



**White Paper on China - ASEAN
Information Technology Development
and Cooperation
(2016)**

**China Academy of Information and
Communications Technology (CAICT)**

September 2016

COPYRIGHT STATEMENT

The copyright of this white paper is owned by CAICT (China Academy of Telecommunication Research of MIIT) and protected by law. If the text or viewpoints of this white paper are reproduced, excerpted or used in other means, the source shall be marked: CAICT (China Academy of Telecommunication Research of MIIT). If anyone violates the above statement, this Court will pursue his legal liabilities.

Foreword

China and ASEAN are natural partners of cooperation, as we enjoy interconnected geography, strong consanguinity, shared culture, close business ties and common interests. In recent years, China - ASEAN cooperation has gradually expanded and deepened, and Information and Communications technology (ICT) has become one of the key areas of bilateral cooperation. Presently, the information wave represented by the Internet is sweeping the globe, bringing huge digital dividends to China and ASEAN countries and the entire Asia-Pacific region. To deepen networking and information exchange, enhance cooperation and mutual benefits in Internet services and speed up the economic and social digitization process of both sides have become important ways for China and ASEAN to enhance long-term competitiveness and achieve mutual benefits. This report is intended to deepen the understanding between the two sides in the field of ICT application, provide insight into promoting cooperation and exchanges in the Internet economy and propose the prospects and recommendations for future cooperation and development.

In the first part of the report, we have studied the ICT development foundation in China and ASEAN countries from the aspects of economic development, market dividends and cooperation mechanism, pointed out that rapid economic development, accelerated upgrading of the FTA and huge Internet market dividends have provided solid guarantee for ICT development and cooperation between both sides, and the pragmatic cooperation between China and ASEAN countries at the government and

private levels has brought tangible benefits to the people of the two sides.

In the second part, we have carried out in-depth analysis in the following selected typical areas according to China - ASEAN ICT development advantages, cooperation foundation and key trends: information infrastructure, e-commerce, Internet applications, smart city, and cyber security and governance.

- Information infrastructure is the core foundation to build a country's digital competitiveness, and both sides have reached the consensus in building the regional information highway to narrow the digital divide among different regions and between urban and rural areas.

- E-commerce is an important engine driving the digital economy. China has ranked first by e-commerce transactions. The e-commerce development in ASEAN countries must break the payment and logistics constraints, and the cross-border e-commerce between China and ASEAN countries will become a hot spot in future cooperation.

- Internet application services represented by sharing economy, social media and Internet culture are seeing rapid development in the Chinese and ASEAN markets, and in-depth cooperation in Internet applications in the fields related to people's livelihood will help to promote people-to-people bonds and good-neighborly relations.

- Smart city is a new model to cope with population growth and improve urban governance, and cooperation and exchange among China and ASEAN countries and among enterprises within China and ASEAN countries is deepening, and smart city cooperation will enhance both the quality and level in public services, urban management and other aspects in the cities of both sides.

- Cyber security is a strategic new issue of China and ASEAN countries and also an important practice area for the two sides to build a multilateral, democratic and transparent Internet governance system. China and ASEAN countries have been actively carrying communication and dialogue and made a series of achievements in cyber security, emergency drills and so on.

In the third part, we have looked forward into the prospects of China - ASEAN ICT application cooperation in the future. Meanwhile, we have put forward five recommendations: promote bilateral ICT application cooperation in a wider range and at a deeper level by building the China - ASEAN information harbor; promote Internet connectivity and information sharing and comprehensively improve hard facilities and soft skills for connectivity; fully share the inclusive and advanced fruits of cooperation in Internet applications, promote cross-border e-commerce and smart city cooperation to allow enterprises and the public to share information benefits; respect cyber sovereignty and jointly build a peaceful, safe, open and cooperative cyberspace.

Table of Contents

I. CHINA - ASEAN ICT DEVELOPMENT FOUNDATION.....	1
(I) THE GROWING ECONOMY PAVING THE WAY FOR COOPERATION.....	1
(II) THE FOUNDATION FOR ICT DEVELOPMENT CONTINUING TO IMPROVE	3
(III) PRELIMINARY RESULTS BEING ACHIEVED IN COOPERATION IN ICT FIELD	7
II. ICT DEVELOPMENT AND COOPERATION IN KEY AREAS	10
(I) A CONSENSUS GRADUALLY REACHING TO BUILD A REGIONAL INFORMATION HIGHWAY AND NETWORK CONNECTIVITY BECOMING A PRIORITY AREA OF COOPERATION	10
(II) E-COMMERCE BEING AN IMPORTANT ENGINE DRIVING THE DIGITAL ECONOMY, AND CROSS-BORDER E-COMMERCE BECOMING A BRIGHT SPOT IN COOPERATION BETWEEN CHINA AND ASEAN	13
(III) THE RAPID DEVELOPMENT OF INTERNET APPLICATIONS PROMOTING MUTUALLY BENEFICIAL COOPERATION AND PEOPLE-TO-PEOPLE BONDS	16
(IV) SMART CITY BECOMING A NEW CARRIER FOR INTEGRATED APPLICATION OF INFORMATION TECHNOLOGY, AND SUBSTANTIAL BREAKTHROUGHS HAVING BEEN MADE IN COOPERATION BETWEEN CHINA AND ASEN	21
(V) CYBER SECURITY BECOMING A NEW TOPIC IN THE STRATEGIES OF ASEAN COUNTRIES, AND CHINA AND ASEAN JOINING HANDS TO PROMOTE CYBER SHARING AND CO-GOVERNANCE	24
III. PROSPECTS AND RECOMMENDATIONS ON CHINA - ASEAN COOPERATION IN ICT APPLICATION.....	28
(I) JOINTLY PROMOTING THE CONSTRUCTION AND SHARING OF THE CHINA - ASEAN INFORMATION HARBOR	28
(II) ACCELERATING TO ESTABLISH A HIGH-SPEED UNIMPEDED REGIONAL INFORMATION HIGHWAY	29
(III) VIGOROUSLY PROMOTING THE DEVELOPMENT OF CHINA - ASEAN CROSS-BORDER E-COMMERCE.....	32
(IV) DEEPENING THE COOPERATION IN CYBER-CULTURE AND INTERNET SERVICES ...	33
(V) ACTIVELY PROMOTING TECHNICAL COOPERATION AND EXCHANGES IN SMART CITY DEVELOPMENT.....	35
(VI) JOINTLY BUILDING A PEACEFUL, SAFE, OPEN AND COOPERATIVE CYBERSPACE .	36

I. China - ASEAN ICT development foundation

China and ASEAN are natural partners of cooperation, as we enjoy interconnected geography, strong consanguinity, shared culture, close business ties and common interests. With sustained economic growth in both sides, particularly the upgrading of the cooperation in the China-ASEAN Free Trade Area, both sides have an increasingly broad space in in-depth cooperation in various fields and their willingness is becoming stronger. Since the beginning of the new century, information and communication technology (ICT), as advanced general-purpose technology, has not only developed into an important emerging industry itself, but also penetrated and integrated into various economic and social fields at a faster pace, constantly giving birth to new products, new services, new models and new types of business, significantly changing people's personal life, enterprises' production, economic operation, social management and public services. To promote the ICT development, strengthen cooperation in a wide range of the information and communication field and promote continual release of demographic dividend of the Internet is the common goal of both China and ASEAN, and there is a good foundation to realize this.

