

**Media Release**



**Launch of the Index Partners Network to help companies  
accelerate implementation of Industry 4.0**

*Four categories of partners to help manufacturers move from planning to  
execution*

**Singapore, October 16, 2018** – The Singapore Economic Development Board (EDB) announced the launch of the Index Partners Network (“the Network”) to help manufacturers accelerate the execution of their Industry 4.0 initiatives.

The Network complements the Smart Industry Readiness Index (“Index”) by building an ecosystem of partners, in the areas of technology, talent development and training, as well as financing that manufacturers can tap on to bridge the gap between the planning and execution phases of their transformation journey. EDB will also partner international organisations to help regional governments and companies adopt the Index.

“Beyond being a tool that helps manufacturers evaluate their readiness for transformation, the Index provides a common language and framework for the various Industry 4.0 stakeholders to base their solutions and offerings on,” said Mr Lim Kok Kiang, Assistant Managing Director, EDB. “The Network takes us one step further by building a community of partners with diverse capabilities and expertise to help manufacturers execute their transformation plans using the Index.”

**Four categories of partners to support manufacturers**

The Network will comprise four categories of partners to help manufacturers in their Industry 4.0 transformation journey – technology, solution and strategy

partners, talent development and training partners, financial institutions and international platform and outreach partners.

**Technology, solution and strategy partners** help manufacturers translate transformation plans into action by identifying the systematic steps to be taken and the technology and solutions required to implement these steps. EDB is collaborating with McKinsey, SAP, Siemens and TÜV SÜD to develop a prioritisation matrix that will help manufacturers identify initiatives that generate the greatest impact to their key performance targets. Local companies such as ATE, Auk Industries and PBA Group have also used the Index to categorise its products and services. The Singapore Institute of Manufacturing Technology (SIMTech), a research institute of the Agency of Science, Technology and Research (A\*STAR), referenced the Index to develop a 'Digital Transformation and Innovation (DTI) Methodology' to help companies execute digital transformation roadmaps and build in-house transformation teams. Moving forward, SIMTech will be aligning its existing and upcoming research and development programmes to the Index.

In addition, it is critical that the workforce has the right skills and knowledge required for Industry 4.0. **Talent development and training partners** such as National University of Singapore (NUS) School of Continuing and Lifelong Education (SCALE) will develop skills maps and curriculum based on the Index for tertiary and continuous education programmes. For example, NUS is developing a new Industry 4.0 Master's Degree programme with modules that are mapped to all 3 building blocks of the Index. Through these courses, companies will be able to identify the right courses for its workforce based on its assessment results.

**Financial institutions** will also form part of the Network, through the development of programmes and schemes targeted at supporting SMEs. For instance, DBS is developing schemes to support SMEs along their transformation journeys, from the point of undertaking the Index assessment to implementation of specific technologies and solutions. DBS' SME clients can now tap into the Index at a preferential rate to help them identify gaps in their innovation and digital

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process in a systematic and comprehensive way. To further help customers adopt the latest technology that is relevant to their business, DBS also has a programme TechMatch to help SMEs define, design and develop the right technology solutions for the business by matching them with digital solution providers that are relevant to their industry.

To fully harness the potential of Industry 4.0, manufacturers need to digitalise and integrate their operations beyond a single facility. To do so effectively, ***International Platform and Outreach Partners*** will promote the Index as a common assessment tool to catalyse industry transformation in the region. As part of the initiative, the Asian Productivity Organization plans to assist its member countries to diagnose and develop national productivity and innovation roadmaps. The Index will help member countries evaluate their readiness for Industry 4.0 and enable them to develop customised approaches necessary for transformation.

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**About the Singapore Economic Development Board (EDB)**

The Singapore Economic Development Board (EDB), a government agency under the Ministry of Trade and Industry, is responsible for strategies that enhance Singapore's position as a global centre for business, innovation, and talent. We undertake investment promotion and industry development, and work with international businesses, both foreign and local, by providing information, connection to partners and access to government incentives for their investments. Our mission is to create sustainable economic growth, with vibrant business and good job opportunities for Singapore.

