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Greater KL's Burgeoning Robotics Ecosystem Gains Traction

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Singapore to Develop Mobile Defense Systems with Ghost Robotics

Cover Story: 5G New Radio Dual Connectivity (NR-DC), an Industry-First Milestone

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Publisher's Message

2022 is just around the corner! This year has come to an end with a lot to unpack; the surge of Delta, the return to normalcy due to endemic, COVID-19 vaccination booster shot, and the new Omicron variant. According to WHO, Omicron has several mutations that could have an impact on how it behaves, particularly on its transmissibility and severity of the disease. This new variant which was first reported in South Africa on 24th November shocked the world, just when most countries are in the phase toward endemic.

COVID-19 booster shots are said to dramatically strengthen the body's immune defense and might prevent severe disease driven by the Omicron variant. The antibody levels of those who took two doses of Astra Zaneca with a booster shot of Pfizer are said to increase more than eightfold. Though Anthony Fauci, Joe Biden's chief medical adviser stated that Omicron doesn't have a great degree of severity, taking and administering booster shot is an effective way to prevent hospitalization and death.

Despite the gush of Delta and Omicron variants, the majority of the country's economy opts to return to normalcy. We can see physical events and exhibitions have back as usual, but of course with strict SOP. Recently, the 4th Industrial Transformation ASIA-PACIFIC returns with physical and online exhibitions from 22nd to 24th November, with a focus on helping local and regional businesses in their digital transformation journey. With a few physical events back on the scene, we can expect a lot more to come next year thus promising growth in the economy.

On behalf of the editorial team, I thank you for your massive support to Automate Asia Magazine. Stay in touch with us at www.asiaautomate.com for more updates and Happy New Year 2022.

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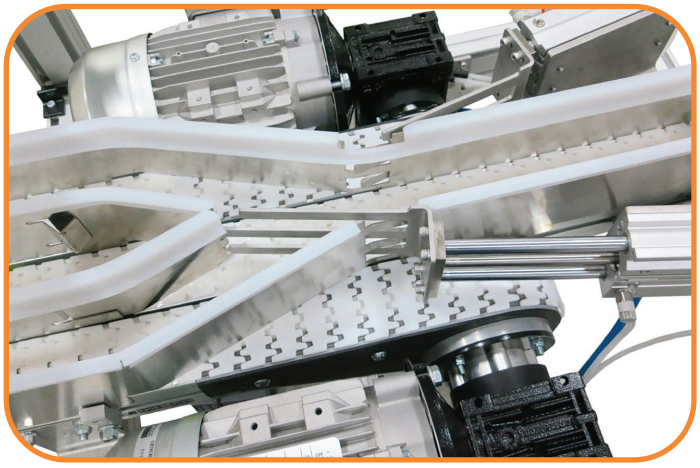

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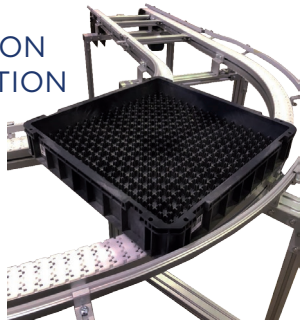

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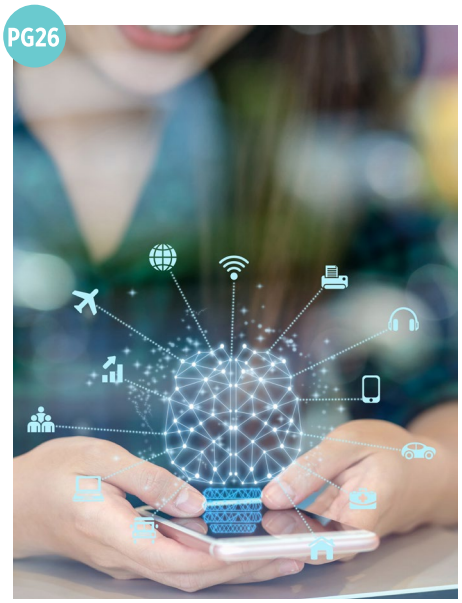

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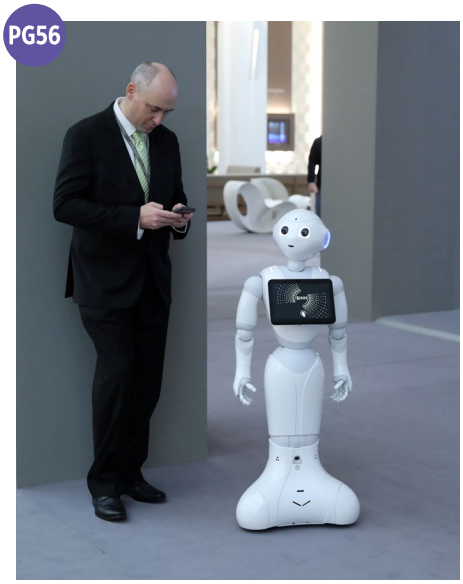

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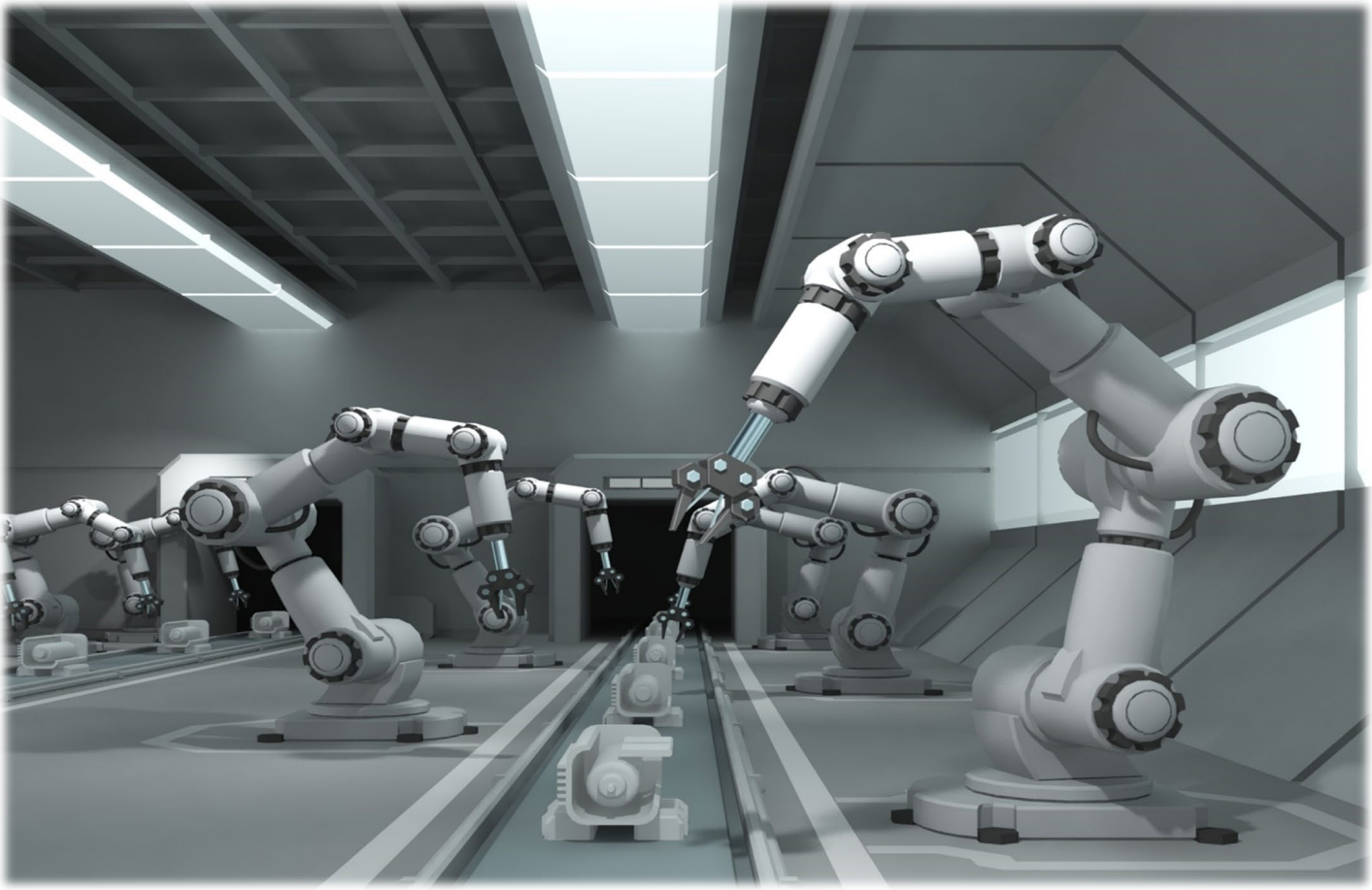

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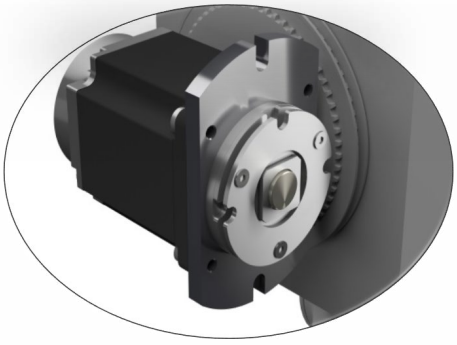

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The Digital Travel Technology Association of Malaysia (DiTTAM) has welcomed the 12th Malaysia Plan. - File pic

DiTTAM: 12MP as Prime Mover to Accelerate

The Digital Travel Technology Association of Malaysia (DiTTAM) has welcomed the 12th Malaysia Plan.

Its president Rohizam Md Yusoff said DiTTAM looked forward to assist the government, agencies, and tourism stakeholders to implement initiatives to boost digitalisation and advance technology adoption under the 12MP.

"The strategies on the Digital Economy in 12MP is in line with DiTTAM's mission and also at the world level," he said in a statement.

Rohizam said the 12MP was poised to be the prime mover to accelerate the Industrial Revolution 4.0 (4IR) for all industries.

"The COVID-19 pandemic has changed how businesses and governments function and how people work, interact and manage their lives. It has also accelerated the need to adopt digitalisation and 4IR technologies."

He said to stay relevant the association encouraged its players to leverage and embrace technology, digitalisation and niche capabilities.

"Innovative projects, initiatives and partnerships are urgently needed."

Rohizam further said the 12MP coincided with World Tourism Day and both their themes were similar.

"Its objective for 'A Prosperous, Inclusive, Sustainable Malaysia' as the start of a new phase in Malaysia's development augurs well with the World Tourism Day 2021 theme that is 'Tourism for Inclusive Growth'," he added.

He said DiTTAM would be also be organising the Virtual Asean Travel Technology Conference & Exposition on 23 - 25 November 2021 with the theme "Tourism 4.0 towards Digital Civilisation".

Experts and exhibitors from all the ASEAN countries will be invited to participate in the three-day event.

The subjects discussed include Digital Readiness, Policies and Transformation, Financial Technology, Smart and Sustainable Tourism, IR 4.0 technologies and industry best practices.

"In times of difficulty the spirit of inclusiveness is needed to ensure the ASEAN region's tourism industry is able to prosper again. Malaysia is taking the lead to study and propose the digital transformation strategy for the tourism industry that is in line with the 12MP," he said.

Source: www.nst.com.my

Focus Not Only On E&E, But Also Local Automation, Robotics, IoT Players — *Vitrox CEO*

Apart from the electrical and electronics (E&E) industry, the government should also focus on local automation, robotics, and Internet of Things (IoT) companies as they bring the benefits of the Fourth Industrial Revolution (IR4.0) to the world.

According to ViTrox Corp Bhd CEO and president Chu Jenn Weng, local automated testing equipment (ATE) companies have grown more than 13,000% on a percentage basis.

"If you look at the stock market, the market capitalization of ATE companies in the last 10 years was less than RM200 million. But today, ATEs account for nearly RM30 billion in the local stock market and the companies are growing. And why? Because of the introduction of IR4.0.

"Many companies, not only in the E&E industry but also in other industries, are adopting this IR4.0. But what is our government's stand on this issue? How can the government focus specifically on local companies to drive this IR4.0 strategy?" he said during the RMK12 webinar titled "Boosting E&E Industry in Moving up the Value Chain".

He added that most of the country's ATE companies also export their products around the world.

"I really hope that besides the E&E industry, we also give the same attention and priorities to the local automation, robotics, and IoT companies, because these are the companies that will bring the benefits of IR4.0 adoption to the whole world," he said.

Minister in the Prime Minister's Department (Economy) Datuk Seri Mustapa Mohamed said earlier that the E&E industry plays a critical role in the country's industrial development.

Under the 12th Malaysia Plan (12MP), the E&E industry is targeted to contribute RM120 billion to gross domestic product (GDP) and generate RM495 billion in export earnings by 2025.

Furthermore, ViTrox's Chu said the government should provide incentives like tax rebate allowance for companies that buy and develop products made in Malaysia, including automation equipment, robotics, IoT and software, and et cetera.

"So, this will encourage more multinational companies (MNCs) to buy products manufactured in Malaysia," he added.

Chu: I really hope that besides the E&E industry, we also give the same attention and priorities to the local automation, robotics, and IoT companies, because these are the companies that will bring the benefits of IR4.0 adoption to the whole world. (Photo by Sam Fong/The Edge)

Source: www.theedgemarkets.com

Focus on Robotics to Help SMEs Embrace Digitalisation

MTDC chief executive officer Datuk Norhalim Yunus says the strategic move could be driven through joint engagement with companies within the MTDC ecosystem

The Malaysian Technology Development Corp (MTDC) has placed emphasis on the robotics segment to ensure that local companies, especially micro, small and medium enterprises (MSMEs), are ready to adapt to digitalisation and technological advances in line with the Fourth Industrial Revolution (IR4.0).

Its chief executive officer Datuk Norhalim Yunus says the strategic move could be driven through joint engagement with companies within the MTDC ecosystem.

He says MTDC provides recipients of the agency's funds not only with financial assistance but also financial management, business development and training for employees in the required fields.

"Following our emphasis on MSME companies, we found that to be competitive, among the aspects that they need to excel in are producing more competitive products and sometimes they need expertise in the field of automation and robotics.

"So, we are looking at programmes to help entrepreneurs improve their technology towards IR4.0," he says.

Norhalim says MTDC, as an implementing agency, needs to start the journey towards IR4.0 by focusing on the development of companies under its ambit and enabling them to become IR4.0 companies in the future.

He adds that MTDC capitalises on its multilateral cooperation with several ministries, as well as stakeholders in ensuring IR4.0 technologies could be utilised as much as possible among MSMEs in the country.

The move would also allow the companies involved to share their expertise on IR4.0 with MSME players, which is being done by TechCapital Resources Sdn Bhd, a company that provides robotic technology software and facilities. MTDC is assisting TechCapital to collaborate with MSME entrepreneurs in the process of technology transfer, distribution and joint ventures, as well as providing technology-related training.

"TechCapital not only conducts training programmes for local entrepreneurs, but also teachers and lecturers to create awareness on automation needs, such as how robotics operate, and the training is not merely from the academic point of view," he says.

TechCapital produces a special solution known as T-Robot that integrates robotics and automation technologies for both hardware and software.

He says the company aims to market its products widely in Dubai via MoUs as Malaysia is a good gateway to export products and services to the Middle East.

Source: www.thestar.com.my

Mosti Approves RM52.8m Funding Under NTIS

The Science, Technology and Innovation Ministry (Mosti) and its agencies have approved RM52.78 million to date to fund 70 companies for innovation purposes under its National Technology and Innovation Sandbox (NTIS) initiative.

Minister Datuk Seri Dr Adham Baba (picture) said the funds were channeled via the Malaysian Technology Development Corp while another 69 companies also received technical support or were referred to funding organizations with strategic cooperation with NTIS.

"NTIS is one of the key instruments identified by Mosti to realize the goal of 'Accelerating Technology Adoption and Innovation' outlined in the 12th Malaysia Plan.

"Six targets have been set including the commercialization of 500 products and solutions via NTIS and Malaysia Commercialization Year by 2025," he said in his speech during the launch of NTIS' one year report.

NTIS is an initiative under Mosti parked under the Penjana assistance which is aimed at developing tech start-ups via product development and innovative solutions, commercialization support and seeding funds as preparation to penetrate a larger and competitive market.

Dr Adham said NTIS was launched at the right time to support all stakeholders as it accelerates the development of innovative solutions and commercialization via funding which will expedite economic recovery post-pandemic.

"Since its launch on Sept 30, 2020, it has received a total of 518 applications from various companies nationwide.

"Through 13 cohorts, 139 companies have been approved under the initiative to be assisted in the commercialization process with various forms of support whether in text site preparation (sandbox), regulatory facilities or funding," said Dr Adham.

About 50% of the NTIS projects that received approval cover a multitude of sectors including smart engineering and manufacturing while the remaining 50% relates to smart systems.

NTIS also received support from 26 ministries, two government agencies and 28 innovation acceleration network partners.

There are currently four NTIS innovation sandbox in the country namely farming sandbox in Felda Mempaga, Pahang; robotics and automation sandbox in Iskandar Puteri's Robotics and Drone Zone, Johor; logistics sandbox in Cyberjaya and Area 57 which is for Unmanned Aircraft Systems innovation at Malaysia Technology Park, Bukit Jalil.

He said more national sandboxes will be launched including medical tourism, education and farming technology.

"Through NTIS, start-ups and technology companies can access funding and regulatory support to develop early-stage solutions and subsequently enter the market, in addition to solving the problems encountered by the ministry," he added.

Source: themalaysianreserve.com

Malaysia's 5G Project Will Hasten Industry 4.0 Transformation

Malaysia has accelerated its journey towards industry 4.0 with the 10-year partnership between the country's Digital Nasional Berhad (DNB) and Ericsson to deliver a nationwide 5G single wholesale network, as 5G will power innovation in areas such as artificial intelligence (AI), augmented reality (AR), virtual reality (VR) and automation across various industries.

Furthermore, the deployment of the nationwide next-generation wireless cellular technology in Malaysia is expected to increase the number of IoT use cases in the country.

"DNB is committed to delivering the best technology and innovation opportunities for Malaysians, businesses and government to ensure that Malaysia takes its place at the forefront of the global digital economy. We identified Ericsson to offer the best next generation 5G technology and professional services available to suit DNB's specific and unique requirements," said Ralph Marshall, chief executive officer of DNB.

DNB is tasked by the Malaysian government to deploy 5G infrastructure across the country to accelerate its digital transportation. Under this mandate, DNB will provide access and services to mobile service providers and others licensed by the regulators to enable a world-class 5G experience and make Industry 4.0 a reality in Malaysia.

DNB aims to launch Malaysia's first 5G network in Kuala Lumpur, Putrajaya and Cyberjaya in the initial phase. Ericsson's local presence and deployment expertise are key to meeting DNB's target of 80% 5G nationwide population coverage by 2024.

An end-to-end 5G network

Under its exclusive partnership with DNB, Ericsson will provide an end-to-end 5G network, spanning the delivery of energy-efficient Ericsson Radio System products and solutions, including Ericsson Spectrum Sharing, a software for wide-area 5G coverage.

The scope also includes cloud-native 5G Core and 5G Radio Access (RAN) nationwide. Ericsson will also manage the unique requirements of a single wholesale network with its leading Managed Services offering, Ericsson Operations Engine. The solution will enhance the performance of DNB's network using AI, automation and cognitive software to predict and prevent issues.

