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RECENT TRENDS

UNESCO: Accelerating Digitalization
Brings Quality Education to All

RECENT TRENDS

Forging the Digital Era with the
Three Trees Talent Model

TALENT ALLIANCES

Developing a Thriving Digital Talent
Ecosystem in Europe

HuaweiTech

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Academies and Academia:
Developing Talent for the Intelligent Future

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Huawei ICT Academy

Building Your Career Today

The Huawei ICT Academy is a school-enterprise collaboration program that is dedicated to transferring skills, sharing knowledge, and introducing students to Huawei's most recent ICTs.

Since the commencement of Huawei ICT Academies in 2013, Huawei has cooperated with colleges and universities to achieve the following:

Jointly built Huawei ICT Academies
2600+

Countries and regions
110+

Trained Huawei ICT Academy instructors
11000+

Trained students each year
200,000+

Huawei ICT Academy Facebook

Huawei Talent

Building a Fully Connected, Intelligent World

HUAWEI

Academies and Academia: Developing Talent for the Intelligent Future

Senior Vice President and President of ICT Strategy & Marketing, Huawei
Peng Song

"If you are planning for a year, sow rice; if you are planning for a decade, plant trees; if you are planning for a lifetime, educate people," so states the ancient Chinese philosopher Guan Zhong about the importance of developing talent in his book *Cultivation of Authority*. According to another Chinese classic, *History of Song*, "The good governance of a country lies in talent, and the creation of a country's talent lies in education."

Huawei understands the importance of talent and is committed to collaborating with universities and colleges to foster an ecosystem for training teachers and students. Doing so will improve higher education, help train high-quality ICT talent, and accelerate the intelligent transformation of industries.

ICT talent enables the intelligent transformation of industries

Intelligent transformation has become a global trend in which ICT talent will play a key role by applying new mindsets and technologies to facilitate industry development and a sustainable digital economy.

Collaboration between enterprises and universities is a key aspect of developing talent. The rapid development of intelligent digital technologies requires that teaching and internships keep pace with industry trends. By combining the skills that enterprises need and their successful practices into education, collaboration can improve the quality of talent training to prepare students for industry development while supporting enterprise research and innovation.

Universities, enterprise, and students all benefit.

Huawei collaborates with universities to drive high-quality education

As an innovative ICT company, Huawei is well aware of the importance of talent cultivation and is committed to sharing its years of industry expertise. In 2013, we launched the Huawei ICT Academy program, which brings the latest ICT knowledge and skills to universities and colleges to prepare students for the future needs of industries. By September 2023, we had partnered with over 2,600 universities around the world to establish Huawei ICT Academies, training more than 200,000 students in over 100 countries and regions every year.

In Tunisia, Huawei has established 68 ICT Academies and trained over 8,000 ICT students, for which it received the Republic of Tunisia's Prime Minister Medal. In Thailand, Huawei was awarded the Prime Minister's Best of Contributor in Human Capital Development Award for its efforts in training digital talent and supporting the country's digital economy. In China, Huawei has established more than 600 ICT Academies in partnership with universities. For example, the collaboration between Huawei and Shanghai Jiao Tong University has produced a talent training model that integrates courses, competitions, and entrepreneurship. Over a dozen training courses covering subjects such as IoT and AI can help students develop innovation skills and create startups. Over 2,000 outstanding students have been trained through this program.

The Huawei ICT Academy program supports universities and colleges in curricula development, faculty training, talent development, teaching transformation, and entrepreneurship. It also helps match recruiters with graduates through ICT Talent Alliance job fairs, streamlining the last mile to employment.

Huawei is continuing to enrich the ICT Academy program. By establishing Huawei ICT Academy Support Centers (IASCs) worldwide, releasing the ICT Academy Growth Index, and launching the School Seeds Program, we help all ICT Academies grow and facilitate digital inclusion around the world.

Huawei will bring ICT education resources to more universities and colleges around the world. We plan to establish Huawei ICT Academies in partnership with over 6,000 schools by 2026 to train more than one million students annually.

By developing more ICT talent with digital skills, we aim to accelerate industry transformation and create a more intelligent future.

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Presented By Zhou Jun

Consultant Gai Gang

Editor-in-Chief Xing Jingfan

Editor-at-Large Han Yu

Editors Fu Dongwei
Gary Maidment

Art Editors Zhou Shumin
Xu Chuangliang

Contributors He Yinping, Liu Wei

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Please contact the
Huawei Tech editorial office to
request a copy of, contribute to,
or comment on Huawei Tech.

E-mail HWtech@huawei.com
Tel +86 755 89241326
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RECENT TRENDS

UNESCO: Accelerating Digitalization Brings Quality Education to All

UNESCO is guiding efforts to achieve SDG 4, transform education, and promote new ways to collaborate and share knowledge. By increasing public-private collaboration, UNESCO hopes to create new, innovative mechanisms to accelerate education digitalization.

Borhene Chakroun

Director,
Policies and Lifelong Learning Systems Division,
UNESCO-Headquarters

We are already at the halfway point of implementing the 17 Sustainable Development Goals (SDGs) adopted by the United Nations (UN). Progress has been made towards SDG 4, which seeks to ensure inclusive and equitable quality education and lifelong learning opportunities for all. However, inclusive education remains a challenge, with 60% of the world's 10-year-olds unable to read or understand simple stories and 244 million children and youth yet to return to school.

At UNESCO, we lead the global Education 2030 Agenda and work hard to ensure the right to education. As part of our efforts to transform the global education system and achieve SDG 4, we are constantly seeking new ways to collaborate, share knowledge, and adopt innovative mechanisms to support transformation.

When the COVID-19 pandemic disrupted in-person learning, we launched the Global Education Coalition. This Coalition brings together more than 140,000 members from the UN family, civil society, academia, and the private sector to support national efforts to expand remote education, particularly for disadvantaged children and youth. Since its inception, the Global Education Coalition has created the Digital Transformation Collaborative (DTC), which leverages expertise and resources from all sectors of society to drive education transformation at the local, national, regional, and global levels. This platform has strengthened the link between academia and industry, and is expected to carry out more varied and more valuable educational activities in the future.

GSA: Creating opportunities and equity

One such activity involved establishing the Global Skills Academy (GSA), which was tasked with mobilizing Coalition resources to help learners improve their employability and resilience. Employment and skill gaps have widened since the pandemic, with youth unemployment rates in many countries deeply concerning the International Labour Organization (ILO). Youth who are not in employment, education, or training face unique risks such as finding it difficult to

Huawei has demonstrated how enterprises play an important role in accelerating progress towards SDG 4 by facilitating the creation of quality education and promoting lifelong learning opportunities.

return to the labor market or vulnerability due to informal employment situations. The global community is working to smooth the transition from the school to job market within the framework of the 2030 Agenda for Sustainable Development. SDG 8.6 was set specifically to increase youth employment opportunities and substantially reduce the proportion of youth not in employment, education, or training (ILO & United Nations, 2015).

The GSA draws on the UNESCO-UNEVOC network of institutions to bring learners free, high-quality training programs that will help them excel in the demanding and rapidly evolving labor market. As part of UNESCO's strategy for TVET 2022–2029, the mission has also recently scaled up to support 10 million learners by 2029 and is currently working with 23 partners.

Huawei ICT Academy 2.0

Huawei is a member of the Global Education Coalition and a committed partner of the GSA. Since 2020, the company's ICT Academy 2.0 program has provided free online certification training for learners around the world. The program's trainees have proven themselves more competitive in the labor market and many now have flourishing careers in the ICT industry. The program also has secondary goals to help digitalize the education industry, use ICT to bridge the digital divide, and achieve equity in education. Training is currently available in nine languages and the program also holds an annual ICT Competition where outstanding trainees are given the chance to shine on the global stage. The program is a prime example of how industry can work with UNESCO, government organizations, and higher education institutions to build an innovative talent ecosystem.

Open schools for all: Enabling quality education with ICT

Education is not simply a tool to improve employment figures. It is a basic building block of every society, so we must ensure that everyone has access to quality education. During the pandemic, the education systems of countries without sufficient ICT infrastructure and well-resourced digital learning systems suffered the greatest disruptions, highlighting the increasing importance of digital technologies in education. A more sustainable change is necessary for the definitive transformation of our education systems. Digital technologies offer new methods for accessing educational resources and for increasing inclusion. They enhance the relevance and quality of learning content, build lifelong learning pathways, strengthen education and learning management systems, and help monitor learning processes.

The Global Education Coalition has recently pivoted from simply creating tools for emergency response towards the wider transformation of education – a journey that has been hampered in many countries by the disruptions of the pandemic to learning systems.

The Technology-enabled Open Schools for All project is one such way we are seeking to achieve transformation. With a US$3 million commitment, the project brought together the Ministries of Education and other partners in Ethiopia, Egypt, and Ghana to design, pilot test, and scale up Technology-enabled Open School Systems. Completed in July 2023, this

three-year project has provided national platforms and connectivity for schools and improved digital content and educational resources for learning centers, so that they can provide teachers and students with digital skills training.

In Ethiopia, the project supported a new national initiative for digital textbooks, resulting in a vast digital library for secondary school students that will benefit 12,000 students and 250 educators. In addition, the program acted to broadly enhance access to national educational platforms and digital content for all secondary students and educators in the country.

In Ghana, the project has empowered learning outcomes and the acquisition of skills required in the twenty-first century by integrating technology with new pedagogies, which have directly benefited 1,000 teachers and 3,000 students.

Public-private collaboration: Advancing education digitalization

High-quality online content is a key part of digital transformation. For content creation to be sustainable, local education stakeholders must be empowered to create and share their own content. While government agencies and professionals can lead these efforts, enterprise participation is critical.

I would like to call upon companies like Huawei to help give learners better access to more reliable and effective learning platforms. UNESCO already works with Huawei to extend the company's initiatives in Latin America based on a roadmap they signed with the Regional Bureau of Education for Latin America and the Caribbean in November 2022. The 'Teacher Training in Digital Competencies' regional roadmap will be piloted in Chile, where Huawei will help identify specific areas where teachers need support and create corresponding courses to equip teachers with the tools they need to utilize digital technologies in the classroom and for distance learning. Evaluations will be carried out to certify learning outcomes.

Huawei is also helping UNESCO to promote literacy in target countries. In our increasingly digital, text-mediated, information-rich, and ever-changing world, literacy does not just mean reading, writing, and counting. It also includes identification, understanding, interpretation, creation, and communication. By acting as a corporate partner for initiatives like the UNESCO Institute for Lifelong Leaning (UIL) and Moodle project, Huawei is helping to build the capacities of literacy educators by delivering training modules and designing digital skills monitoring and assessment tools.

Huawei has demonstrated how enterprises play an important role in accelerating progress towards SDG 4 by facilitating the creation of quality education and promoting lifelong learning opportunities. As partnerships between UNESCO and enterprises continue to flourish, I am excited to see ever more content, training programs, and initiatives empowering teachers and students in different regions.

Improving Digital Skills to Unleash the Power of Women

Vicky Zhang

Vice President,
Corporate Communications,
Huawei

Gender inclusion is essential for the technology sector to grow, but women still face many barriers in the industry. With training and resource support for women, Huawei is committed to overcoming these barriers and contributing to global digital inclusion.

Technology talent is one of the keys to unlocking digital transformation and digital productivity in the digital era. As technologies continue to evolve, women are playing a bigger role in this tech sector.

According to Forbes, the fastest growing force in the world is not emerging economies such as China and India, but women. The rise of the "She Economy" has allowed more women to participate in the technology sector and showcase their talents in fields like artificial intelligence, the Internet, and new energy. According to Deloitte's latest report on women in technology, female representation in large global tech firms averaged nearly 33% in 2022, marking a significant increase over 2021. Employment in the technology sector, especially for women, has also begun to recover faster than in many other industries.

However, women frequently do not receive the opportunities they deserve in the tech industry, making it hard for them to get the training and advancement offered to their male peers.

Since the pandemic, industries with traditionally lower levels of female representation have employed even fewer women workers. According to the World Economic Forum's Global Gender Gap Report 2022, the time required to achieve gender equality, if we continue at our current pace, has increased from 99.5 years to 132 years. In the field of cloud computing, for example, women account for only 14% of the workforce, and only 20% of people working in engineering are women. It is often more difficult for women to break into emerging fields than it is for men. This means that industry leaders and policymakers are responsible for stepping up and actively pursuing gender equality by improving women's skills, which in turn will help drive economic recovery.

Huawei has launched several Women in Tech projects since 2017 to address these concerns. Under its "Tech for Her, Tech by Her, Tech with Her" strategy, the company aims to create more opportunities for women to learn key digital skills. It is also committed to applying its own technologies to improving women's health, well-being, and leadership in the digital era. Women in Tech has become one of the company's key CSR programs, running in more than 50 countries around the world.

Leaving no one behind in the digital world

As an ICT industry leader, Huawei is in a prime position to ensure that women are a critical part of the technology industry. Female representation and participation bring new perspectives that can create both technological and business value.

Responding to the UN's call to support the Sustainable Development Goal on Gender Equality was therefore an easy choice for Huawei. By helping countries formulate better development policies for women, the company is working to ensure that everyone, regardless of age, gender, or nationality, can benefit from technology in the digital age, so that no one is left behind in the digital world.

To specifically bridge the gender gap in technology, Huawei has also launched digital technology enablement programs for women in multiple countries, including Ghana, Bangladesh, and Malaysia.

Figure 1: Huawei has been providing digital training for women in Ghana.

Bangladesh: Building a digital skills learning platform with the Digital Training Bus

While the Bangladesh government has been pursuing a digital agenda, many women from remote areas have been missed by these initiatives. In 2017, Huawei worked with the Bangladesh government's ICT Division and local carrier Robi Axiata to launch the Digital Training Bus project. Six custom built buses, each equipped with 25 workstations, were sent to rural areas to train women in digital skills. The project trained 240,000 women in 64 regions across Bangladesh, helping the country promote gender equality and achieve long-term economic growth.

Connected on Wi-Fi, these buses allowed Bangladesh women in remote areas to receive customized digital skills training. By learning to use the Internet and apps such as mobile banking, more women are now able to access a broader array of information and connect to others around the world.

Malaysia: Partnering with the Women Leadership Foundation (WLF) to develop female leadership

Offering more than 3,000 ICT courses delivered by 100 lecturers, the Huawei ASEAN Academy was launched in Malaysia to train digital talent in the region.

Women frequently do not receive the opportunities they deserve in the tech industry, making it hard for them to get the training and advancement offered to their male peers.