For more information on EDB, please visit [www.edb.gov.sg](http://www.edb.gov.sg).

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**Annex A: Selection of quotes from the Partners**

**1. Technology, Solutions & Strategy Partners**

**Wong Keat Tze, Executive Director, Advanced Technology Enterprise**

*“Industry 4.0 technology is enabling innovation and transformation at a breakneck speed, which in turn flattens the competitive landscape. It’s critical for Singapore companies to transform their businesses through these technologies and compete effectively. SSIRI is a great framework to help companies get started in this journey, and ATE is proud to partner these companies with the right tools and best-practices. Being able to transform individually is success, but being able to transform as a community – that releases the power of the Fourth Industrial Revolution.”*

**About Advanced Technology Enterprise Pte Ltd – ATE**

ATE is a pioneer in bringing world-class engineering solutions to Singapore and Malaysia, enabling its customers to create an integrated engineering process over a digital platform. Today, ATE enables more than 1000 companies to create and manufacture great products by helping them build an integrated and digitalized product lifecycle platform that connects them with their external partners and customers. The platform provides the base for their transformation to Industry 4.0, seamlessly integrating and automating Product Innovation with Optimization, Prototyping, Manufacturing, QC and even Marketing.

The key to successful transformation is in the speed and ability to integrate best-in-class products with deep subject-matter expertise. To that end, ATE is a proud partner with many local and international companies who bring these ingredients to bear and empower its clients to achieve their transformation. Our partners include leaders in 3D technology such as Dassault Systèmes SOLIDWORKS, Altair, SolidCAM and Ultimaker.

For more information, please visit [www.ateworks.net](http://www.ateworks.net) or email [info-sg@ateworks.net](mailto:info-sg@ateworks.net)

**Samuel Tan, CEO & Co-Founder, Auk Industries**

*“The Index is a powerful cornerstone in this journey of Industry 4.0 and Auk Industries is excited to build on this foundation as a member in the Index Partner Network. Through our practical end-to-end approach, akin to "Fitbit-for-machines" and "Lean-ops-in-a-box", we bring Enterprises, regardless of size or complexity, forward to the next level with our lightweight and scalable Industrial IoT systems.”*

**About Auk Industries**

Auk Industries is established with the aim to provide industrial enterprises deep operational data using ultra-lightweight infrastructure. The flagship Industrial Internet of Things (IIoT) system is a scalable end-to-end technology which digitalize companies from small to big. This empowers clients to kickstart their exciting journey of digital transformation through pragmatic concepts:

“Fitbit-for-machines” - Cost-effective universal IoT system can be quickly deployed in minutes onto a diverse range of industrial machines to stream vital machine statistics to the secured cloud platform in real-time.

“Lean-ops-in-a-box” - Data gets processed and transformed synchronously using advanced algorithms and state-of-the-art analytics tools to generate powerful and actionable operational insights.

“Future-proof” - The robust wireless mesh system is fully scalable up to 10,000 devices and is future-proof through continuous development to include machine learning & AI updates and enable integration with other products in the exciting Industry 4.0 ecosystem.

**Derrick Yap, CEO, PBA Group**

*“PBA is committed to our role as a platform for other local companies to leverage Robotics and Automation. Through this meaningful private-public partnership, we hope that more companies will be able to use our technology and solutions to scale up their businesses and expand into the region.”*

**About PBA Group**

PBA Group is an Industry 4.0 technology partner specialising robotics and automation, to enable the everyday. With our expertise in motion control and distinct geographic advantage in Southeast Asia, we develop core proprietary technologies that go into building robots, and deliver these robotic solutions as modular cells or end-to-end automation lines.

As experts in creating motor coils of the highest power density, PBA draws on this motion control know-how to build intelligent robotic platforms. PBA is a pioneer in manufacturing collaborative robot arms in this region. Also, our proprietary autonomous vehicle platforms and warehousing technologies are robust yet offer unparalleled price-performance outcomes, having been built from scratch in Singapore.

