



# Information and Communications Technology Industry

An Overview of  
Taiwan Excellence Products  
(2019)

## Current State and Trends of the Global ICT Industry

According to the 2017 “Measuring the Information Society Report” by the International Telecommunication Union (ITU), for the first time over half of the world’s population uses the internet. By the end of 2019, internet users will account for 51.2% of the total global population. The three most important trends are:

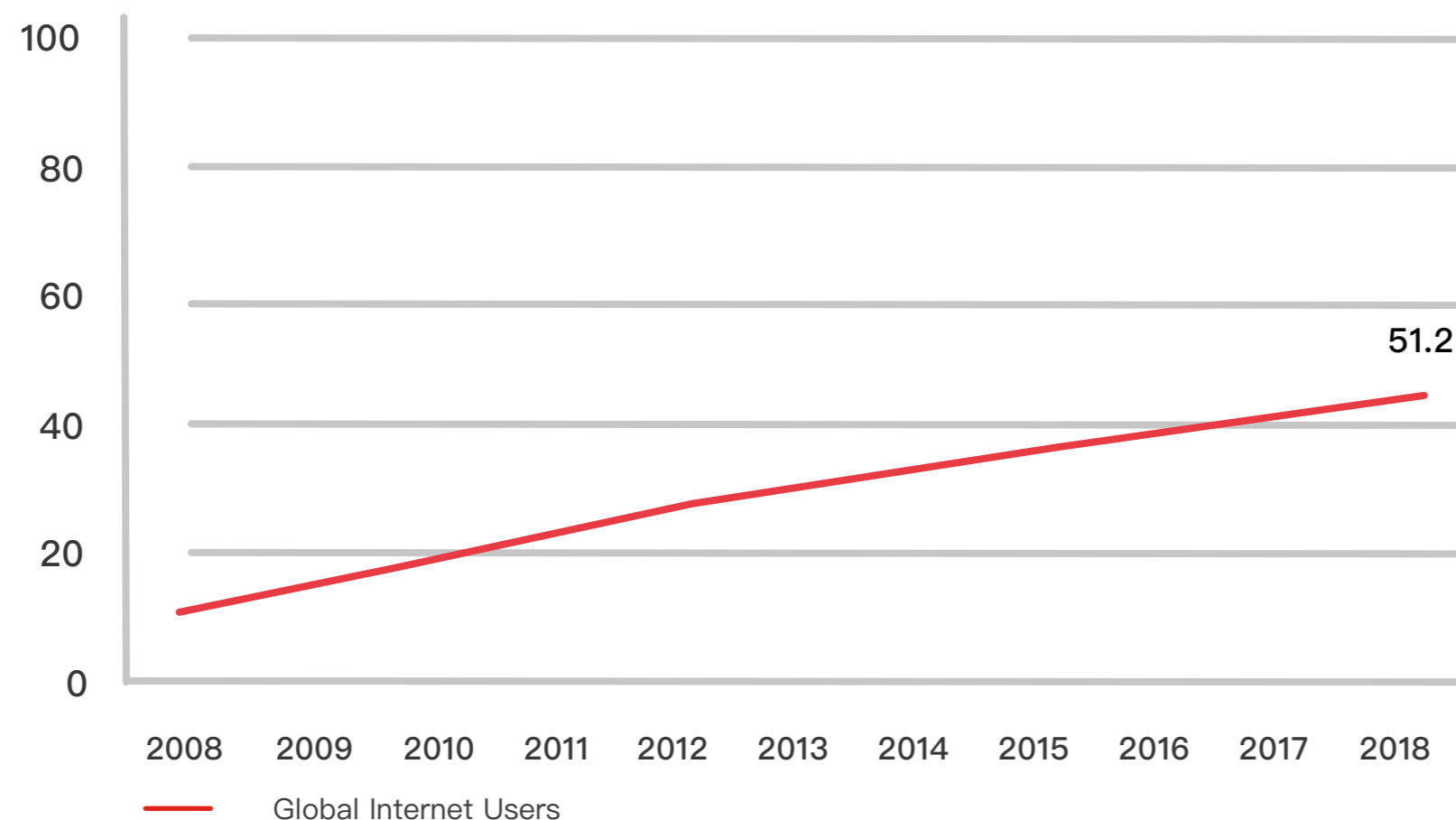


Figure (1.1) – ITU Information Society Measurement Report

1. ICT use has steadily increased over the past decade. In developed countries, 80% have access to internet services, reaching saturation, and the 50% population threshold is an important milestone in the popularization of the ICT industry.
2. Broadband use has achieved strong growth. Mobile applications, such as ultra-high-quality images (8K) and 3D stereoscopic image display, are driving demand for broadband connection. By 2020 mobile data traffic is expected to be 1000 times that of 2010. 2019 is said to be the year of 5G, and the global 5G infrastructure has entered the testing phase. 5G will be able to cater to the needs of virtual reality, augmented reality, and other industries, while massive machine type communications (mMTC) will be applicable for smart city, smart home, and other industries and will be suitable for automated factories and medical 4.0 in the manufacturing industry.



