

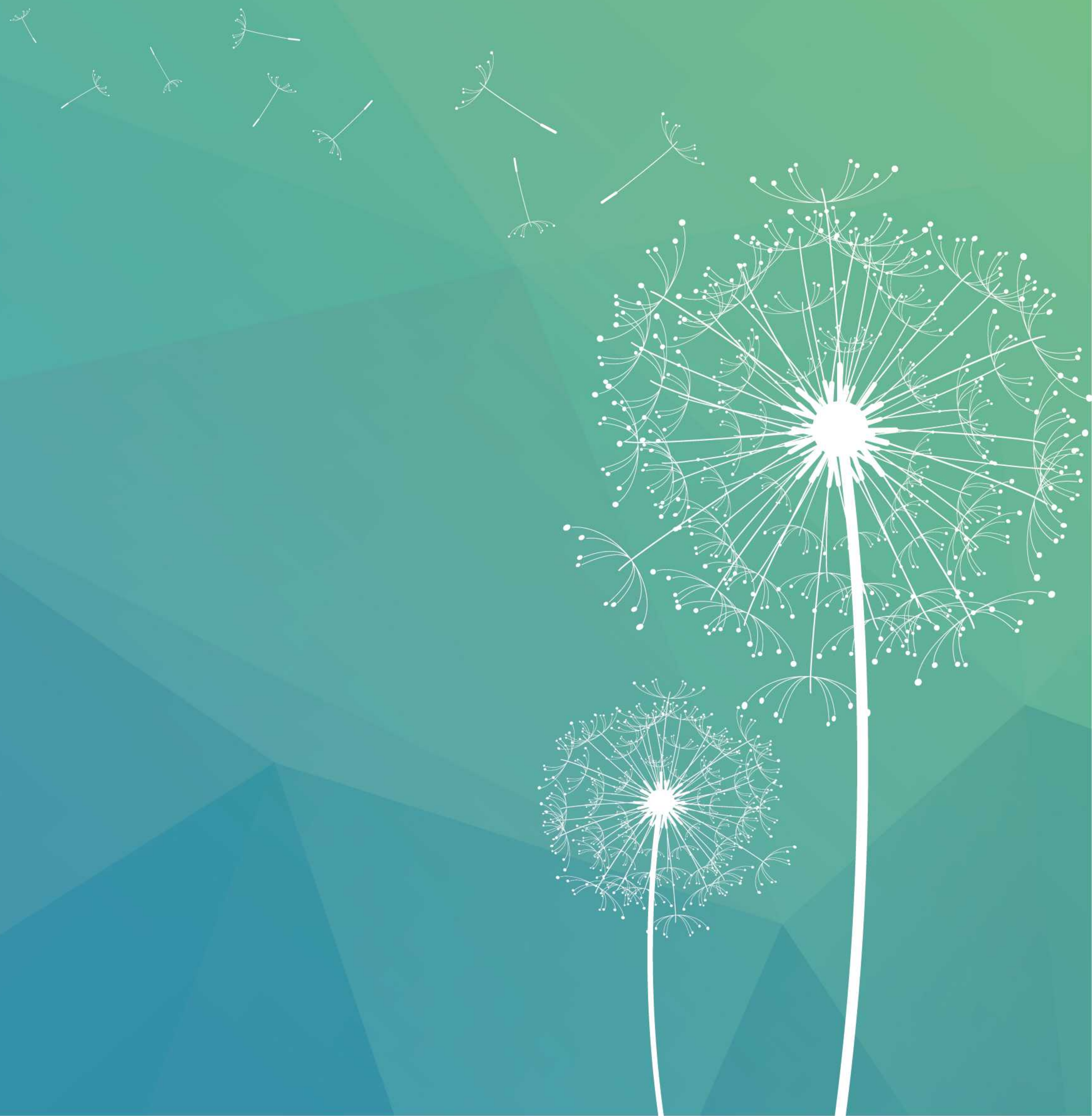


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# Huawei ICT Academy

Building Your Career Today

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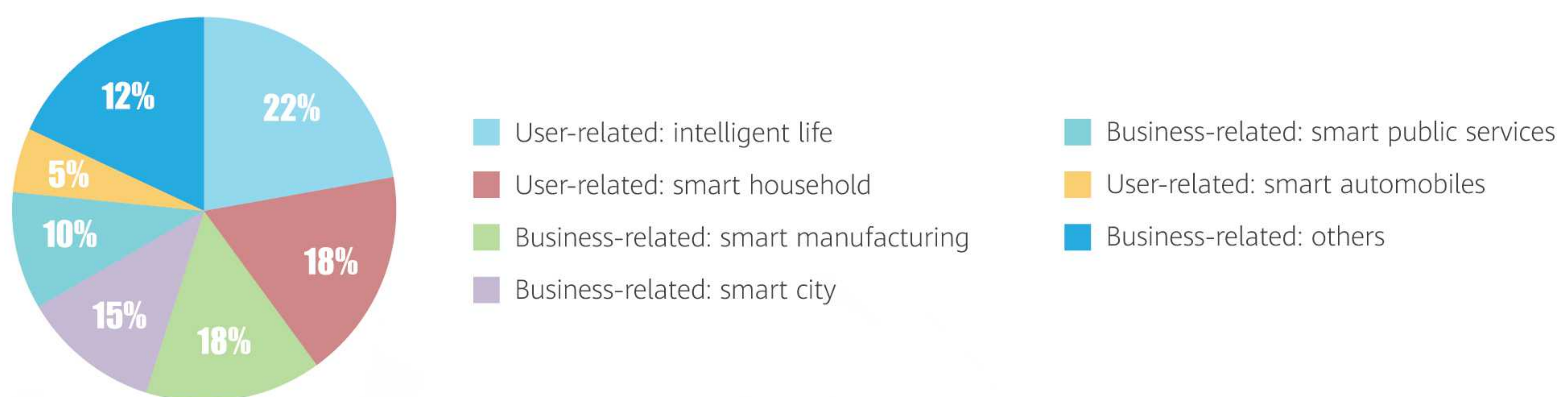


