or staying in China. My family didn't want to go abroad, so we stayed. This was in 1987, around the time when the Shenzhen government published a document (Doc. No. 1987 [18]) allowing private tech companies to be established. So, I took the risky move to establish a private tech company. You had to have 20,000 yuan in registered capital and at least five shareholders to start a company. So I raised 21,000 yuan with five other investors and founded the company. Though there were six of us, I was the one who actually started the company. Later, the other five investors decided to withdraw from the company and we ended up going to court to settle this. In the end, they all withdrew with a lot of money in compensation. At that point, the company was wholly owned by me, so I had the freedom to distribute the shares to our employees. That's how the employee ownership structure we have

today came about.

If I hadn't distributed shares to employees, Huawei might have remained a small company and might not even have survived this long. Maybe then I would have tried my luck with other sectors such as real estate. We'll never know. Maybe real estate would have been the best choice. I shouldn't have set foot in communications business. It takes a lot of hard work and is not actually that lucrative.

We still have the court rulings pertaining to the withdrawal of the five other investors. They're in the shareholder registry room. You can take a look at the original file if you're interested.

Dan Strumpf: Just a follow-up question on that, Mr. Ren. How did you know the five individuals that helped you found Huawei? We've seen their names in your shareholder registry room. They seem to have very diverse backgrounds. How did you come to know them? Are they old friends of yours? Old friends from the military? Who are they?

Ren: No. I hadn't known them before I came to Shenzhen. And actually, when I founded Huawei, I wasn't thinking about company ownership or the future of the company. To start the company, I had to raise a certain amount of capital and bring together a certain number of investors. These five people have never worked a

single day at Huawei. If I'd had a closer relationship with them, maybe they wouldn't have cashed out so early; they might have come to work at Huawei.

In Huawei's first 10-plus years, we went through thick and thin. We were like a candle that was about to be blown out. Every day, we were struggling to survive through crises. Most people had no confidence in our company, but there was no turning back for me. I had to move on, full of confidence.

Some people, who seemed unwise to some, chose to stick with us. They believed what I told them would become a reality some day. We worked together towards that vision, and in the end it really became a reality. Today many of our employees are very rich. The reason is not that they were speculative, but that they were just not wise enough and chose not to leave.

09

Dan Strumpf: Mr. Ren, I wanted to ask you about a later time at Huawei but still in its earlier days. In 1992, you took a long cross-country road trip in the US, starting in New York, and I believe, ending in Silicon Valley with American companies at that time. Tell us what you learned from that trip. Why did you take that trip, and who organized it? And do you feel the US is a different place today than it was then?

Ren: A Boston-based company named CP, which sold

power modules, invited us to visit them. We wanted to buy their power modules.

We were curious because we didn't know what the US was like. We'd thought things were very expensive there, so we took a lot of cash in US dollars with us. You couldn't get credit cards in China at the time. After we arrived, however, it turned out things were very cheap and we didn't understand why. Cash started to feel like a bit of a burden.

Funny story. One guy in our team offered to take care of our cash, so we gave most of it to him, but later he complained that his pockets were weighing him down and begged us to spend the money. So our first impression of the US was that everything was surprisingly cheap.

While we were taking a Greyhound bus, we marveled at how beautiful the bus was. While the bus was running fast on the expressway, we were thinking that China would never have such beautiful buses and never be developed to this level.

We then took a train to Silicon Valley, but we didn't know where it exactly was. We asked people around us, but no one knew the name, because we only knew it as "Gui gu" which is how Chinese people know it. We got off the train not really sure where we were. We asked a local taxi driver and he said we were in Santa Clara,

which is actually where Silicon Valley is located. After arriving at Silicon Valley, we couldn't find anywhere to visit and we didn't know anybody. Eventually, we found a guy named Zhong Peifeng who could show us around because we needed to buy some components.

We were shocked by how great and advanced the US was. As we were wondering about how large US companies were, we took a taxi and traveled around the IBM campus which produced memory back then. We wanted to know how big that campus was, so we asked the driver to just go straight and not make any turns. We would check the mileage shown on the meter. After we reached the campus, the taxi managed another six kilometers before the driver got lost. We marveled at how large US factories were. We still feel the same now.

Even today, we still admire the US. This has never changed, not even in the face of their campaign against Huawei.

10

Matt Murray: As you know probably, *The Wall Street Journal* reported earlier this year on a Huawei program in Africa that helped a couple of governments spy on opposition political figures. It was part of the smart cities program. Can you comment on that program? Is it something Huawei is still doing? What have you heard since that report came out from governments

around the world?

Ren: First of all, what that report said was not true. You at *The Wall Street Journal* should be taking responsibility for your reporting. We've had our lawyers send you a letter, but I still believe *The Wall Street Journal* is a great news agency. You should be more conscious of whether what you report is true or not. What you said in that report didn't happen, so there was never any real response to the accusations in those countries you claimed involved.

11

Eva Dou: I heard that you really like European culture.

Ren: Not really. I like American culture most, which is very enterprising and innovative. I'm the type of person that is not satisfied with the status quo. I really admire the passion and ambition of young Americans. They like to do grandiose things to impress people. My wife said I am of the same type. Europe has a more conservative culture and more relaxed lifestyle. My family likes Europe very much. My wife is currently in Milan.

Eva Dou: Do you know HBO has a TV series about the telecom industry?

Ren: No, I didn't.

Eva Dou: I recommend you watch it. This TV series is about the telecom industry, telling a story about the

first transatlantic phone call between the King of Spain and the US President Calvin Coolidge. At that time, the Spanish government supported Telefónica because they wanted to spy on their enemies. As history shows, states often support the telecom industry because they want to spy on others, don't they? Is it like that in China? How will Huawei operate in today's historical and political environment?

Ren: Automobile manufacturers only sell their trucks to their customers. It is the drivers who decide what goods they want to put in the trucks. Manufacturers don't know anything about it. Just like automobile manufacturers, we only sell equipment. Networks are managed by telecom carriers, and we don't manage the equipment after selling it. We have no idea how carriers operate that equipment. Carriers build pipes and ensure information flows smoothly through the pipes, while we produce the iron sheets on top of the pipes. What could we do with iron sheets?

12 Matt Murray: I understand the sensitivity, but you have become a large global company with hundreds of thousands of employees. Can you be fully confident that there are no employees affiliated with Huawei anywhere engaging in activities like those we reported?

Ren: Our internal and external compliance systems and Committee of Ethics and Compliance ensure our employees comply with our *Employee Business Conduct Guidelines (BCG)*. We don't allow for violations. If there were any employees that did such a thing, they would be severely punished.

13 Neil Western, Asia Business Editor, *The Wall Street Journal*: On the point of selling iron sheets, I don't think that's strictly true since you spend a lot of money on cyber security and that money has been increasing over the years. Particularly since Edward Snowden revealed a few years back that the NSA has been able to use Huawei equipment to listen in on people. So where do you see the threat and how can you prevent that threat, from Huawei's point of view?

Ren: If we didn't invest in cyber security design, carriers wouldn't be willing to buy our equipment and many countries would ban us from their markets. If we didn't comply with *GDPR*, it would have been impossible for us to establish a presence in Europe. Cyber security and user privacy have become integral to all commodities.

It's a lot like a car. All cars have four wheels, so why are big brands usually more expensive? Because they are safer.

I think this is a requirement that all companies today

have to follow. Otherwise, it's going to be difficult to sell, not to mention selling at good prices. That's why we must meet customer requirements for security.

Networks are owned by carriers, who are subject to the laws and regulations of the countries in which they operate. Huawei is no different to companies selling trucks.

14 Dan Strumpf: I want to ask you about the future. Huawei has grown into, as Matt said, a company with hundreds of thousands of employees. It's all over the world. What are the biggest management challenges facing Huawei as it advances into the future? And what are the biggest challenges that will face the company in the future after you step down? And what would you like the company to look like after you step down?

Ren: Over the past 30 years, Huawei has grown from a small company into what we are today. We have stuck to the centralized management model throughout. Because of this, our HQ has become overstaffed and increasingly bureaucratic. If that continues, sooner or later, the company will be overwhelmed and may even collapse.

We held a meeting in Argentina discussing the pilot project for contract approvals at representative offices.

One of the key objectives of this project is to delegate decision-making authority to the people who are closest to our customers, and improve the personal grades and capabilities of people in the field.

If many senior managers who really dare to shoulder responsibilities work in field offices, then the processes in back-end offices at the company will be greatly simplified. And we don't necessarily need as many managers as we currently have at HQ. This way, our HQ will become streamlined and less bureaucratic, and the burden of supporting so many staff at HQ will be reduced. We plan to complete the transformation and enable contract approvals at representative offices within around five years.

Then, we will have a smaller HQ. There won't be many senior executives sitting in the office in the future. Most of the people at HQ will be ordinary staff. It's like removing a heavy hat that we used to wear. Our management system has been reversed and turned upside down so as to revitalize our company.

This is something we've learned from the US. This is the practice adopted by the US military. People assigned to the Pentagon may not necessarily have a bright future, while people working in the field may get promoted much faster. It's going to be the same at Huawei. Otherwise, who would be motivated to work in

hardship regions?

Matt Murray: So you don't want anybody to be assigned here in Shenzhen?

Ren: Take our employees working in Africa, for example. The value they create in dollar terms is not as high as those here in Guangdong province, but they are paid several times more than the people working in Guangdong.

15

Matt Murray: Can any one person replace the founder at a company like this? And I ask because you mentioned American companies and that's a difficult task to pull off in many American companies.

Ren: A reason that some American companies didn't work out is that they tied the company's destiny to one single person. Then the safety of executives in that kind of position is tightly linked with the company's stock value. So they can't take commercial flights because they think it's not safe enough, and they need to take bodyguards with them wherever they go. People like this are closely tied up in the interests of people on Wall Street. If one of these executives die, it can have a significant impact on Wall Street.

But at Huawei, I am more of a figure head. Whether or not I work in the company doesn't have a big impact

on its operations. Years ago, when we wanted to initiate a management transformation, we turned to IBM for advice. IBM's consultants told me that the ultimate goal of the transformation would be to get rid of me, taking away all the authority I might have. They asked me whether I was willing to do that and I told them I was.

Over the last 10-plus years, several hundred experts from IBM have helped Huawei with our management transformation. They have laid a solid foundation for Huawei's organizational structure and management, helping make the company what it is today.

Then where has the authority gone? It is actually embedded in processes. As a result, managers at lower levels have relatively strong authority. For example, a waiter can get a bottle of cola when they want. If I want a bottle but don't have a corresponding e-flow, then I'll have to pay for it.

Therefore, in this management transformation where we incorporated the lessons learned from Western companies, one of the most successful things we've done is leaving me only ceremonial authority. Meanwhile, different parts of the organization have been given different types of authority which flows throughout the organization in a closed loop. That way, whoever takes those positions can shoulder the responsibility to support Huawei's operations.

