Asian ICT Council Newsletter

Confederation of Asia-Pacific Chambers of Commerce and Industry

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Message from the Director General

It is a pleasure to present to you "Asian ICT Council" newsletter, VIII edition 2020. This publication is a compendium on relevant news, reports, and analyses on recent developments in the information and telecommunication technology sector in Asia Pacific countries.

The articles contained in this issue show investments on information systems to increase Azerbaijan's international trade, cybersecurity programs on Bangladesh's critical infrastructures, a problem that Iranian are actually facing, while China tries up smart their national electricity grid.

At the basic technology level, Blockchain continues expanding in fits and starts in many Asian markets. Google and other technology leaders are also exploring the outer limits of supercomputing, and South Korea researches and invests in nanotechnologies.

At the physical infrastructure level, Philippine is establishing the proper environment to accommodate ICT hubs ready for investments, while Vietnam's plans to foster ICT development receive government support.

We hope that this latest issue of the "Asian ICT Council" newsletter will help you better understand the trends and conditions of the information and communication technology (ICT) throughout the Asia Pacific region. Enjoy your reading!

Ernest Lin
Director General
CACCI

Azerbaijan to increase share of e-trade

Azerbaijan aims to increase the share of e-trade in the domestic market, Ramin Guluzade, the Minister of Transport, Communications and High Technologies has said.

He made the remarks at the opening of the second Baku E-Trade Forum (BEF - 2019) on October 21 last year organized as part of the InnoWeek - Innovation Week.

Guluzade said that the development of an innovative economy is proceeding rapidly in Azerbaijan. "Approved strategic roadmaps for the national economy and key sectors of the economy are being successfully implemented. This, in turn, as in all areas, creates a favorable environment for the development of e-trade," he said.

He noted that the internet banking is developing in Azerbaijan, and many public and private companies are operating in the field of logistics. "As a result, e-trade offers many products and services across the country through numerous sites and platforms."

Guluzade pointed out that the success has been seen in the sale of travel services, tickets and hotel bookings, information technology, clothing and food through e-trade.

"In general, although the dynamics of the development of e-trade in our country is high, our Internet users mainly place orders on well-known foreign e-trade platforms. Our goal is to increase the share of e-trade in the domestic market, while promoting e-trade entering our national products, in foreign markets," he said.

Referring to the importance of international cooperation in the development of e-trade, Guluzade noted the expansion of cooperation within the framework of the European Commission's initiative to harmonize the digital markets of the Eastern Partnership countries in such areas as the development of legislation for the mutual recognition of e-signatures, cross-border data exchange, and cybersecurity.

"The fact that today the EU institutions are among the partners of the BEF is also a confirmation of this cooperation," he said.

Delivering a speech, Alim Guliyev, First Deputy Chairman at Central Bank of Azerbaijan, said that in 2018, global retail trade turnover was US$24 trillion, of which US$3 trillion accounted for e-

trade and accounted for 12% of turnover.

"The previous figure was 10%. By late 2019, e-trade was expected to grow by 21% to reach US$3.5 trillion, accounting for 14% of retail trade," he noted.

Guliyev added that in the next five years, e-trade is expected to reach US$6.5 trillion, accounting for 22% of retail trade.

"According to forecasts, by the end of this year, a quarter of the world's population will be a digital buyer. This is about 2 billion people. Estimates show that by 2040, 95% of the world's population will be trading in digital payments," he pointed out.

All sectors of the economy are rapidly electronizing with the application of smart technologies in the society. E-trade is an integral part of society. E-trade has become an effective mechanism for linking different sectors such as finance, real sector and IT, due to the widespread use of new technologies. The e-trade platform further enhances the ability of small and medium-sized enterprises (SMEs) to compete with large corporations. Digitalization provides young people with affordable opportunities to build their own businesses that do not require large financial resources. For this reason, e-trade has become an attractive platform for SMEs.

Later, Orkhan Mammadov, Chairman of the Board of the Agency for Development of SMEs, stressed that the Agency is ready to take an active part in the process of increasing the share of e-trade and to support further initiatives.

The two-day forum, which is organized by the Ministry of Transport, Communications and High Technologies, the European Union and in partnership of PASHA Bank, was attended by representatives of international organizations, government agencies, public organizations, micro, small and medium-sized businesses, investors, experts and startuppers.

The first day of the forum covered four sessions, including "E-Trade Regulatory Policies in Government and Intergovernmental Approach", "New technological trends in e-trade infrastructure: prospects and threats", "Online payment systems and digital solutions" and "Smart" borders: opportunities for trade, tourism and logistics".

On the second day, trainings were be organized on business models, cybersecurity and data protection, marketing behavior and trends.

BEF, held for the second time in Azerbaijan, is an important platform to discuss the latest innovations and positive trends in the field of e-trade.

Japanese ICT company talks on establishing co-op with Uzbekistan

Through cooperation with Uzbekistan, Internet Initiative Japan (IIJ) company will expand its business to Central Asia with Uzbekistan as a key hub in the region, representative of Internet Initiative Japan told Trend in an interview.

Earlier Trend reported that during the meeting between Uzbekistan's Minister for Development of Information Technologies and Communications Shukhrat Sadikov and CEO of IIJ Koichi Suzuki in Tokyo, the sides discussed the cooperation on the creation of data storage and processing centers in Uzbekistan.

"Uzbekistan will gain continued national growth and a better life for its people through modernization of the IT infrastructure. We will consider the solutions that can be brought to Uzbekistan as soon as the project requirements are finalized," the representative added. He noted that IIJ is willing to cooperate actively with Uzbekistan, but still has no specific plans at this time.

Internet Initiative Japan Inc. was founded in 1992 by Koichi Suzuki, IIJ, as Japan's first internet provider. The company currently offers network services, value-added outsourcing services, cloud computing, global network services and system integration services.

IIJ mainly operates in Japan as a total network solution provider with its head office in Tokyo and has offices in 11 cities around the world to serve global customer needs. Number of Employees of the company is 3,537 (consolidated basis), 2,056 (non-consolidated basis).

