



MINISTRY OF INTERNATIONAL TRADE AND INDUSTRY

Government's Role in Industry 4.0

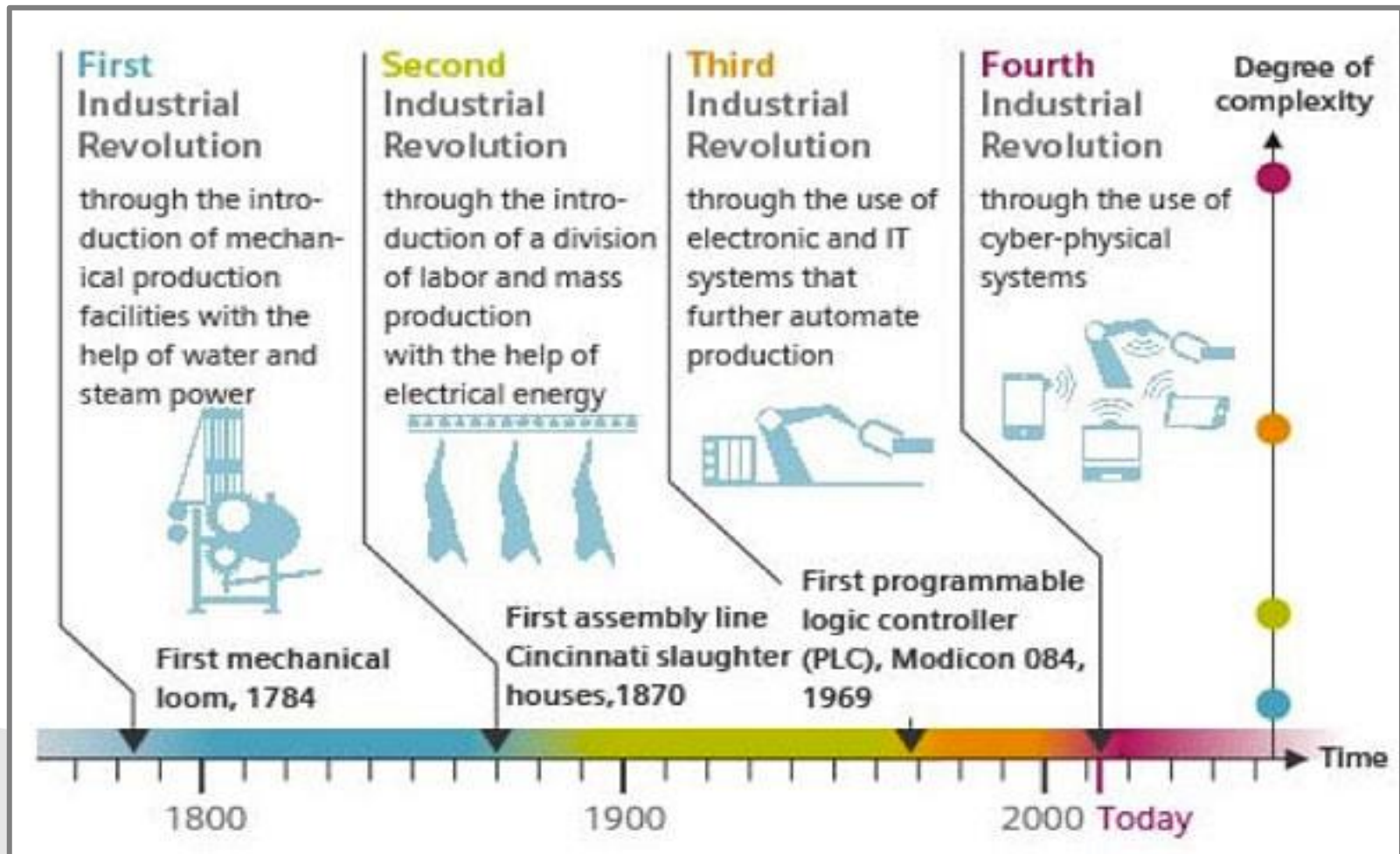
Industry 4.0 Seminar for Government Officials

15 June 2017



The Journey

Advancement in technology changed the manufacturing processes...