# 1 New ICT Industry Trend

## 1.1 World with New ICT

Information and Communications Technology (ICT) has become a core force for technological innovation and economic growth, driving the transformation of society in the 21st century.

Looking forward, new technologies such as Artificial Intelligence, Cloud Computing, the Internet of Things (IoT), and Big Data are reshaping enterprise IT systems and business models. ICT is transforming enterprises in all sectors of the economy. For example, financial institutions can analyze customer consumption habits and tendency by taking a good use of personal data collected from various terminal devices, to assess customer credit reputation quickly and approve loans wisely. In city administration section, governments take advantage of IoT's intelligent protection function and Big Data's analysis function to dispatch policemen and social security guards timely and accurately to ensure public safety. Power companies use smart meters to optimize power generation and supply, enable on-demand power supply, and efficiently locate power grid faults.



Application field distribution of global on-network devices in 2025

## 1.2 Challenges & Opportunities in the New ICT Industry

ICT industry development leads to the increasing combination of IP, IT, and CT, creating enormous opportunities with technologies such as the Internet of Things (IoT), Cloud Computing, and mobile broadband networks. In the new ICT era, the entire industry chain is facing great challenges. Technically, enterprises need to adapt to ICT architecture changes brought about by Artificial Intelligence (AI), Cloud Computing, IoT, and Big Data. To enable this progress, technical talents must be cultivated to meet enterprises' diverse requirements.

As ICT challenges continue to grow, requirements for ICT-related job skills will grow as well. Enterprises engaged in wireless communications, Big Data, cloud computing, security, and network programming will face a serious shortage of professionals in the years to come. The World Bank estimates a shortage of 7 million professionals for ICT-related jobs in the next 10 years.