(I) The growing economy paving the way for cooperation

In the wake of the 2008 global financial crisis, the global economy has been faltering. However, China, as the world's second largest economy, has maintained an average annual GDP growth of above 6%. In 2015, China contributed more than 25% to the world economy, becoming the

main engine of the world's economic growth.¹ In the past decade, ASEAN's international trade has tripled, becoming the world's fourth largest export economy. In 2014, ASEAN's GDP reached \$2.47 trillion.² It is forecast that if the ASEAN regional economy grows at an annual rate of 5.6%, then by 2050 ASEAN will become the world's fourth largest economy. It is foreseeable that China and ASEAN will become two important growth poles in the global economic recovery, laying a solid economic foundation for cooperation in various fields between the two sides.

The China - ASEAN Free Trade Area that started construction in 2010 is the world's most populous free trade area and the largest free trade area among the developing countries. It forms a tripartite division with the free trade areas of the European Union and the North America and has become one of the most important free trade areas in the world. In November 2015, China and ASEAN signed the Protocol on the upgraded version of the Free Trade Area, which proposes that China-ASEAN trade value will reach \$1 trillion and bilateral investment will reach \$150 billion by 2020.

The construction of the FTA upgraded version will lead to a sharp increase in information exchange, sharing and application services in the China - ASEAN region. On the one hand, higher requirements are set in information infrastructure connectivity, and on the other hand, there is an urge need to take advantage of new information technologies to optimize the allocation of economic and social element resources of China and

¹ http://news.xinhuanet.com/2016-03/06/c_1118246886.htm

² Statistical Manual of China-ASEAN Countries 2015

ASEAN. Therefore, it is imperative to further deepen and promote the cooperation in ICT field between China and ASEAN countries.

(II) The foundation for ICT development continuing to improve

In terms of the number of Internet users, China has become the world's largest Internet market. China has 710 million Internet users, and its Internet penetration rate reaches 51.7%, 3.1% higher than the global average and 8.1% high than the Asian average.³ In terms of online retail transactions, China has overtaken the US as the world's largest online retail market. Driven by the huge market and user demands, China's information economy has maintained rapid growth in recent years, with an annual growth rate of up to 24%.⁴ ASEAN is also experiencing rapid growth of Internet users. As of June 2015, the Internet penetration rate of the ten ASEAN countries was up to 40.67%, and the total number of Internet users was up to 260 million, ranking fourth in the world.⁵ Among them, Internet users in Cambodia and Myanmar grew at the fastest pace of 34.74% and 32.38% respectively. ASEAN has also become the fastest growing Internet market in the world, and its Internet market economy is soaring. The Internet in Malaysia and other emerging ASEAN markets has contributed up to 4.1% to their GDPs.⁶ With the rapid development of the markets of e-commerce, online media and online tourism, the scale of the Internet economy of ASEAN will increase approximately 6.5 times of the current scale by 2025.⁷

³ CNNIC, the 38th Statistical Report on Internet Development in China in 2016, August 2016

⁴ CAICT, White Paper on China's Information Economy, 2015

⁵ Internet world statis 2016

⁶ McKinsey, Southeast Asia at the crossroads: Three paths to prosperity, 2014 年

⁷ Google, E-economy SEA, Unlocking the 200 billion digital opportunity in Southeast Asia

In terms of information infrastructure construction, China and ASEAN countries have made considerable progress, and the telecommunication charges have gradually been reduced. China's fixed broadband network has extended to all towns and 95% of the administrative villages throughout China, the 4G network has covered all major cities and towns. FTTH has become China's major broadband access mode, and 80% of urban households have access capacity up to 100Mbps (megabits per second). The proportion of subscribers of broadband access products of 8M and above has reached 73%.⁸ At present, China's fixed broadband household penetration rate reaches 56.6%, and mobile broadband (mainly refers to 3G and 4G) penetration rate reaches 63.8%.⁹ In terms of tariffs, China launched the initiative for facilitating faster and more affordable internet connection in 2015, the tariff of fixed bandwidth has decreased by 50.6% compared with the tariff level at the end of 2014, and the average tariff level of mobile traffic has decreased by 39.3%.¹⁰

The ASEAN countries have prominent island-type geographical characteristics, so mobile broadband has become a bright spot in regional communication development. In 2014, the mobile broadband penetration rate was over 43%, nearly 15 times of the fixed broadband penetration rate. Indonesia's mobile broadband penetration rate was 25 times as high as its fixed broadband penetration rate. Thailand is the country with fastest growing mobile broadband market, ranking second in ASEAN by the mobile broadband penetration rate and the number of mobile broadband users.¹¹ The rapid spread of 3G in Thailand has aroused the

⁸ Yu Xiaohui, Economic and Social Development Supported by A New Generation of Information Infrastructure, 2016

⁹ Broadband Development Alliance, Report on Broadband Penetration Rate in China 2016

¹⁰ Broadband Development Alliance, Report on Broadband Penetration Rate in China 2016

¹¹ Broadband Development Alliance, Report on Broadband Penetration Rate in China 2016

attention of GSMA. The GSMA report *Building Thailand's Digital Economy and Society* states that “Thailand can increase mobile and fixed broadband penetration to 133% by 2020. This growth will lead to a cumulative GDP increase of US \$23 billion.” Meanwhile, the costs of fixed broadband in the ASEAN countries have decreased rapidly, and the proportion of fixed broadband tariffs in the ASEAN countries to the overall average gross national income (GNI) decreased from 37.16% in 2010 to 6.21% in 2013. As far as individual countries are concerned, some countries have significant improvement in this aspect. For example, the proportion in Cambodia decreased from 92.5% to 15%. In terms of mobile data, during 2010~2013, the tariff for mobile data in the ASEAN decreased from 4.92% to 2.80%. In Laos, for example, this figure decreased from 8.6% to 5.9%.¹²

Driven by the rapid development of infrastructure and the decline of broadband tariff, the ICT application level in China and ASEAN has improved steadily. China's ICT Development Index (IDI) increased from 3.58 in 2011 to 5.05 in 2015, and the average annual growth rate is 8.98% which is far higher than the world average growth rate of 6.30%. In 2015, China's IDI has caught up with and surpassed the world's average level. ASEAN's IDI increased from 3.51 in 2011 to 4.51 in 2015, and the average annual growth rate is 6.47%. Singapore outshines others in the field of ICT application and ranked the 19th in the world in 2015. The IDI indices of Malaysia, Brunei, Thailand and China have all exceeded the global average.

