

Malaysia-Japan Collaboration on Smart Manufacturing

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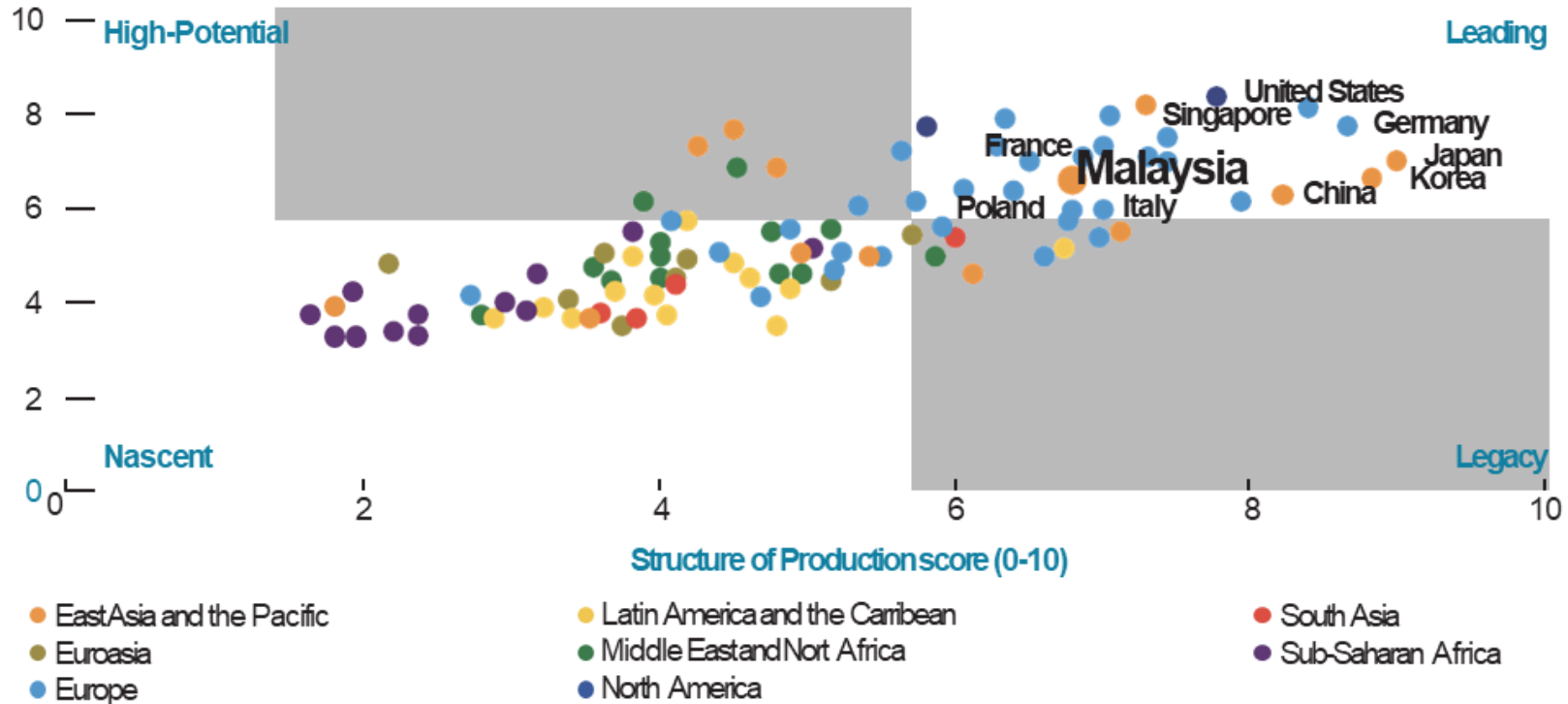
1 July 2019



MINISTRY OF INTERNATIONAL TRADE AND INDUSTRY



MALAYSIA READINESS FOR FUTURE OF PRODUCTION



Source: Industry4WRD Policy

INDUSTRY 4.0 INITIATIVES WORLDWIDE

– Industry4WRD (MALAYSIA) VIS-À-VIS Society 5.0 (JAPAN)

- Malaysia's 4th largest trading nation
- Total bilateral trade valued at MYR 132.57 billion (in 2018)
- Largest FDA in manufacturing sector at MYR 82.9 billion (as at Sept 2018)



