Embracing 5G Transformation
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Jules Verne once wrote, “Anything one man can imagine, other men can make real.” We are right at the threshold of an intelligent world. In the face of infinite possibilities, we can only begin to imagine what the future holds. The less travelled a road is – the farther we stray into uncharted territory – the more likely we are to come across something new and incredible. As we make our way towards this intelligent world, innovation is the lever that will move the earth, producing miracles the likes of which we’ve never seen.

Charting New Paths: A Story of Role Changes, Mentorship and Feedback

Growing with Huawei Together

With Dedication Anything Is Possible

Unafraid to Push Your Limits
25
The Art of Coding

30
News & Events

CHASPARK

32
Absorbing the Energy of the Universe over a Cup of Coffee
Chaspark Hosts the Theme Event “Fundamental Mathematics and Engineering Practice”

HUAWEI COMMUNITY

34
New Beginnings: Adjusting to Life at Huawei
Ladies and gentlemen, good afternoon!
Thanks to GSMA for the invitation. It’s great to join you all for this year’s MWC Shanghai.
Huawei truly appreciates GSMA’s ongoing contributions to industry development and social prosperity.
This is the 10th MWC in Shanghai, and it’s significant timing for me. Around ten years ago, I watched a sci-fi movie where a group of astronauts were traversing the universe through wormholes. They were trying to find a new home for humanity. Some of the scenes were incredibly mind-blowing, and they left a strong impression on me.
These days, watching the movie again, I find some of its more fantastical elements have gradually come true. As technology advances exponentially, an intelligent world beyond our imagination is already within reach. Science fiction can only sketch the future. But science and technology can turn imagination into reality. “Velocity” is the theme of this year’s MWC, and 5G transformation is a key part of this.
Today, I would like to share some of Huawei’s thoughts on this theme.
5G has been in commercial use around the world for four years now. Across all industries and countless households, it’s changing the way we work and live.
5G applications are changing the way we purchase goods. You no longer have to go out and look for what you want. Now, products and consumers gravitate directly towards one another.
On the consumer side, 5G applications have changed our shopping habits. Applications like live
shopping have completely redefined the experience, from one that’s driven by needs and based on search, to an integrated one that combines social networking, sharing, and feedback. Now, consumers are purchasing goods through video, social media, and review apps. Fast logistics and open return policies have significantly reduced the cost of trial and error for consumers. E-commerce powered by network technology is becoming the key pillar of the consumer market.

On the seller side, AI enables active product recommendations. With algorithms that can make precise personal recommendations, sellers are able to more effectively cater to consumer preferences and significantly improve the shopping experience. Meanwhile, rapid word-of-mouth and decentralized information sharing have enabled merchants to translate their reputation and quality into real economic returns.

Thanks to technologies like 5G, AI, and cloud, consumers can go online anytime, anywhere. And they can complete transactions using convenient, trusted, and low-cost mobile payment systems. Quantitative changes in consumption models have reached a tipping point, giving rise to changes in quality. This has set off a chain reaction in the consumer domain. New forms of business are emerging in great numbers, and a multiplier effect is readily clear.

From an operational perspective, most enterprises grow profits by spending more on marketing to boost transaction volumes. That is, profits are based on scale.

But today, taking advantage of real-time online transactions and ubiquitous word-of-mouth, some companies are redirecting their marketing investment towards improving product quality. This is conducive to ongoing growth.

The application of 5G in the consumer domain has supercharged one of the three drivers of economic growth – consumption. According to industry estimates, 5G directly contributed 1.45 trillion yuan to China’s GDP in 2022.

Undeniably, the industrial application of 5G has been a long process of exploration. The difficulty of 5GtoB has been underestimated. When it comes to enabling industries, 5G is in a completely different situation than 2G, 3G, and 4G. 5GtoB is like a showroom – there are all sorts of applications out there on display. But when it comes to actual, large-scale deployment, 5GtoB often comes up short. The reason is this: To become a driver of productivity, 5G has to become an operative component in production systems. That’s the only way for 5G to see large-scale industrial application.

When winds are strong and waves are high, it’s a test of our resolve. There are countless challenges on the road ahead. But like the Book of Time says, “Take action in March or April, and you will see results in August or September.”

Through strategic patience, diving deep into industrial scenarios, and ongoing improvements to ROI, we’ve been able to gradually gain a foothold for 5GtoB in domains like mining, ports, and manufacturing. The greater the alignment between OT needs and ICT solutions – and the better understanding we have of where value can be added – the more 5G is able to drive productivity.

Take the flexible production lines that we’ve built with our partners, for example. These production lines use URLLC technology to optimize air interface latency and streamline collaboration between the application layer and wireless networks. This has helped liberate manufacturing equipment like robotic arms from the constraints of
As a result, deployment is far more flexible than before, and we’re able to avoid downtime from worn-out cables. This is a great example of how 5G can be tightly integrated with production line OT networks, creating entirely new production systems.

Here is another example. In complicated mining scenarios, we’re using low-frequency, large-bandwidth 5G for video backhaul from more than 100 industrial cameras. Using AI, we can stitch these videos together and provide a full, clear, and accurate view of what’s happening underground.

The true value of digital productivity lies in its ability to bring new vitality to society.

As adoption of 5G applications in large industrial enterprises continues to increase, we have good reason to believe that 5G will continue to boost digital productivity by leaps and bounds.

Based on the status of 5G applications in both the consumer and industrial domains, it’s clear that 5G is now at a tipping point, where quantitative changes are leading to a fundamental change in quality.

In 2022, China had more than 560 million 5G users, and the device market was ready to go. 5G is well on the way to commercial success.

The future isn’t a clear path forward, but an open field.

5G has led to the emergence of numerous new devices and applications that deliver a more immersive experience, like 5G New Calling and naked-eye 3D. 5G is also ushering in a new era of super-connectivity between things, bringing new strength to IoT networks and driving new forms of productivity.

5.5G is the next step forward for 5G. 5.5G will feature 10-gigabit downlink speeds, gigabit uplink speeds, the capacity to support 100 billion connections, and native AI. It will not only connect people better – it will also create incredible new business opportunities with more targeted support for industrial needs in domains like IoT, sensing, and advanced manufacturing.

Waves tend to give way to people who ride the tides. As forecasted by GSMA, 5G will further mature over the next few years, and will keep creating economic, industrial, and social value. Straddling this threshold between past and future, every industry will have great stories to tell.

Every time a revolutionary technology appears, those who embrace it will gain first-mover advantages. For example, the wheel was an ancient invention that evolved into a tool. It then evolved further, changing the way we live, driving even more changes and iterations across all of society. It’s a process of upward spiral and capability spillover, and acting early comes with its
advantages.

The first wave of commercial 5G deployment has created a growing appetite for more groundbreaking, leapfrog innovation. So how can we pave the way for its ongoing success? Here, I would like to share some of Huawei’s own experience and thoughts.

The ladder to success isn’t built on progress with a single technology. It’s built on matching technology to specific scenarios and real-world needs. And systems engineering is key to taking the next step up.

For scenarios like social networking and mobile HD video, we need faster and stronger networks with higher bandwidths.

For scenarios like logistics management, we need mid-speed networks that are extremely cost-effective, like passive IoT, in order to meet demand for massive amounts of connections.

For scenarios like power dispatching and precision manufacturing, more secure and reliable networks are key.

Meeting this diverse range of needs will require diving deeper into industrial scenarios, truly understanding customers’ pain points, and adopting a more holistic systems engineering mindset. The industry has to work more closely together both up and down the value chain – with peers and partners, customers and developers – throughout the entire product lifecycle, from R&D and procurement, to supply and marketing. The industry needs to pave the way for 5G’s ongoing success by working on solution modeling and optimization, as well as tools and methodologies.

To build a vehicle, we need to combine wheels with steel. Similarly, developing integrated capabilities is essential to using new technology to drive productivity.

The digital infrastructure of the future intelligent world will be deeply integrated into every aspect of our lives, industry, and society. It won’t be based on advancements in individual technologies, but rather on incredibly massive, complex systems – the convergence of multiple elements. It’s going to require systems-level thinking and design.

In chess, before you make a move, you need to step back and look at the big picture: Where all the pieces are and the roles they play. Then, when it’s time to make your move, you start focusing on the details – the individual pieces and what, specifically, they need to do. Likewise, a big-picture, systems-level approach to integrating technologies and transforming management is critical for the future success of 5G.