¹² Broadband Development Alliance, Report on Broadband Penetration Rate in China 2016

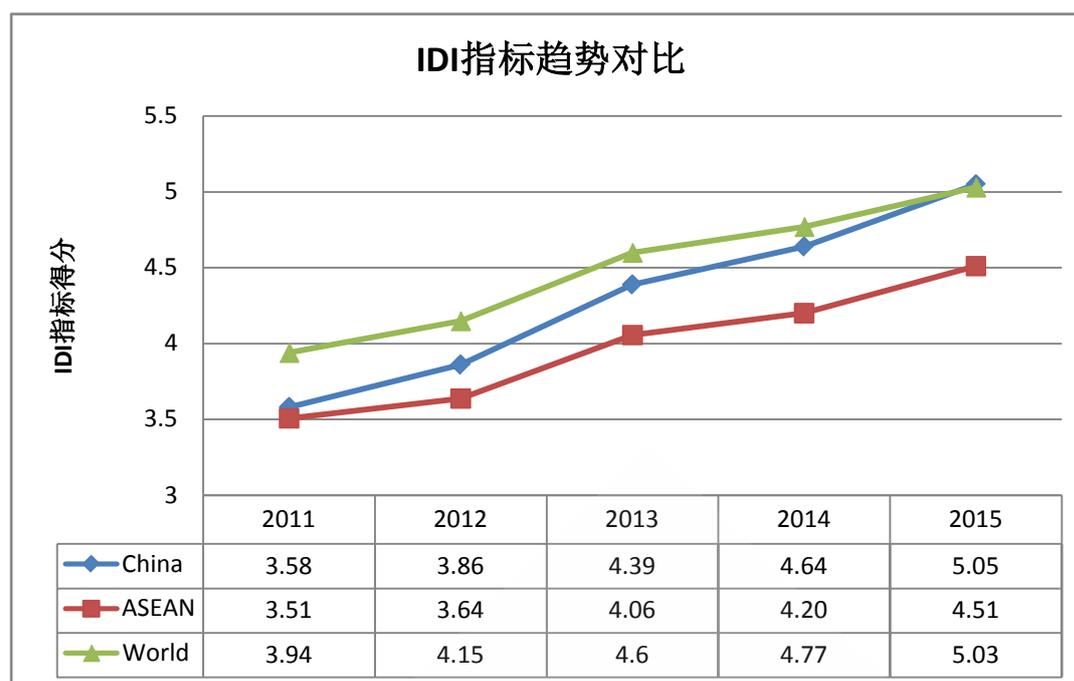


Figure 1 comparison of IDI Index trend

Table 1 Related ICT application indices of the ASEAN countries and China

	Area (Sq. km)	GDP (2014) ¹³ (100 M USD)	Population (10,000)	Internet Users (10,000)	Internet Penetration Rate ¹⁴	(2014) IDI Index ¹⁵ (2014)	(2014) IDI Global Ranking
Singapore	683	3080.5	578	470	81.3%	8.08	19
Brunei	5765	151.0	44	31	71.0%	5.53	71
Malaysia	329758	3269.3	3095	2109	68.1%	5.9	64
Thailand	513115	3738.0	6820	3800	55.7%	5.36	74
Vietnam	332378	1860.5	9526	4906	51.5%	4.28	102

¹³ Statistical Manual of China-ASEAN Countries 2015¹⁴ Internet world stats 2016¹⁵ ITU, MEASURING THE INFORMATION SOCIETY REPORT 2015

	Area (Sq. km)	GDP (2014) ¹³ (100 M USD)	Population (10,000)	Internet Users (10,000)	Internet Penetration Rate ¹⁴	(2014) IDI Index ¹⁵ (2014)	(2014) IDI Global Ranking
The Philippines	300000	2849.3	10262	4713	45.9%	4.57	98
Indonesia	1904443	8886.5	25831	8800	34.1%	3.94	108
Cambodia	181035	165.5	1596	410	25.7%	2.74	130
Laos	236800	117.7	702	140	19.9%	2.45	138
Myanmar	676577	628.0	5689	710	12.5%	2.27	142
China	9806391	103803.8	137856	71000	51.7%	5.05	82
ASEAN	4480554	24746.3	64143	26089	40.67%	4.51	-

Note: the grey bottom part represents that the national IDI index is higher than the world average

(III) Preliminary results being achieved in cooperation in ICT field

At the government level, China - ASEAN cooperation in the ICT field has existed for a long time. As early as 2001, the ministers responsible for information and communication of China and ASEAN held the first China-ASEAN Seminar on Information and Communication Technology to strengthen cooperation between China and ASEAN countries in the ICT field, with particular emphasis on the implementation of “e-ASEAN” program. After the ASEAN-China ICT Cooperative Partnership for Common Development was established in 2005, ministerial consultations between China and ASEAN in the telecommunications sector were held

each year, and China-ASEAN cooperation in human resources development, broadband universal services, cyber security and other fields has gradually deepened. In 2015, China proposed in the *Vision and Actions on Jointly Building Silk Road Economic Belt and 21st-Century Maritime Silk Road* that “We should jointly advance the construction of cross-border optical cables and other communications trunk line networks, improve international communications connectivity, and create an Information Silk Road.” In July 2016, China clearly proposed in the *Outline of National ICT Development Strategy* that “we should promote ICT development in building the Silk Road Economic Belt and the 21st-Century Maritime Silk Road and create the online Silk Road. We should jointly build the China-ASEAN Information Harbor.” In addition, China has initiated and is preparing to establish the Asia Infrastructure Investment Bank, China will contribute \$40 billion to set up a Silk Road Fund, and the ASEAN countries are all the first founding members of the Asia Infrastructure Investment Bank. These strategic arrangements, decisions and moves will provide solid policy and funding guarantee for China and ASEAN to accelerate the construction of information infrastructure and restructuring and upgrading of the information industry and jointly build and share the information harbor.

The good policy environment helps to continuously deepen the cooperation between China and ASEAN in the fields of e-commerce, technical exchanges and cooperation, cultural exchanges and infrastructure, and the results are gratifying. By the end of 2015, China’s total export value of cross-border e-commerce to the ASEAN countries was over 500 billion yuan, accounting for 11.4% of China’s total exports of cross-border e-commerce, and ASEAN has become China's third

largest cross-border e-commerce trading market.¹⁶The China-ASEAN Technology Transfer Network jointly established by both sides has attracted more than 480 enterprises from the ASEAN countries. The network supports both sides to carry out technical exchanges and cooperation in the fields such as modern agriculture, new energies, environmental protection and green buildings. Meanwhile, China is actively carrying out trainings and seminars for the ASEAN countries in mobile Internet, big data, cloud computing and other fields to improve the ability of China and ASEAN in application of a new generation of information technology and integrated economic and social development.