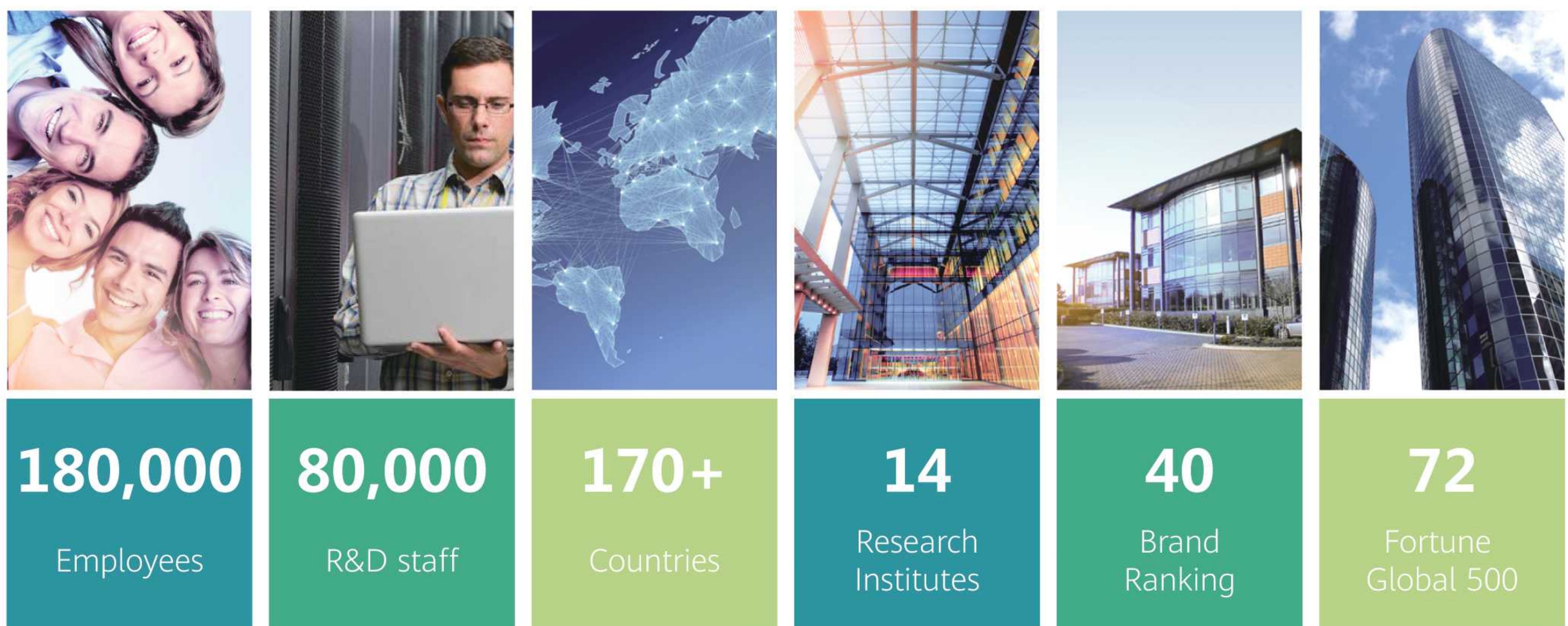


## 1.3 Huawei Mission

Huawei is a leading global provider of ICT infrastructure and smart devices. With integrated solutions across four key domains – telecom networks, IT, smart devices, and cloud services – we are committed to bringing digital to every person, home and organization for a fully connected, intelligent world.

Huawei's end-to-end portfolio of products, solutions and services are both competitive and secure. Through open collaboration with ecosystem partners, we create lasting value for our customers, working to empower people, enrich home life, and inspire innovation in organizations of all shapes and sizes.

At Huawei, innovation focuses on customer needs. We invest heavily in basic research, concentrating on technological breakthroughs that drive the world forward.



In response to technology development and industry environment changes, Huawei proposes "Leading New ICT". Simply put, "Leading New ICT" means the construction of new ICT systems are driven by businesses. In the future, agile and innovative ICT architectures that focus on Cloud Computing and cloud-pipe-device synergy will emphasize more on the adaptation to changes. Therefore, "New ICT" for Huawei has three characteristics: business-driven solutions, new ecosystems, and agile innovation.

Research data shows that the ICT industry is soaring, with a global market value of US\$ 800 billion. To fill the shortage gap of 7 million ICT talents in the next decade, Huawei plans to promote an education program portfolio to train a large number of professionals in IP and IT technologies. As the world evolves toward an intelligent, digital future, network, Big Data, and Cloud Computing engineers rank near the top of all requirement lists for open-source managers. 74 percent of HR managers surveyed said that they needed experienced engineers for ICT industry such as storage, data center technologies, security, and computing.



# 2 Huawei ICT Academy

## 2.1 Overview: A Bridge between Academy and Industry

Huawei ICT Academy is a non-profit partnership program that authorizes global universities and colleges to deliver industry-recognized Huawei Certification courses to students. This program acts as a bridge between enterprises and academy to build a talent ecosystem for ICT industry. It has been designed to deliver industry standard training and certification courses required by employers. Access to these courses will prepare students with the latest and practical skills to work in ICT industry, making them more employable and helping them kick start their careers.

## 2.2 Cooperation Model

### Partners:

Major partners include universities and colleges focusing on computer, communication, electronic information, software engineering and other ICT-related disciplines. As the convergence of ICT is increasingly expanding, Huawei embraces interdisciplinary partnerships.

## Cooperation Model for Huawei ICT Academy



Base on Huawei's rich experience on ICT talent cultivation, systematic practical training system and mature university-enterprise partnership program, partner academic institutions can be enabled to establish frontier, standardized ICT practice labs and course system, to seamlessly connect teaching and application training for enterprises.



## 2.3 Course and Resources

Huawei ICT Academy provides a wide range of learning pathways with rich learning resources, simulation tools, practical labs and certification exams. Huawei ICT Academy students will have opportunities to visit ICT enterprises, be exposed to presentations of industry experts, participate in globally recognized Huawei ICT Competition, as well as to attain international exchange opportunities.

Big Data		IoT	
Course Type	Course Name	Course Type	Course Name
General Education Courses	Introduction to Big Data	General Education Courses	Introduction to Big Data
	Professional Competence		Professional Competence
	ICT Frontiers – IoT		ICT Frontiers – IoT
	ICT Frontiers – Cyber security		ICT Frontiers – Cyber Security
	ICT Frontiers – Cloud computing		ICT Frontiers – Cloud computing
	ICT Frontiers – Big Data		ICT Frontiers – Big data
	ICT Frontiers – SDN		ICT Frontiers – SDN
Fundamental Courses	Network Basics	Foundation Courses	Network Basics
	Routing & Switching		Routing & Switching
	Data Storage		Advanced Network Technologies
	Advanced Network Technologies		Cloud Computing
	Cloud Computing	Core Courses	Big Data Theory
	Cloud-based Software Development		Data Storage
	Information Security		Data Mining
Core Courses	Big Data Basics	Practical and Training courses	IoT Information Security
	Data Mining		IoT Application
	Data Mining		IoT Development
	Hadoop Cluster Program Design and Development		
	NoSQL Database Theory		
	Python Basics for Big Data Analytics		
	R Language		
Practical and Training courses	Big Data Platform Application		
	Big Data platform Development		

