ASIA-PACIFIC

Artificial Intelligence (AI) Solutions

According to International Data Corporation's (IDC) latest Worldwide Artificial Intelligence Spending Guide, Asia/Pacific's* expenditure on artificial intelligence (AI) systems (including hardware, software, and services) will increase from $20.6 billion in 2022 to around $46.6 billion in 2026. AI solutions have become an essential part of process improvement and business decision-making, assisting organizations in keeping up with market viability. IDC forecasts a compound annual growth rate (CAGR) of 23.7 percent for 2021-2026.

"Pre-trained natural language and computer vision models have contributed largely to the 1st wave of adoptions. It's time for more organizations to tap into their own data asset and start managing the "data to intelligence" lifecycle. This will become one of the differentiating capabilities for companies to compete in the digital-first era," says Jessie Danqing Cai, Associate Research Director, Artificial Intelligence, IDC Asia/Pacific.

Dependence on online services and their usage and customer assistance enabled by AI have improved rankings of professional services. Banking will keep investing in AI solutions as market risks and threats increase; AI-enabled apps that boost threat intelligence and fraud analysis will help reduce the risk. As a result of the current economic volatility and rising resource scarcity, discrete manufacturing will be the next major industry to invest in AI solutions to maintain production quality and minimize errors. State/local and federal/central government is the next biggest spender on AI solutions, focusing on public safety and emergency response, defense, terrorism, investigation, and government intelligence systems.

By 2026, spending on the top 5 use cases will have doubled, rising from $8.3 billion to $18.5 billion. With the present industrial digitalization, AI adoption across industries has become necessary for a competitive advantage. For example, augmented customer service agents reduce the time and resources required to resolve customer issues. Smart business innovation and automation optimize and streamline complex business tasks, enabling better decisions by incorporating more data into the decision-making process. Sales process recommendations and enhancements will aid in the smooth flow of the sales process and IT optimization to automate time-consuming software maintenance tasks. Augmented threat intelligence and prevention systems help identify threats for the digital business setup and take preventive measures to avoid critical data threats.

Hardware will be the leading technology, accounting for more than 54.2% of AI spending; the most significant investment areas will be servers, accounting for more than 86% of total expenditure, while the rest will go toward storage. Software is the second leading technology, with 29% of AI spending. AI platforms and applications account for 52% of total software spending. The rest of the AI spending goes to services technology, 77% of the total AI spending in services goes toward IT services, and the rest is under business services.

China is the leading country in AI spending in Asia/Pacific*, expected to reach nearly $26.6 billion by 2026. Enterprises' demand for AI solutions has increased drastically. Digital transformation and policies are one of the factors for the rise in AI-enabled industries.

Australia is the second leading country in AI spending, expected to reach $5.7 billion by 2026. The use of AI solutions in enterprises is increasing as it is critical in business decision-making and data process improvement.

India is the next leading and fastest-growing country, with an expected CAGR of 33.5% in AI spending of $3.4 billion. Digital transformation, government initiatives, customer experience, and cloud adoption are some of the factors that influence enterprise adoption of AI solutions.

The Republic of Korea will be the next spender on AI solutions, which is expected to reach $2.9 billion by 2026. The South Korean government is constantly assisting businesses in adopting AI technologies by establishing AI hubs and education and training programs for developing AI skills.

The Worldwide Artificial Intelligence Spending Guide sizes spending for technologies that analyze, organize, access, and provide advisory services based on a range of unstructured information. The Spending Guide quantifies AI opportunities by providing data for 29 use cases across 19 industries in 9 regions and 32 countries. Data is also available for the related hardware, software, and services categories.

**Asia/Pacific excluding Japan*

https://www.idc.com

CHINA

R&D spending intensity built in 2021

China's research and development (R&D) spending intensity, or the expenditure on R&D as a percentage of its gross domestic product, built up to 2.44 percent in 2021, is shown by a yearly statistical bulletin. The rate, jumping from 1.91 percent in 2012, ranks the top among developing countries and is higher than the European Union's average level, said Liu Huifeng, a researcher from the Chinese Academy of Science and Technology for Development.

In 2021, China invested 2.8 trillion yuan (about $405 billion) in R&D, rising 14.6 percent over that of 2020. Among it, over 2 trillion yuan, or nearly 77 percent, was funded by the enterprises, according to the country's R&D bulletin released in 2021. According to Liu, China is expected to spend more than 3 trillion yuan on R&D in 2022. Liu added that China's R&D spending from the corporate sector was the second largest in the world last year.