¹⁶ Report on Export Cross-border E-commerce Development in China 2015-2016

II. ICT development and cooperation in key areas

(I) A consensus gradually reaching to build a regional information highway and network connectivity becoming a priority area of cooperation

1. The regional broadband infrastructure development being unbalanced, and China and the ASEAN countries working together to narrow the digital divide in fiber-optic broadband

There is a large digital divide in fixed broadband infrastructure among the ASEAN countries, and China is also faced with regional imbalances. There are significant disparities in broadband download speed, international Internet connectivity, broadband affordability and other aspects between the countries with rich submarine cable resources and the backward countries. Singapore's 100M bottom-level broadband rate threshold is 200 times of the bottom-level broadband of Cambodia, Laos and Myanmar.¹⁷ The broadband penetration rate in the eastern province of Zhejiang in China is three times the rate in the province with lowest broadband penetration. In 2015, the mobile broadband penetration rate in the eastern, central and western regions in China was 50.6%, 25.5% and 24% respectively, and the broadband development in the eastern regions are developing much faster than that in the central and western regions.¹⁸ To improve the accessibility of broadband networks and narrow the digital divide has become a common goal of China and the ASEAN countries. China has launched the "Broadband China" strategy and

¹⁷ Report on Export Cross-border E-commerce Development in China 2015-2016

¹⁸ Report on Export Cross-border E-commerce Development in China 2015-2016

reformed and innovated the telecommunication universal service compensation mechanism. China expects to realize 98% of high-speed broadband coverage in rural areas by 2020. The UN Broadband Commission, ESCAP and other organizations have made positive remarks on the effects of China's broadband strategy and pointed out that the broadband growth in the Asia-Pacific region was mainly driven by the growth in China.¹⁹⁻²⁰ The Indonesian government launched the National Broadband Plan in 2014 to provide fixed broadband access services to 30% of the urban population and 6% of the rural population. Thailand has invested 38 billion baht (\$1.05 billion) in 2016 to roll out the national broadband network plan, which is expected to provide connections to all 70,000 villages in the nation by the end of this year and further improve network service quality and connection speed.

2. Inter-network interconnection and international transit bandwidth being costly, and the regional information highway becoming a consensus between China and ASEAN

As the international gateway in the Asia-Pacific, Singapore's transit bandwidth wholesale price per G is 2~5 times the bandwidth wholesale price in London.²¹ The price of transit bandwidth in China and most ASEAN countries is more than twice the price in Singapore, so reducing the international transit bandwidth costs has become a common appeal of both sides to accelerate the construction of the regional information highway and improve broadband accessibility. The ASEAN ICT Masterplan 2020 makes a detailed plan for the ASEAN broadband

¹⁹ Report on Export Cross-border E-commerce Development in China 2015-2016

²⁰ Report on Export Cross-border E-commerce Development in China 2015-2016

²¹ Report on Export Cross-border E-commerce Development in China 2015-2016

corridor and proposes to build the integrated ASEAN regional information highway. In recent years, the international Internet bandwidth in the ASEAN countries has increased by nearly 165 times, up to 7430G. China proposes in the Thirteen Five-Year Plan that “we should optimize the layout of the international communications network, improve the cross-border land and submarine cable infrastructure and accelerate the construction of China - ASEAN Information Harbor.” The international network resources for the ASEAN countries have improved increasingly, China has realized direct connection of international communications with the three ASEAN countries of Vietnam, Myanmar and Laos and network interconnection with Singapore, Thailand, Malaysia and some other ASEAN countries.

3. China and ASEAN countries having deepened cooperation in ICT, and the information infrastructure interconnectivity becoming the priority area in China - ASEAN cooperation

In terms of regional cooperation, to build a partnership for common development in the field of ICT, both sides have launched a series of cooperation and exchange activities, including the China-ASEAN Telecom Ministers' Meeting, the China - ASEAN Telecom Week, and the China - ASEAN Cyberspace Forum; In terms of cooperation among countries, China has offered aid to build the information highway project in the territory of Cambodia, Laos and Myanmar, and China, Myanmar, Vietnam, Thailand, Laos and Cambodia have jointly built the Greater Mekong subregion Information Highway - GMS IS cross-border terrestrial fiber optic network; the China - Thailand “Beidou Satellite-Based Augmentation System base station”, the China-Laos “LaoSat -1”, the China-aided Cambodia National Data Center and other

projects have been initiated successively. In terms of cooperation among enterprises, a number of enterprises have actively explored the market to provide quality infrastructure services for the ASEAN countries. For example, in 2015, Huawei Marine designed and constructed the Malaysia - Cambodia - Thailand (MCT) submarine cable system, and Cambodia will possess its first international submarine cable landing directly on the locality. Over the past 10 years and more, Shenzhen Guangqi Hairong has been undertaking the construction of the Cambodian backbone fiber-optic network covering all the 25 provinces, providing services to 17 telecom, television and Internet operators in Cambodia, accounting for about 80% of Cambodia's local fiber network market share.

(II) E-commerce being an important engine driving the digital economy, and cross-border e-commerce becoming a bright spot in cooperation between China and ASEAN

1. ASEAN's e-commerce being at its fledging stage on the whole, and there being a huge space for cooperation between China and ASEAN in cross-border e-commerce

ASEAN's e-commerce is still at its fledging stage on the whole, there is a corner-overtaking or leapfrog development opportunity, and e-commerce will become the backbone of the ASEAN information economy in the future. There are only 16% of online shoppers in the 6 major ASEAN economies, 9% lower than China, and their e-commerce transactions only account for of less than 1% of the world's total.²² The percentages of e-commerce sales in retail sales in most ASEAN countries

²² Report on Export Cross-border E-commerce Development in China 2015-2016

are lower than the global average. Meanwhile, e-commerce is growing rapidly in size in the ASEAN countries. In 2015, online shopping sales reached \$5.5 billion in the ASEAN countries, and CAGR was expected to reach 32%. This figure will reach \$88 billion in 2025, with huge space for future development.²³ **China leads the world in e-commerce sales and boasts a wealth of experience, and cross-border e-commerce has become a bright spot in recent years.** In 2015, China's e-commerce transactions exceeded 20 trillion yuan, online retail sales reached nearly 3.9 trillion yuan, accounting for 12.8% of total retail sales of social consumer goods, ranking the first in the world, making it one of the country's leading in e-commerce development. Cross-border e-commerce has become a new growth point of China's e-commerce in recent years. In 2015, cross-border e-commerce transactions amounted to 5.4 trillion yuan, an increase of 28.6% year-on-year, and are expected to reach 6.5 trillion yuan in 2016, accounting for 19% of the entire foreign trade. **The rise of China's cross-border e-commerce will bring a potential market of over 400 million yuan for the e-commerce in ASEAN, while the fast-growing e-commerce market in ASEAN may also become the most important front for internationalization of China's e-commerce.**²⁴

2. Payment and logistics having become the bottlenecks restricting further expansion of e-commerce in ASEAN, China's integration of the e-commerce environment for finance and logistics providing a useful reference for ASEAN

ASEAN's e-commerce development is limited by the imperfect

²³ Report on Export Cross-border E-commerce Development in China 2015-2016

²⁴ Report on Export Cross-border E-commerce Development in China 2015-2016

e-payment and logistics systems. Online banking, e-purse, PayPal and the local e-payment platforms of various countries are the major forces for ASEAN's online payment, but these have not yet formed scale development. As the e-payment system still needs to be improved, up to 85% of Vietnamese consumers choose cash on delivery. The last mile problem of ASEAN's logistics may become the biggest bottleneck in the growth of e-commerce. JNE, DHL and other international logistics companies can hardly solve all localization problems, and Lazada, Zalora other major e-commerce companies have all started to build their own logistics systems. **Chinese e-commerce enterprises have built the pan-e-commerce ecosystems with the three elements of finance, logistics and data at the core.** Among them, financial payment has become another earning means of e-commerce, logistics is the foundation and important guarantee for e-commerce, the credit system originates from platform transaction data and supports financial and trading services, thus forming a closed loop. **Chinese e-commerce enterprises can share with ASEAN enterprises their successful experience on how to quickly build and optimize e-payment and end-to-end logistics and help ASEAN to continuously improve their e-commerce support systems so as to remove obstacles for further development of e-commerce in ASEAN.**