First, let’s talk about integrating technologies. We can achieve greater synergy across cloud, networks, edge, and devices through systematic design and cross-domain innovation. When coupled with optimization across software, hardware, chips, and algorithms, we can more effectively address the challenges associated with developing complex solutions for vastly different industrial scenarios.

And then there’s management transformation. Digitalization is not just about technology itself. It’s more about transforming your approach to management. Going digital requires redefining the relationships between people, events, things, and theory, and adopting a more open, forward-looking management approach to address future challenges.

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Whether it’s 5G, 5.5G, AI, or cloud, every breakthrough in science and technology uncovers a brand-new world. This new world is crafted with boundless imagination, lofty ideals, and more importantly, resilience and perseverance.

This world belongs to the brave.

The journey is full of ups and downs, cycles of days and nights. But uncertainty will only make us stronger in the end.

I am so happy to meet you all here in Shanghai today, an inclusive place where rivers meet the ocean and where innovation thrives. The time is right to start a new journey. ICT technologies like 5G, 5.5G, AI, and cloud will help us rise with the tide and take us forward to an intelligent world.

The best scenery is always ahead. Let’s create a bright future together.

Thank you!
In July 2020, I completed the oral defense of my thesis at Nankai University in Tianjin, China, meaning that I would soon receive my master’s degree. And my mind was made up to look for an opportunity to really make a meaningful impact by using the skills I had gained over the previous two years. I started to put in applications to high-tech companies, believing that I could make some professional impact there if I was hired. Then I waited and hoped for the best.

It was now the beginning of August and I had yet to receive any favorable response. I had applied for Huawei’s overseas graduate program, but this was yet to come through as well. Finally, in the second week of August, a call came from Huawei’s recruitment team that managed graduate opportunities for international students worldwide. My heart skipped a beat. “This is it!” I whispered to myself. I had applied for the position of product manager and eagerly waited for a reply, fantasizing at the same time about testing myself in a highly competitive, high-energy corporate environment where I would get to interact with and learn from different cultures. Even such imagination made me excited, to say the least.
All Cats Love Fish but Fear to Wet Their Paws

I was invited to an interview at Huawei. It was a process that was rigorous and professional. It quickly dawned on me that here was a company with its own corporate culture, with time-tested core values and workflows that were well-oiled. Like clockwork, the recruitment team did not miss any appointment and they clearly explained their expectations of me while staying friendly and engaging.

Though I had some work experience before, I still felt some sort of anxiety. The anxiety of the unknown. What if I am not good enough? Self-doubt crept in – psychologists call it the imposter syndrome. Will I survive the rigor of expectations and deadlines and the dreaded key performance indicators (KPIs)? It seemed like uncharted waters full of uncertainties, and I was not sure if I could navigate them, even with my experience.

I had overheard anecdotes from former Huawei employees about how overwhelming the pressure could be sometimes. Somehow, the words of one of my teachers kept coming back to me: “Regret is the bitter fruit of a life unlived, watered by the tears of those who never tried.” Needless to say, I jumped at the opportunity to work in the Enterprise Business Group (EBG) of Huawei Kenya as a Solution Manager. The cat had its paws in the water, and it was time to fish.

The First Transition: From Desk Job to Customer-facing Activities (Presales)

Upon onboarding, the New Employee Orientation (NEO) program was my landing station. I must commend the program’s managers for this. It surely is a life saver for a newbie like me.

The program helped me quickly get familiar not only with the corporate core values of Huawei but also with the company’s solutions and product portfolios. It seemed to focus on rapidly developing one’s understanding of Huawei. It really helped to answer questions around what kind of value Huawei looked to create for its customers across different verticals. For me, the NEO program provided a soft landing to what would have otherwise been deep waters of getting myself up to speed with the company’s workflows, information security compliance, and business expectations, amongst many others.

I remember asking my supervisor Paul how he had waded through this forest of understanding Huawei.
He decided to initiate a mentorship feedback meeting every Friday where I was free to share my challenges. In these meetings my mentor Bryan would ask me leading questions on how to do a certain work schedule like getting a solution approved for bidding. I would walk him through the process “analyze requirement, prepare proposal, apply for solution review for bidding (SRB), etc.” I would share with them my frustration in handling bidding pressure and the time-consuming review processes, which I felt were unnecessary at the time.

My mind was not changed until a colleague explained to me that there were cases where, even if we won the contracts for certain projects, we still had a long way to go before completing the delivery. For example, he said, integrating our solution with the solution from an untested third-party vendor could give rise to a variety of issues. Processes like SRB were set up exactly to deal with these kinds of issues. The solution, Bryan pointed out, was to form teams at the earliest opportunity and make every member aware of what they were required to output on a certain phase of the project.

Starting out in solutions sales, I faced such main challenges as unfamiliarity with the complete product and solution portfolio. It just seemed like Huawei had so many datacom, transmission, storage solutions and I could not understand how to tailor them into scenario-based propositions. I had to learn, for instance, how the flagship collaboration tool, the IdeaHub, could be used in a telemedicine proposal, an e-Learning solution, and a smart court solution, or how to conduct market analysis and communicate our competitive advantage to customers while respecting the principles of fair competition.

Cross-cultural differences were also challenges in the very beginning. As a multinational company Huawei had employees of various nationalities from different cultural and religious backgrounds. It took me some time to become fully proactive in handling such cultural matters – by trying to know my colleagues and accommodate their preferences in our engagements.

Tell Me and I Forget, Teach Me and I May Remember, Involve Me and I Learn

In my entire career I have always had mentors who showed me the way and provided me with guidance and help. I have been told that a mentor can be the difference between success and failure. After a brief time with Huawei I came to understand why the company insists on professional sharing and takes mentorship very seriously. Here I was really lucky to have Bryan be my mentor. He was competent and experienced.

He provided me with guidance and support, solicited or unsolicited; and he shared with me cases that I could never have learned from any class or textbook. His unique perspective and experience working as a senior solution manager for the public sector across Sub-Saharan Africa, helped me to navigate many obstacles in the projects we worked on together.

As I still remember, my mentor one day asked me to handle my first high-stakes project on my own. I was to design, manage and lead the solution team in closing a metro network project and ensure that risks were identified in time and handled. Customer communication was to be done in time and with measurable outputs. There was also the need to ensure that the customer would get value from implementing this project with Huawei. At first it seemed overwhelming for me to accommodate different stakeholders who had different interests in the project.

In the beginning, the customer’s engineers were not so happy about our transforming their incumbent network with which they had been familiar and comfortable; they were worried that, after rolling out our solution, they might not meet the Service Level Agreement (SLA) requirements. Fortunately, their Chief Technology Officer (CTO), with whom we had developed a good rapport, was quite enthusiastic about working with Huawei. Leveraging this good relationship we asked him to organize a demo on how our solution would support public Wi-Fi. Seeing me badly want to win over the customer’s engineers, my mentor suggested that I should have more technical engagements with them, however brief the sessions might be. I followed his advice and added such engagements to my daily schedule. Soon enough, quite to my delight, they began to warm up to Huawei.

With my mentor’s guidance, I invited those engineers to our Huawei office, where they could see our solutions at work while we could address their technical concerns and show them how dedicated we were to their SLAs. At last they developed a curiosity
about Huawei and began to accept us, and we were thus able to implement the solution rollout. At one point after we helped the customer’s engineers to address a technical challenge in how to implement pseudo-wires – an emulation of point-to-point connectivity across the Multi-Protocol Label Switching (MPLS) network – their technical lead engineer said to us, “I’m impressed by your dedication to customer support, which is obviously your key success factor.” This project was a success story highlighting the importance of learning through active involvement, which is often a key component of the mentor-mentee relationship. As for me, I had been given an opportunity to truly learn and internalize the concepts of solution design and management by being actively engaged in the project.

I had to relearn requirement collection, analysis and confirmation, project scoping, solution design and technical communication. Many times, we had to review and revise together with the customer’s team. Luckily I had some familiarity with the customer during my time in the government sector, so managing the relationship was not too complicated.

In some cases, we encountered conflicts where the customer’s requirements did not align with our solution. But we always had focus groups and we would meet in the office’s war room, where we developed different strategies, made reasonable compromises and found a way for win-win outcomes.

The customer was receptive of this approach and we were able to resolve the conflicts. Looking back on this experience, I realize that good mentorship is not just a nice-to-have concept, but a must-have for anyone who wants to excel in their personal or professional life. Surely a good mentor can be the catalyst for unlocking one’s full potential.