In 2021, Huawei and the Malaysian WLF signed an MoU on creating a female leadership development program. The two parties agreed to provide ICT skills and leadership training for Malaysian women through the Huawei ASEAN Academy. The program aims to create more opportunities to foster and identify female leaders and promote the advancement of women by equipping them with digital and leadership skills. The program trained 2,500 women through tailored courses on business analysis, big data, artificial intelligence, and blockchain. This program provided more opportunities for women, and cultivated leaders for the country's digital transformation.

Ghana: Building alliances to bring digital skills to high school students and women in rural areas

Huawei began partnering with Ghana's Rebecca Foundation in 2021 to provide training in coding, including programming languages, and fintech for women in rural areas (as shown in Figure 1). Women in the northern, western, and eastern regions of Ghana are often held back by economic hardship, so this project was tailored to empower them to improve their prospects with digital skills.

In 2022, Huawei partnered with Ghana's Ministry of Communications and Ministry of Education to equip high school girls with digital skills. Focusing on artificial intelligence, privacy protection, cybersecurity, and online safety, the project benefited more than 100,000 female high school students.

Focusing on equity and motivating women professionals

Fairness, justice, and opportunity are becoming increasingly important in the digital age. As a leading global ICT solutions provider, Huawei is committed to giving back to the communities we serve and promoting skills improvement and social participation for women. As part of these efforts, Huawei issued its Statement on Gender Equality within the company and holds events and creates awards for women to encourage participation in the tech industry and provide them with more opportunities.

The Huawei white paper on diversity for fairness, justice, and opportunities

In 2022, Huawei released its first white paper on diversity and launched a new diversity initiative, hoping to contribute more to social equity and diversity. The white paper examines five company's initiatives presented in the company's Statement on Gender Equality: enhancing diversity and ensuring equality in recruitment; promoting women leadership at all levels; providing career and family care to employees; nurturing an open, inclusive, and secure corporate culture; and providing education, training, and digital opportunities to all.

The Seeds for the Future program: Encouraging women to participate in the technological revolution

Seeds for the Future is Huawei's flagship global CSR program for young people. It aims to cultivate ICT talent; build bridges between countries and cultures through scholarships, academic competitions, and online training; and provide women with training in digital and professional skills. Through this program, Huawei shares its extensive ICT expertise and experience, helping trainees better understand cutting-edge ICT and build their own pool of expertise.

Women account for more than 30% of participants in the Seeds for the Future's ICT training programs.

Figure 2: Martha, Esther, and Gladys (from left to right) from Ghana won the Women in Tech Award in the 6th Huawei ICT Competition.

The Huawei ICT Competition & the Women in Tech Award

The annual Huawei ICT Competition was launched in 2015 to give college students from around the world the chance to cultivate their innovation capabilities using new technologies and platforms.

In 2022, Huawei created the Women in Tech Award for outstanding women who participate in the ICT Competition. The award is intended to encourage more women to participate in technological innovation and drive the growth of the ICT industry as a more inclusive and diverse paradigm.

At the 6th Huawei ICT Competition Global Final in 2022, three women from Kwame Nkluma University of Science and Technology in Ghana were named winners of the first Women in Tech Award for their AI-based Water Quality Monitoring Solution(as shown in Figure 2). In 2023, four teams from University Malaysia Sabah, Luoyang Institute of Technology, Zhuhai City Polytechnic, and Southwest University of Science and Technology won the award (as shown in Figure 3). The women that participated in the competition believed it not only gave them valuable experience, but also proved that they could excel in the technological sector, stating, "In the future, we will continue to explore these technological fields. We hope that our experience will inspire more Ghanaian women to enter this field, and lead technological innovation, as well as promote gender equality and social inclusion."

The European Leadership Academy

In August 2021, Huawei held its first ever

Figure 3: The four winning teams of the Women in Tech Award at the Huawei ICT Competition 2022-2023

Female representation and participation bring new perspectives that can create both technological and business value.

Summer School for Female Leadership in the Digital Age in Lisbon, Portugal. Huawei selected 27 participants from 1,225 applicants from the EU's 27 member states to participate in a week-long summer school that included a masterclass, team projects, and cultural experience courses. Training included coding courses, and outstanding female entrepreneurs and executives from all walks of life were invited to share their experiences with the students. By the end of 2022, five more European Leadership Academy sessions had been successfully completed.

These are just some of the many programs companies like Huawei are running to help bridge the digital gender gap. Technology has no gender, and inclusiveness is essential if we want to see women unleash their potential and the technology sector to grow.

Forging an Era of Intelligence with the Three Trees Talent Model

Sun Gang

Director,
ICT Talent Partner Development Dept,
Huawei

ICT talent is crucial for the digital economy to develop. Huawei's 'Three Trees' talent ecosystem model and four specialized approaches are designed to overcome challenges in talent cultivation and create an inclusive digital era through partnerships.

As the digital economy thrives, the role of ICT talent is growing in importance.

According to the *White Paper on Global Digital Economy (2022)* released by the China Academy of Information and Communications Technology (CAICT), the output of the global digital economy increased by US$38.1 trillion in 2021, a 15.6% increase over the previous year. The global digital economy now accounts for 45% of GDP. Intelligence is transforming society, and the urgent need for intelligence across industries and innovation in ICT capabilities are accelerating intelligent transformation worldwide.

Societal digital transformation requires skilled ICT professionals in a range of industries. The EU aims to increase the percentage of people across EU member states with basic digital skills from 57% in 2018 to 65% by 2025. To achieve this, the EU will need to train around 10.9 million people in digital skills.

The *China ICT Talent Ecosystem White Paper* estimates that by 2025, there will be a shortage of 21.35 million ICT workers.

There is already a global consensus on the importance of cultivating digital talent. The latest version of the UK Digital Strategy states that the UK will emphasize digital infrastructure, creativity, and intellectual property, as well as digital skills and talent. Germany's Digital Strategy 2025 includes digital skills, digital transformation, and digital talent cultivation. China's 14th Five-Year Plan and Long-Range Objectives for 2035 proposes plans to step up efforts to make China a cyberpower and accelerate the nation's progress towards Digital China. This requires the country to foster more world-class strategic technological talent and leaders.

The Three Trees model

For over a decade, Huawei has been exploring collaborative ways to develop ICT talent and has proposed the Three Trees model for developing a talent ecosystem (Figure 1).

Teachers and students: To meet different schools' requirements for fostering innovative and application-oriented ICT talent, Huawei ICT academies around the world bring the latest ICT knowledge and skills to teachers and students, build a talent ecosystem for teachers and students, and strive for equal access to quality education.

Industry practitioners: To address industries' needs for ICT talent, Huawei provides talent development services to help train professionals specializing in management, services, and technologies. These professionals play a vital role in digital-intelligent transformation, service innovation and efficiency enhancement, and digital infrastructure development. Well-trained professionals can enhance the vitality of organizations and help industries go digital and intelligent.

Lifelong learners: To improve the general public's digital skills and competitiveness in the job market, Huawei provides a leading talent cultivation system and certification standards to help professionals grow through extended education, thus building a talent ecosystem for lifelong learners.

4 approaches to overcoming challenges with ICT talent cultivation

The widening gap between talent demand and supply is a key challenge for developing ICT professionals. We anticipate breakthroughs in talent cultivation approaches for four reasons:

First, digital technologies are evolving every day. Enterprises need talent that can keep up with industry developments. As a result, we expect the focus, methods, and content of ICT talent cultivation to change.

Second, colleges and universities are facing greater pressure to equip fresh graduates with both theoretical knowledge and practical skills that will allow them to find a job and excel at it, so they are exploring more innovative approaches to talent cultivation.

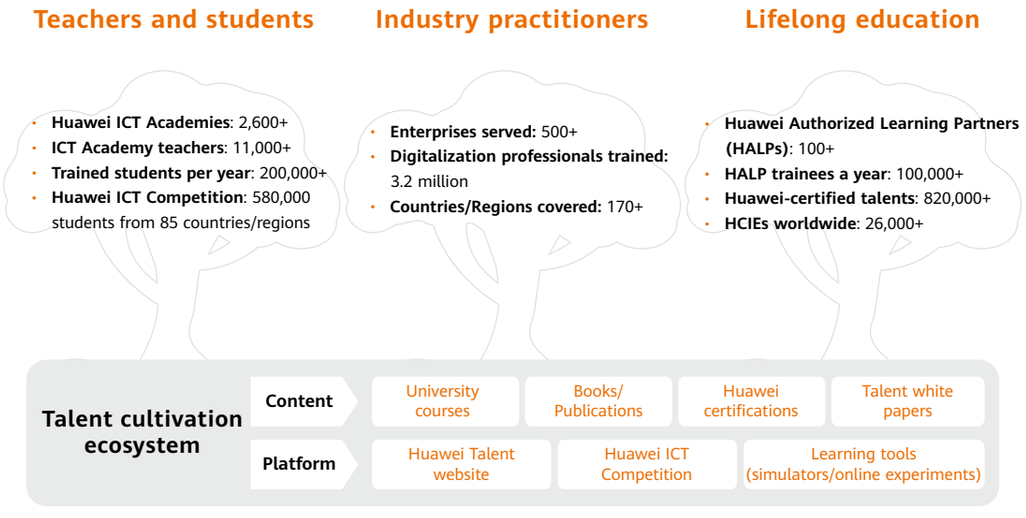


Figure 1: Huawei's Three Trees model for developing a talent ecosystem

Huawei aims to build a platform that enables a robust ICT talent ecosystem and overcomes challenges in ICT talent cultivation.

Third, enterprise digitalization requires a large number of ICT professionals and improved input-output efficiency in talent cultivation.

Fourth, the rapid growth of emerging ecosystems, such as those related to openEuler and HarmonyOS, can only be sustained by a workforce with a large number of industry professionals.

To address the increased demand for ICT talent and drive breakthroughs in talent cultivation, Huawei has laid out four approaches: forming talent alliances, incorporating talent standards, improving talent capabilities, and communicating talent value. With these approaches, Huawei aims to build a platform that enables a robust ICT talent ecosystem that overcomes challenges in talent cultivation.

Approach 1: Forming talent alliances to develop a talent cultivation platform

In a world where all things are connected, no individual or enterprise is a silo. Huawei is sharing its technologies and expertise and working with partners to develop a platform that enables a robust ICT talent ecosystem.

1. Collaboration with colleges and universities through the Huawei ICT Academy project

Colleges and universities are key platforms for talent cultivation, so it is important to collaborate with them to ensure young talent has access to the industry's latest developments and requirements. In 2013, Huawei launched its ICT Academy, a university-enterprise collaboration project that brings the latest digital technologies to colleges and universities around the world to transform students into ICT professionals. By the end of September 2023, Huawei had built ICT academies in collaboration with more than 2,600 colleges and universities in over 110 countries and regions worldwide, training over 200,000 students per year.

Huawei has established ICT Academy Support Centers (IASCs) to help the academies consolidate the results of collaboration and improve the quality of talent cultivation. By the end of June 2023, Huawei had es-

tablished 22 IASCs in 18 countries, which support the operations of more than 400 ICT academies.

2. Boosting higher education with national education authorities

Huawei works with national education authorities to bring the latest technologies and resources to colleges and universities around the world. In China, we participate in the Ministry of Education's (MOE) University-Industry Collaborative Education Program. So far, we have initiated 705 projects, which support teachers at 229 universities to develop courses, teaching materials, and MOOCs to help universities enrich ICT talent.

Huawei worked with the China Scholarship Council on the Experiencing China — Intelligence Makes the Future program to improve the innovation capabilities of international students studying in China. In Mexico, Huawei's ICT courses were made a compulsory part of the national teaching certification by the Secretariat of Public Education in 2022, which is expected to accelerate the development of 140,000 teachers in the country.

3. Providing ICT training with local labor and human resource authorities

Huawei also works with ministries of labor and other human resource departments in different countries to provide ICT training for local communities and promote employment. In Macao, China, the government has recognized Huawei's certification by including it in its Professional Certification Incentive Program for Information Technology Talent. In the UK, Huawei has partnered with the Greater Manchester Combined Authority (GMCA) to encourage youth to learn about the prospects of a career in digitalization by improving programming skills and creativity as part of its Tech4Good initiative. In Colombia, Huawei's certification has become a recognized enterprise certification that will help the country cultivate 50,000 ICT talents within three years.

4. Promoting digital inclusion with UNESCO

Huawei has cooperated extensively with UNESCO in digital transformation for higher education and talent cultivation. Huawei offers access to its cloud technologies to support the operation of the International Institute of Online Education, a non-profit online education platform where Huawei also provides 14 leading ICT certification courses for free to help teachers improve their technical skills. Huawei also participated in the 3rd World Higher Education Conference (WHEC2022) organized by UNESCO. At the conference, Huawei launched its Seeds for the Future scholarship program, and signed MOUs with 11 ICT academies and educational organizations across Europe, Asia Pacific, and Africa to jointly cultivate ICT talent for the future. Leading up to MWC Barcelona 2023, Huawei announced that it had joined the UNESCO Global Alliance for Literacy (GAL). It was the first private company to become an associate member of the GAL.

Approach 2: Incorporating talent standards to improve the quality of talent cultivation

Ongoing learning is essential to keep up with the rapid evolution of ICT. To facilitate lifelong learning, Huawei is incorporating its certification standards in talent cultivation. By providing diverse and systematic learning and teaching materials, Huawei is diversifying talent cultivation paths and increasing both the quantity and quality of talent.

1. Promoting Huawei certifications with an industry-leading ICT talent development system and certification standards

Huawei's professional ICT certification system is based on the company's "platform + ecosystem" strategy and a new ICT architecture with cloud-pipe-device synergy. This system provides three types of certification: ICT infrastructure, basic software and hardware, and cloud platform and services. By September 2023, more than 820,000 engineers worldwide had been certified by Huawei, and over 26,000 were named Huawei Certified ICT Experts (HCIEs). These engineers are a valuable resource pool for accelerating the intelligent transformation of industries.

2. Developing Huawei ICT Academy courses to help colleges and universities develop talent

To support the operations and talent development of the Huawei ICT Academy, Huawei provides courses for ICT academies worldwide, including general, practical, and specialized courses. By the end of September 2023, we had launched 33 courses in Chinese and 19 in English. For example, Yunnan Technology and Business University (YTBU) worked closely with Huawei to reform their talent development system, develop curricula, train teachers, and set up training rooms. By the end of 2022, nearly 3,000 YTBU students

had passed Huawei certification, and the MOE ranked the university in the top 50 universities in China for graduate employment.