3. Cross-border e-commerce becoming a hotspot and bright spot in economic and trade cooperation between China and ASEAN

Cross-border e-commerce has become a hot area in China - ASEAN cooperation in recent years. In 2015, China Council for the Promotion of International Trade signed the *Memorandum of Understanding on*

Cooperation between China and ASEAN in Cross-Border E-Commerce with the – industrial and commercial organizations of Laos, Malaysia and other seven ASEAN countries, and jointly build the China - ASEAN cross-border e-commerce platform with Suning, which intends to focus on import business at the initial stage. In April 2016, Alibaba bought a controlling stake in Lazada for about \$1 billion, and both parties have achieved a mutually beneficial outcome. Alibaba has entered the ASEAN market via Lazada, while Lazada have acquired the business resources of Lynx, Taobao, 1688, AliExpress and other platforms and recruit Chinese merchants to settle in the platforms. In this way, Lazada has greatly increased the number of its merchants and commodities. **In the future, enterprises and institutions in both sides should adhere to the principle of joint construction through consultation and pursue mutual benefits, and there is a huge room for cross-border e-commerce cooperation.**

(III) The rapid development of Internet applications promoting mutually beneficial cooperation and people-to-people bonds

1. The market potential for the sharing economy of ASEAN yet to be released, and the local operating experience being conducive to deepening the bilateral cooperation

In recent years, the sharing economy has become a new trend and a new engine promoting the development of the service industry. China and ASEAN are generally optimistic about its market prospects. According to a survey, among countries reporting the highest response rates for

likelihood to share product or service from others, China and ASEAN countries take 4 places (China 94%, Indonesia 87%, Slovenia 86%, the Philippines 85% and Thailand 84%), so there is a huge market potential.²⁵

The sharing economy in ASEAN, limited by the unsound mobile payment system and legal constraints, is still at its fledging stage, opportunities and challenges coexist in the future. Online car-hailing service is a bright spot in the sharing economy in the ASEAN region. The local start-ups such as Grab, GO-JEK and triip.me are seeing rapid growth, among which Grab has become one of the few unicorn companies in ASEAN by virtue of its power performance, while accommodation, finance, life services and other important markets are still small in size and developing at a relatively slow pace. **However, China has entered the prime time of the sharing economy, and the local enterprises are growing rapidly and become the industry leaders.** China's sharing economy is expanding rapidly by virtue of its more than 620 million mobile Internet users, and the sharing platforms have been built in a number of traditional areas such as travel, accommodation, finance, office space and medical services to revitalize the idle resources, yielding significant economic benefits. 16 local unicorn enterprises have emerged, including Didi, TuJia.com and ZBJ.com, showing the advantages of local operators and forming a more mature business model. **The transplantation and innovation of localized business model will help expand the space of China-ASEAN cooperation.** By virtue of the good development momentum and mature experience of China's sharing economy, some Chinese enterprises have started to invest in the ASEAN market. Didi is deepening its capital cooperation and has signed a cooperation framework with Grab to help

²⁵ Report on Export Cross-border E-commerce Development in China 2015-2016

Grab rapidly expand and occupy the markets. If this business model of cooperation is rapidly transplanted into other sectors, this will help local enterprises to grow rapidly and release the huge potential of the sharing economy of the ASEAN countries.

2. Online game taking a lead in cyber-culture exchanges and cooperation between China and ASEAN, and products based on cultural identity becoming the cultural envoys of both sides

The local online game industry of the ASEAN Region has a weak foundation, and is heavily dependent on imports. Due to a late start and a small base, the online game industry in the ASEAN Region only accounts for 1.4% of the world's total, but due to its huge potential network connections (growth rate of about 13.1%) and rapid economic growth (growth rate of about 10.2%), the ASEAN Region has overtaken the Eastern Europe and Latin America as the world's fastest-growing game market by the size of income, and the CAGR of the industry will reach 28.8% in the future.²⁶ In addition, the online population of mobile Internet in the ASEAN region accounts for about 30%, and game players alone account for about 20%, mobile games dominate the entire market, and the industry scale has accounted for about half of the total. **China's online game industry takes a leading position in the world and there is a huge export demand.** China's online game has formed relatively mature industry ecology and has significant overall advantages. In 2015, China's online game industry surpassed the United States and ranked first in the world, accounting for 24.5% of the world's total.²⁷ The entire

²⁶ Report on Export Cross-border E-commerce Development in China 2015-2016

²⁷ Report on Export Cross-border E-commerce Development in China 2015-2016

market is relatively saturated and has entered the “Red Sea” stage, market competition is increasingly fierce, massive products compete for a limited number of users, development opportunities are compressed, and product homogeneity is serious, so it is imperative to tap the overseas markets to promote the export of products. **Game products based on outstanding cultural elements have become the blue sea market in cooperation between both sides.** In recent years, online games independently developed by China are becoming the vanguards and cultural envoys for the “Going Global” of Chinese Culture and cultural exchanges, Chinese online games have been a hit throughout the world, and the ASEAN region has become the largest export market of Chinese online games thanks to the geographical advantages. In addition, the local game enterprises in the ASEAN region have insufficient operation capacity, China and ASEAN countries enjoy cultural proximity, and people there speak the languages understandable to each other, providing a broad space for cooperation in online games between both sides. Therefore, both sides should jointly strive to create high-quality fine games.

3. Social media in China and ASEAN witnessing robust development and having their own distinctive characteristics, the application promotion promoting dissemination of cyber culture, and helping to enhance the bilateral friendship

China and ASEAN lead the social circles by the application of social media with distinctive characteristics, but the tools are quite different. The ASEAN countries, driven by international applications of Facebook and Twitter, cover 2/3 and 1/10 of Internet users respectively, the scale of applications is huge and is showing the trend of moving toward the

mobile terminals. The utilization rate of social media and mobile social media is higher than the global average level, making the ASEAN region the world's second largest region by social media applications (East Asia ranked the first).²⁸ Among them, the four countries of Brunei, Singapore, Malaysia and Thailand become the world leaders in social media applications, thus social media have become an important means of information exchange and cultural integration in the ASEAN region. Unlike the ASEAN countries, local social applications take a dominant position in China. WeChat, QQ space and microblogging have become the forerunners, various entertainment and service applications present a diversified development trend, and social media have become an important tool affecting the lives of citizens and carrying and disseminating information. Tencent has started to build the ecosphere based on the social platform WeChat, which focuses on developing social marketing and exploring the commercial value of social applications. **Social media applications can be used to promote bilateral cultural integration.** In recent years, Chinese Internet giants have started to enter the ASEAN market. Tencent has established the partnership with Easy Taxi, Lazada and Foodpanda through the marketing strategy of binding the local partners and explored the markets in Malaysia, Singapore, Thailand and the Philippines and other countries. Baidu launched Hao123, Baidu PostBar, Baidu Knows and other social networking application tools to explore the market potential in Thailand, Vietnam, Indonesia and other countries, and has also set up a research center in Singapore to serve the local market. Through promotion, interconnection and sharing, social media will become an important carrier for dissemination of information

²⁸ Report on Export Cross-border E-commerce Development in China 2015-2016

and cultural understanding and an important link for promote people to people bonds.