Celebrating the Wins: Recognition Through Responsibility

It is widely believed that a company that recognizes the efforts of its employees will create a corporate culture of hard work and accountability, where employees are encouraged to release their potential to the full. At
Huawei, it has come to my attention that every effort to create value for our customers and the company will be appreciated and rewarded. In my first year, I was humbled to receive the Future Star award for what my managers described as “being customer-centric, demonstrating a strong sense of responsibility, thinking proactively and showing outstanding performance in the 2021 Enterprise Sprint”.

Following the award, I was tasked by my supervisor to take over the role of leader for the local solution sales team. As I had not assumed such a role before, I knew that this was a big challenge.

To fulfill my responsibilities as a team leader, I would have to deal with people of different personalities, motivate them, and assist them; I would have to ensure that timelines were met and work plans effectively executed; and most important of all, I would have to make sure of our success as a team. Anyway I was honored to be given such responsibilities, an indication that my managers believed in my ability to get the job done and to help others reach their full potential.

I was also honored to be selected to participate in the Local Talent Elite (LTE) program, a very special training program for employees with great potential to lead Huawei to its future success.

The LTE program is a rapid capability improvement program aimed at equipping local talent with in-depth organization management skills to serve as a strategic reserve for future localization of roles at Huawei. I am happy to say that I was amongst the four Excellent Trainees during this program. I did learn a lot from many experienced members of other representative offices in terms of market insight, demand generation and applying of Huawei’s corporate core values. From this program I also learned how to develop business acumen and identify business opportunities; how to understand customers and their concerns and requirements in order to create value for both Huawei and them; and how to practice active listening for more effective communication with customers.

In this year’s annual general meeting for our representative office, I won the prestigious Excellent Individual award, while gratefully I have kept receiving many words of encouragement and support from Kenya and other representative offices in the region. I know that my achievements would not have been possible without the support and help from my mentors and the teams in Huawei Kenya EBG. To me, these guys and teams are the

The whole class of LTE program trainees (author is first from right at front row)
unsung heroes.

**Asking for Help Is Refusing to Give Up**

Earlier this year, I was asked to handle more responsibilities by taking care of two strategic named accounts as an account manager. I knew that this role was going to test my abilities to the limits. With determination and a strong will, I welcomed the opportunity to change roles for the third time in my career.

In the few months I have been in this new role, I have come to appreciate what it means to develop meaningful customer relationships and accurately make projections for a win-win strategy. My approach has been to find someone I can trust to help us expand business opportunities for both sides.

As a case in point, Ms J (one of the representatives of my customers) and I recently attended a workshop. There, among the attendees I found a gentleman from a different organization, whom I had deemed a potential customer but really struggled to get the chance to be introduced to. In fact, on three previous occasions I had tried to book appointments with him, which were subsequently ignored though. This time at this workshop, I would be a speaker on digitalization. Later, believe it or not, Ms J introduced me to the gentleman and arranged a meet-up for us. And it so happened that the gentleman had been struggling with some business problems and my conversation with him just came at the right moment. We quickly made acquaintance with each other and arranged follow-up meetings.

This role, I have come to realize, requires me to provide leadership, take the initiative to expand my social network and collaborate internally with other internal teams such as solution teams, delivery teams and channel partners, so that we can deliver value to customers while meeting Huawei’s targets.

So far, my biggest challenge has been the long decision-making process from public sector customers that sometimes prolongs our project timelines. My approach has been to consult widely with other account managers while staying true and bringing my own personality to the role. My new mentor Kebal has continued to offer me words of encouragement and support and insisted that, when in doubt, we must always seek help. “After all, this is a team effort,” he often reminds me.

To close, I hope that we can continue to support each other in the various roles that we play at Huawei. I intend to continue seeking help from all of you, while I hope that we share among us all we have learnt on our journeys. The best time to plant a tree was 20 years ago, they say, and the second-best time is today. Let us start digging!

*Author receiving the Excellent Individual award, 2022*
Growing with Huawei Together

By Henning Czerny / Germany

The Beginning of My Huawei Story

Before joining Huawei, I had worked in several system integrators in Germany, which are our partners in the Enterprise Business Group (EBG) today; with them I had nearly 20 years of experience in the networking domain, planning, implementing and troubleshooting networks for enterprise customers. Then one day, six years ago, a recruiter contacted me and asked me if I was interested in working for Huawei, which was a quite interesting choice for me. I had been with my previous company for 12 years and it was about time for me to find a new challenge. You should seize the opportunity of working for a multinational vendor, I told myself, so that you could step out of the comfort zone in a local company and explore the unknown out there.

With this in mind, I officially joined Huawei in 2017. I started out as a solution manager in the Technical Sales Department of Huawei Germany. At that time, I was based in Munich, providing support for our account managers with all their partners and customers in the southern region of the country. During that time, we had been in touch with a key and strategic customer, S, for a major project, and I was involved in that project very early on.

Fortunately, we won the contract for this project at the end of 2017. The customer decided to choose Huawei mainly for two reasons. One was the intensive support we offered during the proof of concept (PoC)
and testing phase; the other was our sustained customer focus as a customer-centric company. During the whole time of testing, our research and development (R&D) engineer was onsite at the customer’s office to ensure the success of the PoC and to help us get feedback from the customer in a direct and timely manner. We used the feedback to further improve our solution and implement more functions according to the customer’s needs.

At the contract signing ceremony the customer emphasized that they would consider Huawei not only a hardware vendor but also a development partner for their future digitalization strategy. With such trust from the customer, we were able to further integrate our solution into their processes and help them more effectively to reach their digitalization goals; furthermore, in doing so we could enhance customer stickiness. We even extended this cooperation in recent years; we held regular strategic workshops where we – the customer and us – exchanged ideas on innovation strategies and discussed together how to create more value and achieve innovation for their business success.

At that time, I took over the full responsibility for that customer as the solution manager. In parallel, I got a new role as vice director of network solution sales. Therefore, in a nutshell, my main responsibility was, on the one hand, taking care of customer S while supporting other important customers; on the other hand, I had to deal with a lot of marketing work, such as delivering speeches at exhibitions and other events, training for partners and customers and everything that had to be done in the German language or that just needed my support.

Near the end of 2021, I was asked to fully take over customer S as Account Director. And in the second half of 2022, I was officially appointed as the Networking/Internet Protocol (IP) Solutions Director at the Germany Representative Office. In this position I was in charge of the Huawei Germany Enterprise Technical Sales Department, including the IP and optical business of Huawei Germany EBG. The IP solutions team, mainly a support resource, worked together with our sales teams, channel teams, partners and customers in all presales efforts involving our datacom products and portfolio. My main responsibilities were enabling and managing the IP solutions team, developing the solution sales strategy, making the solution go-to-market plan and supporting the channel teams in partner enablement. Besides, the solution team collected customer feedback and requirements which would then be communicated

“With such trust from the customer, we were able to further integrate our solution into their processes and help them more effectively to reach their digitalization goals; furthermore, in doing so we could enhance customer stickiness.”
to our R&D colleagues. What we did at the solution team was highly important in making our solutions more comprehensive and competitive.

A main challenge for me in this new role was communication, especially with our colleagues at R&D and headquarters (HQ), as most of the information flow was still taking place in Chinese. As always, I would accept challenges and use them to grow further. Today, after nearly six years in Huawei, I have learned to cope with these communication issues and I am sure that, with the support of my Chinese colleagues, I will be able to solve them all. Using the Huawei Translate tool is part of my daily business; the tool also helps me keep in close contact with my Chinese colleagues to align all the information that is sometimes in Chinese only. Ours is a close team-valuing cooperation and teamwork, where everyone plays his part and helps everybody else when needed. Local colleagues focus on the communication with local customers and the Chinese colleagues are doing the communication with R&D and HQ. With that we can work very efficiently and successfully. This work style is one of our success factors.

Developing Solutions Based on Customer’s Real Requirements

As I mentioned earlier, I was involved in the project with customer S in 2017. And customer S was the first major retail customer with whom we tried to make business connections in Germany at that time.

When we had the first meeting with them, we had not even developed a concrete solution; actually we only had some ideas of what we could do to meet their requirements in the retail industry. We showed our ideas to the customer. Then at the end of the day, we developed what we today call CloudCampus and the customer raised more than 200 requirements to us, which we have all met for this project.