3. Publishing specialized textbooks to help reform universities' talent development models

Under the guidance of organizations like the Teaching Steering Committee for Computer Science and Technology and the editorial board for the Next-Generation Artificial Intelligence Textbooks Series, Huawei experts, university lecturers, and professional editors at the publishing house worked together to write textbooks. To date, more than 40 textbooks on emerging digital technologies, such as big data, IoT, and AI, have been developed. Notably the textbook series for the Huawei "1 + X" vocational skills certificate, co-authored by Huawei experts and university lecturers, was included in the MOE's list of nationally planned textbooks for vocational education in the 13th Five-Year Plan. Since it was first published in 2020, more than 230,000 copies have been sold. Huawei is also working with the Pilot Software Engineering Schools Association to jointly develop a series of software engineering textbooks, which are expected to be published by the end of 2023. In addition, Huawei has published five Huawei ICT Academy textbooks in English in the Open Access (OA) model.

4. Developing a course-competition-innovation integrated talent training model through innovation camps

Huawei has organized a range of innovation training camps through talent centers at its ICT academies. So far, we have worked with more than 80 top universities around the world. Our training model is a joint effort between industry and academia. It integrates courses, competitions, and innovation practices, and provides training on both theoretical knowledge and practical skills. This will help colleges and universities train more students by improving their technical competencies, practical skills, and innovation capabilities.

In Singapore, Huawei launched the first AIoT innovation training camp outside China, where students learned about AI and IoT and put that knowledge to the test, designing Smart Glasses for patients with Alzheimer's. This project won the Grand Prize in the Innovation Track at the 5th Huawei ICT Competition Global Final.

We are also launching regional university alliance innovation training camps in the Beijing-Tianjin-Hebei region, the Yangtze River Delta region, Central China, and the Guangdong-Hong Kong-Macao Greater Bay Area. These camps aim to benefit more students from different backgrounds and nurture talent.

5. Launching a "1 + X" vocational certification to cultivate application-oriented ICT talent

For application-oriented universities and vocational colleges, Huawei focuses more on developing students' innovation and application capabilities. Huawei is cooperating

Huawei uses a variety of methods to improve digital literacy and practical skills and forge sustainable competitiveness.

with educational authorities in reforming the teaching system. Huawei participated in the pilot of "1 + X" certificates for vocational education in China. Four certificates, including network system construction and O&M and the development of intelligent computing platforms, were included in the pilot program. By the end of June 2023, more than 700 universities had incorporated Huawei's "1 + X" certificate courses as part of their teaching systems, and more than 31,000 students had earned "1 + X" certificates.

Approach 3: Upskilling talent to boost the digital-intelligent transformation of enterprises

Huawei uses a variety of methods to improve ICT literacy and practical skills and forge sustainable competitiveness.

1. Running training sessions that give teachers theoretical knowledge and practical skills

Teachers are key to educational reform. Huawei continues to invest in training teachers, optimizing training content, and improving the format of training sessions in partnership with universities and colleges to cultivate teachers with both theoretical knowledge and practical skills. The trained teachers can run courses about Huawei's latest technologies, and foster ICT talent with the skills that the industry currently needs.

Over the past two years, Huawei has focused on the Huawei ICT Academy University Tour – School Seeds Program to prepare next-generation application-oriented and innovative ICT talent for careers in the industry. In 2022, 34 teacher training sessions were delivered, and 1,553 teachers from 508 universities were trained.

2. National ICT talent cultivation programs that foster young talent

Huawei is cultivating young talent around the world through its national ICT talent development programs. In Egypt, Huawei and the Egyptian government jointly initiated ICT Talent Pool (ITB) to provide ICT training for young Egyptian students and help realize Egypt Vision 2030. By the end of July 2023, 82 Huawei ICT academies had been established

in Egypt, 1,000 ICT academy teachers had been trained, and nearly 10,000 students had earned Huawei certifications. In Indonesia, Huawei worked with the local government to launch the Digital Talent Scholarship (DTS) program to improve the quality of ICT talent. In Nigeria, Huawei and the federal government have jointly launched the Digital Enablement for 1,000 Nigerians initiative. By the end of 2022, Huawei had delivered 16 training sessions in Nigeria and trained more than 930 people. In Tunisia, Huawei established 62 ICT academies, and nearly 2,000 students were trained in 2022 alone. Huawei was awarded the Republic of Tunisia's Prime Minister Medal for its contributions to the country's talent development and ICT industry.

3. Talent cultivation services to help industries go digital and intelligent

To help enterprises nurture talent, Huawei has launched digital learning platforms that provide both online and offline courses to create a one-stop experience for learning, testing, practicing, and certification. Enterprises can use these platforms to cultivate diversified ICT talent. In the financial industry, Huawei has assisted CITIC Bank's credit card center in training key employees. In the transportation and manufacturing industries, Huawei has established strong partnerships with customers such as Wuhan Metro and FAW-Volkswagen to promote ICT literacy amongst industry professionals and improve intelligent management capabilities.

Approach 4: Communicating the value of talent

Maintaining an atmosphere conducive to talent development is essential. By publishing talent white papers and holding activities like the Huawei ICT Competition, HCIE Nights, and Talent Ecosystem Summits, Huawei communicates the value of talent and fosters an encouraging atmosphere for talent development.

1. Publishing talent ecosystem white papers to establish and grow local talent ecosystems

To help countries formulate talent development policies, enterprises assess talent needs, and individuals identify focus areas for learning, Huawei has published talent white papers in many countries to offer insights into ICT trends and talent requirements, talent development paths, and successful talent development practices. In 2022, Huawei and EY released the *China ICT Talent Ecosystem White Paper*, which explores ways to accelerate ICT talent development and improve the utilization of ICT skills. We have also released talent white papers in Europe, parts of Africa, and the Middle East to foster local talent ecosystems.

2. Holding the annual Huawei ICT Competition

Huawei has held the annual Huawei ICT Competition since 2015 to improve college students' ICT knowledge and hands-on skills, and develop their innovation and creative capabilities using new technologies and platforms. The competition has grown each year, both in size and influence, and is included in China's National Ranking List of College Student Competitions. The influence of the competition outside China has also grown, and it recently attracted attention from senior government officials including the President of Pakistan and the Vice President of Uganda. The 7th Huawei ICT Competition, which concluded in Shenzhen in May this year, attracted more than 120,000 college students from over 2,000 colleges and universities across 74 countries and regions. The competition not only helps to promote learning, education and development through competition, but offers students the opportunity to add to their CVs and find better jobs after graduation.

3. Organizing Huawei ICT alliance job fairs to coordinate ICT talent supply and demand

Through its ICT talent alliance job fairs, Huawei matches students with enterprise employers. Through the Baige Program in China, Huawei improves trainees' abilities to adapt to job requirements and refers them to Huawei's ecosystem partners, thereby streamlining the talent supply chain.

Huawei is committed to building a robust ICT talent ecosystem, improving the ICT skills of society as a whole, and promoting sustainable social and economic development. Let's work together to create a vibrant and inclusive intelligent world, unleash the full potential of digital and intelligence, and allow more people worldwide to benefit from digital technologies and the digital economy.

02.

TALENT ALLIANCES

Developing a Thriving Digital Talent Ecosystem in Europe

Jin Yong

Vice President,
Europe Region and Chief Representative to EU Institutions,
Huawei

Huawei is committed to working alongside customers and partners to accelerate Europe's green and digital transformation through innovative ICT infrastructure, enabling European industries to thrive in a sustainable Digital Europe, and helping address the talent shortfall in the continent.

More than 170 countries have released digital strategies and over 50 have unveiled AI strategies to promote sustainable economic growth and prosperity through ICT. However, a shortage of digital talent is a significant factor limiting digital economic development and industrial innovation.

In addition to successfully carrying out digital and intelligent transformation, developing digital talent and improving digital literacy is a huge challenge for all countries. The EU's 2030 Digital Compass plan aims to train 20 million ICT specialists and equip 80% of adults with basic digital skills by 2030.

Talent development initiatives must take rapidly evolving industry technologies into account. Talent development programs offered by universities are not enough to address the skill gaps created by accelerated digital transformation across all industries. So, Huawei is leveraging its expertise and successful practices in ICT to build talent alliances, upskill professionals, and demonstrate the value of digital talent in Europe. Huawei is also upholding its commitment to support Europe by cultivating talented and competitive ICT specialists and serving as a key player in the growth of digital talent across the continent.

Developing digital talent alongside universities

As a global technology company, Huawei fosters talent ecosystems and shares ICT knowledge and skills around the world. Run in partnership with universities and colleges, the Huawei ICT Academy is a key initiative for developing talent.

Since 2011, Huawei has partnered with universities to share the latest ICT developments with students around the world through training courses, online learning, and lab training. The company applies cutting-edge industry knowledge directly to academia, encourages students to gain professional Huawei certifications, and supports talent development by building the practical skills needed by the global ICT industry. Since students rarely have the opportunity to participate in real-world projects, Huawei ICT Academy includes both theoretical lessons and practical training to bridge the gaps between

academia and industry. The ICT Academy currently offers three types of courses: general, practice, and professional (Figure 1), and by January 2023, Huawei had launched 18 courses in English.

By June 2023, Huawei had established ICT Academies in more than 2,600 colleges and universities globally, with more than 11,000 dedicated teachers training over 200,000 students each year. In Europe, Huawei has established more than 200 academies in partnership with local universities and colleges, with more than 10,000 students enrolled in 2022. These academies have been a crucial stepping stone in the careers of many specialists in Europe's ICT industry and are continuing to facilitate a thriving digital economy.

Huawei teamed up with Henley Business School (HBS), one of the oldest business schools in the UK and part of the University of Reading, to build the country's first Huawei ICT Academy. HBS and Huawei continue to work together to equip students with the ICT skills they need to stand out in the labor market by offering certified courses to both faculty and students, covering the latest technologies and industry trends, including cloud and networking. Students also have the opportunity to compete in the Huawei ICT Competition with top talent from across

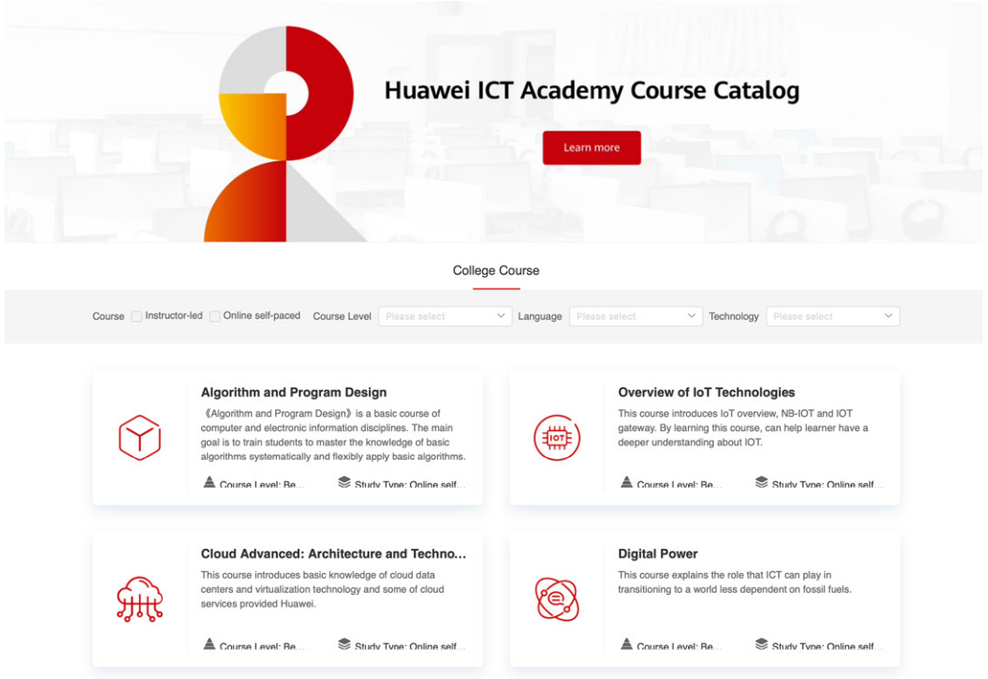


Figure 1: Huawei ICT Academy provides a wide range of ICT courses

Huawei is leveraging its expertise and successful practices in ICT to stay true to its commitment to Europe.

the globe. Furthermore, HBS hosts a Huawei ICT Academy Support Center (IASC) to equip business leaders with digital management skills and professionals with ICT skills.

In Spain, the Huawei Certified ICT Associate (HCIA) courses offered by Huawei ICT Academy at the University of Alicante are compulsory courses that train outstanding teachers and young talent. In 2021 alone, the University of Alicante organized six masterclasses, three offline campus recruitment events, and a large job fair in collaboration with the local government and chamber of commerce. During 2022, the number of online students exceeded 1,000 and the number of students certified by Huawei grew from fewer than 10 to more than 160, the most anywhere in Western Europe.

Many similar success stories exist thanks to Huawei's commitment to establishing partnerships with European universities that

Figure 2: Huawei held the Digital Talent Summit during the 3rd UNESCO World Higher Education Conference in May 2022

Collaborate to build an open, reliable, mutually beneficial, and sustainable ICT talent ecosystem.

are tailored to reflect local digital economic development, and then introducing targeted ICT courses that benefit teachers, students, and universities.

Figure 3: *Strategies to Address the Digital Skills Gap in the EU* jointly released by Huawei and Ernst & Young

Collaborating on future digital talent

Given the pressing demand from different industries for digital talent, Huawei works alongside international educational organizations, governments, and partners to provide access to technologies, share experiences, and build a platform for the development of a robust ICT talent ecosystem.

Under the theme Tech for Good, Huawei partners with the Greater Manchester Combined Authority (GMCA) in the UK to enhance young people's programming skills and encourage them to consider a career in technology.

Huawei also collaborates with UNESCO. The International Institute of Online Education (IIOE) is a non-profit online education platform run by the International Centre for Higher Education Innovation under the auspices of UNESCO. Huawei provides cloud technologies to support platform operations and offers 14 advanced ICT certification courses for free to help teachers improve their technical skills. Huawei also participated in the third UNESCO World Higher Education Conference, during which the company launched the Seeds for the Future scholarship program and signed MOUs with 11 ICT academies and educational organizations across Europe, Asia-Pacific, and Africa to support the development of future digital talent (Figure 2).

Demonstrating the value of talent

Developing a talent ecosystem should be a top priority in Europe. Huawei has released a talent white paper and organized the ICT Competition and Talent Ecosystem Forum to demonstrate the value of talent and empower and facilitate talent development.

In 2022, Huawei and Ernst & Young released Strategies to Address the Digital Skills Gap in the EU (Figure 3). Comprising a detailed analysis of the digital skills gap in the EU, the report suggests solutions to close the gap and methods for improving ICT education and learning opportunities, supporting women's participation in the ICT sector, and promoting the development of a collaborative digital skills ecosystem.