Our team of engineers and researchers are at the forefront of agile platform development, tapping on PBA’s capabilities in manufacturing process technologies, proprietary vision and control algorithms, robotics design, precision stages, and direct drives.

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Beyond technology, PBA Group offers 4 other platforms to empower partners to leverage Industry 4.0 in the areas of partnership, education, community and talent.

RACE is PBA's independent not-for-profit academy committed to the education and promotion of robotics, automation and digital manufacturing technologies, through mentorship and applied training drawing on real-world projects.

PBA Group has over 30 companies in 10 countries and over 500 employees across Asia.

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### **Matteo Mancini, Partner and Leader for Manufacturing and Supply Chain Service Line in Asia, McKinsey & Company**

*“Many business leaders we have spoken to acknowledge the potential of Industry 4.0 but few, only 13 percent, have begun the transformation. Industry 4.0 requires a triple transformation. Organizations must reassess and reinvent their operating model and adapt their technical management and people systems to the new digital environment. By embracing these changes, ASEAN manufacturers can become the next leaders in their fields. Through the Network and McKinsey’s Digital Capability Centers (DCCs), we are committed to helping Singapore and the region build the necessary capabilities for Industry 4.0.”*

### **About McKinsey & Company**

McKinsey & Company is a global management consulting firm, deeply committed to helping institutions in the private, public and social sectors achieve lasting success. For over eight decades, our primary objective has been to serve as our clients' most trusted external advisor. With consultants in more than 100 offices in 60 countries, across industries and functions, we bring unparalleled expertise to clients anywhere in the world. We work closely with teams at all levels of an organization to shape winning strategies, mobilize for change, build capabilities and drive successful execution.

### **About DCC Singapore**

McKinsey's Digital Capability Centers (DCC) are a global network of Industry 4.0-focused capability centers to drive digital transformation of companies around the world. Offering services from experiential learning and capability-building to piloting new technologies, the DCCs support companies at every stage of their digital transformation journey. The DCC network includes facilities in Aachen (Germany), Beijing, Chicago, Singapore and Venice (Italy). Each center has been founded in partnership with a leading industry consortium, government organization, or research institution.

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The Singapore facility was founded in partnership with the Advanced Remanufacturing and Technology Center (ARTC), a public-private collaboration between the Agency for Science, Technology, and Research (A\*STAR), the Nanyang Technological University (NTU) and industry partners to develop digital manufacturing and industrial design expertise for Asia. It is located at the Clean Tech Park in the Jurong Innovation District. The facility is designed to be especially relevant to regionally-important sectors including discrete manufacturing, semiconductors, oil and gas, electric power, and mining.

**Khor Chern Chuen, Managing Director, SAP Singapore**

*“In the new intelligent era, manufacturing companies in Asia are embracing Industry 4.0 to digitally enable their business and unlock opportunities in this space. “The Index Partners Network serves as a platform for SAP to help manufacturing companies develop a solid framework predicated on creating value and spurring innovation. At SAP, we are committed to help the world run better as we believe that the best-run businesses can serve as a catalyst for economic growth and improve the lives of people.”*

**About SAP**

As market leader in enterprise application software, SAP (NYSE: SAP) helps companies of all sizes and industries run better. From back office to boardroom, warehouse to storefront, desktop to mobile device – SAP empowers people and organizations to work together more efficiently and use business insight more effectively to stay ahead of the competition. SAP applications and services enable more than 404,000 business and public sector customers to operate profitably, adapt continuously, and grow sustainably. For more information, visit [www.sap.com](http://www.sap.com)

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**Raimund Klein, Executive Vice President, Digital Factory & Process Industries & Drives, Siemens**

*“As digitalization and Industry 4.0 initiatives takes centerpiece in many manufacturing firms, collaboration is the catalyst to succeeding in today’s environment. Regardless of size, digital transformation reshapes every business aspect that brings upon exciting developments and opportunities. As a Technology partner within the Index Partner Network, we provide digital maturity assessment to local manufacturers and share how advanced manufacturing and IoT solutions will help to propel their Industry 4.0 initiatives. We are pleased to be a part of Singapore’s digitalization journey, and we hope to endeavor national growth through the Smart Industry Readiness Index.”*