As per the bulletin, the country's investment in basic research in that year totaled 181.7 billion yuan, a 23.9 percent year-on-year increase. It accounted for 6.5 percent of the overall R&D spending, maintaining a 6-plus percentage growth for three consecutive years. Provincially, the R&D spending in Guangdong,

Jiangsu, Beijing, and Zhejiang stood in the first echelon, exceeding 200 billion yuan each. According to the bulletin, a slew of provinces in central and western China, including Hubei, Hunan, Sichuan, and Henan, rose to the 100-billion-yuan club in R&D spending,.

http://www.china.org.cn

Basic research spending

Basic research accounted for 6.5 percent of China's overall R&D expenditure last year as the country moved closer to its goal of 8 percent by 2025. In all, the country spent 182 billion yuan ($26.4 billion) on basic research in 2021, an increase of nearly 24 percent from the previous year, according to data released by the National Bureau of Statistics. The growth rate was well above the 9.8 percent increase from 2019 to 2020.

In 2020, basic research accounted for 6.01 percent of China's overall R&D expenditure. Basic research aims to understand better the fundamentals of how nature works, such as astronomy and mathematics. It often has no immediate applications but can form the basis of scientific and technological innovation.

https://www.scmp.com

Blockchain patent applications

According to the most recent data released by a Chinese government official, China accounts for 84% of all blockchain applications filed worldwide. China has avoided the bitcoin market. However, the Chinese government has backed the underlying blockchain technology. Over the years, the country has actively encouraged the use of blockchain technology, therefore the high rate of blockchain patents is not surprising.

President Xi Jinping has also been instrumental in advancing the fledgling blockchain technology. In 2019, the President urged citizens, tech businesses, and ecosystem stakeholders to actively participate and develop emerging technology, as it will play a critical role in the future of the next industrial revolution. As previously revealed by Cointelegraph, Chinese companies submitted 4,435 blockchain patents within a year of President Xi Jinping's encouragement of the industry. According to another report, from 2015 to June 2021, China accounted for nearly 60% of the world's blockchain patent applications, followed by the United States and the Republic of Korea.

While China has the most blockchain patent applications, the approval rate is extremely low, with only 19% of total filed applications being approved, according to the South China Morning Post, Cointelegraph states.

https://www.financialexpress.com

INDIA

Programme for development of semiconductors and display manufacturing ecosystem

The Cabinet, chaired by Prime Minister, Shri Narendra Modi, has approved the following modifications in the programme for development of semiconductors and display manufacturing ecosystem in India:

Fiscal support of 50% of Project Cost on pari-passu basis for all technology nodes under the Scheme for Setting of Semiconductor Fabs in India.

Fiscal support of 50% of Project Cost on pari-passu basis under the Scheme for Setting of Display Fabs.

Fiscal support of 50% of Capital Expenditure on pari-passu basis under the Scheme for Setting of compound semiconductors/silicon photonics/sensors fab and semiconductor ATMP/OSAT facilities in India. Additionally, target technologies under the scheme will include discrete semiconductor fabs.

Under the modified programme, a uniform fiscal support of 50% of Project Cost shall be provided across all technology nodes for setting of semiconductor fabs. Given the niche technology and nature of compound semiconductors and advanced packaging, the modified programme shall also provide fiscal support of 50% of capital expenditure in pari-passu mode for setting of compound semiconductors/silicon photonics/sensors/discrete semiconductors fabs and ATMP/OSAT.

The programme has attracted many global semiconductor players for to set up fabs in India. The modified programme will expedite investments in semiconductor and display manufacturing in India. On the basis of discussion with potential investors, it is expected that work on setting of the first semiconductor facility will commence soon.

An Advisory Committee comprising global experts from industry and academia was constituted to advise India Semiconductor Mission—the nodal agency for the programme for the development of semiconductors and display manufacturing ecosystem in India. The Advisory Committee has unanimously recommended uniform support for all technology nodes of silicon semiconductor fabs/silicon photonics/sensors/discrete semiconductor fabs and ATMP/OSAT, which the government has accepted. The technology nodes of 45 nm and above have high demand, inter alia driven by automotive, power, and telecom applications. Moreover, this segment constitutes around 50% of the total semiconductor market.

https://pib.gov.in

R&D services exports

The fourth edition of SDG Pulse, the annual statistical publication of the United Nations Conference on Trade and Development (UNCTAD) states that India is the fastest-growing R&D services export hub globally. The country is also a leading R&D investor among developing countries if China, the world's second-largest investor in R&D after the United States, is excluded from the list.

SDG Pulse gives an update on developments relating to the UN's 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs). R&D service export statistics are covered under the ninth SDG, which tracks sustainable industrialization and higher technologies. The SDG Pulse data shows that India's annual average growth of R&D services exports during 2015-2020 was 32.2%, ahead of the second fastest-growing R&D services exporter, Ireland, which grew 25.7% during the same five-year period.

In absolute value terms, with $5 billion worth of exports in 2020, India's position was among the top 10, though nowhere close to the U.S., Germany, or China—the leaders in global R&D exports. While the U.S. exported $45 billion worth of R&D services in 2020, Germany exported $25 billion worth of services. The SDG Pulse data did not have the Chinese figures for the comparable year though it mentioned the country remains a leading player based on its past years' performance.