The solution was further developed and perfected, mainly in line with the requirements coming directly from the customer side, which did help us a lot to make the solution more mature. Based on the requirements out of this project, we came up with many new functions and features. Besides, the Internet of Things (IoT)
integration into our solution was also expanded as we already started cooperation with company S and built the electronic shelf labeling (ESL) in our access points. The ESL helps the customer to use e-paper price tags and update them automatically. It dramatically reduces labor costs in supermarket operations, as there is no need to manually print and replace paper price tags anymore.

At the time, I was so amazed to see the massive power of this innovative technology and so many people working on that project and supporting us, including the R&D team based in Nanjing, China. By the way, the technology would find its way into many other retailers. Looking back on this, I still remember the positive feedback we received from the customer saying that we were more than a supplier. In their eyes we were a development partner as well, because we developed the solutions that they really needed to meet their requirements and made the impossible possible! Our success in the cooperation with customer S proved that Huawei had unique selling points as a network solution provider; it served as a reference that would help us to implement solutions really specific to different customers not only in the retail industry but also in many other industries. It was a cool journey for my team and me!

Throughout the project, we had been keeping in very close contact with the stakeholders of all levels in the customer’s organization. Open and honest communication on the technical and executive levels helped a lot to gain the customer’s trust. We had to have many technical meetings to deeply understand the requirements and, sometimes, to convince them why we planned to implement some different but innovative features and functions. This very close cooperation with the technical team was the basis for a successful expansion into other areas of the customer’s network that is still ongoing today. Over time the customer came to have complete trust in Huawei, deeply convinced that our solutions took a leading position in the market and that we were quite able to meet their business requirements effectively. Last but not least, thanks to our professional service and support from the Technical Assistance Center (TAC), we did an excellent job and ensured a smooth rollout and extensive support in case of issues.

In 2022, we happened to get in touch with a new customer in the logistics industry. According to the customer, they were considering bringing in a new vendor because the solution that they had previously required had not been delivered in time. We realized that this was a rare opportunity and that it could translate into a project that would serve as a very good reference. We started to engage with the customer through a partner, and we tried to persuade them by using our ability to deliver as the very first pitch. Later we leveraged online demos and onsite PoC to convince their technical decision makers. And we knew that good connection to and continuous communication with the customer’s management was necessary to eliminate concerns triggered by other factors.

Due to perfect teamwork within the account team and with the support from our management, we were able to convince the customer to reconsider their network strategy and to work with Huawei completely – they should renovate their existing warehouses and equip the new warehouses with our solution. Finally the customer had our cloud-based network management solution deployed by our partner. As it turned out, the solution perfectly met their security requirements – and it could serve many other similar customers in Germany as well. This project is still ongoing and expected to bring in a valuable stream of revenue in the next two to three years.

Final Thoughts

As already mentioned above, I switched to Huawei nearly six years ago to find a new challenge and alas, I did get one. The past years have seen not just one but many challenges coming my way, which of course have impacted our daily business operations and me as an individual.

Fortunately, my team and I managed to surmount them all, thanks to our efforts as individuals and the company’s support coming in the form of corporate capabilities and willingness. In taking on these challenges we grow day after day. I am truly proud to be part of this journey and contribute to the success of the company.
With Dedication
Anything Is Possible

By Abigail Yu / South Africa

There is nothing more powerful than a dedicated mind and great courage, as demonstrated by my own experience with Huawei. March 3, 2022 witnessed the start of a life-changing career path for me. That was the day when I joined Huawei, a company in an industry I had no knowledge of; here I started out at a position in a department I never thought I would have the opportunity to be part of, given my qualifications and previous experience.

From a small role as an Accounts Receivables Specialist to a Financial Specialist in the field of Subsidiary Finance Management of the Finance Management Department in Huawei South Africa, I have encountered enormous challenges. Yet in overcoming them I have gained a wealth of knowledge and experience, which I would like to share with you, my fellow colleagues.

My story is a testament to value creation and contribution through perseverance and personal growth with reflection and self-examination, which is part of the corporate core values of Huawei. It is a story of my success in a short space of time with the company, which has been made possible by hard work and dedication on my part, an enabling environment, and an excellent mentor who has tirelessly guided, encouraged, and helped me. Hopefully my experience may be of help to you, motivating you to strive for excellence and greatness.
My story is a testament to value creation and contribution through perseverance and personal growth with reflection and self-examination, which is part of the corporate core values of Huawei.

The Beginning of My Journey

At my previous job before joining Huawei, I had learned everything I could, so I found my job simple and unchallenging. I longed to dive much deeper into the finance field, but I knew that it was not going to be easy. I was no accountant, nor had I excelled in finance before. At the time, I had just set up a profile on a social media platform to gain more insight into the global working world. One day I received a message from a now colleague at Huawei asking me whether I was interested in a job opportunity at the company; if I was interested, she said, I could send her my résumé. I did not think considering.

I sent in my résumé with no expectations. Before long, I was contacted by the Human Resources (HR) Department and invited to an online interview for the “Subsidiary Finance Manager” role. My initial feeling was that I, a Bachelor of Business Administration (BBA), was unqualified and undeserving, and that the role was meant for someone who had a master’s degree in financial management.

During the interview I was asked some questions relating to financial reports, the profit and loss statement, and cash flow management in terms of accounts receivables and payables. At first I froze, because all I knew was receivables; then I realized that all the reports I had submitted and all the financial analyses I had made fell far short of the company’s requirements.

As for the second interview, the most memorable part of it was the casual conversation I had with the regional CFO. At the end of the interview, her question for me was, “What’s your favorite thing about Chinese culture?” This was my chance to show the only skill I felt I had for this job. I answered in Mandarin that the Lunar New Year used to be my favorite holiday as a child because I could receive red envelopes (containing gift money); but as an adult, I continued, I was the one who had to give red envelopes, so it was now my least favorite. We had a laugh. What a pleasant interview this was, I thought; it was absolutely the best interview I had ever had.

It felt great for me to see the interview ending on a good note. I received an offer letter in December 2021. I was ecstatic but anxious at the same time, because while this was a great opportunity, I would soon find myself working in a whole new business organization in an industry I was not familiar with at all. I accepted
the offer, knowing perfectly well that the offer letter gave me a once-in-a-lifetime opportunity to work in a place I had been looking for, where I could acquire great knowledge in the finance field and advance professionally.

I knew what I was getting into. I was assigned a mentor who was going to be my direct supervisor at the same time. He had given me some clues about what I could expect to be learning and working on for my position weeks before my start date. My first day on the job was an unusual one. I was the only local in my office, which made me feel a little nervous at first. I gradually embraced it, because I knew from experience as a young child that these kinds of environments are what helps one learn the most and more efficiently. The atmosphere at the office was also different from what I had been accustomed to. It was very quiet – everybody looking at their computers, little movement, and less talk. My mentor walked me around and did the introductions. I was pleased to find that, despite the hard and ambitious exterior that the employees had, they were kind, friendly and warm-hearted. For me, the only issue was the language barrier.

Shortly after the little tour, my supervisor got down to business. I was told that five subsidiaries, all of which provided ICT solutions and services, would be under my management and that they were in five countries respectively. Put in charge of those countries, I realized the importance of my role. In my first six months, I completed the handover for three out of the five subsidiaries and within a year, I had successfully completed the handover for all of them. During this period of time, I worked on the quarterly subsidiary forecasts, monthly financial statement movement analytics, foreign exchange management, inter-company settlements, cash plans and cash flow management; in the meantime I monitored each subsidiary’s compliance when it came to external exposure. Through these tasks, I have made mistakes as these were all new and difficult for me to grasp at the time. It has taken me months to comprehend, and there are some things I am still learning on this journey of mine but it is without a doubt that I have steadily grown and I have become more sensitive and aware of the effects of every decision the company makes. This process has also helped me better know myself – my own strengths and weaknesses alike.

Overcoming Challenges and Improving Professional Competence

As a South African local employee who was fortunate to have learned some Mandarin language and acquired a native proficiency, the job still proved challenging in the language aspect. I was fluent, but only on a conversational level. Being in finance meant a lot of terminology and methods as well as “company lingo,” which was the first challenge I faced on the job.

As I recall, on the very first day on the job, my supervisor sent me a link to training videos and material that I would need to complete that week. It was great to have them as I needed them, but as I continued watching these training videos, I became so overwhelmed with the intricacies and difficult demonstrations. The difficulties not just lay in the overall forecasts; they were more related to my being unable to fully read everything in Mandarin. This was where I had a little bit of a meltdown, wondering if I had taken on more than I was capable of handling. Surely there would be many others who would be more qualified than I was for this position. But well, that was just it. Huawei was willing to offer me this opportunity to learn regardless of my lack of expertise. They had great trust in me for my growth potential as well as my determination and commitment.

