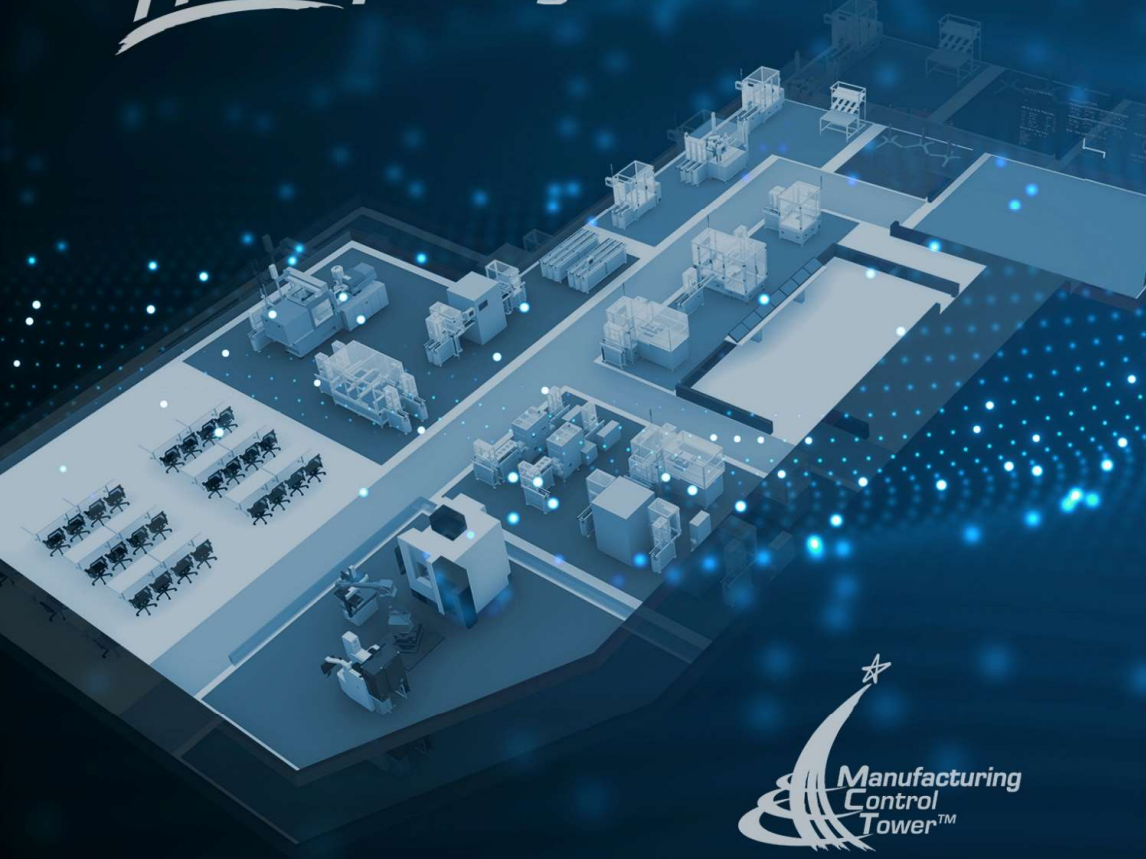


Model factory@SIMTech



Model Factory@SIMTech

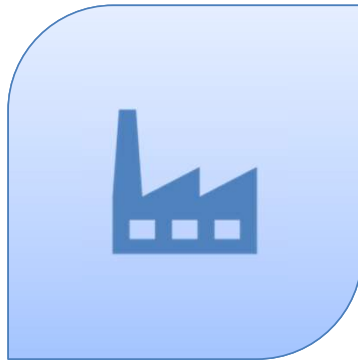
– A Learning Factory for I4.0 Transformation

Dr Tan Puay Siew
Research Director

December 2021



Content

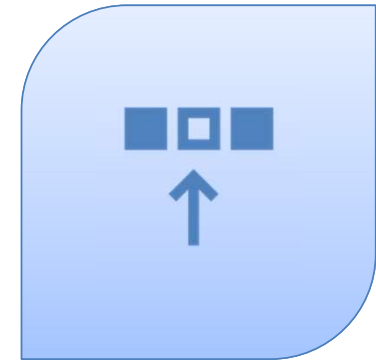


INTRODUCTION

- A*STAR
- SIMTech
- MF@SIMTech



DIGITAL TRANSFORMATION JOURNEY



USE CASES

A*STAR ORGANISATION CHART



SCIENCE AND ENGINEERING RESEARCH COUNCIL (SERC)

- Advanced Remanufacturing and Technology Centre (ARTC)
- Institute of Chemical and Engineering Sciences (ICES)
- Institute of High Performance Computing (IHPC)
- Institute for Infocomm Research (I²R)
- Institute of Microelectronics (IME)
- Institute of Materials Research & Engineering (IMRE)
- National Metrology Centre (NMC)
- Singapore Institute of Manufacturing Technology (SIMTech)
- **National-Level Initiatives**
- **Programmes, Platforms and Scientific Services**