We are committed to enabling every European to benefit from improvements in their digital skills.

Huawei also organizes annual events such as the Huawei ICT Talent Job Fair and HCIE Night to connect talent with enterprises, promote fresh graduate employment, and help young talent create value in the industry.

Huawei is working diligently to create the European talent ecosystem. In the future, the company will continue collaborating with governments, industry organizations, and universities to build an open, reliable, mutually beneficial, and sustainable ICT talent ecosystem. This will help drive the constant improvement of digital skills and facilitate digital inclusion, technological advancement, and social and economic sustainability.

Cultivating Partnerships for ICT Talent to Thrive

Despite a significant increase in demand for ICT talent over the past few years, the job market remains tough. To help address this issue, Yutian Education has partnered with Huawei to create a one-stop talent supply chain that both trains and prepares talent for work in the ICT industry.

Zhang Zhiyong

Chairman,
Wuhan Yutian Internet Technology

In 2023, 11.58 million students graduated from universities and colleges in China. This cohort overcame incredible challenges to complete their education during the pandemic, and now face an even tougher job market as they try to secure a good job after graduation. As the digital economy thrives, demand for digital talent continues to grow rapidly, and enterprises need to compete to attract the most forward-thinking and application-oriented ICT talent. However, the labor market is characterized by structural and regional imbalances in terms of talent quality.

As the digital economy becomes the main arena for the latest round of global industrial competition, the talent needs of industries going through digital transformation is changing. The *China ICT Talent Ecosystem White Paper* estimates that by 2025, there will be a shortage of more than 20 million ICT workers, and that this shortfall will only continue to grow. There is a significant lack of talent working on emerging technologies such as cloud computing, big data, IoT, AI, and 5G. Accelerating the training and delivery of ICT talent is a key challenge that needs to be addressed in collaboration with enterprises, universities, and training institutions.

Wuhan Yutian Internet Technology (Yutian Education) was founded in 2001. The company has 22 years of experience in training and delivering talent, as well as a deep understanding of the labor market for ICT talent. To bridge the gap between the supply and demand for talent in the industry, Yutian Education is working with Huawei to create a one-stop talent supply chain that covers both talent training and delivery. The two organizations are collaborating on a variety of projects, such as training, to nurture ICT talent and contribute to a thriving ICT talent ecosystem.

Both practical and theoretical knowledge

Huawei's ICT expert certification (HCIE) is a prestigious industry-recognized certification that evaluates trainees' comprehension of, and capabilities in, planning and design, engineering, fault diagnosis, and inductive analysis through scenario-based and modularized professional assessments. Huawei Certified ICT Experts (HCIEs) have the necessary skills and expertise to help improve enterprises' routine O&M efficiency and provide professional advice on digital transformation.

Since partnering with Huawei, Yutian Education has trained nearly 3,000 HCIEs and more than 50,000 ICT professionals for Huawei's talent ecosystem.

Yutian Education is among the first of Huawei's authorized training partners to collaborate with Huawei on nurturing ICT talent. To ensure all HCIEs are proficient industry experts, Yutian Education regularly reviews and invests in optimizing teaching standards, the learning environment, and employment services.

Having competent instructors is paramount. Huawei's HCIE and HCSI (Huawei Certified Systems Instructor) certifications are taught by a team of more than 20 full-time instructors at Yutian Education. All our instructors are highly skilled and most also have extensive practical experience working on enterprise projects. As the courses are iteratively updated, our instructors continue to improve their technical skills and teaching styles to ensure that they can confidently teach students about the latest industry developments.

As we work to prepare talent for the challenges of corporate ICT work, we feel it is particularly important to focus on their practical skills. Huawei has provided Yutian Education with several sets of ICT equipment that enterprises use in practice to offer HCIE trainees the opportunity to improve their skills in realistic simulations in technical areas such as cloud computing, data communications, data storage, and security. This hands-on experience is vital preparation for future employment.

Yutian Education also recognizes the importance of professional workplace skills when it comes to matching talent to open positions, so the company has set up an employment service team to provide professional training and employment services for trainees.

Linking up enterprises and talent

It is becoming more difficult for college graduates to find jobs and for enterprises to find ICT talent, because there is a fundamental misalignment of talent supply and demand across industries. College students are not graduating with the qualifications and skills that enterprises are looking for. By working with enterprises, Yutian Education helps universities and colleges stay on top of industry developments and corresponding in-demand skills, so that they can adjust their courses and deliver employable talent.

Together with Huawei, we have been working to bring the Huawei ICT Academy and Huawei's certification courses to more colleges and universities. By helping to train university teachers, we ensure that their faculties have the necessary skills to nurture innovative talent. Since 2020, Yutian Education has been organizing campus activities such as teacher training on the Huawei 1+X certificate, university tours focused on ICT talent ecosystems, and the Huawei ICT Competition. In doing so, we have helped nearly 1,000 university teachers improve their teaching skills, and equipped tens of thousands of students with the ICT industry knowledge and skills that they need to reach their potential.

In addition, Yutian Education has helped to build a talent bridge between enterprises and universities. In 2017, we worked with Huawei partners and the Huawei ICT Academy to establish an employment communication platform based on the Huawei ICT Talent Alliance Job Fair. This platform helps match up talent from universities to enterprises, thereby narrowing the talent supply gap. Over the past six years, Yutian Education has organized nearly 30 Huawei ICT Talent Alliance Job Fairs, helping more than 1,300 of the top enterprises and over 1,500 of the brightest students reach preliminary employment agreements.

Since partnering with Huawei in 2012, Yutian Education has trained nearly 3,000 HCIEs and more than 50,000 ICT professionals for Huawei's talent ecosystem. We have established preliminary ICT talent cooperation agreements with nearly 100 universities to nurture ICT talent, and provided high-quality ICT talent training and delivery services to more than 10,000 Huawei ecosystem partners across China.

Yutian Education has made significant contributions to Huawei's ICT talent ecosystem, and has been named an Excellent Huawei Authorized Partner several times. We have witnessed the growth and prosperity of Huawei's talent ecosystem. So far, Yutian Education and Huawei have worked together to create innovative talent training methods, improve training capabilities, and help trainees thrive and succeed. We will continue helping trainees to get off to the best possible start in their careers, support them as they explore bolder career paths, and continue to deliver more talent for the ICT industry to facilitate the digital transformation of more industries.

Facilitating Integration and Collaboration with the IASC

Xu Jianling

President,
Shenzhen Polytechnic University

Home to Huawei's first ICT Academy Support Center in China, Shenzhen Polytechnic University will support the operation and development of new academies in China through training instructors, developing teaching materials, and conducting talent job fairs.

China's first Huawei ICT Academy Support Center (IASC) opened its doors at Shenzhen Polytechnic University (SZPU) on March 16, 2023. For 30 years, SZPU has grown alongside the booming Pearl River Delta. Guided by the innovative spirit of the Shenzhen Special Economic Zone, SZPU has long been a leader in China in vocational and technical education. As president, it is my honor to represent such a pioneering institution whose members are not afraid of hard work.

It is no surprise then that we are excited to reach a new milestone in our partnership with Huawei. For more than a decade, SZPU and Huawei have continuously collaborated to jointly nurture high-quality ICT talent. Our partnership is already a model of collaboration between higher education and business, and the opening of the IASC marks an important transition in this model: from mutual support for joint development to further integration for joint research.

SZPU and Huawei's partnership began thanks to one of the university's key research projects: Research and Practice on a Profession-oriented Communications Teaching Certification System. After three years of hard work, we proudly opened the first Huawei-authorized training center in China in 2008. Then in 2011, we became home to a Huawei ICT Academy. In 2020, Huawei chose

Figure 1: Campus of Shenzhen Polytechnic University

SZPU to house the Cloud Kunpeng Center. And in the same year, we jointly established an industry-education integrated 5G+ digital talent base and signed a strategic cooperation agreement.

Earlier this year, we opened the new center, China's first Huawei IASC.

Fostering skilled talent for the new era

SZPU and Huawei have jointly launched ICT majors, created support structures specifically for ICT talent, and developed a collaborative system of university curricula and enterprise certifications. Our cooperation includes progressive training and personalized learning based on a three-pronged curriculum system based on phase, area, and level, an approach that offers flexible courses to nurture student talent. By engaging with students' own interests, the program helps them improve both their confidence and employment prospects. The curriculum system focuses on developing capabilities in seven areas: enterprise application analysis, product skills, protocol insights, logical thinking, network fault diagnosis, network architecture design, and project organization.

It also prioritizes training via practical projects by providing a dedicated practical training environment, high-quality teaching staff, and a first-class ICT degree program. SZPU and Huawei worked closely to develop the process so that we can discuss and address any issues that arise, develop tools, share resources, and thrive together.

When we were developing the curriculum system, we first divided the courses into two categories based on the stage the students would be at,

Figure 2: The opening ceremony for the Huawei IASC at Shenzhen Polytechnic University

The IASC is a great opportunity for both SZPU and Huawei to explore new models of strategic partnership.

resulting in basic courses and certification courses. Then, we grouped courses by technical area such as transmission, datacom, mobile, and cloud computing. Finally, based on the certification criteria and our desire to provide individualized teaching, we defined different levels for each certification area, resulting in a full suite of courses aimed specifically at beginner, intermediate, and advanced learners. Students can take the courses progressively based on their level of mastery. The curricula are broad-based, modular, and progressive, and cover multiple areas.

This three-pronged curriculum system allows us to achieve three things. First, phase-based teaching helps us bridge the gaps between vocational education and industry and enterprise needs. Second, curricula focused on individual technical areas personalizes the offerings and helps us bridge the gaps between teaching criteria and enterprise criteria. Third, level-based curricula create a clear career development path and help bridge gaps between course content and technological developments.

When it comes to practical project training, we adopted a five-step teaching method where, first, we select typical application scenarios; second, we break down knowledge points; third, we train based on small projects; fourth, we enhance training through medium-sized projects; and fifth, we practice E2E design and implementation through large projects. Practical project training gives a clear structure to students' otherwise fragmented knowledge and skills, and significantly improves their application and project management abilities.

The collaboration between SZPU and Huawei has been very fruitful. SZPU was named as one of Huawei's top 10 partners worldwide in both 2012 and 2017, and 340 SZPU students have received Huawei's ICT Expert certification (HCIE) since 2014, the highest amount from any single college or university in the world. The talent training model based on the ICT Academy established by SZPU and Huawei also won the national grand prize for teaching achievements in 2018. SZPU's research team has also worked with Huawei to ensure continued supply for 5G base stations, preparing the technology required for the next generation of high-frequency communications equipment. At the 7th Huawei ICT Competition, SZPU students won grand prizes in the Network Track, Cloud Track, and Computing Track categories.

The IASC will bring vocational education to a new stage with higher quality and greater value.

IASC will support new ICT academies in China

The new IASC will support the development and operation of Huawei ICT Academies in China. Huawei has tasked SZPU with creating a replicable ICT talent training experience from the academy perspective for worldwide implementation. Huawei will provide support for professional courses, training support, professional development, and technical guidance. SZPU will promote Huawei ICT Academies through the center, engage candidate colleges, assist in their business and activities, and provide training, development, operations, and marketing activities for the academies.

In 2023, the IASC will focus on training instructors at ICT Academies across China. So far, it has provided instructor training on HarmonyOS and cloud services, enabling college teachers to deliver related courses. SZPU also delivered three training sessions during the summer vacation on the construction and O&M of Huawei's 1+X network system, data communications, and HarmonyOS mobile application development. These courses helped improve the overall teaching skills of vocational college teachers and will help them build new IT major programs at their own colleges and universities. This year, the SZPU IASC will help 100 ICT Academies at higher vocational colleges in China meet operational targets, which in turn will train an estimated 15,000 students. SZPU will work with colleges supported by IASC to compile and publish five sets of collaborative teaching materials on Huawei's technologies, and organize two national talent job fairs to find employment for high-quality talent.

The SZPU IASC will also function as an incubator for more IASCs. We expect to support the opening of four to nine new IASCs over the next two years, so that there will be at least one IASC in each of China's five main regions, forming a nationwide IASC network.

The IASC plans to prioritize development in three areas. First, SZPU and Huawei will work together to continuously improve its certification system to better adapt it to the educational needs of our communities. IASC will also help Huawei promote its teaching resources, especially practical training resources on its talent training platform. Second, SZPU will facilitate communication between ICT Academies around the world by selecting IASC trainers (i.e., instructors that train instructors) to strengthen the IASC faculty and use high-quality talent to nurture even higher-quality talent. SZPU will also hold ICT Academy instructor exchanges to develop curricula and improve teaching quality. Third, SZPU will continue working with Huawei to develop more certification areas and integrate them into the curriculum system. Huawei will help develop certifications in areas like IT application innovation and F5G for SZPU's most innovative programs, such as Modern Communications Technology.

IASC is the next step in the collaboration between SZPU and Huawei. This is a great opportunity for both organizations to explore new models of strategic partnership that will be needed as the digital economy and regional industry transformation continue to surge. This partnership has the potential to bring vocational education to the next level, and help it deliver higher quality and greater value. Moving forward, SZPU and Huawei will continue working together to further integrate ICT into education, and collaborate in the areas of cultural integration, talent exchange, technology sharing, and joint resource development.

Together, we can create a brighter digital future and bring vocational education to another level.

Figure 3: The front gate of Shenzhen Polytechnic University

Preparing South African College Educators for Teaching in the 4IR Era

Noluthando Madzivhe

SA Rep Office Talent Development Manager, Huawei

Matthews Mohlabani Chauke

Senior Project Manager, SAPCO

SAPCO is working with Huawei ICT Academy to train South African TVET college teachers in how to use technology to prepare students for the evolving job market as society enters the fourth industrial revolution (4IR).

The South African Public Colleges Organization (SAPCO) is an independent association of technical, vocational education, and training (TVET) colleges in South Africa.

Its major objective is to represent, promote, and protect the interests of all public colleges in the country. To achieve this objective, align TVET Colleges with the arrival of the fourth industrial revolution (4IR), and empower teachers with ICT training, SAPCO has partnered with Huawei's ICT Academy and the Huawei South Africa representative office.

Huawei ICT Academy is a non-profit partnership between education institutions and Huawei's South Africa Enterprise Partner Development Department. As part of the initiative, Huawei designs courses that enable partner colleges to access the latest technology-based curriculum, engineering practices, and instructor training. Through the program, which includes a platform for online learning and hands-on practice, institutions can cultivate students with ICT competencies, practical experience, internationally recognized career certifications, and - ultimately - job opportunities.

Empowering teachers to promote 4IR

Characterized by new technologies such as artificial intelligence (AI), robotics, and IoT, 4IR is transforming various aspects of life, including education.