Business objectives of the company is the provision of Internet connectivity and WAN service, network-related services, network systems construction, operation and maintenance, development and sales of tele communication equipment

Shareholders are Nippon Telegraph and Telephone Corporation, NTT Communications Corporation, ITOCHU Techno-Solutions Corporation. Financial Institutions are Sumitomo Mitsui Banking Corporation, Mizuho Bank, Ltd., MUFG Bank, Ltd. and Mitsubishi UFJ Trust and Banking Corporation.

Bangladesh government sets up firm to fund startups

The government is set to form a specialised firm to fund and nurture startups and ICT entrepreneurs under the Innovation Design and Entrepreneur Academy of the ICT division with the view to encouraging innovative ventures in Bangladesh.

All the preparatory work and formalities have been completed a few months back, Zunaid Ahmed Palak, state minister of the ICT division told The Daily Star. "We are trying to establish a startup culture in Bangladesh and to achieve that goal this company can play a huge role."

The government has targeted to set the wheels rolling for about 1,000 startups.

To be called Startup Bangladesh Company Limited, the firm's paid-up capital would be Tk 500 crore (US$58.7 million). Its initial target would be to provide Tk 10 lakh (US$11.7 thousand) each as seed money to about 200 local startups.

A start-up is a young company founded by one or more entrepreneurs in order to develop a unique product or service and bring it to market. By its nature, the typical startup tends to be a shoestring operation, with initial funding from the founders or their families. Typically, banks are not comfortable with investing in digital service companies as they have no fixed assets and carry higher chances of not turning out to be economically viable ventures, said officials of the proposed company.

"Venture capital can make these bold ideas successful and that is why we are investing in them," said an official requesting anonymity.

Some 36 employees will be appointed in the company that will have a government-appointed board led by the secretary of the ICT division, according to the proposal.

The proposal was sent by the ICT division in June 2018 to the cabinet division, based on which a Tk 100 crore (US$11.7 million) allocation was made in this year's budget to this end.

"It will take some time to get that money but we have some funds of our own to get the company rolling," Palak said. Two years back the government created a fund of about Tk 800 crore (US$94 million) to nurture innovative ideas on education, agriculture, health, financial services, e-commerce, e-Governance and some other service sectors under the iDEA project.

A few hundred applications have been received since Startup Bangladesh has been formed as a project in 2016 and some has been shortlisted for funding. Once due diligence and some other formalities have been completed they will get their funding.

Bangladesh's Rooppur nuclear power plant: government not scrimping on security

The government is set to take up another project involving Tk 3,449 crore (US$405 thousand) to enhance the security of the country's first nuclear power plant in Rooppur.

The project, placed in the meeting of the Executive Committee of the National Economic Council, will look to address Design Basis Threat (DBT) and beyond as well as cybersecurity and will be wrapped up by March 2023.

This comes on the back of yet another project involving Tk 1,710 crore (US$201,413) approved to monitor the security of the plant.

A DBT describes the capabilities of potential insider and external adversaries who might attempt unauthorised removal of nuclear and other radioactive material or sabotage. The operator's physical protection system is designed and evaluated on the basis of the DBT.

Potential external adversaries include terrorists and other criminals who might seek to use nuclear or other radioactive material for malicious purposes, or to sabotage a facility.

Insiders are individuals with authorised access to facilities, activities or sensitive information who could commit malicious acts or help external adversaries to do so.

The issue of cybersecurity is also critical.

Cyberattacks on nuclear power plants could have physical effects, especially if the network that runs the machines and software controlling the nuclear reactor are compromised.

This can be used to facilitate sabotage, theft of nuclear materials, or -- in the worst-case scenario -- a reactor meltdown. In a densely populated country like Bangladesh, any radiation release from a nuclear facility would be a major disaster.

Earlier in September, the Kudankulam Nuclear Power Plant (KKNPP) in Tamil Nadu, India, became a target of cyberattack.

VirusTotal, a virus scanning website owned by Google's parent company Alphabet, has indicated that that a large amount of data from the KKNPP's administrative network has been stolen. If this is true, subsequent attacks on the nuclear power plant could target its critical systems more effectively.

One of the ambitious mega projects of the current Awami League-led government, construction on the US$12.65 billion-power plant began in November 2017 in Rooppur in the Ishwardi upazila of Pabna district by the Russian Rosatom State Atomic Energy Corporation.

It is expected to be complete by 2023 and would generate 2,400 megawatt electricity through two units.

China's largest utility plans a national power grid integrating Internet of Things technologies

South China Morning Post, Laurie Chen, 26 October 2019

- State Grid, which provides about 90% of China's electricity, intends to use the technologies to advance construction of 'smart cities'

- The first phase of the project is slated for completion in 2021, with the second phase to be finished in 2024

China has unveiled an ambitious plan to establish a nationwide smart power grid employing internet technologies such as 5G and artificial intelligence, with the first phase to be completed within two years.

The scheme was outlined in a recent white paper by the State Grid Corporation, China's largest utility company, which operates roughly 90% of the country's electricity grids.

The state-owned monopoly is also one of the biggest utility companies in the world, making US$9.5 billion in profits in 2018.

Named the "Ubiquitous Power Internet of Things", the project promises to create an interconnected digital ecosystem linking the internet with the nation's electricity supply which would "serve the construction of smart cities", according to the white paper. China is home to roughly half of the world's 1,000 pilot smart cities, which use 5G and AI technology to improve urban management.

A technician examines the transmission line on an ultra-high voltage system in Huaian, Jiangsu province, in 2015. State Grid's internet technologies project is another part of its plan to upgrade China's power infrastructure (Photo: Xinhua)

"The Ubiquitous Power Internet of Things will comprehensively apply modern information technology and advanced communication technologies such as mobile internet and artificial intelligence … to realise the interconnection of all things and human-computer interaction in all aspects of the power grid," the document said.

The first phase of the project is slated for completion in 2021, with the second phase to be finished in 2024. So far this year, State Grid has outlined 57 construction tasks and 25 demonstration projects to advance the plan.

According to Tim Buckley, director of energy finance studies at the Institute for Energy Economics and Financial Analysis in Sydney, Australia, State Grid's latest efforts to modernise the electric grid with renewable energy and IoT technology is a continuation and expansion of the company's existing strategy.

"Smart meters have been around for a decade. A lot of countries including Australia have toyed with them but China State Grid has been very much systematic in their roll-out and investment in them," he said.