I shared my concerns with my supervisor. He went out of his way to make bilingual training possible, which allowed me to understand and learn better and more quickly. I must give him credit for this as it was not easy. At the time I was being trained with an expatriate who was on my team taking the same role for other subsidiaries. To accommodate me, our supervisor would do the training in English once and go over it the second time in Mandarin, which helped both of us trainees. We had multiple sessions of in-person training, which were recorded by our department in the first few months of my working at Huawei. That was my work bible. Each time I got stuck in something, I could always revert back to the recordings and notes. My supervisor would always tell me that I had come a long way. He was yet to know that it all started with him.

After the basic training on the systems and required knowledge for my position, I had to start doing handover with the respective country CFOs. This
was the second challenge I faced. Due to the CFOs’ busy schedules and limited time to do the handover, it required some overtime working hours to complete the tasks. This was not mandatory for me as a trainee at the time. However, I so desperately wanted to succeed and be an asset to the company that I found that the only way was to put in more time and effort.

As a Chinese saying goes, “The more you sweat in training, the less you bleed in battle”. Preparing for challenges in advance makes it easier for you to face them when they do come your way. I gathered all the information I could on all the subsidiaries to familiarize myself with the countries that I would be dealing with, and liaised with the country CFOs on the nature of business operations. This helped me greatly to navigate what the companies were about and my position in the whole operations. I was there to ensure that we were compliant internally and externally; if we were not, then it was my job to fix it and probably lead a brainstorming session to come up with solutions for avoiding risks that the companies may be exposed to. Over time, slowly but steadily I developed an ability to think more independently, and I was therefore able to manage the subsidiaries confidently. With that I was able to push through with regional forecast presentations every quarter, follow through with yearly dividend declarations from start to end, consistently manage the impact of foreign exchange and maintain the representative office targets and goals for 2022.

Aside from reaching targets that had been set, my biggest accomplishment in 2022 was assisting subsidiary A in becoming financially healthy in its operations. In achieving great profits, the subsidiary created a large sum of cash collections, which posed a foreign exchange loss risk. That was where I stepped in.

Obviously there was not enough time for me to achieve the required results, that is, satisfactory results. But an inner voice in me kept telling me that I needed to push through because I had been chosen despite being unqualified and passed the company’s probation despite my lacking the relevant knowledge and even faith in myself and my ability to handle the things that I was in charge of. I decided to hold on. Colleagues around me, when aware of my situation, started to encourage me and offer me help wherever and whenever they could. This really helped with my self-confidence. Looking back, I am especially grateful to my supervisor and tax manager for this. They remained by my side day in and day out to help whenever I was stuck, be it obtaining approvals or getting feedback.
from various departments on their own budgets for the year. Having my superiors there gave me hope to persevere, and with this perseverance, I started to take the lead in my work which led to high productivity. It was a time when I felt confident and capable for the first time on the job.

Needless to say, I finally managed to complete the year-end work and made the budget presentations for my subsidiaries in time. I received a call soon after the presentations from my supervisor, who said, “You did well!” The feeling of the weight lifted off my shoulders in that split second was so invigorating: I did it! Immediately I felt a strong sense of gratitude to my department, my manager, my supervisor, and all of my colleagues who motivated me and had faith in me even when I did not. Without them I could not have made such an achievement that was beyond my imagination. A year at Huawei has helped me come a long way, from entry level with no experience to where I am now: 100% independent, and technically qualified as a level 1 in subsidiary management.

To the Future

With perseverance, reflection and self-examination, I made it through 2022. Even today I still habitually go back to those recordings whenever I need to learn something new or something that I may have missed. Over the past year, with self-motivation and with encouragement and support from my mentor, supervisor and colleagues, I have completed my transformation from entry level to advanced level.

There is so much more to learn on this job at Huawei, though, and growth is a never-ending process coming with an abundance of opportunities; all it takes is you or your self-motivation. You are the VIP (Very Important Person) to Huawei, so you should never, ever sell yourself short and should always have faith in yourself instead!

Whenever I recall that I once thought of myself as a liability to the company, I am surprised at what determination can do to make the difference. At Huawei, hard work is rewarded and efforts pay off. It is an honor for me to work with Huawei, a family-like business organization where I am valued and recognized and where support and help is given when needed.

If you feel that you are not capable, I am here to tell you that you absolutely are. And if you do not believe in yourself, I believe in you wholeheartedly because, with dedication, anything is possible.
Unafraid to Push Your Limits

By Cristina Romero / Spain

Q: Could you please tell us a bit about yourself?

A: My name is Cristina Romero and I’m originally from Madrid, Spain. This is also where I studied and got my bachelor’s and master’s degrees in telecom engineering. When I was at university, I worked at a research group and I got to participate in national and international projects related to 4G and 5G. This is where my interest for mobile and wireless communications really started to grow. When I graduated, I joined Huawei, and I’ve been working here for almost one year and a half.

Q: What’s your current role at Huawei?

A: I’m a wireless maintenance engineer, and I work at the customer support department of Huawei. We make sure every piece of Huawei wireless equipment that has already been deployed in the customer network is running smoothly. We also make sure everybody stays connected, both for the people and for the business. I have worked on a lot of different mobile communications projects, and many applications need equipment to run safely.

Q: Why did you choose to work at Huawei for your first job?

A: Well, this is a short but funny story. I used to work at a research group at university, and one of my colleagues there was a couple of years older than me. When he finished his master’s degree, he joined Huawei. He told me great things about the company, and said he was learning very quickly. He also spoke about the projects he was involved in, and how he was given a lot of responsibilities and important roles within these projects from the beginning. He also expressed how he thought his work at Huawei was related to what we were doing at university. He was really passionate about his work at Huawei. This got me thinking I might also be a great fit for the company.

Q: What do you think is unique about working at Huawei?

A: Based on my experiences, I would say “challenging”, “excellence”, and “commitment” are the three words that describe working at Huawei. Here at Huawei, you’re constantly challenged and involved in fast-paced projects. We’re tasked with things that have never been done before, so we have to find a way to do them. The projects are either logistically very difficult or they require a lot of knowledge, meaning a lot of challenges. But, being challenged is how you learn and...
you grow the most. There’s also excellence, because I think at Huawei we have a very deep commitment to our customers. In fact, one of our core values is customer centricity. I think you have to be very committed to your job and have to perform excellently. That’s what our customers value the most. Passion and commitment demonstrated by Huawei’s employees is one of the company’s greatest strengths, and is what makes us so successful in the industry. Customers choose us because we are committed to providing the best products and the best services.

Huawei is a pioneer at the forefront of the industry. You’re always working with the best and the latest technology. You’re always learning and growing. I think the responsibility and trust at the company also attracts talent. Here, you’re given responsibility from day one. You start working from the get-go. I think you learn more in one year at Huawei than you would in three years elsewhere. You always have a team to support you, and they always listen when you speak up. If you want to leave your comfort zone, there will always be opportunities for you to change from one technology to another, or to transfer if there is a position within the company you’re qualified for. These are just some of the things I think are unique about Huawei.

Q: Since you joined Huawei, have any of your preconceptions about working here changed?

A: I think one of the biggest misconceptions people have about Huawei is it’s just a mobile phone and tablet manufacturer. I thought the same before I joined, but I’ve learned it’s actually so much more. I knew we had the carrier network business, which is where I currently work. But I didn’t know we also have the enterprise and digital power business groups. There’s a lot more than you think you know.

I think here in Europe, and maybe in Spain in particular, there’s a stereotype that Huawei is not that meticulous with cyber security. Since joining the company I’ve discovered it’s the complete opposite. I think Huawei is one of the companies that take the
most care when it comes to cyber security and privacy protection issues. Every employee receives training, and we have to pass exams periodically in order to do our jobs. There are a lot of internal processes that have been designed specifically for cyber security and privacy protection. We’re always introducing new tools and methods to make sure cyber security and privacy protection remain our top priorities.

And I think working at Huawei is better than I expected. The people are incredible. They’re not only experts in their fields whom you can learn from, but they’re also great people who are always willing to help. You get a mentor assigned to you, and in my case, my mentor has been incredible. He has helped me so much, given me a lot of guidance, and always encouraged me to participate. He’s always tried to accommodate my requests. For example, if I asked for more responsibilities, he would let me take them if he thought I was ready. That’s been really great. I have a lot of opportunities here at Huawei. The company is fully aware transitioning from university to the office is a big step, so they prepare a personalized training plan and make sure you get the specific training and tools you need for your job, helping you to learn faster and adapt to the company.