Industrie 4.0



Manufacturing 2025



Manufacturing USA



Industry4WRD

**Policy to Attract, Create & Transform
(Shift Factor: People, Technology,
Process)**

A concerted and comprehensive transformation agenda for the manufacturing sector and its related services



Society 5.0

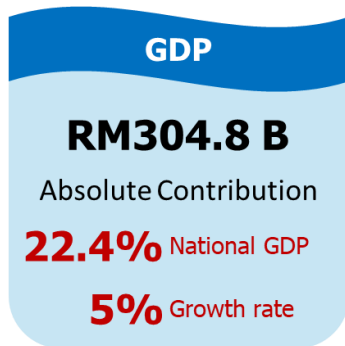
**Concept of Connected Industries that are
Human Centric
(Focuses : People, Things, System)**

A human-centered society that balances economic advancement with the resolution of social problems by a system that highly integrates cyberspace and physical space

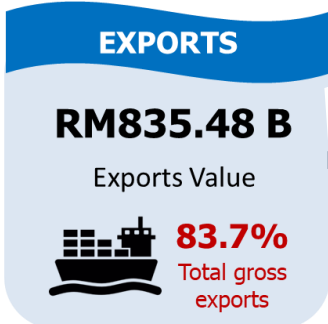


IMPACT OF SMART MANUFACTURING ADOPTION TO MALAYSIA'S ECONOMY

Current GDP& Exports
Contribution from
Manufacturing Sector



Source: DOSM, 2018



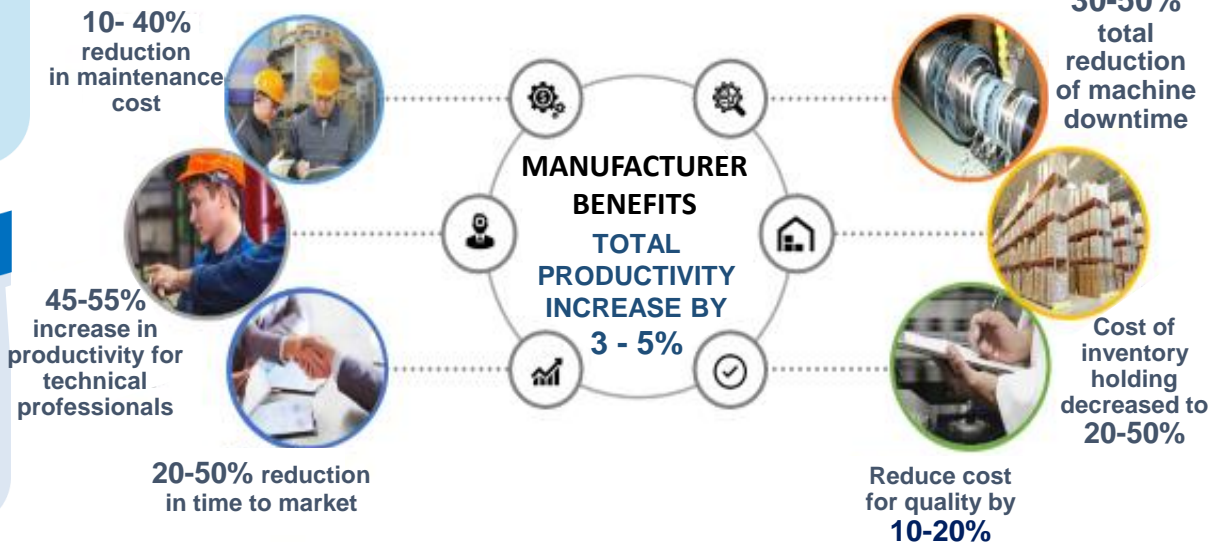
Source: MATRADE, 2018

Productivity Increase from Smart
Manufacturing Adoption



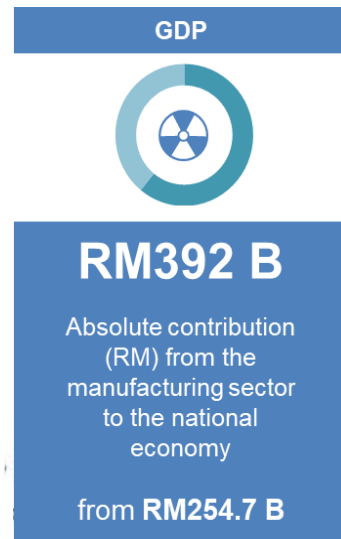
49,101
manufacturers
(**97.1%: SMEs**)