(IV) Smart city becoming a new carrier for integrated application of information technology, and substantial breakthroughs having been made in cooperation between China and ASEN

1. There being a growing demand for smart city development in ASEAN, and smart city development in China shifting from the concept stage to the implementation stage

Smart city, as a new urban development model, is an effective way to solve the problems caused by urban development in ASEAN and China. ASEAN attaches great importance to smart city development, **smart city has successively become an important strategic planning in the ASEAN countries, and Singapore, Thailand and Malaysia have promulgated the relevant strategies and action plans for the overall deployment of smart city development.** Singapore has launched the Smart Nation Initiative “Smart Nation 2025”, Thailand has rolled out the “Smart Thailand 2020” scheme, and Malaysia has issued the “Multimedia Super Corridor” program. The ASEAN countries with a late start are also making plans actively in the hope of realizing corner overtaking through promoting smart city development. By 2025, the number of smart cities in ASEAN will be more than 30.²⁹ Most of these cities are medium-sized cities, including Bangkok (Thailand), Kuala Lumpur (Malaysia), Da Nang (Vietnam), Yangon (Myanmar) and Jakarta (Indonesia). **Over years**

²⁹ Report on Export Cross-border E-commerce Development in China 2015-2016

after China introduced the smart city concept, smart city development has entered an important period of implementation and all-round construction. China's smart city policy environment has been greatly improved, and the strategic policies for the areas related to smart city development have been promulgated successively. Meanwhile, many ministries and commissions have launched the pilot projects in their own fields, a total of 390 smart city pilot projects have been approved so far, and Beijing, Hangzhou, Nanjing, Shenzhen and other places have achieved positive in smart city development.

2. The ASEAN advanced countries having established their smart city construction systems, and China's smart city development being universally applicable

The smart city development of Singapore, Malaysia and other ASEAN countries has huge global influence, and their experiences have important inspiration and reference for China's smart city development. Malaysia expects to become Asia's information corridor by 2020 and will build 12 "digital cities" to connect with the global information superhighway. Singapore's "Smart Nation" initiative demonstrates how information technology will change the way people live, work and communicate and focuses on services to people users' interaction and participation in the smart city construction process. On the other hand, **China is embarking on a large scale urbanization drive that is the most sophisticated in the history of mankind, and its advanced smart city concept and practice can also provide a referential development path for the less developed ASEAN countries.** China's smart city development has the characteristics of large scale and comprehensive goals, which are widely applicable to most

ASEAN countries. Up to now, more than 400 cities in China have proposed and comprehensively promoted smart city development, including Beijing, Shenzhen and Nanjing. While carrying out top-level design and construction of smart city, these cities have advanced practical experience in grid urban management, smart transportation, smart power grid, internet + government and other areas and expect to carry out cooperation and exchanges actively with Indonesia, Thailand, Cambodia and other ASEAN countries through smart city cooperation forums, fairs and other platforms to provide an effective way to enhance the quality of living of residents and urban competitiveness of both sides.

3. Bilateral cooperation of smart cities between China and ASEAN countries being deepening, and enterprises actively participating in smart city construction to create a new space for cooperation and exchanges in smart city construction

China and ASEAN countries are strengthening smart city cooperation, and cooperation and exchanges of intelligent applications in key areas are being promoted and deepened. China and Singapore, through the intergovernmental cooperation projects, are strengthening cooperation in building the urban districts and parks, such as Suzhou Industrial Park, Tianjin Eco-City and Guangzhou Knowledge City by drawing on the concepts and experience of Singapore in smart city development, and positive results have been made in smart grid, energy management, public services and some other aspects. Thailand and China signed an agreement on smart city cooperation with a view to attracting Chinese capital to support start-ups and smart city development in Thailand this June. Thailand becomes the first overseas user of China's BeiDou Navigation Satellite System, and China and Thailand have

carried out extensive cooperation in the science and technology fields of space technology, remote sensing satellites, solar energy and electric vehicles. In the key areas such as transportation, security and power grids, the enterprises of both sides are making plans actively to expand the cooperation market. For example, Huawei has actively participated in Indonesia's "Green City" Program and has guaranteed the successfully holding of the Asian-African Conference. Singapore Gridcomm Company is helping Nanning to build "Smart Transportation" and is undertaking the construction of Nanning's smart street lighting system. China Southern Power Grid Company has undertaken a number of hydropower projects in Vietnam, Laos, Myanmar and Cambodia to actively promote the implementation of smart grid programs in the local areas.

(V) Cyber security becoming a new topic in the strategies of ASEAN countries, and China and ASEAN joining hands to promote cyber sharing and co-governance

1. In management mechanism, ASEAN having established a relatively flexible cyber security collaborative management system, and China accelerating to carry out top-level design and establish the supporting mechanism

ASEAN fully respect the Internet sovereignty of all Member States in cyber security building, its management strategy is relatively loose and flexible, and the system arrangements mainly come in the form of dialogue, forum, statement and declarations etc. ASEAN has successively established a series of network management and security dialogue mechanisms, including the ASEAN Ministerial Meeting on Transnational

Crime (AMMTC), the ASEAN Senior Officials Meeting on Transnational Crime (SOMTC), the ASEAN Regional Forum (ARF) and the ASEAN Telecommunication Regulators' Council (ATRC), to strengthen active communication and coordination among the ASEAN countries and enhance ASEAN's overall ability of cooperative governance of cyber security and crime.

Since 2015, China has promulgated a series of information security management policies, laws and regulations to strongly promote top-level design for cyber security and establishment of legal and regulatory systems at the national level and adhere to the "rule of the Internet by law". In July 2015, China formally implemented the new State Security Law to accelerate the establishment of the cyber and information security system and enhance the ability of cyber and information security protection. At the state level, China has established the central leadership team for cyber security and information technology to be responsible for coordinating major issues concerning cyber security and information technology in all areas, formulating the development strategies and enhancing the national cyber security capability.

2. In development strategies, ASEAN actively seeking foreign cooperation, and China respecting the cyber sovereignty and upholding to build a community of shared future in cyberspace

ASEAN insist on the diversified development strategy and is actively organizing and participating in international cyber security trainings and seminars and strengthens cooperation in cyber security with the countries in the Asia-Pacific region and the EU member states. ASEAN has

established a leadership dialogue mechanism for cyber and information security with Japan, the United States and other countries. In 2016, ASEAN held the 16th SOMTC in Indonesia and invited Russia, China, Japan, Korea, Australia, the United States, India, New Zealand, Canada, the European Union and other countries to be present at the conference. The topics of the conference focused on 11 areas such as anti-terrorism cooperation, cybercrime and international economic crime and stressed the need to strengthen information sharing and exchange of various countries in governance of transnational crime.