We are trying to reverse the authority structure within Huawei and give more authority to employees at lower levels in the hierarchy. If this new structure stabilizes, it will be very difficult for future successors to change it back into a centralized one. I believe this will ensure stability at Huawei for a long time.

16

Jonathan Cheng, China Bureau Chief, *The Wall Street Journal*: You have talked about this change in the structure and the Argentina meeting was a big part of this. When you were hearing about your daughter's arrest, you decided to go to Argentina anyway. Can you talk about how important this meeting was to you? Because a lot of people would look at this decision and feel that is rather callous to just go about your business and go to this meeting when your daughter had just been arrested.

Ren: Argentina is undergoing economic difficulties, including serious inflation. Huawei's former President of the Latin America Region had started a pilot transformation project in the Argentina Rep Office. When he was transferred back to HQ, we asked the new regional president to continue the project.

The goal was to approve contracts at the rep office. In the past, these decisions were made by HQ. But the transformation has given the rep office the authority to

make such decisions and also to distribute incentives. That has substantially motivated the team. As a result, the business results of the Argentina Rep Office were very good despite the unprecedentedly challenging environment there. This proved the transformation was a success, so now more than 20 rep offices are learning from Argentina and implementing this same transformation. We also expect that a large number of rep offices will undertake similar transformations next year.

With this transformation, efficiency will be improved and a smaller workforce will be needed. Therefore, in order to avoid large-scale layoffs, I approved a document only a few days ago to allocate a budget of one billion US dollars and headcount of 10,000 to our Strategic Reserve as a buffer for those employees who will no longer be needed in their current positions. They won't be laid off. Instead, they'll be given training and take exams within our Strategic Reserve. After they become qualified for new responsibilities, they will have the chance to take up new positions and work on new projects. In this way, we want to ensure stable transformation and transition in the company, and avoid excessive layoffs.

17

Neil Western: Why did you choose to have that meeting in one of the areas that is so close to the G20 Summit?

Ren: That meeting didn't have anything to do with the G20 Summit. Even if we wanted to have it next to the G20 venue, we'd never find enough hotel rooms. And our meeting was held sometime later, after the summit was over, because the weather was nicer then. We had it in an upscale hotel called Llao Llao Hotel in a remote, scenic part of the country.

Neil Western: Once your daughter was arrested in Vancouver, what were your thoughts about the personal risk of being arrested making that journey?

Ren: It was risky, but if I acted scared, everyone else would too, right? I had to go ahead. I transferred flights in Dubai, which I think is very open.

Dan Strumpf: Were you in communication with your daughter around that time? I mean this meeting was obviously so important for you to attend that you did it just days after the arrest of your daughter, who is also your CFO. What was going through your head at that time? Did you feel anguish and were you in touch with Meng Wanzhou?

Ren: I forgot what my thoughts were back then. I was only focused on the meeting going well.

Eva Dou: Talk a bit about Meng Wanzhou being called "Piggy". You can see it from the birthday letter she wrote to you the other day. Why that name?

Ren: When she was young, Meng was a chubby girl who could really eat, just like a little pig, so she got the name Piggy.

My younger daughter also likes stuffed pig toys, and she calls herself Piggy too. She calls me Daddy Pig, and her mom Mommy Pig.

It's such a coincidence that both of my daughters call themselves Piggy. I had never thought about why they both do this. But it's just a coincidence.

18

Neil Western: Huawei's problems this year have been inextricably linked to the trade fight between the US and China. Could you describe what conversations you have had with President Xi Jinping or Negotiator Liu He over the past year, in terms of resolving Huawei's problems with the US?

Ren: The trade talks between China and the US have nothing to do with Huawei because we have virtually no business dealings in the US, and it wouldn't matter to us if the tariff increased to 1,000%. The China-US trade talks are not something I'm concerned with.

Eva Dou: Huawei is just a bargaining chip.

Ren: If the US thinks we can be used as a bargaining chip, I'd say they probably have the wrong idea. Huawei will never be a bargaining chip, and we can live without relying on the US.

19 Matt Murray: I can attest as I heard directly that the government, in talking about the US trade talks, took up Huawei's cause and asked me and other journalists about other things, why is the US pressing Huawei, what is the issue? The Chinese government says it's unfair, and the government does take up Huawei's cause.

Ren: I didn't know that, and I haven't seen reports on that. We don't need the US to remove Huawei from the Entity List. They may as well keep us there forever because we'll be fine without them. Having said that, we will still embrace globalization and welcome any US company that supplies us. But even if they can't supply us, we can still survive.

Matt Murray: To clarify, you've actually had a great year. You've been doing well and decoupling from the US supply chain through the year, and now you're saying Huawei doesn't need the US for the foreseeable future. Does Huawei plan, whatever happens in US-China relations, to proceed without the US, even if they become open to you again?

Ren: We'll never decouple from the rest of the world, and we'll continue to unswervingly embrace globalization. But this is only our ideal. If the US continues to block us from their supply chain, we'll have no problem surviving on our own. We are already not using American components in our 5G base stations, or our transmission, access, and core networks. Of course, we still have a version that can use American components.

20

Eva Dou: There was a question related to Huawei's history. Some customers in Europe and the US are skeptical of Huawei's government background and investment coming from the government. I noticed that in the 1990s Huawei had a subsidiary called Mobeck, and it received a lot of investment from provincial and municipal companies of China's telecom bureau. Several years later, as Huawei's business grew, those companies were kicked out. Since then, there has been no investor in Huawei. So why was Mobeck set up in the first place? And why was it closed afterwards?

Ren: First, Mobeck was a power supply company, and power supplies were a marginal product for us. Second, in 1992 China started to impose stricter financial controls. Why? China suffered from very serious inflation

after the financial bubble burst in the late 1980s, so the central government implemented stringent financial policies in 1993. Banks were prohibited from offering new loans. For the loans already issued, the banks were made to recover them, even if they weren't due yet. At that time, if we wanted to run a power supply company on our own and sell it later to earn some money, we wouldn't have enough money to develop Huawei. That was why we sought investment from "tertiary-industry" companies, or labor service companies, which were governed by the telecom bureaus. These companies were all under collective ownership, and they were unique to China during that specific period of history. Such companies were set up because there was no other place to go for staff that had been deemed redundant by state-owned enterprises at the time. So they were moved to these companies just to stay employed. A few years later, when the power supply company grew bigger with the raised funds, it was sold to a US company called Emerson for 750 million US dollars. That money was distributed to the staff and the company was disbanded. Actually, some of the staff wanted to continue running the company, but I said I couldn't shoulder that burden anymore, so it was disbanded.

21

Matt Murray: Mr. Ren, you've seen remarkable changes over your career. Your 5G rollout is now picking up

steam dramatically. What will we see in the world of technology in the next 10 years? What comes after 5G and how many more transformative changes lie ahead in the next decade?

Ren: I cannot imagine what society will look like in three years' time, not to mention 10 years. Not that many years back, very few people could have imagined that we would be able to use our mobile phones to browse the Internet. Steve Jobs, with his iPhone, basically changed the entire world. I think the Internet took off because the iPhone made wireless networks a reality. After 5G, I think the biggest opportunity will be centered on artificial intelligence (AI). What our society will look like is still something we cannot imagine at this point in time.

You've already had a tour of our production line. It is just a little intelligent. AI is only used in several steps along the production line. Yet still, you don't see many people. In the future, there will be even fewer people after AI is more widely deployed.

We have hired many mathematicians and doctors of mathematics for our production systems. Because of their efforts, we've seen great progress in the way we approach planning, management, and scheduling. Now, scheduling takes place in the IT system to ensure production activities are non-stop, 24/7. We also have

robots delivering materials to specific locations at given times to ensure that we can keep feeding the production line. This is constant production. That is the change we are seeing in our own environment. But we still don't know what society will look like 10 years down the road.

Currently, AI is used to its utmost in chip production. Right now, the US is still the most advanced when it comes to scale or the level of sophistication for chip fabrication.

If other industries follow suit and introduce AI to production, productivity will significantly increase. To adapt to future society, the most important job of every country is to improve the level of education.

Matt Murray: Because workers will be displaced by AI, Mr. Ren?

Ren: Yes. Or they will not be skilled or knowledgeable enough to manage AI systems.

Matt Murray: Mr. Ren, thank you very much for your generosity and for taking all our questions. I want to thank your entire team for their hospitality and all they've done. I also want to commend the interpreter who is going to have a bad hand cramp. But thank you very much for hosting us.

Ren: I would welcome you back again the same time next year to see whether we are safe and sound. You're welcome anytime.



Ren Zhengfei's German Media Roundtable

November 6, 2019 Shenzhen, China

Ren: Good to have you here at Huawei. It's a pleasure to see you all. I am more than happy to take your questions.

01 *Der Spiegel:* So, first of all, thank you very much for having us. It's a pleasure to be here. And thank you very much for taking an entire hour for us. We appreciate it a lot. Maybe I'll start with something about these surroundings that intrigued me when I came in here. In the hallway with the staircase leading up to this room, you have a large oil painting of the coronation of Napoleon, the French Emperor. And in the back there's a large photo of the reenactment of the battle of Waterloo that basically is the demise of Napoleon. That brings me to ask: Is Huawei a rising or falling empire? And are you at war?

Ren: Those two paintings don't have anything to do with the situation Huawei faces today. They are just works of art for decoration. I saw the painting for the 200th anniversary of the Battle of Waterloo in a Belgium museum. I found it striking and bought it for decoration here. The coronation painting is a work by a family member of one of our employees, who took four years to finish it. He gave it to me as a gift and wanted me to hang it in my house. But my house isn't big enough for a painting like this. So he instead gifted it to the

company and we hung it here. These paintings do not have anything to do with our current business situation.

***Der Spiegel:* Just one follow-up. So, how would you describe the situation that Huawei is in currently? Would you describe it as a war? Because the term trade war is being tossed around a lot. And if not, how would you describe the situation the company is in at the moment?**

Ren: I would say Huawei's growth is like an exponential curve, an upward spiral. Overall, its current development is very healthy.

02

***ZDF:* I want to show you the picture, and I don't want to focus too much on simplification, but I want to show you a picture which I found on the campus. This is your picture from your company, if you can take a look. This is an old warplane during World War II which took many hits. Why did you choose this kind of picture to symbolize the situation of your company right now?**

Ren: I just happened to see this photo online after Huawei was added to the Entity List. As you can see, the plane in the photo is riddled with bullet holes, but is still flying. I feel as though Huawei is currently in a similar situation. We have also been riddled with numerous "bullet holes", but we are still hanging in there and our

airplane is still flying. We are working very hard to patch up the "holes" in our business so that our plane can continue flying and make it home safely.