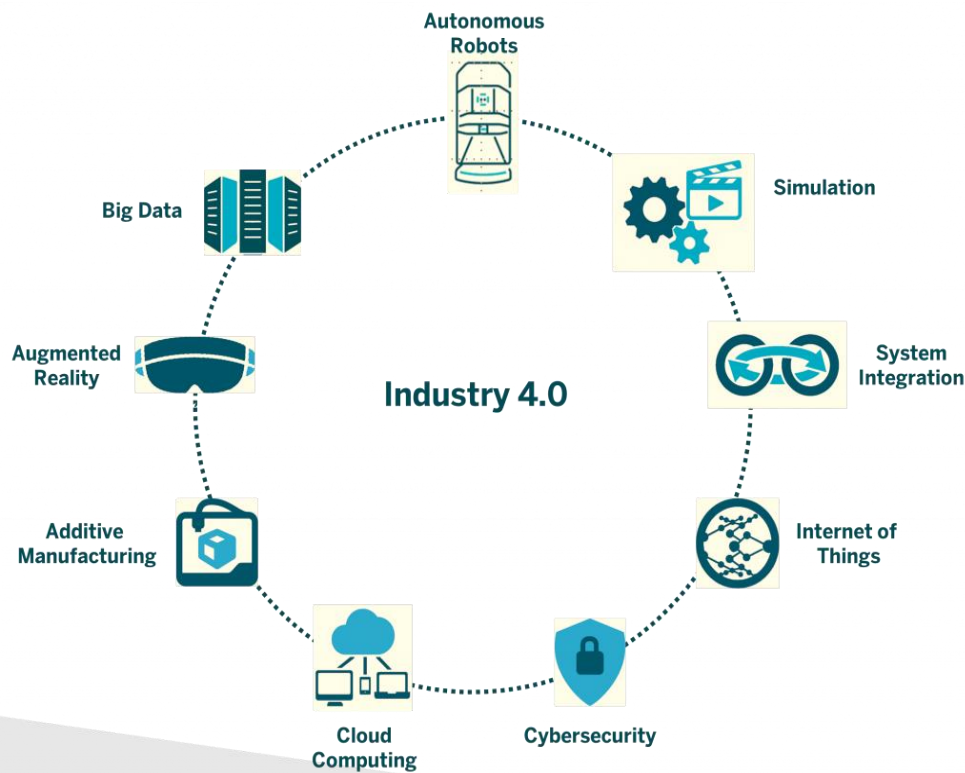
Source: German Research Centre for Artificial Intelligence (DFKI)

The Industry 4.0 Pillars & Environment

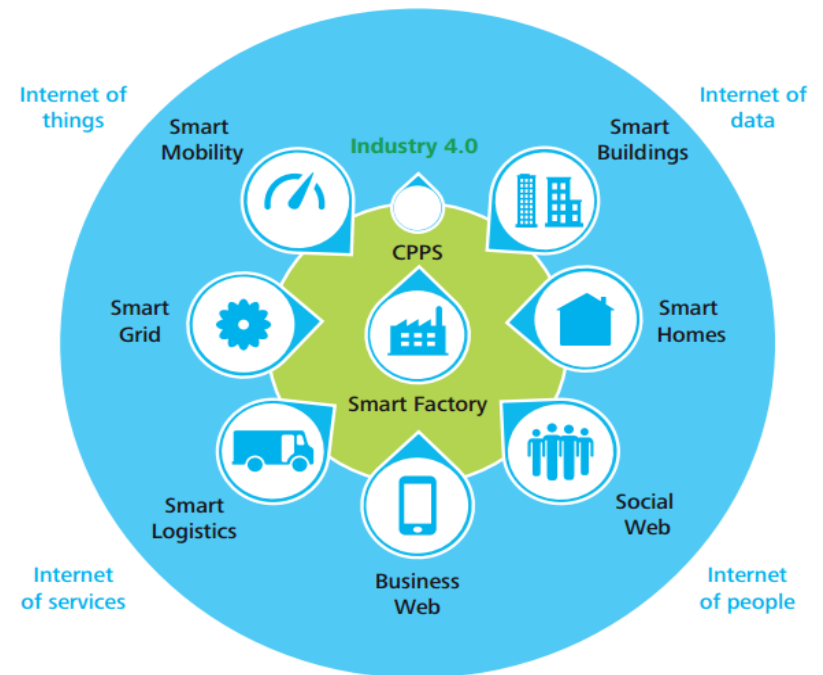


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Components are interrelated...