"It's not like this white paper is in isolation – this is a programme of investment and development that's been well underway for a decade. China State Grid has consistently been at the forefront of technology in doing so."

According to a 2016 report by the market intelligence firm Northeast Group, China is predicted to spend US$77.6 billion on smart grid infrastructure over the next decade.

A smart grid system is a digitally automated electricity network that supplies electricity to consumers via two-way communication. They are more reliable and efficient than traditional power grids since they respond faster to fluctuations in electricity supply and demand and can automatically detect and restore power after outages.

Workers walk near a power plant during a polluted day in Beijing in December 2018. One goal of the Ubiquitous Power Internet of Things project is to draw on multiple sources of renewable clean energy for power (Photo: EPA-EFE)

In addition, they are more environmentally friendly since they can draw on multiple sources of renewable energy for power. Smart grids can also incorporate IoT technology such as intelligent appliances and smart meters. "The grid has traditionally been a one-way directional flow of power – power goes from the big centralised power plants through the grid to the customer," explained Buckley.

But with the new two-way advanced metering infrastructure (AMI) smart meters that State Grid plans to install, customers who produce surplus energy through sources like solar panels, for example, can sell it back to the grid.

"[It] allows that two-way monitoring and metering of power flows, so the consumer is rewarded when they are a producer and charged when they are a consumer," he said.

According to the white paper, State Grid has been aggressive in incorporating a larger share of electricity from renewable energy sources into the grid. From January to August 2019, the amount of "clean" electricity generated and fed into the grid grew 15.9% year-on-year, to 394.4 billion kilowatt-hours.

"There are no grids in the world outside of China that have seen that level of variable renewable energies being incorporated into the grid at this speed," Buckley said.

State Grid recently put the "Ubiquitous Power Internet of Things" into practice at the newly opened Beijing Daxing International Airport, which now uses a "100% green power supply", according to a company release.

The company installed an "International Airport Smart Energy Service System" comprehensive data platform which integrates power grid, airport and customer information. The release said that the system is capable of reacting to airport users' demand for electricity.

State Grid has already used mobile Internet and AI in smart power grids in some parts of China including the northern industrial port city of Tianjin, according to Xinhua. Tianjin is also home to China's first ultra-high voltage power grid, which uses wind, solar and geothermal energy.

The project also promises to improve energy efficiency by integrating and using different types of clean energy sources, State Grid official Wang Feng was quoted as saying by Xinhua.

In recent years, State Grid has advocated for a number of ultra-high voltage technology projects to boost the national energy infrastructure, partly in a bid to ease China's reliance on fossil fuel sources responsible for greenhouse gas emissions and pollution. Reducing air pollution has been a key environmental objective of the Chinese government.

 "The ultra-high voltage grid is the key to building a global energy Internet," Liu Zhenya, a former head of State Grid, said at a lecture in Moscow in 2018, according to Xinhua.

The "global energy internet" is essentially a "smart grid connected to an UHV grid that could potentially deliver clean energy worldwide," according to a 2018 report by the London-based LEK Consulting.

Bubble or smart bet? Blockchain-stock frenzy in China spotlights hype and hope

South China Morning Post, Yujing Liu, 4 November 2019

- Profitable application of promising technology is years away, analysts say

- Xi Jinping's call for rapid blockchain development creates quick boom and bust for linked stocks

Are blockchain stocks the next big thing for investors? Analysts think not. They smell another speculative bubble. Blockchain-related stocks went on a wild roller-coaster ride during the first week of November 2018, triggered by a surprise push for the technology by Chinese President Xi Jinping
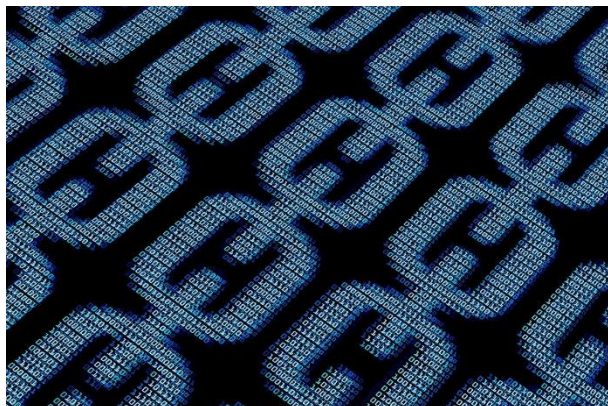
Chinese President Xi Jinping set off a frenzy of stock buying when he called for faster development of blockchain technology. (Photo: Shutterstock)

But profitable application of blockchain is years away, analysts say, and no publicly listed leaders have emerged in a hot sector filled with promising but unproven start-ups.

"It's too early to make an investment decision," said Yang Delong, chief economist at Shenzhen-based First Seafront Fund Management. "I'd wait to see more solid applications take place first. Those speculative bets will only fall back after the short-term hype."

An October 25 media report that Xi had said China needs to more rapidly develop blockchain technology set off an investor stampede into listed companies with even a hint of connection.

The East China Money index tracking 172 mainland-listed companies that develop or use the technology shot up 8.1%, with 107 of the component companies hitting the daily 10% upside limit in China's main boards.

One Shanghai-listed company – property developer Xinhu Zhongbao – surged more than 60% over the week, hitting the 10% upside limit on China's main exchanges on five straight days. It has a big stake in a private company whose chairman had wowed Xi and other officials about the potential for blockchain.

Regulators acted fast to keep them in check. By Friday that week, more than a dozen companies had filed "clarifications" to warn investors that the technology would have a small impact on their businesses.

Of the 109 blockchain-related stocks tracked by data provider Wind, only 59 held onto weekly gains, including Xinhu Zhongbao.

Trading of such stocks accounted for 13% the total turnover in the A-share market, where traders love to pile into hot stocks of the day, driving their share prices up, and then bagging quick profits and scramming. Similar frenzies this year have been seen in companies linked to hemp and rare earths.

The blockchain frenzy quickly reverberated in Hong Kong.

Pantronics Holdings, which was acquired by cryptocurrency exchange Huobi, surged that Monday of November by 20.8%, only to fall 11.3% on Tuesday, 4% on Wednesday and trade flat the rest of that week.