Ericsson's end-to-end scope also includes operational support systems (OSS) and business support systems (BSS) solutions.

"With a 56-year legacy of contributing to Malaysia›s development, we are excited to be extending our commitment to the nation. Ericsson is confident that with our global 5G leadership and strong deployment capabilities, we will meet the deployment targets set by DNB," said David Hägerbro, head of Ericsson Malaysia, Sri Lanka and Bangladesh.

He pointed out that Ericsson's participation in the national 5G project will see direct and indirect socio-economic contributions in areas such as job creation, partnership with Bumiputera and other local contractors and ecosystem players, and knowledge and capacity building in Malaysia.

"5G is a platform for open innovation and is becoming the cornerstone upon which a country's competitiveness is built. Malaysia's and DNB's commitment to accelerating the deployment of 5G is to be congratulated, as it will speed up the adoption of 5G nationally, bridge the digital divide and transform the nation. 5G will help to facilitate the government's ambition to promote Malaysians to become technology creators through development of 5G applications and use cases," said Hägerbro.

Source: futureiot.tech

Vietnam Holds Potential for Robot, AI Development: Insiders

At the event (Photo: vneconomy.vn)

Vietnam holds huge potential in the application and development of new technologies amid the wide utilization of robot and artificial intelligence (AI) in daily life activities.

Vietnam holds huge potential in the application and development of new technologies amid the wide utilization of robot and artificial intelligence (AI) in daily life activities.

Speaking at a recent webinar on media response and pioneering technologies, OhmniLabs CEO Thuc Vu said the COVID-19 pandemic has fostered the development of the robotics industry.

In the future, robot can facilitate remote travel as tourists may stay in Vietnam and shop in Paris, visit a museum in New York and join a meeting in Tokyo, he said, expressing his hope that 'Made-in-Vietnam' robot may earn international recognition in terms of technology.

Bui Hai Hung, head of VinAI Research, a member of Vingroup, said that with Vietnam's development and potential in human resources, there are plenty of room for AI's growth in the coming time.

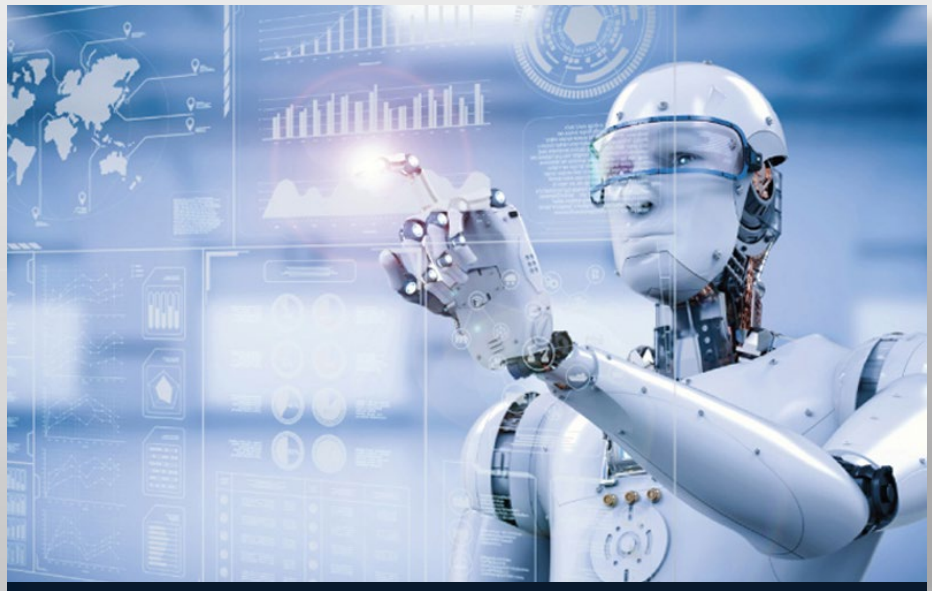
He hailed ability of young Vietnamese as they are able to swiftly grasp new technologies and fully engage in international studies in a short period of time. This is a positive sign for Vietnam's AI development capacity, he added.

For his part, Thieu Phuong Nam, CEO of Qualcomm Vietnam, Laos and Cambodia, underlined that Vietnam is turning into an innovative hub in Southeast Asia.

Vietnam is also the third nation that Qualcomm has chosen to arrange its innovation challenge for tech startups, as the firm has realized potential and ability of tech workers in the Southeast Asian nation.

The application of advanced technology is key for economic growth amid the shift toward higher-value-added activities, Nam said.

He believed that new technologies such as AI, 5G and Internet of Things (IoT) will help countries move from manufacturing to innovation economy.



Vietnam holds huge potential in the application and development of new technologies (Illustrative photo: vneconomy.vn)

Source: en.vietnamplus.vn

Malaysia's First Lighthouse

Spearheading the Nation's Industry 4.0 Aspirations

Western Digital is Malaysia's first Lighthouse into the GLN
A responsibility to the future of industry has never been more critical

The World Economic Forum (WEF) has recognized and awarded the Western Digital factory at Batu Kawan, Penang, Malaysia as the latest entrant to its Global Lighthouse Network (GLN). This is a community of world-leading companies that have succeeded in the adaptation of the Fourth Industrial Revolution (4IR) at scale.

The World Economic Forum Global Lighthouse Network recognizes production sites and value chains that are world leaders in the adoption and integration of the cutting-edge technologies of the 4IR. Of the 90 total sites within the network globally, Western Digital is the first company in Malaysia to receive this distinction. The Global Lighthouse Network is a World Economic Forum project in collaboration with McKinsey & Co; factories and value chains that join the Network are designated by an independent panel of experts.

Lighthouses apply 4IR technologies such as artificial intelligence, 3D-printing and big data analytics to maximize efficiency and competitiveness at scale, transform business models and drive economic growth, while augmenting the workforce, protecting the environment and contributing to a learning journey for all-sized manufacturers across all geographies and industries.

In congratulating Western Digital, Batu Kawan on its achievement at the press conference held yesterday, Arham Abdul Rahman ***(pic)***, Chief Executive Officer of the Malaysian Investment Development Authority (MIDA), remarked, "Western Digital's operations in Batu Kawan, Penang has brought significant benefits to local players by resetting the benchmark of operational, financial and sustainability levels.

"This project will be a precursor and example to the rest of the industry in addressing sustainability and growth in intense global competition. This revolution is in line with Malaysia's National Investment Aspirations as well as the Twelfth Malaysian Plan (12MP) initiatives as Malaysia embarks on economic recovery and reinforces its key role in the global supply chain."

Arham added, "Western Digital, Batu Kawan, as the first Lighthouse in the country, will serve as a beacon for local industry players to improve their operations by effectively implementing 4IR technologies. MIDA is confident

Arham Abdul Rahman (pic),

that more multinationals and local conglomerates will follow Western Digital's footsteps in transforming their operations, as well as their supply chain in Malaysia to effectively adopt new technologies.

The CEO of Western Digital, David Goeckeler ***(pic)*** affirmed that "Today's recognition by the WEF Lighthouse Network is an honor and a testament of our leadership efforts in 4IR with both technology innovation and workforce engagement."

"We welcome companies to **participate in the national-level Lighthouse Programme** to support local companies to integrate into the lighthouse network, embracing innovation and operational efficiency that will eventually benefit Malaysia's economic ecosystem."

David Goeckeler (pic)

He adds that Western Digital understands its responsibility to the future of industry has never been more critical, especially in a world that is increasingly technology-enabled and technology-dependent. "As the world's leading data infrastructure provider, we are committed to enabling sustainable growth and transformation across our facilities around the world to deliver value to our customers, employees, and partners," David stressed.

Spearheading by example is Malaysia's Western Digital factory at Batu Kawan which has been recognized as part of the network. The company applied technology innovations such as artificial intelligence, robotics, automation, advanced analytics and the Industrial Internet of Things (IIOT) – to achieve transformational change at its facility in Batu Kawan, Penang. This includes automating production and logistics to deliver 32 per cent factory cost improvement, reducing product inventory and order lead time by 50 per cent.

Factory automation in the Western Digital Batu Kawan, Penang facility

Beyond technology, workforce development is another key focus area for the Western Digital Batu Kawan factory. The site rolled out a comprehensive IIOT Academy program to educate and nurture its talents to cultivate a new way of thinking with the adoption of 4IR technologies. The IIOT Academy program includes strategic partnerships with local universities and international platforms to upskill employees at all levels.

The GLN also lists sustainability as one of its key criteria. Western Digital is committed to its sustainability efforts, and this presents a great opportunity to collaborate with WEF on this new frontier.

"Increased global concern for environmental impact has made sustainability a must-have to maintain business viability," said Francisco Betti, Head of Shaping the Advanced Manufacturing and Value Chains, World Economic Forum.

"The selected Sustainability Lighthouses make it clear that by realizing the potential of 4IR technologies in manufacturing, companies can unlock new levels of sustainability in their operations and explore a win-win solution: greater operational competitiveness while simultaneously making commitments to environmental stewardship, leading in a cleaner, more sustainable future as a result," he further added.

MIDA is committed to pursue the strategies outlined in the National Policy of Industry 4.0 (Industry4WRD), aimed to develop Malaysia as a high-tech nation. The 12MP highlights technology adoption and innovation are to catalyze growth across all sectors; while productivity growth is expected to be led by the manufacturing sector, growing at 4.3% per year over the next five years (2021 to 2025). The digitalization process will be accelerated and the adoption of advanced technology, particularly the 4IR technologies, will be promoted through various government facilitations.

Source: www.digitalnewsasia.com

Singapore to Support Manufacturing's Pivot to **Advanced Technology, Digitalization:** Gan Kim Yong

The government's financial commitment to advanced manufacturing is enshrined in the $25 billion Research, Innovation and Enterprise 2025 Plan, Mr Gan Kim Yong said. ST PHOTO: KEVIN LIM

Businesses here seeking to use cutting-edge technologies to improve their manufacturing processes and produce high-value products will continue to be nurtured, Minister for Trade and Industry Gan Kim Yong said on Oct 29.

Speaking at a webinar organized by trade association SGTech and software firm Autodesk, he said many businesses had intensified their efforts to transition towards advanced manufacturing, adopt new technologies and upskill their workforce in order to overcome operational constraints amid the COVID-19 pandemic.

Some of the initiatives manufacturers have rolled out include cross-training existing workers to help them transition to different roles, doubling down on the digitalization of operations from warehousing to invoicing, and automating production lines to cope with fluctuations in demand.

These efforts have boosted the manufacturing sector's overall resilience and helped it deliver the strongest growth among all sectors last year. And it continues to deliver strong growth this year, he said.

However, he added: "We are not out of the woods yet and there are now new challenges like supply chain disruptions to deal with.

"As we move towards a post-COVID-19 future, Singapore remains committed to supporting advanced manufacturing through a pipeline of initiatives, be it physical infrastructure, talent or financial support."

Among the infrastructure initiatives, the minister highlighted the Jurong Innovation District - a one-stop hub where manufacturers can gather to share ideas, innovate and create by co-locating different parts of the manufacturing process within the same space.

Meanwhile, the industry-led Advanced Manufacturing Training Academy continues to facilitate the constant up-skilling and re-skilling of the workforce, equipping them with the ability to make the most out of Industry 4.0 tools and solutions.

Industry 4.0 refers to the ongoing automation of traditional manufacturing and industrial practices, using modern and smart technologies.

The government's financial commitment to advanced manufacturing is enshrined in the $25 billion Research, Innovation and Enterprise 2025 Plan, Mr Gan said.

"Our hope is that these investments will advance the development and translation of frontier technologies for manufacturing such as artificial intelligence and high-performance computing.

"More importantly, staying committed to R&D and innovation will allow us to establish niches in the manufacturing value chain, strengthen Singapore's competitiveness and capture new growth opportunities."

Among industry-led initiatives, Minister Gan called attention to SGTech's Star (Stronger Together, Aiding Recovery) Fund, which was launched last year with support from Facebook and Enterprise Singapore to help businesses digitalize, while also enabling players in information and communications technology acquire new small- and medium-sized enterprise customers.

The fund has so far helped 48 projects leverage technology to transform and prepare for the post-COVID-19 economy.

"I am happy to share that applications to the Star fund are still open and I urge companies to tap on this opportunity to further their digitalization journey," the minister said.

Mr Gan also highlighted the upcoming Industrial Transformation Asia-Pacific 2021 taking place next month (Nov 2021), an event which will feature more than 100 Industry 4.0 solutions providers from over 50 countries.

The event's Industry 4.0 Experiential Zone, digital sandboxes and one-on-one business matching will offer many opportunities for participants to connect, discover and showcase innovative and practical solutions.

"Initiatives like these bring us one step closer to our vision of Singapore becoming a global business, innovation and talent hub for advanced manufacturing," Mr Gan said.

Source: www.straitstimes.com

Peninsula Higher Education Pens MoU with Bosch Rexroth to **Create Bosch-Certified Industry 4.0 Skills Training Centers across Malaysia**

Peninsula Higher Education (PHE) has committed to working with Bosch Rexroth to create Bosch-certified skills training centers across Malaysia, starting with the founding branch *Peninsula I4.0 Talent Growth Hub* – located at the iconic The Ship Campus in Batu Kawan.

As a leading specialist in the field of drive and control technologies, Bosch Rexroth has accumulated over 200 years of experience which bolsters its position as a pioneer of Industry 4.0 (I4.0) solutions and a competent I4.0 training provider. This collaboration between Bosch Rexroth and PHE aims to accelerate the national I4.0 adoption rate by upskilling the nation through the set-up and provision of training facilities, courses, and a team of Bosch-certified trainers.

Bosch Rexroth will provide the building blocks of this center, including training equipment, technical support, as well as its Modular Mechatronic System (mMS4.0)* syllabus that is tailored to the local market.

For a start, this center aims to offer courses in mechatronics that involve the use of technologies such as manufacturing execution systems (MES), hydraulics, robotics, Internet of Things (IoT) gateways, Radio Frequency Identification (RFID) devices, and automated guided vehicles (AGV). The center will continue to expand its course offerings based on demand and contributions from other industry leaders.

In the next 5 years, PHE will invest RM10 million to set up state-of-the-art engineering labs for engineering courses.

Peninsula I4.0 Talent Growth Hub is a resource for the manufacturing industry to upgrade its employees with the latest knowledge and skills that I4.0 has to offer.

"This partnership marks the beginning of our vision to create an ecosystem that ensures a sustainable talent pipeline for the industry. At the same time, students will benefit from up-to-date courses, equipment, and quality trainers," said Prof. Ian Pashby, group president of Peninsula Higher Education.

Staying true to PHE's core mission of prioritizing its graduates' employability, Prof. Ian Pashby added: "This center is co-created with the industry, for the industry, which aims to set our graduates' careers up for success and help them fetch better wages."

"Bosch Rexroth has always been committed to imparting a real-world Industry 4.0 experience to the next generation through educational partnerships like this, which ultimately helps businesses move up the value chain. Together with our education partners, we hope to encourage more companies to upskill their workforce and unleash the region's potential with Industry 4.0 solutions," said Michel Gunawan, president, and chief executive officer of Bosch Rexroth ASEAN & Oceania.

From 2011- 2020, the Batu Kawan Industrial Park (BKIP) has received investments from nearly 40 companies. It is now home to local and international companies from sectors such as manufacturing, semiconductor, electrical & electronics (E&E), and medical technology, making it one of the most dynamic industrial hubs in the country. Located at the heart of BKIP, The Ship Campus is well-positioned to be a hub for training, upskilling, and even job matching.

This partnership is in line with Malaysia's Budget 2022's emphasis on the importance of I4.0 and technical and vocational education and training (TVET). The government has raised its TVET budget allocation from RM6 billion for 2021 to RM6.6 billion to strengthen and enhance TVET, while RM200 million has been allocated for programs such as the National Dual Training System and industry certification programs. The *Peninsula I4.0 Talent Growth Hub* will present the TVET community with an attractive avenue for industrial training, especially to companies who are operating in north Malaysia or the wider ASEAN region.

Bosch Rexroth and PHE will now commence defining the training equipment requirements, syllabus design, and work towards establishing *The Peninsula I4.0 Talent Growth Hub* at The Ship Campus within the next two years.

GSMA Unveils APAC 5G Industry Community

GSMA announced the formation of the Asia Pacific (APAC) 5G Industry Community; a new ecosystem established for those seeking opportunities to deliver Industry 4.0 and digital transformation from 5G networks, edge-cloud services, enterprise IoT and AI.

The establishment of the community was unveiled at the Mobile 360 Asia Pacific event.

The APAC 5G Industry Community comprises 12 Contributing members, as well as the existing IoT and 5G emerging market community, which have over 500 members in more than 30 countries. APAC 5G Industry Community contributing members include AIS, Axiata, DEPA, DHL, Globe, Huawei, Kominfo, Maxis, MDEC, Schneider Electric, Telkomsel and, Viettel.

GSMA predicts that 5G will contribute $5 trillion to the global economy by 2025, as countries increasingly benefit from the improvements in productivity and efficiency brought about by the increased take-up of mobile services.

5G will benefit all economic sectors during this period, with services and manufacturing seeing the most impact.

"During the COVID-19 pandemic, the mobile ecosystem acted as a lifeline for people, businesses, and society. The industry demonstrated its resilience, and we must now continue to push the boundaries of possibility. The purpose of the APAC 5G Industry Community is to unlock the power of 5G connectivity so that people, industries and society thrive. GSMA is committed to playing a leading role in supporting and amplifying the vital work our industry is doing at this time," said GSMA's Head of Asia Pacific, Julian Gorman.

"We are thrilled to announce the formation of APAC 5G Industry Community as a collaboration platform to support 5G industry innovation, application and business opportunities."

Malaysia Digital Economy Corporation (MDEC) CEO, Mahadhir Aziz said that 5G will enable the substantive digital transformation of Malaysian economy, adding that the goals of the APAC 5G Industry Community initiative resonate with MDEC.

"We look forward to effective collaborations with both public and private stakeholders, in line with our vision to lead a progressive digital economy and in support of MyDigital, the Malaysia Digital Economy Blueprint," he said in a statement.

Dennis Xiao, President of Carrier Business Group, Huawei Asia Pacific Region said the firm has been working on digital transformation to support industries for viable paths of 5G connected services in recent years.

"Now, we have a golden key to open the gate of this trillion USD market for all potential industries to explore more converged technologies and business partner solutions with an agile and open ecosystem alliance platform from the APAC 5G Industry Community foundation. We are pleased to become one of the key contributors of the Community and look forward to engaging more business partners and organizations in the APAC region," Xiao said.

Source: themalaysianreserve.com

3 Common Attack Vectors for Industrial Control Systems

A critical key to effective control system security requires understanding how cyber-attacks occur.

It's been nearly impossible to miss all the news about the uptick in cyber-attacks on the manufacturing and processing industries over the past few years. This recent uptick is not a surprising development, however, even though most manufacturers have faced fewer attacks compared to more consumer-oriented businesses.

One reason for the lag in attacks on industry was due to many hackers' lack of familiarity with the industrial control systems (ICS) used in both the discrete manufacturing and processing industries. As a result, most business-focused cyber-attacks centered on breaches of enterprise IT systems, with which most hackers were already very familiar.