Source : BCG



Source : Deloitte

Adoption Elsewhere



- **'Made in China 2025'** national initiative
- Inspired by Germany's "Industrie 4.0"
- 10 priority sectors identified for targeted assistance
- Increased to 1.26% of USD11.2 trillion (\$15.8billion)

2015



- **Industrial Value Chain Initiative** launched by 30 Japanese companies, e.g. Nissan, Mitsubishi, Fujitsu, Panasonic
- Collaboration with Germany for specific areas of interest

2015



- **Industry Innovation 3.0**
- 9 major projects identified to enhance productivity
- USD8billion earmarked for "smart factory"

2014



- **Smart Nation Programme** (Prime Minister's Office)
- Provide infrastructure and Innovation Grant
- Invest S\$19 billion in R&D over the next five years (2016-2020)

2014



- **High-Tech Strategy 2020 Action Plan**
- Industrie 4.0 as one of the 10 forward-looking projects

2012



- **Smart Manufacturing Leadership Coalition (SMLC)**
- Shared platform for Industry, academia and Government for targeted projects

2010



START



Malaysia's Ecosystem- Government

- Pilot of Internet of Thing (IoT) technology
- National Empowerment in certification and Training for Next Generation Workers (NECT- Gen Industry 4.0)



- Data Science and Big Data Analytics Professional Course
- Academy of Professional and Industry Certification (APIC) for polytechnic

- Leading the initiative in developing National Roadmap on Industry 4.0 in collaboration with Stakeholders
- Seminars/workshops on Smart Manufacturing



Technology Provider:

- MIMOS
- Cyber security
- SIRIM
- TPM

Technology

Application/Enabler:

- Bioeconomy Corp
- Nano Malaysia
- ARSM
- Nuclear Malaysia
- Angkasa
- Standards Malaysia

- By 2020 (RMK 11), HSBB2 – 100Mbps (urban and sub-urban)
- SUBB – 20Mbps (50% of rural area)
- Pusat Internet Desa (PID)
- National Big Data Analytics (BDA) Framework

Non-exhaustive

Malaysia's Ecosystem- Government (cont.)



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- IoT Industry and Ecosystem Development through pilot projects
- Building Analytics Capabilities: 20,000 data professionals & 2,000 data Scientists by 2020
- ASEAN Data Analytics eXchange (ADAX)



- SIRIM Fraunhofer Programme
- Technical Services and Consultation Preparing companies towards Industry 4.0



- Study on Future of Manufacturing: Industry 3+2

- MegaSciences
- Malaysia Transformation 2050

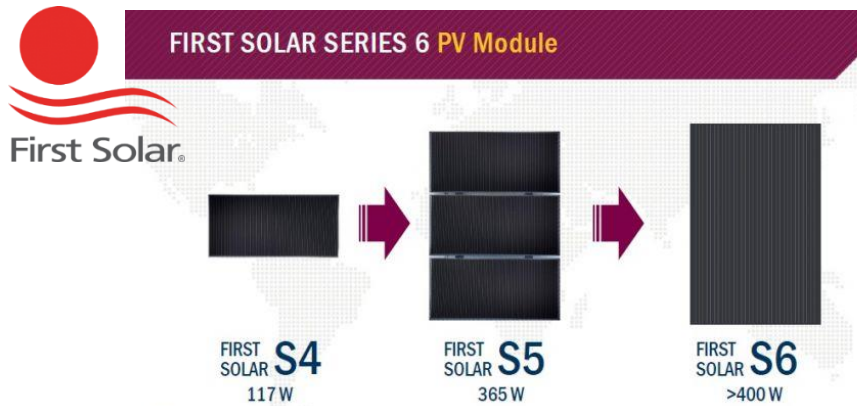
Non-exhaustive

Malaysia's Ecosystem- Industry (some eggs)