Source: DOSM, 2016



Source: McKinsey Digital, Industry 4.0: How to navigate digitization of the manufacturing sector (2015)

National Goal on GDP
(Manufacturing)
By 2025



**From 2016 base line*



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Malaysia-Japan Collaboration on Smart Manufacturing

COLLABORATION MALAYSIA-JAPAN SUPPORTS LEP 2.0



Capacity and Capability Building

Technical trainings on Industry 4.0 to reskill and upskill the Malaysia SMEs personnel and to establish a pool of local expertise in Industry 4.0



Industry Standards Development

Developing of the new industry standards, guidelines, best practices on Industry 4.0.



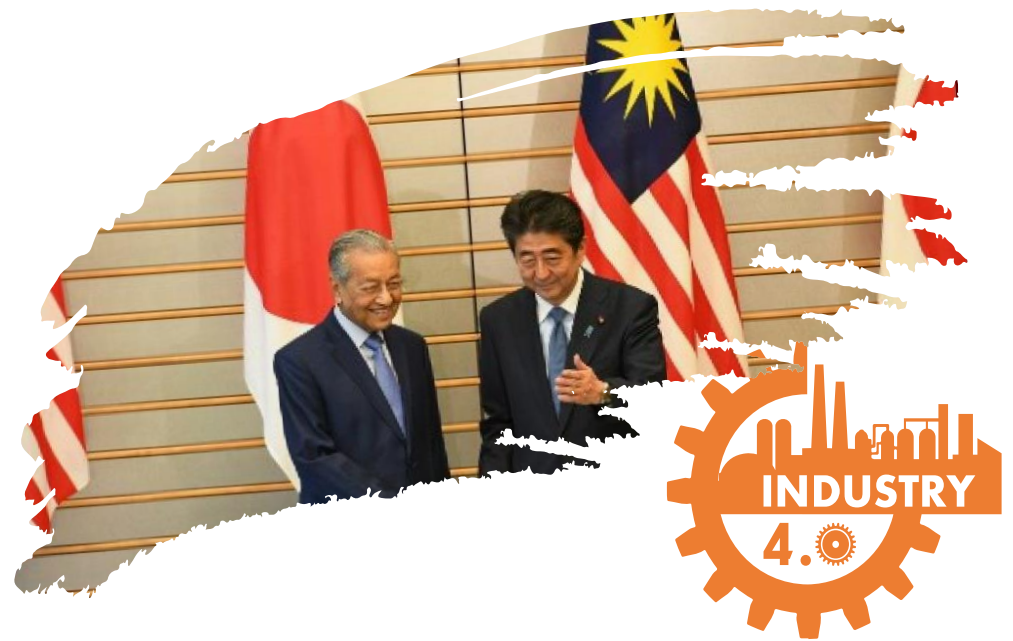
Technology innovation and commercialization of smart technologies

Provide solution to transform existing SMEs manufacturers towards Industry 4.0 and, develop and commercialize new technology innovation on smart technologies.