According to the report, innovation is increasingly traded internationally and global R&D services exports expanded by an estimated 5% annually between 2015 and 2020, outpacing the average 2% growth of total trade in services. "In 2020, countries exported about $172 billion worth of R&D services. The top-ten R&D exporters accounted for 77% of the total; the top three held 49%. Seven out of ten leading R&D services exporters also belonged to the top-ten R&D services importers. They were also part of the world-leading recipients of charges for the use of intellectual property. Among developing economies, prominent exporters of R&D services include China, India, Singapore, Brazil, Turkey, and Malaysia," the report says.

In the case of R&D investments, SDG Pulse points out that despite the growth of world R&D investment in absolute terms, global R&D intensity remained at 1.7% of GDP from 2013 to 2018. "Israel (4.9 %) and the Republic of Korea (4.5 %) were the most prominent R&D investors relative to GDP, followed by Switzerland (3.4 %) and Sweden (3.3 %). The United States of America invested 2.8 % of its GDP in innovation, and China 2.1 %," it says. In PPP-adjusted value terms, India's investment of $59 billion—though 0.7% of its GDP—was the highest among developing countries excluding China.

The report also quoted WIPO's Global Innovation Index to state that while Switzerland, Sweden, and the United States remained the top performers in innovation in 2020, Singapore, China, and the United Arab Emirates ranked the highest, followed by Malaysia, Turkey, Thailand, Viet nam, and India ranked highest among the developing economies, the latter five being described as progressing fast or above expectations based on their income level.

https://www.fortuneindia.com

INDONESIA

Personal data regulations approved

The Bill for the Protection of Personal Data (PDP) in Indonesia has been adopted by the House of Representatives and the Government. The House will send it to the President for ratification and publication in the State Gazette. The Minister of Communication and Information, Johnny G. Plate, declared, on behalf of the President of the Republic of Indonesia, Joko Widodo, that Indonesia is the fifth country in ASEAN to have a comprehensive legal framework for personal data protection. Minister Johnny underlined that the establishment of the PDP Law will ensure citizens' rights in accordance with the mandate of the Republic of Indonesia's 1945 Constitution.

Ratification of the PDP Bill is a piece of practical evidence that the Constitution's mandate has been realized. The PDP Bill will increase the government's role and authority in enforcing and regulating the compliance and obligations of all parties who process personal data, both public and private.

According to Minister Johnny, the PDP Law is a form of the state's presence in preserving citizens' fundamental rights in the digital sphere from a state and government perspective. He underlined that the PDP Law would provide a more comprehensive, robust, and forward-thinking legislative framework for personal data protection. He emphasized that, from the perspective of the law, the PDP Bill also ensures equality and balances the rights of personal data subjects with the responsibility of the Personal Data Controller.

Minister Johnny claimed that ratifying the PDP Law would increase the trust and acknowledgment of Indonesia's leadership in global data governance. According to him, Indonesia would become the sixth ASEAN country to have a complete Personal Data Protection law framework. This is consistent with Indonesia's efforts in the G20, where the G20 Digital Economy Working Group launched the adoption of three principles in data-free flow with trust and cross-border data flows, including lawfulness, fairness, and transparency.

Minister Johnny praised members of the Indonesian House of Representatives for their efforts in ratifying the PDP Law. The judgment on the PDP Bill is significant and has been anxiously anticipated by many parties. State institutions, law enforcement, the commercial sector, the digital ecosystem, platforms, social media, and the Indonesian people all play an important role.

The PDP Law will consist of more than 70 articles organized into more or less 15 chapters. These articles and chapters will discuss in-depth data ownership rights and data usage limitations as well as the acquisition, storage, processing, and transfer of personal data of Indonesian users. Because Indonesia is an integral part of the global economy and attracts millions of tourists each year, businesses must immediately adjust their operations to comply with the PDP Law.

The bill applies to companies within and beyond the territory of Indonesia whose actions have legal implications within the territory of Indonesia; affect Indonesian citizens both within and outside the territory of Indonesia. In addition, the PDP Law will have repercussions for local businesses in the nation as well as global corporations that do business with Indonesian consumers. It will also apply to all registered companies conducting business with Indonesian citizens, regardless of where they are registered. Thus, whether a business is public or private, domestic, or foreign, the PDP Law will automatically apply if it handles the personal information of Indonesian residents. The new PDP Law is anticipated to apply to all industries, introducing extensive requirements on electronic and non-electronic personal data protection.

https://opengovasia.com

Pharmacy, medical devices dictionary to standardize data

The Pharmacy and Medical Devices Dictionary (KFA) was formally introduced to participants of the recently held National Forum for the Independence and Resilience of the Pharmaceutical and Medical Devices Industry led by the Indonesian Ministry of Health (Kemenkes) after passing through the development and data input processes since the end of 2021.

