POLICY
WATCH

May 2019 | Quarterly Edition | Issue: 3

A newsletter that highlights policies, plans, programs and progress in the global geospatial community.

In focus this month are: ▶

Geospatial Technology Policies

Associated Technology Policies

WG C
World Geospatial Industry Council

Foreword

The This Quarterly issue of Policy Watch brings additional attention to a number of policies, strategies and initiatives that have been discussed in earlier editions of the newsletter. This edition also highlights any updates, particularly where financial information is now available.

In the Space sector, Canada has released its new Space Strategy with a focus on innovation and skills; the European Union (EU) and the European Space Agency (ESA) have signed a third amendment to the Copernicus Agreement which allocates 3.24 Billion Euro to the space component of Copernicus to 2021, primarily for development of the Sentinel-6 Satellite while ensuring easy access to reliable and timely Copernicus data; the Tamil Nadu, India Defense Industrial Corridor was inaugurated with investments of US $428 Million; the United Arab Emirates (UAE) approved a new Space Strategy focusing on public/private collaboration; the U.K. Space Agency (UKSA), with its LaunchUK initiative, plans to increase the share of the U.K. Space industry in the global space economy from 6.5% to 10% by 2030; and lastly, in order to advance their remote sensing capabilities, Vietnam has launched a National Remote Sensing Development Strategy with a Vision to 2040.

Much attention has been given to drones and the regulatory environment associated with the operation and collection of data from them. Both Australia and the U.S. have proposed new rules for drone registration and operations. Australia expects to implement these new rules calling for both drone registration and operator accreditation in July of this year. The proposed U.S. rule calls for external markings, i.e. a license plate to be displayed on drones – different from the current practice of maintaining this information inside the drone. As we look to the future, we will undoubtedly see more countries adopt further registration and operation rules and regulations.

This issue also showcases several initiatives on data – open data, data sharing, data privacy and data protection. Countries are realizing increased economic benefits from broader sharing of public data, and are implementing policies and programs accordingly. And while the trend for more open data is certainly positive, there are associated policies that are also being discussed. Brazil is creating a National Data Protection Authority; Saudi Arabia has undertaken a three-tiered Cloud First Strategy; and lastly with the introduction of the General Data Protection Regulation (GDPR) in Europe, there is much discussion about compliance and in the case of the U.K. creating Data Protection Impact Assessments (DPIAs) that may help validate the use of personal data.

This last topic is of particular interest to WGIC and its Policy Committee, who have recently undertaken an effort to examine impacts of legislation and regulations, like GDPR, in different global jurisdictions on geolocation privacy. Please feel free to contact me for additional information, and/or to name someone to the team working on this issue.

Barbara J. Ryan

Canada – Release of New Space Strategy for the Country

n early March 2019, the Canadian government decided to launch a plan to foster the innovation and skill building in the country. The Innovation and Skills Plan focuses on creating skills to help their working class keep up with contemporary technologies.

The infographic below explains the areas of impact included in the Plan.

CanCode Program	Help create digital and coding skills
Strategic Innovation Fund	Investments of Candian $8.1 Billion across all economic sectors
Innovation Superclusters	Help create jobs throug 2029 by investing Canadian $50 Billion
Connect to Innovate	Bring high speed internet to 900 rural and remote areas
Innovation Canada Platform	Connecting Requirements with services

In the past decade, the Government of Canada has recognized the importance of the space sector as a national asset of strategic interest. The government has committed investments of Canadian $2.6 Billion to the space industry. Further in 2018, another 100 Million was invested under the Strategic Innovation Fund to help increase the production of Low Earth Orbit Satellites and increase broadband connectivity.

Reports by Morgan Stanley forecast a global increase of 300% in the space economy to US $1.1 Trillion by 2040. The Innovations Superclusters and the Canadian $125 Million AI Strategy will help Canada remain a leader in the space industry, build the avant-garde AI-enabled deep-space robotic system, and foster innovation to increase investment and job creation.

SPACE

EU - ESA Allocate Additional €96 Million for the Copernicus Program

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At the 11th European Space Policy Conference, the third amendment of the EU-ESA Copernicus agreement was signed, resulting in an additional €96 Million (US $108.45 Million) for ESA's space component budget for Copernicus.