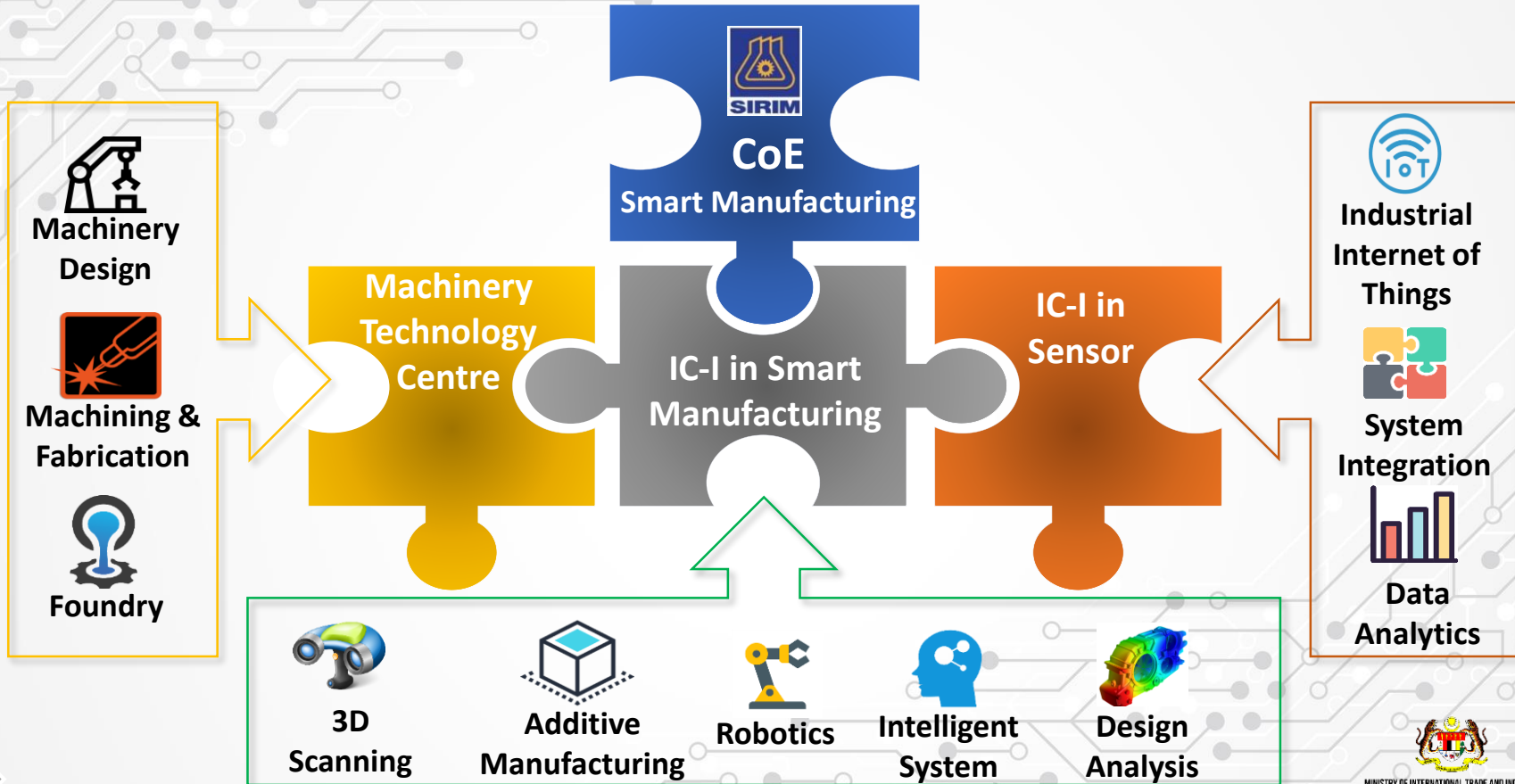


SIRIM and JACTIM/JETRO to host workshops

To create awareness and provide business matching opportunities between Malaysian SMEs and Japanese solution providers for adopting smart manufacturing.



SIRIM CoE on Smart Manufacturing



MAINTAINING THE NATIONAL TECHNICAL SERVICES & QUALITY INFRASTRUCTURE

2108 manpower strength to provide outreach services to industries all over the Country
Mandatory Technical Review of Calibration and Measurement Capabilities



PULAU PINANG
Permatang Pauh (91)



Advanced Materials
Research Centre (AMREC)
Kulim (103)

PERAK
Kaw. Perindustrian
Pangkalán II (6)



**Machinery
Tech Centre
Rasa, Selangor (60)**



**SIRIM BERHAD
SHAH ALAM
(1604)**



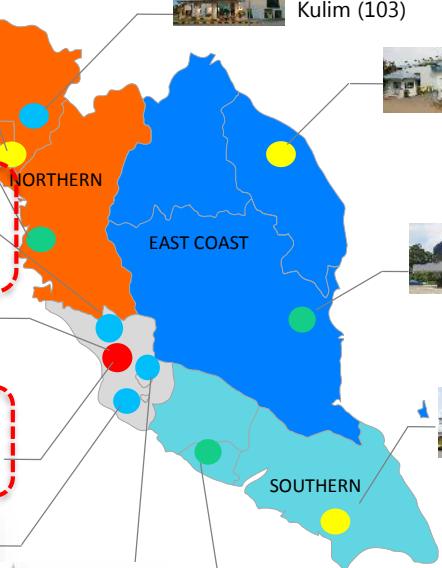
**IC-I Sensor
Shah Alam,
Selangor (16)**