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Electrical & Electronic



Machinery & Equipment

VITrox



Medical Devices

B|BRAUN
SHARING EXPERTISE



Automotive parts and accessories

DELLOYD
INDUSTRIES (M) SDN BHD



Malaysia's Ecosystem- Training Institute



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INDUSTRY 4.0
CENTRE OF EXCELLENCE

GMI
GERMAN-MALAYSIAN INSTITUTE
Training for Advanced Technology

i4.0 GLOBAL GURUS SERIES

16 - 19 May 2017
Embedded Systems for IoT
Prof Dr Felix Hüning
Professor
Aachen University of Applied Sciences



Industrial Internet of Things



Cloud

13 - 16 Jun 2017
Cloud Architectures & Technologies
Prof Dr Andreas Classen
Professor
Aachen University of Applied Sciences

18 - 21 Jul 2017
Cybersecurity Fundamentals for I4.0
Prof Dr rer nat Marko Schuba
Professor
Aachen University of Applied Sciences



Cybersecurity



Horizontal and Vertical Integration

5 - 8 Sep 2017
Industry 4.0: Idea, Architecture, Demands, & Approach
Prof Dr -Ing Ulrich Hoffmann
Professor
Aachen University of Applied Sciences

16 - 20 Oct 2017
Big Data for I4.0: Methods & Solutions
Prof Dr Martin Wolf
Professor
Aachen University of Applied Sciences



Big Data Analytics



Autonomous Robot

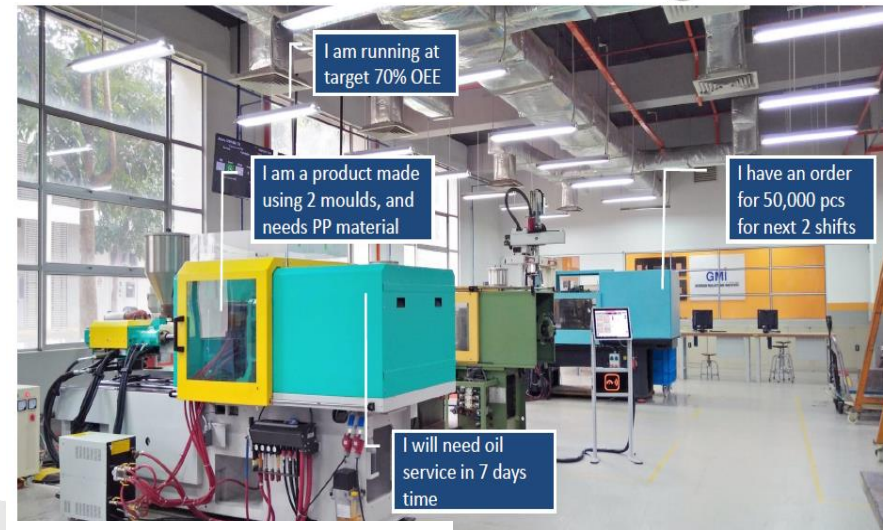
7 - 10 Nov 2017
The Robot Operating System
Prof Dr Alexander Ferrein
Professor
Aachen University of Applied Sciences

Source: PSDC

digitalisation and industry 4.0
driver licence®



iFactory Innovation Center
Smart Manufacturing



Source: GMI

Malaysia's Ecosystem- Research & Technology Institutes



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Driving research, talent and commercialization activities in 6 key clusters critical to the Electrical & Electronic sector

Electronic Smart Manufacturing Ecosystem

Collaborators in Industry Proof-of-Concept projects, R&D Grant projects, talent programs:

Strategic Intent of Electronic Smart Manufacturing

- 1 Digitize our 40+ years of capabilities and expertise in Manufacturing
- 2 Accelerated New Product to Market
- 3 Promote Malaysia as The Preferred Manufacturing destination for new electronic-related products

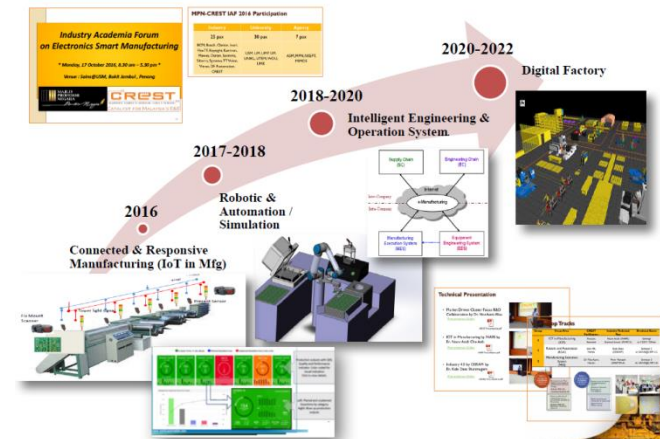
An **Industry-led** catalyst for the growth of Malaysia's E&E industry.

CREST accelerates economic growth by driving **collaboration** between the Industry, Academia and Government.

CREST sparks a vibrant **R&D ecosystem** by spearheading activities in 3 areas; R&D, Talent Development and Commercialization.



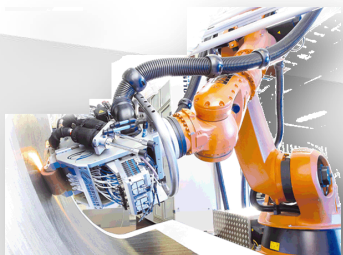
Electronic Smart Manufacturing Roadmap CREST



Aerospace Malaysia Innovation Centre (AMIC) is leading the modernization of Malaysian Aero-manufacturing sector through its **Factory for the Future** initiative

Current Projects

- Factory Shopfloor 3D Virtualization
- Online Robot and Machine Planning in Virtual Environment
- Virtual Reality Immersive System For Aerospace Manufacturing



Enablers



Adopters

Enablers in Addressing Key Challenges

Pressing Industry 4.0 implementation issues...

- 1 Comprehensive National level strategy**
No clear overarching policy and coordination on Industry 4.0
- 2 Infrastructure & Ecosystem**
Energy, telecommunication, ecosystem gaps
- 3 Targeted incentives and Funding**
Broad-based
- 4 Human capital and Talent**
Labour intensive, mismatched skill sets
- 5 High initial investment**
Substantial capital expenditure
- 6 Lack of standards and Technology**
Harmonisation, integration, reliability