The additional budget builds upon the agreement signed between the EU and ESA on October 28, 2014 when over €3 Billion (US $3.39 Billion) was allocated to manage and implement the Copernicus 'space component' between 2014-2021. Under the seven-year plan of the EU, known as the Multiannual Financial Framework (MFF), approx. €4.3 Billion (US$ 4.86 Billion) was allocated for the Copernicus program for the period 2014-2021. Of this, approximately €3.15 Billion (US $3.4 Billion) is for ESA as both coordinator and operator of the Sentinel satellites until mid-2021.,

The third amendment expands the budget for Copernicus to €3.24 Billion (US $3.66 Billion) until 2021. The additional budget is targeted to develop the Sentinel-6 mission of Copernicus and ensure easy access to reliable and timely data to Copernicus users. Further, the budget shall enable innovation by way of creating a healthier economy for commercial users of Copernicus data.

SPACE

India – Tamil Nadu Aerospace and Defense Policy Warrants Large Investment

The Aerospace and Defense Policy launched for the State of Tamil Nadu, India in February 2019, is an ambitious document. The policy eyes investments of US $15 Billion across the next 15 years, in hopes of making the State the central hub for all aerospace-related activity in India.

In January, the Tamil Nadu Defense Industrial Corridor was inaugurated, with investments worth approximately Rs 3,038 (about US $428 Million), with the majority share coming from public sector undertakings. Additionally, the policy also highlights the need to increase the number of jobs and thus the State's contribution to the national domestic product, by creating approximately 100,000 opportunities for employment over the next ten years.

The strategic and timely launch of the new policy and its associated corridor, along with the promise for increasing high-skill employment will lead Tamil Nadu to attract higher investments over the next decade, validating the ambitious plan the State has for its aerospace and defense sector.

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SPACE

UAE- Cabinet Approves New Space Strategy

In March 2019, the United Arab Emirates (UAE) government approved and launched the National Space Strategy 2030. This Strategy is expected to be treated as a framework for function and regulation. This framework will highlight the activities to be carried out, and create a bridge for collaboration in the public and private sectors.

The National Space Strategy builds on the National Space Policy. It includes 6 objectives, 21 programmes, and 79 initiatives, which translate into focus areas and programmes benefiting more than 85 entities in the UAE. It is a culmination and adds to the National Space Policy, Higher Policy for Science, Technology, and Innovation, National Innovation Strategy, Future Strategy, and the UAE Vision 2021.

The Space Sector also plays an important role in the National Innovation Strategy being highlighted as one of the seven innovation priority sectors of the economy.

The UAE Space Agency will also be responsible for international strategy development and cooperation with over 20 agencies and space centers.
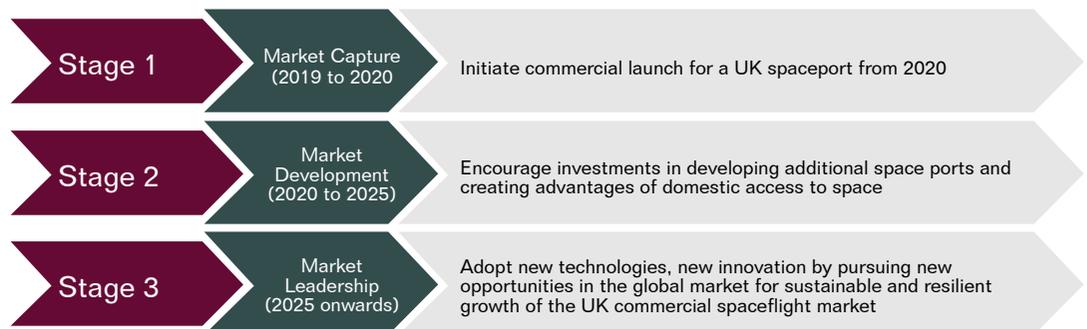
SPACE

UK - UKSA creates 'LaunchUK' and Announces Prospects Post-Brexit

In January 2019, with the confirmation of 'Brexit', the UK Space Agency (UKSA) realized the need to strengthen the local space industry to achieve its commercial launch ambitions. The launch of a new webpage, namely, LaunchUK on the official government website (gov.uk) has been an initial step to increase awareness of the effort. The website will provide insights on critical space legislation of the UK, such as the Outer Space Act of 1986 and the Space Industry Act 2018, along with the latest statistics on the space industry.