Chairman
Ms Chan Lai Fung
and
Board of Directors

Chief Executive Officer
Mr Frederick Chew

Deputy Chief Executive (Corporate)
Mr Suresh Sachi

Deputy Chief Executive (Research)
Professor Andy Hor

- A*STAR Graduate Academy
- Strategic Planning & Operations
- S&T Initiatives & Communications
- Enterprise Division
- International Relations & Partnerships
- Corporate Groups
- Internal Audit



BIOMEDICAL RESEARCH COUNCIL (BMRC)

- Bioinformatics Institute (BII)
- Bioprocessing Technology Institute (BTI)
- Genome Institute of Singapore (GIS)
- Institute of Bioengineering and Nanotechnology (IBN)
- Institute of Medical Biology (IMB)
- Institute of Molecular and Cell Biology (IMCB)
- Singapore Bioimaging Consortium (SBIC)
- Singapore Institute for Clinical Sciences (SICS)
- Singapore Immunology Network (SigN)
- Skin Research Institute of Singapore (SRIS)
- **National-Level Initiatives**
- **Programmes, Platforms and Scientific Services**

SIMTech's VISION & MISSION

VISION

A **world-class** innovation partner in advanced manufacturing technologies, systems and capabilities

Mission

To develop targeted high-value manufacturing technologies and human capital to enhance Singapore's competitiveness

Vision

A leader in digital manufacturing and supply chain innovation

Mission

To create digital system technologies that enhance industry competitiveness



Manufacturing System Division (MSD)

Key Competencies

- Digital Transformation
- Operations Management @ Supply Chain & Enterprise
- Manufacturing Execution & Control @ Shopfloor



Video available at
<https://www.a-star.edu.sg/simtech/model-factory@simtech>



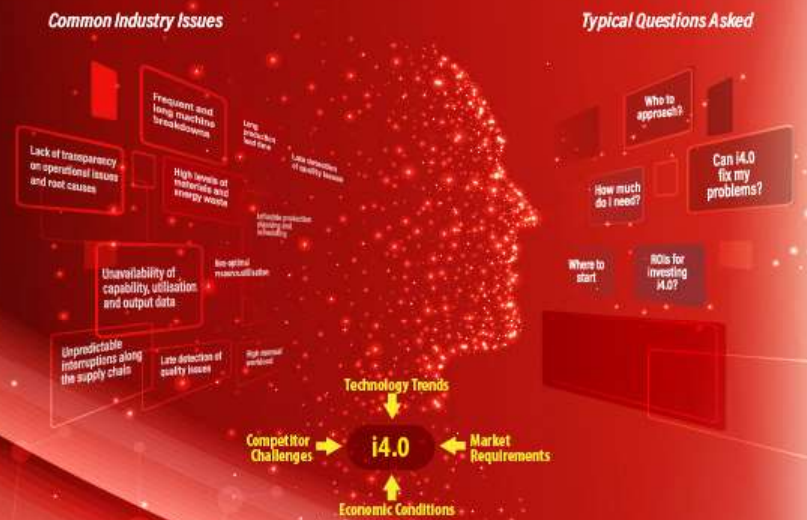
Digital Transformation Journey



Future Technologies

EXPLORE

Start Your Transformation Journey Here



Model factory@SIMTech

Discover Possibilities

Explore Relevance

- Showcases digital transformation technologies for Digital Transformation in an immersive environment
- **Interactive@Model Factory:**
 - Understand relevant technologies and impacts by Demonstrators Zones
 - Explore relevance by industries

Understand New Technologies

- Technological developments of the **Model Factory@SIMTech**, both Virtual and Augmented Reality, which takes learning and experiencing to a whole new level
 - **VR@Virtual Model Factory Tour**
 - **AR@Holistic Energy Management**
 - **AR@Shopfloor Management**

DASSAULT SYSTEMES



VR@Virtual Model Factory



AR@Holistic Energy Management



AR@Shopfloor Management



Learn New Possibilities

- Collaborate with Boston Consulting Group and other partners to deliver immersive training for i4.0 era
 - **Masterclasses**
 - **Advanced Manufacturing Series**

BCG BOSTON CONSULTING GROUP



Model Factory@SIMTech Virtual Tour

A Virtual Tour of Model Factory@SIMTech by MCT The Model Factory@SIMTech features an actual production environment that

<https://ths.li/Lapkhj>

19:06



FORM Business Case

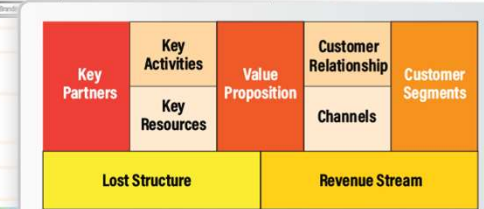
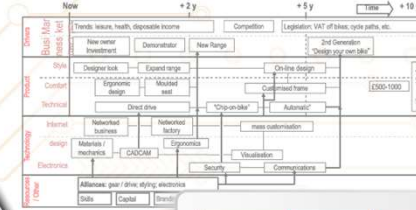
Prioritise Your Business Challenges