KFA was developed by the Directorate General of Pharmacy and Medical Devices in collaboration with the Centre for Data and Information – Digital Transformation Office (Pusdatin-DTO) to standardize data on pharmaceutical products and medical devices for the pharmaceutical industry, the medical device industry, government agencies, and health care facilities on a national scale.

"The existence of this KFA is expected to be a reference solution for pharmaceutical dictionaries and medical devices so that more accurate and precise analysis of pharmaceutical data and medical devices can be carried out in order to meet the needs and availability of pharmaceutical products and raw materials or medical devices, especially in conditions of disease outbreaks or natural disasters," says Setiaji, Chief of Digital Transformation Office, Ministry of Health.

Because there were no data standards during the early stages of the Covid-19 epidemic, it was challenging to integrate data on the needs of the product supply chain. This was owing to the shortage of medications and medical devices that resulted from a considerable spike in demand for a certain period. As a result, the nation requires a platform to combine and standardize different data on medications, drug raw materials, and medical devices.

KFA is an innovation that provides information on pharmaceutical items and medical devices in the form of a web browser tag as the KFA Browser. Manufacturers, distributors, and the public can now use the KFA Browser to search for standardized reference pharmaceuticals and medical equipment, which can then be accessed via a website.

Every pharmaceutical product and medical device registered in the KFA Browser will have a single unique code that works as an identifier to distinguish it from others. Visitors to the KFA Browser site can access product information data and its hierarchy using this code.

Around 4,569 product data have been successfully entered into KFA Browser to date. The figure will continue to grow in the future until it meets the aim of 133,101 total product data submitted and shown in the KFA Browser by the end of this year. In the future, KFA Browser will be linked to SATUSEHAT, a platform for facilitating the exchange of health data and information between hospital systems, laboratories, pharmacies, and independent clinics.

Meanwhile, the Ministry of Health recently announced the Biomedical & Genome Science Initiative (BGSi) to provide precision medical services to the people. BGSi is the first national initiative programme established by Health Minister Budi Gunadi Sadikin, to develop more appropriate community treatment. The process, known as whole genome sequencing, is based on the technology of gathering genetic information (genome) from humans and diseases such as viruses and bacteria (WGS).

According to the Minister of Health, the development of the WGS is in line with the transformation of biotechnology in biosurveillance activities and health services aimed at enhancing disease detection and better treatment. Previously, the WGS approach was adopted and played a key role in COVID-19 prevention in Indonesia.

https://opengovasia.com

ISLAMIC REPUBLIC OF IRAN

Nanotechnology patents

IRNA reported that Iran ranked 24th in 2021 for its patents registered in the United States Patent and Trademark Office (USPTO). According to the national nanotechnology development headquarters, Iran patented 307 innovations by the end of 2021 at registration offices in the United States and Europe. The patents related to nanotechnology at USPTO were 21 in 2021, while 34 other innovations were also registered in the office.

A comprehensive report on the development of the nanotechnology sector reveals that the country exported $553 million worth of nanotechnology products in the Iranian calendar year 1399 (March 2020-March 2021).

According to the report, 12,199 articles related to nanotechnology were indexed by Iranian researchers in the Web of Science (WoS) in 2021, equaling 41.5 percent of total nanotechnology articles published that year. These figures put Iran at fourth place in the world compared to the year 2000, in which Iran had published just eight articles in the field of nanotechnology, ranking the country 58th in the world. The ratio of nano-articles to the total number of articles published in Iran is the highest in the world, highlighting the amount of attention and priority given to nano-sciences in the country.

According to StatNano, nearly 202,000 nano-articles were issued in Journal Citation Reports (JCR) indexed journals, accounting for approximately 8.2 percent of the total articles indexed in WoS in 2021. Alternatively stated, about 8 percent of all scientific publications across the globe are in the field of nanotechnology. In terms of the ratio of nano-articles to the total number of articles, Iran still possesses the highest share in this index with 18.7 percent of the total articles falling in the category of nanotechnology.

Iran ranked 43rd among the 100 most vibrant clusters of science and technology (S&T) worldwide for the third consecutive year, according to the Global Innovation Index (GII) 2020 report. The country experienced a three-level improvement compared to 2019.

Nanotechnology's trend of development is growing in Iran, as the number of nano-products and equipment developed in the

Iranian calendar year, which ended March 20, 2021, increased to 750, compared with 647 a year before. Some 223 product manufacturing companies and 59 equipment manufacturing companies are active in the field of nanotechnology, and by the end of last year, which developed a total of 750 products and equipment. At the start of a national plan to develop the nanotechnology sector 15 years ago, more than 5,283 billion rials (about $19 million) were allocated to nanotechnology projects.