China adheres to the basic principles of active external integration, internal self-control and giving priority to cyber order in cyber security development and continues to strengthen strategic cooperation with other countries in cyber security to enhance the regional influence in cyber security. China bears many similarities to the developing countries within ASEAN in national conditions. The booming Internet industry in China has driven the development of retails, logistics, finance, medical services, tourism and many other industries and helped many people in remote areas to get rid of poverty. In the development of Internet-based services and applications, China insists on “respecting cyber sovereignty, safeguarding peace and security, promoting opening-up and cooperation and creating a good order”, supports the leading role of the United Nations in cyberspace governance and builds a community of shared future in cyberspace through inter-connectivity, sharing and co-governance. This emerging “new model of cyber governance” provides a valuable reference to the ASEAN countries.

3. China and ASEAN countries focusing on cyber security dialogue, and the cooperation being increasingly close with

fruitful achievements in all cooperative areas.

China and ASEAN adhere to the basic principle of win-win cooperation in cyber security development, the development strategies of both sides reach a high fit, and to jointly create a cyber security cooperation space has become a historical choice of building a community of shared future. China and ASEAN signed the *Cooperation Framework of China-ASEAN Telecommunication Regulators Council on Network Security* to provide guidance for strengthening bilateral exchanges and cooperation in cyber security. Both sides have organized 9 consecutive sessions of the China - ASEAN Telecom Regulators' Council Roundtable, established a series of cooperation dialogue mechanism, such as the China - ASEAN Telecommunications Ministers' Meeting and the Cyber Security Seminar to continuously strengthen bilateral dialogues and consultations between the leaders of both sides. China and ASEAN have jointly held the cyber security seminars and cyber security emergency drills, and the transnational cyber security and emergency prevention and management capacity of both sides has been significantly enhanced.

III. Prospects and recommendations on China - ASEAN cooperation in ICT application

(I) Jointly promoting the construction and sharing of the China - ASEAN Information Harbor

The China - ASEAN strategic partnership is entering a “diamond decade” with higher starting point, broader connotation and deeper cooperation. The field of information and communication has become an important area of cooperation between both sides. Through deepening bilateral cooperation in the field of information and communication, both sides will promote the optimal allocation and integration of talent flow, capital flow, technology flow and logistics via information flow to provide supporting services for economic and trade exchanges, industrial docking and energy cooperation between China and ASEAN, promote coordinated development and complementation of advantages of the economies in the region and jointly build a closer China - ASEAN community of common destiny. Both sides should build the China - ASEAN Information Harbor as the landmark project of building the China - ASEAN community of common destiny and steadily and pragmatically advance the development of the information harbor:

First, both sides should carry out long-term planning to realize an effective link-up and take a positive and pragmatic attitude to explore the establishment of the consultation and coordination mechanisms at all levels for the China - ASEAN Information Harbor to achieve joint deliberation, joint planning and joint construction and share the results.

Second, both sides should jointly develop the long-term plans and carry

out top-level design for the information harbor, effectively link them with the ASEAN ICT2020 Strategy and the outline of China's national ICT development strategy, strive to combine them with the China-ASEAN Free Trade Area and other strategic plans and industrial layout and clearly set the annual objectives and work priorities for the information harbor to pragmatically promote the building of the information harbor.

Third, centering on the five platforms of infrastructure, trade services, technical cooperation, cultural exchanges and information sharing, both sides should stimulate the inter-enterprise investment enthusiasm, form a list of major projects that give due consideration to bilateral and multilateral interests, promote the exchanges and cooperation between both sides in the digital economy, high-quality information services, technological innovation resources, excellent cyber culture, cyber governance experience and other aspects so that enterprises and people in both sides can share the results of the “Information Silk Road”.

(II) Accelerating to establish a high-speed unimpeded regional information highway

Information technology is driving China and ASEAN countries to rapidly march from the stage of demographic dividends towards the stage of information dividends. To effectively release the market potential of the China - ASEAN digital economy, allow users to fully experience the convenience brought by ultra-high-speed broadband services and single digital market, it is necessary to further accelerate the construction of the information network. To facilitate faster and more affordable internet connection, China and ASEAN countries need to further strengthen cooperation in future in fiber optic network construction, information

infrastructure interconnection, broadband coverage in rural areas and universal services.

First, strengthening regional cooperation in the construction of the fiber optic broadband network. The rapid spread of the Internet and the booming digital economy have brought huge demands for fiber-optic broadband in China and the ASEAN region, so exchanges, cooperation and experience sharing between the leading countries and backward countries in broadband development should be strengthened, and the broadband demonstration projects of the leading countries should be established in the China - ASEAN ICT cooperation projects. Both sides should strengthen exchanges and cooperation in the single telecom market and actively facilitate faster and more affordable internet connections in international transit bandwidth in China and ASEAN countries.

Second, promoting the China - ASEAN information infrastructure connectivity. China borders a number of ASEAN countries, and after years of construction, the relatively sound large-capacity land and submarine cable channels have been formed. With the rapid development of the network economy, the sustaining growth momentum of network traffic will be further enhanced, so the existing channels should be further expanded to effectively reduce the cost and tariff levels. Meanwhile, studies show that network traffic between the ASEAN countries is largely orbited via the US or Europe.³⁰ Therefore, both sides should give full play to the geographical advantages of neighboring countries, improve the layout of channels and strengthen network connectivity in the regions. Both sides should accelerate to build the China-ASEAN regional

³⁰ Report on Export Cross-border E-commerce Development in China 2015-2016

information highway. In this way, on the one hand, we can give play to the geographical advantages of Guangxi that is connected to ASEAN both by sea and by land and can form the international submarine land cable convergence center, build the submarine and land cables among GMS IS, BIMP-EAGA, MCT and other regions and facilitate the construction of a more cost-effective regional information highway. On the other hand, while the ASEAN countries are connected to Europe via submarine cables, China's pan-Eurasian land optical cables can be used as a backup route to connect with Europe so as to effectively enhance the international access ability that passes through Europe and Asia.

Third, strengthening cooperation, exchanges and applications in the field of satellite communications including Beidou. Satellite communication has advantages in regional coverage, broadband data and convergence of broadcasting services and can quickly form the universal broadband service capability for remote and rural areas, so it is an important means of communication. In addition, the BeiDou Navigation Satellite System has covered China and the ASEAN Region and can provide satellite navigation and location services superior GPS in civilian accuracy to China and the ASEAN countries. Therefore, it is of important significance and value to further strengthen cooperation between China and ASEAN countries in these two areas, promote the cooperation experience of the "LaoSat-1" project and the China - Thailand "Beidou Satellite-Based Augmentation System base station" and strengthen and deepen bilateral cooperation in the field of satellite communications.

(III) Vigorously promoting the development of China - ASEAN cross-border e-commerce

In the context of rapid growth of China - ASEAN cross-border trade, cross-border e-commerce can be deemed as an important task of the upgraded version of the China - ASEAN Free Trade Area. In the future, the cross-border e-commerce platform of both sides will shift its work priority to brand development, while more SMEs will be involved in cross-border trade via the network platform, promoting cross-border spending of consumers in their countries and thus stimulating the vitality of e-commerce economy in the ASEAN region and China.