**About Siemens AG**

Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for 170 years. The company is active around the globe, focusing on the areas of electrification, automation and digitalization. One of the world's largest producers of energy-efficient, resource-saving technologies, Siemens is a leading supplier of efficient power generation and power transmission solutions and a pioneer in infrastructure solutions as well as automation, drive and software solutions for industry. With its publicly listed subsidiary Siemens Healthineers AG, the company is also a leading provider of medical imaging equipment – such as computed tomography and magnetic resonance imaging systems – and a leader in laboratory diagnostics as well as clinical IT. In fiscal 2017, which ended on September 30, 2017, Siemens generated revenue of €83.0 billion and net income of €6.2 billion. At the end of September 2017, the company had around 377,000 employees worldwide. Further information is available on the Internet at [www.siemens.com](http://www.siemens.com).

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**Dr Lim Ser Yong, Executive Director, SIMTech**

*“SIMTech is happy to be part of the Index Partners Network. We are well placed to assist companies in their Industry 4.0 journeys through a holistic range of initiatives and facility. In partnership with the Singapore Industry Readiness Index (SSIRI), our Smart System Framework evaluates companies’ readiness to embark on their digitalisation journeys. The recently launched Digital Transformation and Innovation™ (DTITM) Programme trains companies’ participants to become Digital Transformers that help transform business models through technology. The Model Factory@SIMTech, a Future of Manufacturing initiative of A\*STAR, demonstrates the benefits of digitalisation by providing a learning factory environment for companies to experiment and experience digitalisation technologies for Industry 4.0 before implementation and, also to co-create new technologies. Many companies have benefitted from the collaborations in these areas.”*

**About Singapore Institute of Manufacturing Technology (SIMTech)**

The Singapore Institute of Manufacturing Technology (SIMTech) develops high-value manufacturing technology and human capital to contribute to the competitiveness of the Singapore industry. It collaborates with multinational and local companies in the precision engineering, medical technology, aerospace, automotive, marine, oil & gas, electronics, semiconductor, logistics and other sectors.

SIMTech is a research institute of the Science and Engineering Research Council (SERC) of the Agency for Science, Technology and Research (A\*STAR). With a pool of more than 450 researchers, we are committed to serving the



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manufacturing industry to develop the human, intellectual and industrial capital in Singapore.

For more information, please visit: [www.SIMTech.a-star.edu.sg](http://www.SIMTech.a-star.edu.sg)

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**Dr Andreas Hauser, Director, Digital Service, TÜV SÜD**

*“Being part of this Network allows us to collaborate closely with the Index Partners to most effectively help companies start, scale and sustain their Industry 4.0 transformation from the initiation, solutioning to implementation and operation. We believe that this ecosystem has the potential to become best practice with impact on a global scale.”*

**About TÜV SÜD Digital Service**

TÜV SÜD Digital Service headquartered in Singapore is on the forefront of the 4th Industrial Revolution. Our Industry 4.0 services comprise Consultancy, Maturity Assessments and Roadmapping, Training, as well as Testing and Certification of connected industrial systems.

TÜV SÜD Digital Service is part of the TÜV SÜD group, an international service corporation and a world leader in consulting, testing, certification, and training. Headquartered in Munich, Germany, TÜV SÜD employs more than 24,000 professionals across 850 offices in more than 50 countries around the globe.