Iran's nanotechnology products are generally classified into three groups of goods, services, and equipment, and the service sector has grown by nearly 130 percent over the past year (March 2020-March 2021). Reports show that the largest share of the Iranian nano market, equivalent to 96 percent, belongs to goods. The service sector has grown by about 130 percent last year, from 443 billion rials (nearly $1.6 million) to 1 trillion rials.

https://www.tehrantimes.com

PHILIPPINES

Virus R&D funding

Funding for virus research has been raised by 58.14% to P419.3 million to support the establishment of the Virology and Vaccine Institute of the Philippines, the Department of Budget and Management (DBM) said. "We need to be proactive and fund a Virology Institute composed of highly-trained experts who will conduct studies on emerging virus strains as quickly as possible and prepare us in case of health emergencies," Budget Secretary Amenah F. Pangandaman said in a statement.

In his first State of the Nation Address last July, President Ferdinand R. Marcos, Jr., cited the creation of the institute as a legislative priority. Speaking in his budget message, Mr. Marcos said that the coronavirus disease 2019 (COVID-19) pandemic highlighted "the need for faster identification of and response to outbreaks."

"At present, the Department of Science and Technology's (DoST) Industrial Technology Development Institute (ITDI) and the Research Institute for Tropical Medicine (RITM)" have taken the lead on virus-related medical and scientific research, the DBM said. Specifically, these research projects include the identification of viruses in the Philippines with pandemic potential, tests on combination therapy for drug-resistant bacteria, the development of diagnostics for food- and waterborne bacterial pathogens, and an on-site detection method for African swine fever.

The 2022 General Appropriations Act also sets aside P360.5 million to establish the institute, including its operations to a second year, and P356.2 million to acquire scientific and laboratory equipment and vehicles.

https://www.bworldonline.com

Technology startups

The Philippines now hosts over 50 technology startups that are expected to help develop the country's AI ecosystem, which if further developed, has the opportunity to contribute $92 billion or 12 percent of the country's economy by 2030. This was revealed by Trade and Industry Undersecretary Rafaelita Aldaba at the Italy-Philippines Business Forum as DTI urged Italian businessmen to consider the business opportunities in the country and improve trade and business relationships between the two trading partners.

In terms of investments, Aldaba said that the past three years have seen a slowdown in investment inflows from Italy. So far this year, Italian investments in the Philippines stood at $380,000 only compared to about $3 million pre-pandemic. There are also 13 Italian firms registered with the Philippine Economic Zone Authority with total investments of P700 million. In terms of trade, Philippines exports to Italy recently grew by 14.36 percent from more than $203 million in 2020 to more than $232 million in 2021.

One of the DTI's flagship initiatives that would drive digital transformation is the establishment of an Industry 4.0 Pilot Factory, which will host pilot, demonstration, and learning laboratories for Industry 4.0 technologies, such as robotics, intelligent manufacturing systems, and cyber-physical systems. It will serve as a technology platform for various stakeholders and a training and research hub where industries can have hands-on experience with Industry 4.0 applications.

The proposed facilities that the Industry 4.0 Pilot Factory will house a demo and digital experience center where technology providers can showcase use-cases of their products, learning and co-working spaces where trainings and collaborative discussions can be conducted, an application and design hub where in-house applied R&D can be executed, exhibition centers for the conduct of events, and a prototyping sandbox where researchers and companies including subject-matter experts (SMEs) can develop proofs of concepts. To complement the Industry 4.0 Pilot Factory, DTI said it will also establish the Center for AI Research (CAIR) under the National AI Roadmap with the goal of making the Philippines an AI center of excellence.

To support the development of a robust startup ecosystem, which is composed of young, energetic, and tech-savvy population, the government is also implementing various incubation and acceleration programs, as well as funding, and market access programs to support innovative startups in all stages of development with the goal of growing homegrown tech giants.

Together with other government agencies, the DTI is also implementing the Philippine Skills Framework (PSF), which seeks to develop a common language that employers, workers, and training institutions share in order to address skills mismatch. To date, three industry-specific PSFs have been launched: supply chain and logistics, game development, and digital arts and animation. Two cross-sectoral PSFs on business development and human capital development have also been formulated.

In order to diffuse innovation in all parts of the country, the DTI is also establishing Regional Inclusive Innovation Centers (RIICs), which serve as platforms to connect stakeholders in the regions to

collaborate and advance innovation and entrepreneurship to drive regional industrialization.

https://mb.com.ph

Rules and regulations for patents, utility models, and industrial designs 2022

The Intellectual Property Office of the Philippines (IPOPHL) has announced a Revised Implementing Rules and Regulations (IRR) for Patents, Utility Models, and Industrial Designs that came into force on 20 September 2022.