## Resources



Training materials  
and courses



Lab guides



Online resources

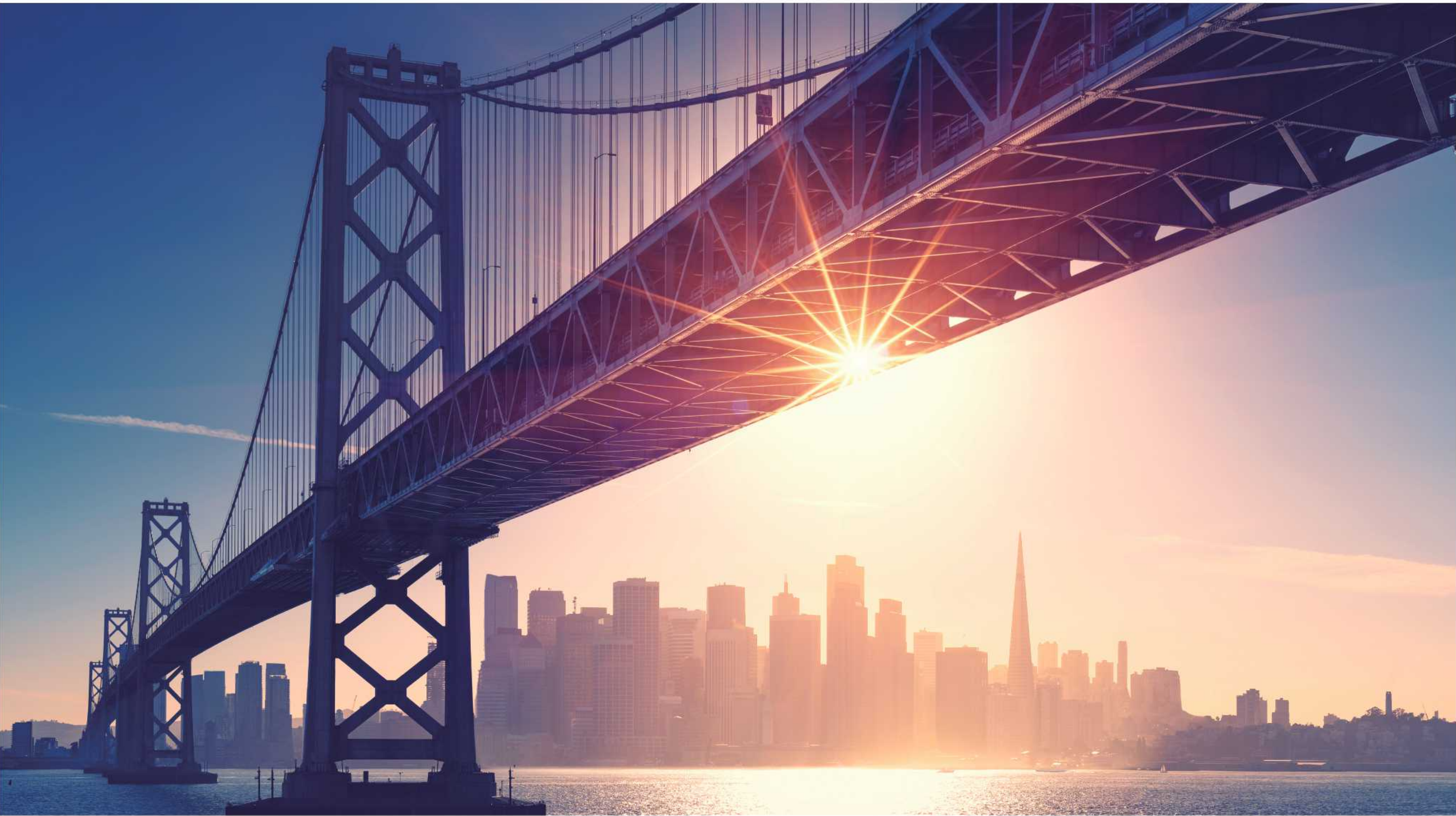


Online exams



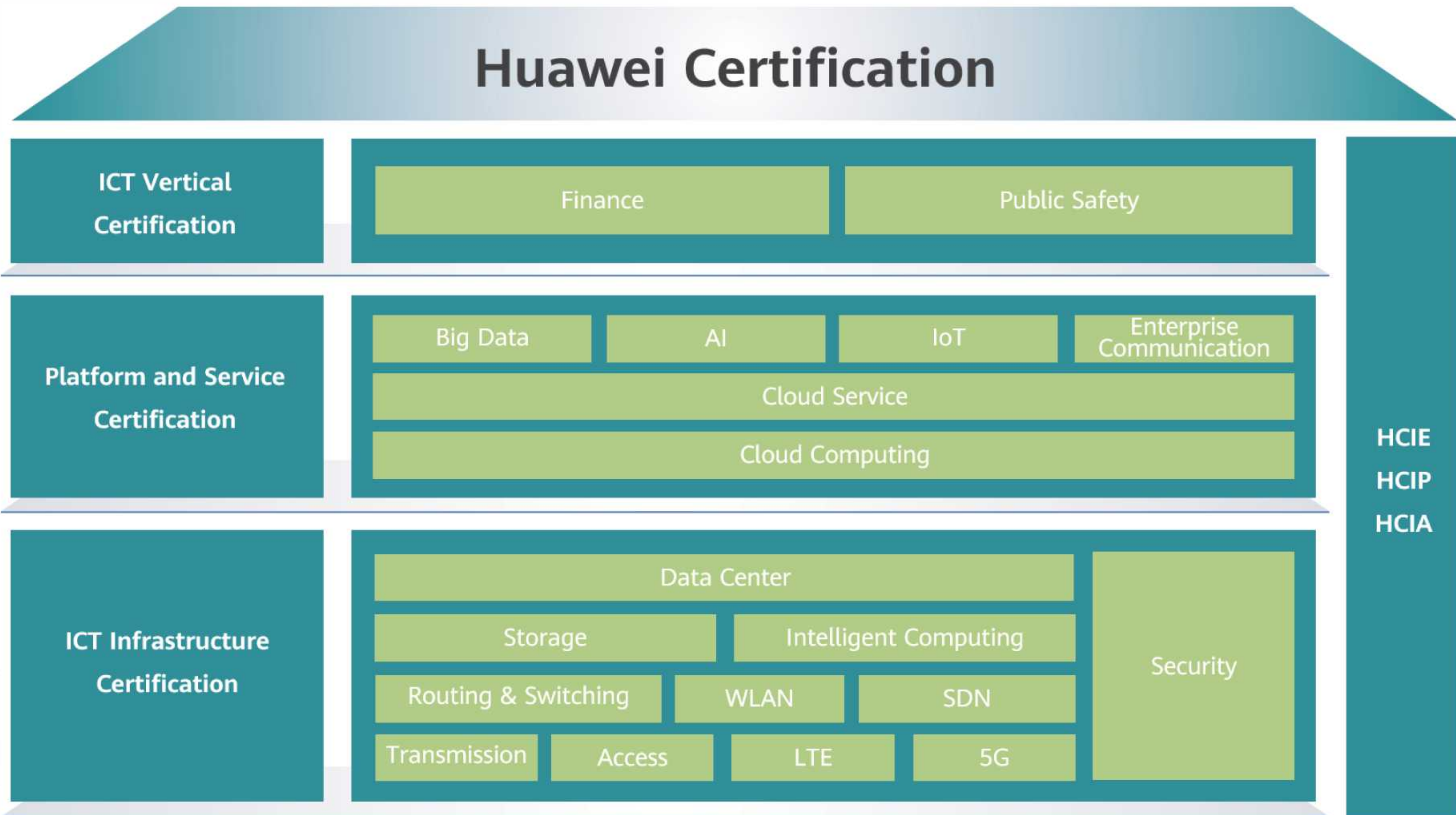
Simulator





**Huawei Certification:**

Huawei, using new ICT infrastructure featuring cloud-pipe-device synergy, provides the only certification system in the industry that covers all ICT technical fields, including ICT Infrastructure Certification, Platform and Service Certification, and ICT Vertical Certification. In order to meet the learning and advancement needs of ICT professionals, Huawei has set up a three level certification system: Huawei Certified ICT Associate (HCIA), Huawei Certified ICT Professional (HCIP), and Huawei Certified ICT Expert (HCIE).