### Entertainment industry

virtual reality and augmented reality



### mMTC

smart cities and smart homes



### Manufacturing industry

Automated factories and medical 4.0

3. The Internet of Things (IoT), big data analysis, cloud computing, artificial intelligence (AI), and block chain technologies will give rise to extensive innovation, fundamentally changing enterprises, the government, and society. This is expected to create a digital economy worth US\$23 trillion by 2025.

## Taiwan's ICT Industry – Current State and Development Potential

### New upgrades in information and communication technology – the Internet of Things

In 2018 Taiwan achieved US\$157 billion in information and communication technology exports, an increase of 3.48% compared to 2017. This was due to Taiwan's strong industrial chain and technological edge. Moreover, our integrated manufacturing capabilities in sensors and IoT terminals gives us a global advantage in IoT industry development. With the Executive Yuan's recent promotion of the "Asia Silicon Valley" policy and the establishment of the Asia Silicon Valley Development Agency (ASVDA), Taiwan is expected to attain a complete industry ecosystem by 2025.

- **Global Scale of Taiwan's IoT Economic Business Opportunity to Increase 30% by 2025.**

- **Linking Asia Silicon Valley Development Agency**

- Microsoft IoT Innovation Center
- Qualcomm signs Memorandum of Technology Laboratory Cooperation with the Ministry of Economic Affairs

- **Software and Hardware Integration for Building an IoT Value Chain**

The Asia Silicon Valley Development Agency has over 140 members.

## Taiwan's Strong ICT Industry Key to Success in the New 5G Era

2019 has been hailed as the year of 5G. The United States, European countries, Japan, and South Korea are all actively working to deploy 5G networks. The private research group Markets and Markets forecasts that the market scale will increase from US\$700 million in 2020 to US\$6.3 billion in 2025, with a compound annual growth rate (CAGR) of 55.4%. Taiwan's long experience in ICT development and its excellent hardware manufacturing capabilities gives the island a powerful advantage in 5G and IoT development.



Taiwan has achieved the status of a key partner in the global ICT industry. We're the world's No. 1 in terms of information hardware output, and by 2019 the total output of our mobile communications industry, including internet equipment and various smart mobile terminal devices, is estimated to be US\$50 billion.

– Daniel Tsai, Chairman of Taiwan Mobile Co., Ltd.



## The ICT Industry Chain, Key to 5G Development

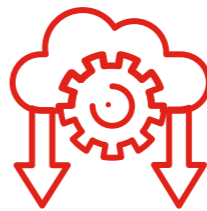
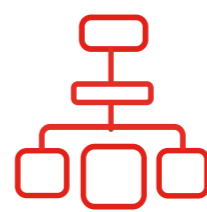
Overall, Taiwanese manufacturers possess impressive manufacturing capabilities enabling them to operate on a global scale. A complete upstream and downstream industry chain gives Taiwan a demonstrable advantage in netcom chips, components, touch panels, and system integration, with a full mastery of key components. In recent years, Vive, ASUS, and other manufacturers have actively developed their own brands, leading Taiwanese manufacturers to a prominent place on the international stage.

From personal computers, compact discs, displays, mobile phones, GPS, WLAN and ADSL to currently popular e-book readers, Taiwan plays a pivotal role in the world. According to data from DigiTimes, Taiwan's notebook computer ODM manufacturers have a market share of over 90%, while other products such as motherboards, wireless local area networks (WLAN) and broadband user equipment (DSL, CPE, Cable CPE) also dominate the global markets.

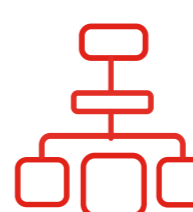
## Outlook for Taiwan's Telecommunications Industry

Technologies such as 5G, AI, and edge computing have driven the output value of Taiwan's telecommunication industry beyond NT\$1 trillion in 2019.

At the seminar "Prospects in Industrial Development 2019" held by the Industrial Technology Research Institute/Industry, Science & Technology International Strategy Center (ITRI/ISTI), there was optimism that the output of Taiwan's telecommunications industry could reach NT\$1.061 trillion dollars, an annual increase of 2.1% — driven by a diversity of innovations in 5G, AI, edge computing, LPWAN, and other emerging technologies.



The performance figures for Taiwan’s telecommunications industry in 2019 are also expected to be robust, the Industrial Technology Research Institute (ITRI) believes, thanks to business opportunities arising from smart homes and smart cities, as well as the sales of wireless communication products boosted by consumers’ continuous demand for video streaming services. In particular, an expansion of cloud applications, emerging network virtualization frameworks, LPWAN, AI, 5G, edge computing, robots, drones, self-driving cars, and other new technology trends will contribute to growth momentum for Taiwan’s telecom manufacturers in the years to come.



## Sources

Figure (1.1): International Telecommunication Union (ITU), “Global ICT Developments, 2005–2018”

Markets and Markets, “5G Services Market worth \$123.27 billion by 2025,” 2018

ITU, “2017 Information Society Measurement Report,” 2018

ITRI/ISTI “Prospects in Industrial Development 2019”

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