National Metrology
Institute of Malaysia,
Sepang (117)



**IC-I Smart Manufacturing
Bukit Jalil, Selangor (66)**



TERENGGANU
Kaw. Perindustrian
Chendering (4)



PAHANG
Kaw. Perindustrian
Gebeng (10)



JOHOR
Taman Teknologi
Johor (41)



MELAKA
Kaw. Perindustrian
Batu Berendam (7)



SABAH
Kota Kinabalu
Industrial Park (14)



SARAWAK
Tmn Perindustrian
Demak Laut (16)



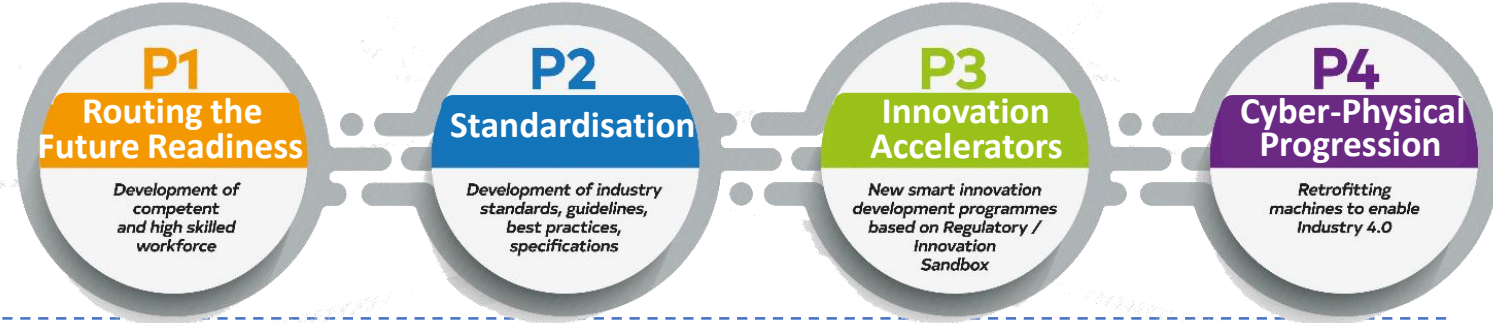
- SIRIM BERHAD
SHAH ALAM
- 4 Off-Campus
Facilities
- 3 State Offices
- 5 Regional Offices



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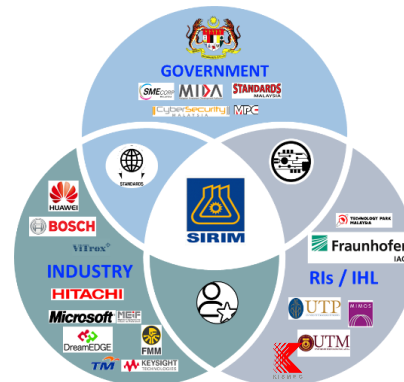
Programmes in SIRIM CoE on Smart Manufacturing



Japanese Consortium

SIRIM CoE Collaboration Model

Collaborators



STANDARDS FOR INTEROPERABILITY

Standards, guidelines, best practices & specifications

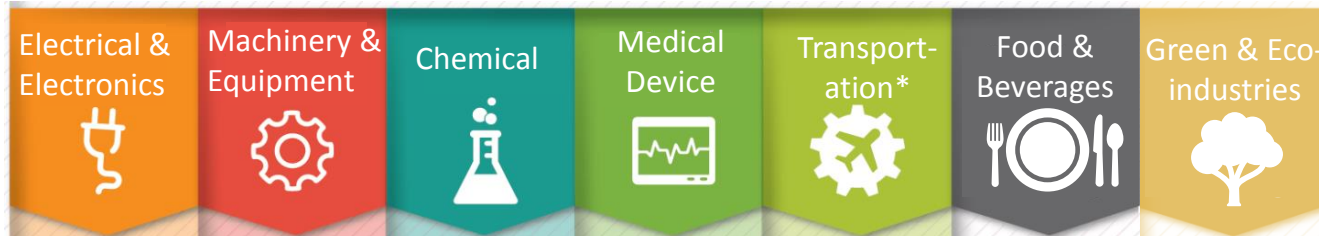
COMPETENCY & CAPACITY BUILDING

Training programmes for talent development

TECHNOLOGY ADOPTION

R&D Programmes for smart innovations & cyber-physical system;
Commercial-ready smart manufacturing technologies