We have brought together many scientists and experts responsible for working on Huawei's long-term development over the next five to ten years to patch up the "holes" in our business. We are patching up those "holes" in order to survive rather than lead the world.

We have fixed most of the "holes" in our business, so our plane is still flying. However, there are still some important "holes" that will take us the next two or three years to fully patch up. We have put together thousands of scientists, experts, and engineers who are working hard to fix those holes. I believe we can accomplish that task and turn our broken plane into a brand-new plane over the next two to three years.

ZDF: Just one more question, sir, who is shooting at you? Are these Americans who are shooting at your company?

Ren: Yes, the US government is shooting at us.

ZDF: The Americans are shooting? In which way?

Ren: They are shooting at us by adopting various means, such as adding Huawei to the Entity List and banning us from buying and using US components and software.

03

***DPA:* The German government is debating right now if Huawei should take part in the construction of the country's 5G network. Some politicians still have doubts and say Huawei may not be trustworthy because they could pass on information, or could be forced to pass on information to the Chinese government. How do you respond to those fears?**

Ren: The catalog of security requirements recently released by the German government raises the bar on the security of 5G vendors, and equally applies to all vendors. We strongly support this approach. Facts must be used to prove vendors' security and reliability. The German government will perform evaluations, in which Huawei will happily be an active participant.

***DPA:* The Foreign Minister Heiko Maas has cast doubts that this catalog is inadequate, so the discussions seem to be not ended. And at the moment, there are many fears about Huawei. How could you stop those fears?**

Ren: We should leave that discussion to politicians. As a technology provider, our responsibility is to make good products. We are not in a position and don't have the capacity to engage in political discussions. We believe that the German government will make policies that best serve the interests of the German people.

***DPA:* Can you ensure you won't pass on information to the Chinese government?**

Ren: We can, absolutely. We will sign a "no backdoor" agreement with the German government, representing our promise to Germany.

04 DvH Medien GmbH: You offered Europe that you would like to work together with Europe. Why did you offer this? Because you're so strong already. Or to put the question in a wider perspective, how important are the Western countries still for your business?

Ren: We certainly want to sell our products around the world. The more products we sell, the more profit we can make. We have to offset our R&D costs and other costs, and we need sizable markets. Europe, Africa, the Middle East, and others are all our target markets, and we should actively serve people in these markets. The African market is challenging because we cannot make much money there, but we are still striving to serve Africa.

We believe that the German government will make policies that serve the interests of the German people. We also believe that Germany can make the best decisions based on facts, evidence, and full discussions.

If a small number of European countries decide not to choose us, we won't have any issues with them and will simply stop selling in these markets.

DvH Medien GmbH: Why do you want to work together with Germany and Europe in the area of research and development? You're strong already.

Ren: We are in an age of globalization and openness. Closing ourselves off won't lead to success. We are working with European scientists to research future-proof products. We also help Europe develop its software, applications, and industry capabilities. We should collaborate to contribute to an intelligent world. Have you visited our production lines? We use software made by Siemens, Bosch, and Dassault in our production lines, and most of our production equipment was made by Germany and Japan.

DvH Medien GmbH: Is the software good?

Ren: It's pretty good. We increased our production efficiency by integrating our AI technology with the software we got from Siemens, Bosch, and Dassault. We are open, not only to researching new products in Europe, but also to providing services to Europe. For example, Huawei has the most advanced AI-backed autonomous driving and intelligent car technologies, and we are willing to work more closely with European companies in this area. When it comes to intelligent computing in vehicles, we can collaborate with them on every aspect of this field, or just on a few targeted aspects, like specifically on chips. We want to grow

together with European companies, so we will contribute more to Europe.

DvH Medien GmbH: Why are you so strong in autonomous driving?

Ren: Since the very beginning, we have designed our chips based on level-4 autonomous driving standards. Europe, Japan, and China all followed the same standards, while the US adopted different standards. Huawei is a leader in terms of intelligent computing, so we are strong in autonomous driving.

05 ***ARD German Radio: A lot of the questions regarding Huawei in the past weeks in Germany have been not only dealing with technical details, but also with the question of trust and with the rule of law. Do you understand that in Germany there are more and more politicians who doubt that the level of rule of law in China is not equal to the level of rule of law in Germany and that's why there is a lack of trust towards companies from China?***

Ren: If people make political judgments simply based on the country or region a business comes from, how can they tell who their friends are? How can they tell which countries are the most credible ones? The US? They don't offer products equivalent to ours. Germany should be one of those most trusted countries. But

if Germany is the only country that is being trusted, how will German companies be able to go global? All companies want to go global, but they have to subject themselves to the choices made by global customers and assessments by world governments. They need to hear critical voices. Ultimately, countries and carriers will make independent choices in line with their own interests.

ARD German Radio: Just a follow-up, do you think that China and Europe are comparable when it comes to the level of rule of law? Because this is actually the main debate right now in Germany and this might be the reason for the decision in whichever way for your company.

Ren: China is making progress every day in terms of the rule of law and is advancing the rule of law and the market economy. Some may argue that China is not doing enough to promote the rule of law and therefore we should not allow Huawei products to be sold in our country. But if you are selling your cars to a country that you think is not doing good enough in terms of the rule of law, doesn't that suggest that you support the status quo in that country?

We should come together and try to reach a consensus on an approach that benefits us all. The most important thing for a company is to abide by the laws

and regulations in countries where it operates.

ARD German Radio: Is there a danger that Huawei will pull its investment out of Germany if the decision is not in your interests?

Ren: We will not pull out our investment, because investment has nothing to do with sales. If you say our products don't meet your requirements and thus you won't buy from us, we can choose not to sell. We won't take it personally.

Even though the Canadian government has, at the request of the US government, detained a member of my family, I don't bear a grudge against Canada, nor have we cut our investment there. This year, we have invested heavily in Canada. We have hired more than 200 additional scientists and experts to work at our facilities in Canada. We want to help Canada develop into an innovation hub, like Silicon Valley.

People in Canada and the US have a shared heritage and similar lifestyles, and they're geographically close to each other. So it is easier for Canada to attract some of their friends to join in with their innovation. In addition, many scientists cannot get a US visa. In this case, many international conferences can be held in Canada instead. When sufficient conferences are held in Canada, innovation there will boil over.

We separate our personal emotions from corporate

development. Even if Huawei is not selected to build 5G networks in Germany, it won't affect our development in the country. At the moment, we are in the process of building a large industrial campus of around one million square meters on our Songshan Lake campus. We will buy a lot of industrial equipment from both Japan and Germany to expand our production capacity for the next year. If we don't consider our own business interests, but only consider political interests, that would be too naïve.

The way I see it, Germany really needs Huawei, technically. This is because artificial intelligence is extremely important to Germany's Industry 4.0 initiative. The precision manufacturing industry in Germany relies on data transmission systems that have a high bandwidth and low latency. That is an area where Huawei is unrivaled, and I believe customers know that and they will choose us.

***DvH Medien GmbH:* But you shouldn't buy from Japan. You'll get a better price elsewhere.**

Ren: Not necessarily. Japan is our strategic partner. Why not buy from them? The Japanese approach to management is different from what you have in Germany. In Germany, people are very confident. They test products only at the end of the manufacturing process. But in Japan, people are meticulous. They conduct a test at almost every step of the manufacturing

process. That's why we have built one factory in Weilheim, Germany and one in Funabashi, Japan. These two factories can help us combine the strengths of both Japan and Germany and make high-quality products. Then it will be impossible that customers don't buy from us.

The challenge for Huawei, though, is that we may not have enough capacity to meet customer demand. That's why we are asking our customers in China to buy less from us at this time, so that we will have enough capacity to supply international customers. As you know, it takes time to expand the production capacity of new products.

DvH Medien GmbH: How do you convince them to buy less? That's very difficult.

Ren: It is difficult to persuade them, but there's no other choice. We don't have enough capacity to meet customer demand. In a few days, China's Double 11 Shopping Festival is going to start, so I advised our Consumer Business Group to further reduce the price of our devices to lower our profits. Our profits for this year are already very high. The Consumer Business Group's CEO agreed but their supply chain department didn't. They said they had only prepared to sell 10 million units during this festival. If the price was further reduced, then demand would soar. If we can't deliver the devices

to consumers, then we are just offering them empty promises.

DvH Medien GmbH: Big problems.

06 TAZ: Recently there were some positive signals from the Trump administration to try to de-escalate the trade war and reach the first steps towards a pre-trade agreement with China. What kind of hopes does Mr. Ren have if that deal should be achieved? Could that help fix the holes of Huawei?

Ren: We almost have no sales in the US, so the trade talks between China and the US have nothing to do with us. I don't pay attention to the news about it, so I am not able to answer this question.

In addition, we can solve our supply issue without relying on the US. We will survive even if the US keeps us on the Entity List. I don't know if you took any photos when you visited our exhibition halls. When the Associated Press came here, we allowed them to take pictures of every one of our circuit boards. There is not a single US component or chip on them now. Adding us to the Entity List has not harmed us, but it has harmed US companies. They can keep us on the list or remove us as they like. But they should make that decision based on the interests of US companies. They don't need to take us into account.

07 *ARD German Radio:* How is your daughter doing in Vancouver? And how often do you talk to her?

Ren: I don't talk to her over the phone very often. Her mother is with her, and I think she is doing well. She is in good spirits, and she's very strong. I believe she will be able to ride this out.

08 *ARD German Radio:* You must have a special relationship with Europe because the environment we are currently sitting in is totally European. Even the porcelain is from Germany. There is also Chinese porcelain. Why do you like this?

Ren: I also have wine glasses, as well as hard knives and forks from Germany. I once said that if there were no labor laws in Germany, all knives and forks in the world might have been made in Germany. With artificial intelligence, Germany will be able to shake off the constraints of labor laws, and embrace explosive growth in the future.

09 *Der Spiegel:* You have a very good sense of humor, but I would like to move to a more serious area of what you said previously, because supply is a problem. I understand that the US is not an important market for you in terms of selling, but it's an important market in

terms of sourcing. I would like to know how Huawei plans to overcome the shortage in sourcing and especially the problems with Google and Android.

Ren: I can tell you for sure that Huawei will continue its rapid growth even without US supplies. But Huawei will always be willing to work with US companies. We will always embrace globalization. We will never close ourselves off from the rest of the world and seek independent innovation or self-reliance.

10 *Der Spiegel:* **How do you want to deal with the fact that you may not be able to access Google products or the Google Play Store within 14 days? I understand that you're developing your own operating system, but it's a huge environment and infrastructure, so it will take time to set that up. How do you plan to bridge that gap?**

Ren: We'll see on November 20. You're welcome to come back and interview me again then.