But when you consider the high profile and revenues of many industrial companies, coupled with the potential for significant business and community disruption made possible by attacking a company's ICS, the incentive for hackers to become more familiar with ICSs was evident. Essentially, it was only a matter of time before industry became widely considered a target-rich environment for cyber criminals.

While plenty of advice exists for industrial companies around how to secure their ICSs, it's also important for businesses to be aware of the principal types of cyber threats they're most likely to face.

Craig Young, principal security researcher, Tripwire.

Prominent sources of attack

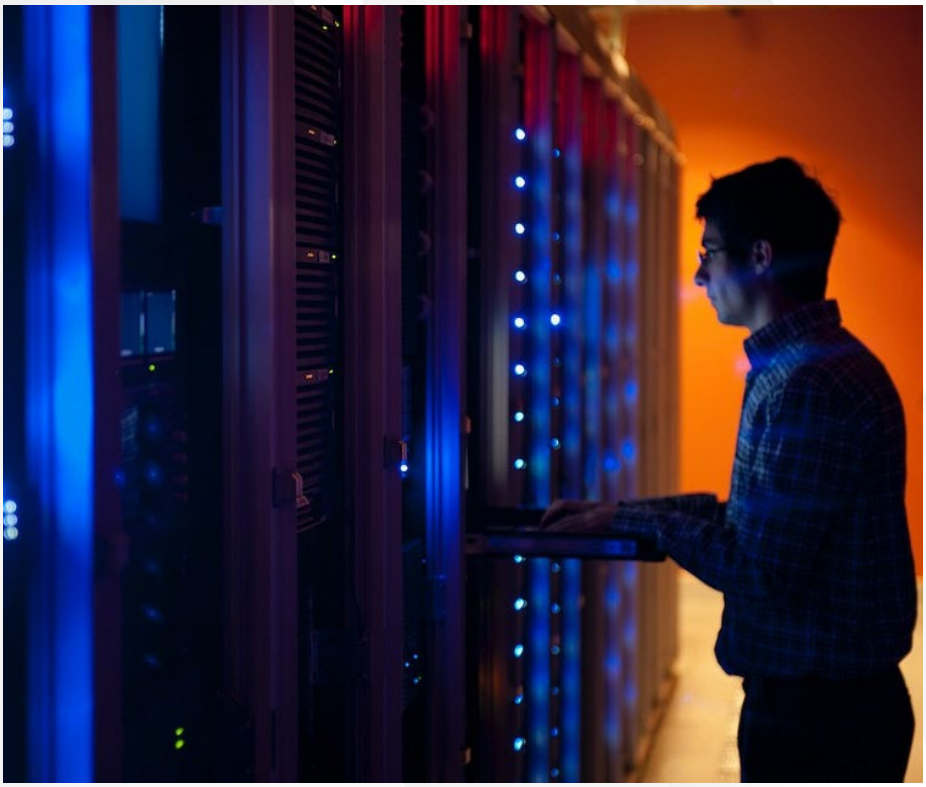
Craig Young, principal security researcher at Tripwire, a supplier of industrial cybersecurity, points to three sources of cyber-attacks that industrial companies should be most aware of due to their potential to cause major disruption:

A disgruntled insider: "The most critical threats often come from within an organization," says Young. "This is especially true in ICS environments where employees have access to plant controls and deep knowledge of operational processes." Young cites the Oldsmar, Fla., water treatment plant attack as an example of what is widely considered to have been a breach conducted by an employee. This attack is considered to be an inside job because the hacker(s) used "a legitimate company TeamViewer account, combined with apparent knowledge of the company's human-machine interface," said Young.

To limit the threat of insider attacks, Young suggests enforcing access controls and limiting administrator access. He adds that practicing strong password hygiene—like requiring multi-factor authentication, forced password expiration, and forbidding password sharing—are also beneficial.

A ransomware gang: Young says ransomware is commonly introduced to an ICS network in one of three ways: a phishing attack that targets employees; compromising an industry website that users may frequently download from; or by targeting VPN portals or other externally exposed IT infrastructure.

"The best way to protect against a ransomware attack is to employ security best practices, including vulnerability management," says Young. "Attackers



Source: www.automationworld.com

often scan the internet for targets rather than identifying a specific target and evaluating its network space. Therefore, network administrators need to be aware of vulnerabilities in externally exposed systems such as VPN portals and mail gateways."

He also noted that it's important to strengthen internal security by limiting VPN access and restricting access between unrelated servers. And, as with the remedies suggested to prevent insider attacks, limited permissions are key in this instance as well.

"Users should not have access to a system unless there is a specific business need," stresses Young.

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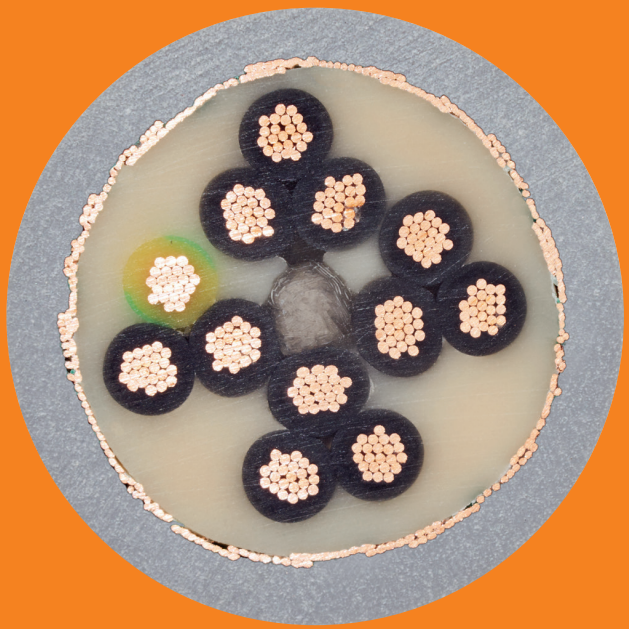

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Securing Distributed Control Systems

Tim Mirth, PlantPAx platform leader, Rockwell Automation.

Industrial control system cybersecurity is often discussed in broad terms, but the distributed control systems used in the continuous processing industries introduce some unique cybersecurity requirements.

Distributed control systems (DCSs) are commonplace in continuous processing, particularly in the oil and gas and chemical industries where they're used to control several machines or processes at the same time. This differs from PLCs (programmable logic controllers), as a PLC is typically used to control just one machine.

Tim Mirth, PlantPAx platform leader, Rockwell Automation.This difference in how DCSs are used to manage multiple machines and processes ups the ante in terms of the impact a security breach of a DCS can have. With this type of vulnerability in mind, Tim Mirth, PlantPAx platform leader at Rockwell Automation, says plant decision-makers exploring DCS-related cybersecurity improvements should be aware of these common DCS cybersecurity challenges:

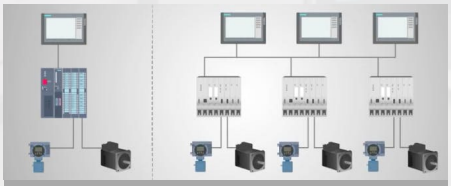
Open systems. "Open protocol networks are a historical hallmark of distributed control systems and are usually considered a huge benefit," said Mirth. "But the additional avenues of risk associated with online, connected control systems may leave producers more vulnerable. The Zone and Conduit model can help mitigate the threat and keep critical assets segmented from most vulnerable areas. Managed firewalls are another important part of protecting open systems.

This illustration highlights the control connection differences between a PLC-controlled system (left) and a DCS-controlled system.

Legacy equipment. Older machines, especially if they have not been updated in many years, are potential entry points for viruses, worms, and hackers. "This is where a risk assessment can expose a vulnerability and develop a strategy to strengthen them," Mirth said. "In larger plants you may not even know there is still an obsolete operating system on your network." Mirth noted that if replacement of a legacy device is not possible, some protection can be gained with network segmentation to build in layers of defense.

Evolving workforce. "The people who have access to your plant and systems are an important piece of the overall cybersecurity puzzle," said Mirth. "Breaches can be caused by innocent mistakes as well as those with nefarious intentions." To address this, Mirth said to ask yourself: Do you know who manages user accounts and system access for your company? Also, are there any accounts that have remained active and unused for years? Adhering to international standards, such as the ANSI/ISA-62443-3-3 standard, and managing your users as part of a cybersecurity strategy can help mitigate this risk, Mirth added.

Unknown ROI. Too often, companies view cybersecurity as an expense with an unidentifiable ROI (return on investment). Mirth said that, with cybersecurity or any risk mitigation initiative, "it's less about how much money the company will make and more about what you don't want to lose. With a proper risk assessment, vulnerabilities, risks, and mitigation strategies can be evaluated and allow producers to answer questions such as: What risk are we willing to accept? What will it cost to make the changes needed to feel comfortable in our risk posture?" Mirth said it may not be as expensive as you think to make changes, and the opportunity cost for not protecting your systems is too great to pass up implementing even some simple measures.



This illustration highlights the control connection differences between a PLC controlled system (left) and a DCS-controlled system. Source: RealPars

Finally, Mirth pointed out that it is necessary for industrial companies to realize that having an evolving plan will be needed to properly secure your DCS. That's why it's important to recognize the criticality of the cybersecurity challenges he cited and to "select a plan that keeps enhanced overall security, flexibility, and digital transformation in mind and won't trap you from making the progress you need to run

Source: www.automationworld.com

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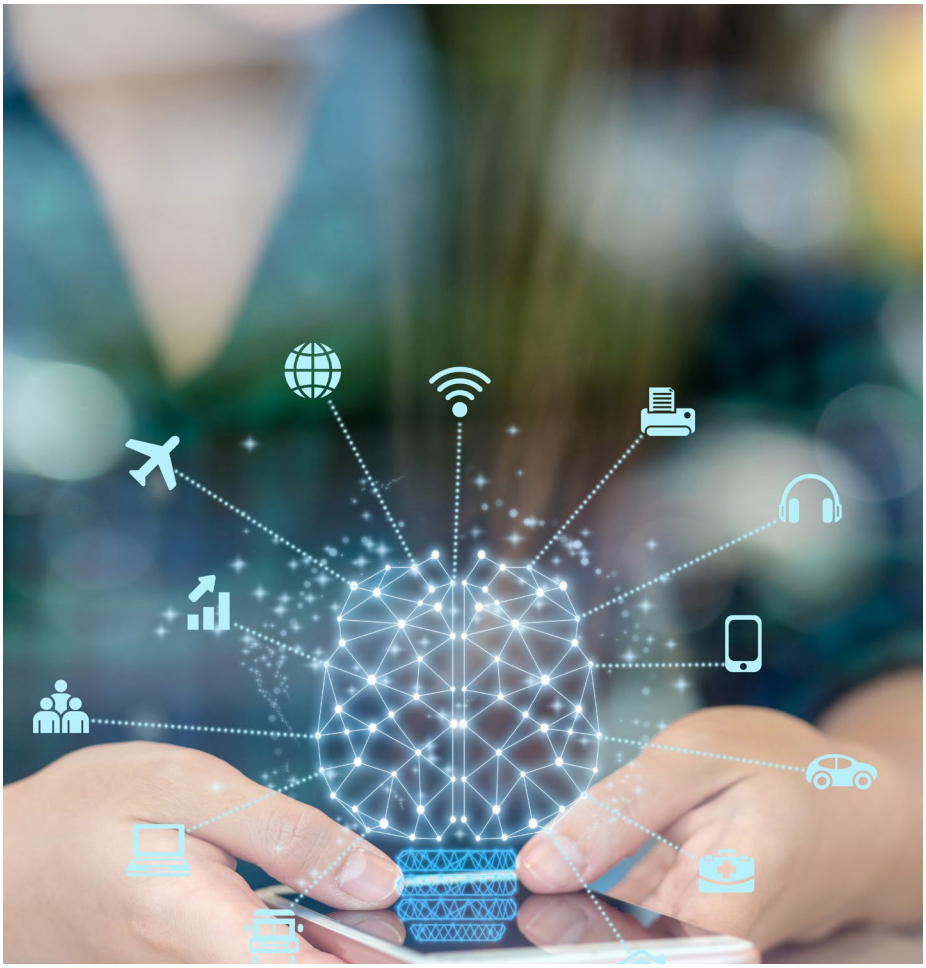
Expanding IoT Visibility without Increasing Burden



The internet of things, more commonly known as IoT, has arrived in the enterprise in a really big way. That should come as no surprise because the potential benefits are immense. Whether it's the building sensors, surveillance cameras, point of sale systems, or conference room technology, IoT is on the network helping to enable digital transformation.

While IoT is on the network, in far too many cases, organizations aren't aware of all the things that are running or the risks those things may represent. An unknown and unmonitored device on the corporate LAN represents a potential attack vector that can put an organization at risk.

Typically, enterprises want to support IoT devices on the network, but they also want to make sure that devices are secured in a way that doesn't hinder productivity or add new burdens on IT security. It's important to achieve both.

IoT Security by the Numbers

According to the 2020 Unit 42 IoT Threat Report, IoT accounts for more than 30% of all network-connected devices at the average enterprise. All those devices represent what Unit 42 refers to as a time bomb just waiting to explode. In fact, the research shows that 57% of IoT devices are vulnerable to medium- or high-severity attacks.

Adding further insult to injury, 98% of all IoT traffic is unencrypted. Unencrypted traffic means that if an IoT device is sending information over the network or the public internet, that information is sent "in the clear"–meaning anyone can see it. Unencrypted data coming from IoT devices could potentially lead to a data breach of sensitive information.

The 5 L's of IoT Devices

When looking at the risks of IoT devices, there are what we refer to as the 5 L's, which is a helpful way for a CXO to understand where the risks are:

- Large Quantity: There is a large and growing number of IoT devices.
- Large Variety: There is a large variety of protocols and technologies used in IoT.
- Lack of Self-Protection: For the most part, IoT devices are exposed and do protect themselves.
- Larger Risks (as the attack surface is increased): Without encryption and with unprotected access, IoT expands the attack surface within organizations.
- Long Lifecycle: IoT devices often outlive the supported update cycle from a vendor, meaning there can be a lot of older, unsupported IoT devices on a network.

Removing the Burden

The first step in limiting the risk of unmanaged IoT is to get visibility into what's on the network. After all, you can't manage what you don't know about.

Getty Images

Simply scanning the network hoping to find devices isn't enough either as traditional network scanning techniques are typically limited to device identification of known asset types. Traditional network scanning also poses a risk as it can crash or even break mission-critical operational technology equipment. Given the large variety of IoT devices, the reality is that not all devices will be easily discovered or classified. That's where there has been a real burden for IoT management. It's not that IT staff don't want to know what's on the network. It's that IoT devices don't show up in the tools that network and security professionals are used to using.

With passive monitoring and machine learning, it's possible to locate, then identify, the patterns associated with a given device. By monitoring not just what's on the network but also the behaviour of the devices on the network, a clearer picture can emerge. That can be used to inform an IoT security policy. The traditional approach of manual policy generation for what devices can or cannot do on a network is extremely cumbersome and error prone. It's also not scalable to manually build a policy for a growing number of IoT devices.

Removing the burden of IoT risk mitigation is about removing manual processes. It's about having full visibility into what is on the network and then using the power of machine learning to understand what is risky behaviour and what is normal. Converting the findings about how devices behave into automated policies that secure IoT within the infrastructure can make successful IoT adoption less risky.

With a data-driven policy, informed by what IoT is actually doing on the network, the next step is to pair that policy with the full range of cloud and on-premises security services to block all the known and unknown threats that target your IoT device–that's the end goal.

Don't leave your IoT devices to the mercy of shadow IT, which is unmanaged. Take control, reduce risk, and let your organization benefit from IoT, without the burden of unmanaged security risk.

Source: www.cio.com

How IoT Can Improve Your Manufacturing Operations

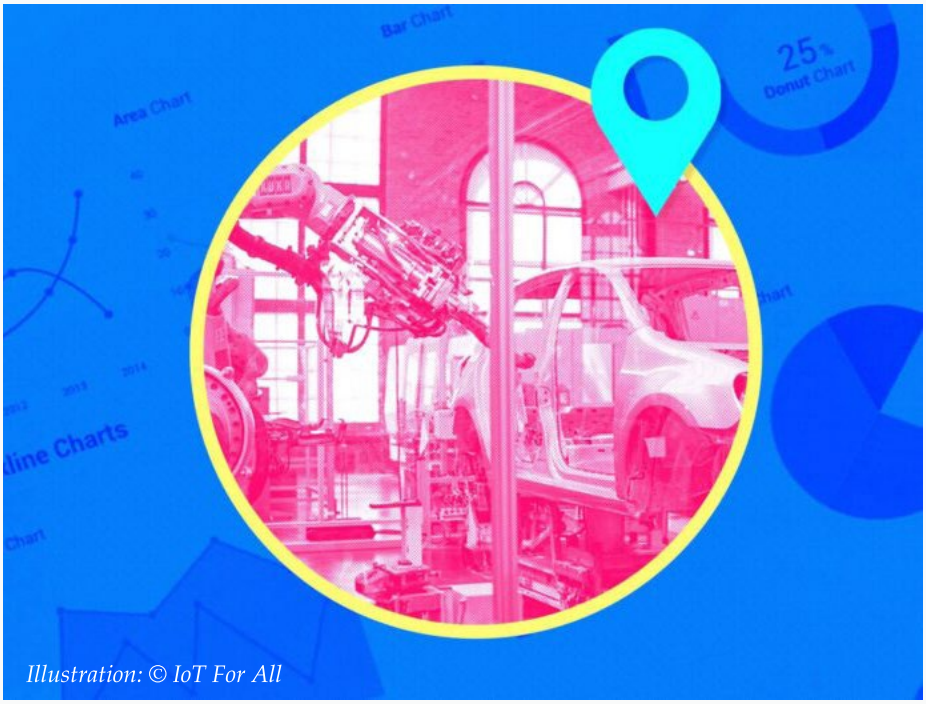


Illustration: © IoT For All

Manufacturers are faced with numerous challenges in the quest to improve efficiency, safety, and quality in their operations. Taking advantage of opportunities presented by IoT is one way to create more value in manufacturing going concerns. For instance, the sensors in IoT devices can monitor the temperature in a manufacturing facility. If there is an abnormal temperature rise, the sensor can alert a manager remotely, who can then address the issue immediately.

According to Fortune Business Insights, the IoT market was worth $250 billion in 2019. The size of the market is set to grow more than five-fold by 2027. Some industries that will adopt IoT rapidly are agriculture and healthcare. In agriculture, IoT can unlock precision farming, which uses sensors and robots to provide the best possible care for plants. It minimizes the risk in agriculture that arises because of inaccuracies in farming inputs used.

Manufacturing remains the biggest adopter of IoT to date. Not only does IoT help increase automation, it provides visibility into the entire manufacturing process.

Manufacturing remains the biggest adopter of IoT to date. It helps increase automation, provides visibility into the whole manufacturing operation, and reduces the time-to-market for innovations. If it's possible to create a sensor for a certain parameter, it's possible to apply IoT technology to improve a process. Some applications of IoT are pretty intriguing. It's predicted that IoT will trigger another industrial revolution in this decade.

Quality Control

Traditionally, manufacturing operations monitored quality by randomly taking a few samples every few minutes or hours to check whether they met set parameters. However, installing sensors to monitor quality indicators continually and transmit that data in real-time is now possible. Data can be collected through thermal sensors, video, and dimension sensors. This way, an alarm can be triggered if there is a deviation.