The official LaunchUK prospectus highlights the UK government's investment of £5 Billion in civil space activity between 1995 and 2015. Presently, the UKSA aims to increase the share of the UK space industry in the global space economy from 6.5% to 10% by 2030. To further its vision, the UKSA has allocated £50 Million (US $64.52 Million) for a small-satellite launch program, and another £600,000 (US $774,000) to the LaunchUK program.

In addition, the UKSA aims to create an enabling environment for the local space industry by initiating discussion with the industry, academia and research institutions to develop legislation to establish a productive and competitive commercial launch and spaceflight market. To support the ambition, the UKSA is providing grants worth millions of pounds to industry, drawing international agreements, easing license procurement processes, and by building educational opportunities for the space sector.

The three-stage plan of action for the UKSA is shown below:

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Stage 1	Market Capture (2019 to 2020	Initiate commercial launch for a UK spaceport from 2020
Stage 2	Market Development (2020 to 2025)	Encourage investments in developing additional space ports and creating advantages of domestic access to space
Stage 3	Market Leadership (2025 onwards)	Adopt new technologies, new innovation by pursuing new opportunities in the global market for sustainable and resilient growth of the UK commercial spaceflight market

SPACE

Vietnam – 'National Remote Sensing Development Strategy for 2030, Vision to 2040 Approved

To advance Vietnam's remote sensing capabilities, Prime Minister Nguyen Xuan Phuc approved the National Remote Sensing Development Strategy for 2030, Vision to 2040 document on February 1, 2019. The strategy falls under the umbrella of the Ministry of Natural Resources and Environment and went into effect upon signing. The Vision document provides a framework for the government and industry in Vietnam to co-develop the remote sensing sector.

The objectives defined under the strategy include:

- Develop and complete institutional arrangements such as policies, standards, data access laws, capacity development for remote sensing;
- Manufacture remote sensing satellites (optical and radar) by way of increased investments, establishing remote sensing data collection stations, investments in hardware and software to commercialize and democratize remote sensing data for socio-economic development;
- Create a regularly updated national remote-sensing image database with high-resolution remote sensing image data (updated annually) and ultra-high-resolution data (updated every 5 years); and
- Strengthen sharing of remote-sensing data among different government institutions, branches, organizations and individuals to enhance the use of remote sensing data.

The strategy aims to develop Vietnam's capability in the remote sensing domain by 2040 to match remote sensing technology (and its application) to the level of other regional economies and developing countries by way of increased investments within the country, and by creating a conducive environment for foreign investments.

DRONES

Australia- CASA Proposes Rules to Implement Mandatory Drone Registration

What does the rule mean for drone operators?

Commercial Operators:
All commercial drone owners/operators, are mandated to have their drones registered, irrespective of the size of the drone..

Recreational Operators:
All recreational users of drones are required to register their drones if it weighs more than 250 gms (0.55 pounds)

What is the annual cost of drone registration?

Commercial Use:
AUS$ 100-160 per drone, for commercial use per annum (US $71-114)

Recreational Operators:
AUS $20 for recreational use, per person, per annum (US $14)

The Australian Civil Aviation Safety Authority (CASA) has proposed new rules for drone registration and the accreditation of drone operators. The proposed regulations do not go into effect immediately but will be implemented gradually. The initial registration requirements are expected to be implemented by July 1, 2019.

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| 1 July 2019-RPA operator certificate (ReOC) holders (registration only) | Excluded RPA operators (Sub 2k and flying over personally owned land) (accreditation & registration) | Recreational drone operators (accreditation & registration) |

July 2019　　　　**Sept' 2019**　　　　**Nov' 2019**

DRONES

USA - FAA Rolls Out Interim Final Rule for Visible License Plates on Drones

On February 13, 2019, the Federal Aviation Administration (FAA) published the 'Interim Final Rule' titled, 'External Marking Requirements for Small Unmanned Aircraft'. The rule requires all drones to display 'license plates' on the exterior of the aircraft, similar to those of on-road vehicles. The rule builds on the Mandatory Drone Registration Program for small drones that came into effect in 2015, wherein the legislation provides flexibility to the drone operators to store the unique identification number in a compartment in the drone, as long as it was made available upon request.

The new rule has been issued to address recent concerns of law enforcement officials about the fear of explosives being concealed in the drone compartments that a first responder might find when checking a compartment for the registration. The rule aims at enhancing safety and security and mitigating the risk associated with first responders as checking the registration could now be done without opening a compartment.