Some notable key changes to the IRR are as follows:

- A general or specific power of attorney is now required at the time of filing. Failure to submit a power of attorney at the time of filing may result in the application being deemed incomplete.
- Notarization is no longer required for general powers of attorney and e-signatures are now acceptable.
- A summary of the invention section is now a required part of the description and lack of a summary of the invention section may result in the application being deemed incomplete.
- An application that is deemed incomplete will not be accorded a filing date. The filing date will be accorded as the date when all the requirements for a complete application have been met.
- Excess claim fees must be paid in full at the time of filing and multiple dependent claims, as well as claims directed to genus, species, and Markush type claims will be subject to claim fees.
- A one-month grace period from the notice of deficit in payment is available to pay any deficit claim fees, and failure to pay the deficit claim fees in full within the grace period will result in deletion of the unpaid claims.
- Voluntary divisional applications can now be filed within four months from the date of grant or withdrawal of the parent or earlier divisional application.
- When a requirement to divide due to a lack of unity objection is made final, it is now possible to appeal the requirement and request that the four-month period to file mandatory divisional applications starts only after the appeal is resolved.
- The deadline to file a mandatory divisional application from an original parent application is four months from the date the requirement to divide is made final, or four months from the date of the decision of the appeal.
- In the case of a mandatory divisional application based on an earlier divisional application, the deadline to file is four months from the date the requirement to divide is made final, or four months from the date of election.
- A two-month extension is available to file mandatory divisional applications.
- There is now only one two-month extension available for responding to office actions, instead of two.
- It is now possible to request for accelerated examination after the application is published and the request for examination has been filed.
- The period for filing an appeal against the refusal of an application has been shortened to two months from the mailing date of the notice of final refusal instead of four months.
- The period for filing a petition to revive a withdrawn application has been shortened to three months from the mailing date of the notice instead of four months.

https://www.mondaq.com

REPUBLIC OF KOREA

R&D digitalization

The Republic of Korea will spend 200 billion won ($144 million) on digital integration strategy projects over the next five years to shorten the time researchers take to solve complex problem surrounding new technologies by decades, states the Ministry of Science. According to the ministry, the government will use the financial support for projects that integrate AI, Digital Twin and Big Data, into developing diagnoses of diseases such as intractable cancer and dementia, nine new materials, and prediction models of changes in space.

The ministry plans to increase the number of smart laboratories such as AI robot material labs and bio foundry facilities. The government will look to strengthen support for advancing the infrastructure of collecting, sharing, and utilizing research data by setting up and operating a quality checking center for research data. The ministry will develop over 40 data analysis models for various research purposes including designing antibodies and diagnosing diseases through reviewing protein data as well as predicting synthesis probabilities based on material data. In order to secure core research personnel, the ministry will expand data science education for 1,000 postgraduate and doctorate students by 2028. The ministry will also provide AI education for some 8,000 researchers at government-funded research institutes through 2027.

https://www.koreaherald.com

Digital competitiveness

"We will bring up our global (artificial intelligence) competitiveness to No. 3 in the world and double the data market size to 50 trillion won ($34.7 billion) or bigger," said President Yoon Suk-yeol as he chaired the eighth pangovernmental meeting on economy and people's livelihood at the Kimdaejung Convention Center in Gwangju. The Republic of Korea's AI competitiveness is ranked sixth in the world, Yoon said, referencing Stanford's AI Index Report from 2021.

The announcement of the blueprint followed Yoon's consecutive speeches on the importance of combined efforts to decrease the digital gap across the world at the United Nations General Assembly and the role of digital technologies in expanding freedom for all at the Digital Vision Forum held by New York University in New York.

Under the blueprint, the Ministry of Science and information and

communication technology (ICT) set out five main strategies and 19 objectives. The strategies focus on securing world-leading digital abilities, expanding the digital economy, creating a digitally inclusive society, establishing a digital platform government, and innovating digital culture. The government will intensively invest in research and development for AI semiconductors, 5G and 6G networks, quantum, metaverse, and cybersecurity, the ministry said.

The Republic of Korea has allocated 1.02 trillion won for securing core technologies of AI semiconductors and 302 billion won for developing next-generation AI technologies by 2026. The plan includes fostering over 2,000 software service companies by 2027. According to the ministry, the government will aim to complete setting up the infrastructure for a nationwide 5G network by 2024 and secure the standard patent for 6G technology while pushing for a trial service of the world's first pre-6G network in 2026. The ministry expects the country to increase its competency in digital technology, industry, and talent under the blueprint to earn it a No. 3 spot on the Swiss International Institute for Management Development's (IMD) annual world digital competitiveness rankings in 2027.

According to the IMD's world digital competitiveness rankings, the Republic of Korea ranked eighth among the 63 countries assessed by the IMD. The Republic of Korea climbed four spots from the previous year's rankings. Of the countries with a population of 20 million or more, the Republic of Korea took the No. 2 spot, only behind the US. The IMD rated Seoul's adaptability to new technology as the world's best and the country's business agility as the second best among the 63 evaluated countries.

https://www.koreaherald.com

International standards about microgrid

A research team of Electronics and Telecommunications Research Institute (ETRI) has developed international standards for microgrid technology that maximizes energy usage efficiency through the convergence of electrical technology and ICT. The establishment of a stable and efficient energy utilization system is expected to serve as a solid foundation for the realization of carbon net zero.