11 *ZDF:* **I want to ask you a personal question. I have read a little bit about you and you're clearly the embodiment of the rise of China. You grew up in an average family. You were hungry and you didn't have enough money. And now you're sitting here and you**

really have made it. In many ways, it's just like how China has risen to become a superpower. So let's look at Europe. You're talking about your wonderful products that nobody else can produce and saying how essential these products are. Then you have these dishes from Europe, knives from Germany, and these kinds of museums which only have cultural things, but you don't have any high-tech products from Europe. If you look at Europe and Germany maybe, do you have some feelings that Europe, compared to China, is a continent which is in decline, and China is a continent which is rising to become a superpower?

Ren: Actually, many high-tech products come from Europe, but many of them are not out in plain view. For example, we use SAP software in our human resource management. We also use software from Siemens, Bosch, and Dassault in our product design, manufacturing, and supply systems. So we certainly have used lots of advanced high-tech products from Europe. Besides, in our devices, we have applied much mathematical, physical, chemical, and aesthetical knowledge from France, Germany, Italy, and other European countries. So we do use a lot of high-tech products from Europe.

Europe may need to change some of its business rules. Europe should be bolder in selling its products

to China. Will Europe and China go to war? Of course not. Then why is Europe still sticking to the old rules of economic blockade? Since the US doesn't sell these products to us, it's a great opportunity for Europe to rise. Why don't you seize this opportunity and fill the gap left by the US?

Since we have enormous demand for chips, why can't Europe make a big investment in advanced chip manufacturing? Why don't you make more money when you have the opportunity? Europe has some big chip manufacturers. If you increase investment in chip manufacturing, Huawei will certainly buy more. But of course, Europe needs to ensure that no more than 25% of investment in this area comes from the US; otherwise, you'll be subject to US rules. If you don't want investments from China, you can turn to the Middle East.

Clearly, ICT adoption is accelerating, but we may not have the capacity to meet the rising demands. I hope to see European companies like Infineon, NXP Semiconductors, and STMicroelectronics invest more to increase their production capacity. Chip production equipment is also made in Europe, and you can try to persuade these European companies to invest more in building new factories. If they don't have enough money, we can make advanced payments to support their development.

Opportunity is rare, and once it appears, European companies should seize it to speed up their development. If they miss out on this opportunity, they may fall behind.

12 *DvH Medien GmbH: What are the differences between Western enterprises and Chinese enterprises? Are there any?*

Ren: Western companies are more outstanding. Germany and Switzerland are bywords for quality, but Chinese companies don't have that kind of brand influence yet.

DvH Medien GmbH: Except Huawei.

Ren: Even Huawei is not there yet.

13 *Der Spiegel: The numbers that you published in mid-October for the first nine months of the year were excellent. Your business revenue was up almost 25%. How did you pull that off despite the global economic conditions as they are?*

Ren: Our growth rate already dropped to 17% in October. We have achieved growth this year because all our employees have a sense of urgency, and we have been working harder than ever before to row our boat to increase revenue and profits.

14 ZDF: What I've learned after coming to Huawei is that it seems like Huawei is always considered part of national pride. The Chinese are buying more Huawei smartphones to support the company during these very hard times of the trade war. My question is, if the political decision is to reject Huawei, will there be repercussions on German cars and other industries, just like the Chinese government has done before? What are people's feelings about that?

Ren: First, I've already criticized some of our staff, asking them not to take advantage of Chinese consumers' enthusiasm for Huawei. We should continue to be customer-centric and give top priority to improving customer experience. Second, will there be repercussions on the automotive industry, whether it be for German or Japanese cars? I think facts speak for themselves. There are numerous German and Japanese cars still on the road in China.



A Coffee with Ren III: Digital Sovereignty, From Words To Action

November 6, 2019 Shenzhen, China

Stephen Engle: Good afternoon, friends. My name is Stephen Engle. I am Chief North Asia Correspondent for Bloomberg Television. And thank you very much for joining us for this Coffee with Ren. Again, we also welcome the international media, domestic media, and also some invited guests from various parts of the world. We'd also like to welcome to this simulcast, Bloomberg users who are on live-go on the Bloomberg terminal and who will be listening around the world to this in-depth conversation, with Ren Zhengfei and the others here on the panel.

Let me introduce them before we get into it. Here on my left we have Kishore Mahbubani. He is the former President of the United Nations Security Council. He is also the founding dean of the Lee Kuan Yew School of Public Policy at the National University of Singapore, and he was with the Singapore Foreign Service for 33 years. Thank you very much for joining us, Kishore. Also Detlef Zuehlke, he is known as the spiritual father of the Smart Factory. Like to know a little bit more about what a spiritual father is of a smart factory. Many years I believe as well at Lufthansa, the German airline. He is also a professor emeritus of the Technical University of Kaiserslautern and the retired director of the German Research Center for Artificial Intelligence at Kaiserslautern. And of course, Ren Zhengfei, the CEO and founder of Huawei Technologies, and to his left, Liu

Fei, head of 5G security research at Huawei, a scientist here for security at Huawei.

Now we are finally in the digital age, and 5G is finally upon us with China, just at the beginning of this month officially launching commercial services, and the world shall soon follow. 5G is definitely here. So my car and my coffee maker can finally talk to each other.

Billions of devices are going to be able to talk to each other. It's a platform in which commerce of the 21st century and beyond is going to be built, and, of course, we all know the geopolitical battle lines are going to be drawn if they have not already been drawn. Now as I've been promising, we can talk about every subject today for the next hour and a half. So, I want to invite all of you, when I open up the floor to questions, to please raise your hand and ask a question to our distinguished panelists. They are here for all of you.

01 Stephen Engle: Now the US-China trade war of course is not just about soybeans and saving face. It raises many questions about sovereignty, digital sovereignty, which is the title of this panel, as well as survival. We have to decide who is going to survive, who is not going to, right? My first question to all of the panelists, and firstly, to Mr. Ren – what's most at stake in this new digital battleground?



Ren: I think the digital economy will definitely go global, because there aren't any geographical borders to restrict its development. This trend of globalization is irreversible, and there is no way to split up the global digital economy. Only through globalization can the digital economy create wealth. Only through globalization can we find a way to monetize the digital economy. Looking ahead, the digital society will grow faster and be bigger than the industrial society.

By that time, people will hold all different kinds of views. Standpoints will vary from country to country, from group to group. This is understandable. It will be impossible for us to predict the future development of an emerging technology, so there will definitely be disagreement in this regard. The breadth, depth, or brilliance of an emerging technology will be completely beyond our imagination. For example, when the train

was invented, there was suspicion surrounding it. But how the train itself would develop was still predictable.

To us, how will this information society evolve in the future? It is beyond our wildest imagination, particularly with the emergence of artificial intelligence (AI). This concept was proposed some 70 or 80 years ago. But why had it never been intensively applied until today? It's because we still don't have the underlying infrastructure in place yet. Such infrastructure includes supercomputers, ultra-large storage, and super-fast connections. Fiber has managed to connect the whole world, but fiber connections are not all that convenient. The emergence of 5G might accelerate AI's application and penetration. What will happen when AI is applied extensively? It's totally beyond my imagination. But I believe one thing is for sure: It will greatly boost productivity and help people create more wealth for the global community.

But of course, it will cause some problems, and some people have brought up problems such as how AI will replace jobs. But as long as we are able to increase the total wealth of a society, it will be beneficial to the society as a whole. A lot of these problems have solutions, and the problem of how to fairly distribute digital wealth to different countries is also something that can be addressed.

Today, the whole world is talking about these problems. Here at Huawei, we are also exploring

solutions. As we still don't have an answer for this question, we have invited two gurus here today to share their views with us. I myself don't have deep insights into technology, so I've brought an assistant with me today. This scientist will use her expertise to help me answer some sophisticated questions about technology. Thank you.

02 Stephen Engle: Detlef, maybe I can come to you. Ren Zhengfei talked about increased productivity. You are an expert in automation in factories and smart factories. Can you quantify how much more productive this world is going to be? And who's going to be possibly left behind?

Detlef Zühlke: Well, first of all, I cannot really quantify it. It's too early to bring numbers for a value here. But you're absolutely right. The world is changing in that sense. There are several views on this topic. On the one hand, some people say, "Well, 5G is as fast as 4G." Why is there so much trouble surrounding it? The more important view is that we have completely new challenges with 5G, because we now have the ability to send a lot of data with a low latency back and forth, and this offers us a high degree of mobility. So, our future systems will become more and more mobile. And this is not only true for our private lives, including for riding our

bicycles, driving, or whatever else, but more for factories.

5G is now a game-changer for industry. This makes it on the one hand interesting for industry; on the other hand, it brings a possible vulnerability against threats from the outside. And this is why we have this talk here and we have several problems around the world addressing this. And I think it's very important that we have a deep discussion on this and finally, we end up with trust, so that everyone is happy with this new technology and can use it.

03 Stephen Engle: Kishore, from a former diplomat's perspective, is there a huge trust deficit right now globally, which is exacerbated by the uncertainty that the trade war has caused and uncertainties surrounding the prospect of security violations, potentially in 5G?

Kishore Mahbubani: Yes, there's a trust deficit, but the question is why. And here, there is a very remarkable coincidence. On the one hand, clearly we're seeing this remarkable technology arrive on the scene. 5G is going to transform the world, improving the human condition. But it arrives at a moment of history where we're entering a tremendous new geopolitical contest between the world's number one power, which today is the United States of America, and the world's number

one emerging power, which is China. And as we know, this is a theme that stretches back thousands of years. Whenever an emerging power is about to become bigger than the number one power, there's a moment of extreme tension. We are walking towards that.

And in some ways, Huawei has become an accidental victim. It's caught in the crossfire between these two great powers. And while in theory, we should be rushing to embrace this new technology, this distrust between the two powers means that whenever China puts forward something that's positive, the US will see it as negative. And that's why, as you know, a major campaign has been launched against Huawei. It's a bit sad, because the world may be deprived of the wonders of this new technology, because of these geopolitical competition. But I hope, after our discussion today, we will try to find ways and means of building more trust between these two powers, so that at the end of the day, new technologies like the one being produced here today at Huawei can actually continue to help the world improve.

04

Stephen Engle: Liu Fei, you're a scientist. You are an expert on security. Are those fears unwarranted? There are many worries that too few carriers and too few vendors have channels that basically move all

of our data and all of our sensitive information and, potentially, put sovereign nations at risk.

Liu Fei: I agree with you. We only have a few carriers and vendors out there and still have a huge responsibility to guarantee the security of data, hardware, and software. So this is a very difficult task. But we are only one part of the telecom value chain. We only provide equipment. The whole industry needs to fully comply with the regulatory requirements of every country and be able to meet the needs of users.