Q: Would you please share your unforgettable experience at Huawei?

A: There’re many unforgettable experiences for me to choose from, but I’ll just mention two. The first one was in May last year, when I was lucky enough to go to Romania for a month of training. I was new to Huawei, and they did some training for us to learn about Huawei products from the carrier network business. This meant not only focusing on my technology, which is wireless, but also on core network, fixed network, and all the related processes that support our work and help the company run smoothly. During this trip, I finally met some of the experts I’d work with on a daily basis in person, and I also had a chance to visit labs that housed different technologies, including the wireless equipment.
I maintain on customer networks and work with on a daily basis. The trip also presented the opportunity to meet fresh graduates from other Huawei offices in Europe. I still stay in touch with a lot of them. It’s really interesting to talk to them and hear about what Huawei is doing in other countries.

The second was when I went to the Mobile World Congress (MWC). It’s one of the biggest events Huawei participates in. I went as part of the onsite assurance team. While there, I worked alongside customers to ensure there were no incidents during the event, and we were successful. We were really pleased with the outcome. I was also given a ticket to enter the MWC, where I was able to see the latest technological developments of all the participating companies. I also visited the Huawei exhibition area, which I think was the biggest in Huawei’s MWC history. It was huge. I know about the newest products we’re going to be launching this year, and our customers will introduce these to their networks. Getting to see and learn about these technologies in advance is really cool.

Q: What do you like to do in your spare time?

A: I’m a physically active person. I really enjoy sports, and I try to take part in some form of sporting at least three times a week. I’m particularly passionate about CrossFit, which I have been doing for four years now. I also really like weight lifting and gymnastics. Overall, I love the variety these sports offer, and in them I have a lot of fun. I also like playing pedal. I think it’s most important to balance your free time with work, and be organized and efficient. This is because at Huawei, as you know, we often engage in projects that demand a lot of work. But there’s still time to pursue your hobbies.

Q: Do you have any advice for fresh graduates or new Huaweiers?

A: One of the most important things I’ve learned at Huawei is not to be afraid to push your limits. Ask for more than you can handle, and work hard and try to make an impact. Even if you think you cannot manage something, you should trust your team will be there to support you. Push yourself a little bit harder, and reach a little bit further than you think is possible, and ask for more. If you aim higher, you’ll learn faster, and grow. That’s the best piece of advice I can share from my experiences since joining Huawei.
The Art of Coding

By Li Dachun / China

After completing my graduate studies at Nanjing University in 2012, I joined Huawei and started my career in the communications industry. Although my major at college was communications, I specialized in superconductivity and Terahertz detection, which is one of the less-studied domains and quite different from software and communications.

When I joined Huawei, the project team was being restructured, so there was a high turnover rate. There were also new joiners who were still finding their feet, just like me. The veterans on the team, including my mentor, had to work in shifts. Although we sat less than three meters away from each other in the office, we never had time to talk face-to-face during working hours, so it felt more like we were online friends.

Regardless of how busy he was, my mentor always found time to answer my questions, even in the early hours of the morning after he had finished his own work. I remember how I would always start the day by reading a new email from my mentor every morning. When I reflect on my early days at Huawei, what impresses me most is not how much I have improved, but the encouraging words my mentor provided. Ten years since entering the communications industry, I am still inspired by what he often told me – Do what you have chosen, and love what you do.

“You’re Not a Brick, but a Pillar of Our Team.”

In early 2020, when the whole company was under huge pressure to keep the business going, our team was responsible for services related to equipment interface management. This is the first gateway for traffic inflow and the first step in the forwarding and path finding processes. The functioning of interfaces directly impacts service delivery and product continuity.

One afternoon, my manager, Ye, called me over and said, “Dachun, one of our new chips urgently needs joint
commissioning, and the version delivery schedule is very tight. Since you are an expert in this domain, I want you to work on the design and coding of the key modules full-time.”

Back then, I had a few years of experience under my belt, and I had managed to navigate some challenging problems. There were around six months left to deliver this project which I thought would be enough if we hurried. Therefore, without hesitating, I agreed, telling him that “I’m like a brick that you can place wherever you need.”

“You’re not a brick,” he said seriously while giving me an encouraging pat on the shoulder, “but a pillar of our team. Given the situation the company is in, we need to have the new hardware delivered by October, and so it’s a very challenging project.”

His words made me realize the importance of the task, so I quickly handed over my existing work that afternoon and immediately dove into the new project. I started by reading the chip manual and the feature description document and learning about the technologies involved. However, the more I learned about the chip’s architecture and modules, the more my confidence waned. I felt anxious because this architecture was very different from the types I had worked with in the past, and conventional approaches to designing features would not work. Since we had no past experience to rely on, we had to delve deeper than the projects we had previously worked on. It was like replacing a failed car engine: In addition to checking pistons and spark plugs, we had to disassemble the engine and get a good look at each module within it, check whether they looked the same as before and how they fitted together, and how the engine speed and throttle flow rate affected compatibility with the car.

As I was making a plan of action, I thought to myself, “This is indeed going to be a huge challenge.”

A colleague interrupted my thoughts, saying, “Dachun, it’s great that you will also be working on this new hardware project. It’s going to be quite challenging, but with you onboard, we feel more confident! Let’s have a dinner tonight to kick off the project.”

I reassured him and myself that together we would be able to overcome the challenges ahead of us, one
by one. In my mind, we had no choice but to succeed, because we had to help the company keep the business running.

Bearing the project deadline in mind, we embarked on our difficult journey with the new chip.

**Time Sequence: The Toughest Challenge**

There were indeed many challenges along the way. It was particularly tough going because we knew so little about the new chip, so we could not anticipate what might happen at each stage. We even found it difficult to identify the causes of some common issues. We would spot a problem, and work hard to resolve it, only for another one to pop up soon after. We worked like this for many days straight. It was not easy, but we were making progress, little by little, until one day a formidable challenge stood in the way.

One of our testers reported that the services were often unable to self-heal after the boards had been swapped out. My colleagues and I immediately responded to this and expected to fix the problem quickly. However, we ended up toiling for three days to figure out the cause. We eventually found that the time sequence had caused the problem, which we had not expected. This caused the system to fail when different modules were unable to work together. We can understand this like a complex railway system transitioning from an old system to a new one: Under the new system, trains must depart by following fixed steps, but the trains waiting to leave the platform still run according to the old system. This will result in a system failure.

The problem was clear, and we had to make the process work in strict accordance with the time sequence without messing anything up. Unfortunately, this challenge was made harder by the fact that the design of the new chip had already been finalized, so absolutely no changes could be made. Any modification would pose massive risks and require a huge amount of extra time.

Soon after, Yao, the version manager based in Dongguan, came to me and said, “Dachun, the deadline for this project is very tight, and this time sequence issue is very complicated. I’d like you to take the lead to fix it. Can you come to Dongguan to work on the problem? You can catch a flight today.”

“Sure, no problem.” I replied.

I knew this was a critical moment for our project, and fixing the time sequence issue was our top priority. As soon as I arrived, I met with experts from different domains. Since we knew we could not make any changes to the chip itself, we focused on working on the inside of the chip instead, starting with the coding process.

After extensive discussions, we agreed to design a new state machine-compatible chip. A state machine is like an “assembly line” in the code. All information flows through the state machine, which has many intersections at each node, just like a maze. In a well-designed state machine, each path leads to an end or start point, and there are no dead ends. But in a poorly-designed state machine, many dead ends exist, and problems occur whenever a code encounters a dead end. We searched for ways to make the state machine better at handling abnormalities and reduce the number of bugs in the system. This would make the state machine more stable.

To make sure I had considered every possible situation, I drew out a mind map of various abnormalities such as sub-card swapping, port splitting, port status abnormalities, and port rate adaptation. I also made sure to use the modules in such a way that each one was always doing what it did best. Eventually, we managed to increase the number of states of the machine from seven to twelve. In fact, I pondered how this “assembly line” worked in my mind numerous times, imagining the inflow of raw data and the output of results.

After a lot of hard work, we fixed the time sequence issue. It was like a weight was lifted off my shoulders. Afterwards, we moved from the chip design phase to the code implementation phase.

