We’ve been holding Mobile Broadband Forum for 10 years now. Our first event was in Oslo back in 2010. In those days, our industry was rolling out 4G, and Huawei had just started exploring 5G. A lot has changed since then. Let’s take a look at the exciting progress our industry has made in 10 years.

From 4G to 5G, we have made incredible progress. But I want to talk about the next steps. Where do we go from here, and how can we really make the most of 5G? For me, it’s about a shift in mindset. Not just for carriers, but for governments and...
5G arrived faster than expected – in just one year after the standards were completed, 40 carriers from 20 markets had launched commercial 5G networks around the world.

Vendors, too. 5G is a revolutionary technology, and we need to think about it in a different way. First, let’s take a look at what’s happening in the industry. 5G came much faster than we expected.

5G’s fast arrival

In just one year after the standards were completed, 40 carriers from 20 markets had launched commercial 5G networks around the world. We anticipate that, by the end of this year, there will be more than 60 commercial 5G networks. At the same time, there has been great progress on the device side. By September 2019, there were already more than 130 5G devices on the market, including CPEs and smartphones.

Consumers really love it

South Korea was the first market to launch commercial 5G. Let’s take a look at what’s happening there. In just six months after commercial launch, there were more than 3.5 million people using 5G services.

Data consumption is increasing significantly as well. It is impressive that data traffic has increased threefold – to 13 gigabytes per person per day. The reason is that new VR/AR applications are boosting data usage. Just 10 minutes of VR consumes 4 gigabytes of data. One minute of AR takes 600 megabytes. With VR/AR becoming more popular in gaming, entertainment, and education, we anticipate that traffic will reach 100 gigabytes per person, per month very soon.

5G supercharges user experience

5G is helping to create an amazing user experience. People love the speed. In Switzerland, we’ve already achieved speeds of up to 1.5 Gbps. This is around 20 times faster than the 4G speeds available on the market right now. People love the applications too.

In South Korea, you can enjoy a truly immersive experience in sports with 5G-powered, high-definition broadcasting. You can use your 5G smartphone to watch a live game from any angle you want – 360 degrees. You can even make the camera follow your favorite player throughout the entire game. This is a truly personalized experience.

New services like VR/AR are attracting more users. 5G-powered VR alone has attracted more than 1 million users in less than 6 months. At the same time, VR/AR services are encouraging more users
Take LG UPlus as an example: After launching VR/AR services as part of the 5G premium plan, premium subscribers grew to 5.3 percent in just three months. That’s a big jump.

5G is not just changing our lives. It’s changing the world, and it’s bringing exciting new applications for all industries.

Here’s an example from a mine in Inner Mongolia, China. It’s a large mine that uses 30 trucks to transport materials, but has been facing challenges in terms of safety, efficiency, and cost for many years. The working environment in the mine is very dangerous. For safety reasons, drivers are only allowed to drive at up to 10 km/h. Efficiency is low. They need four drivers for each truck, so costs are quite high.
Now we can help with 5G technology. In May, Huawei and China Mobile developed a driverless truck solution using 5G. With driverless trucks, the mine can save a lot on labor costs - US$160,000 per truck, per year. With 30 trucks, that’s big money. Now they can travel up to 35 km/h, not just 10. Most importantly, because the trucks are driverless, people are no longer exposed to the dangerous working environment.

This is an impressive use case for 5G technology. And it’s just the beginning. We can expand this kind of solution to revolutionize all vertical industries.

We hope governments can provide more reasonable cost structures for 5G. 5G will be critical infrastructure for all society.

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Real challenges

We’ve made good progress in a short time, but to make the most of 5G, we need to work together to deal with some real challenges.

I’d like to talk about three:
- Spectrum
- Site resources
- Cross-sector cooperation

Better, affordable spectrum

Our industry is facing challenges in terms of supply and cost. These are serious bottlenecks for 5G deployment, so I would like to make some recommendations.