The security of the whole network goes both from end to end and throughout the lifecycle. We are doing our job to ensure security every day. As security researchers, this is what we do every day to achieve higher levels of security.

05 Stephen Engle: We all promised that we would get right to the heart of the matter. We are going to do that. I have to put out a disclaimer as the only American on this panel. Bloomberg Television and Bloomberg are impartial, so my questions are not born of any bias. I have to ask directly about some of the accusations that the United States and others have made against Huawei and potential backdoors and security threats. Mr. Ren, can you again categorically deny that there are any built-in loopholes or backdoors

in your equipment? You told me I can ask you anything.

Ren: Yes, please feel free to ask me anything. Information security will always be a very important issue. As long as there is information, this issue will exist. But information security is a relative rather than an absolute concept. For example, currently it would take a supercomputer hundreds of thousands of years to crack the most secure encryption key in the world. However, when a quantum computer is developed, this will be doable in a matter of seconds.

Many people are commending blockchain as a great technology, but its encryption may be quickly cracked by quantum computers. If there are counterfeit banknotes, their impact would be 100 euros or US dollars or several hundred euros or US dollars. But with digital currency fraud, the amount that will be at stake is unknown. It could amount to billions of dollars.

Information security and encryption issues will be around for a long time. Can we address these issues using technology? I think, ultimately, they need to be addressed with laws and regulations. We all know that fake banknotes cannot widely circulate in the market. Why? Because people who use them will get caught. The police will track down the sources, and the people who make them will be put in prison. So fake banknotes

won't widely circulate in the market since the law prevents this from happening, and we can feel good about the security of banknotes. Information security is a technical issue, but we also need to rely on the law instead of technology to ensure information security. I don't think we should blame all of our security issues on technology, just like carmakers should not have to take the blame for car crashes.

Huawei is just an equipment manufacturer, and it's our responsibility to make sure that what we produce and sell is secure. We can make this commitment to governments around the world. However, just like selling cars, after our equipment is sold to carriers, it's the carriers who manage the data on their equipment, and the data must be managed in strict accordance with the laws of relevant sovereign states. We abide by all of the laws of the countries where we operate. This is how we ensure information is secure and reliable. At Huawei, we have two responsibilities. First, we will never do anything that is out of line. Second, we support the oversight of all governments in regards to security.

06 Stephen Engle: How do we then reconcile the fact that there are concerns out there? Whether it's Chinese or American concerns about trustworthiness. I know the German government is looking at their security catalog

and possibly putting in a test of trustworthiness. Is that necessary? Or is that imperative because of the amount of data that is being transferred around the world and will be transferred around the world? Data is now said to be the new oil, so it's sensitive and there are sovereignty issues.

Detlef Zuehlke: You are absolutely right. I think we are discussing all these because we recognize the value of data. This is why we look for security issues in that specific case. On the other side, I think we are looking now into the future and we see just one side of the problem. We always had security problems. We have security problems each day, with Windows, for example, and with browsers. So, one can attack all systems already and especially those hackers from states around the world which are highly equipped with knowledge to intrude our systems. So, what we're discussing here is just to ease or just to prevent such security problems from a new technology coming up. This is necessary but also I think in the future we will always have to face this situation that somebody tries to get into the systems – not only related to the Huawei equipment but to the complete system of hard- and software and everything else that is there. So, we should always see the complete system when we want to improve the security of the system.

On the other side, we now address new application fields where the vulnerability is much higher and perhaps much more dangerous. Like in autonomous cars or in telemedicine applications, for example, we require a much higher level of security than perhaps just when exchanging personal data with Google or Facebook or something like this. So, this is why we must have this discussion and this is also why we have to have these rules which we developed in Germany, and which hopefully would be also applied all over Europe.

So, let's wait for it. I think this will help us to develop trust into this technology. But trust also needs checking the compliance with the rules given permanently.

Stephen Engle: Kishore, do you believe that there needs to be and it's possible to create global standards?

Kishore Mahbubani: Yes, but I think it's important to understand that this is not a technical discussion. What we're having is a political discussion. And, for example, you're right, there have been allegations that Huawei, through its equipment, is creating a backdoor, and through the backdoor, the Chinese intelligence agencies can go in and gather information. That's one allegation that is made. Like you, I'll try to be fair to both America and China, and it's also a fact, we know this, and what's known to us all is this: The National Security Agency of the United States can listen to every phone conversation

in the world. It's public information now.

So, clearly you have, you know, not just one power that may be spying on countries, lots and lots of powers are spying. So, if at the end of the day, that's the core issue, then frankly, the best way to resolve this is not to have a headlong clash between the United States and China, which is what's happening now. We should try to have a kind of global discussion. And I, as you know, having served as ambassador to the UN for 10 years, actually believe that multilateral rules and processes are the best way to resolve this, and the best way is to engage the whole world in the discussion. Because the whole world, all 7.5 billion people, are going to be affected by these rules and regulations and the consequences.

I want to mention here that I believe actually that Europe has a very critical role to play here, because Europe has got the advantage, on the one hand, of clearly being trusted by the United States, as many European states are allies of the United States. But on the other hand, Europe is big enough and strong enough to, in a sense, pass independent judgments. I'm actually quite impressed that even though Australia and New Zealand have all joined the United States and said "no, no, no" to Huawei, Germany is still open and Germany is saying "yes, let's see whether this can work or not." But if we can all agree on a set of rules on what

we can or cannot do with this technology, let's all abide by these rules and we'll have a better world. I think it can be done.

But at the same time, there's one hitch about multilateral rules. It ties all countries, including the most powerful countries like America and China. They have to be bound by these multilateral rules too. That's why the United States is a bit wary of these multilateral rules and processes. Even though I actually believe that it would be in the long-term interest of the United States to strengthen these multilateral rules.

Stephen Engle: We've seen the undermining of these multilateral bodies, whether it is the World Trade Organization or others, by current administrations, which shall go nameless. But the end result of this kind of protectionist or super competitiveness in 5G is a bifurcation of the next evolution of the Internet. You can have a Western Internet, and you can have a Chinese Internet. But it's very difficult to establish a global body for privacy, standards, and data protection. Would you agree?

Liu Fei: I think we cannot allow a bifurcation of the Internet. Global standards are very important. During the process of data flows, we need to have the same protocols. But different services have different requirements. This is like you and me, who have different

tastes when it comes to food, houses, or colors. So, we cannot make unified standards for all applications. The same is true for security. We need to make connections secure based on global standards, but we can provide diversified and personalized security solutions for different service scenarios.

07

Stephen Engle: Mr. Ren, some in Europe, including under this *GDPR*, General Data Protection Regulation that was enacted in May 2018, seem to be calling to avoid monoculturalism on equipment purchases, on gear. So, not to put all the eggs in one basket, or have one particular vendor, because that could occur, even if it's not currently a fact, there is at least the perception that there could be malfeasance going on. What are your main strategies when you're trying to sell gear to a particular country and they are saying, "No. We're going to buy from many different vendors, not one," even though you might be the cheapest?

Ren: We believe the German government and parliament will choose the policies that are best for the German public. We also believe Germany will discuss and analyze the situation based on facts and evidence, and make significant decisions that are in the country's own best interests. We understand that the German government wants multiple vendors to participate in

network construction. If there was a wall built with bricks that came from multiple countries like the US, Japan, China, and some Arab countries, and those bricks made by different countries were placed in parallel to thicken the wall, then if an attack destroyed a brick, it might not be able to destroy another brick behind it, and the wall wouldn't be brought down. This is why I support the German system favoring multiple vendors. It helps ensure cyber security.

Germany has released their proposal concerning digital sovereignty. I think the proposal is reasonable. When something new emerges, there is always someone who is the first to figure it out. We believe we live in an open society, but certain protections are required. Germany has proposed that data should remain within national borders and proposed this idea of digital sovereignty.

In the past, we focused on physical boundaries, or what we call borders. Anything inside those borders, the land, the crops on the land, and mines below, they all belong to owners inside those borders. However, unlike physical assets, digital assets aren't bound by borders. Therefore, how will we allocate these digital assets? How will we determine which country should or should not benefit from them, and exactly how much each country should benefit? We need to discuss these issues. Discussion doesn't push us backward. We should

work together on these issues. Germany has proposed a solution that treats multiple vendors equally. This morning, Professor Zuehlke told me that security means following rules. I was impressed. We operate in different countries, and we need to comply with regulations in those countries. Different countries have different regulations, and compliance is a must wherever we operate. Otherwise, we wouldn't have survived.

Germany has proposed an information network jointly built by multiple vendors, and that sovereign states should have the right to manage the information in that network. I agree with this idea.

08

Stephen Engle: In the six months or so since the blacklist was released, how have you adapted and built your business and not necessarily relied on the United States?

Ren: First of all, I would like to extend our gratitude to our US suppliers for their support and help over the past 30 years. We wouldn't have achieved what we have today without them. We are always willing to work with US suppliers to explore the future and serve humanity. We will always embrace globalization.

We are able to survive on our own even if US suppliers are not allowed to supply us because of the Entity List. We don't want to operate this way though,

relying on only ourselves to survive. I don't support completely independent innovation or complete self-reliance. Given the current situation, we have to rely on ourselves, but this is just a short-term measure, not a long-term policy. Currently we don't see any problem in our development. I suggest we all meet again next year, and then we will be able to see whether Huawei is truly robust.

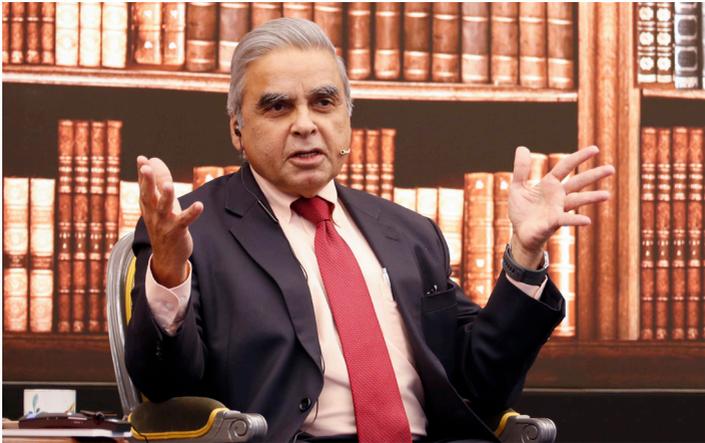
During the first half of this year, we hadn't been subject to any sanctions, so of course we developed fast. Because of that foundation, we continued developing well even after the sanctions were imposed. At this point, we have basically finished our transition to different product versions that don't need US components. Next year will be our first complete year under US sanctions. If Huawei continues developing well over the course of the next year, it proves that we've overcome the risks and survived. Of course we want to remain a world leader in our field in the next three to five years, but we just haven't got a theoretical foundation powerful enough to ensure that. We are still adjusting and improving our capabilities. We hope we can still be a leader in the future.