In this context, teacher empowerment is crucial, as they themselves navigate the challenges and opportunities of the new era. As we move towards an increasingly digital world, it is important to recognize that technology cannot replace the human contact of a teacher. While technology can provide access to information and facilitate communication, it is teachers who guide students through the learning process and help them develop critical thinking and problem-solving skills.

In the 4IR, teachers must be equipped with the necessary skills to incorporate technology into their teaching practices and engage students in a meaningful way. Empowering teachers in this area can help improve student outcomes and create a more dynamic and innovative learning environment.

Empowering teachers can also help address the widening skills gap in the workforce. As technology continues to advance, numerous jobs are becoming automated and new roles are emerging. It is important that students are equipped with the necessary skills to succeed in the workforce of the future. Enabling teachers to teach these skills helps ensure that students are prepared for the evolving job market.

Building teachers' skills

South African instructors from TVET colleges had gaps skillset gaps that required them to upskill and certify in modern IT courses. With the help of Huawei ICT Academy, TVET college teachers are now able to bridge the 4IR gap in South Africa. SAPCO has supported 47 TVET academies in becoming fully trained, with more than 500 students and 50 instructors trained to date.

One of the ways the partnership empowers teachers is by providing professional development opportunities based on integrating technology into teaching practices, so that teachers can provide students with a quality education. Professional development takes the form of workshops, webinars, and online courses. However, this must be ongoing and adaptable to the changing technological landscape. In addition, teachers need access to technology. To access the Huawei ICT Academy courses on the Huawei Talent Platform website, teachers can create an account, associate with their academies, and gain access to a wide range of 4IR resources. Many advanced courses can be found on the Talent Platform, including a variety of international-level resources. Huawei's ICT Academy and its South Africa Representative Office worked with SAPCO to create a strategic teaching plan catering to the South African market to help instructors navigate the courses.

Empowerment through collaboration

Another strategy for empowering teachers is to enable them to collaborate with professional learning communities. Several instructor workshops have been held, indicating that this method is a powerful tool for teacher growth, innovation, and support.

Professional learning communities can take many forms, including grade-level teams, subject-area groups, and cross-disciplinary teams. These communities provide teachers with a space to share best practices, explore challenges, and receive feedback. Collaborative learning can be facilitated through online platforms such as social media, discussion boards, and video conferencing. SAPCO and Huawei ICT Academy have hosted several instructor workshops using these methods.

Valuing the value creators

Finally, recognition and support are crucial for teacher empowerment in the 4IR, as teachers need to feel valued and supported in their profession. This can include recognition for their achievements, support from administrators and colleagues, and opportunities for career advancement. SAPCO and Huawei ICT Academy have co-developed a support structure for teachers that involves offline training by experienced professionals certified in specific technology domains. As most teachers have other responsibilities in TVET colleges, the training programs last no longer than 10 days. Once the training is completed, teachers can continue to self-study and are given two opportunities to take certification exams.

Teachers need to pass two exams: one certifies them in the technology domain they are most interested in, and the other ensures they are familiar with the instructor resources they will use to train students.

Once qualified, they can then pass down their knowledge and skills to their students.

In conclusion, the 4IR is transforming the way we live and work, and education is no exception. To ensure that students are prepared for the future, it is crucial that we empower teachers with the necessary skills and resources to incorporate technology into their teaching practices. By providing professional development opportunities, fostering collaboration, providing access to resources, and offering recognition and support, we can empower teachers and prepare students for the changing job market and the digital world of both the present and the future.

03.

TALENT STANDARDS

USICAMM and Huawei ICT Academy: Upskilling Aspiring Educators in Mexico's National Education System with ICT Skills

Talent Standards

Adela Piña Bernal

Head,
Mexico's Teachers' Career System Unit

In Mexico in 2022, Huawei and USICAMM implemented the Digital Skills Course for 136,406 participants in the admission process for teachers. In this article, we explore the methods for running such an extensive program as well as its outcomes.

In an increasingly digital world coupled with the ongoing digital transformation of the education sector, integrating ICT into learning environments is necessary to prepare today's learners for tomorrow's world.

However, many teachers lack the requisite digital skills to effectively use ICT - a shortfall that Huawei is committed to helping address on a global scale. In 2022, USICAMM (System Unit for the Career of Teachers) partnered with Huawei on a large-scale project to implement the Digital Skills Course for those aspiring to enter the national education system.

Who is USICAMM?

USICAMM is a decentralized administrative body in Mexico with technical, operational, and managerial autonomy. Attached to the Ministry of Public Education of the Federal Government (SEP), the organization is in charge of defining the selection processes for admission, promotion and recognition; issuing the provisions under which the processes will be developed; and establishing the minimum requirements to be met to enter or be promoted to another function in educational service. The organization is designed to give teachers access to a fair and equitable career path that promotes their development.

As part of its mission, USICAMM determines the criteria and indicators for different types of learning environments. During the COVID-19 pandemic, for example, it implemented the Digital Skills course to enable distance learning.

Developed in collaboration with Huawei, the Digital Skills course was set as a requirement for candidate teachers in the admission process for basic education in the 2022-2023 school year, which prospective teachers had to pass. The main idea behind the USICAMM project was to provide teacher candidates with knowledge and skills from the ICT world and in turn train them in how they will be able to use these skills and improve their educational processes in the classroom.

Project parameters

The Basic Education course comprised three elements, which were required to be completed in full:

1. Fundamentals of Technologies Courses (Huawei)
2. Digital educational innovation: TICADD Master Class Cycle with Huawei (USICAMM)
3. Technology Course for Teaching (USICAMM)

In these three areas, candidates had to complete the following subjects offered in the Digital Skills course:

- Basic AI Concepts
- Next-generation Cybersecurity
- Cloud Basics: Development and Concepts
- 5G Basics: Introduction to 5G Knowledge

Project roles

Huawei was assigned the task of teaching and providing the digital platform. In coordination with USICAMM, Huawei worked on the content of the Digital Skills course, tracking participant progress, and delivering progress reports.

The course was available from April 4 to May 4, 2022 and it ran 24/7. It was developed online, self-administered, interactive, and flexible. Lasting approximately 40 hours, the course could be accessed by any Internet-connected electronic device.

The following sections were integrated into the course: Technology Fundamentals Courses and the TICADD Huawei Master Class and Technology for Teaching Course.

Upon course completion, USICAMM and Huawei issued a completion certificate.

After establishing USICAMM's requirements, Huawei Mexico worked with Huawei's LATAM Talent Development Department and a Huawei HQ team to develop the talent platform, selecting Huawei's ICT Academy program to implement the project. Huawei ICT Academy is a partnership between Huawei and academies around the world. It delivers ICT training, encourages students to pursue Huawei certification, and develops talent with practical skills for the ICT industry and the community. With 22 technical fields and certifications and 14 professional courses on offer, 2,600 academies train more than 200,000 students in 170 countries each year.

The ICT Academy offered several advantages for this project:

- **Course development:** The ICT Academy platform included the functionality to develop the courses.
- **Access control:** The academy administrator could oversee participant access.
- **Class reports:** The platform includes a report function that shows individual progress by module and lesson.
- **Talent ecosystem:** The ICT Academy program is designed for students, and can serve as a springboard for expanding Mexico's ICT talent pool.

A taskforce comprising Huawei's Mexico office and HQ was then set up to progress USICAMM requests and suggestions, make any required adjustments to the platform and content, create webpages, modify courses, and host links and videos in the Talent Platform.

The Huawei LATAM Talent Development department handled day-to-day operations, including:

- Creating an ICT Academy for the USICAMM project in the Talent Platform
- Creating classes corresponding to the Huawei Courses in the USICAMM ICT Academy
- Regularly tracking course participants' progress and creating progress reports for USICAMM.

Project outcomes

Running from April 2022 to May 2022, 136,406 teachers registered for the Digital Skills course on the USICAMM and Huawei ICT Academy platform, with the vast majority passing it and receiving the USICAMM/Huawei Certificate. Though not without challenges due to its scale, the project was publicized in an official Mexican Government Secretariat of Education Bulletin, as well as by several media outlets, where it was lauded a great success.

How PSESA Facilitates Software Talent Development

Lu Wei

President,
Pilot Software Engineering Schools Association;
Professor,
School of Software Engineering, Beijing Jiaotong University

The software industry is a crucial component of a digital world, which is heavily reliant on digital talent. The Pilot Software Engineering Schools Association and Huawei are working closely together to integrate the ICT industry into education and develop specialized software talent.

In the past, long-distance communication consisted mainly of phone calls and SMS. Today, instant messaging apps have made communication easier than ever. We used to have to carry our wallets when we went shopping, but now even the smallest roadside stalls accept QR-code-based mobile payments. In the past, we had to wait patiently for a taxi on the side of the road, but nowadays we enjoy online car-hailing services simply by entering our destination on an app.

For enterprises, industrial software plays a crucial role in modern manufacturing and improves manufacturing and innovation capabilities, which in turn can boost national economies.

Software is the heart of the ICT industry, and talent is a crucial factor in the development of the industry. The Pilot Software Engineering Schools Association (PSESA) works with Huawei to bring together resources for developing software talent by jointly developing teaching materials and training teachers.

Pressing demand for quality software talent

The software industry is a fundamental and strategic part of any national economy. It plays a crucial role in promoting economic and social development, transforming economic growth models, improving economic efficiency, and integrating digitalization with industrialization.

However, to power the development of the software industry, there is an urgent need to accelerate talent training. According to a document issued by China's State Council, in December 2001, the Ministry of Education (MOE) and the former State Planning Commission approved

No.	Textbook	Author
1	openGauss Database Application Tutorial	Yao Shaowen, Yunnan University
2	Experimental Tutorial on openGauss Database	Wang Xin, Tianjin University
3	Operating System Fundamentals – openEuler as an Example	Wang Jinfeng, South China Agricultural University
4	Experimental Tutorial on Computer Organization and Structure – Based on Kunpeng Processors	Lai Xiaochen, Dalian University of Technology
5	Intelligent Software Development – Based on MindSpore Framework	Zhang Junsan, China University of Petroleum (East China)
6	Software Testing Techniques and Practices – For Distributed System OpenHarmony	Zhu Shaomin, Tongji University
7	Embedded System Development – Based on Distributed System OpenHarmony	Zhu Ming, Dalian University of Technology
8	System Analysis and Design	Chen Wu, Southwest University
9	Cloud Service-Based Software System Development Practices	Ma Ruixin, Dalian University of Technology
10	Software Development Methods and Practices	Shi Yuanbo, Liaoning Petrochemical University

Figure 1: PSESA's textbook series on software engineering

the establishment of 35 National Pilot Software Engineering Schools. In 2003, the number increased to 37, and in 2014, the Department of Higher Education of MOE approved the establishment of PSESA, the secretariat of which was established in the School of Software Engineering at Beijing Jiaotong University.

PSESA is committed to promoting collaboration between universities in degree programs and for developing software engineers. The association organizes events and activities in fields like degree programs, curriculum development, disciplinary management, preparing teaching materials, teacher training, university-enterprise collaboration, and internationalization. These events and activities serve as a platform for knowledge sharing and driving software talent cultivation in universities and the development of China's software industry. To date, PSESA has 191 college and university members.

The integration of industry and education is a key trend in higher education.

Collaborating with Huawei to develop specialized software talent

PSESA and Huawei have collaborated closely to accelerate the development of the software industry. In October 2017, the association enabled Huawei and 25 pilot software engineering schools to jointly apply for and obtain membership in the New Engineering Research and Practice program of the MOE. PSESA also organized workshops on advancing New Engineering projects and facilitated the signing of memoranda of cooperation.

PSESA and Huawei have also collaborated to introduce Huawei's technologies and software into universities and incorporate them into courses and teaching materials, thereby facilitating the cultivation of specialized software talent. Today, the integration of industry and education is a key trend in higher education and a catalyst for industrial development. PSESA and Huawei are committed to cultivating software talent and are working together in areas like developing teaching materials, teacher training, and improving colleges.

Collaborating with Huawei on teaching materials for software engineering

In 2021, the PSESA and Huawei launched a collaboration project to support the development of teaching materials. The project selected exceptional teachers from PSESA member universities to plan and compile 10 textbooks as part of a software engineering series (as shown in Figure 1).

Drawing on the strengths of PSESA, Huawei, university authors, and Higher Education Press in their respective areas, the textbooks incorporate both theoretical knowledge about software technologies and practices to prepare students for technology evolution and industry development.

As the result of collaboration between industry, universities, and researchers, these textbooks integrate cutting-edge technologies and project-based practices with the teaching and research needs of universities. These different elements complement each other and ensure the quality of the textbooks.

PSESA is ready to collaborate with Huawei to help universities reshape their talent cultivation models.

Huawei provides a plethora of case studies based on real-world applications and projects to help students develop hands-on skills and problem-solving capabilities. The textbooks are methodically organized, linking different knowledge points and using a logical progression to build knowledge. They also provide abundant auxiliary teaching materials adapted to real-world applications at universities. These materials include courseware, teaching plans, source code, lab manuals, and teaching syllabi. The textbooks follow an approach of integrating teaching, learning, and hands-on practice.

This textbook series is applicable to university undergraduate programs in computer science and software engineering, as well as innovation and entrepreneurship courses at key universities. The series helps foster innovative teaching methods and software engineering practices, and plays a significant role in improving degree programs at software engineering colleges, talent cultivation, and school-enterprise collaboration.

PSESA held several workshops with Huawei and university authors to ensure the quality of the textbooks and discuss issues such as textbook positioning; outlines; challenges in teaching software engineering, teaching systems and case study design; and engineering training through hands-on projects. The textbooks are expected to be available by the end of 2023.