Real-time identification of problems in manufacturing reduces wastage because corrective action is taken immediately when a deviation occurs. IoT devices also help to reduce the time to diagnose and fix faults. The data can show the stage where the fault occurs.

Inventory Management

Industrial inventory management relies heavily on RFID tags put on every item. These tags have unique identification numbers that represent unique information about an item. The data is then extracted for processing.

A combination of RFID and IoT technologies can lead to helpful business insights coming from the data gathered. A good example would be installing sensors that can collect data about the expected expiration date of goods based on real-time information about their condition. This can help minimize waste. IoT devices can also be applied in smart shelves and storage bins to monitor stock levels in real-time. Organizations can monitor stock usage patterns then inform manufacturing decisions. During transit, real-time location monitoring through IoT devices can help identify delays in shipping so that contingency measures are taken if necessary.

IoT Aids Predictive Maintenance

One of the biggest investments in manufacturing operations is heavy equipment. Lengthening the useful life of capital assets and maximizing their uptime is of paramount importance.

Without IoT devices being installed, manufacturing enterprises rely on regular checks for signs of faults in the manufacturing line. However, just as with monitoring real-time information on the quality of goods produced, it's possible to monitor the condition of the machines themselves. Such things as temperature, vibrations, and fuel consumption can be used to tell whether maintenance is due or a particular part is worn out.

A predictive maintenance approach has several advantages. Preventing faults before they occur lengthens the useful life of machines and reduces the time for the production line. It also saves costs associated with breakdowns.

Visibility into Equipment Utilization

Manufacturers can use IoT technology to gather information about real-time equipment utilization. Using control systems architecture such as SCADA (Supervisory Control and Data Acquisition) and sensors, it is possible to collect data on machine run times, operating speeds, cycle times, idling and more. Engineers can then compare these actual performance figures with their utilization benchmarks. The complex data can then be processed and visualized to factory workers visually via apps. The entire system can be set up to provide users with real-time visibility instead of delayed periodic reports.

Real-Time Visibility in the Supply Chain

The application of IoT technology allows companies to know the availability and locations of goods in the supply chain and their conditions. Traditionally, goods ordered would be sealed and only opened for inspection at the point of delivery. However, sensors attached to the packaging can transmit real-time temperature, humidity, or any shocks. This data is important because there will be clauses on who bears the cost. The buyer can avoid receiving damaged goods, while the supplier can alert their driver or shipping company to take corrective action to prevent damage to goods.

Resource Optimization in Manufacturing

IoT can improve virtually any process if there is a sensor that can be installed to collect specific data. The data can then be processed to get actionable insights into the process. This can vastly impact resource usage in manufacturing as well as quality control. Other applications of IoT include smart metering. An IoT device is deployed to send information on electric power, water, or fuel usage. The goal would be to take corrective action in case the use is deemed inefficient.

Source: www.iotforall.com

How IoT Transforms Facilities Management Processes

Illustration: © IoT For All

The increased availability of Internet of Things (IoT) devices has allowed facility managers to implement automation which was previously impossible with legacy facilities management systems. IoT devices have also allowed facilities managers to gather a rich data set that allows for more data-driven decisions.

Utilization Based Facilities Management

Traditional equipment maintenance involves scheduled inspections. Regardless of usage, equipment is serviced at regular intervals or cleaning arranged at regular frequencies. Clearly, for equipment or spaces where use is irregular, such an approach is inefficient. IoT sensors allow granular monitoring of equipment utilization. For example, people counters can be deployed to count persons entering a toilet, and cleaners deployed only when a fixed number of persons have used it.

Tracking Asset Locations in Real-time

IoT technology can make assets location-aware. Indoor positioning technologies utilize RFID or Bluetooth to enable facilities managers to track the indoor positions of critical assets in real-time. Without IoT, location tracking of assets can be very tedious and error-prone, with users having to report the latest locations manually. Accurate real-time knowledge of asset location often also translates to the need to store less inventory. For example, in a hospital with portable ultrasound machines, finding out where these machines reduce handover time to the following user and optimize their utilization.

Automated Fault Triggering

IoT sensors affixed to equipment can automatically trigger maintenance requests. When a piece of equipment stops functioning, these sensors can alert a workflow management system which can immediately alert the appropriate technician. The result is lower equipment downtime or increased building user satisfaction. The concept of automated fault triggering applies to a varied range of Facilities Management processes.

In the context of COVID-19, for example, temperature sensors can alert technicians when refrigeration levels of vaccines have exceeded prescribed thresholds; and indoor air quality sensors can trigger alerts when ventilation is insufficient.

Improving Employee Well-being

Companies have started giving more attention to the welfare of their most valuable assets, their employees. The utilization of sensors and smart building systems allows organizations to improve the well-being of building users by tracking the indoor environment and regulating it to suit the users' needs better. Instead of constantly having disagreements over the building temperature, crowded areas can be created to fit the demands of the users. This allows for the easy environment adjustment following the users' preference by incessantly monitoring the space's temperature and humidity. Additionally, air quality can be monitored and modified to look after the health and welfare of the employees.

These benefits are only some of the biggest reasons modern that drive IoT and analytics deployment in modern facility management. Another factor that's boosting the implementation of IoT is predictive maintenance which leads to the next point.

Moving Towards Predictive Maintenance with IoT Integration

More often than not, several facility management teams wait to fix something when it has been broken, but this reactive attitude happens to be very costly. Facility management can be proactive and nip the bud of the problem before it arises.

The holy grail of facility management, predictive maintenance, will only be possible by leveraging IoT by constantly monitoring asset conditions and letting them self-monitor; facility management services can determine whether an asset is bound to fail to give them the chance to act before a failure occurs. Moreover, assets that communicate with each other in an interconnected system can inform other assets that they are due to failure to stop the process before failure extends to the entire system. Altogether, these predictive measures can increase asset performance and prolong the asset's lifespan through optimized asset operation.

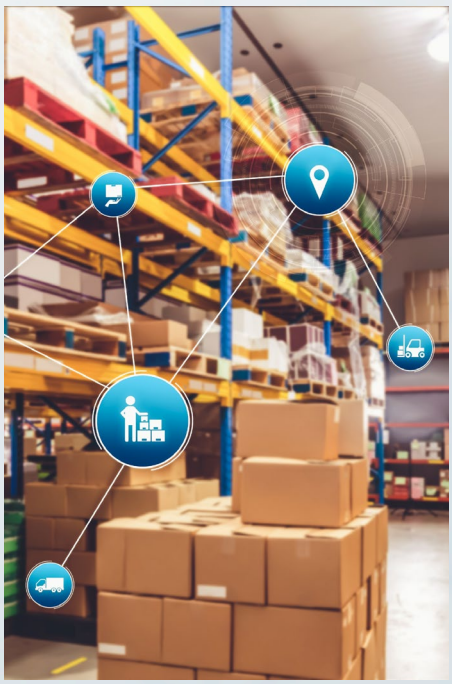
Practically, every asset, equipment, and system generates data. Keeping track of this data instantaneously will alert if something is out of order – or about to be –so the problem can be addressed in its infancy before it turns out to be an expensive repair or replacement.

Inevitably assets and machinery will deteriorate over time. Still, with predictive analysis and machine learning techniques, historical data is taken into account to arrive at predictions as to when a specific asset requires, for instance, a refurbish or a significant overhaul. IoT gives way to improved building operating systems, averting failures and keeping building users happy.

Building Management

Building management is no simple activity. Facilities vary, team members are spread out, and assets function independently from each other, which pave the way for operating in a silo, hindering management from making more informed decisions and leading to repetitive tasks.

Taking advantage of unutilized data sitting within these assets and systems is needed to create an efficient building operation. Now is the time for connected facility management. Fortunately, it takes no wizard-like figure to create an entirely digitized IoT smart building in today's world. Instead, it presses for a collaborative effort from management, who has set up comprehensive and actionable goals. When done right, facility management can transform into an automated system beneficial to the occupants, management, and owners.



Source: www.iotforall.com

Real words or Buzzwords?:
Cloud Native IoT

A continuing look at what it means to have a 'True Cloud' solution and its impact on today's physical security technologies

Cloud Native IoT means that IoT devices communicate securely with each other and the cloud, and that cloud applications make effective use of modern cloud architecture including the elements of serverless computing, so that they can provide uniformly high performance for any size IoT device deployment. This requires sound system design and cloud engineering work, about which a manufacturer or partner security service provider should be able to provide insightful discussions and good documentation to consultants and end user customers.

(Image courtesy bigstockphoto.com)

In the opening of his white paper, "How to Think Cloud Native", Joe Beda, a principal engineer at VMware, says, "One important note: You don't have to run in the cloud to be cloud native." The subtitle of the paper is, "Bite-size thought pieces on the definition and development of cloud native capabilities."

I highly recommend this paper to all physical security industry manufacturers because our industry tends to run five to 15 years behind the IT industry in the adoption of information technology and especially the people and process aspects – the IT *practices* – related to the full application and use of information technology. It's the practice side of the picture that the industry is typically incomplete on, often to the detriment of industry customers – the end users and the service providers who support them.

Beda further writes, "These techniques can be applied incrementally as appropriate and should help smooth any transition to the cloud . . . The real value from cloud native goes far beyond the basket of technologies that are closely associated with it. To really understand where our industry is going, we need to examine where and how we can make companies, teams, and people more successful."

Cloud native techniques – which are still evolving and advancing – have been well-proven at technology-centric, forward-looking companies whose names we all know, such as Google, Netflix and Facebook. These giants have dedicated large amounts of resources to their efforts,

and their lessons learned in developing successful (in scale, customer experience, and profitability) cloud solutions are worth considering. In nine pages of mostly plain language, this is what Beda delves into.

It's natural to think, "This can't apply to us because we're a small company, nowhere near the size of the tech giants." However, Beda tells us, "Smaller, more flexible companies are also realizing value here. However, there are very few examples of this philosophy being applied outside of technology early adopters. We are still at the beginning of this journey when viewed across the wider IT world." That wider IT world is where the security industry sits — at the *beginning* of the journey that is Cloud and IoT.

Companies like Microsoft, Facebook, Netflix and Google, who have thousands of software developers, organize themselves into many groups and teams for each product. For smaller companies —like those found in the physical security industry — groups and teams often translate into individuals with a variety of related roles and responsibilities, many of which are only occasionally called into action or are performed regularly but don't take up much time. The point is that many of the same principles and practices used by the big companies are still applicable, just on a smaller scale.

The rest of this article is devoted to a few technical aspects of Cloud Native IoT that are meaningful to end user customers and security service providers, as well as manufacturers.

Cloud Native IoT

A *native application* is one that has been developed for use on a specific platform or device, and executes more quickly and efficiently because it makes maximum use of the capabilities built into (i.e. native to) that platform or device, and doesn't require any extra layers of translation or interface to run there. Thus, we see the terms "native iOS app" and "native Android app" used to refer to mobile apps whose software code is written just for Apple's iOS or Google's Android operating system.

Cloud-native refers to an application that has been designed and built to take maximum advantage—based on the purpose of the application—of the key characteristics of cloud computing.

However, IoT has been one of the driving factors in the technological advancement of cloud computing since NIST first described it in 2011. Thus, the Cloud Native Computing Foundation (CNCF) now says that "cloud native applications are *specifically designed to take advantage of innovations* in cloud computing. They take advantage of modern-day cloud resources and scaling capabilities, which are important for cloud-managed IoT systems. CNCF also says that cloud native applications take advantage of *innovations in cloud infrastructure* (computing and networking hardware and software designs) driven by cloud computing.

Thus, today, cloud native applications today include apps that run in a cloud provider's datacentre and also on cloud native platforms on premise.

The term *Cloud Native IoT* refers to extensive use of serverless cloud computing resources to maximize the performance of cloud-based IoT systems, as well as to lower the cost of cloud computing for high device count IoT systems and their related analytics applications.

Under server-based cloud architecture, cloud application providers must manage the virtual server or virtual server cluster on which their applications are running. When a spike occurs in IoT device events to be processed and more processing power is needed, more virtual servers need to be spun up, which can take many minutes. That's not an acceptable time frame for processing door forced open or intrusion alarm events. And it adds a disproportionately high cost for processing just a few events.

Serverless Computing

With serverless computing, parts of an application run in application containers. A container holds only those software code libraries required to run the application function being placed in it, as opposed to holding an entire server operating system. As a cloud resource, a container can be launched by the application automatically in a few microseconds and will run only as long as it needs to (seconds or minutes) and is then automatically shut down. The cloud service provider only pays for the time the function's container was actually running. In cloud parlance, this is called Function as a Service (FaaS).

Such an event spike can happen for central station alarm monitoring centres and regional corporate Security Operations Centres when an earthquake occurs, and all the impacted buildings send in their sensor-based and video-based motion-detected alarms. This can render a traditional central station or SOC non-functional as alarms queues get full and valid alarms get lost amid the countless earthquake-caused nuisance alarms.

This is why, for example, Brivo uses containers for functions related to event handling. A new event arrival launches a new container, and regardless of how many events arrived, each event can be processed instantly. When a bunch of events all arrive at once, they get individually processed in parallel. The cloud infrastructure automatically expands the needed cloud resources, including application network bandwidth, so that nothing is delayed longer than its actual no-wait processing time.

This means, for example, that all access control panels at a site can send their activity to the cloud at the same time, and the cloud application never backs up. It means that a regional dashboard of events across many sites is always up to date, no matter how much activity goes on.

Cloud Native IoT means that the cloud application side of a cloud-managed system of on-premises equipment can perform much better than an on-premises system, because there is no such thing as a server's CPU utilization maxing out. At the busiest times of day, any number of end users can use the cloud application to view events, run reports, and perform other system tasks – all with no delays. Pre-cloud, I've seen security applications which, around building opening and closing time or manufacturing plant shift changes, the company's local software and SOC applications lag in reporting events and performing certain application functions.

Cloud Native IoT also means that robust device and system security controls are in place, such as strong data encryption, and digital certificate-based authentication between IoT devices and on-site appliances as well as with the cloud applications they communicate with.

System Integrations Impact

In earlier times, points of security systems integration could be bottlenecks and sometimes had reliability problems, but most of the time system integrations were not that significant in terms of the amount of data they handled. However, integration activity is changing both in frequency and amount of data exchanged, due to the arrival of AI-based video and IoT sensor-based analytics which have near-real-time sensitivity. Many of the analytics are providing new kinds of data valuable to security and to other functional areas of the business, requiring more types of information than before.

Since most organizations have transitioned many in-house applications to the cloud as well as having subscribed to commercial business cloud-based applications, cloud-based integrations are becoming the norm, especially in the current age of corporate digital transformation. Containerization for cloud application API functions can have a significant impact on security systems integration performance. This is not a significant factor now for most security systems, but it will be going forward.

In summary, Cloud Native IoT means that IoT devices communicate securely with each other and the cloud, and that cloud applications make effective use of modern cloud architecture including the elements of serverless computing, so that they can provide uniformly high performance for any size IoT device deployment. This requires sound system design and cloud engineering work, about which a manufacturer or partner security service provider should be able to provide insightful discussions and good documentation to consultants and end user customers.

A future article will follow up on Beda's comment that "You don't have to run in the cloud to be cloud native." It will address challenges and opportunities for organizations with sizeable security system deployments, and options for transitioning to cloud-managed security systems.

Source: www.securityinfowatch.com

TCS, AIS to Bring 5G IoT Solutions to Thailand's Key Sectors

Tata Consultancy Services (TCS) has teamed up with Thailand's largest telecom operator AIS to help enterprise customers adopt 5G-based IoT solutions by offering TCS' IoT smart manufacturing solutions, which will be jointly marketed across the country's key sectors such as manufacturing, logistics, transport, property and smart city.

Tanapong Ittisakulchai, chief enterprise business officer at AIS welcomed the opportunity to work with a global partner such as TCS to create next generation high-speed IoT solutions that help advance and enhance core industries such as manufacturing.

"Together we are creating important new digital services that can help our customers improve operations, capacity and competitiveness. Furthermore, we are pleased to be offering IoT services that will help advance Thai core industry with a focus on manufacturing, contributing to the national economic rebound and growth," he said.

TCS' IoT Smart Manufacturing Solutions leverage next-gen technologies such as digital twins, to enhance operational resilience, improve customer experience, and drive innovation across the manufacturing value chain. Offerings include:

Smart Manufacturing: Solutions for industrial plants to connect production lines with 5G network within the factory and IoT devices such as condition-based maintenance, predictive maintenance, remote monitoring, remote diagnostics, digital twin, and more.

TCS Clever Energy: An enterprise-level energy and emissions management system, powered by IoT, artificial intelligence, machine learning and cloud, that helps commercial and industrial organizations drive energy and cost efficiency, decrease carbon emissions, and become more sustainable.

TCS Gen 4-Work-AR: An IoT based connected worker mixed reality solution to provide real-time contextual information for better decision support, to empower employees to work remotely with cutting edge technology such as AR/VR to supervise work, train employees, give advice about work or even solve on job site problems promptly.

TCS Logistics Optimizer: A unique AI & ML-based IoT solution built to synchronize the operations in the Supply Chain management process and enhances visibility across the value-chain. It is a proven solution that helps reduce logistics costs and drives efficiency across the network through resource optimisation & increased On-Time delivery

"Forward-thinking manufacturers are deploying IoT strategically to enable new business models, enhance customer experience, make their value chains more responsive, and drive growth," said Vijaya Pandya, country head, TCS Thailand. "We are pleased to partner with AIS to further accelerate our go-to-market capabilities for our exciting range of IoT-based business solutions that will enhance Thailand's industrial sector."

Source: futureiot.tech

OnRobot Makes Software Debut with WebLytics Solution for Collaborative Applications

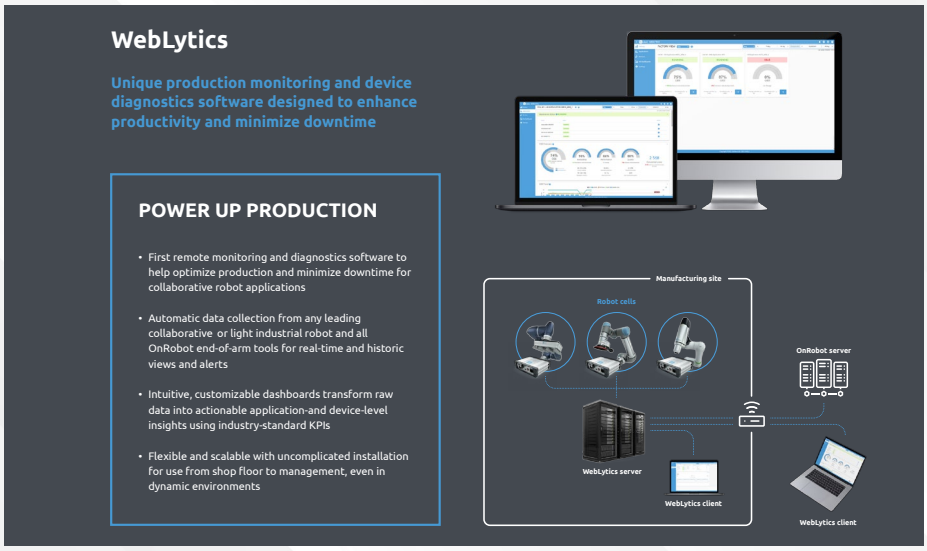
WebLytics brings remote monitoring, device diagnostics, and data analytics capabilities to OnRobot's line of collaborative application-focused hardware solutions.