## 2.4 Online Platform

### Introduction :

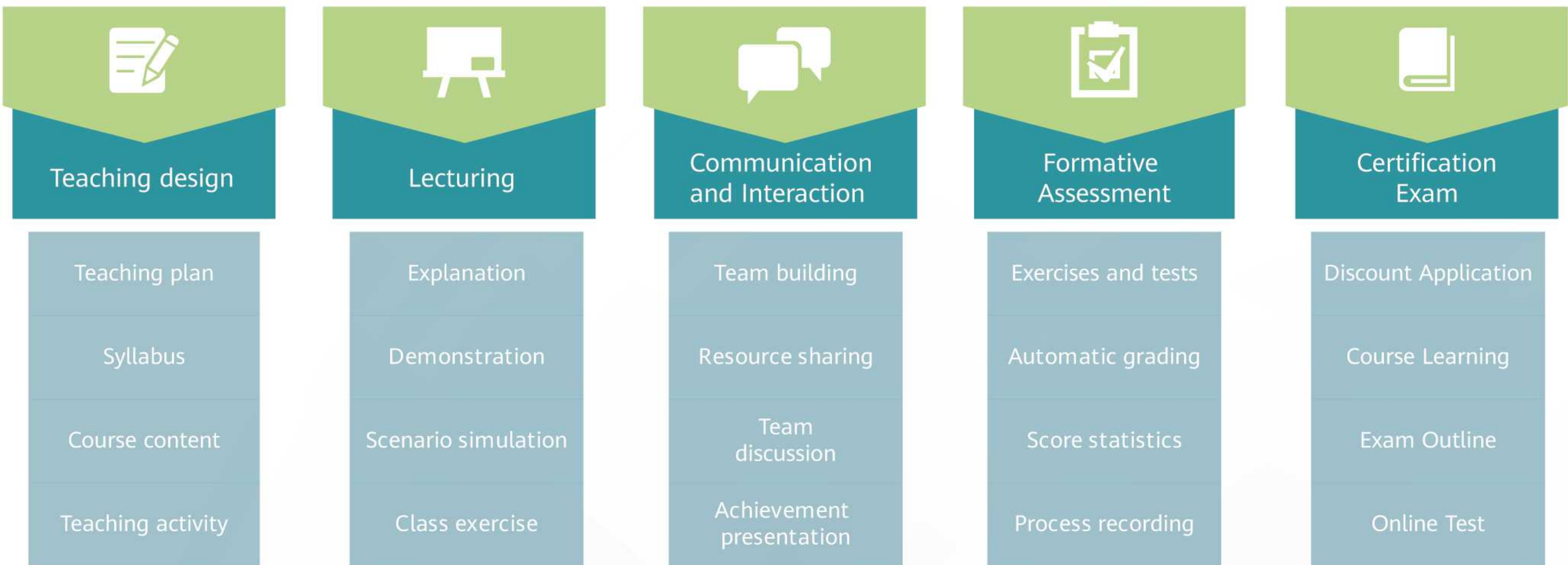
The Huawei ICT Academy online platform provides an integrated digital support featuring information releasing, resource sharing, teaching supporting, community interaction, and mobile learning. Based on the learning cycle, it provides learners with a learning environment that can be accessed through mobile terminals anytime and anywhere. The ICT Academy drives learning and development by offering continuously updated learning resources, multi-channel access to resources, and the evolving interaction between teachers and students and among students.