The US sanctions have taught us a lesson and reminded us that we can't be complacent, and that we must work hard. After we doubled our efforts, we eventually found that our revenue and profits grew more

than we had expected. We will make some reasonable adjustments so that our development will be more stable in the future.

Kishore Mahbubani: The decision on the Entity List you could say was a technical decision, but it was more of a political decision, wasn't it? As you know, I just finished a book on US-China relations.

Stephen Engle: *This one Has the West Lost It?*



Kishore Mahbubani: No, no, no, that's my previous book. And the next one is *Has China Won?* The decision to put Huawei on the Entity List was part of a broader, in a sense, geopolitical decision that was made by the United States. "China is becoming too strong too quickly, and we should find ways and means to slow down China's rise." And there are some people in Washington, D.C., some policymakers, who genuinely believe that the

best way to slow China's growth down is to have a kind of decoupling between the US and Chinese economies, because if you have a decoupling, the US, the stronger economy, will keep growing, and China, the weaker economy, will go down. That's the strategic calculations, I think, behind the Entity List. But I think those people who made that decision are very unwise. It's hard to imagine, if you look at where China has come from. In 1980, in purchasing power parity (PPP) terms, at that time, China's GNP was 10% that of the US. Today in PPP terms, its GNP is bigger than that of the United States. So, having come such a long way, it's hard to believe that because you created an Entity List, China's growth is going to slow down. So, I think that was a strategic mistake on the part of policymakers in Washington, D.C. That's why I think they should reconsider their strategy, and ask themselves, "What is really going to work in this new world? Will isolating China work? Or will cooperating with China work?"

Another critical thing is this: The rest of the world isn't going to be passive bystanders. They'll do their own calculations of what's in their interests. We toured Huawei laboratory this morning. There are amazing breakthroughs. The rest of the world wants to embrace them. I can't imagine the rest of the world walking away from Huawei or walking away from China because of a geopolitical decision made in Washington, D.C. That's

why I hope through a discussion like this, people in Washington, D.C. will begin to think again. "Is it wise to adopt this strategy? Why not try something else?"

Stephen Engle: You seem to be dismissing the security concerns.

Kishore Mahbubani: Well, there may be security concerns, but why not discuss them openly? My understanding is that Huawei is ready to talk to the US and say, "Okay, come to tell me what your concerns are and what can be done." And why not, in a sense, have a three-way discussion between Europe, Huawei, and the United States? Then we can try to figure out what the real concerns are and what can be met. But remember my earlier point, we do know that the United States is also picking up all of the information. So it's not just the Chinese. The question is, why don't we agree on a common set of rules which will restrain all countries, including China and United States, equally?

09 Stephen Engle: We'll talk about surveillance capitalism. It's already happening in the United States, whether it's Google or Microsoft mining your data. You tick the box that you allow them to collect your data. Where is that data and how is that data used? You lose your individual digital sovereignty. But on the security front, I want to bring you back in, Detlef and Liu.

When we're talking about the robustness of security in building, say, factories, we know 5G will create this platform for critical industries to communicate and to be more efficient, whether it's energy, transportation, banking, or other very critical sovereign interest industries. When you say setting up a smart factory on a 5G network in a critical industry, how do you make it safe?

Detlef Zuehlke: Look into our airplanes. You need redundancy to reduce risk. So this is I think the only way how you can convince people of real security in high risk systems. So you will use 5G for primary communications, but you may have perhaps other technologies like cables as a redundancy. Nevertheless, also when you use cables you will face the same problems, because you will always have the possibility of having security leaks somewhere.

We have learned how to deal with all these risks over the last couple of years. We have to accept that we will never have 100% security, and I'm pretty sure that we will also not have 100% security in the future. But we have to gather experiences with these new technologies. Now we're just at the edge of introducing 5G. I think, perhaps in two or three years, we'll have much more confidence about the level of security of the system. Not at 5G itself but in the complete environment of a factory, for example. And finally as I said already, we also need

trust, we need rules, and we need confidence when we collaborate.

So, we have a very close collaboration for years already with Huawei in Germany, especially with their research lab in Munich. They do research in Germany. They send us their newest versions of their software and equipment, for example, so that we can test them in our factory testbed. By such an intensive collaboration we develop trust. And based on this trust we can make our decisions in the future and support the decisions of our industrial partners as well. I think this is very important. Not just ban one company and say "this one is bad and the other is good", but really try to develop trust in the network of partners. I think this is one of the major advantages of our smart factory network with our 53 partners.

Stephen Engle: Liu, from a security perspective, how do you generate that trust through verification and, you know, also opening up your equipment, whether it's open source, to show that there are no backdoors, and that your equipment cannot be hacked by other parties.

Liu Fei: All vendors are subject to equipment verifications, not just Huawei. Take Common Criteria, or CC, for example. It has set different security levels, and each of the levels is clearly defined with regards to how to

conduct evaluations and security audits at both the code and process levels. For production processes, for example, there are higher level security checks such as penetration testing. So the security requirements vary with each security level.

For example, the security level of the SIM card in your mobile phone can be EAL4+ or EAL5, which are high security levels. If carriers purchase SIM cards that reach EAL5 or even higher security level, subscribers like us won't need to worry about our SIM card being cloned. Even if it is stolen, our personal data won't leak. There are different levels of security, depending on what security level vendors need for their products and services. Nevertheless, all vendors need to pass verifications. In addition to CC, there are new security review schemes in the telecom industry such as GSMA's Network Equipment Security Assurance Scheme (NESAS) and 3GPP's SeCurity Assurance Specifications (SCAS). All equipment vendors must pass relevant verifications or reviews as long as users demand it.

10 Stephen Engle: Ren, can you talk a little bit about the consumer side of the business and where you hope to take that business? I know you're going to have a folding phone coming out momentarily if that hasn't already hit the market. As part of this blacklist, your

Mate 30 newest phone can't have the Google suite of applications. How does that affect your sales globally? And how does that spur you to do more R&D into your own operating system, HarmonyOS?

Ren: It will definitely have an impact on us. Huawei and Google have an agreement, under which we have been working together to create a global ecosystem. Being cut off from US suppliers does have an impact on us, but our smartphones have other functions. There are many other features that are also valued by consumers. Though Google Mobile Services are not pre-installed in our Mate 30 smartphones, we have still sold these phones in large numbers. This shows that consumers value what we offer. The Entity List will have a greater impact on our overseas markets and we surely will see a certain degree of decline in our business there.

In order to fight back, we have brought together thousands of outstanding scientists, experts, and engineers who were originally tasked with exploring the future of our world. They are now fixing the holes in our bullet-riddled airplane to restore our competitive position. We are still working hard on that.

Stephen Engle: Your president of corporate strategy told Bloomberg yesterday that your smartphone shipments in 2020 will grow 20% and that you could get up to 50% of the market share domestically in

China for smartphones. Is this evidence that the Trump measures against Huawei are not working?

Ren: I haven't been briefed on the 20% growth, but this year we will make 240 million to 250 million units and our Consumer Business Group hopes to see significant growth next year. It may not pan out, though. We don't know what will happen next year, so we cannot accurately predict the growth of our consumer business for the next year.

Stephen Engle: Worst-case scenarios? Best-case scenarios?

Ren: The worst-case scenario is what we have now. We are now in the most difficult period, and things will get better.



Stephen Engle: Wilbur Ross, the US Commerce Secretary, told Bloomberg Television over this weekend that new licenses for Huawei could be forthcoming very soon. So we'll have to wait to see if that comes out. Now, maybe I'll open this up, the further conversation here. Because of the situation that Huawei finds itself in, whether it is with Android and some of the licensing there, or on the chipsets and software side, companies like Cadence and Synopsys, in the tech world right now, is there too much reliance on these US vendors? And will this, if it is a bifurcation,

will it do the opposite, maybe spur domestic creation of these kinds of software and products?

Kishore Mahbubani: I'm not the technical expert on this panel. But I do think that if you take a long-term view, is it wiser for the United States to have a China that is completely independent of the United States, or a China that still continues to rely on the US in many areas? And the result of having a lack of strategy in Washington, D.C. is that the United States is pursuing a course of action that may be damaging to long-term American interests, if you see yourself as a long-term strategic player. So, it is actually in America's interest to see a continued Chinese dependence on American technology and American companies, because at the end of the day, that gives you some degree of leverage. If China is completely independent of the United States, you have little or no leverage. This is why I was actually very puzzled by the decision not to allow Google into Huawei phones. Because, if I may be politically incorrect, Google at the end of the day is an American Trojan horse. Because once you are hooked onto Google, you're now hooked onto an American information ecosystem. And that delivers to you not just American information, American values, and American perspectives. You see the world through Google's eyes. And here is Huawei, offering the United States the opportunity to put an American Trojan horse into a Chinese phone and

America is saying no. That doesn't make sense. It's not logical. But that lack of logic shows the lack of long-term strategic thinking. That's what puzzles me about the people in Washington, D.C. Because you're really shooting yourself in the foot when you say, "Don't take Google".

Stephen Engle: Ren, you're smiling, I think you agree?

Ren: I very much agree with what Mahbubani said. The US is at the top of the global tech sector, or let me put it this way: The US is at the top of Mount Everest – the highest mountain in the world – while China is lagging behind and is at the foot of the mountain. When the snow on the top of Mount Everest melts, the water will flow down the mountain and irrigate the crops and pasture at the foot of the mountain, and sustain the cattle and sheep. In Mahbubani's view, the melted water flowing down the mountain will be ultimately shared at the foot of the mountain. Mahbubani said there are values involved, while I believe that there are at least interests at play. This is globalization, where all parties share benefits. If the US doesn't allow the water to flow down the mountain, people at the foot of the mountain may dig wells to irrigate their crops. In that case, no money will be paid to the US. When the US does not allow its companies to supply us, they will definitely be replaced by others. Other countries should work hard

to replace the US in the supply chain. This is a great window of opportunity for them, but why are so many countries still taking this wait-and-see approach? They must take action now!

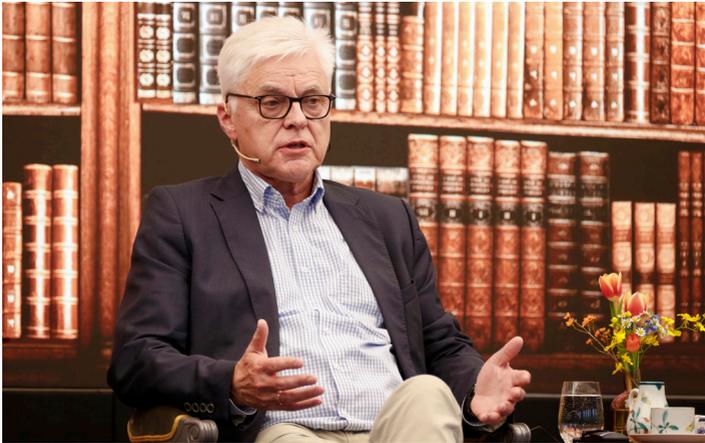
Whether China can take action is still an open question, because China has a weak industrial foundation. Though it has a large industrial GDP, it is mostly made up of low-value-added products. This is not the case in Japan or Europe – Germany in particular. So why don't they dig wells to get the water now? If the water doesn't flow down Mount Everest, it will freeze because it is cold up there. Then Wall Street will not earn any money!