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**2. Talent Development & Training Partners**

**Professor Wei Kwok Kee, Dean, NUS School of Continuing And Lifelong Education (NUS SCALE)**

*“The Index is a useful tool which has helped us to define the curriculum of our Master of Science Degree relating to Industry 4.0, which is a multi-disciplinary effort from various NUS academic units. Currently in the planning stage, the programme provides a stackable and modular pathway for individualized learning through breadth in fundamental building blocks, and depth through functional specializations. Our core courses and graduate certifications cover the three key building blocks of Process, Technology and Organization, and their eight supporting pillars. As a member of the Index Partner Network, NUS will continue to work with adult learners and companies to prepare for digitalization and Industry 4.0 transformation.”*

### **About NUS SCALE**

The NUS School of Continuing and Lifelong Education (NUS SCALE) was launched in June 2016 to support the national manpower development needs with high-quality and industry-relevant education and training programmes. Drawing on the multi-disciplinary expertise of 16 other NUS faculties and schools, backed by cutting-edge research along with strong industry links, NUS SCALE provides opportunities for youth, professionals and organisations from the world over to be equipped with the latest knowledge and skills demanded in today's digital economy. Delivered with technology-enabled blended learning approaches, NUS SCALE programmes are designed to enhance both learning experiences and outcomes.

For more information on NUS SCALE, please visit <http://scale.nus.edu.sg/>  
To find out more about NUS SCALE Global Programmes, please contact [scale.global@nus.edu.sg](mailto:scale.global@nus.edu.sg)

### **3. Financial Partners**

#### **Joyce Tee, Managing Director and Group Head of SME Banking, DBS**

*“With Southeast Asian markets growing and the demand for Singapore-branded products and services on the rise, SMEs looking to grow their businesses and expand regionally are primed for success if they can get the technology to work for them. The Index Partners Network will help companies accelerate their digital transformation journeys and will also help the leapfrog the competition and address cost pressures in a structured and meaningful way. DBS is pleased to partner EDB to be the first financial partner at the launch of this network.”*

### **About DBS**

DBS is a leading financial services group in Asia, with over 280 branches across 18 markets. Headquartered and listed in Singapore, DBS has a growing presence in the three key Asian axes of growth: Greater China, Southeast Asia and South Asia. The bank's "AA-" and "Aa1" credit ratings are among the highest in the world.

Recognised for its global leadership, DBS has been named “[Best Bank in the World](#)” by Global Finance. The bank is at the forefront of leveraging digital technology to shape the future of banking, having been named “[World's Best Digital Bank](#)” by Euromoney. In addition, DBS has been accorded the “[Safest Bank in Asia](#)” award by Global Finance for ten consecutive years from 2009 to 2018.

DBS provides a full range of services in consumer, SME and corporate banking. As a bank born and bred in Asia, DBS understands the intricacies of doing business in the region's most dynamic markets. DBS is committed to building lasting relationships with customers, and positively impacting communities

through supporting social enterprises, as it banks the Asian way. It has also established a SGD 50 million foundation to strengthen its corporate social responsibility efforts in Singapore and across Asia.

With its extensive network of operations in Asia and emphasis on engaging and empowering its staff, DBS presents exciting career opportunities. The bank acknowledges the passion, commitment and can-do spirit in all of our 26,000 staff, representing over 40 nationalities. For more information, please visit [www.dbs.com](http://www.dbs.com).

#### **4. International Platform & Outreach Partners**

##### **Dr Santhi Kanoktanaporn, Secretary General, Asian Productivity Organization**

*“The Asian Productivity Organization is focused on helping its member countries in transforming their manufacturing sectors by harnessing the potential of Industry 4.0. The Smart Industry Readiness Index will enable APO member economies effectively diagnose the gaps, identify their priorities and kickstart their Industry 4.0 transformation journey. By leveraging the Index as a common language and framework, we will be able to help our member countries regardless of their level of manufacturing sector.”*

##### **About Asian Productivity Organization (APO)**

The Asian Productivity Organization (APO) is an intergovernmental organization committed to improving productivity in the Asia-Pacific region. Established in 1961, the APO contributes to the sustainable socioeconomic development of the region through policy advisory services, acting as a think tank, and undertaking smart initiatives in the industry, agriculture, service, and public sectors.

The APO is shaping the future of the region by assisting member economies in formulating national strategies for enhanced productivity and through a range of institutional capacity-building efforts, including research and centers of excellence in member countries.