Collaboration on teacher training with Huawei ICT Academy

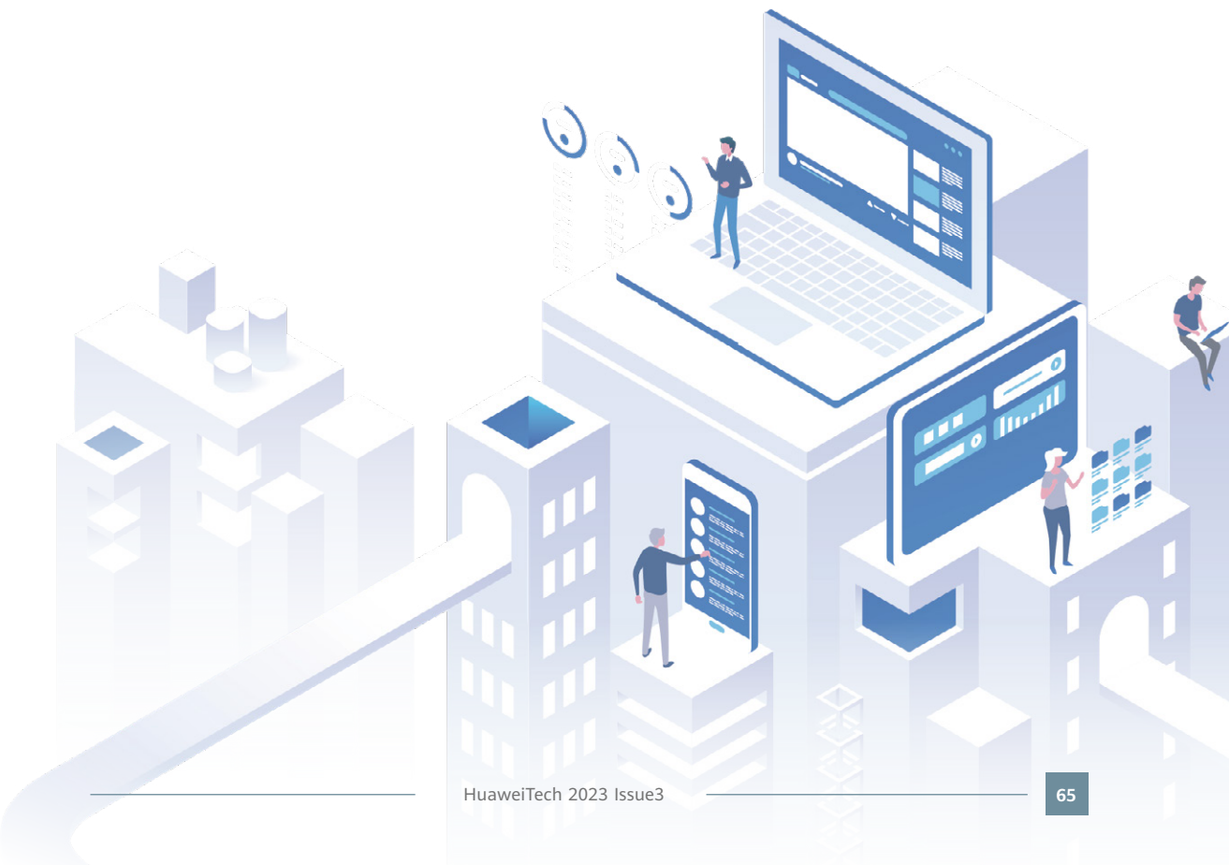
With the implementation of China's strategy of invigorating the country through education and a surge in independent innovation in the country, the adoption of domestically developed education technologies has become a trend in college and university education. An increasing number of universities are adopting an innovation-driven approach that integrates technology with teaching. They are actively exploring and applying domestically developed technologies, establishing specialized courses for developing innovative talent, and developing hands-on projects in foundational software technologies used for AI, openEuler, and openGauss. These technologies allow them to equip teaching staff with more advanced capabilities, which will foster more competitive software talent with strong hands-on skills.

Teachers play a vital role in college and university education. That is why PSESA has collaborated with Huawei to deliver fundamental software training for teachers. University teachers learn about fundamental software technologies, such as those related to AI, openEuler, and openGauss, by taking classes, participating in hands-on activities, and taking exams. This type of training improves teachers' engineering skills and helps them incorporate fundamental software technologies into their curriculum.

The association has also encouraged universities to work with Huawei to establish a Huawei ICT Academy to foster new types of ICT talent. In addition, top experts from PSESA member universities have also participated in the Huawei ICT Competition to provide strong technical guidance and support.

PSESA's approach to education is people-centric, ability-focused, industry-oriented, and world-embracing. The association, together with its member universities and top enterprises like Huawei, has actively explored talent cultivation through integration and collaboration between industry and teaching, across different professional areas, and across countries. As a result, we have created a high-quality software talent cultivation system that underpins and guides industry development. Over the past 20 years, the 37 National Pilot Software Engineering Schools have enabled about 250,000 individuals to foster their software talent, leading the way in the development of the software industry.

Looking ahead, PSESA is ready to collaborate with enterprises like Huawei in more areas to help universities reshape their talent cultivation models to accelerate the growth of software talent. We are confident that these talented people will make significant contributions to the advancement of China's software industry.



04.

TALENT UPSKILLING

How I Became the First HCIE-Datacom Expert in the World

After two grueling attempts, Han Shiliang became the world's first Huawei Certified expert in datacom (HCIE-Datacom). His experience shows how continuously learning and improving your technical skills can be the key to unlocking a successful career.

In May 2022, I finally received my long-awaited HCIE-Datacom certificate, becoming the first Huawei Certified ICT Expert (HCIE)-Datacom in the world. I was bursting with excitement. At the time, I already had 14 years of technical experience in IT networking and had previously obtained HCIE-Routing & Switching, HCIE-Security, and HCIE-Cloud Computing certifications. To an outsider, the HCIE-Datacom certification might have seemed like just another box to tick. But the truth was, obtaining this certification was way harder than that.

Han Shiliang

Gold Medal Lecturer,
YESLAB Training Center Laboratory

How I became connected with HCIE

Why am I talking about HCIE? Because this program guided my ICT journey.

In 2007, I took my college entrance exams and was offered a place on a fine arts program. My family's financial situation at the time was not great, so I decided to pursue better career opportunities in the promising communications industry and went off to study at a network technology training school in Beijing. After graduation, I had a variety of jobs, everything from community network maintenance to enterprise network engineering. But I still was not satisfied with what I was taking home. I watched the careers of my colleagues and realized that the best way to expand my own was to first work on myself. So, I started my journey into the world of technical certifications. This was why I joined YESLAB in 2011 and became an ICT lecturer.

In 2014, I was invited by Huawei to participate in a one-month HCIE workshop. HCIE is a high-level ICT certification program that is part of Huawei's certification system. I saw that the HCIE program was rigorous, specialized, and highly valuable, so I began to pursue HCIE certifications in multiple technical areas. Not only did I pass the HCIE-Routing & Switching, HCIE-Security, and HCIE-Cloud Computing certifications, but I was also able to train 200,000 ICT trainees, more than 1,000 of whom later became HCIEs themselves. In addition, I co-authored the Huawei ICT certification series of books, *Routing and Switching Technologies*, to help pass on my ICT knowledge and skills to more people.

A checkered HCIE-Datacom certification journey

Then in 2020, Huawei announced its datacom certification program, representing a comprehensive step up from the existing routing and switching certification. In addition to mastering traditional routing and switching technologies, you have to master Huawei's data communications network solutions and emerging network technologies to receive this certification. The program was designed to help trainees build capabilities in network planning, deployment, O&M, and optimization across different network scenarios,

The key to a more promising and rewarding career is continuously learning and improving your technical skills.

and help foster the data communications talent required for the intelligent cloud-network era.

The datacom certification was met with significant enthusiasm. As one of Huawei's authorized training partners, YESLAB set up physical lab environments and SD WAN and cloud campus racks. I led the development and delivery of the related training courses, which was a very helpful experience as I later worked to obtain my own HCIE-Datacom certification. It helped me master the comprehensive basic knowledge required and get a hands-on understanding of the entire architecture.

On November 30, 2021, Huawei officially launched the HCIE-Datacom certification. I started to prepare for the exam, which was set to take place in February 2022, but the exam was postponed several times due to the pandemic. I eventually ended up in Beijing, flying up early so I would have extra time to prepare. I failed on my first attempt. But despite that failure, I left the exam with the exam room setup, pre-configuration, and more etched deeply into my mind.

That failure did not discourage me. Instead, it motivated me to start running more experiments and practice every operation in detail. I even dreamed about solving exam problems. That extra month of intense preparation boosted my confidence. However, once again, the exam schedule kept changing. I finally managed to take the exam in Hangzhou, and on this second attempt, I passed. I had finally gotten my HCIE-Datacom certificate.

Luck favors the prepared

Even though the road was tough and a bit chaotic, I am proud to be the first HCIE-Datacom expert in the world. My success is proof that luck favors the prepared.

For those preparing for the HCIE-Datacom exam, I want to share some advice. First, you will need comprehensive basic knowledge to understand the entire architecture. Second, you have to run a large number of experiments before taking the exam to help improve your operational skills. Third, you need a complete experimental platform to verify the accuracy of your operations. Finally, you will need to persevere. You will need to be patient, courageous, and confident. The younger trainees are often clever and act fast during experiments. I believe you all have a good chance of passing the exam as long as you prepare carefully.

This year, 11.58 million students are expected to graduate in China. That's 820,000 more than last year, and unemployment is a clear concern for all. However, there is still great promise in the ICT industry. Today's booming digital economy is creating new jobs every day. Since 2019, various authorities in China, including the Ministry of Human Resources and Social Security, have officially recognized 56 new occupation categories. Most are found in the high-tech sector, emerging industries, and modern service industries, especially those closely connected to digitalization, intelligence, and informatization. HCIE is a perfect opportunity for people looking to demonstrate their talent in ICT.

The HCIE certification was created to nurture comprehensive technical experts that excel in seven areas: enterprise application analysis, product skills, protocol insight, logical thinking, network fault diagnosis, network architecture design, and ICT project organization. HCIE certifications do more than just prove your professional skills, problem-solving capabilities, and the breadth and depth of your technical knowledge. They also earn you industry recognition and trust, and significantly improve your competitiveness in the job market.

Today, I am a gold medal lecturer at YESLAB's training center laboratory. The most valuable experience I can share is that the key to a promising and rewarding career is continuously learning and improving your technical skills. I encourage all young graduates to join the ICT industry, so we can all contribute to a more prosperous digital economy.

Developing Digital Talent to Bridge the Demand-Supply Gap in Indonesia

Indonesia Enterprise Partner Development Mgmt Dept, Huawei

The Indonesian government is collaborating with Huawei and other partners to bridge the talent gap between education deliverables and actual industry needs.

Indonesia's President Joko Widodo stated, "To achieve Vision of Indonesia 2045, we need to develop talented and competent human resources, especially digital talent." Specifically, Indonesia needs to cultivate approximately 3 million tech professionals over the next five years, equating to 600,000 per year.

That is quite a high number to reach.

Indonesia's education architecture

Education institutions are the main platforms for creating digital talent. Based on data from the Ministry of Education, Culture, Research and Technology, Indonesia is home to more than 4,000 higher education institutions, not including universities under the Ministry of Religious Affairs and Ministry of Labor. Higher education in the country is divided into two major types: general and vocational. Universities, institutes, and high schools are examples of institutions that provide general education from which students ultimately graduate with the corresponding degree. Vocational education provides a more practical education that yields a diploma at the D1, D2, or D3 level, with the number representing years of study (Figure 1). Academies and polytechnics are typical vocational schools.

There are mainly two reasons that can explain this phenomenon.

First, given Indonesia's size, the engagement of students in ICT varies considerably across the country. While the ICT Development Index released annually by the Agency of National Statistics shows a year-on-year increase, rising from 5.59 in 2020 to 5.76 in 2021, the level of development varies from region to region. Java and the Sumatra islands invariably score higher than other provinces, especially those in eastern Indonesia. For example, in Jakarta the ICT Development Index is 7.46, while in Papua province it is just 3.35 (Figure 2).

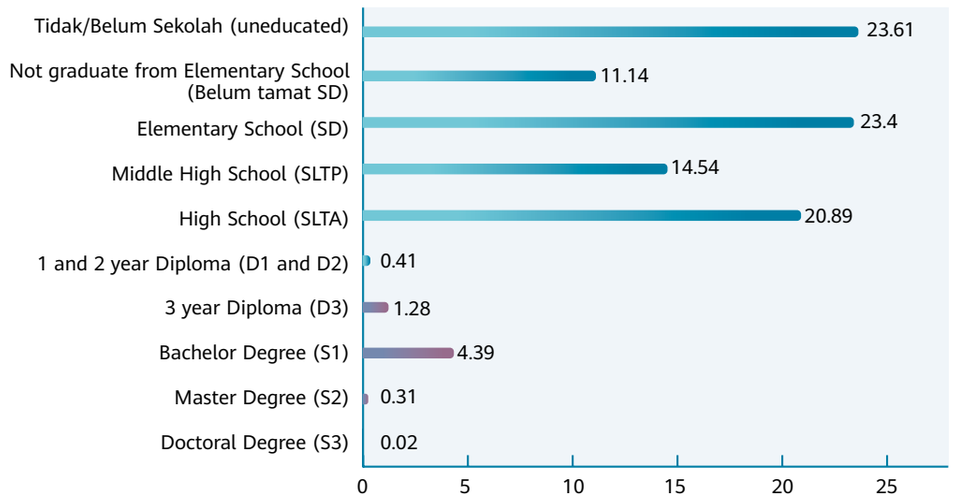


Figure 1: Source: Inodesian Ministry of Education

Figure 2: ICT Development Index released by the Agency for National Statistics of Indonesia

Second, gaps exist between the competencies of graduate students and the competencies that industries actually need, because the curricula taught in universities do not match today's work requirements. The broadening gap between rising graduate unemployment and job vacancies that require ICT skills has created new challenges for the Indonesian government.

Collaboration to expand the ICT talent pool

Huawei Indonesia and the Indonesian government, through the Executive Office of the President, have committed to training 100,000 individuals in ICT skills as part of a five-year program. In just 2.5 years, we have already trained more than 80,000 individuals, 20% of whom were graduates from education institutions. The program is divided into several initiatives under multiple government ministries and national bodies. Huawei has already signed MoUs with more than 11 ministries, including the Ministry of Education, Culture, Research and Technology; Ministry of ICT; Ministry of Labor; the National Agency of Cyber and Cryptography; and the National Agency of Research and Innovation.

Huawei Indonesia has created four strategic approaches for developing talent to address the ICT talent gap in the country.

1. **Bridging the talent supply and demand gap** through professional training and certification, especially in collaboration with universities.

2. **Aligning with the government roadmap** and joining government programs such as the Cultivating 100,000 ICT Talents program. In partnership with the Ministry of Education, we are implementing several programs such as Magang dan Studi Independen Bersertifikat (MSIB), Matching Fund Kedaireka, Kredensial Mikro Mahasiswa Indonesia (KMMI), and Kampus Merdeka Mandiri. With the Ministry of ICT, we are also providing Digital Talent Scholarships.

   Under the MSIB program, we run five-month internships during which students receive actual work experience and training in both technical and non-technical domains. The Kedaireka program helps universities with educational support, including donations for labs and enhancing teachers' capabilities. The KMMI program enables universities to create a special integrated learning program that equals 3 credits per semester, with funding provided by the Ministry of Education. And with Kampus Merdeka Mandiri, the government provides universities and industries with the means to collaborate.