The Interim Final Rule went into effect on February 25, 2019 and was open for comment until March 15, 2019. The final rule and any amendments will be determined after all comments are evaluated.

What is Interim Final Rule?

The FAA issues interim final rules when delaying implementation of the rule would be impractical, unnecessary, or contrary to the public interest.

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Balancing commercial possibility of drones vis-à-vis safety and privacy:

With remote identification of drones in place, the FAA in its regulatory framework on January 14, 2019 proposed a framework to allow drones overcrowded and populated areas. The proposed regulations may soon mandate drones to begin broadcasting a radio beacon of both owner and location. This inclusion in the policy is an advancement-of-note for it involves the inclusion of technologies like GPS chips and trackers even in drones and model planes intended for recreational use and delivery purposes. Additionally, the FAA is also considering rules to ensure safe flying at night and safe overhead flying in its current regulatory framework. The comments period closed on April 15, 2019.

MARITIME

UK – Maritime 2050, Strategy Published

To maintain its leadership position as a global maritime nation, the UK Hydrographic Office (UKHO) has adopted the 'Maritime 2050' Strategy. The Strategy was initially released in March 2018, with a call for evidence by the Ministry of Transport. After an almost year-long review, the Strategy was officially launched on January 24, 2019 at the International Maritime Organization (IMO) in London. In the Strategy, the maritime sector includes shipping, ports, services, engineering and leisure marine industries.

The ambitious Strategy focuses on ten core points:

- To increase capacity in professional services, such as maritime law, finance, etc.;
- To lead the development and deployment of Green Maritime Growth;
- To increase innovation in technology through maritime specific universities, SME's, etc.;
- To maintain status in Maritime Safety and Security Standards across the globe;
- To grow the maritime workforce and transform their diversity;
- To promote an efficient trading regime;
- To maintain the status quo for the multi-billion-pound maritime commercial activities;
- To strengthen its position as a leading country in the International Maritime Organization (IMO) and the International Labor Organization (ILO);
- Promote the UK centric maritime cluster offer; and
- To showcase its offerings to the world.

In short, the strategy is a set of tactical ambitions for the government, the industry, and the maritime sector to follow and embed in their maritime-related objectives.

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DATA

Australia – Victorian Digital Asset Strategy Rolled Out

Rolled out in Victoria State, Australia, across government agencies with relevance to engineering and architecture in February 2019, the Victorian Digital Asset Strategy involves a framework on the growth and utilization of Digital Engineering (DE) and Building Information Modelling (BIM).

This strategy draws support from international and inter-jurisdictional precedence. Many countries in the EU, Singapore, New Zealand, and the USA have already adopted similar approaches and mechanisms that benefit from Digital Engineering. In Australia, New South Wales and Queensland have also initiated and achieved substantial progress in this area. The Strategy is also a step forward for the Victorian State towards building an innovative asset and information management portfolio.

Further, the Strategy aims to move towards the effective use of smart devices in a connected environment. Going forward, this requires investment and utilization of drones, autonomous vehicles, unified physical and virtual data, rapid feedback across design, construction and operations, remote monitoring, etc. With an invited state capital projects worth AUS $78.9 Billion (US$ 56.51 Billion) to be completed and delivered in the next year, the Strategy provides a forward-looking outlook for decades to come.

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DATA

Brazil - Brazil Creates National Data Protection Authority

In August 2018, Brazil approved and launched its General Data Privacy Law (LGPD). In the first quarter of 2019, the country created a National Data Protection Authority (ANPD), a segment of the federal government, directly related to the President's Office.

Though the ANPD reports to the President's Office for all technical applications, the entity functions independently -- thus, free of influence in evaluating and addressing any matters pertaining to data protection, privacy, and sharing.

The ANPD has the following authorities:

"With regard to the attributions of the ANPD, Section 55(j) of Executive Order no. 869/18 establishes that the ANPD has the authority to, among other things:

- *Issue rules and regulations regarding data protection and privacy;*
- *Within the administrative sphere, exclusively interpret the LGPD, including cases in which the law is silent;*
- *Request information regarding the processing of personal data from data processors and controllers;*
- *Exclusively oversee and impose administrative sanctions for violations of the LGPD;*
- *Promote data protection and privacy within the Brazilian society; and*
- *Develop studies regarding domestic and international data protection and privacy practices and establish partnerships with authorities from other counties to increase international cooperation."*

The act went into effect with immediate notice and will continue to be adapted as necessary by the ANDP as the regulatory authority for Data Privacy in Brazil.