Odense, Denmark, November 11, 2021: OnRobot, the One Stop Shop for collaborative robot applications, makes its software debut with the launch of WebLytics, a unique production monitoring, device diagnostics, and data analytics solution designed to enhance productivity and minimize downtime.

Capable of monitoring the performance of multiple collaborative applications simultaneously and in real-time, WebLytics gathers equipment data from both robots and tools and transforms it into easy-to-understand, visualized device, and application-level intelligence.

"The launch of WebLytics is an important landmark for OnRobot, our customers, and our global integrator network," says Enrico Krog Iversen, CEO of OnRobot. "WebLytics is the first software solution to provide real-time, application-focused data for collaborative applications across major robot brands. As our first software product, WebLytics marks the beginning of OnRobot's journey into robot software and completes our vision of providing a One Stop Shop for collaborative applications on both the hardware and software side."

For end-users and integrators, WebLytics not only eliminates manual data collection -- it provides actionable insights into how well a collaborative application is performing, offering live device diagnostics, alerts, and preventive maintenance measures to keep costly robot cell downtime to a minimum.



Integrating the globally recognized overall equipment effectiveness (OEE) industry standard, WebLytics identifies trends in real-time in the robot cell, including patterns, peaks, and disturbances in application productivity. OEE measures the percentage of manufacturing time that is truly productive – a score of 100% indicates that the collaborative application is producing only good parts, as fast as possible, and with no downtime. Leveraging these OEE measures, WebLytics can determine whether the manufacturing process is running at optimal speed and can monitor and analyze the quality of application cycles –key insights for manufacturers of all sizes.

WebLytics can report on the utilization of the robot arm and OnRobot tools such as grippers, vision cameras, and sensors, as well as the number of safety, stops initiated, and the number of grip cycles performed while an application is running.

When changes are made to a robot cell, such as adjusting the speed of a robot or the settings on a gripper, WebLytics can also automatically report on the impact of those changes on application performance.

If anomalies occur in the collaborative application after deployment, WebLytics enables users to analyze the data collected directly from the robot(s) and tools and report on its findings using customizable dashboards.

Laszlo Papp, Product Manager & Sales Engineer at Wamatec Hungary Kft., tested WebLytics on machine tending, pick & place, and palletizing applications:

"In this fast-paced world, time is everything. When cycle time is really important, WebLytics helps you identify the small mistakes that cause time wastage," he said. "WebLytics can also save a lot of time for yourself and your production line by making it easy to schedule all maintenance and product changes. My favorite function was the dashboard. I liked how WebLytics allowed me to monitor all my applications, my cobots/robots, and my end-of-arm tools using one platform that provides real-time monitoring, data collection, and line charting. WebLytics makes optimizing all applications much easier than before."

WebLytics retains the ease-of-use, affordability, application focus, and accessibility that defines every OnRobot product. Compatible with all leading collaborative robot and lightweight industrial robot arms and with all OnRobot tools, WebLytics is readily expandable, futureproofing it as new robots and tools become available. Access to WebLytics' is provided through a secure, intuitive browser-based user interface, that displays OEE measures and user-defined KPIs through customizable dashboards that provide an immediate and transparent view into real-time and historical application performance.

The WebLytics server can be deployed on a shop floor's local network or added to a virtual network that connects to the robot cell. Collected data is stored locally on the WebLytics server. Meanwhile, WebLytics' built-in web server is always accessible from the shop floor network or from anywhere in the world via a secure HTTPS connection.

WebLytics is not just a powerful tool for end-users; it also creates new revenue opportunities for system integrators, by providing the software required to offer their customers data-backed custom service agreements and engineering services for cell optimization.

"WebLytics is the perfect addition to our existing product lines and a natural progression of the OnRobot tradition of making advanced tools and technologies — in this case, remote monitoring, device diagnostics, and data analytics — affordable and accessible to companies of all sizes," says Iversen.

WebLytics is available worldwide via subscription from November 11, 2021.

About OnRobot

The OnRobot product range features a wide assortment of tools and software for collaborative applications, including electric, vacuum, and magnetic grippers, the award-winning Gecko gripping technology, force/torque sensors, a 2.5D vision system, screwdriver, sander kits, and tool changers. Supported by the free, Learn OnRobot e-learning platform, OnRobot makes it easy to deploy collaborative automation on tasks such as packaging, quality control, materials handling, machine tending, assembly, and surface finishing regardless of skill level or previous robotics experience. Headquartered in Odense, Denmark, OnRobot also has offices in Dallas, Soest (Germany), Barcelona, Warsaw, Shanghai, Tokyo, Seoul, Singapore, and Budapest.

H3 Dynamics Launches World's Most Advanced Drone Charging Station, Targets Automation of the Global Drone Services Industry

- **Agnostic to drone hardware & software, DBX opens to aerial analytics from around the world**
- **UTM-ready & 5G-enabled, DBX is the first real step towards larger UAM vertiports of the future**

H3 Dynamics announces the launch of DBX-G7, a brand new vertiport system for autonomous drone operations. Smarter, faster, and multi-modal with 5G and 4G, DBX was designed to scale on-going digitization efforts in safety compliance, maintenance and crisis management. Applications range from smart cities across Asia to various types of industrial sites worldwide.

H3 Dynamics Launches World's Most Advanced Drone Charging Station, Targets Automation of the Global Drone Services Industry

Developed during the COVID-19 pandemic, DBX-G7 is a direct response to the new tele-presence and remote work paradigm. DBX performs all the functions of an on-site drone pilot: navigation, docking, stowing, battery charging, data retrieval, transmission, and cloud-based processing. Autonomous systems such as DBX help reduce the need for on-site presence, and can help alleviate rising labor shortage pressures.

"With accelerating digitization, the need for structural scans is also growing while pilot availability is limited. We are looking to close the gap with our DBX autonomous drone stations." Says Samuel Chauffaille, head of H3 Dynamics' robotics systems division.

H3 Dynamics has been deploying its AI-enabled digital inspection solutions to address the many thousands of high-rise buildings that require regular inspections in Singapore, most of which use using piloted drone operations. The company has expanded its solution through strategic partnerships, including on a SAP connectivity to send repair work orders directly from H3 Dynamics› digital platform (see video). Enterprise software giant SAP and H3 Dynamics are now working together on an increasing number of industrial use cases.

Through its global partnership with air traffic control leader THALES, H3 Dynamics is working on real time airspace integration through a multi-pronged approach around the world. DBX is the start of autonomous urban air mobility - one that builds immediate commercial experience with lower risk, 5-kg drones operations, a living laboratory for cities considering 4-5-ton air taxis designed to carry passengers

"What makes DBX really unique, is its open-architecture philosophy. Unlike other closed environments that restrict users to a single drone type – DBX can host professional drones from different manufacturers, and support multiple communication protocols and operating standards." – says Taras Wankewycz, H3 Dynamics' Founder and CEO.

This enables a broad universe of existing use cases and client requirements across geographies– from solar farms to precision agriculture, critical infrastructure maintenance, utilities, buildings, perimeter security, and many more.

"DBX will accelerate the global drone economy and existing solution developers anywhere in the world. Just like with smartphones help deploy the mobile app economy, H3 Dynamics DBX will deploy the global drone analytics economy".

Source: www.prnewswire.com

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Can 5G Be Explained Easier By GSMA's Newest Association?

While the excitement for 5G grows, how many truly understand its full potential? But hark — businesses may soon find it easier to have the technology explained with the formation of a new industry community by GSMA.

The Asia Pacific is implementing 5G at great speeds, with Australia, greater Asia, and most of Southeast Asia already deploying the necessary infrastructure. However, one of the biggest concerns for operators was the lack of an ecosystem to better learn about the technology and the benefits that come with it.

There have been several 5G use cases being tested around the region, but many felt there wasn't a platform to share their findings and engage in collaborative knowledge-sharing.

The GSMA predicts that 5G will contribute US$5 trillion to the global economy by 2025, as countries increasingly benefit from increased productivity brought about by the increased take-up of mobile services. 5G will benefit all economic sectors during this period, with services and manufacturing seeing the most impact.

Recently, the mobile industry association announced the formation of the Asia Pacific 5G Industry Community. It aims to become a new ecosystem for stakeholders and those intending on delivering Industry 4.0 and digital transformation from 5G networks, edge-cloud services, enterprise IoT and AI.

The 12 contributing members include AIS, Axiata, DEPA, DHL, Globe, Huawei, Kominfo, Maxis, MDEC, Schneider Electric, Telkomsel and, Viettel, who collectively have more than 500 members in over 30 countries.

According to GSMA's Head of Asia Pacific, Julian Gorman, the main purpose of the industry community is to "unlock the power of 5G connectivity so that people, industries, and society thrive". GSMA will play a leading role in supporting and amplifying the vital work the industry is doing at thisttime.

Huawei, which operates most 5G infrastructures in the region, has, in recent years, been working on supporting industries to identify viable pathways for 5G-connected services. Meanwhile, Malaysian telco provider Maxis will share their expertise and leverage GSMA's best practices to showcase the possibilities 5G and other advanced technologies for the Malaysian marketplace.

Asian industries, infrastructure, and manufacturing are at an inflection point of implementing digital technologies and smart services, quips Dr. Gopi Kurup, Chief Executive Officer, Axiata Enterprise.

With pockets of the supply and value chains in more advanced states of adoption, the pandemic and economic situations have accelerated wider end-to-end implementation considerations. Industries dealing with food safety, assured healthcare, smart manufacturing, transportation, and logistics are at the forefront of the digital transformation and adoption curve in the region.

As part of the Industry Community, there are three Industry Interest groups: Manufacturing, Logistics, Port and Transportation, and Healthcare.

These groups will help members:

- Share 5G experiences to foster a learning culture that helps industry partners and innovators innovate
- Understand industry requirements, explore scenarios and applications of 5G
- Promote commercial use, reference, and best practices
- Network, build ecosystems and new partnerships

The community will also have several other benefits which include 5G industry reports and case studies as well as regular updates on the latest 5G industry developments and insights.

Source: techwireasia.com

Geek+ and DHL Showcase 'The Future of Robotics Automation' In DHL's Asia Pacific Innovation Center

Geek+, a manufacturer of autonomous mobile robots, is partnering with DHL's Asia Pacific Innovation Center. Located in Singapore, the center will be home to a new exhibit that showcases a cutting-edge, automated, and completely integrated e-commerce solution.

Named the "Warehouse of the Future", the exhibit integrates RoboShuttle tote-picking robot and robot-arm technology for full-scale automation.

The project represents the shared values and commitments of both Geek+ and DHL to accelerate innovation and educate supply chain leaders on the opportunities that come with robotics automation.

Hongbo Li, CTO at Geek+, says: "This project not only marks a new milestone for the logistics and supply chain industry but a milestone in the global relationship between Geek+ and DHL that follows a number of successful robot deployments in several of DHLs' warehouses in Asia-Pacific.

"DHL's Innovation Center will provide an exclusive look at how robotics are already powering the industry's most efficient warehouses, proving to decision-makers that the future of automation is here today."

YingChuan Huang, Innovation Manager, Asia Pacific Innovation Center at DHL, says: "Customer-centric innovation has a very important place in DHL and we drive this through close partnerships with leading companies in technology, startups, industry thinkers, and of course our customers.

"The Geek+ exhibit is the perfect showcase of how technologies such as AI, Computer Visioning and Robotics are not only converging, but also building off the strengths of each technology to provide even greater value to our customers' supply chains."

The accelerated rise of e-commerce and new challenges posed by the global pandemic have fueled intense interest in the capabilities that AI and robotics-enabled automation can provide for building operational resilience.

The Innovation Center displays Geek+ RoboShuttle tote-picking robot built on AMR technology, working with OSARO's collaborative robot arm to provide fully automated logistics processes.

The solution supports both outbound and inbound logistics operations. For order fulfillment, the RoboShuttle autonomously finds the tote containing ordered items, picks the tote, and carries it to a picking station using its fork arms.

Once at the picking station, the robot arm picks items from the tote, packs the order, and prepares it for outbound delivery.

The operational performance is displayed on dashboards throughout the entire process, providing visitors with the information needed to view in real-time the improvements that robotics automation can bring to the world of logistics in terms of efficiency, accuracy, and flexibility.

Source: roboticsandautomationnews.com

Greater KL's Burgeoning Robotics Ecosystem Gains Traction

Bright future for robots in Malaysia's industrial and service sectors.

Businesses around the world are increasingly turning to automation such as robotics to address rapidly changing working conditions brought about by the coronavirus pandemic. The International Federation of Robotics estimates that almost four million industrial robots will be working in factories around the world by 2022.

"For businesses, the pandemic has underscored the importance of automation for resilience. There is widespread appreciation for automation and robotics to ensure the effects of future lockdowns, if any, are less severe," says Laurent Maillefer, vice-president of robotics and discrete automation at ABB Malaysia Sdn Bhd.

"With social distancing guidelines in place, managers will need to account for a reduced workforce and ensure that people are at a safe distance from one another while at work. Robots can help in this aspect.

"But there are other competitive advantages that robotics offers in the new normal global business environment that is looking for adaptability, flexibility, customization and smaller orders (batches). Robots can upgrade the traditional manufacturing process and meet these business needs. I am seeing an increasing number of industries from jewellery-making to food delivery looking at automating their business process for a post-pandemic world."

ABB, a Swedish-Swiss multinational company, is a pioneering global technology leader. The company has four customer-focused businesses divisions: Electrification, Process Automation, Motion and Robotics & Discrete Automation.

ABB, which has been in Malaysia since 1904, recently established a state-of-the-art Regional Robotics Digital Operations Centre in Greater KL. This center leverages Industry 4.0 technologies such as cloud computing, big data analytics and end-to-end connectivity to provide real-time monitoring and technical support for ABB robots located at their clients' sites across Asean countries, Taiwan and India.

"ABB's decision to host our Regional Digital Operations Centre here reaffirms our commitment to supporting Malaysia's growing digital ecosystem. We have a long history here, so it was easy for us to further develop our local operations. Now, one of our main priorities is to develop local engineering capabilities that we need to drive ABB's leadership in digital technologies in the region," says Maillefer.

Nurturing 'robotics' skills in Malaysia

Robotics is an interdisciplinary field made up of multiple fields of study: computer science, mechanical and industrial engineering, and electrical and computer engineering. Advanced computer science such as machine learning programs and complex artificial intelligence (AI) are usually part of a robot's control system.

Talent in the robotics field also requires skills such as creative thinking, programming and the ability to work in teams and solve complex problems.

"The field of robotics is always innovating. There is always something new to learn. It could be a new AI concept to test or new programming language to pick up," says Yong Chong Soon, CEO of UURobot Asia Sdn Bhd.

UURobot Asia, a joint venture between a local entity and Bejing Canbot Technology Co, Ltd/ShenZhen JustGood Technology Co, Ltd

(CANBOT), is looking to establish an Asean regional hub for CANBOT service robots in Greater KL.

CANBOT is among the top robot service manufacturers in China. While the hardware is developed in China, UURobot develops the software that powers these robots for clients in the region.

"UURobot provides robotic solutions to local industries by enhancing the capacity of CANBOT's robot. This is done by building the software that tells the robot what to do. The result is a robot that can be used by companies regionally and a technologically advanced product that Malaysia can be proud of," says Yong.

He agrees that the future of robotics looks bright if the right steps are taken to continuously nurture and support the ecosystem as it matures into a thriving and vibrant community.

"The local robotics industry should be able to solve industry pain points and compete regionally as developers of technology. Talent is central to this ecosystem. They must be inquisitive and eager to explore things that have never been done before. Development of local talent with the various tech and soft skills for this industry should be a top priority among all stakeholders in Malaysia's digital economy," he says.

UURobot Asia and ABB collaborate with local universities to secure talent pipeline for their companies.

On the job, they provide hands-on learning to their university interns, a necessity for young talent to gain a comprehensive understanding of real-world robotic skills. Interns also benefit from being a part of the innovation process and the development of new solutions.

Maillefer cites the success story of an intern at ABB who has gone on to establish a start-up specializing in the development of "eyes" for a robot. "This shows the boundless opportunities available to talent in this field. Someone with the technical skills and great interest can easily spot a gap in the robotics supply chain that needs to be filled," he says.

Innovation thrives on collaboration

Maillefer and Yong agree that collaboration is key to tech-driven innovation as companies, universities and government agencies look to respond to rapid demands and changes in the business world.

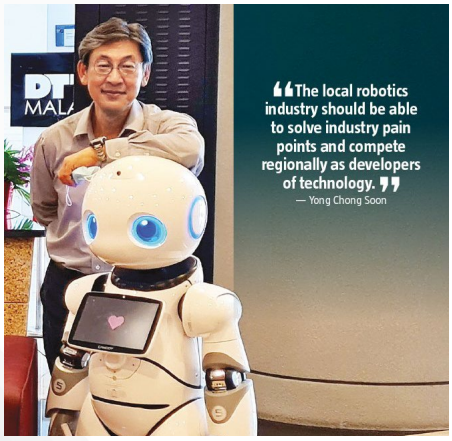
"There is a tendency for tech companies to work in silos, but companies such as start-ups, established corporations and government entities must work together to seize opportunities in a post-pandemic world," says Yong.

"There is no need to reinvent the wheel, especially when it comes to tech products and services, as things change so quickly. We should focus on working together to reimagine the norm and develop new solutions. Collaborative activity is the best way for all parties in this landscape."

Maillefer says: "ABB has always worked with local companies to provide solutions that meet our clients' needs. By working together, all of us can focus on what we do best. We are also working with local companies that are exporting their robotic solutions and expertise regionally."

Collaboration is also needed to explore the use of robotics in traditional industries such as healthcare and food and beverage (F&B). Robot providers such as UURobot have been encouraging companies to start automating by lowering the cost to entry.

"We see a lot of opportunities for robots in traditional industry. The healthcare industry, for example, will need to serve Malaysia's ageing population. Robots can help healthcare providers meet the growing need for care among the elderly," says Yong.



"There is a misconception that robots are very expensive. Technological developments and collaboration such as UURobot's joint venture with CANBOT has lowered the cost of using robots so technology can be accessible for everyone. For example, a delivery robot for the F&B industry costs about RM25,000. This robot operates 24/7. We are also coming up with a leasing model to make it even more affordable for restaurants to use robots.

"Now is the best time to explore the use of new technology to build a competitive advantage. We hope that companies will support the growth of the fledgling local robotic ecosystem and transform their business while the government supports proof-of-concept trials and other aspects that are needed by robotic companies in Malaysia to thrive regionally."

Source: www.theedgemarkets.com

Singapore to Develop Mobile Defense Systems with Ghost Robotics

Defence Science and Technology Agency says it has inked a partnership agreement with Philadelphia-based Ghost Robotics to test and develop technologies as well as use cases for legged robots for security, defense, and humanitarian applications.

Singapore's Defence Science and Technology Agency (DSTA) has inked a partnership with Philadelphia-based Ghost Robotics to identify uses cases involving legged robots for security, defense, and humanitarian applications. They will look to test and develop mobile robotic systems, as well as the associated technology enablers, that can be deployed in challenging urban terrain and harsh environments.

The collaboration also would see robots from Ghost Robotics paired with DSTA's robotics command, control, and communications (C3) system, the two partners said in a joint statement.

The Singapore government agency said its C3 capabilities were the "nerve center" of military platforms and command centers, tapping data analytics, artificial intelligence, and computer vision technologies to facilitate "tighter coordination" and effectiveness during military and other contingency operations.