The 20 APO member countries include, Bangladesh, Cambodia, Republic of China, Fiji, Hong Kong, India, Indonesia, Islamic Republic of Iran, Japan, Republic of Korea, Lao PDR, Malaysia, Mongolia, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, and Vietnam.

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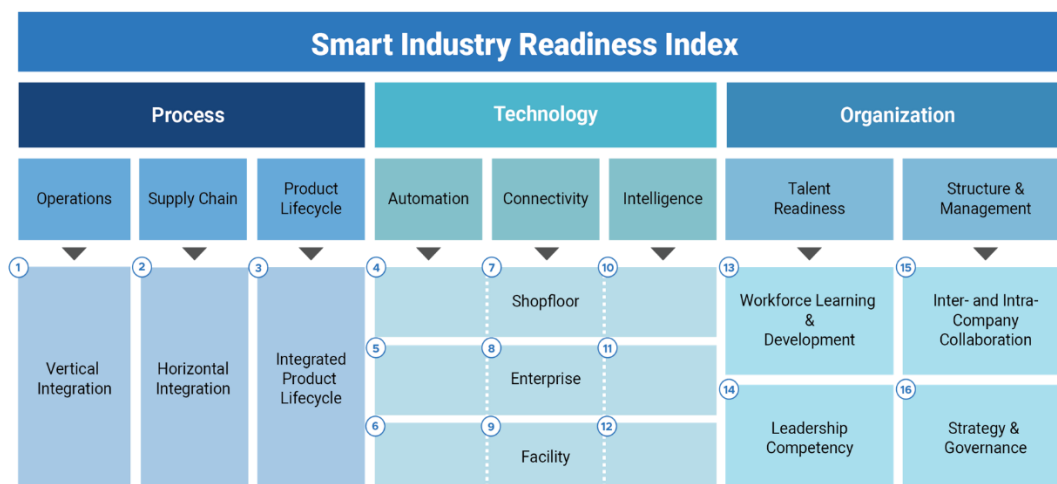
**Annex B: The Smart Industry Readiness Index**

**Phase 1 – Launch of the Index on 13 Nov 2017**

The Smart Industry Readiness Index (“the Index”) is a world-first Industry 4.0 tool developed by the Singapore Government to enable the transformation of industrial sectors, at both the enterprise and national levels. Created in partnership with global testing, inspection, certification and training company TÜV SÜD and validated by an advisory panel of industry and academic experts, the Index has been designed as a comprehensive tool to help companies across all industries and sizes to harness the value of Industry 4.0 in a systematic and comprehensive way.

At the enterprise level, the Index lays out a 4-step approach to help manufacturing firms learn about Industry 4.0 concepts, evaluate the current state of their facilities, architect a transformation roadmap, and deliver sustained value for their businesses. At the national level, the Index has the potential to serve as a metric for Industry 4.0 benchmarking within and across industries, enabling government bodies to better design sector-specific policy interventions to accelerate the transformation of industrial sectors.

The Index comprises 3 layers. At the top are the 3 fundamental building blocks of Industry 4.0: Process, Technology, and Organization. Underpinning these building blocks are 8 pillars of focus, which then map onto 16 dimensions of assessment. For each of the 16 dimensions, the Index provides an assessment matrix which companies can use to evaluate their current processes, systems and structures. The assessment matrix also doubles as a step-by-step improvement guide, as each dimension provides intermediate steps needed for companies to progress.



**Phase 2 – Provision of Public Workshops and 300 Funded Assessments on 22 March 2018**

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Since the launch of the Index in 2017, we have seen strong momentum and interest from both the local and international communities. To-date, more than 2,000 business executives from over 500 companies have attended the public workshops and conferences hosted by the Government on the Index.

To support our industrial sectors to leverage on the Index to initiate or accelerate their transformation, Dr Koh Poh Koon, Senior Minister of State for Trade and Industry and National Development, announced the provision of 300 funded assessments of the Index to help SMEs and MNCs across all industries kick start their Industry 4.0 transformation. To further amplify the reach and use of the Index, an accreditation programme will also be developed to train and qualify assessors.

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