DATA

EU – Update on Public Sharing of Information and Data

In January 2019, the European Commission issued a new set of rules for Open Data and Public Sector Information. The newly agreed upon directive requires the identification of relevant data sets which have a high commercial potential and may lead to the creation of region-wide products and services, information-based projects, and the development of AI. It is important to note, the datasets mentioned in these rules are both statistical and geospatial data.

The new rules also mandate reworking the exceptions that currently permit public bodies to charge for the dissemination and (re)use of data provided by them. Moreover, the directive's scope is to be expanded to data held by public undertakings and research data resulting from public funding; and increasing transparency between public and private sector organisations with agreements involving public sector information.

The next step forward is for the European Parliament and the Council of the EU to formally adopt the revised rules following which the Member States will begin to implement them within a two-year time frame. In this regard, the Commission will start working with the Member States on the identification of the high-value datasets which will be set out in an implementing act.

What does this mean for the Geospatial Industry?

- Easy access to public statistical and geospatial data;
- Ease of use and reuse of spatial data;
- More entrepreneurship and innovation opportunities in emerging technology fields; such as Artificial Intelligence, Machine Learning, Robotics and Automation; and
- New applications, products and services for socio-economic-environmental development.

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DATA

Saudi Arabia –
Cloud First Policy Released

The Kingdom of Saudi Arabia, in February 2019, issued its Cloud First Policy for review and comment.

The Ministry of Communications and Information Technology (MCIT) has been considering comprehensive legislation to help the rapid growth of the digital economy in the Kingdom, which will allow for greater IT spending, and build the technological capacity to attract foreign investments and develop best practices in the Industry.

The Cloud First Policy has three focus areas:

- Software as a Service;
- Platform as a Service; and
- Information as a Service.

The strategy will deploy three levels of cloud computing: Private Cloud, Government Cloud/ Community Cloud and Public Cloud.

The Public Cloud is meant to provide a platform to be used and managed by various entities, ranging from businesses to academic organisations, and can be a combination of any or all of these entities. The Public Cloud is typically served by global players (e.g. AWS, Google Cloud, Microsoft Azure) as well as by local players (e.g. local telecom and ICT players). The model offers a plug-and-play model which will increase the speed of deployment of solutions.

The Cloud model will comply with any data protection policy given the Kingdom's Data Office is involved in classifying the uploaded data into three defined levels of privacy, and in ensuring its protection. This classification is aimed to help entities understand the acceptable deployment models for the relevant data, to preserve national cybersecurity.

The policy also looks into the commercial aspect of cloud adoption to ensure that it yields a positive effect for businesses and the selected model of the Public or Hybrid Cloud Computing Model offers a cost-effective solution to any organisation.

DATA

UK & France – The Struggle to Combine Data Privacy and Commercial Insight

The introduction of the General Data Protection Regulation (GDPR) and subsequently related policies across different economies has created a struggle for commercial organisations utilizing data.

The UK data-privacy and protection act, i.e. the Data Protection Act 2018, provides guidelines on how data and analysis can be achieved by using machine learning and predictive analysis models without breaching any ethical guidelines or laws. The guidelines bring forth three aspects of data collection and analysis: Data Review and Roadmap; Scope of Analysis; and Validation and Governance. The latter-most element of the framework is the most important as it introduces a unique perspective to include Data Protection Impact Assessments (DPIA's) that may help validate the use of personal data for policy making, statistical applications, and/or for any unidentified (yet) but specific new purpose.

> **Implications of GDPR: A case in point.**
>
> France's authority on data collection, analysis and protection, the Commission Nationale de l'Informatique et des Libertés (CNIL), recently fined Google €50 Million (about US $56.8 Million) under the GDPR. While this amount may be relatively small for a search giant like Google, however, any fine that mirrors the seriousness of this for a smaller organisation is likely to hurt the geospatial, location and IT economy.

Operational issues are also supplemented with issues of trust. Forty-eight percent of UK citizens believe sharing of data will provide access to better services, but only about eleven percent of the UK has voiced trust in the local government authority for managing any personal data. Additionally, there is a thin line between data protection and data sharing policies which need to be maintained to tap into the potential that may emerge with further growth in the Internet of Things (IoT) and Broadband sector.