Price of shares in yuan

Source: Bloomberg   SCMP

Grandshores Technology, which describes itself as a construction and blockchain business, shot up 18.60 a certain Monday in November, only to fall the next three days and trade flat on Friday.

"Don't look back and linger when you sell. None of the fundamentals in the [blockchain] sector has changed," Xing Zhongheng, a full-time investor based in Shanghai who focuses on telecoms, wrote on stocks investment forum Xueqiu. "It's going to take years for the real leaders of the industry to emerge and generate earnings."

Blockchain is a record of information managed by a network of decentralised computers worldwide. Any change of data is validated by a number of computers and stored across the network, so no computer can manipulate the information.

It is the underpinning technology for cryptocurrency such as bitcoin, which relies on it to verify the transfer of funds.

The biggest advantage of blockchain is that it is built to record information in a permanent and unalterable way.

That makes it a natural match for the financial sector, where a lot of resources are spent building trust and ensuring accurate information in transactions.

Analysts watching blockchain say it has enormous potential. But no clear leading players have emerged for investors, in the way that they have in 5G, for example, or artificial intelligence.

Rao Yibo, 29-year-old founder and chief executive of fintech start-up Shenzhen Intelle-Chain Technologies, is hoping to develop a blockchain-based service that can help smaller investment companies skip traditional securities trading intermediaries, such as clearing companies, to reduce costs.

Price of stock in Hong Kong dollars

Source: Bloomberg   SCMP

"We found out there's demand for it when we were working with some overseas funds. To smaller financial institutions, the cost of clearing and payment is one of their core expenses so they'd benefit a lot from enhanced efficiency in this regard," Rao said. "If we can popularise blockchain to the wider market, then the costs in the whole financial system will decline drastically."

Other blockchain applications in the financial sector include digital currency. China is the world's first major economy experimenting with creating its own digital currency, partly as a way to reduce the country's reliance on the US dollar.

Companies are also developing it to facilitate easier financing and faster turnover between companies in the same supply chain. Shanghai-listed Sichuan Hejia is a leading company in this area, analysts at Guosheng Securities said in a report, as it already has recorded 176,000 transactions between suppliers and purchasers on its blockchain.

Like Xinhu Zhongbao, Sichuan Hejia trades on the Stock Connect.

Tencent Holdings, China's online gaming and social media giant, has entered the field, too. It launched the first blockchain-based electronic invoice system in partnership with the Shenzhen government more than a year ago, to improve the authenticity and efficiency of traditional paper-based invoices.

Zhao Liangbi, telecoms analyst at Guotai Junan, however pointed out that such applications have yet to reflect substantially on listed companies' earnings.

"We haven't seen a perfect example of the full utilisation of blockchain technology. What we are seeing now are all primitive forms of the applications," said Zhao.

More than 95% of blockchain-related companies are early-stage start-ups just going through the first few rounds of fundraising, according to the Guosheng Securities report.

Entrepreneur Rao, was prepared to raise an angel round funding of about 3 million yuan in November of last year, agreed.

"There is still huge room for the technology of blockchain to develop before it can really change the industry and be adopted by established financial institutions," he said.

'Quantum Supremacy', Google's new chip can out-compute supercomputers

[The Hindustan Times](#), Indo Asian News Service, 22 September 2019

Google has already joined the race for quantum computers. The company is said to have develop a chip that is way ahead than the world's top supercomputers.
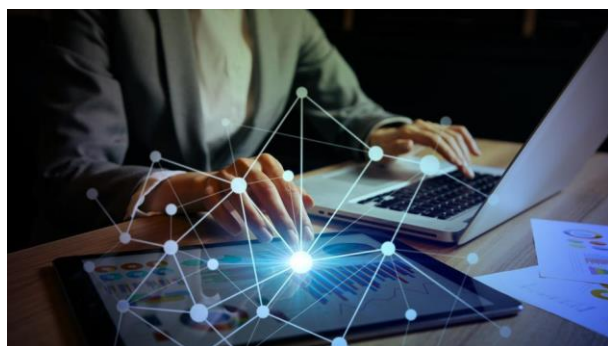
San Francisco businesswoman using digital devices (Getty Images/iStockphoto)

Google has reportedly built a quantum computer that is way ahead than world's top supercomputers in calculation - solving tasks in nearly three minutes that would otherwise take current supercomputers 10,000 years to achieve.

According to a report in Financial Times, a Google research paper has claimed the feat, saying "their processor was able to perform a calculation in three minutes and 20 seconds that would take today's most advanced classical computer, known as Summit (from IBM), approximately 10,000 years".

In March 2018, Google unveiled its 72-qubit quantum computer chip Bristlecone.

Not just Google but several tech giants like Microsoft, IBM and Intel have joined the race to build a scalable quantum computer. Earlier this week, IBM unveiled its quantum computer with 53 qubits.

A quantum computer can solve complex problems that would otherwise take billions of years for today's computers to

solve. This has massive implications for research in health care, energy, environmental systems, smart materials and more.

According to Google, if a quantum processor can be operated with low enough error, it would be able to outperform a classical supercomputer on a well-defined computer science problem, an achievement known as "quantum supremacy".

These random circuits must be large in both number of qubits as well as computational length (depth).

"Although no one has achieved this goal yet, we calculate quantum supremacy can be comfortably demonstrated with 49 qubits, a circuit depth exceeding 40, and a two-qubit error below 0.5%," Google said recently.

"We believe the experimental demonstration of a quantum processor outperforming a supercomputer would be a watershed moment for our field" it added.

Researchers at Microsoft are also busy writing the software to build a scalable computer that will help humanity unlock solutions to problems in areas such as clean energy, global warming, materials design and much more - including solving the mysteries of our universe.

If all goes well, Microsoft is confident about having one such scalable super machine within the next five years.

Based on quantum bits, the computer will not use classical bits but qubits which are not limited to binary and can have properties of 0 and 1 simultaneously, thus trying every possible number and sequence simultaneously to unlock vast amounts of data.

"We're looking at a five-year timeframe to build a quantum computer and what we need are roughly 100-200 good qubits with a low-error rate," Krysta Svore, Principal Research Manager, Microsoft Quantum Computing, recently told IANS.