3. **Constructing the ICT ecosystem** by fostering cooperation between educational institutions and enterprises.

4. **Building a local Huawei talent resource pool** to create an end-to-end cultivation ecosystem that involves all stakeholders.

Industry standardization in education is playing an important role in cultivating competent graduate students. To help achieve this, Huawei Indonesia collaborates with professional associations and the government to endorse the Industry Standard curriculum, which is set to be implemented in universities. The Indonesia National Qualification Framework (KKNI) is already in place, as stated in Presidential Decree No. 12/2012, creating a standardized system to ensure education equity.

Meanwhile, learning methods still need to be changed in Indonesia. To this end, the Ministry of Education has launched the Freedom in Learning and Freedom Campus (MBKM) program, the Ministry of ICT has implemented the Digital Talent Scholarships initiative, and the Ministry of Labor has rolled out the Pre-work Card. The aims of these government programs are to increase the competency of undergraduates and graduate students in the job market. Learning is based on actual industry projects for at least one semester, or 900 learning hours, which equates to 20 credits.

We believe that the n-helix collaboration between the government, professional associations, and other stakeholders will reduce, if not eliminate, the gap between industry and education and thus mitigate the issues of the educated unemployment and digital talent shortages in Indonesia.

The Journey to Harvest: From Huawei ICT Competition Winner to Advocator

Li Jingjing

Beijing University of Technology

Talent Upskilling

At the 5th Huawei ICT Competition, I built deep friendships with my mentor and teammates, improved my skills, and took home first prize for which I received a scholarship. Today, I have transformed from a competition winner into a steadfast advocator of the event.

It has been nearly three years since I won first prize at the 5th Huawei ICT Competition Global Final. During this period, the Huawei ICT Competition steadily expanded in both scale and influence, while I graduated from university and started my graduate studies. I have also transformed from a competition winner into a steadfast advocator of the event. At the competition, I improved my skills and built deep friendships with my mentor and teammates. Later, I was given the opportunities to participate in various Huawei events and received a scholarship for winning the competition.

All of these factors strengthened my confidence when it came to pursuing a career in the ICT industry.

Figure 1: We forged deep friendships during the competition

Figure 2: Online presentation at the Innovation Competition of the 2019 – 2020 Huawei ICT Competition Global Final

Perseverance brings success

On November 15, 2020, during the Award Ceremony of the 2019–2020 Huawei ICT Competition Global Final, we were ecstatic when we heard our team from Beijing University of Technology (BJUT) had been awarded first prize in the Innovation Competition. All of our efforts over the previous two months had paid off.

Zhang Xueying, Duan Siyu, and I formed the team, with Professor Fang Juan as our mentor. Two days before the final, we encountered a problem. The results of an experiment showed that the RFID-based smart signs we had developed for museums would not function as expected. This left us at a loss in the unfamiliar field of cross compilation. To tackle the problem, I started learning about the smart home development kit based on HiSilicon Hi3861. With the help of some Huawei experts, I was able to learn NDEF (NFC Data Exchange Format) encoding rules. I encoded, programmed, and tested functions numerous times, and developed front-end programs and web pages to align with our hardware functions.

After multiple rounds of testing, I completed the key part of our solution based on my understanding of NDEF encoding rules. Our work was successfully submitted to the global final.

The global final posed a tougher challenge: All three of our team members had to obtain the Huawei Certified ICT Associate (HCIA) certification. We were also required to prepare documents in English, including presentation slides, and give a presentation in English. This was when we realized that our everyday hard work had paid off. Professor Fang and all our team members had obtained the HCIA-IoT certification in early 2020. In addition, as we had been studying English, we possessed excellent English skills. Duan Siyu was good at content development, Zhang Xueying, who got full marks in her IELTS reading test, freed us from any worries about script writing. And I had a knack for expressing our ideas in English. As we had already met the basic requirements of the global final, we were able to focus on our work.

Every day after class, we got together to consider the content and optimize the solution late into the night. We also demonstrated our solution to our lecturers and classmates and improved it based on their feedback, so that we were as prepared as possible for the presentation (Figure 1). Professor Fang had extensive experience in mentoring students at competitions. She tracked our development and supported us in improving our work, which further boosted our confidence.

On the day of the global final, we gathered in a conference room early in the morning. Our constant polishing of content and rehearsals allowed us to give a flawless presentation (Figure 2). Ultimately, we won first prize in the Innovation Competition. (Figure 3).

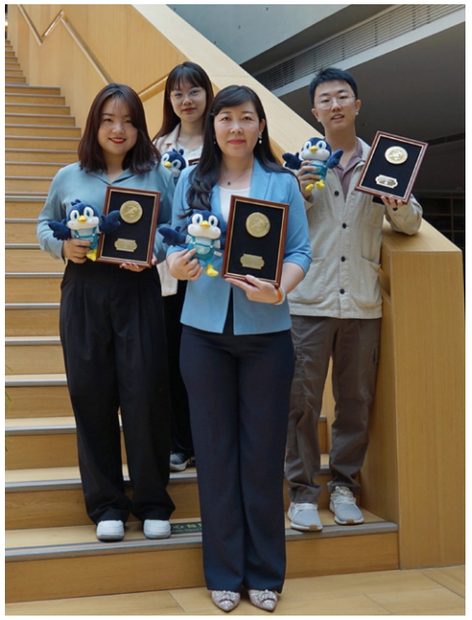


Figure 3: With Professor Fang as the mentor, the BJUT team wins first prize at the Innovation Competition of the 2019 – 2020 Huawei ICT Competition Global Final

In 2021, the Beijing University of Technology included this competition within its A-class competition catalog, making it one of two international competitions officially recognized by our university.

Fruitful results from sustained efforts

One year later, due to my performance at the ICT Competition, I was given the opportunity to study with other college students from across the country as a student representative for the Huawei Developer Conference (HDC) 2021 HarmonyOS open class at Huawei Songshan Lake Campus.

Later, during the OpenHarmony Open-source Developer Growth Program, I developed a smart NFC punch clock alongside Wang Linchao, a

The Huawei ICT Competition steadily expanded in both scale and influence, while I graduated from university and started my graduate studies, and transformed from a competition winner into a steadfast advocator of the event.

student from Southwest University of Science and Technology.

In June 2023, I participated in the Beijing-Tianjin-Hebei MindSpore Innovation Training Camp. With the help of a dedicated mentor, we learned the development paths of foundation models, key technologies, and representative models. I also applied AI to my innovative project, about which I gave a presentation.

I won a first-class Huawei Future Star scholarship for the Ministry of Education's smart foundation project based on winning the Huawei ICT Competition award, and for my excellent performance at various Huawei events. I shared my experience and takeaways as a student representative (Figure 4) at the award ceremony.

A steadfast advocator

Through participation in Huawei events, I have met many peers and friends, and I actively participate in activities to promote the Huawei ICT Competition. When I was asked to share my personal experience, postgraduate recommendation experience, and competition experience, I would encourage everyone to participate in this international competition by telling them about my own story and achievements. I also helped Professor Fang operate the Huawei ICT Academy in the Faculty of Information and Technology, which provides online courses in IoT, HarmonyOS, and AI for students. I also arranged for students to participate in the HCIA certification to improve their professional skills. Today, the Huawei ICT Academy at the Faculty of Information and Technology has more than 200 students, 83 of whom have obtained HCIA certification.

The Beijing University of Technology attaches great importance to the Huawei ICT Competition. In 2021, the competition was included in the 2020 National College Students Competition Rankings developed by the Ministry of Education. When revising our own competition catalogs that same year, our university included this competition within the A-class competition catalog, making it one of two international competitions officially recognized by our university.

Tian Mingxiao and Wang Haofeng were contestants from our university, who won third prize at the Huawei ICT Competition National Final. In 2021, the points they received from winning this award helped them with their postgraduate recommendations, exempting them from the admission exam.

In 2022, the competition was further promoted at our university. The university held its first Huawei ICT Competition campus qualification trials to solicit creative solutions from all students and test their innovation and collaborative development capabilities. Eleven teams majoring in different fields participated in the qualification trials. In the same year, three teams from our university participated in the national final of the competition, winning one first prize and two third prizes. The team consisting of Guo Feng, Fang Ziyun, and Yang Qian won first prize at the global finals, which significantly helped with their graduate recommendations.

Figure 4: Speaking as a student representative at the award ceremony for Huawei Future Star under the Ministry of Education's smart foundation project

I would like to express my gratitude to Huawei for holding the ICT Competition, and my university and mentor Fang Juan for their support. Professor Fang said that in the future, the university will adopt the new ICT talent cultivation concept of integrating courses, competitions, and certifications. Furthermore, the university will build a talent cultivation system, with moral education at its core and teaching and competitions as the two pillars. Academic mentors, competition mentors, and enterprise mentors will be assigned to support students in gaining more opportunities through competitions, innovations, practices, and entrepreneurial platforms.

I will continue to promote the Huawei ICT Competition and improve my professional skills in the ICT domain, with the hope of contributing to future industry development.

05.

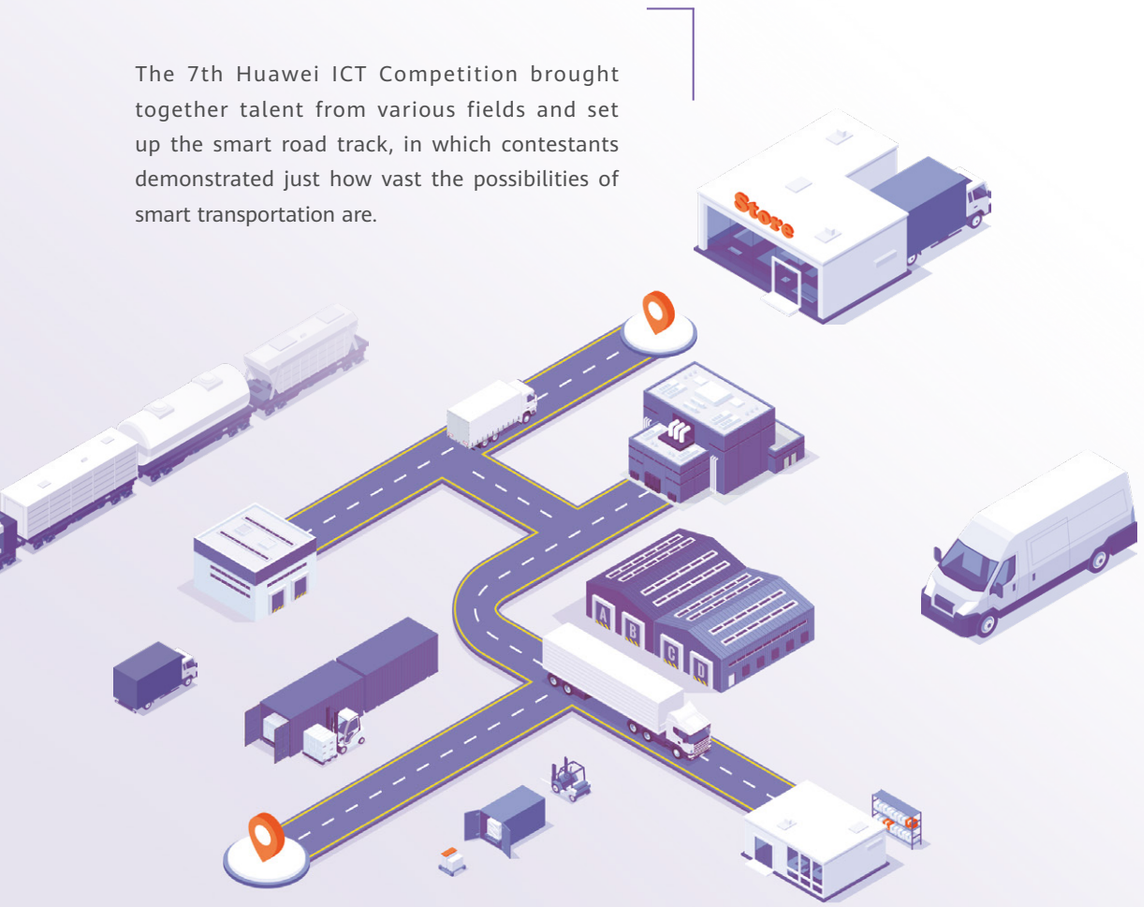
SUCCESS IN ACTION

Brightening Digital China's Way with Smart Transportation

Lin Shichao

Tsinghua University

The 7th Huawei ICT Competition brought together talent from various fields and set up the smart road track, in which contestants demonstrated just how vast the possibilities of smart transportation are.



In May 2023, my friends, Zheng Chenhao and Chen Duowen, and I went on stage to receive the grand prize of the 7th Huawei ICT Competition (Figure 1). We had received other awards before, but this time was different — there were colorful flags from all over the world, contestants were cheering, and I was blown away by the electric atmosphere. Winning the grand prize has filled me with pride and a new found confidence in my studies.

Know about the competition

I have seen Huawei ICT Competition listed amongst national college student competitions released by the Chinese Association of Higher Education. Huawei ICT Competition is an international event that serves as a platform for students to showcase their talents, exchange ideas, and make new friends. However, thinking back to the real reason I decided to sign up, I saw it in a promotional article I came across by chance in November last year, and the advert got me interested in the format of the competition. One of the topics of the smart road track — "congestion management detection, optimized management, and simulation research based on vehicle trajectory big data" — also caught my eye as it is strongly related to my own research topic of urban traffic signal management. It was then that I ran the idea past Zheng Chenhao and Chen Duowen, and we shared our hopes of signing up for the competition in our subject group. The idea received strong support from our instructor, Professor Li Ruimin, and thus our team was formed.

After signing up for the competition, we were so impressed to see that Huawei had provided each

Figure 1 Tsinghua University's imin team won the Smart Road Track Grand Prize in the Huawei ICT Competition 2022-2023 Global Final.

team with the holographic data of an intersection. The data included map and vehicle data like vehicle identities, attributes, speed, spatial and temporal locations, and driving status. This was all generated by Huawei using radar, video, high-precision maps, edge computing, and other cutting-edge technologies, which was game-changing for us. In our usual research, we would rarely come into contact with real data. It enabled us to have a better understanding of actual engineering problems and city management, which helped us propose more feasible, practical, and economical technical solutions to truly improve infrastructure construction and the travel experience of urban residents.