Stephen Engle: Is that an agreement? Is there a surveillance dividend paying out to people mining the data and selling it onwards?

Detlef Zuehlke: Actually not what I think. We are, in some ways, squeezed between these two fighters right now and we have to think how to get out. I think no one is really happy about what's developed over the last years. Ultimately the US industry, I guess, they are more for open borders. We were all benefiting from such open borders and open markets and customers were able to buy the best phones around whatever they want, whether they buy an Apple phone, a Huawei phone, or a Samsung phone. Now, when we close these borders,

we will all lose. So, we have only losers. My hope is that within the next week or so – and the first signs look quite nice and the stock market is going up, already – there will be an agreement between China and the US, and I hope that the agreement will also cover the problems about Huawei. Perhaps also setting up rules, and checking these rules by independent organizations. I think as soon as we have such an agreement, we can solve the real problems and not discuss this stuff.

Stephen Engle: That phase-I agreement though might not include Huawei.



Detlef Zuehlke: Maybe not in phase-I, but it's the beginning. So I think it's more a trade war, a nonsense trade war. And I think it's completely wrong to expect that it's easy to win a trade war. It's not. All will be losers of a trade war. So we need a solution in order to prevent this. This is now, especially before the elections in the

US, the right time to move forward into the direction of having an agreement that is beneficial to all parties. Perhaps not a final agreement in the next two weeks or so, but to have a first agreement and everyone is recognizing we're moving again towards a collaboration. Everyone will benefit from this and this will be good for the world economy.

12 Stephen Engle: Now Kishore, earlier today you asked a question directly to Ren about how to deal with perception and reality. There's a reality that they've been blacklisted, but the perception is they are potentially a security threat. If I may ask your question to Ren Zhengfei, how do you combat that perception gap?

Ren: People form their perceptions based on their own experiences. Over the last 30 years, Huawei has been committed to our value of being customer-centric. This has helped build up customers' trust in us. Even though the US has imposed harsh sanctions on us and US politicians have been flying around the world to pressure other countries to ban us, individual carriers continue to buy from us. This shows that, although the US uses its power to suppress us, the trust our customers have placed in us is even more powerful.

Stephen Engle: Focus right now is on security. Where

are you putting most R&D in and where should Huawei be putting most of its R&D on in security?



Liu Fei: All of us security researchers are doing objective research on topics such as very detailed protocols and parameters. Standards organizations in the telecom industry are responsible for setting standards, such as 3GPP. They have a group focused on security called SA3. This group usually has about 60 delegates and has had seven meetings so far this year and last year. Sometimes, this group discusses 200 or more items at these meetings. As I just mentioned, we need to work together to find the best solution to solve security issues. All delegates in this group, equipment vendors, carriers, and us are all working very hard on this aspect. We are not politicians. We are focused on making the telecommunication network more secure.

13

Stephen Engle: I want to ask you, generally speaking, how damaging to global trade and to the perception issues has this trade war between China and the US been? And Mr. Ren, are you an optimist or a pessimist that this can be resolved?

Ren: I haven't looked that deeply into the China-US trade war or paid any attention to the news about it. We have been focused on mending the bullet holes in our airplane. We have virtually no sales in the US, so no matter how the trade war evolves it will not have an impact on us. We don't really care about how the trade war is solved. We are instead focused on customer demands and thinking about how to provide our customers with the best services during this difficult time.

We've actually seen an increase in customer visits by 69%. What is the main purpose for their visits? They come to see if we are still alive. First, they want to see if there are still employees taking the company shuttles to work in the morning and to home at the end of the day. Then they want to see whether our canteens are full during lunch and dinner time, and whether our employees still have enough money to buy good food. Then they want to see whether our production lines are still running 24/7 to meet customer demand. After customers visit and talk with us, they learn more about

our current situation and come to understand that our products, even without US components, are very good. This encourages them to buy more goods from us. That is why the crisis hasn't ended up being what some people had imagined. Before they visit, customers don't fully believe us when we say everything is fine, but after their visits, they are more confident. "Why is Huawei strong enough to survive?" We have proven we can survive even without US components. Because we have dug many "wells" at the foot of the Himalayas, and used the water from the "wells" to irrigate our crops, we believe that we can survive. However, "digging wells" is not our ultimate purpose. We still hope there will be snow water coming down from the Himalayas, because the Yellow River and Yangtze River still need it to irrigate the crops in China. Counting on our own is only a short-term solution. In the long run, we want to work with the US to achieve shared success.

14 Stephen Engle: If the United States does not issue licenses for you, you have 28% of global network gear sales, can you maintain that and build that without the United States or its allies? If it convinces Germany, the UK, and other Western economies not to purchase your gear, is 28% something that is sustainable? Or can you cope with that?

Ren: I think these allies all need to consider their own national interests. The US adopts an America First policy, which means they will take all money for themselves while keeping other countries, say Germany, waiting. Germany won't just wait while the US is making money. I think every country has to consider their own national interests. It's impossible for them to blindly follow the US without considering their own national interests.

If the US does not supply us, we will figure it out. But I cannot tell you the details until the time is right. I cannot tell you at the moment because I'm not authorized to do so. So, when I am, you can come and interview me again, and I will tell you.

Kishore Mahbubani: On the trade war, I think it's important to understand, as I said at the beginning, that the trade war is just one small part of a much larger picture of the geopolitical contest. You have the economic dimension, the political dimension, the military dimension, the cultural dimension, and the primacy dimension. It's a multidimensional struggle. Each has got its own dynamic. I do agree with you that the likelihood is that there will be some kind of temporary truce or trade settlement between the US and China.

But that's not necessarily driven by reason and logic. It's driven by the political logic of the fact that President Trump has to go for reelection in 2020. To go

for reelection in 2020, he needs a good economy and a good stock market. To get a good stock market, he wants a good deal for the US. That's the kind of political logic that's driving this.

But your question, the larger long-term question is whether Huawei can survive if indeed the United States sustains its campaign and gets its allies to join it and so on and so forth? I'm sure, and I think Mr. Ren has admitted this, it will create some shocks and difficulties for Huawei. But I cannot imagine China will allow Huawei to collapse in the face of a dedicated American onslaught. There's too much at stake here. So, clearly, a tremendous amount of resources would be poured to make sure that Huawei doesn't fail. Because at the end of the day, this is not just about Huawei; it's about the larger contest going on between the two. And Huawei, in some ways, unfortunately, I feel like it's a chicken caught between two elephants. Here are the two elephants jostling and this chicken is trying to run around and get away from the two elephants. So, I wish Mr. Ren success, but I did tell him that he should be careful. These two elephants are jostling a lot. And Huawei has got to be agile and careful as it manages a very difficult environment.

Detlef Zuehlke: Well, I think it's not only a threat for Huawei; it's also a threat for the worldwide economy. Because when the market leader and so their equipment

is no longer available, the others will not be able to bring their products on the market to serve the market demand. Nokia and Ericsson are too small to take over all supplies for the world market. So we will not have enough equipment to build up 5G networks over the next years. This will deeply influence our economy. So I think this will be really a "Black Friday" again, if such a thing will come up.

Stephen Engle: It's more than the issue of cost. They're more scalable and cheaper. For some of the regional carriers in the US and elsewhere, they've relied on more affordable equipment.

15

Audience: I am from Munich Germany, from a company doing artificial intelligence. First of all, thank you for having us here and also your interesting talk about the two elephants. Very impressive. I have a bit of an old-fashioned question. You are sitting in front of a wall of books. You're writing the book of the future, but what old books would you read to do your strategic deep thinking?

Kishore Mahbubani: I'll tell you what book I would read. Apart from this book [*Has the West Lost It?*], I would read Machiavelli's *The Prince*, because we are in the middle of a remarkably complex, and long-term competition between two great powers. And managing

such situations, having been a student of geopolitics for 48 years now, there's a certain logic in geopolitics. You can sometimes predict things that are happening. Because it's the logical thing that could happen. That's why it's important to understand that geopolitics has been around a long time. A man who actually understood the wisdom of geopolitics very well was Machiavelli. And even though many European leaders deny that they have read it, if you go to their bedrooms, underneath the pillow, you will likely find Machiavelli's *The Prince*.

The answer to my question: Everyone thinks the answer to 'has the West lost it?' is yes. The answer is no, the West has not lost it, or more accurately, not yet. I suggest that we are entering a new era of human history and this is staggering. Very briefly, from year 1 to year 1820, for the last 2,000 years, the two largest economies in the world were those of China and India. It's only in the last 200 years that Europe and America have taken off. So, the past 200 years of world history, when you view them against the backdrop of 2,000 years, have been a major historical aberration. Now all aberrations are coming to a natural end. So it's perfectly natural to see the return of China and India.

When this happens, it's important for the West to adjust strategically to this new environment. So that's

why, in the book, I suggest what I call a "3M" solution. Minimalist: the West should interfere less in other countries; Multilateralist: which is what I have been emphasizing, using the global multilateral system in the UN; and the third "M" is Machiavellian.

16

Audience: Mr. Ren, you've talked about licensing Huawei's 5G technology to American companies. There are reports saying that Huawei has started negotiations with many companies on this. Has there been any progress? How much will it cost for an American company to get this license, and when will you announce the result?

Ren: So far, no American company has started to negotiate this with us. We've talked about this with some intermediary agents, but they cannot make decisions for big American companies. This is a very big decision, and also a very difficult one. Big companies must think about it very carefully. When there is a suitable American company that wants to discuss with us, we will find an investment bank as the agent to help us negotiate contract terms and the details of the license, but there's no progress to speak of for now.

17

Audience: In a recent interview, you said that you had never used your veto right. Based on Huawei's history

and the current situation, under what circumstances would you exercise this right to veto a decision by your team? To put it another way, we know that you believe in the philosophy of *huidu*. But I believe that you must have your own red lines. Like I observed just now, every time the host asked a sharp question, you never answered it directly, but talked about it in a flexible way. But in the end, you always firmly stated your own opinion and answer. So given Huawei's current situation, what would be a red-line issue for you?

Ren: My media manager is sitting right there. She will give me gestures to tell me what I can say and what I can't. Although I have the veto right at Huawei, it is actually a Sword of Damocles hanging over managers' heads. This sword must be used very carefully, as it has the potential to badly hurt many people.