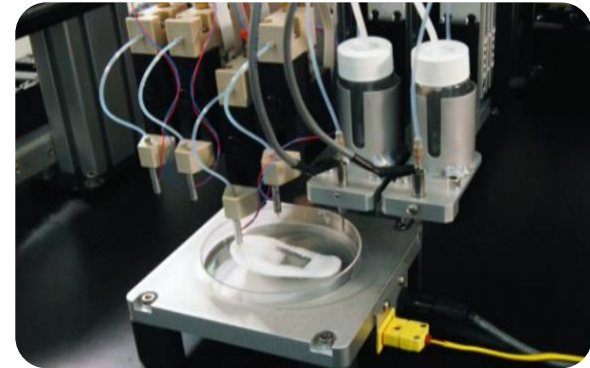


Adopters in Government Services

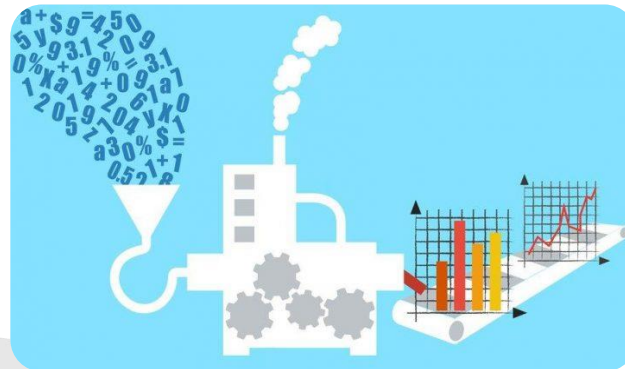
IoT in Healthcare



3D Printing in Pharmaceutical



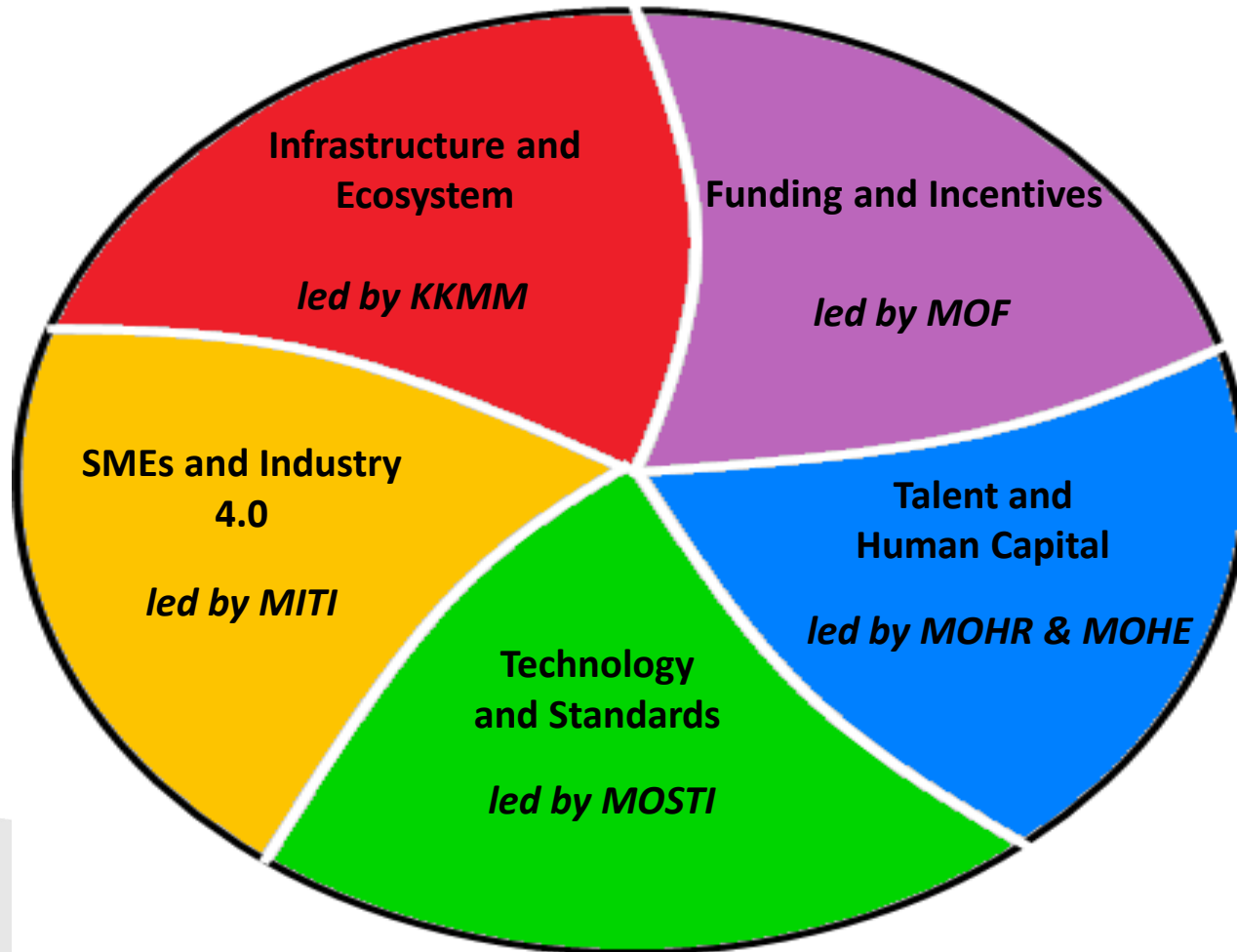
Data Management using BDA & Cloud





The Industry 4.0 Task Force

The Task Force will oversee specific proposals based on 5 elements...