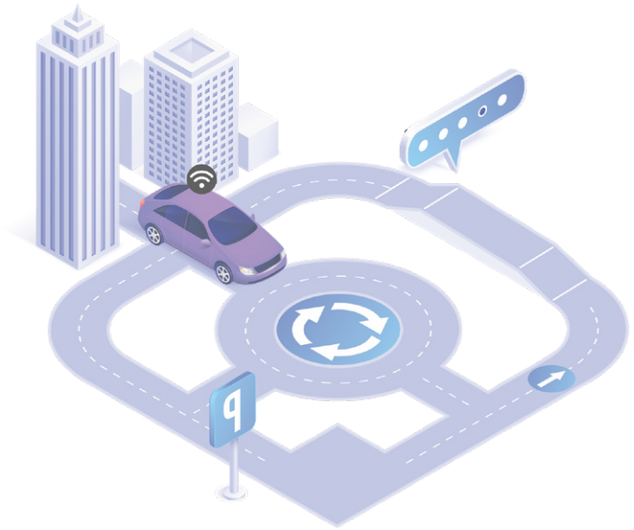
Create solutions and pursue excellence

During the preparation process, we had endless discussions and conducted reams and reams of analysis. We tried and tested all kinds of methods and solutions.

Our topic was, "how to solve vehicle queuing and congestion during peak hours for more accurate, smarter, and more practical traffic sensing and management."

Under the guidance of Professor Li Ruimin, we found a method for extracting trajectory data based on key location points and identified the key requirements of intersections. We analyzed features of road traffic flow, proposed a distributed control method supported by real-time detection data, and built a practical algorithm implementation framework. Based on simulation experiments, we analyzed the performance of the algorithm and verified the adaptability and effectiveness of the method in vehicle congestion management.

Figure 2 Industry Competition-Smart Road Track of Huawei ICT Competition 2022-2023 Global Final



It not only developed our professional skills and problem-solving capabilities, but also provided inspiration for our future career development.

To come out on top in the competition, it is not enough to just offer workable solutions; we also needed to present our entry and articulate its value to win the recognition of judges. Seneca once said that, "Luck is what happens when preparation meets opportunity," and that is absolutely true. We practiced and practiced. Before our official oral defense was due, we went to Huawei campus to find out about the competition environment in advance, and relieve some of the tension we had built up. On the big day, we successfully presented our solution and managed to give impressive responses to the judges' questions (Figure 2).

The award ceremony was held on May 27. We were nervous but excited as we waited for the winners to be announced. When I heard the name of our team, my eyes welled with tears, and the cheers of the crowd rang in my ears. All of our hard work over the past six months had paid off, and in that moment, everything was worth it.

Strive for a bright future

Through the competition, we were able to compete with global participants, make new friends, and learn about the latest technologies and industry trends. It not only developed our professional skills and problem-solving capabilities, but also provided inspiration for our future career development. I will definitely recommend the Huawei ICT Competition to my peers.

According to China's 14th Five-Year Plan for Digital Transportation, by 2025, transportation facilities will be digitally sensed, information networks will have a wider coverage, transportation services will be more convenient and intelligent, and industry governance will be digital, collaborative, and integrated with applications that have a robust network security.

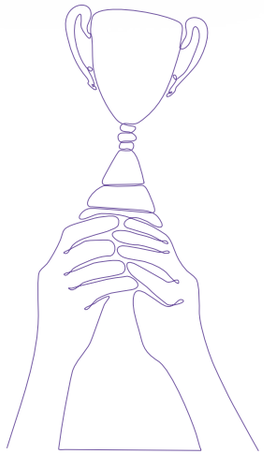
As a student of Tsinghua University, I always keep in mind the school motto of Self-discipline and Social Commitment. The purpose of learning and delving into technology is not only for my own future, but also for the needs of national development. As a member of the transportation research team, I also hope to make contributions to smart transportation. In the future, my teammates and I will build on the research results of this competition and continue to improve our solutions by adding richer data and engineering scenarios to create a safer, more efficient, and sustainable urban transportation system for China.

From Huawei ICT Competition Award Winner to Joining Huawei

Tao Chengmian

Product Technical Manager, Huawei

I believe part of the reason Huawei offered me a job was due to my previous ICT experience and because I won an award at the Huawei ICT Competition in 2018. I am grateful that this competition helped me build a bond with Huawei and motivated me to keep learning and improving my skills.



I joined Huawei four years after triumphing at the Huawei ICT Competition.

My participation in the competition made my transition from education to work fairly smooth. After graduating in 2018, I joined a Huawei partner company, and was promoted to technical director a year later. In 2022, after rounds of recruitment interviews, I joined Huawei as an IT technical manager responsible for project delivery and O&M.

I think I was offered a job at Huawei thanks in part to my previous ICT experience and because I had won an award at the Huawei ICT Competition. I am grateful that the competition helped me build a bond with Huawei and motivated me to keep learning and improving my skills. Through the competition, I learned a lot about ICT and related skills, including how to work as part of a team. My experience from the competition also helped me during job interviews.

16 hours of experiments each day

I will never forget the summer of 2018 when I participated in the Huawei ICT Competition, which has regional championships before the global final. My team, Guilin University of Electronic Technology (GUET), had won the China-region championship that year and earned our place in the global final. The finalists, a diverse group of 69 contestants from 18 countries, gathered at Huawei's headquarters in Shenzhen, China, for the 3rd Huawei ICT Competition Global Final. We had beaten out more than 40,000 students from over 800 universities across 32 countries to get this far. After intense rounds of competition, my team and I took home second prize in the Cloud Track category (Figure 1).

One of the most unforgettable experiences was the training before the competition. Every morning at 9 a.m., we arrived at the training room to run experiments. There were many servers and

Figure 1: My teammates and I (on the left) at the 3rd Huawei ICT Competition Global Final

switches running in the room, but I found their humming in the background comforting rather than annoying. My teammates and I were so immersed in experiments, configuring storage devices, simulating network topology, and setting up virtualization environments, that we often did not leave until after 1 a.m. (Figure 2). The intense experiments and pre-competition training greatly improved our practical abilities.

The global final consisted of an eight-hour experiment. During the competition, one of the biggest challenges for our team was FusionCompute node installation, where we found an error halfway through. We reviewed the simulation operations that we had practiced each day, checked the installation process, and began troubleshooting the cause. Eventually we fixed the problem, but we had fallen about two hours behind, even though we had worked as fast as possible, and did not have enough time to finish all the experimental questions. We had lost our chance to win the title but I was still very proud of my team and our achievements.

After the competition, we returned to our university and shared our experiences with other students. The following year, at the 4th Huawei ICT Competition, the GUET team won first prize in the Cloud Track category at the global final, helping me let go of my regret. In addition, my teammate Wei Mingxin was offered a teaching position at our university after graduation, and has mentored GUET students participating in the Huawei ICT Competition for several years. At this year's global final, the GUET team won the Grand Prize in the Network Track and Cloud Track categories in the Practice Competition.

Promoted to technical director after one year

For me, one of the most important benefits of participating in the Huawei ICT Competition was improving my hands-on skills. The competition involved very accurate simulations of real-world environments, which helped me a lot during my first few years of work.

My experience at the competition also paved my way into the ICT industry. After the competition, I passed the Huawei Certified ICT Expert (HCIE)-Cloud Computing certification and this helped me later on when I joined a Huawei partner company after graduation in July 2018.

Initially, I was a project delivery engineer responsible for setting up, maintaining, installing, and commissioning cloud platforms for customers. Thanks to my hands-on experience before and during the Huawei ICT Competition, I quickly became familiar with my work, and smoothly transitioned from a fresh graduate into a qualified professional. I often encountered challenges, but with the product knowledge and skills that I had learned when preparing for the competition and my experience from previous projects, I was able to quickly identify and fix problems and overcome challenges.

Having excelled in my position, I was promoted to technical director in less than a year. I began to undertake delivery and technical assurance for the company's key projects, while managing a team of more than 20 engineers.

The Huawei ICT Competition introduced me to Huawei's technologies and laid a solid foundation for me to join Huawei.

Experience earned me the Huawei job offer

In 2022, I had the opportunity to be interviewed by Huawei. At the interview, I introduced my experience in the Huawei ICT Competition and presented my HCIE-Cloud Computing certificate, as both showed my passion and dedication and could increase my chances of receiving an offer. The interviewer was very impressed with my experience and said, "I'm confident that you are qualified in terms of technical skills since you did so well in the global final of the Huawei ICT Competition."

In addition to improving my theoretical knowledge and practical skills, the Huawei ICT Competition introduced me to Huawei's latest technologies. During the competition, I got to know some Huawei engineers who helped me understand Huawei's corporate culture. Since then, I have worked with Huawei's products and services on a daily basis. I have developed a deep understanding of Huawei's products and solutions, and accumulated more hands-on experience through major projects. I could already easily fix any problems that customers encountered during O&M. I am sure that my experience at the competition laid a solid foundation for me to join Huawei at a later point in my career.

I am currently working as an IT technical manager at Huawei, but I am still learning. ICT is evolving and converging rapidly. Therefore, in addition to participating in skills contests organized by the company, I have been learning new skills and improving my knowledge. I recently passed the required exam and earned the HCIE-Big Data certification.

Just as eagles are born to fly, and horses are born to gallop, I feel like I was born to do this. This is where I belong.

The Huawei ICT Competition runs every year, and every year it gets bigger and better, with more students participating and new tracks included. I look forward to seeing more college students challenge themselves and launch their future careers by participating in this competition.

Fostering New Talent for Intelligent Transformation

Malik Hamed Al Wahebe

Director,
Public Relations,
Huawei Oman

To meet the requirements of universities in strengthening cooperation with the private sector and improving teaching quality, Huawei collaborates with universities, education authorities, and international education organizations to build Huawei ICT Academies across the Middle East and Central Asia. The cooperation aims to deliver cutting-edge ICT education to college students, cultivate ICT talent, build a robust education talent ecosystem, promote fair and high-quality education, and drive digital inclusion. As of September 2023, Huawei had partnered with universities in the Middle East and Central Asia to build over 230 ICT Academies, with more than 1,000 teachers training over 45,000 students annually.

In Oman Vision 2040, the Oman government listed "improving education, scientific research, and national strength" as a top national development priority. Five key objectives are outlined: Establish universities for technology and the applied sciences, promote vocational and technical education in primary-level education, encourage investment in education, launch partnership initiatives between the private sector and schools, and strengthen national capabilities through skills development to support economic growth.

As an important ICT partner of Oman, Huawei's talent development strategy helps improve education and scientific research within the country. Huawei, as a global leader in ICT infrastructure and smart devices, has been actively contributing to Oman's ICT talent development strategy. Collaborating with universities in Oman, Huawei has established ICT Academies and continuously deepens these partnerships to create a comprehensive talent supply chain, covering learning, certification, and employment. By April 2022, the Huawei ICT Academy, which helps students learn key ICT skills, has benefited over 5,000 students in Oman, significantly contributing to the nation's digital talent development.

MTCIT Talent Development Plan

Since the Ministry of Transport, Communications and Information Technology (MTCIT) of Oman launched the Makeen strategy for digital capability development, tens of thousands of Omani youth have embarked on their ICT journeys. The Makeen strategy consists of four modules: youth enablement, ICT training path, MOU cooperation with the private sector, and women in technology.

For the ICT development path, the initiative proposes to provide professional certification support to motivate ICT experts and specialists and help them improve their competitiveness in the job market. Huawei is a proud partner of this initiative.

MTCIT and Huawei also jointly organized the Huawei ICT Competition — Middle East and Central Asia, which has grown to become the largest ICT competition and talent exchange event in the region. Since its launch in 2017, more than 100,000 students in the Middle East and Central Asia have participated in this competition.

In December 2022, with the strong support of the royal family of Oman, Huawei, MTCIT, and Omantel jointly held the 7th Huawei ICT Competition Middle East and Central Asia Regional Final in Muscat (Figure 1). That year's competition attracted more than 19,300 students from 472 universities in countries including Saudi Arabia, the United Arab Emirates, Oman, Qatar, Kuwait, Bahrain, Iraq, Jordan, Lebanon, Pakistan, and Kazakhstan, setting a new participation record. A total of 45 students from 15 top teams emerged from the national competition and arrived in Oman for the prestigious event.

During the regional final, Oman also held the GCC Ministerial Committee Meeting, which not only helped Oman set its strategic goals for ICT talent development, but also enhanced Oman's international influence. To further promote ICT talent development, the Omani government unveiled the Five-Year Scholarship Incentive at the award ceremony: Over the next five years, Omani students who had obtained Huawei certifications would receive incentive scholarships totaling US$450,000. This initiative not only motivates students to pursue ICT learning, but also helps cultivate ICT talent in Oman. It is expected that this move will play a pivotal role in promoting Oman's intelligent transformation.

Figure 1: 7th Huawei ICT Competition Middle East Regional Final

Bridging the talent gap

Talent serves as a cornerstone of scientific and technological development, and Oman has consistently prioritized talent recruitment, development, and optimization. In collaboration with Huawei, the two sides use the Huawei ICT Talent Job Fair to amalgamate resources from all parties, building an effective bridge between students and enterprises.

At the same time, Huawei released the Eagle Talent Program at the regional final (Figure 2), offering internships to contestants. Upon joining Huawei's local company for internships, students will be mentored by Huawei's best experts, who will guide them through honing skills and planning their careers. Students who successfully complete their internship evaluations and oral defenses will be directly recruited by Huawei. This program is a great incentive for ICT-related students in Oman, and the broader Middle East and Central Asia, to join Huawei through their own efforts, to better demonstrate their ICT skills, and to contribute to the intelligent transformation of Oman, the Middle East, and Central Asia.

Empowering women in science and technology

As achieving gender equality is important to overall social development and progress, Oman has been committed to promoting the development of local women in the field of science and technology. The nation actively participates in Huawei Women Developers (HWD) to encourage

Figure 2: Huawei announces the Eagle Talent Program at the awards ceremony

women to join the technology industry and enhance their competitiveness in the technology sector.

In the Middle East and Central Asia, women's limited participation in the science and technology industry is closely tied to their lower exposure to science curricula in schools. Therefore, women are encouraged to start learning about AI and software during their high school years to prepare for technology-related majors in university.

In addition, it is recognized that women aspire to see more female leaders in the ICT field. Research shows that women possess excellent leadership skills, including motivating employees, building relationships, and taking initiative, which are essential qualities for successful leaders. We firmly believe that women can achieve remarkable success in the field of science and technology.

Through cooperation with Huawei, the hope is that more Omani women will have the opportunity to engage in the technology industry, unlock their potential, and showcase their talent.

From the establishment of Huawei ICT Academy to the Huawei ICT Competition and projects such as the Elite Plan and HWD, the partnership between Oman and Huawei has deep roots. This kind of win-win cooperation has not only enhanced Oman's national strength and economic modernization and diversification, but has also played a positive role in driving future scientific and technological development, establishing Oman as a technology hub in the region.

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Building a Fully Connected, Intelligent World