So I always communicate with my colleagues when I have opinions. When we communicate, they can oppose me and refuse to accept my opinions. There are many posts criticizing me in our Xinsheng Community online forum. Huawei's Blue Team, an adversarial wargame team within the company, once wrote an article called *The Ten Sins of Ren Zhengfei*. After I read this article, I posted it to the Xinsheng Community right away. It was a very good article, so why not share it with all our employees?

The one-vote veto right cannot be used casually. This right was set to expire at the end of 2018, after which I would no longer be able to use it, and our executives could manage the company based on their respective authority. However, some events outside the company made us aware of the risk that a vote by all employees might end up accidentally setting the company down the wrong path. We must prevent this risk through an appropriate mechanism. So we decided to keep my veto right.

This veto right can be passed down, but not to any of my family members. Instead, it will be passed down to a Core Elite Group consisting of seven people who will be elected from former board members, supervisory board members, and senior executives. They will exercise the veto right together and can only serve limited terms. They cannot serve in the group for a long time because they would be quite elderly then. They cannot exercise the veto right if they are not of sound mind, either. In short, this veto right will not be easily exercised, but its very existence will ensure a balance in the company's internal management. So generally speaking, we have a sound management system.

Stephen Engle: You're not hinting at retirement, are you?

Ren: No, I'm not hinting at that.



18

Audience: New Zealand is a very small country, but we're going through a very difficult period, because the government of New Zealand has decided that 5G is not on their agenda and not acceptable, which is very disappointing I have to say. My question for Mr. Ren is simple. It's not Machiavellian. It's more Marcus Aurelius. Why doesn't Mr. Ren speak directly to Trump? Trump is a bully and it seems to me that bullies actually can be confronted face to face better than negotiations in secret rooms. Why don't you just go to Washington and have it out?

Ren: We've lent three 5G base stations to help broadcast a sailing competition in New Zealand. Later, our PR department will give everyone a CD. This CD is a recording of the performances at China's National

Day Evening Gala, which involved about 60,000 performers. The filming and broadcast of these fast-changing performances went off without any freezing or smearing. You all work in the media sector, so you'll know that 5G's low latency is also of great significance to the media.

As for having a conversation with Trump, I don't have any channels to do that. I don't know his phone number, and I don't know how to contact him. Of course, if you can help me to contact him, I'd really appreciate that.

Stephen Engle: Would you meet him and talk to him?

Ren: Of course.

Stephen Engle: Donald Trump, if you're on live, go right on Bloomberg.

Ren: He has a big airplane and can fly to China anytime from anywhere. I don't have that. My airplane is made of paper, and it may fall down when it rains.

19 Audience: A US institution recently said that China's 5G dominance could lead to an Internet split with the US. The moderator just expressed similar views. This US institution also observed that the rise of companies like Huawei has increased the reliance of their Western allies on Chinese services, and that this could cause an increasing number of security threats. As 5G

commercialization gathers steam, the US has become more anxious and felt more pressured about the need to vie for 5G leadership. Will this create new pressure on Huawei in terms of securing new 5G orders? Just now you kept saying that Huawei has been patching up the holes in its airplane. Which holes are still not patched? What's your opinion about the split of the Internet?

Ren: The role of 5G has been exaggerated. In my opinion, 5G is like a tiny toolbox, but some people portray it as if it's an atomic bomb or a global threat. I don't think this is the case.

Our 5G technologies are based on a math paper released 10 years ago by Turkish professor Erdal Arikan. Once we found out about it, we had several thousand experts, scientists, and engineers analyze it. During this period, the US was doing the same thing, but instead they were analyzing a math paper published in the 1960s by a professor who had once taught Mr. Arikan.

In terms of 5G, we pursue joint development and friendly cooperation.

The US has chosen millimeter wave technology as their 5G standard. Compared to centimeter wave that we have chosen, millimeter wave has a much larger bandwidth. However, it also has some weaknesses. For example, its coverage is very short. The US didn't expect the 5G era to arrive so quickly, and they might have

thought they could develop theories and technologies to fix the coverage problem for 6G. The reality is that 5G has created an industry in less than 10 years, and large-scale deployment has already started.

Huawei has chosen centimeter wave technology, which uses intermediate-frequency bands. In the past, when companies were determining which technologies to choose from, Huawei actually made a bet by choosing intermediate-frequency bands. Few other companies made the same choice.

Huawei chose centimeter wave, but we also worked on millimeter wave. Just two major technology groups predicted that centimeter wave would be the future, and surprisingly, we made the right bet. Millimeter wave technology won't see widespread use in the near future, and neither will 6G. Huawei is also a leader in 6G. We estimate that global 5G adoption will take 10 years. The bandwidth of 5G will be more than enough for its users, so it remains to be seen whether there will really be any need for a new cellular system.

In this 5G race, Huawei wasn't born a winner. We simply made our bet by developing technology along multiple paths. We bet on centimeter wave, which happened to be the right way.

China has allocated spectrum for 5G based on centimeter wave bands, and this is the best approach.

Countries in the Middle East have followed in the footsteps of China in the way they have allocated their spectrum, and they are making aggressive investments in 5G. The Middle East may very well become the pinnacle of 5G.

During this process, though, we were not sure if we would succeed in the end. Sometimes we are a bit like a blind cat that has happened upon a dead mouse. Over the past three decades, we have been very fortunate to stay in touch with the times and meet the needs of society.

20

Audience: China has a vision of being a cyber superpower and influencing governance norms, as well as forging these concepts overseas. Where do you place yourself on the spectrum of a free and open Internet and the China model which places restrictions on flow and infrastructure?

Ren: First and foremost, I think the Internet has driven social progress. Many companies – Google, Facebook, Amazon, Microsoft, and Chinese Internet companies – have driven social progress and narrowed the digital gap. These days, even people who live in dense forests can access the Internet and stay connected with the rest of the world. We need to recognize the benefits the Internet has on our society.

During an interview I had yesterday with *The Wall Street Journal*, a journalist mentioned that she had visited my hometown and my childhood house. I told her it was not my childhood house. After China began implementing the reform and opening up policy, the local government allocated that house to my parents. The house that I really lived in during my childhood was even worse than that. She said the house she had seen was worn down, and the living conditions there were quite poor. Her opinion of my hometown is similar to how we now perceive some African countries, as the living conditions there are often quite poor.

Let me tell you this: When I was young, what I wanted most was to eat a steamed bun. At that time, we didn't know what the outside world was like. Nowadays, children living in rural areas can connect to the outside world. This is one of the many benefits the Internet has brought to us.

Having said that, the Internet has also, unfortunately, aided the spread of harmful content. All countries need to manage such content. Doing so will be good for young people and for social stability and development. If the Internet is left unregulated, it could easily cause problems. I think the Internet itself is neutral, and I haven't heard of the model you mentioned. What matters most is that people are encouraged to work hard and create more wealth. When people become

better-off, they can afford to buy more cups of coffee and enjoy them. And as you have seen, there are many cafes on our campus.

I think the Internet has facilitated a lot of positive progress, and we should recognize that.

Stephen Engle: I have talked to a lot of foreign companies that have done business in China. In June 2017 the Chinese government enacted the cyber security law that would basically require foreign companies and local companies to house their data on Chinese citizens domestically in China. Is that something that sends the wrong signal to the world that the government is not giving your digital sovereignty to the individual or to individual companies?

Ren: We are not an Internet company, so we haven't paid particular attention to the rules and laws related to Internet companies. Different countries may have different understandings about this. I'm not in a position to comment on this matter.

Liu Fei: As a communications network company, we focus on telecom infrastructure equipment. The data is handled at a different level, so we don't know how the data goes through the equipment or where it goes.

Kishore Mahbubani: The regulations in the cyber world are in a very early stage. No one quite

knows how to manage them. If you want an ideal outcome, the ideal outcome is some kind of global multilateral understanding, but the global multilateral understanding, for example, an international convention, has to be negotiated among all 193 countries. And all 193 countries have to agree on the convention, and they have to abide by it, right? Here, as we know, the United States is the leader of the Internet by far. But the United States as we saw it, as a country, is reluctant to accept any kind of multilateral rules that will govern American institutions. Take Facebook for example. Facebook is selling political advertisements in the UK. If you listen to the TED talk by Carole Cadwalladr, you'll find Facebook advertisements led to Brexit in some ways. Now would the United States agree that this should stop, and that you should have global regulations of such things? That's the critical step we have to take. We have to all agree that perhaps given the damage of the influence that these organizations have, they should be subject to global multilateral regulations. And if we can take that first step, it's actually a big step forward.

Detlef Zuehlke: We have the same discussions at home in Germany as well. There is an interest from industry to keep their data in the meantime on European servers. There was just a group founded in Germany and also supported by the government, to have such a German cloud available. The only big difference is it's not

enforced by our government but it's just an offer to the industry and the industry can decide on this. Concerning the other part of this discussion, I think as long as we have a democratic government, it's completely impossible to block communication like the Internet. So, this will not work. I'm also sure that perhaps in 20 years, we will have a different situation here in China as well, as people get wealthier and the telecommunication is getting better and becomes more uncontrollable.

21

Audience: I'm a professor of Global Family Business from Munich, Germany. I help families navigate complex times, when they go through tragic or complicated times like almost losing their legacy, which may happen in this case. Maybe an observation and suggestion. In Machiavellian terms, if the prince cannot speak to the prince, send the children to speak to each other. They might have different interests. In the case of the President of the United States, the children run the business. You also have children that run the business. Maybe they can find common terms. And in conclusion to that, what would be your advice, Ren, for all the young people in the room, how should they position themselves as the next generation? What should they read? What should they learn? And how should they think about the world based on your incredible business legacy that you've built? Thank you.

Ren: First of all, I think young people should keep an open mind. They are in a much better position than we were at their age. When we were young, we could only access the information in libraries when we were in university. At my high school, we didn't even have a library. Young people today have access to all kinds of resources online. So I think they should first keep an open mind.

Second, they should learn how to cooperate with others. Individuals cannot achieve much alone, so we need cooperation to advance together.

Third, young people should persevere and work hard. Don't be too clever, jumping from one idea to another without ever finishing anything. In the end, you'll end up squandering your youth without achieving anything. If you are persistent and dedicate yourself to do solid work on one thing, then you'll probably succeed. Don't think you're talented in all areas, and spend too much energy over here and over there. That makes it difficult to achieve any real success.

Stephen Engle: Maybe you should go to Hong Kong and give a speech to the children there. That's for another discussion. Ladies and gentlemen, if you could put your hands together for Ren Zhengfei and the distinguished panelists.

Content in this publication is based on excerpts of Huawei founder and CEO Mr. Ren's interviews with the media.

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