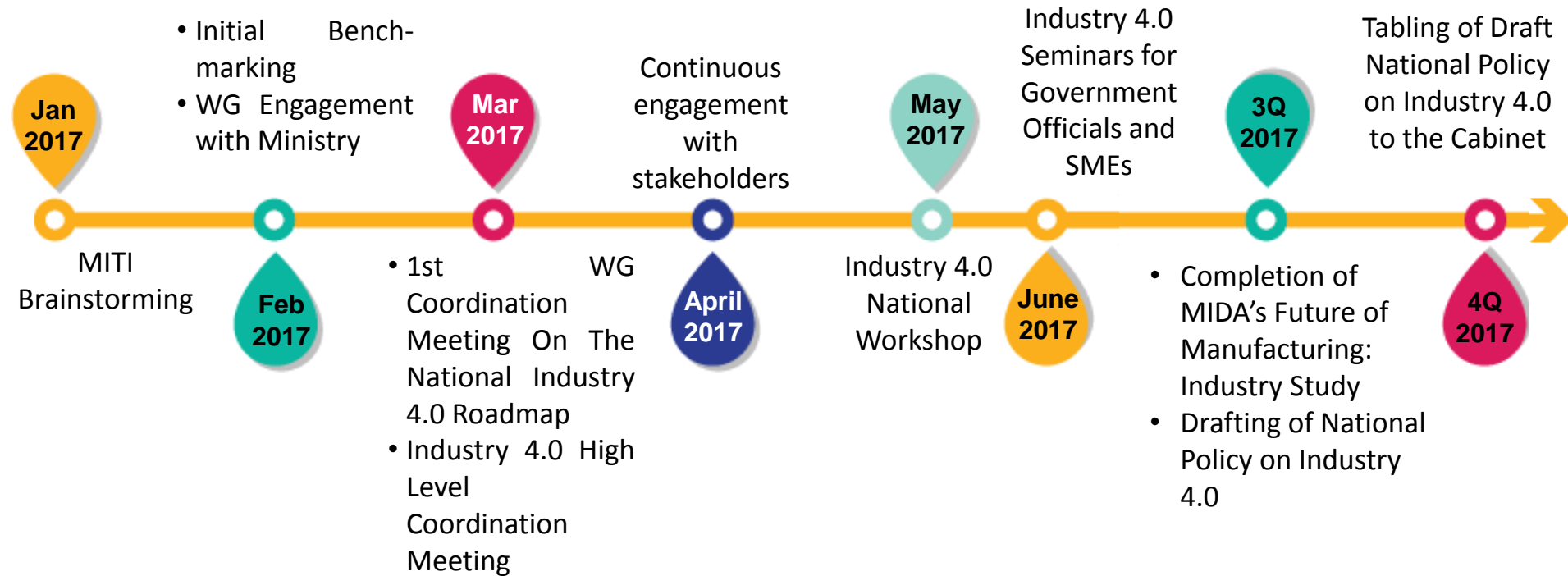
Members of the Industry 4.0 Taskforce



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Timeline



Moving Forward



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MIDA'S STUDY



Study by MIDA on
"Future of
Manufacturing:
Industry 3+2"

ENGAGEMENTS AND AWARENESS PROGRAMMES



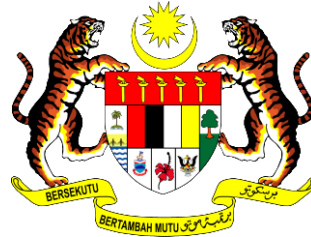
A collective national
seminar to be
organised followed by
regional workshops

NATIONAL POLICY



Drafting of National
Policy on Industry 4.0

Completion by end of 2017



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Thank you



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