Teachers can obtain the latest teaching resources, design and implement teaching activities with diverse tools, evaluate students' learning with tracking and statistics tools, and learn from other teachers in the same field by communicating with each other.

Students can acquire learning materials, complete tasks, query results, and interact with teachers and other learners anytime and anywhere.

Teachers and students can register on the online learning platform provided by the Huawei ICT Academy for free and obtain the latest materials: <https://www.huaweiacad.com>.

### Teaching and Learning Supporting Platform





## Advantages of the Huawei ICT Academy Platform:

### 1. Comprehensive functions:

Supporting teaching resource construction, displaying course content, promoting the interaction between teachers and students, exams and exercises, teaching evaluation.

### 3. International design:

Supporting multiple languages and resource sharing across the world.

### 5. Formative assessment:

Except for scores, study performance and results can be quantified on the basis of learning participation, duration, and frequency.

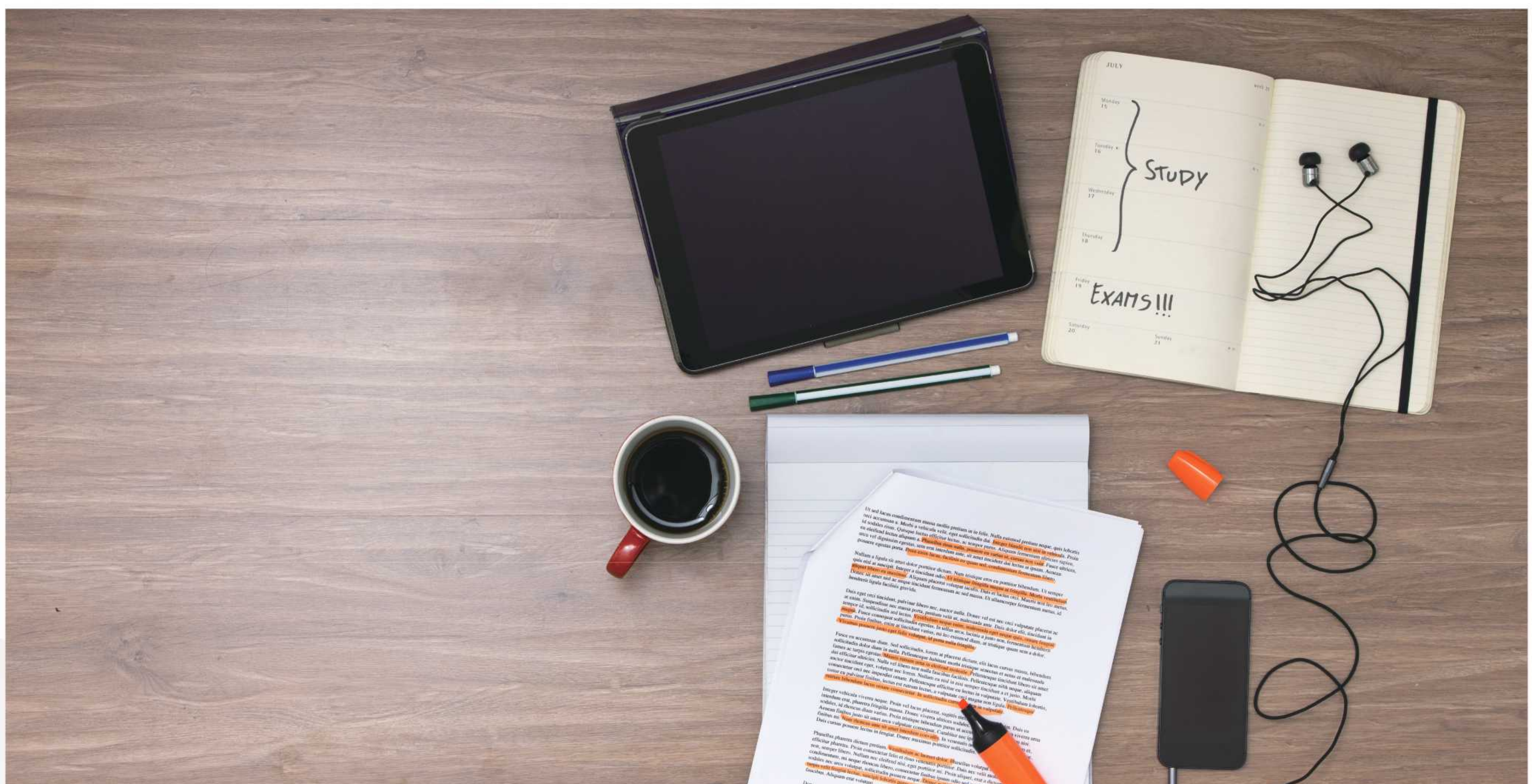


### 2. Excellent performance:

High reliability, supporting registration for millions of users and a large number of concurrent operations, and long-term stable system running.

### 4. Flexibility:

Functional tools are designed and can be flexibly used to support diverse learning models, for example, discussion section, exercise, exam, blog.





# 3 Becoming a Huawei ICT Academy

## 3.1 Application Guide

### Steps to be a Huawei ICT Academy



Firstly, universities and colleges get access to <https://www.huaweiacad.com> for application information. Secondly, Huawei reviews and approves applications. Thirdly, Huawei and accepted academic institutions will sign an agreement. For more details, please refer to [Huawei ICT Academy Application Form](#).

## 3.2 Requirements

To effectively conduct teaching activities as a Huawei ICT Academy, Huawei suggests that partner universities be equipped with basic teaching resources as follows:

### Instructors:

A minimum of two teachers with Huawei Certified Academy Instructor(HCAI) certificate

### Classroom environment:

Supporting teaching equipment and software including

- Internet access
- Huawei’s free simulation tool (eNSP) installed on PCs
- Projector
- Personal computers

### Lab construction:

Each ICT laboratory should be equipped with necessary software and hardware for students to experiment and for instructors to teach. Labs in different technical fields may be separated or combined. Contact Huawei for Lab construction plans and a configuration list.

### Feedback

- Completion of Student Satisfaction Form
- Summary report on the end of courses from teacher