ICT sector gains strength as Indonesia prioritizes digital economy

The Jakarta Post, Oxford Business Group, 10 December 2019

A series of new digital infrastructure projects are strengthening Indonesia's information and communications technology (ICT) sector as the country prioritizes the digital economy as an area of growth.

In late September, Japanese telecom giant NTT announced it would invest US$500 million in a new data center in Indonesia, the company's third in the country.

Due to be completed this year in Cikarang, West Java, the Jakarta 3 Data Center will provide 18,000 square meters of IT space and 45 megawatt (MW) IT load.

Illustration of a data center. (Shutterstock/sdecoret)

NTT officials said the site would give domestic companies higher data speeds and low latency.

This comes on the heels of an announcement made in July that fellow Japanese company SoftBank will invest US$2 billion in Indonesia over the next five years, through Singaporean transport, food delivery and digital payments firm Grab, to upgrade digital infrastructure.

The funds will go toward creating a new urban transportation network based on electric vehicles and geo-mapping solutions as well as toward expanding e-health care services. Having invested around US$1 billion in Indonesia since 2017, Grab also plans to open a new head office in the country.

Digital economy outlook

The upgrade of digital infrastructure aligns with government plans to encourage ICT growth. Central to this is the Palapa Ring broadband project, which will see a 35,000-kilometer fiber-optic network installed across the country.

The US$1.3-billion project, expected to be operational by the end of the year, is designed to provide 4G services across the entire archipelago, with the government hoping it will push broadband penetration – at 9.38% as of December 2018 – well into double digits.

Aside from upgraded infrastructure, tech-based companies are benefitting from improved access to credit. One initiative in this field is NextICorn, launched in May 2018, which looks to link local start-ups with suitable financial backers.

The measures to improve the domestic ecosystem are bearing fruit, as Indonesia is now home to five of Southeast Asia's eight unicorns – start-ups valued at US$1 billion or more.

Meanwhile, the domestic internet economy is currently valued at US$40 billion, having quadrupled since 2015, according to the "e-Conomy SEA 2019" report released by Google, Singapore's Temasek and US consultancy Bain & Company.

The country has already met its goal of becoming the largest digital economy in Southeast Asia by 2020, and is expected to continue to enjoy sharp growth in the sector, which is projected to reach a value of US$130 billion by 2025.

Online payments boom

Growth has largely been driven by rapid expansion in digital payments.

A series of new options have entered the market, and in 2018 the value of digital transactions quadruped to Rp 47 trillion (US$3.3 billion), according to the country's central bank, Bank Indonesia.

The most recent significant development was the launch of the LinkAja mobile payment services platform in March. Emerging from an alliance between Telekomunikasi Indonesia, the country's largest telecom firm, and a series of public financial institutions, the app allows people to make transfers or pay bills on their mobile phones. It joins major players Go-Pay and OVO in the market.

While the development of the digital economy is encouraging to policymakers, it has also given rise to calls to update legislation.

Speaking at the Indonesia Fintech Summit & Expo in Jakarta in late September, Finance Minister Sri Mulyani Indrawati said the government was looking at ways to update tax laws in response to the digital payments industry to ensure that the broader economy benefits from the recent growth.

Making Indonesia 4.0

Aside from strictly online industries, improved digital infrastructure is crucial to government plans to encourage high-value industrial development and boost local manufacturing.

The Making Indonesia 4.0 road map launched in April 2018 seeks to diversify the economy away from a reliance on natural resources by developing higher-tech export industries.

Areas of focus include 3D printing, artificial intelligence, human-machine interface, robotics and sensor technology, all of which require advanced digital capacity.

Planners hope that the strategy will create between 7 million and 19 million new jobs between 2018 and 2030 and lift the industrial sector's gross domestic product contribution from 20% to 30% over the same period.

Content provided by Oxford Business Group. For more info contact Lukas Bester at lbester@oxfordbusinessgroup.com.

Minister: Iran foiled 33m cyberattacks in 2018

Iran Daily, IRNA, 29 October 2019

Iranian Minister of Information and Communications Technology (ICT) Mohammad Javad Azari Jahromi said Iran defused 33 million cyberattacks in 2018, warning against a rise in cyber threats facing different societies in the world.

Iran's firewalls, also known as Dezhfa, prevented 33 million cyberattacks from destroying the country's systems, said Azari Jahromi in an address to a ministerial meeting of the Munich Security Conference Core Group Meeting in the Qatari capital of Doha, according to IRNA.

He added that cyber threats are currently endangering the security of people and a wide range of services related to their lives.

"Unilateralism and resorting to sanctions constitute threats against international security in the cyber sector," said the ICT minister, underlining the need for "multilateral mechanisms" as "the solution to cyber security problems in the world."

He noted that Iran, as a victim of cyberattacks, would continue to play an effective role in designing international initiatives aimed at dealing with the scourge.

The Core Group Meeting in Doha brings together 60 to 80 senior political decision-makers, experts, and representatives of international organizations and civil society from the region with counterparts from Germany, Europe and other parts of the world for frank discussions.

Earlier, the Iranian ICT minister held a meeting with Emir of Qatar Sheikh Tamim bin Hamad Al Thani.

In May, Azari Jahromi said Iran has developed an indigenous firewall securing its sensitive industrial facilities against Stuxnet, a cyber weapon widely believed to be made by the US and Israel and used in the past to target the Islamic Republic's nuclear energy program.

Iran said in November 2018 that it has successfully thwarted a wave of cyberattacks apparently staged by Israel to target the country's communications infrastructure, saying it will certainly follow up on the "hostile" scheme via international mechanisms.

New Iranian e-commerce symbolizes resilience in face of sanctions: ICT minister

Tehran Daily, August 25, 2019

TEHRAN – Information and Communication Technology (ICT) Minister Mohammad Javad Azari Jahromi has said that new Iranian e-commerce symbolizes the country's resilience in the face of sanctions imposed by the Trump administration.

"Today we have startups focusing on e-payment and online taxis like Uber, which are making significant progress in the field," Jahromi said in an interview with NBC News. "The sanctions made the Iranian people more self-reliant, to be able to develop things on their own that they might not otherwise be able to get," he said.