Focus Sectors



*including Aerospace and Rail

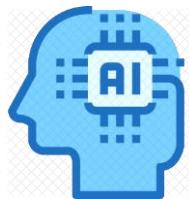


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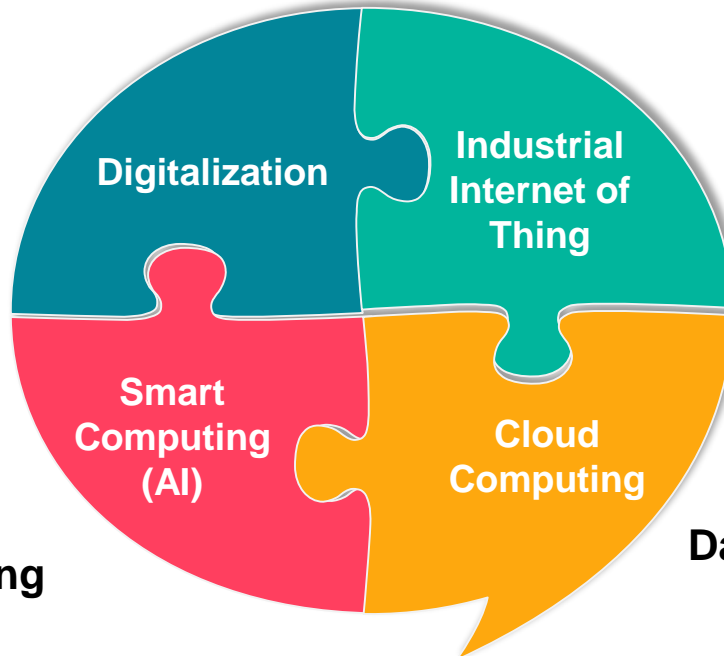


TOWARDS ENABLING SMART MANUFACTURING

Merging Physical With Cyber



Decision Making



Connectivity



**Data Storage, Analysis
and Information**

These key technologies enable communication between assets within the enterprise (vertical) and other enterprises along value chain (horizontal)