The legal implications of GDPR highlight the need for policies to reflect the UK Data Protection Act, and an attempt to protect commercial organisations from committing such infractions, instead of merely requiring a costly certification process to prove the organization's alignment with the GDPR.

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DATA

USA –
Launch of Open Government Data Act

To facilitate U.S. federal agencies sharing data in machine-readable and open data formats on a common platform, the Open, Public, Electronic and Necessary Government Data Act was signed into law as part of the Foundations for Evidence-Based Policymaking Act (Public Law 115-435).

The open data under the Act occurs in two categories:

*   Data under open licenses; and
*   Data under worldwide public domain.

The government agencies are mandated to share their data in a standardized and non-proprietary format, while simultaneously also excluding data that may breach privacy, security and confidentiality. The agencies are also required to designate a point-of-contact (Chief Data Officer) for public concerns and queries regarding open-data requirements. Any agency wishing to provide greater access to their data may also release it in the worldwide public domain to create the potential for innovation and entrepreneurship in the economy.

The Act is also foreseen to have an additional impact on other sector-related policies such as the Geospatial Data Act and the National Defense Authorization Act, both of which require that data of organizations (in some cases government, in some cases private) t be available on an open platform for public use.

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DATA

USA- Nevada State Proposes Bill for Location Data Privacy

The Digital Accountability and Transparency to Advance (DATA) Privacy Act, proposed in Nevada is a revolutionary federal privacy proposal. The Act, if passed, would require explicit consent from consumers before disclosing any of their data. Further, consumers have the right to withdraw any consent at a later date.

The act will also shield smaller businesses from regulations that impose large fines that many SMEs cannot bear.

This legislation has six focus areas:

Data Protection: providing clear standards for data collection, storage, processing, disclosure, and deletion.

Transparency: All businesses collecting data on over 3000 people will be required to provide all with a privacy notice that can be understood and accessed by consumers.

Control: Consumers have the power to request, transfer or delete their data at their prerogative. Further, the accuracy of the data can also be disputed.

Data Security: Data must be protected by technological and administrative means in all companies collecting data on over 3000 consumers.

Privacy: Privacy Protection Officers are mandated for all organizations collecting data on over 3000 consumers with revenue in excess of US $25 Million.

Innovation: The legislation will help expand the focus of research to expand to privacy enhancing technology.

ARTIFICIAL INTELLIGENCE

Japan – Smart City Initiative

The Japanese government as of April 2019, rolled out a Smart City Initiative. The Ministry of Land Management will set out a series of "Smart City Principles". These principles are intended to help incorporate IT, AI, and deep machine learning for urban management and developing modern urban spaces. The principles will also focus on Public-Private Platforms for Urban Development as planned between Japan and other countries. The main country for partnership in the near future is Cambodia as Cambodian cities have been recently allocated to join the Asean Smart Cities Network.

The initiative will help the collaborative platform (ASCN) work towards a common goal of smart and sustainable urban development, with support from the Japanese Government.

The Initiative, unlike other initiatives across the world, focuses on dispering investments in other foreign states as compared to receiving them. Japan, thus, through this initiative hopes to establish an international presence as an investor in areas of technology for urban use and modification.

ARTIFICIAL INTELLIGENCE

Singapore – Inter-Agency Taskforce on AI Recommended

Singapore has increased its focus on AI as a contributing factor to the Smart Nation Initiative. The minister in charge of the Smart Nation Initiative directed the country's attention to AI and deep machine learning revolutionizing industries ranging from GPS automation to Location based fraud alert.

Earlier in the year, (January 2019) the Minister for Communications and Information released a Model AI Governance Framework, articulating the key ethical principles that will lay the foundation for growth in the AI industry.

An Inter-Agency Taskforce Global Hub has been recommended for testing the scale and deployment of AI solutions on a trustworthy platform.

The Taskforce will help advance the requirements of AI being Human-centric, explainable, transparent and fair. Such a Council will be able to focus evenly on the four focal areas:

> "
>
> By establishing an advisory council on the ethical use of AI and data to advise the IMDA, the Singaporean government has taken an active role in this area. We don't want to have a conceptual or philosophical argument but actually come up with a framework that the industry can use
>
> "
>
> **Samuel Tan, Infocomm Media Development Authority Singapore**

- Governance Structures and Measures;
- Risk Management in Autonomous Decision-making;
- Operations Management; and
- Customer Relationship Management.