Its robotics C3 system enabled simultaneous control and monitoring of multiple unmanned ground and air systems to deliver a holistic situation outline for coordinated missions, including surveillance in dense urban environments.

With the partnership, DSTA and Ghost Robotics would test and develop "novel technologies and use cases" for quadrupedal unmanned ground vehicles, which would be integrated with multi-axis manipulators. These would enhance how the autonomous vehicles interacted with their environment and objects within it.

Power technologies, such as solid-state batteries or fuel cells, also would be integrated to allow the robotics systems to operate for extended periods of time.

DSTA's deputy chief executive for operations and director of land systems, Roy Chan, said: "In the world of fast-evolving technology, close collaboration between organizations is imperative to co-create use cases and innovative solutions. In partnering Ghost Robotics, DSTA hopes to advance robotic capabilities in defense and shape the battlefield of the future.

"We envision that robots would one day become a defender's best friend and be deployed to undertake more risky and complex operations in tough terrains," Chan said.

DSTA is tasked with tapping science and technology to develop capabilities for the country's Singapore Armed Forces (SAF), including the use of autonomous vehicles. The Ministry of Defence and SAF in June 2021 unveiled a transformation strategy to address evolving security challenges and threats, which encompassed efforts to leverage technological advancements to better tap data and new technologies, such as robotics C3 systems, and integrate these technologies into warfighting concepts to improve operational effectiveness and reduce manpower requirements.

According to Ghost Robotics, its quadrupedal unmanned ground vehicles were built for unstructured terrain, on which a typical wheeled or tracked device could not operate efficiently.

Source: www.zdnet.com

Softbank in Talks to Sell French Robotics Business to Germany's United Robotics

FILE PHOTO: A visitor looks at his mobile device next to Pepper the robot during the "Salon International de la Haute Horlogerie" (SIHH) watch fair in Geneva, Switzerland, January 14, 2019. REUTERS/Denis Balibouse/File Photo

SoftBank Group is in talks to sell the Paris-based robotics business behind its Pepper android to Germany's United Robotics Group, according to sources and documents reviewed by Reuters, scaling back a business it once touted as a major growth driver.

The talks are ongoing and plans could change, said two sources familiar with the matter, who declined to be named as they are not permitted to speak to the media. It is not clear whether SoftBank will retain a stake in the business.United Robotics Group, which is backed by German industrial robot maker Hahn, became the European master distributor for SoftBank's struggling Pepper and Nao robots in October.

United Robotics declined to comment. SoftBank has said it remains committed to the Pepper business.

Reuters reported in June that SoftBank had stopped production of Pepper and slashed jobs at its robotics business globally. Roughly half of 330 staff positions were cut in France, where operations date back to the 2012 acquisition of start-up Aldebaran, which custom-designed Pepper for SoftBank.

Additional staff have quit because of low morale, forcing SoftBank to advertise positions to fill core functions, according to the sources and a review of job postings.

United Robotics has offices in Germany and Austria, according to its website. Recently departed SoftBank staff in areas such as sales have been hired by the company, according to the sources.

SoftBank, which is riven by a culture divide between its European workforce and Japanese managers, has a dwindling stock of aging Pepper units and components approaching obsolescence, Reuters reported previously.

In addition to selling Pepper and Nao, a small humanoid robot, United Robotics also markets robots like Sawyer, an industrial robot that can operate alongside humans.

The restructuring comes as SoftBank focuses on selling third party hardware following the commercial failure of Pepper.

The conglomerate has created a parallel sales operation in Britain, reducing its reliance on the Paris-based business.

SoftBank engineers in France have been working on a secret project to design a serving robot called Plato, according to the sources and documents reviewed by Reuters.

However, managers in Japan have put off ordering the robot, the sources said. At the same time, SoftBank has struck deals to sell similar robots from outside firms, diminishing the commercial viability of its own product.

Source: www.channelnewsasia.com

Thai-Made AI Robot and Innovations Support Thailand's Fight Against COVID-19

As the world is reeling from the COVID-19 pandemic without a clue when the crisis will wither away, innovation and technology play a vital role in alleviating the impacts. Innovation and technology not only bring convenience to everyday life but also are an efficient tool to support medical professionals and the overall healthcare sector.

The research and development on technology that aids medical professionals becomes extremely crucial, to protect the frontlines and reduce their risks, particularly in light of shortages of medical supplies/devices and exorbitant prices due to huge demands.

AI and Robotics Ventures Company Limited (ARV), a new business unit of PTT Exploration and Production Public Company Limited (PTTEP), thus aspires to invent Thai-made tools, to support Thailand's fight against the disease. Together with partners, ARV has brainstormed ideas and expertise for the creation of artificial intelligence (AI) and robotics innovations that support medical professionals and enhance safety measures. The mission started with 3-in-1 negative pressure patient transport capsule. Developed jointly with PTTEP, the capsule generates negative pressure, removes particles from the air, and disinfect itself. It is equipped with a negative air pressure generator box which keeps the pressure of air inflow lower than outside pressure. Preventing the air from flowing out and hence, the capsule blocks the spread of disease. The box is equipped with high-efficiency particulate air filter (HEPA Filter) that remove 99.99% of particles whose diameter is as small as 0.3 micrometer or 100 times smaller than a human hair. Meanwhile, the installed UV-C light bulb acts as a disinfectant. It ensures air flowing out of the capsule contains no disease, hence reducing risks associated with a patient's transfer.

The same set of knowledge was applied with the creation of negative pressure generator. Equipped with this generator,

medical tool boxes are safe for use, adding convenience to medical professionals. The generator can be powered by a battery, electric sources or solar cells, making it suitable for remote areas. PTTEP delivered the negative pressure capsules and boxes to Vajira Hospital for further distribution to hospitals across the country. Negative pressure transport beds and wheelchairs were also donated to Siriraj Hospital.

IoT Cold Chain is another innovation in this regard. It is a set of tools that monitor temperature and control the cold chain, which helps maintain the efficiency of COVID-19 vaccine storage. The innovation applies wireless seismic survey, a technology that the petroleum exploration uses to acquire the geological structure of rock layers. For the IoT Cold Chain, vibration sensors are replaced with temperature sensors. The device is small. Installed with vaccine storage units, it ensures the temperature stays at the prescribed range and reports real-time data to control monitors. In case of irregularities, concerned personnel will be alerted for prompt response while the data will be sent to the central control center that is linked with all devices in use in different parts of the country. The device plays an important role in the storage of sensitive vaccines, including COVID-19 vaccines. Developed by ARV, the devices were handed to the Ministry of Public Health.

CARA Robot was developed to assist medical personnel in delivering medical and food supplies within hospitals and isolation venues. With a remote controller, the device can be operated from the distance up to 100 meters, which reduce risks in contracting the disease from patients. Through an installed tablet, it also serves as a communication channel for patients and medical professionals. CARA is currently delivering medical and food supplies at PTT Group's End-to-End field hospital and other hospitals.

Xterlizer, developed by ARV, can inactivate viruses, bacteria and fungi with UV-C light. In just 5 minutes, it can disinfect an area of 25 sqm. It is mobile and wireless, able to operate and avoid obstacles on its own. With an infrared motion sensor, the disinfectant machine will immediately stop emitting the UV-C light when detecting any motion, to ensure safety.

These innovations were created by Thai companies following the outbreak. They have been efficiently deployed at hospitals and infirmaries, bringing the supports needed for the fight against this global crisis.

Source: www.bangkokpost.com

Challenges to 5G Networks from IoT Devices

GETTY

CEO of CUJO AI, the only AI cybersecurity solution currently deployed on 1B connected devices. Acclaimed by World Economic Forum, Gartner.

The Internet of Things (IoT) has become ubiquitous, and the number of connected devices is expected to grow to 29.3 billion by 2023. Millions of new devices go online each year at the start of the school year and after the holidays, and you can even watch the popularity of IoT devices fluctuate with the seasons. These devices are becoming more integral to daily life as they bring power to our homes, streamline our work processes and make communications more convenient.

When adopted at scale, these devices require faster networks with higher capacities to fulfil their connectivity needs. And while IoT has already found use in many business sectors — providing information, automation and other services that wouldn't have been possible before — many organizations overlook the challenges IoT devices pose to 5G networks when it comes to securing network architecture. As someone whose company works with advanced AI algorithms that monitor and protect IoT devices, the following are some of those challenges I have seen posed by IoT devices to 5G networks.

Increase in Bandwidth Needs

In very simple terms, the internet is a combination of networks, which are administered by various public and private organizations and facilitated by a collection of internet exchange points (IXPs). This distributed structure makes the internet resilient and robust, but the exponential increase in bandwidth requirements and capacity in 5G networks (due to higher IoT device numbers) might become a significant issue for IXPs in the coming years.

With the growing demand and use of cloud computing, the need for bandwidth and internet speed will also increase. This is extremely relevant when we talk about IoT devices, as some manufacturers try to solve IoT security issues by only connecting devices through the cloud. Failure to address these needs as 5G rolls out might create issues for a significant number of internet users and businesses.

Digital Infrastructure and Interdependence

Duetothefar-reachingandtransformative nature of IoT-based projects and their intrinsic complexity, poorly implemented industrial IoT solutions might create infrastructural risks for network service providers. The digital infrastructure creates many interdependent processes that depend on connectivity.

As more industrial IoT devices go online and factories further automate their operations, entire production lines

might be negatively affected if a single type of sensor becomes vulnerable to cyberattacks. A sophisticated denial-of-service (DoS) attack on such devices might cause a cascade effect and create service gaps. It is vital that leaders deliver appropriate support and service concerns to IoT teams.

These potential issues are a challenge to both network operators and infrastructure and operations (I&O) leaders, who must carefully assess the needs and potential issues of the IoT projects under their control. Their responsibilities go beyond evaluating cloud dependencies and infrastructural needs for daily operations, and they must include worst-case security scenarios such as mirrored DDoS attacks on devices.

5G Big Data Management

The radical transition of most industrial sectors to 5G networks is the driving factor for the near future growth of massive data exchange. With the growing popularity and demand of IoT technologies, data management becomes more complex for 5G networks.

Most of the new IoT devices will be small, relatively powerful and low cost, making them prolific. Add to this the fact that industrial IoT devices are expected to work for many years, even when placed in harsh environments, and the growing bandwidth and security demands posed by these devices will only accumulate over time. Industrial IoT might also reveal key infrastructural weak points that do not have the capacity to handle this increasing demand.

As for consumers, they are less likely to take full advantage of 5G networks in terms of IoT connectivity than municipalities or large industrial operators; however, any emerging IoT risks to network stability would be felt in the consumer segment whenever network infrastructure is impacted.

Privacy and Security

As 5G technology extends the devices' mobility with IoT technologies, securing data is becoming more vulnerable than ever before. New antennas will allow a much larger number of devices to connect to the same network node, making them more susceptible to attacks. Therefore, good IoT security practices should require unique authentication methods and strict access management on the gateways to mitigate some threats to the network. Protective measures are vital to safeguard the networks' integrity and mitigate the evolving 5G security-related challenges.

How to Strategically Address Emerging IoT Capabilities

There are several things that can improve our readiness to deal with IoT issues. First and foremost, key internet infrastructure has to be assessed and made ready to handle the bandwidth spikes created by massive IoT botnets. This might require building in more redundancies or simply expanding capacity at key points in the infrastructure.

On the consumer side, more easy-to-use gateway management solutions and protections, such as firewalls, would greatly improve IoT security. Many consumers and businesses do not have a clear and easily accessible way to audit their local networks for unknown or rogue devices. Few can detect new and suspicious connections. These types of network management solutions are usually present on well-managed enterprise networks, and there is no real reason not to provide them to SMBs or the average consumer in 2021.

Wrapping Up

The bottom line is that the impact of IoT devices on 5G networks will become more prominent in the coming years. These and other challenges show how IoT could hamper the performance of 5G networks, and why both network service operators and their largest clients need to address emerging IoT capabilities strategically.

Einaras von Gravrock, CEO of CUJO AI, the only AI cybersecurity solution currently deployed on 1B connected devices. Acclaimed by World Economic Forum, Gartner.

Website: Source: www.forbes.com

5G New Radio Dual Connectivity (NR-DC), an Industry-First Milestone

Ee Huei Sin is Senior Vice President, and President Electronic Industrial Solutions Group, Keysight Technologies. Huei Sin leads Keysight's Electronic Industrial Solutions Group, which addresses the electronic design and test opportunities in the automotive, energy, general electronics, manufacturing, education, and semiconductor markets. She is also responsible for the global Keysight Education Program. In that role, she leads company-wide efforts to establish strong relationships with universities and advance long-term preferences for the Keysight brand with future customers and employees.

1. Keysight delivers solutions to enterprises, service providers, and cloud environments. Could you share Keysight's history and background? What are some of Keysight's milestones in 5G?

Keysight Technologies, Inc. (NYSE: KEYS), is a leading technology company that helps enterprises, service providers, and governments accelerate innovation to connect and secure the world, with its primary manufacturing and order fulfillment location in Penang, Malaysia.

Originally the test & measurement business of Hewlett-Packard, then Agilent Technologies, Keysight was formed when Agilent split into two separate pure-play measurement companies, with the new electronic measurement company becoming Keysight Technologies on November 1, 2014.

Keysight has the industry's most comprehensive range of 5G design and test solutions, enabling the global build-out of networks and devices.

Keysight's 5G solutions approach includes collaboration on O-RAN (Open Radio Access Network) with multiple industry leaders, leading to the introduction of a suite of end-to-end solutions for O-RAN vendors and mobile operators.

Our ability to provide complete solutions for network protocol test, security, and visibility is enabling us to solve many challenges across the sector, and we continue to see new use cases and ongoing innovation, as the ecosystem scales and adapts to new technology.

2. What is the significance of the new ten gigabits per second (Gbps) data connection using 5G new radio dual connectivity (NR-DC) that Keysight demonstrated in Mobile World Congress 2021 (MWC21)?

5G new radio dual connectivity (NR-DC) allows 5G NR devices to concurrently connect and aggregate multiple NR cells, leading to significantly increased data transfer speeds - which lays the foundation for consumers and enterprises to wirelessly achieve wired-broadband grade speeds built on the latest 3GPP Release 16 specification.

The 3rd Generation Partnership Project (3GPP) represents several standards organizations that develop protocols for mobile telecommunications. Release 16 focuses on key technologies that will help industrial companies with their digital transformation and with Industry 4.0 or Industrial Internet of Things (IoT) initiatives. The release expands 5G from mobile broadband into use cases featuring specifications for cellular-vehicle-to-everything (C-V2X), Industrial IoT, URLLC, NR-based access to unlicensed spectrum (NR-U), and Integrated Access and Backhaul (IAB).

Keysight demonstrated a ten gigabit per second (Gbps) data connection using 5G new radio dual connectivity (NR-DC), at Mobile World Congress 2021 (MWC 21). This industry-first milestone was built on a long-term collaboration between Keysight and Qualcomm Technologies, Inc. to drive 5G commercialization across the device ecosystem.

The demonstration included Keysight's network emulation platform and Snapdragon® X65 5G Modem-RF System with Qualcomm® QTM545 mmWave Antenna Module to aggregate 5G mmWave and sub-6GHz spectrum.

The demonstration used spectrum in both frequency range 1 (FR1) and FR2 (mmWave), which enables 5G user equipment (UE) to leverage wide bandwidths and high order modulation, leading to data transfer speeds of more than 10 Gbps. Flexible spectrum utilization combined with higher data speed connections allows mobile operators to dynamically deploy 5G services in wireless congested areas where bandwidth resources need to be managed efficiently to support advanced applications.

Qualcomm Technologies also used Keysight's 5G Protocol R&D Toolset, part of the company's suite of network emulation solutions, to establish the industry's first 5G NR data connection based on 3GPP Rel-16. As mentioned,

this allows a connected device ecosystem to develop designs that lead to improved efficiencies in transportation, logistics, and manufacturing, as well as providing better cell coverage and connection speeds for consumers.

3. Keysight generated revenue of US$4.2B last year (2020). What's Keysight's key to success?

Keysight delivers advanced design and validation solutions that help accelerate innovation to connect and secure the world. Keysight's dedication to speed and precision extends to software-driven insights and analytics that bring tomorrow's technology products to market faster across the development lifecycle, in design simulation, prototype validation, automated software testing, manufacturing analysis, and network performance optimization and visibility in the enterprise, service provider and cloud environments.

Our customers span the worldwide communications and industrial ecosystems, aerospace and defense, automotive, energy, semiconductor, and general electronics. Keysight generated revenues of $4.2B in the fiscal year 2020.

The key to Keysight's success is in our leadership model. Keysight customers

are technology leaders. They are the visionaries and innovators who achieve breakthroughs that connect and secure the world.

To accelerate their innovation, Keysight must anticipate technology trends and be ready with leading-edge solutions ahead of market windows, forging deep relationships to provide them the insights to be first and best.

Keysight's Leadership Model – built on the 5 key pillars of market insight, capital allocation, first-to-market solutions, operational excellence, and employee growth, is the company's enabler to continuously deliver greater value to customers, shareholders, and employees. It is the philosophy that permeates every aspect of our operations – driving innovation, speed, and excellence in execution.

4. Malaysia aims to launch 5G services by the end of 2021 in Kuala Lumpur, Putrajaya, and Cyberjaya. Do share your view on the growth of 5G in Malaysia.

The progress of 5G in Malaysia is quite encouraging. 5G demo projects were launched last year to test and develop smart city, smart transport, digital healthcare, smart education, water management, and smart agriculture use cases. We are expecting the rollout of 5G services by the end of this year, with more plans to test and develop 5G applications moving forward. For instance, in early 2022, a new 1km test track in Sepang is expected to be operational to develop ADAS (advanced driver assistance systems) applications which will spearhead the future development of 5G-enabled autonomous vehicles in Malaysia.

All this is very timely given the acceleration of digital transformation brought on by the pandemic. There is a need to reshape public services, industries, and infrastructure, and build the digital economy in Malaysia. For example, the pandemic has exposed the need to quickly address digital inequality in education by providing all households with better internet access and students' access to online learning.

From an enterprise perspective, the rollout of 5G systems connecting IoT devices in a variety of use cases will move beyond the smartphone into industrial use cases. Greater investment in infrastructure, including distributed cloud and hyper-connectivity, will drive an emphasis on private 5G networks for industrial enterprises and enable IoT and IIoT (Factory 4.0). Enterprises will be able to deploy intelligent equipment to effectively manage manufacturing and factory operations from a distance. As a result, we also see increased interest in automation and the use of robotics and machine learning to manage facilities, as well as a growing acceptance of leveraging the cloud to automate production lines. This brings new solutions for manufacturing automation, testing, and analytics for all components as automotive and other facilities ramp up. We also see greater investment in IIoT functions for real-time, predictable control, which will require an increase in the number of machines and sensors and network infrastructure that can manage this growing number of devices.

5G is without a doubt a strategic imperative for enterprises and governments across Asia, including Malaysia, and it is now scaling and driving strong demand for test & measurement technology across the design lifecycle from development to deployment.