SCOPE OF COLLABORATION

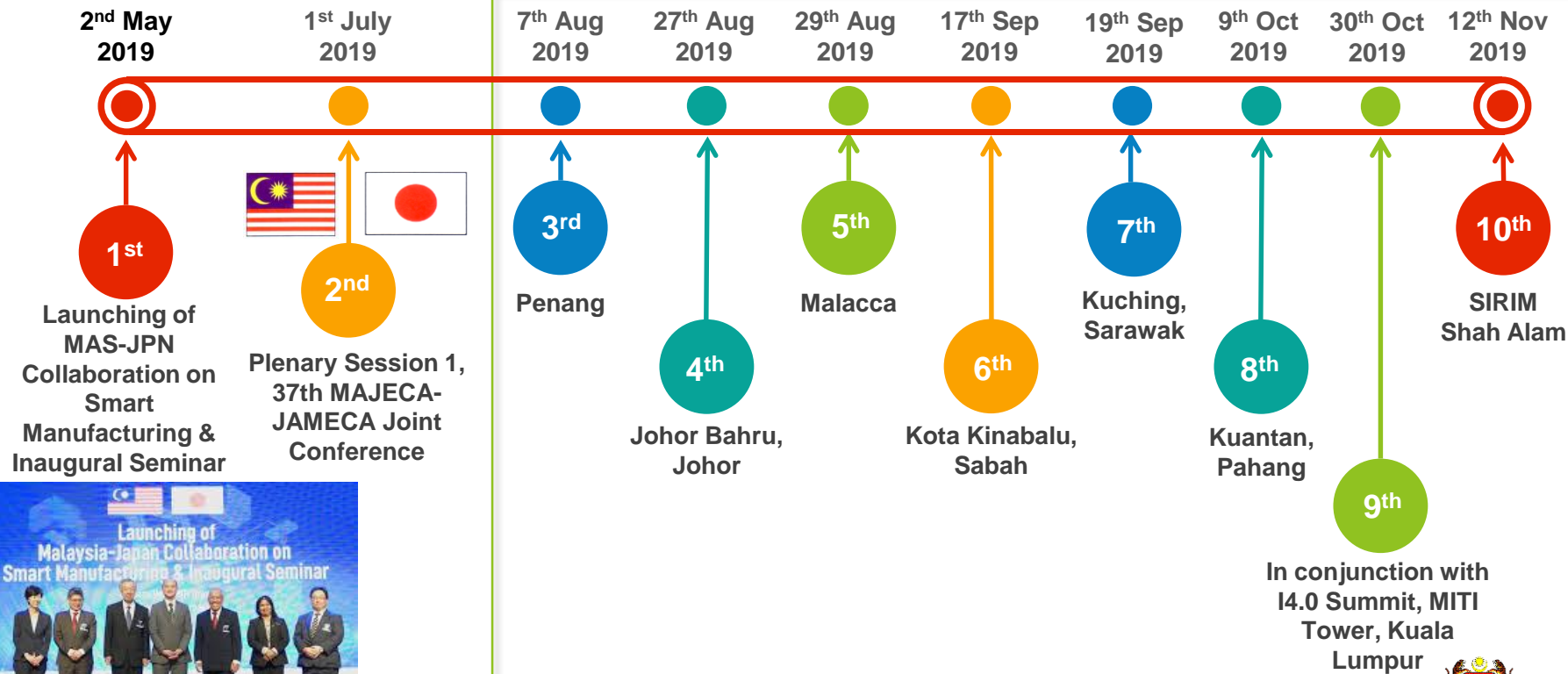
Areas	Step 1 (Year 1)	Step 2 (Year 1 & 2)	Step 3 (Year 2 & 3)
Approach to adopt industry 4.0	Data collection & visualisation	Work processes improvement	Systems integration through IoT
Competency development	Develop competent and high skilled workforce in: <ul style="list-style-type: none"> Industrial Internet of Things Digitalization 	Develop competent and high skilled workforce in: <ul style="list-style-type: none"> Workforce behavior review & analysis Lean management 	Develop competent and high skilled workforce in: <ul style="list-style-type: none"> Augmented reality Machine learning Big data analytics
Projects implementation	<ul style="list-style-type: none"> Implementation of retrofitting projects Development of industry standards 	<ul style="list-style-type: none"> Implementation of work processes review and analysis (Kaizen), best practices & lean management Development of industry standards 	<ul style="list-style-type: none"> Implementation of automation & system integration projects Development of industry standards
Industry engagement	<ul style="list-style-type: none"> Industry awareness Sharing sessions on use cases of smart manufacturing adoption 	<ul style="list-style-type: none"> Industry showcase on retrofitting projects 	<ul style="list-style-type: none"> Industry showcase on industry best practices & success stories