The main reason for recommending this Taskforce is to help implement regulations despite developing and changing technologies. Clearly, rolling out regulations and ensuring frequent updates as will be required by AI is challenging, though necessary.

To ensure the Framework remains current, the Taskforce, with equal representation from relevant sectors, should be the next step taken by Singapore.

ARTIFICIAL INTELLIGENCE

USA – First Artificial Intelligence Strategy Released by Pentagon

In February 2019, the Department of Defense released a report outlining the need to incorporate Artificial Intelligence (AI) into its strategy. The Pentagon is working towards the use of AI throughout the military that includes all intelligence gathering operations to maintenance problems requiring prediction models. The AI strategy implementationis intended to be heavily focused on protecting tactical networks and preventing cyber-attacks.

Further, the AI strategy at present, does not address the use of autonomous weapons, as the USA considers the use of these technologies to be premature. An important and controversial project undertaken by the Department of Defense, is Project Maven, which uses aerial images from conflict zones for video-game based learning and training. Many spatial and non-spatial organizations are attempting to contribute to the project by way of data and technology. In this regard, the strategy is ethical, and will help prepare for any conflict that may occur with other nations that are AI-ready. The American AI Initiative Executive Order calls for the Administration to "devote the full resources of the federal government" to help fuel AI innovation.

Nation-wide investments in machine learning are expected to be affected, as intelligent solutions and predictive analysis become critical for both the public and private sectors.

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ARTIFICIAL INTELLIGENCE

USA- Launch of Artificial Intelligence Initiative

In the 2019 State of the Union Address (February), President Trump emphasized the importance of investing in newer technologies to help industries. AI technologies, being centric to his argument, led to the launch of the AI Initiative later the same month.

The AI initiative will allocate resources to develop AI for national prosperity, security, and improved quality. This initiative has five pillars:

Research and Development: The Initiative creates an equal status in investing between Industry, Academia, and Government. The R&D Ecosystem will be given priority and increased attention to Federal spending on ideas that can directly affect the population.

Unleashing AI Resources: The Initiative will be implemented along with the OPEN Data Act and the President's Management Agenda to help create models and computer resources available to AI and R&D experts while ensuring alignment with laws mentioned above.

Governance Standards: The Initiative recognizes the importance of trust between the Regulatory Authorities and Consumers and to ensure the same, it calls on the National Institute of Standards and Technology (NIST) to lead the development of appropriate technical standards.

Building the AI Workforce: Skill building is an important aspect of this Initiative, as AI is not going to be humanless technology. The Initiative is going to prioritize fellowships and training programs to help achieve this pillar.

International Engagement: As the Trump Administration already has a high focus on Industrial Progress, the AI Initiative will also provide first preference to American AI Industries while ensuring the United States remains competitive.

The Initiative is comprehensive and covers businesses of all sizes in their interaction with each other and the federal government while maintaining the growth is USA-centric.

5G TECHNOLOGY

Singapore – Push on Digital Innovation and Investment

Singapore has always given high importance to its technological growth and is thus dependent on the same. Any investment made in this direction has an immediate impact on the city-state. The country has thus decided, as of April 2019, to further invest US $222 Million to offshoot research in innovation specifically in areas including AI and 5G Technology hoping to transform the government and the nation.

This amount has been increased by almost 200% and needs to be allocated before the end of the current National Research Foundation (NRF) Five Year Plan, which ends in 2020.

The investment will be augmented by a range of measures for spending and allocation to help smaller businesses align themselves digitally and help create a workforce to match.

It has been quoted by ministers that Singapore plans on rolling out AI and cloud-based solutions to every business sector by 2020.

> "Investment in research and development is essential to help our industries innovate and stay competitive, even as technology rapidly evolves. It is the city-state's vision that all businesses, workers and citizens are digitally connected and skilled."
>
> **Minister of Communications and Information**

As of January 2019, the nation has had a nationwide electronic invoicing network for businesses. The nation has also invested in ensuring that businesses can securely exchange digital trade documents.

The Infocomm Media Development Authority has formulated plans alongside these investments to roll out 5G technology and mobile phone networks by the deadline.

Singapore is increasing its investment in initiatives to ensure that it remains a technology hub despite its small size, globally.

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