Jahromi and other officials also say digital technology is crucial to the country's economic future, especially as sanctions imposed by the U.S. have slashed revenues from oil exports. May 2018, the Iranian Strategic Technologies Center announced that over 6,500 startups are now active in Iran. The Iranian startup ecosystem is one of the biggest ones in southwestern Asia and will turn into the most powerful economies in the near future.

Restriction on social media is counterproductive

As an avid Twitter user, Azari Jahromi told NBC News that restrictions on social media were counterproductive, undermining Iran's political and economic interests.
"My very good use of Twitter indicates that I don't believe in its use being limited or prohibited," he said. "We have to admit the fact that we have weakness in this field [social media]," Jahromi concluded.

Malaysia's digital economy contributes 18.5% to GDP in 2018

The Sun Daily, 16 October 2020

PETALING JAYA - Malaysia's digital economy continued to expand at RM267.7 billion (US$64.1 billion) in 2018, contributing 18.5% to the national economy, according to the Department of Statistics.

However, the growth pace moderated to 6.9% year-on-year as compared with the 9.8% recorded in the previous year.

Information and communications technology (ICT) contributed 18.5% to the country's gross domestic product (GDP) comprising gross value added of ICT industry (GVAICT) (12.6%) and e-commerce for non ICT industries (5.9%).

"The growth was driven by the increased of GVAICT to RM182.4 billion (US$43.6 billion) registering a growth of 6.1%. ICT services dominated the GVAICT with a share of 43.2% followed by ICT manufacturing 34.1%," said chief statistician Malaysia Datuk Seri Dr Mohd Uzir Mahidin in a statement.

He pointed out that the telecommunications services were the main impetus in ICT services, while ICT manufacturing was supported by electronic components & boards, communication equipment and consumer electronics.

Based on annual economic statistics 2018, ICT Services recorded gross output value of RM144.8 billion (US$34.6 billion) with the annual growth rate value of 7.8% per annum.

The figure was in line with the rapid growth in gross output, as the value of intermediate input also increased RM8.4 billion (US$2 billion) thus resulting in a value added of RM74.3 billion (US$17.8 billion.)

The telecommunications services' gross output saw the highest annual growth rate of 9.9%.

Mohd Uzir highlighted that income through e-commerce transactions recorded a value of RM447.8 billion (US$107.2 billion) in 2017 against RM398.2 billion (US$95.4 billion) in 2015 with an annual growth rate of 6%.

Expenditure on e-commerce transactions recorded a value of RM228.8 billion (US$54.7 billion) in 2017 as compared to RM195.1 billion (US$46.7 billion) in 2015 with an annual growth rate of 8.3%.

"The main contributor for e-commerce income and expenditure was manufacturing sector at RM287.5 billion (US$68.7 billion) and RM179.5 billion (US$42.9 billion) respectively," said Mohd Uzir.

The usage of computer and internet by establishment in 2017 showed that 78.9% used computer while 76.3% used the internet.

Selangor recorded the highest percentage usage of computer and internet with 94.9% and 92.1%, respectively.

The percentage of individuals using computer was 70.5% and for individuals using the internet was 81.2%. Meanwhile, Putrajaya recorded the highest percentage of computer & internet usage by individuals and computer & internet access by household with 97.8% and 99.6%, respectively in 2018.

South Korea's industrial materials, nanotech investments to jump 136% in 2020
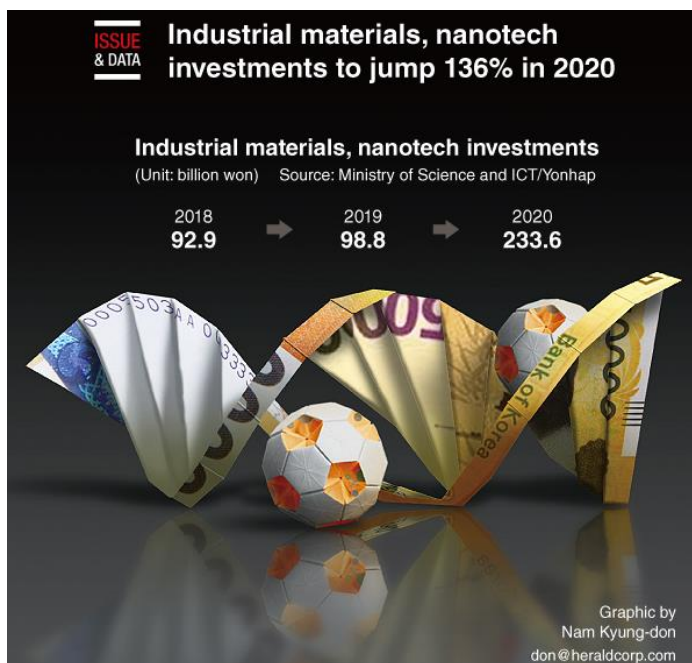
Korea's public investment in future industrial materials and nanotech will jump 136% on-year in 2020, as the country moves to enhance its global competitiveness in cutting edge sectors, the government said.

The sum of 233.6 billion won ($201.2 million), approved by policymakers and experts, follows the passage of this year's budget by the National Assembly. The focus will be on acquiring original technologies, expanding research and development infrastructure and the creation of a robust business ecosystem, the Ministry of Science and ICT said. (Yonhap)

More Philippine cities identified as ideal IT-BPM hubs

MANILA, Philippines — The Department of Information and Communications Technology (DICT) is set to identify a new batch of cities in the country which are deemed as ideal investment destinations for information technology and business process management (IT-BPM).

According to the DICT, an additional 20 digital cities will be unveiled by March.

"Being named as a digital city speaks of the city's capability to cater global business investments in the IT-BPM sector," the DICT said.

"It also entails continuous support from the DICT in the form of talent and infrastructure development, as well as assistance in creating ICT councils that would manage these cities business environment, among others," it said.

To date, there are a total of 25 duly recognized digital cities all over the country.

These are Metro Cebu, Davao, Bacolod, Metro Clark, Iloilo, Dumaguete City, Sta. Rosa City, Dasmariñas City, Baguio City, Legazpi City, Naga City, Cagayan de Oro City, Tarlac City, Laoag City, Puerto Princesa City, Lipa City, Balanga City, Taytay in Rizal, Dagupan, Malolos City, Roxas City, Tagbilaran City, San Fernando City in La Union, Cainta in Rizal and Palayan City.