YEAR 1: ACTIVITIES

- Competency Development & Industry Engagement

Planned Session



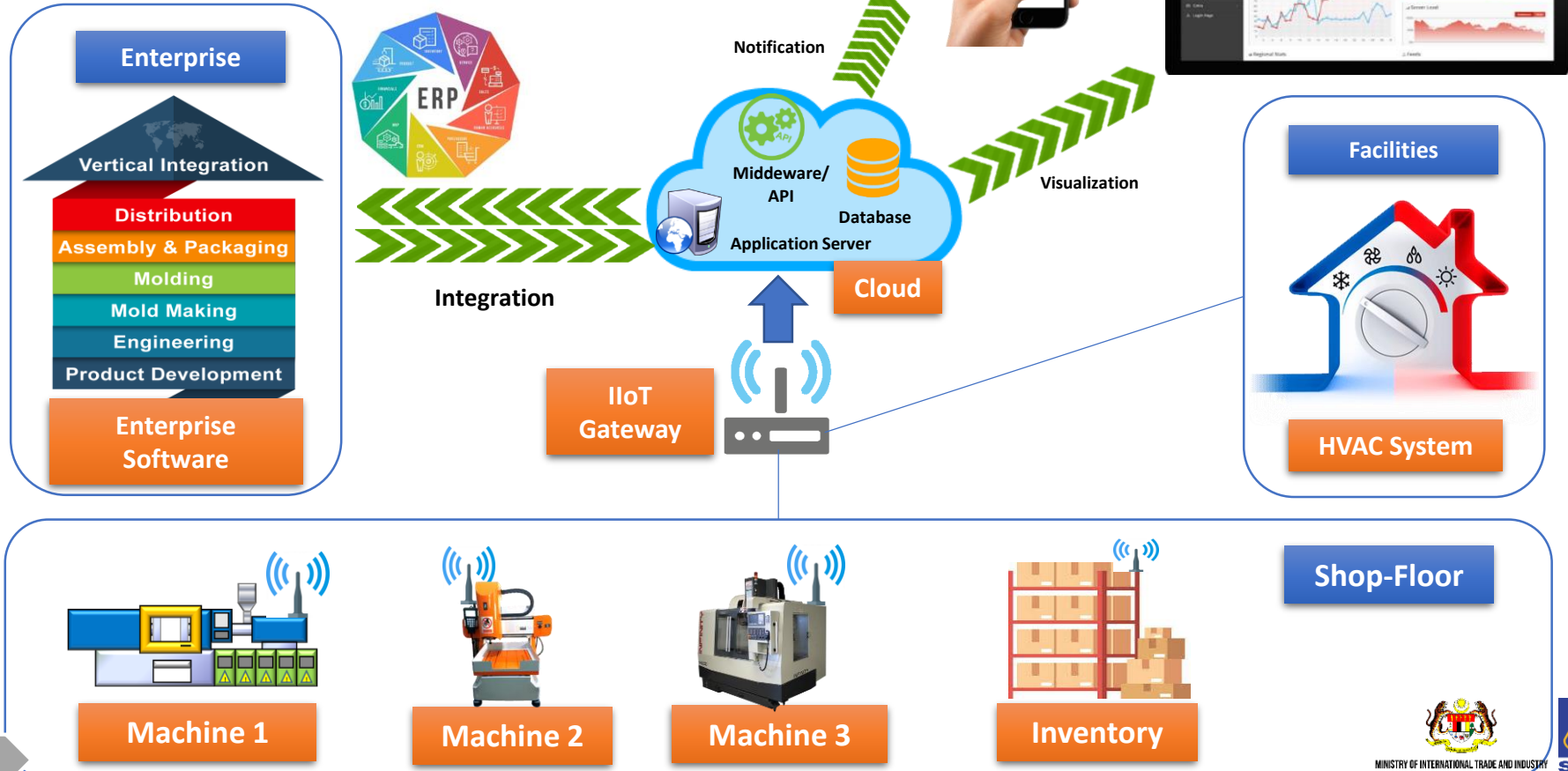
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SIRIM

YEAR 1: PROJECT IMPLEMENTATION

-Digitalization, IIoT & Cloud Computing



MALAYSIA-JAPAN COLLABORATION ON SMART MANUFACTURING



Industry4WRD (Malaysia) & Society 5.0 (Japan)

- Strong trading nation with sound bilateral relation
- In line with the Look East Policy (LEP2.0)
- Focuses towards adoption of smart manufacturing technologies & people centric
- Impacting the national economy through manufacturing productivity
- Aimed towards achieving the National Industry4WRD *policy goals*

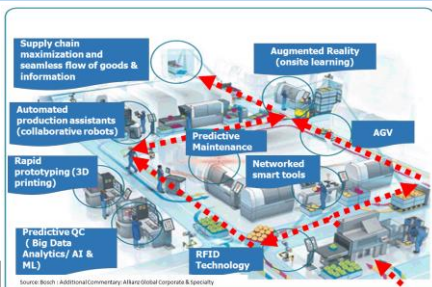
Collaboration Platform

- Collaborative platform connecting Malaysian SMEs and Japan Industry Consortium through SIRIM CoE on Smart Manufacturing
- Activities & projects towards enabling key technologies of Smart Manufacturing (Digitalization, Industrial Internet of things, Smart Computing (AI) and Cloud Computing)
- Utilizing SIRIM CoE on Smart Manufacturing services together with Japan solution provider/technologies



Activities & Projects

- 3 years implementation (phase 1) on Competency Development, Project Implementation & Industry Engagement
- 10 seminars planned across Malaysia in year 1, with Japanese experts sharing on the implementation and benefits of smart manufacturing
- At least 5 projects for SMEs on digitalization, IIoT and Cloud Computing





Thank You
ありがとうございました

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