ETRI said that two international standards for energy storage system (ESS) and demand response (DR), which are the key elements of the microgrid system, have been approved by the Technical Committee of the Electrical Energy Storage System (TC120), Industrial Process Measurement, Control and Automation (TC65) of the International Electrotechnical Commission (IEC).

The international standards for microgrid developed and established by ETRI this time are two items; the requirements and use cases for using ESS in power peak management and emergency power support, and the framework of demand response (DR)-based energy management system for industrial facilities such as factories.

Among the essential elements of the microgrid, the energy storage system stores the produced energy and then discharges the energy when electricity is not generated in the renewable energy sources or the amount of energy demand exceeds the pre-defined threshold to maintain a stable operation of microgird power systems. This prevents the waste of excess energy and enables the stable and efficient energy use.

The research team analyzed the structure of an emergency power support system based on the conventional diesel generator and developed the requirements and guidelines for applying ESS to the emergency power support system. The requirements and guidelines were presented in the approved international standard. The wider deployment of emergency power support system based on ESS is expected to significantly reduce carbon emissions compared to the conventional system. Moreover, it is the first approved IEC international standard for ESS developed by Korean experts in TC120.

https://www.eurekalert.org

SRI LANKA

National Instrument Database launched

The National Science Foundation (NSF) is the premier national institution delegated to promote science, technology, and innovation for socioeconomic development of the country. In keeping with its mandate and in order to advance a digital economy in Sri Lanka, the NSF recently embarked upon several novel initiatives. They included, among others, establishment of a global digital platform (GDP) to harness Sri Lankan expatriate scientists, technologists, entrepreneurs, and professionals for national development; construction of a National Instrument Database (NID) to promote R&D, industrial growth and exports; and taking steps for establishing a national digital library to provide academics and scientists with increased user-friendly access to scientific journals and databases in a cost-effective manner.

Sri Lanka has over 20 state-owned higher education institutions, a comparable number of R&D institutions, and several public-sector institutions, such as Sri Lanka Atomic Energy Board, Sri Lanka Standard Institute, and Board of Investment, which collectively possess an immense instrument base including high-end equipment, most of which has been purchased using public funds. Much of this equipment is meant to be used on a 24×7 basis, as is done in many parts of the world. However, due to compartmentalization and fragmentation of institutions, the "possessive attitude" of many scientists, the lack of a sharing culture, and the absence of an institutional policy and mechanism for providing analytical and testing services to external institutions and persons, many expensive items of advanced equipment and instruments purchased operate far below their capacity.

This database will contain information on the type of equipment, its model, year of manufacture, analytical and testing capabilities, location by means of a Google map, the turn-around time for sample analysis, cost of analysis, contact details, etc.

It is constructed in a user-friendly manner so that even a non-technical person can easily access it by indicating either the test required, for example aflatoxin, *Escherichia coli* (*E. coli*) bacteria, or heavy metal, or the name of equipment needed. This will enable the finder to find out the closest place available for sample analysis in a cost-effective and time-efficient manner. For instance, an industry, an SME, or a farmer in Mullaitivu may not need to send samples to Colombo for analysis but could get that done at the University of Jaffna or the University of Vavuniya, thereby avoiding a lot of hassle as well.

The NID will have information on analytical and testing facilities and parameters relevant to a wide range of samples, including ones of soil, water, air, food and beverage products, industrial pollution, food contamination, food safety, food hygiene, and material.

The NID, with its diverse and wide instrument base, will pave the way for establishing the required compliance infrastructure and capabilities in Sri Lanka. These will, among other things, promote exports, thereby enhancing foreign exchange reserves. This facility can also be used to monitor the quality of imported food and feed to the country, which is of prime importance given the spate of unhealthy and harmful imports to the country in the recent past. The import of large quantities of coconut oil contaminated with aflatoxin and fertilizers contaminated with heavy metal are two poignant examples.

This will ensure that edible products, both exported and imported, will be free of biological (e.g., salmonella, *E. coli* bacteria, etc.), chemical (e.g., pesticide residue, food additives, adulterants, etc.) and physical (e.g., glass, pieces of metal, plastic, or wood, etc.) hazards. This will protect public health, ensure the safety of consumers, and build the confidence of importers of Sri Lankan products, which will contribute to increasing forex reserves through improved exports and tourism.

Further, the NSF will work closely with institutions such as Sri Lanka Standards Institution (SLSI), Sri Lanka Accreditation Board (SLAB), and Measurement Units Standards and Services Department (MUSSD) to have a few selected laboratories accredited initially as per ISO/IEC 17025 standard in line with the high priority needs of the country concerning the key exports and imports. This will obviate any chance of shipments from Sri Lanka being returned due to non-compliance. This failure of compliance has, in the recent past, had a negative impact on Sri Lankan exports in a fiercely competitive globalized environment, and resulted in the payment of heavy demurrage to ships on account of the long turn-around time taken for quality testing.