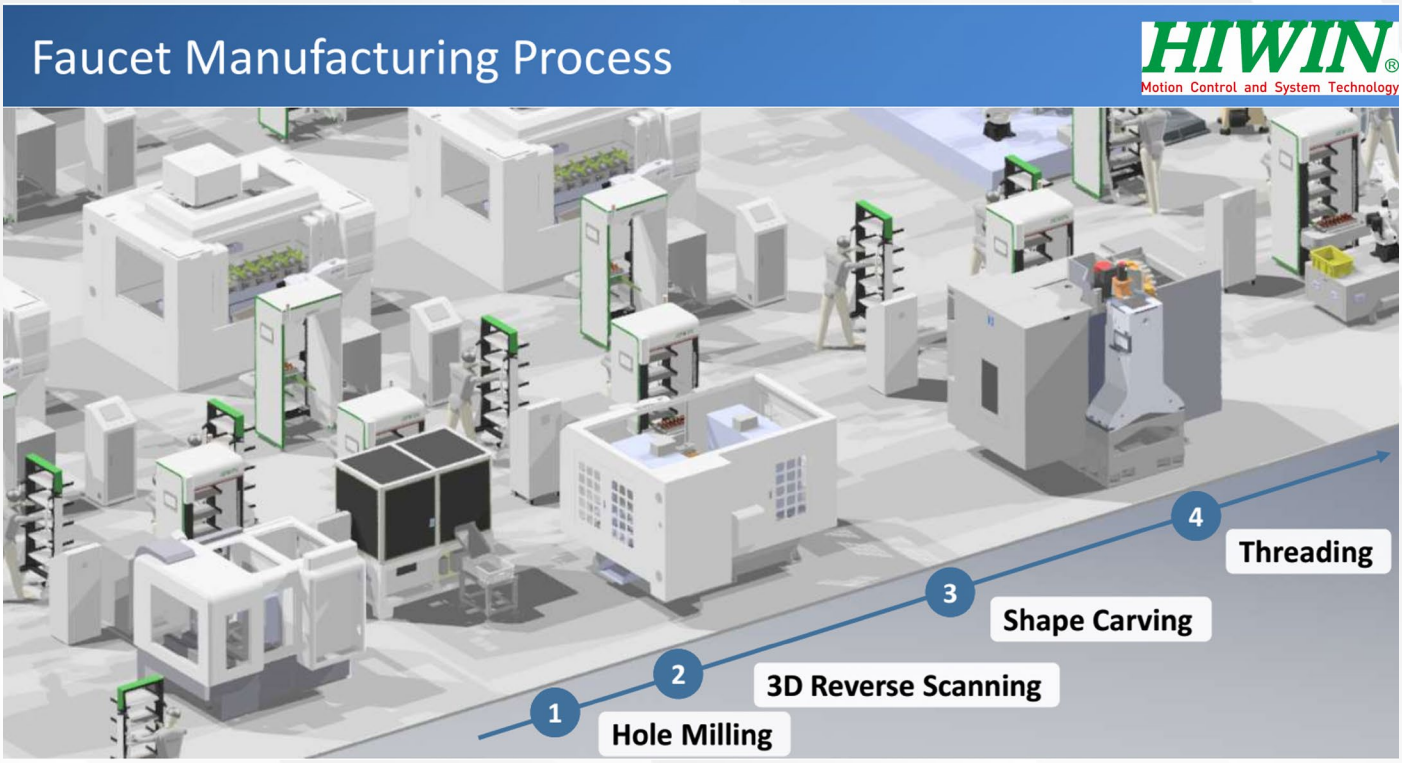
To help prepare for 5G readiness in terms of design, test & measurement, and training, Keysight Technologies continuously partners with stakeholders in the 5G ecosystem - from mobile operators, manufacturers, test houses, and system integrators, to universities, to help them move forward with 5G adoption and accelerate national digital transformation.

For example, we have been engaging with many customers in Malaysia for their digital businesses, to contribute to their digital transformation. In the telecommunications industry, we have been working with leading mobile operators to help them deploy their 5G infrastructure smoothly. In the manufacturing sector, we partner with international and local manufacturers to help them produce 5G devices and deploy vertical use cases in automobile, IoT, electronics industries, etc. We also help local universities develop programs and set up labs including remote-access labs, to train students and prepare industry-ready talent in the latest technologies.

I look forward to Malaysia's upcoming 5G plans to drive continuous successful economic growth in the country.

For more information about Keysight Technologies (NYSE: KEYS), visit us at www.keysight.com.

Taking Charge of the Unexpected with Smart Manufacturing



The COVID-19 pandemic has had significant impacts on the SMEs in Malaysia and forced many companies to come to terms with the need to adopt smart manufacturing practices. Taiwan, with expertise in high-precision cutting machines, power presses, and machine tools to industrial automation and collaborative robots, urges SMEs to start now or to be eliminated.

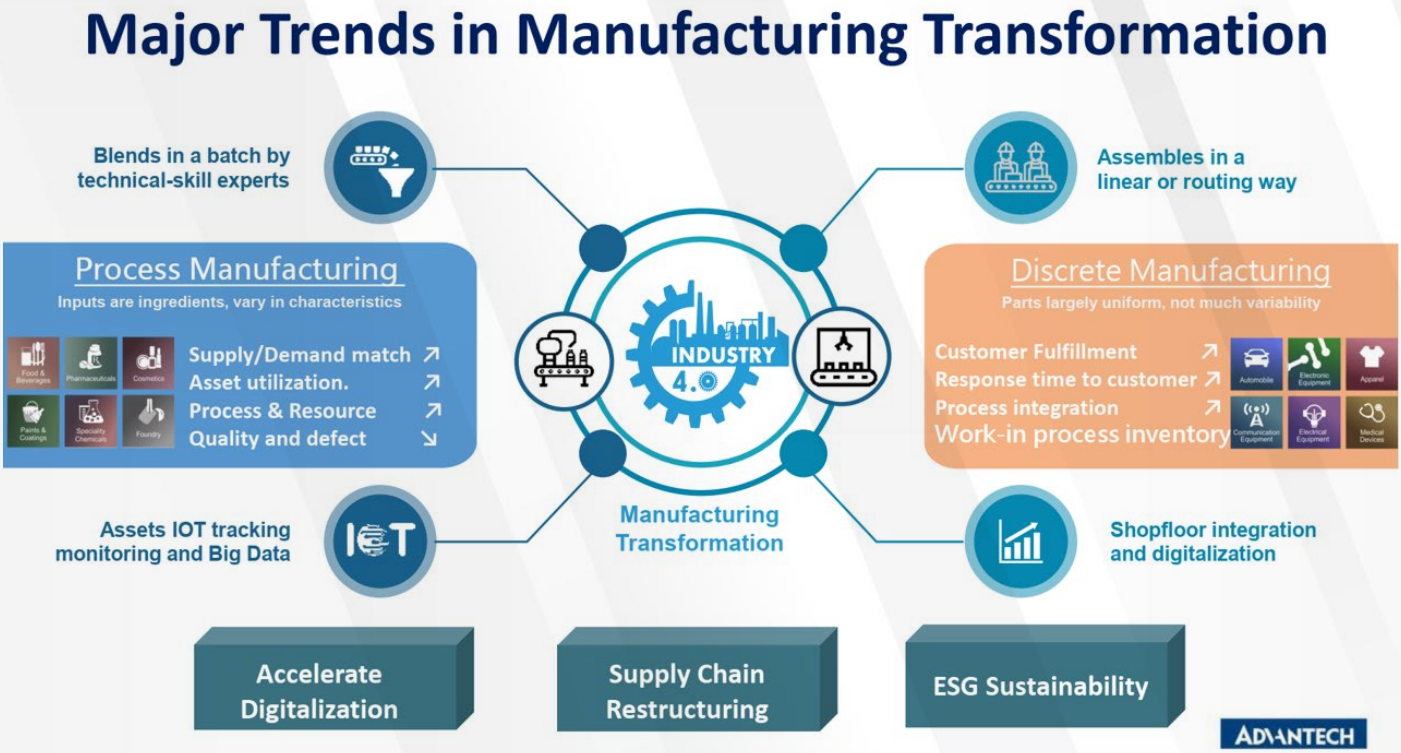
In a bid to be a key global supplier in the smart machinery industry in the post-pandemic world, Taiwan Excellence, the symbol of Taiwan's most innovative products, teamed up with Malaysiakini to share valuable insights during a "Smart Manufacturing: Driving Agility" webinar on the 14th of October 2021.

Representatives from two renowned Taiwanese smart technologies companies - Advantech and Hiwin - highlighted the importance of data collection, cloud analysis, and automatic error detection in the Industrial 4.0 revolution. The panel also stressed the need for value transformation and a long-term investment strategy to reap the benefit of smart manufacturing.

Advantech Ryan Lai

Hiwan Tean Shen Zen

Advantech and Hiwin are Taiwan's pioneers in the development of smart manufacturing technology and automation. The companies have a wealth of practical experience and are frequent winners of the coveted Taiwan Excellence award.



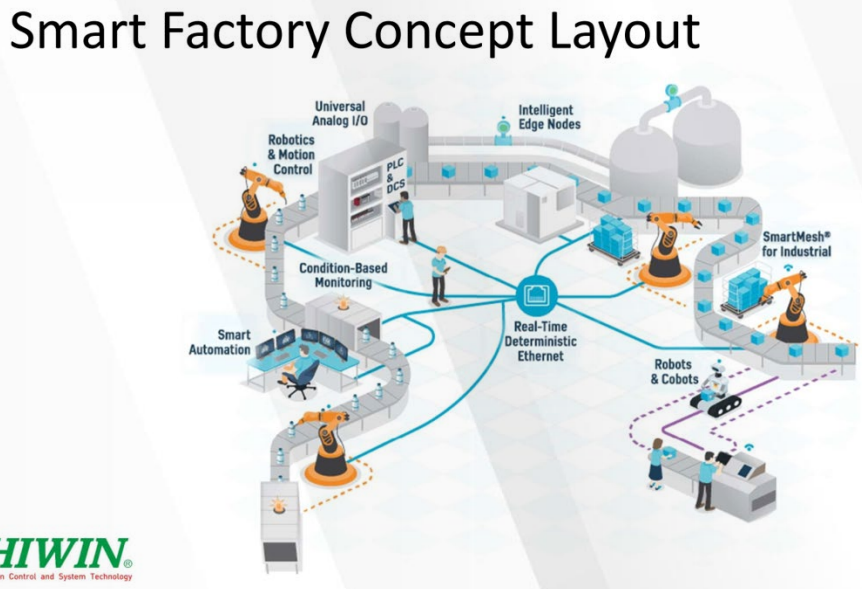
The panel of experts includes Ryan Lai, ASEAN WP. Sense Business Development Manager, Advantech Co. Malaysia; Tean Shen Zen, Sales Manager (Malaysia & Indonesia), Hiwin Singapore Pte Ltd. Joined the webinar also include R. Narayanan, Country Managing Director from ABB Malaysia Sdn Bhd, while moderated by Karamjit Singh from Digital News Asia.

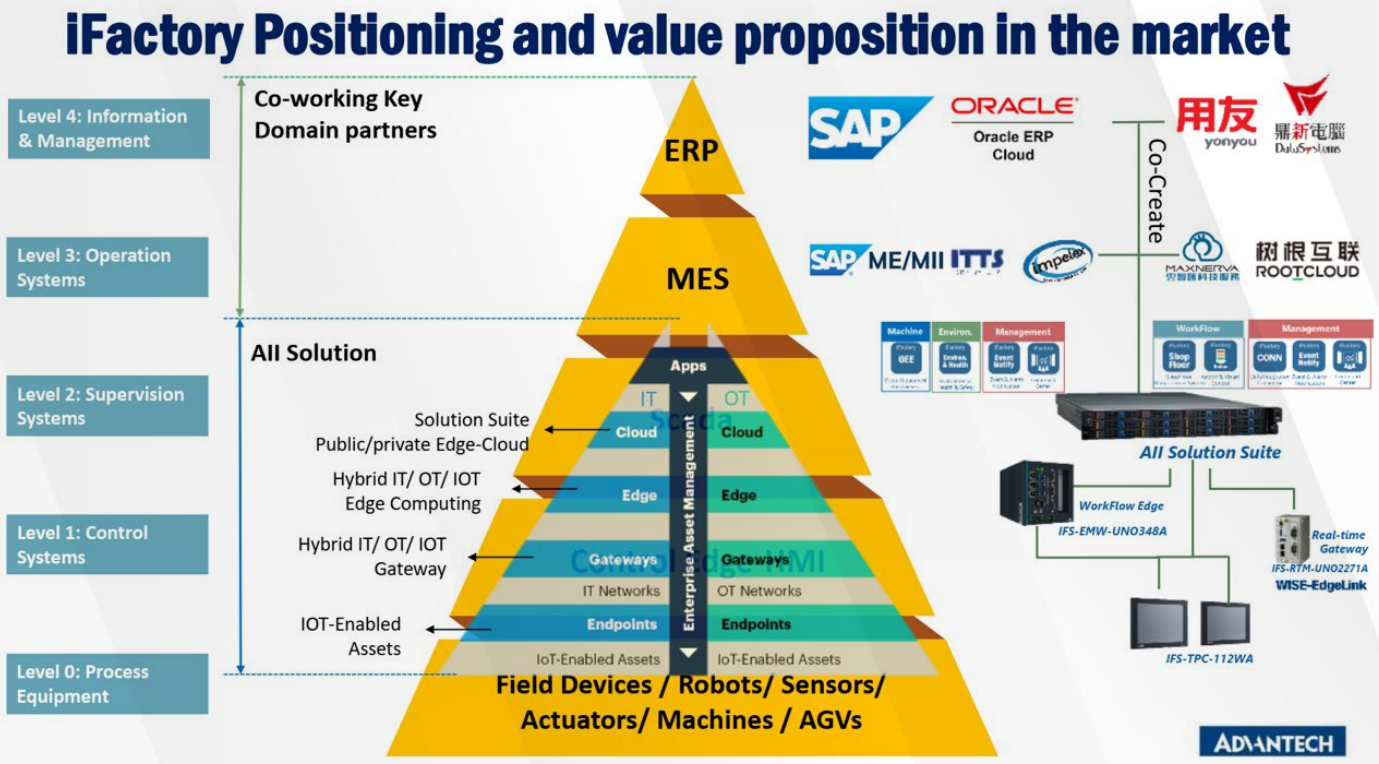
According to the panelists, the sudden onset of the pandemic led many factory owners to face up to the challenges presented by a labor shortage and health risks, and how these factors can grind operation to a stop. Moving from Industry 3.0 to 4.0 is no longer something that can be left on the sidelines but must be fully embraced for companies to survive in the future.

Industry 4.0 of the Information Era

Many manufacturers across a myriad of industries in Malaysia are still using production line that requires manual workers at various steps of the production process. Ryan Lai cited an example of how a properly implemented smart factory might incorporate an AI algorithm that continuously monitors the production line and provide operators with real-time notification to preemptively avoid faults that might lead to downtime. Such a system forms part of a dynamic production line and goes a long way towards ensuring smooth operation and avoiding costly disruptions.

Narayanan added that digitalization can pave the way to greater agility in production. The agility of production refers to the ability to switch production easily in terms of speed and variety of output. Put simply, an agile production line will have the ability to scale up or down the output volume as required as well as allow for a greater degree of customization of products to meet the market needs.





According to Tean, the technology to implement smart factories are already mature, and having the mindset and determination to commit to the needed changes is the determining factor for companies to evolve. There are grants provided by the Malaysian government as well as various soft loans from the private sectors that businesses can look into to facilitate the transition.

Smart Factory will Reshape the Job Market

Resistance to changes is inevitable and one common worry is that technology will replace the need for labor leading to higher unemployment. In reality, people are highly adaptable and evolution in industries will lead to changes in job requirements rather than a complete elimination of jobs.

The panel cited the banking industry as an example where embracing automated and online services did not lead to widespread unemployment in the sector, but a shift in the job scope and the skillset required. In terms of the manufacturing sector, automation will not only improve efficiency but can shield the human operator from the hazards of the 3Ds (dangerous, dirty, difficult) jobs, leading to a much more desirable working environment.

Improving the working environment will also attract talents to the field and change the demographics in factories. As of now, most of the workers in Malaysian factories are foreigners in lower-skilled positions, and driving up the skillset required will open up more positions for Malaysians.

Changes Accelerated by COVID-19

The COVID-19 pandemic has changed our world in unimaginable ways and labor-oriented manufacturers in Malaysia have felt the brunt of the prolonged movement restrictions as they are forced to halt production. In contrast, smart factories can continue production with far fewer disruptions. As mentioned, agility in production is the ability to deal with the unexpected, and more than ever, business owners are forced to realize the importance of Industry 4.0 in the future.

SMEs and SMIs form the bulk of the manufacturing sector in Malaysia and a large number of them are still within Industry 2.0 with a minority in the 3.0 phase. Like the various industrial revolutions that came before, Industry 4.0 is here to stay, and companies will need to come to terms with this reality or find themselves behind left behind.

The above is a snapshot of the conversation. To learn more, scan the QR code for the full webinar replay:

Emerson's Southeast Asia Service Centre Cuts Flow Meter Service Turnaround Times by 80% with New Larger Calibration Stand

Emerson's expanded large size owmeter calibration facility in Singapore. Revamped facility provides Southeast Asia customers with convenience, quality assurance, and accreditation for calibration

Emerson's Southeast Asia Service Centre is expanding the advantage offered to its customers by adding the calibration of large flow meters to its offering, resulting in an 80% reduction in service and line downtime for customers in the Southeast Asia region.

Updates to flow calibration services include increasing line sizes from .10 to 4 inches to a much larger 12 inches, which increases flow rates from 0.05 to 3,000 kilograms per minute, and increase flow up to 12,000 Kg/min.

Prior to the addition of the new larger calibration stand, customers in the region's oil and gas and chemical industries needed to ship larger sized flow meters to testing facilities overseas to diagnose, repair or calibrate their devices to factory standards. This process was not only time-consuming but costly, often leading to shutdowns and delays.

Now the Southeast Asia Service Centre has resolved the problem by offering local calibration services for a broader range of instrumentation devices. This saves customers time and resources since support specialists can perform quality assurance, diagnostics, setup and repair on-site. As a result, calibration and service turnaround times can be reduced from two months to two weeks.

Aside from the new calibration stand, Emerson support and technical specialists can now diagnose and troubleshoot flow meter problems and other customer concerns remotely in Asia. This reduces overall cost, speeds up operations and ensures safety for both customers and Emerson personnel in light of the COVID-19 pandemic.

The Service Centre adheres to international standards, with an ISO 17025-compliant quality management system, which ensures that the laboratory meets the technical requirements necessary to consistently deliver technically valid calibrations. Accreditation from Singapore Accreditation Council (SAC), a signatory of ILAC-MRA, means that calibration results can be accepted in other countries without additional testing or verification.

The existing service centre is compliant with Singapore Standards (SS) re-calibration requirements namely SS660, SS648 which are related to bunker cargo delivery. Emerson has been designated for the existing capability by Enterprise Singapore, Weights and Measures as an Authorized Verifier (AV). With the AV status, Emerson is authorized to seal flow meters once they are calibrated in the lab. This ensures compliance to regulatory and contractual requirements for flow meters used for custody transfer applications. Emerson plans to secure ISO17025 Accreditaion and Authorized Verifier status for the expanded capability as well. It also ensures metrological traceability and process reliability for laboratories and facilities from 14 Global Service Centres operated by over 400 local service specialists in 14 different regions worldwide.