# 4 Building Huawei ICT Talent Ecosystem

## 4.1 Huawei ICT Academy Advisory Board

[London, United Kingdom, July 5, 2018] The first mid-year meeting of the Huawei-UK ICT Academy Advisory Board (Advisory Board) meeting was successfully held at Queen Mary University of London on June 21, 2018. The present members included professors and senior executives from 10 UK-Huawei ICT Academies, experts and guests from Huawei Authorized Learning Partners (HALP) and industrial organizations. Leaders from Huawei were Robert Yang, Vice President of Western Europe Enterprise Business, Yida Sun, Service Director of UK Enterprise Business, Bo Zhang, ICT Talents Eco-System Director of Western Europe Enterprise Business, Pallavi Malhotra, Huawei ICT Academy Manager and more. As a critical step, the establishment of Advisory Board aims to promote ICT talent eco-system in Western Europe from perspective. Composed by experts and leaders from Huawei, local and European ICT Academies and partners, as well as industrial organizations, the Advisory Board is devoted to the strategic development and growth path of academies.



Huawei UK ICT Academy Advisory Board Meeting



## 4.2 Huawei ICT Competition

Huawei ICT Competition is annually organized by Huawei ICT Academy for global university and college students, with an aim to promote ICT talent cultivation, encourage students to attain Huawei Certification, and provide an international study platform for talent exchange. The competition stimulates students to sharpen their ICT capabilities and attain better job opportunities after being certified by Huawei Certification.

### Huawei ICT Competition 2017-2018

[Shenzhen, China, May 17, 2018] Huawei ICT Competition 2018 Global Final awarded two first prizes to teams from Shenzhen Institute of Information Technology and Shenzhen Polytechnic. The competition, which took place at Huawei's Shenzhen headquarters, attracted over **40,000** participants from more than **800** universities and colleges in **32** countries, including: China, UK, Spain, Italy, Russia, Australia, Mexico, South Africa, Egypt, Saudi Arabia, United Arab Emirates, Pakistan, and India.

In addition to networking, this year's competition added cloud as a second technical domain. There were 23 teams including 69 final contestants who had stood out from preliminary, national final and regional final to participate in the Global Final. After fierce competition, two were awarded as first prize, four as second prize and six as third prize.



Opening ceremony



Hands-on experience



Seminars and press conferences



Awards ceremony



## Huawei ICT Competition Kenya 2018-2019

The first Huawei ICT Competition in Kenya has attracted great attention throughout Kenya under the cooperation with PR and HR. This Competition aims to provide a platform for global ICT talent development and the growth of a robust and sustainable ICT talent ecosystem in Kenya.