**Code Is Art**

When people take in Vincent van Gogh’s masterpiece The Starry Night, most of them are drawn to the starry night sky. However, a closer look reveals more, and different people quickly develop their own unique opinions on the painting. Coding is just like that. The goal of coding is to realize an intended functionality. But each coder has their own way of writing code. For any software engineer, writing clean code is a basic requirement. We at Huawei have even developed a set of principles for clean code – high-performing, portable, secure, maintainable,
reliable, and testable, or “Program SMaRT”. In a painting, analogously, these features would be like the strokes, colors, and shades – the essential elements that make a painting into art. Making code into works of art is something that most programmers aspire to.

I started by following the programming rulebook to compile new code. It would be easy to write code that could adapt to the code base of just one new chip while meeting clean code standards. But I wondered whether I would be able to write code that could work for multiple chips and make this my masterpiece.

I started with the code of the legacy chips. After close examination, I divided this code into a dozen modules based on the processes for the new chips, and then abstracted these modules into different types. I had to abstract forwarding-table entries to make data at the forwarding layer agnostic of the differences between different chips, and then registered chip adaptation through start initialization. This meant that the logic of code processing and delivery entries could be made consistent between different chips.

The processing logic of code is similar to Lego bricks that can be stacked to realize intended functionalities. This approach made it possible to independently adapt different chips, follow simple logic, limit the impact of modifications, and maintain code more efficiently. The coding process can be compared to laying water pipes during home renovation. Once the pipes have been laid, new taps of different sizes can be installed and the old ones can be replaced as and when we please. Public code works just like such water pipes in that it can be connected to different pieces of underlying hardware.

What excited me most about coding was the ability to create something out of nothing and improve upon what already existed. As I carefully wrote each line of code, I felt an increasing sense of accomplishment, because I knew I was getting closer to my goal. After completing the coding process, I checked the execution results of each path. Thankfully, there were no dead ends in the “maze” that I had designed and every module worked correctly. In addition, I had designed it in such a way that the code would work for similar chips that might be used by other products in the future. All we had...
Once the test results were out, the once anxious version manager, Yao, approached me. He was unable to hide his joy and said, “Dachun, your work is really impressive! I know we can always count on you!”

In October 2020, the new boards were able to be delivered on time. The code I had written had zero quality problems on live networks. As a result of my work, I was listed as one of the Data Communication Product Line’s top 100 software engineers that year, a strong testament to my coding skills.

Creatively Adapting Code to Multiple Chips

As business continuity became our immediate priority, we had to adapt to a dozen types of new chips. Adapting to new chips and automating the testing of modifications to the code takes a lot of time and effort. Therefore, it was important that we made the automatic testing process as efficient as possible.

I wondered whether it would be possible to automate these test cases in order to reduce the need for manual work.

I did an analysis of the butterfly test model and found that prior adaptation and development would be needed for different chips. I went on to determine whether white-box testing would work and had an in-depth discussion with test experts about scenario-based testing. It turned out that existing white-box testing only worked for C code. However, our code modifications for chip adaptation involved many different types of code and files. In addition, scenario-based testing was mainly used for end-to-end integrated testing, but not for testing different chip specifications, because testing scenarios would vary by chip specification. When testing the different functionalities or specifications of one chip, even if both the white-box and scenario-based testing methods were used, it would be impossible to cover the entire coding process. Furthermore, the testing would take one to two days. Since we had multiple different chips, a lot of time would be required. In projects involving new hardware, where some materials would be in short supply, this problem would be even more acute.

For days, I pondered the bleak situation I had discovered. I thought: “Now that testing at different levels involves different scenarios, why not redefine the chip interface to adapt to different testing levels and redefine test scenarios? Maybe we could create a unique chip interface that would support developers’ automated testing.”

The following week, I spent my free time at night designing test cases for chip interface adaptation and completing skeleton code development. With the help of my colleagues Liu and Chen, I joined the Baize Community – an internal common component developer community – where I implemented my code. It took just 10 to 30 minutes to fully verify the functional correctness of each type of file modified on the user interface. Now, developers could quickly test their modifications and prevent modification-induced problems with just one click!

Later, an internal “press conference” was held to officially introduce the tool to everyone in the department. Being recognized for my work and seeing how much it was benefiting others was one of the happiest moments of my professional life.

Epilogue

I am a brick, only a stronger one. Following the success of this project, I was assigned to two other business continuity projects where I applied the experience I gained from this project to ultimately succeed in those endeavors too.

It is now 2023, and I am still working hard as a coder. As the department’s chief engineer and committer – someone who is permitted to submit code – my biggest aspiration is now to apply zero-touch automatic code generation and automatic testing to products that use new chips. I hope that I can always handle the difficult part so that through my work, coding will be a piece of cake for those who come after me.
News & Events

Prestigious Science Journal Nature Publishes Paper About Pangu Weather AI Model Authored by HUAWEI CLOUD Researchers

Meteorological model shows strong performance when compared with traditional prediction in speed and accuracy.

[Shenzhen, China, July 6, 2023] HUAWEI CLOUD announced that a paper about its breakthrough Pangu Weather AI model has been published by Nature, one of the world’s top scientific journals.

The publication marks the first time that employees of a Chinese technology company are the sole authors of a Nature paper, according to Nature Index. The paper, describing how to develop a precise and accurate global AI weather forecast system based on deep learning using 43 years of data, appeared in the prestigious journal on July 5, 2023.

Pangu-Weather is the first AI prediction model to demonstrate higher precision than traditional numerical weather forecast methods. The model allows a 10,000x improvement in prediction speed, reducing global weather prediction time to just seconds. The paper, titled “Accurate medium-range global weather forecasting with 3D neural networks” provides independent verifications of these capabilities.

Pangu-Weather challenges the previously held assumptions that the accuracy of AI weather forecast is inferior to traditional numerical forecasts. The model, developed by the HUAWEI CLOUD team, is the first AI prediction model with higher precision than traditional numerical prediction methods.

China Mobile and Huawei Unveil Industry’s First “0 Bit, 0 Watt” Energy Saving Innovations

[Shanghai, China, July 3, 2023] The China Mobile Research Institute, China Mobile Zhejiang, and Huawei launched their all-new “0 bit, 0 watt” energy saving innovations at the Mobile World Congress (MWC) Shanghai 2023, revealing technical upgrades to the “0 bit, 0 watt” energy saving solutions for equipment and networks. With the upgrades, and for the first time, equipment can enter super deep dormancy and be woken up whenever needed. Moreover, the shutdown ratio of RF modules can reach 99% — the highest in the industry. The upgrades also achieve intent-driven intelligent network energy saving for the first time. This
maximizes the energy efficiency of multi-band networks by applying an optimal strategy for each site at each time.

Over the past five years, China Mobile and Huawei have been working on energy saving innovations for wireless networks, with the aim of achieving zero equipment and network energy consumption when there is no traffic. They found that the key to “0 bit, 0 watt” equipment is minimizing energy consumption during off-peak hours, while ensuring instantaneous service experience, and the key to “0 bit, 0 watt” networks is minimizing energy use throughout the day, while meeting differentiated performance requirements.

Huawei at MWC Shanghai 2023: Boosting 5G Evolution Towards 5.5G to Revitalize the Digital Economy

[Shanghai, China, June 28, 2023] Huawei has shown up in full force for MWC Shanghai 2023, with their activities all falling under their theme of “GUIDE to the Intelligent World”. This year, the company’s activities include an experiential tour that takes audiences to multiple cities to learn about their technology and business, as well as the launch of its newest innovative products and solutions for 5GigaGreen, 5G intelligent core networks, Intelligent OptiX Networks, private line + X products, and other intelligent digital transformation solutions.

At these activities, Huawei will also host numerous roundtables and dialogues with global operators, industry partners, and opinion leaders, to explore a variety of topics which include speeding up 5G prosperity, advancing intelligent digital transformation, and striding towards the 5.5G era to realize business, industry, and social value. The company says its goal is to create new value for customers and revitalize the digital economy through sustained innovation.

Sabrina Meng, Huawei’s Rotating Chairwoman and CFO, gave a keynote titled “Embracing 5G transformation”. She said, “The digital infrastructure of the future intelligent world will be deeply integrated into every aspect of our lives, industry, and society. It won’t be based on advancements in individual technologies, but rather on incredibly massive, complex systems – the convergence of multiple elements. It’s going to require systems-level thinking and design. When watching a chess game, you can see the big picture. But when you’re playing chess, you focus on the details. Likewise, systematic capabilities to integrate technology and transform management are critical for the future success of 5G. First, let’s talk about integrating different technologies. We can achieve greater synergy across cloud, networks, edge, and devices through systematic design and innovation across domains. When coupled with optimization across software, hardware, chips, and algorithms, we can address the challenges associated with developing complex solutions for vastly different industrial scenarios. Next, management transformation. Digital and intelligent transformation is not just about technology itself. It’s more about transforming your approach to management. Going digital requires redefining the relationships between people, events, things, and theory, and adopting a more open, forward-looking management approach to address future challenges.”