First, we hope governments can provide more spectrum resources. We need continuous bands, large bandwidth, and at least 80 - 100 MHz for each carrier. Governments can start actively planning to meet new spectrum demand for the next 5 to 10 years. It’s good to learn that some countries are already exploring 6 GHz. I believe that planning ahead will guide industry development and help countries gain advantages as first movers.

Second, cost. Our industry needs more support in this area. We hope governments can provide more reasonable cost structures for 5G. 5G will be critical infrastructure for all society. And spectrum resources are a fundamental part of this infrastructure. Governments shouldn’t make spectrum too expensive, otherwise carriers will be less willing to invest.

In many countries, we’re seeing positive examples where governments have helped lower costs and provide more flexible pricing models. In China, for example, carriers are allowed to pay in installments, not just make huge upfront payments.
This reduces their burden on initial CAPEX. Saudi Arabia is another good example. The government cut spectrum costs by 25 percent. In return, they raised requirements for carriers in terms of user experience and coverage. This is a win-win for both sides – carriers pay less for spectrum resources and the country can enjoy earlier and better 5G services.

For site resources, regulators should step up and improve the situation by taking different measures, including opening up more public infrastructure for sharing and providing guidance on site construction.

Regulatory support for site resources

Our industry needs more support for on site resources. The cost of site resources is still high and site availability always falls short of demand. Regulators should step up and improve the situation by taking different measures, including opening up more public infrastructure for sharing and providing guidance on site construction.

We have seen many good references across Asia and Europe. In Shanghai, the city government has set standards for multi-functional utility poles. By the end of 2020, they will install these poles along 500 kilometers of road, which can be used to support another 30,000 extra sites. That’s 75 percent more sites than they have right now. This will help carriers to build a strong 5G network in a big city like Shanghai. In Germany, carriers worked with seven different ministries to identify public resources that can also be used for 5G sites, such as traffic lights, signs, and bus stops. Together, they defined standards and released the guidelines in August. This will make co-use easier and more efficient. In the UK, the government is working on legislation for more flexible planning regulations. These include allowing taller towers for antennas in rural areas, so carriers can deploy less sites for better coverage. We can all learn from these practices.

We hope to see more governments taking proactive regulatory measures to help carriers build 5G networks more efficiently and cost effectively.

Cross-sector cooperation

Finally, as an industry, we need to make cross-sector collaboration a priority. Because, in addition to people and households, 5G will also support applications for different industries. This will open up many new market opportunities for our industry.

But we still have some challenges in terms of vertical industry knowledge, use cases, and business case development. We can solve these challenges through more active cross-sector innovation. If we can have
an open mind, work together with industry partners to identify real problems, and explore what works and what doesn't, that will make it easier for us to unleash the power of 5G.

Huawei is building out platforms to support cross-sector innovation in 5G. We call them 5G Joint Innovation Centers. In Zurich, we opened the first 5G Joint Innovation Center in Europe together with Sunrise. Now Huawei and Sunrise are working with local partners on pilot projects for smart farming, smart manufacturing, and smart resorts. All powered by 5G. These are some of the domains where Switzerland is leading.

Obviously every country has its own economic strengths. These are the areas we can focus on and combine 5G technology with industry-specific solutions to enhance their competitiveness. We hope that these Joint Innovation Centers will help us foster a stronger 5G ecosystem for everyone. We look forward to building more 5G Joint Innovation Centers in Europe.

All for one, and one for all

5G is not just faster 4G. It will play a completely different role in our lives. It’s core digital infrastructure and a key enabler for digital transformation in many different industries.

As an industry, we all need to have a fresh mindset to drive its further development. That includes a more long-term view from governments to create a more investment friendly environment for carriers. It also includes a fresh mindset for carriers to build 5G success on innovation and collaboration.

As people say in Switzerland: All for one, and one for all!

This is Switzerland’s call to action, a way of thinking and a way of life that is built on collaboration. With this mindset, let’s gear up for better 5G.