DICT said significant changes such as overall boost in economic growth, increase in employment and commercial activity, and improvement in the quality of lives among communities have been observed in these localities since their recognition as digital cities.

"The cities soon to be added to the list are projected to experience the same progress as those that were first identified. They are also forecasted to further add to the national economic growth of the country," the agency said.

The additional cities will be selected according to the scorecard system developed in collaboration with IT-BPM locators or investors through the IT and Business Process Association of the Philippines.

The set of metrics reflects what investors look for in selecting the perfect location for their business such as talent availability, infrastructure, cost of doing business, business environment and risk management.

Digital Cities is a program under the Digital Philippines initiative of the DICT that aims to transform the country to enable full utilization of the potentials of ICT.

Yandex, Google and Turkey

The trio of Yandex, Google, and the Turkish Competition Authority is wreaking chaos on the Turkish information and communications technology (ICT) market.

The issue can be read both as major but just another competition issue between technology giants or as a quarrel between the United States, Russia, and Turkey over technology dominance.

Google has absolute market control over mobile devices in Turkey with over 85% penetration by Android devices. Major national brands like General Mobile and Vestel and international brands such as Samsung and Xiaomi are all using Android platforms.

Yandex is disturbed by this because Google makes sure that the Android devices come with already uploaded Google Services such as Google Maps. Google enforces this with production agreements. Yandex claims that this is a violation of competition rules in Turkey, and the Turkish Competition Authority agrees with them. That's why the oversight agency issued a 93 million-Turkish-Lira fine (US$15.9 million) on Sept. 19, 2018.

Google, however, failed to comply, and the authority has since increased the fine. According to journalist Kemalettin Bulamacı, the total fines would add up to nearly 20% of the total revenues.

After this move by the authority, Google issued a statement, claiming that if things do improve, they would cease to issue licenses for new mobile phones that would be sold in Turkey. This, of course, stirred the beehive, so to speak, and created a big buzz. People were divided: Some said that the fines are just and appropriate because monopoly is bad, and Google must respect the Turkish state. Others underlined the danger if Google follows through on its threat because it would mean that millions of people would be out of options. Some people, for instance, cannot afford the more expansive alternatives to Android platforms like Apple phones.

However, while this debate was ongoing, Google signed an agreement to bring its services to Turkey, a move they had been trying to avoid for a long time. This could mark a new kind of relationship between Turkey and Google. They could be let off the hook for having a monopoly.

We will see how this tale unravels, but I urge our policymakers to think about their citizens first. Unfortunately, we don't have a national mobile platform, so as it is, we have to choose between two American companies. It doesn't make sense to me to put more strains on Turkish citizens in favor of a Russian company.

HCM City to foster ICT development

HCM CITY - HCM City will continue to promote the development of information and communications technology to develop into an innovative smart city and improve living conditions, authorities have said.

The city has for many years spearheaded the country's economic development, contributing 24% of its GDP, 18% of industrial production and 16% of exports.

However, it has faced many challenges such as unsustainability of economic growth and rapid population growth.

Nguyen Thanh Phong, chairman of the city People's Committee, said,

"Transformation of the growth model with a focus on innovation and advanced technologies is imperative to ensure the city's development and maintain its leading economic role in the country.

"The rapid development of technologies during the fourth industrial revolution with technologies such as big data, artificial intelligence and the internet of things offers a great opportunity for the city to carry out its plans to become a smart city.

"This is also the basis for the effective implementation of seven breakthrough programmes to fundamentally address the city's current challenges and orient its future development."

IT solutions on display at an exhibition held recently in HCM City (VNS Photo)

The city in collaboration with the World Bank organised a conference on domestic and international experiences in AI research and application last September, which made recommendations for building the foundation for an AI application eco-system in 2019-25.

AI would create the foundation for the smart city, he said.

Becoming a smart and innovative city would create a large market, offering motivation to IT firms to undertake research and development to supply advanced technology solutions, he said.

This would also help attract investment, creating added value for the economy and promoting the rapid and sustainable development of the city, he added.

According to the city Party Committee Secretary, Nguyen Thien Nhan, the city began to focus very early on information and communications technology.

It has built the very successful Quang Trung Software City, the largest software park in the country with 165 businesses and more than 11,000 IT engineers and other workers, he said.

"HCM City is the only place in the country that manufactures integrated circuits."

He said labour productivity in the ICT sector was almost double the city's average, and the sector contributed 4.44% to the city's economy and nearly became its key economic sector.

"Recently the city decided to create an innovative start-up area to offer the best conditions to start-ups, and so choosing HCM City to develop IT is the right option for businesses," he said.

According to the city Department of Information and Communications, there are more than 5,600 electronics and IT businesses in the city, or around 3% of all enterprises.

Le Quoc Cương, the department's deputy director, said the electronics-IT sector has achieved high growth rates in recent years, higher than the average rate of the four industries designated as key by the city.

With the Government targeting to boost digital economic development, the sector has much potential for development, he said.

To enable electronics and IT to become the city's key economic sectors, he said local authorities should urge the Government to create a legal system that suits modern businesses.

Phi Anh Tuan, vice chairman of the HCM City Computer Association, said the city should develop appropriate policies for the development of IT firms, create conditions for small and medium-sized enterprises to supply IT application services to the public sector and support start-ups, especially those using new technologies.

Nhan said the development of the IT sector is very important, and relevant agencies should find ways to increase the number of businesses in the sector.

How Asia can ride the digital wave to spur financial development

[ADB](), Bambang Susantono, January 2020

The 'app economy' provides potential risks and benefits for developing countries. The right policies are needed to bring out the best in these emerging economic trends.

As the digital economy, internet and smartphone technologies rapidly transform the way people communicate and do business, policymakers must act quickly and proactively if countries are to reap its potential rewards. For the digital economy to benefit everyone, policy actions must minimize emerging risks and prevent unintended consequences. They must address the potential for the rapid economic spillovers made possible by digital technologies and help ensure citizens can enjoy safe digital lives.