Local university leadership gave a vigorous support to the roadshow and presentation. This competition has attracted more than 4000 students registered after more than 50 roadshows. With 8 local cities and more 40 local universities involved, this competition has exerted significant influence in Kenya.



Roadshow during the Huawei ICT Competition Kenya 2018-2019



### 4.3 Huawei ICT Job Fair

The Huawei ICT Job Fair is a bridge between the ICT Academy and Huawei's partners. The purpose is to narrow the gap between the existing talents and actual required numbers in the ICT industry and promote the rapid and healthy development of the industry.

Huawei's activities in the Middle East facilitate the exchange of global talent. For example, on December 10th, 2018, Huawei organized the job fair in Pakistan. In Pakistan, 18 higher education institutions have signed agreements to establish Huawei ICT Academy. Among these institutions, 17 have already started training courses, and the total number of certified students in 2018 was 1,900. Four enterprise partners and 47 ICT academy students participated in this job fair, and 12 tentative job offers were successfully achieved on the spot. In addition, the job fair ultimately enabled a talent transfer among Middle East countries for the first time and so connect ICT supply and demand.



Huawei ICT Job Fair in the Middle East



# 5 Cooperation Cases with Huawei ICT Academy

## 5.1 Shanghai Jiao Tong University (China)

In 2016, Huawei and Shanghai Jiao Tong University (SJTU) reached an official Partnership Agreement over the Enterprise-University-Research cooperation program. This program was initiated by China's Ministry of Education who bridges enterprises and higher education institutions, in the purpose of cultivating ICT talents and building a human resource ecosystem for ICT industry. As a leading university of China, SJTU was successfully selected by Huawei ICT Academy as our first cooperation university in Double First-Class level (first tier universities in China). Based on the Agreement, Huawei ICT Academy Innovation Talent Center and SJTU's Engineering Training Center (later renamed as Student Innovation Center) worked together to conduct the course: Huawei LiteOS and NB-IoT. Over this course, more than 10 creative works were produced and 2 of them won the first prize in the final of National IoT Design Competition under the guidance of Huawei experts. The fruitful achievement of this course was highly praised by SJTU's School of Electronic Information and Electrical Engineering (SEIEE). In addition, SEIEE incorporated this course as an accredited academic one into its curriculum and Outstanding Engineer Program.

In recognition of Huawei's cooperation with SJTU, other Double-First Class universities such as Harbin Institute of Technology (HIT) and Tianjin University began to take "SJTU course" as an example to launch IoT innovative and practical courses; they achieved great success over the IoT related courses, so that Huawei's IoT technologies were recognized by key universities as the brand product for further cooperation.



Class photo of course "Huawei LiteOS and NB-IoT" at Shanghai Jiao Tong University



## 5.2 University of Reading (UK)

As the top 200 university, the University of Reading Henley Business School is the first business school in the U.K., and the first business school to cooperate with Huawei in the U.K. The school focuses on service process operation estimation, information management, telecommunication and computing networking, and has conducted studies and cooperation with multiple industry partners in fields such as medical care, education, and Smart City. With the ICT Academy project, Huawei has cooperated with the University of Reading in ICT-related courses, such as information technologies, digital signal processing, and communications. We provide IT training for students in the Henley Business School. Once they pass the exam after taking a course, they would receive Huawei certificates. Apart from students, we also provide training for local channels. As far as flow, the short-term HCIA Storage V3.0 training courses have been offered at Henley Business School for four times. This course has cultivated eight outstanding ICT students, who have received Huawei HCIA storage certificates.



Students from University of Reading visiting Huawei UK office



## 5.3 University of Witwatersrand, Johannesburg (South Africa)

On November 28, 2017, Huawei ICT Academy in Witwatersrand University and the University of Johannesburg started to operate, with an aim to meet talent need of in ICT industry.

Located in Johannesburg, Witwatersrand University is a comprehensive university with advanced facilities and equipment, high quality of teachers and outstanding research team. Not only in South Africa, but also in the world Witwatersrand University is one of the top universities. By cooperating with Huawei on the platform of Huawei ICT Academy, Witwatersrand University is empowered to cultivate ICT talents and make contributions to the development of ICT industry.

This is a great opening for the development of Huawei ICT Academy in South Africa. Through the cooperation with the top universities in South Africa, Huawei aimed to take the advantages of its own resources and technologies to cultivate ICT talents. Huawei would always spare no efforts to promote ICT knowledge sharing and create more opportunities for the students to approach for the latest ICT technology.



Students from the two Huawei ICT Academies in South Africa



## 5.4 University of New South Wales (Australia)

On June 22, 2017, Huawei signed a partnership agreement with the University of New South Wales (UNSW) to establish a Huawei ICT Academy. UNSW is an innovative university with a global vision. The partnership program is committed to help UNSW enhance its curriculum by introducing industry-leading technologies. More than 60 UNSW students participated in the seminar held by Huawei and UNSW on course selection. UNSW adopted Huawei's Routing & Switching and Cloud Computing courses, and actively participated in the Huawei ICT Competition.



Huawei ICT Competition at UNSW





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- Huawei ICT Academy Around The World



**600+** Huawei ICT Academies

**1,200+** Certified Instructors

**45,000+** Trained Students per year





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