Huawei’s booths at MWC Shanghai 2023
Absorbing the Energy of the Universe over a Cup of Coffee

Chaspark Hosts the Theme Event “Fundamental Mathematics and Engineering Practice”

July 7, 2023 saw a highly anticipated theme event take place at the VIP Reception Hall of Huawei’s Sanyapo campus in Dongguan, Guangdong Province, China. With “Fundamental Mathematics and Engineering Practice” as its theme, the event was organized by “Chaspark with Master”. It was attended by over 2,000 people, who participated enthusiastically either in person or online through the live streaming studios of the Chaspark website and other social media platforms.

Among the distinguished in-person event speakers were Professor Laurent Lafforgue, French mathematician and Fields Prize winner; Professor Ma Xinan of the Mathematics School of the University of Science and Technology of China or USTC; Ma Xiaonan, Professor of Université Paris Diderot - Paris VII and winner of 2017 Grand Prix Sophie Germain de l’Académie des Sciences; and Dr. Jui Shangling, Director of Huawei Lagrange Chaspark.
Mathematics and Computing Research Center.

Around the theme of the event the speakers shared their academic viewpoints and research findings, which were well-received both inside and outside the company.

The “Chaspark with Master” is a live video interview program of the Chaspark website. The interviewed guests are senior academic and technical experts from inside and outside Huawei. Until now, nearly 20 scientists, including Huawei Fellows, Chief Scientists in various fields, and top scholars, have participated in the live interview program, which plays an importantly guiding role in promoting the collision of academic and technical ideas, and stimulating exploration and innovation.

For more details, please see the video playback of “#Chaspark with Master# Fundamental Mathematics and Engineering Practice” by visiting https://www.chaspark.com.
New Beginnings: Adjusting to Life at Huawei

By Chong Ning Ern / Malaysia

Starting a new job can be daunting, but it can also be incredibly exciting, especially for a fresh graduate entering the workforce for the first time. I joined Huawei Global Service Resource Center (GSRC) Malaysia as a core network engineer in August 2022. As a mechanical engineering major who had recently graduated, I was both nervous and eager to start this new chapter in my career.

Stepping Out of My Comfort Zone: My First Business Trip as a Fresh Graduate

As a fresh graduate, I was arranged to participate in a remote training program, which would last for a month. After this training, my supervisor assigned me to a project in Turkey as part of the on-the-job training plan for me, an assignment that came sooner than I had expected. I was nervous as I had never traveled abroad alone before. It turned out to be a memorable experience, though.

My plane, as I remember, landed at the airport
energetic and vibrant. The streets were hustling and bustling with the sound of traffic and vendors. I was also amazed by the magnificent cityscape featuring towering buildings and awe-inspiring ancient mosques. I could not help but to feel a mixture of excitement and anxiety about what might lie ahead for me.

In my work on the project, I was part of a maintenance team, which was responsible for upgrading and maintaining the customer’s network. With a different set of challenges and expectations, I found that I was constantly learning and growing. I was given the chance to work on a project that I might not have had the opportunity to do elsewhere. This enabled me to develop my skills and gain new experience in areas unfamiliar to me. One of the biggest challenges for me was in adapting to a new work culture. After years of studying in school, I found that it could be overwhelming for me to transition to a professional work environment with new people. As a new recruit I lacked technical skills and knowledge and there was still a lot for me to learn about the industry. I also had to quickly learn and acclimate myself to a new environment with a set of expectations and ways of working. Despite the initial challenges, I found that my colleagues were incredibly welcoming and supportive. They were always happy to answer my questions and provide guidance when I needed it.

On the first week of my arrival in Turkey, my project supervisor invited me to join him and some colleagues for dinner. It was indeed a great opportunity for me to build relationships and network with colleagues. Although I was a little nervous about meeting new people in a social setting, my supervisor and colleagues were considerate; they were supportive and made me feel comfortable the entire evening.

The highlights of my first business trip included opportunities for me to interact with the locals and learn about Turkish culture. The locals were all friendly and hospitable. Certainly, there were also challenges to overcome as well, such as language barriers and cultural differences. While I did not study Turkish before the trip, I found it difficult to communicate effectively with the locals.
Apart from work, I also took the opportunity to travel around Turkey to recharge and rejuvenate myself after so many days of hard work. I decided to take a short getaway to Cappadocia, Turkey with some of my colleagues. It was a quick escape that turned out to be just what we needed.

As soon as we arrived in Cappadocia, we were struck by the unique landscape of the region. We started our trip by taking a hot air balloon ride over Cappadocia, taking in the breathtaking views of the sunrise over the region. It was a peaceful and serene experience.

One of the highlights of our trip was staying in a cave hotel – such hotels are built into the rock formations of Cappadocia, providing a unique and authentic experience. Our rooms were spacious, and the view from our hotel was incredibly stunning.

Overall, our short getaway to Cappadocia was a memorable experience. It was an opportunity for us to explore a new destination together and to disconnect from work. Sometimes, a quick escape can be just as rejuvenating as a long vacation.

Home Away from Home: Meeting People from My Country While Stationed Overseas

Traveling to a new place can be both exciting and intimidating, especially if you are stationed overseas for a long period of time. That is why meeting people from your own country while stationed abroad can be such a comforting and enjoyable experience.

I was feeling a bit anxious about being away from home during my on-the-job training in Turkey. However, I soon discovered that there were several people from my home country who were also working away from home. It was a wonderful experience to meet these new people. They took good care of me during my stay in Turkey since I was the youngest of all. They constantly made me feel at home even though we were all far away from Malaysia.

Looking back on my first business trip to Turkey, I realize how fortunate I was to have had such a wonderful experience. It gave me a new perspective on the possibilities that were waiting for me out there in the business world, and infused me with a sense of curiosity and adventure. All in all, my new life at my new company has been both challenging and rewarding. I am grateful for the opportunity to grow and learn in a new environment, and I am excited to see where this journey will take me.
You Are a **Writer** at Heart!

Have an experience worth sharing? Drop us a line! *Huawei People* can help amplify your voice and spread your story to Huawei colleagues around the world. We are now seeking contributions from any employee who has a good story to tell. Get your work published, get remunerated, and see your article in print in *Huawei People* magazine. So if you fancy yourself a wordsmith, contact us NOW for a chance to flex your storytelling skills!

### Work Stories of Individuals

Go to our website and read *A Man, a Cook, and a Dog*, and write us your unique work stories. We want to highlight the contributions of ordinary people who do extraordinary things, because good examples are like a beacon in the dark, they lead and inspire us.

### Life Stories of Individuals

*What Do I Do in Office?* is a story about how a daddy explains his work in Huawei to his 5-year-old son. Share with us your own touching, inspiring or life-changing experiences during your career at Huawei. Your readers around the world may feel quite connected.

### Team/Project Stories

Read *Stars Along the Mountaintops* and share your own touching team/project stories. We believe the best team and project stories reflect our company’s purpose and core values, on which the company was built and still rest on today.

### Opinions

Read *Why Protecting IPR Should Matter to Us All* and share your opinions on issues and policies at Huawei. The best submissions offer fresh insight, critique ideas, actions, and policies – not people, suggest solutions, and align with the core values of Huawei.

### More articles for your reference:

- *Dad, What Should I Do to Become a Huawei Project Manager?*
- *Everything is Possible, if We Believe in It*
- *My Huawei Interview - Chasing Goals and Seeking Results*
We Want Your Amazing Photos!

We are looking for some good photos to use for the cover of Huawei People. From the east of the Pacific to the west of the Atlantic, from the north of the Arctic Ocean to the Southern point of South America, from the high plateaus of Bolivia to the low lands of the Dead Sea… Photos of famous landscapes and typical landmarks from the countries and regions where Huawei operates are most welcomed.

Get your photo printed in the cover page of Huawei People magazine and receive a good payment. Take a shoot and share your masterpiece with us!

We prefer high resolution photos with vertical orientation for the magazine cover. Please send photos to hwpeople@huawei.com.