First, strengthening bilateral cooperation in cross-border e-commerce policies, regulation and services. Based on the policies and platforms, such as the *Memorandum of Understanding on Cooperation between China and ASEAN in Cross-Border E-Commerce* and the China - ASEAN cross-border e-commerce platform, both sides should accelerate to create an open, standardized, faithful and safe cross-border e-commerce development environment to further strengthen cooperation in cross-border e-commerce . Both sides should effectively eliminate tariff and non-tariff barriers to trade imposed by different countries on the e-commerce industry in FTAs, promote exchange of information, mutual regulatory recognition and mutual aid in law enforcement at the ports between China and ASEAN countries to build a China - ASEAN cross-border e-commerce green channel.

Second, improving the logistics and payment systems for China - ASEAN cross-border e-commerce. A China - ASEAN regional cross-border payment service platform should be established to improve

the integrated ASEAN e-payment network. The China - ASEAN logistics information service platform should be established and large commercial enterprises should be encouraged to establish their oversea warehouses and express logistics distribution centers in overseas mainstream markets. China should actively share with the ASEAN countries its successful experiences in e-commerce logistics construction, mobile payment and other aspects to help promote e-commerce development in ASEAN.

Third, establishing the cross-border e-commerce service platform.

China and ASEAN countries should jointly establish a cross-border e-commerce service platform to provide the functions such as online translation, information dissemination, interpretation of policies and regulations, financial databases, credit information service platform, online dispute settlement and information and intelligence systems to cross-border e-commerce enterprises, logistics enterprises, payment enterprises, foreign trade enterprises, government departments and consumers in different countries, and should make use of big data together to identify and respond to financial and economic risks.

(IV) Deepening the cooperation in Cyber-culture and Internet services

China and ASEAN will remain the world's largest Internet markets in the future. The booming information demands and rapid growth of services will become the main engines driving the Internet economy in both sides. It is predicted that by 2025, the entire Internet economy of the ASEAN economies will increase by 6.5 times to reach \$200 billion.³¹ With the promotion of the “Internet +” strategy in China, the growth rate of the

³¹ Report on Export Cross-border E-commerce Development in China 2015-2016

Internet industry is nearly 5 times the GDP growth rate in recent years, and it is expected that mobile Internet will contribute 4.2% to the GDP in 2020. China and ASEAN have great demands in the development of the digital economy and huge potential in cyber culture exchanges:

First, actively promoting the exchanges in fine cyber culture. Relying on the existing advantages in cultural cooperation between China and ASEAN, both sides should establish a mechanism for cooperation and exchange between China and ASEAN in online media. Both sides should strengthen bilateral exchanges and cooperation in online media and create new business and new channels. Both sides should gather and develop online movies and TV plays, online games, online cartoons and other multi-cultural digital products and digital resources and services and promote online dissemination of fine cultures to promote the blending of traditional culture via cyber culture and spiritual communication.

Second, strengthening and promoting the application of Internet and the sharing of high-quality resources in health care, education and other aspects. China should encourage Singapore, Malaysia and other ASEAN countries to network and share China's high-quality medical resources; promote to Chinese distance education and online-education with the ASEAN to achieve the sharing of high-quality education resources; strengthen information sharing in tourism, employment, disaster prevention, emergency relief and other aspects and service exchanges and cooperation. The popularization of Internet applications and services break the information barriers and improve the level of regional ICT development

(V) Actively promoting technical cooperation and exchanges in smart city development

China and ASEAN should promote smart city development to achieve sustainable urban development, and smart city development has become an important move in the process of urban development. Smart city cooperation helps to promote technology transfer and innovation cooperation between both sides. Meanwhile, in-depth cooperation of ICT information application in smart energy, government affairs and other areas will help the cities and enterprises in both sides to establish a closer, pragmatic and mutually beneficial cooperation relationship and help both sides to implement tentative and demonstrative smart city projects.

First, promoting synergic technological innovation and cooperation demonstration in smart city development. Both sides should carry out R&D and cooperation in technological transfer, capacity building and innovative applications and other aspects related to smart city development, encourage enterprises in both sides to participate in smart city investment, construction and operation, enhance the exchanges and showcase of the technologies and achievements in industrial development, urban governance, public services and other related areas and promote the outstanding smart application cases and best practices. China and ASEAN countries should jointly carry out tentative and demonstrative projects centering on smart industrial parks, smart urban districts and smart cities.

Second, strengthening technological exchanges and cooperation in the field of smart power grid. China and ASEAN countries should strengthen exchanges in smart grid and promote bilateral cooperation in internationalization of technological standards for smart grid. Through technical exchanges and industrial cooperation, both sides should speed

up development and application of key technologies and equipments and promote synchronous development of the upstream and downstream industry chains of smart grid in China and ASEAN countries. Both sides should encourage and support their power grid enterprises to explore business opportunities in smart grid planning consulting, project construction, equipment supply and other aspects in the other side's market and accelerate power connectivity between China and ASEAN countries.

(VI) Jointly building a peaceful, safe, open and cooperative cyberspace

China and ASEAN, as part of the Asia-Pacific region with strong development vitality and huge development potential, will continue to take a positive and open attitude in strengthening bilateral economic, political, cultural, scientific and technological exchanges and in-depth cooperation, and cyber security and Internet governance will be one of the important cooperation topics. Both sides will deepen cooperation in cybercrime, online anti-terrorism drills, private data protection, cyber security emergency management and other areas, enhance mutual consensus in cyberspace, improve cross-border cyber security emergency response and treatment capacity and jointly guarantee regional cyber security.

First, further improving the China-ASEAN cyber security cooperation mechanism. On the basis of the current the China-ASEAN telecom ministers' consultation mechanism, both sides should further expand the scope of high-level bilateral dialogue on cyber security, strengthen close communication between cyber security and emergency

management departments and jointly build a three-dimensional regional cyber security emergency response cooperation system that is at a higher level, more pragmatic and comprehensive.

Second, strengthening information exchange and sharing and promoting collaborative management and synergic and efficient development in cyber security. Both sides should establish a China - ASEAN computer emergency response organization and cooperation mechanism, and the cyber security supervision departments of both sides should regularly held the China - ASEAN Cyber Security Seminar to strengthen intergovernmental departmental consultations and exchanges on cyber emergency organization and promote normal and efficient bilateral cyber security exchanges information and monitoring to jointly guarantee regional cyber security.

Third, promoting to establish a multilateral, democratic and transparent international Internet governance system. Both sides should strengthen exchanges and discussions in protection of critical infrastructures, protection of personal privacy, international rules cyberspace and other aspects, and on the basic premise of ensuring all countries' cyberspace independence and self-reliance, both sides should develop and promote international rules for cyberspace recognized by all parties, encourage policy makers, business representatives and scientific researchers in the Internet industry in China and ASEAN to actively participate in international organization for Internet governance, enhance the international voice in cyber management and gradually build an active, effective and transparent China - ASEAN Internet governance system.



China Academy of Information and Communications Technology

Tel: +86-10-68033792、+86-10-62304839

Fax: +86-10-62304980

Website: www.caict.ac.cn