The Energy Efficiency Imperative for Megacities in ASEAN

- Urbanization is driving economic growth in ASEAN
- Accelerating adoption of more efficient electric motors and variable speed drives is key to building resilience for greener growth

KUALA LUMPUR, MALAYSIA, NOVEMBER 11, 2021 - ASEAN is the world's third most populous economy, after China and India. With a total GDP of approximately US$3.08 trillion in 2020, ASEAN is the world's fifth largest economy and is projected to become the fourth by 2030. It is home to an estimated 662 million people and is urbanizing rapidly. By 2030, the region's population is expected to reach 717 million with the fastest urban expansion set to occur in Indonesia, Philippines, Thailand and Vietnam.

The sheer density of megacities in the region is posing enormous environmental risks. According to the Climate Risk Index, based on an annual average from 2000 to 2019, three of the ten countries most affected by climate change are located in the region namely Myanmar (2); Philippines (4); and Thailand (9). In many ways, climate change has exposed the region's vulnerabilities as well as biggest opportunities for driving down carbon emissions. The risk and cost is pointing to energy efficiency as one of the key solutions to the climate challenge.

"The region's rapidly expanding megacities make them critically important as the primary focus for energy efficiency improvement. As hotbeds for social change and economic prosperity, megacities in the region are becoming a growing source of greenhouse gas emissions. However, by breaking down the sources and identifying opportunities in which energy efficiency can make the biggest impact, megacities can lead the way in tackling the climate crisis," said R Narayanan, Senior Vice President, ABB Motion, Asia.

Under phase two of the ASEAN Plan of Action of Energy Cooperation (APAEC) which sets a more ambitious energy intensity reduction target of 32% by 2025 based on 2005 level, three key sectors i.e., buildings, transport, and industries will be the focus for increased energy efficiency adoption.

ABB is in the forefront in these areas including food and beverage as well as water and wastewater which are essential building blocks for sustainable megacities. By working with stakeholders across the region, ABB is deploying advanced motor and drives technologies to help local players optimize their operations while reducing environmental impact.

Profile pic - R Narayanan

Profile pic - Morten Wierod

Profile pic - Dr Nuki

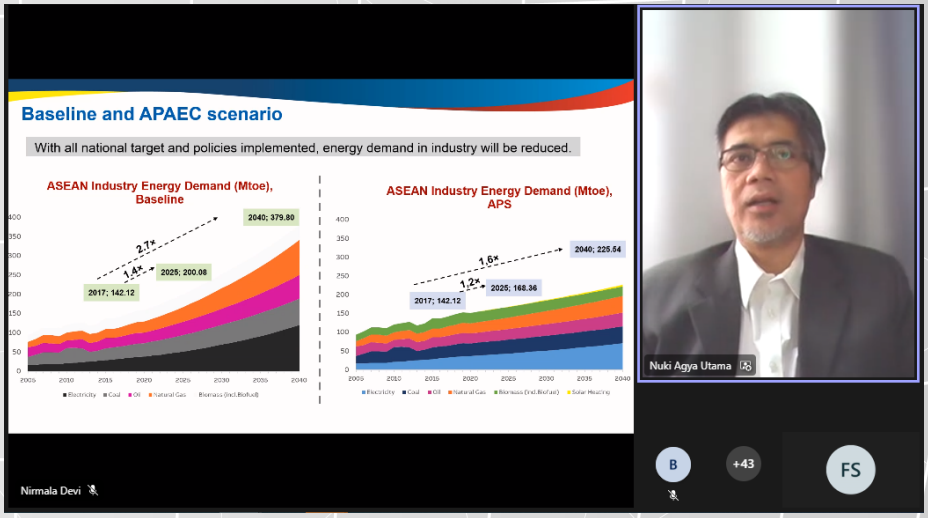
In Singapore's revolutionary Deep Tunnel Sewerage System (DTSS), a water management superhighway, ABB IE3 motors and energy efficient drives solutions are helping to reduce energy consumption by up to 30 percent. As Singapore recycles and retreats used water which involves energy intensive processes, it is constantly seeking innovative solutions to improve resource efficiency for a more sustainable water future.

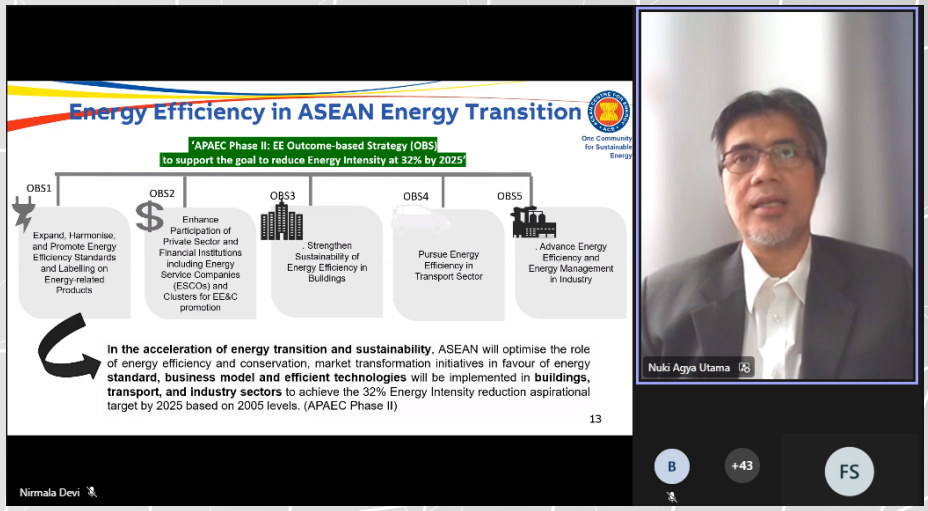
Space cooling is the fastest-growing energy use in buildings globally. In the region, it could be responsible for as much as 40 percent share of the region's electricity demand in 2040, requiring around 200 GW of additional generation capacity.

ABB is leading the way in Vietnam by setting a new benchmark for innovation and sustainability for the Viettel Group, Vietnam's largest telecommunication company. ABB drives are used for the speed control of electric motors for ventilation and air conditioning applications at the company's headquarters which showcases state-of-the-art smart building control and green innovation technologies. In optimizing efficiency gains even further, BACnet connectivity of the drives are also integrated with the building automation systems to generate savings of up to 20 percent in energy cost.

In key sugar-producing Thailand, one of the country's largest sugarcane complexes at the Nakhon Sawan province which comprises an integrated sugarcane crushing plant (2.4 million tons per year), ethanol plant (600,000 liters per day) and biomass power plant (85 MW), ABB's ultra-low harmonic drives and high efficiency motors are deployed to yield greater system efficiency. The motors and drives are used at crushing mills to control rapidly fluctuating loads and optimize performance. This has provided an estimated 30 percent of system efficiency improvements and full torque control ability when compared to conventional solutions.

"As ASEAN megacities continue to grow, there is a tremendous opportunity to decarbonize industry and infrastructure," said Morten Wierod, President ABB Motion. The path to an energy efficient future depends on investing in the latest motor technology, along with the drives that will save even more energy. "ASEAN can lead the way by taking positive steps in setting out a roadmap for adoption of minimum efficiency requirement for electric motors to shape a low-carbon future."





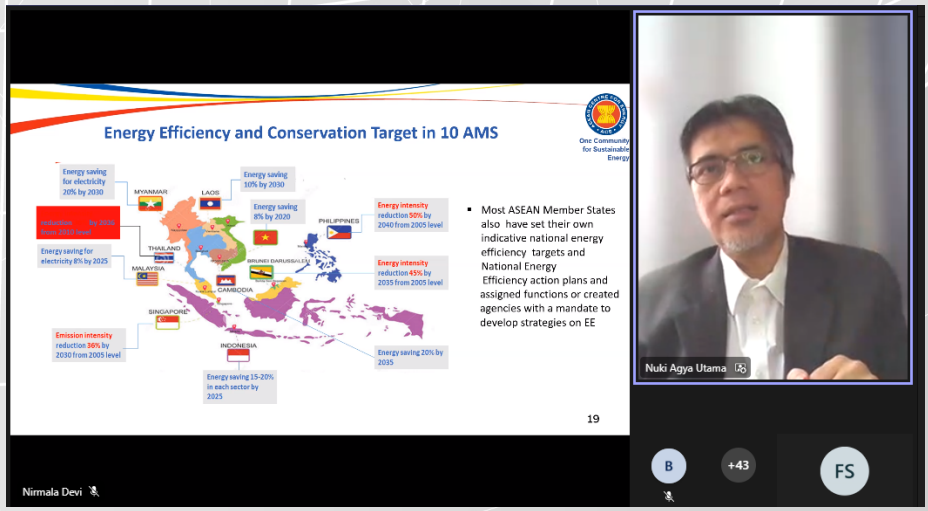


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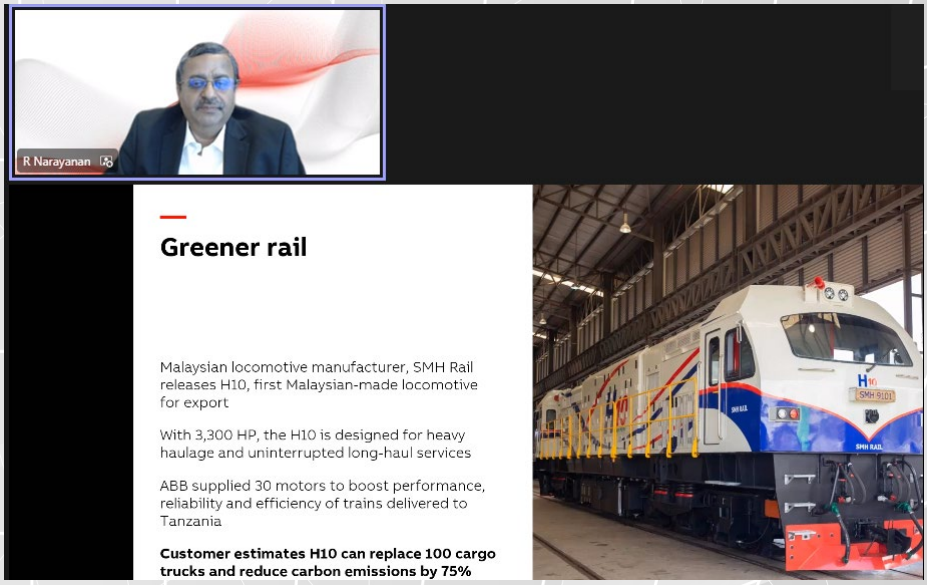
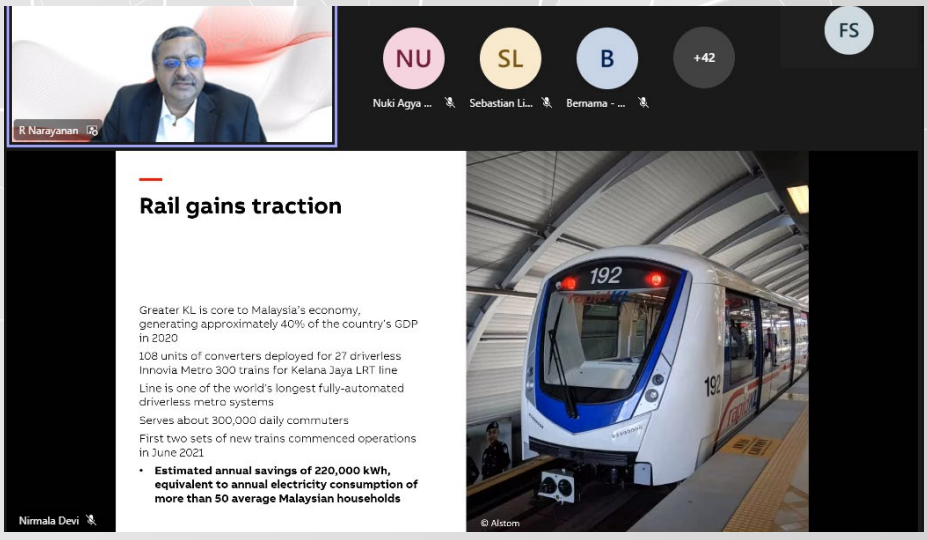
ABB Motion keeps the world turning - while saving energy every day. We innovate and push the boundaries of technology to enable the low-carbon future for customers, industries and societies. With our digitally enabled drives, motors and services our customers and partners achieve better performance, safety and reliability. We offer a combination of domain expertise and technology to deliver the optimum drive and motor solution for a wide range of applications in all industrial segments. Through our global presence we are always close to serve our customers. Building on over 130 years of cumulative experience in electric powertrains, we learn and improve every day.





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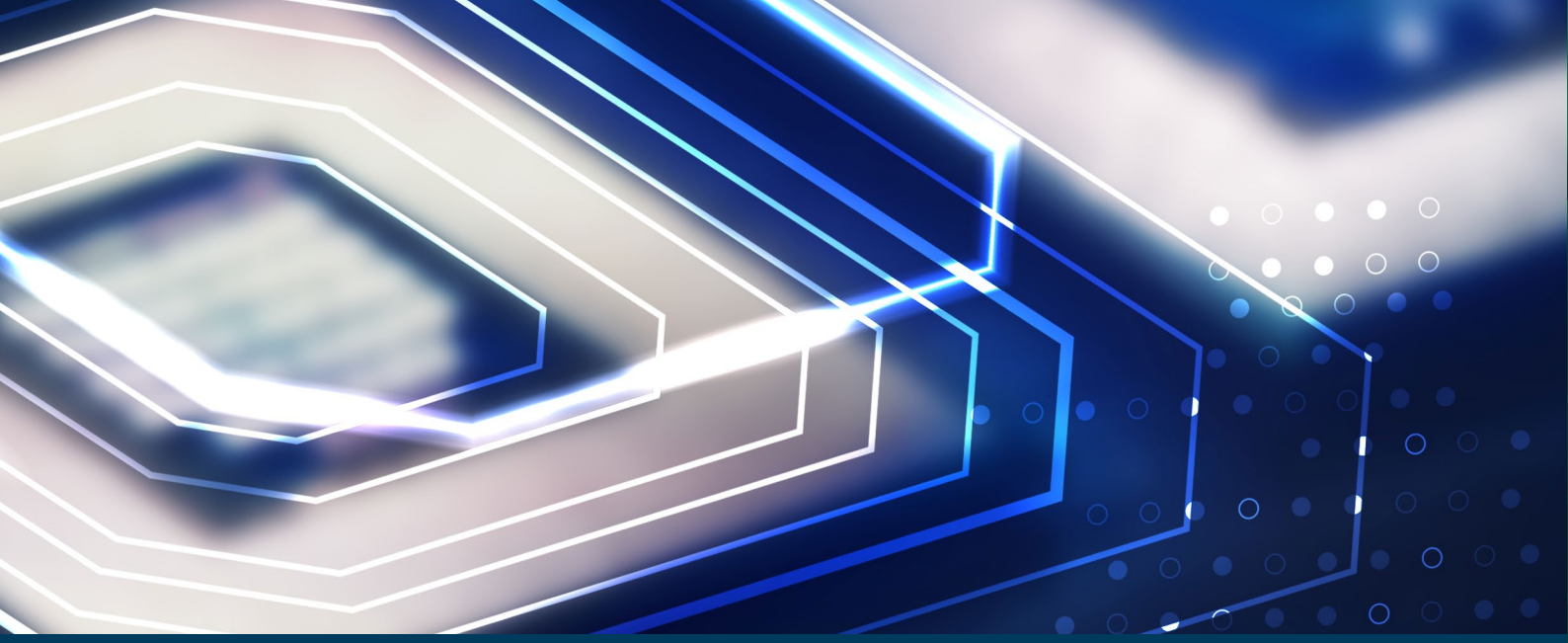

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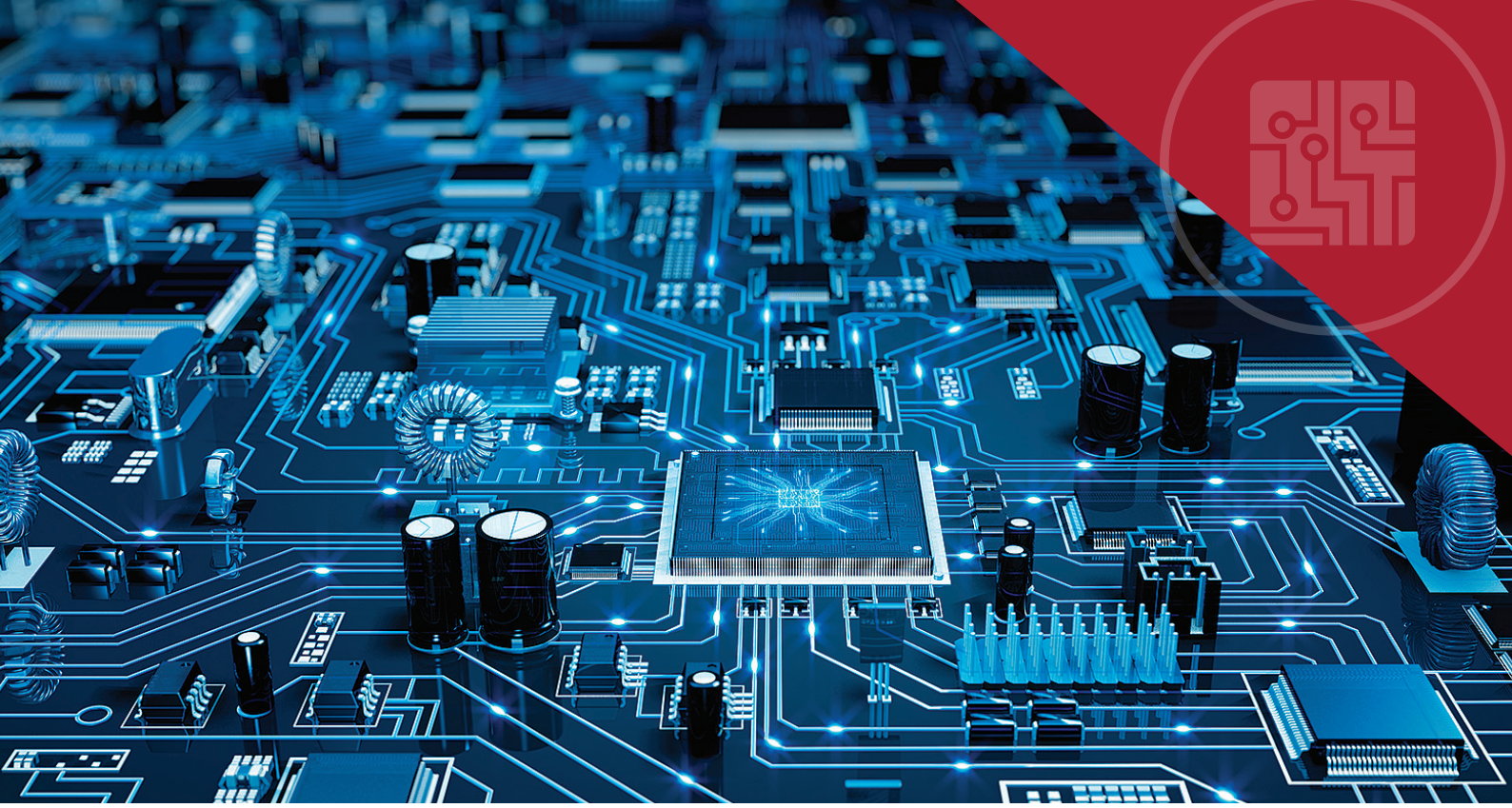

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