In addition, the NID will provide more accessible and affordable opportunities for sample analyses resulting in improved cost-effectiveness and reduced turnaround time. This will thereby enhance the research culture, research accomplishments, and the output of postgraduates in higher education institutions in the country.

https://www.ft.lk

THAILAND

New patent e-filing system

In Thai Intellectual Property Law, patents are classified as the highest proprietary rights that give the owner the legal right to prevent others from manufacturing, distributing, using, or selling an invention for a certain period of time in a particular jurisdiction. Digital documents, as the permitted form of submission, improve the aforementioned safeguard by effectively providing enhanced access to the protection under Thai Intellectual Property Law.

Patent e-Document system

The Thai Department of Intellectual Property (DIP) has implemented the Patent e-Document system for use with the filing of patent and petty patent applications, effective from January 1, 2022. This aims to facilitate the filing of patent applications or amendments, promote environmental awareness (through paperless processes), and to expedite the registration process by allowing the advance submission of electronic files through the Patent e-Document system, but with certain criteria as follows:

1) This feature is only applicable to patent applications and petty patent applications as well as requests to amend patent and petty patent applications.

2) An e-Signature can be used in any document in accordance with the provisions under Section 9 of the Electronic Transactions Act B.E. 2544 (2001) as amended by the Electronic Transactions Act (3rd Edition) B.E. 2562 (2019). A scanned signature or signature signed electronically on electronic devices, for example using a stylus, are admissible.

3) This request to obtain a patent by way of the e-Document system will be considered as a patent application or petty patent application, or a request to amend a patent application or petty patent application once the user provides a reference number to an official of the DIP and pays the applicable fees as stipulated by law for each criterion.

4) The DIP will collect and maintain the files submitted into the system by the users with strict security measures for seven days following the date of issuance of the reference number. It will then be immediately erased from the system.

5) The applications filed through said e-Document system shall be examined in accordance with the current process stipulated by patent law and regulations.

The new e-Filing system

The DIP has implemented a new e-Filing system, effective from June 1, 2022, to support the operation of government officials as per the Licensing Facilitation Act B.E. 2558 (2015) and the "e-Payment Portal of Government" via the Comptroller General's Department under the Ministry of Finance.

With this new system, all patent applicants, including petty patents, designs, and any other types of applications or requests, can be filed via the e-Filing system; in such regard, they shall be deemed as being submitted instantly under the Patent Act B.E. 2522 (1979), without making reference

to the assigned number, but payment of the fees is required. However, the applicants will be required to follow-up on the application status and notification of orders, as well as rulings of the officials, the Director-General or the Board of Patents via e-Filing only.

Key points of e-Filing to be aware of

1) Once submitted, all information, even if it is inaccurate and/or incomplete, shall be deemed acknowledged and accepted by the applicant. Such inaccurate and/or incomplete information will be reflected in the memorandum of application.

2) Applicants must submit documents or evidence in accordance with the memorandum of application via the e-Filing system within 90 days following the date of application. Failure to proceed within such time period will be deemed as the applicant's intention not to proceed.

3) Any supporting evidence that cannot be converted into electronic data must be submitted to the officials at the DIP, Ministry of Commerce, or via registered mail within the prescribed period as stipulated by the Patent Act B.E. 2522 (1979).

4) The Applicants may be contacted to submit additional statements or to submit additional documents or items in support [Section 27 of the Patent Act B.E. 2522 (1979)] or by the Board of Patents [Section 73 of the Patent Act B.E. 2522 (1979)].

e-Payment

The payment of application fee and any other types of governmental fees must be made by no later than 11:00 pm on the day directly following the filing date via the e-Payment Portal system of the Thai Government. Failure to comply will be deemed as the applicant's intention to abandon the filed application or the filed request.

https://www.lexology.com

VIET NAM

New technology exchanges

Three national technology exchanges will be formed in the near future, facilitating connections with regional and global exchanges, as stated by Huynh Thanh Dat, Minister of Science and Technology. Speaking at a conference on developing an efficient, modern, and integrated science and technology market, Dat said, the exchanges will connect supply and demand, commercialize research products, and support organizations and individuals to display, demonstrate, exhibit, and promote transactions of scientific and technological products. The minister said it was necessary to build a shared database and portal on the science and technology market, invest in the development and application of tools for analysis, statistics, technology transactions, data processing, management, and connection of shared databases, digitization, and data integration.

"It was also necessary to establish a network and build a database of foreign and overseas Vietnamese talents who can contribute to the innovation and development of the Vietnamese science and technology market," Dat said. He said businesses will be supported to assess technology needs, create capacity and exploit intellectual property resources, analyze technology trends, and promote the use of technology to increase labor productivity.

Viet nam will move toward synchronizing the science and technology market with the commodity, labor, and financial markets. Enterprises will be supported to master technical standards and regulations and to protect and use intellectual property in negotiation, transaction, and purchase. The legal environment will be completed to promote international cooperation, especially technology transfer in priority sectors.

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