The statistics make clear the emerging trends. According to 2018 data from the International Telecommunications Union, more than half of the world's population now has internet access, mostly via smartphones, which today are the default platform for distributing digital services. In Asia and the Pacific, smartphone penetration has reached 61%, which is higher than the global average.

This has enabled the rise of the so called "App Economy" as a means of distributing content, new products and services or even entertainment. Internet access in India reached almost 50% by early 2019, driven by the availability of low-cost smartphones and wireless broadband service. In the Philippines, 68% of people have a smartphone.

The potential applications of digital innovations are immense. Many of these will affect the financial sector. Five trends are shaping the digital wave: intelligent systems, big data, cybersecurity, shifting regulations, and digital workplaces. In addition, three innovations can help illustrate the transformations possible in financial services.

The first innovation is distributed ledger technology, with the best known example being blockchain. Central banks in Japan, Thailand, Singapore, and Cambodia are researching or experimenting with wholesale digital currency using this technology.

Second is artificial intelligence and machine learning, which could result in machines executing repetitive tasks with precision while automatically learning and improving user experiences without explicit programming. Meanwhile, the private sector is also leveraging "big data" to establish new connections, enhance efficiencies, and improve customer service and value. For example, one of the largest banks in Singapore and Malaysia has been successful with its customer-focused big data initiatives.

The third is the open application programming interface (API)—allowing one bit of software to communicate with another. This can allow businesses, including in the

financial sector, to make certain functions and data available to both internal users and the outside world efficiently and effectively as well as safely and securely.

Many countries in Asia are grappling with a digital economy that is growing faster than the regulations needed to manage it (Photo: Jens Johnsson)

Amid all this change, cyber threats have grown in scope and scale, particularly in financial services. Research estimates that cybercrime may have cost the world US$600 billion in 2017—nearly twice the US$337 billion lost from natural and man-made disasters in the same year.

Governments, businesses, and individuals must therefore stay abreast of the latest techniques for keeping ahead of cybersecurity threats. Indeed, financial institutions are getting better at mitigating risks as they continue to take firm steps to improve defenses. Regulators and supervisors should also strive to shift priorities towards preventing the adverse effects of cyberattacks on financial systems.

Governments in India, the Philippines, and Nepal, for example, are using technologies called "regtech" and "suptech" to strengthen their regulatory and supervisory roles. The application of these technologies is particularly important to financial services. Some central banks are also utilizing regulatory sandboxes to test new approaches to identify gaps. This includes the Philippine central bank, which earlier in 2019 invited Cantilan Bank to participate in its sandbox as Cantilan Bank migrated its core banking system to the cloud.

In addition, the impact of digitization on workplaces needs to be analyzed. Technology will increasingly allow routine tasks to be performed by robotics and machines, which will affect the types of jobs available. Upskilling of workforces to equip them for future jobs will therefore be essential.

On the plus side, digital technology can enhance development across Asia, and ADB is striving to take advantage. Between 2010 and 2018, the organization supported 315 projects through loans and technical assistance that included digital components, across all sectors and regions. Typical digital components included systems for smart energy grids, smart water, intelligent transportation, and remote health services. In the finance sector, we have explored digital solutions for identification and know your customer, core banking in the cloud, as well as microfinance. Future priorities include building out networks, supporting ID and payment systems, and facilitating the Internet of Things in infrastructure sectors.

To help policymakers in Asia navigate the challenges posed by digitization, they might consider policies in the following three areas.

First, careful policy action is needed to minimize risks and prevent unintended consequences. This can allow consumers, companies, and policymakers to balance enabling innovations with policies that address the accompanying risks. Information security, data, consumer protection, and financial stability must take priority.

Second, quick and innovative policy efforts across countries must address the potential for rapid economic and financial spillovers arising from fast digital technologies. As Asian financial markets are increasingly interconnected to global and regional financial markets, digital technology will accelerate the potential spread of financial contagion. The existing ASEAN+3 finance process can be used for regular policy discussion for Asia's fintech policy development and financial stability.

Finally, countries need to adopt inclusive digital strategies to tap the full potential of digital technologies so that everyone can enjoy productive and safe digital lives.

30% of top 500 Chinese companies to set up CTO by 2023, IDC

China Daily, Sun Chi, 11 December 2019

"As many as 30% of top 500 Chinese enterprises will set up the position of chief trust officer (CTO) by 2023," said IDC China vice-president and chief research analyst Wu Lianfeng in Beijing during the IDC FutureScapes 2020, an annual forum focusing on China's information and communication technology (ICT) market.

The CTO will handle trust problems in a digitally highly developed world such as security risks, privacy and mortality , Wu added, deeming establishing trust in a highly digitization society or digital trust is extremely important against the background that every businesses will heavily use digital technology.

"Global GDP generated by digitization will reach US$46 trillion, accounting for 46% of the economic aggregate," said IDC China managing director Kitty Fok, predicting that digital transformation will enter 2.0 era in the next five years.

She said trust will be redefined in driving the 2.0 era of digital transformation jointly with AI, cloud computing, automation and applications in other fields.

"As the cloud computing is popularizing, the IT resource of an enterprise not only is the internal resource but also becomes external resource shared on a public cloud, we should take the risk it brings about into account," said vice-president of IDC China Zhong Zhenshan.

"The refinement in digital trust system will at same time fuels the development of network security," said Zhong. "By 2023, the Chinese network security market will expand to US$17.9 billion."

A sound establishment in digital trust will achieve the next generation enterprise, which is one of the 10 predictions of the Chinese ICT market for the next five years by the IDC China.

The 10 latest predictions cover digitization booming, digital product service, CIO, AI, 5G and more ICT fields.

The IDC FutureScapes 2020 discusses China's information and communication technology sector in Beijing on Dec 10. (Photo provided to chinadaily.com.cn)

About CACCI:

Founded in 1966, the Confederation of Asia-Pacific Chambers of Commerce and Industry (CACCI) is a regional non-governmental association principally composed of the national chambers or associations of commerce and industry in Asia and the Western Pacific. Its current membership of 29 countries and independent economies cuts across national boundaries to link businessmen and promote economic growth throughout the Asia-Pacific region. CACCI holds Consultative Status in the Roster Category of United Nations' Economic and Social Council (ECOSOC)