Formulate Business Plan

Select Methodology & Framework

Develop Roadmap & Plan

Justify Business Case



7. IDENTIFY & DEVELOP						
Category	MA	LEVEL 1				
1. Basic Practice Scheduling	MA	SL				
2. Demand Planning	MA	SL	John Trout	Neust	Guidelines for Demand Planning	Capable to create Demand Planning
3. Material Requirements Planning	MA	SL	Harold B. Deane (John Trout)	Neust	MRP and MRP II Planning	Capable to create MRP
4. Purchasing & Shipping	MA	SL	Robert J. Parnes (John Trout)	Neust	Purchasing & Shipping	Capable to create Purchasing & Shipping
5. Inventory Management	MA	SL	John Trout	Neust	Inventory Management	Capable to create Inventory Management
6. Distribution Management	MA	SL	John Trout	Neust	Distribution Management	Capable to create Distribution Management

Deliverables

Return on Investment

Timelines

Budgets



Model factory@SIMTech

IMPLEMENT

Adopt Holistic Approach

Our Approach

Helping industry to kick-start i4.0 implementation with Public-Private Partnership and Whole of Government approach



Find Partners & Technologies

SIMTech Technologies

- Offers an array of tested and modular & ready-to-go solutions for companies to adopt easily in a cost-effective manner



Technology Partners

- To help you scale-up or go international, we have our technology partners

Model factory@SIMTech



Our Ready Technologies

Modular technologies to fit your needs

With the roadmaps and business proposal on hand, companies can start to look for technologies and partners to implement the solutions.

SIMTech offers an array of tested and Ready To Go solutions for companies to adopt easily in a cost effective manner.

<https://pubhtml5.com/zlck/vgha/>



e-DataLogger+



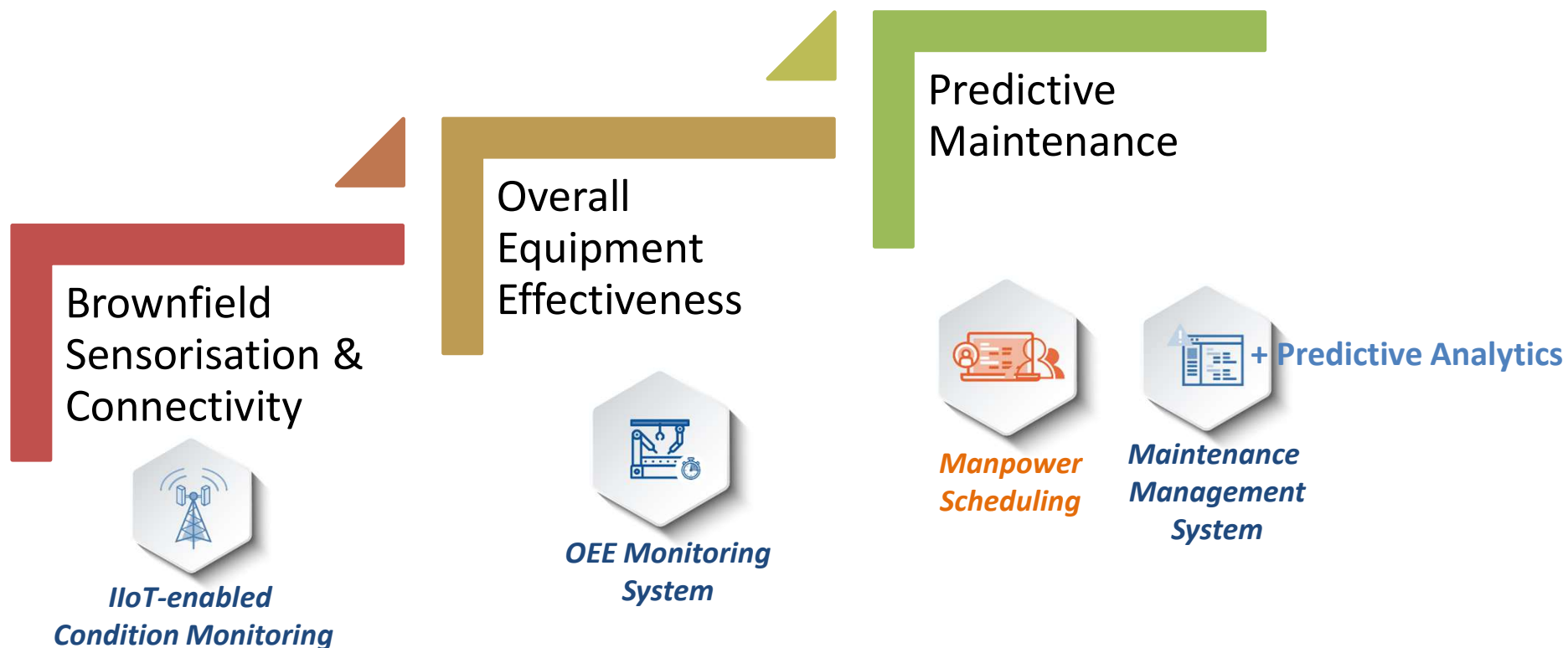
Hard Automation





Technology Pathways Examples - #1

Shopfloor – Towards Predictive Maintenance





Technology Pathways Examples - #2

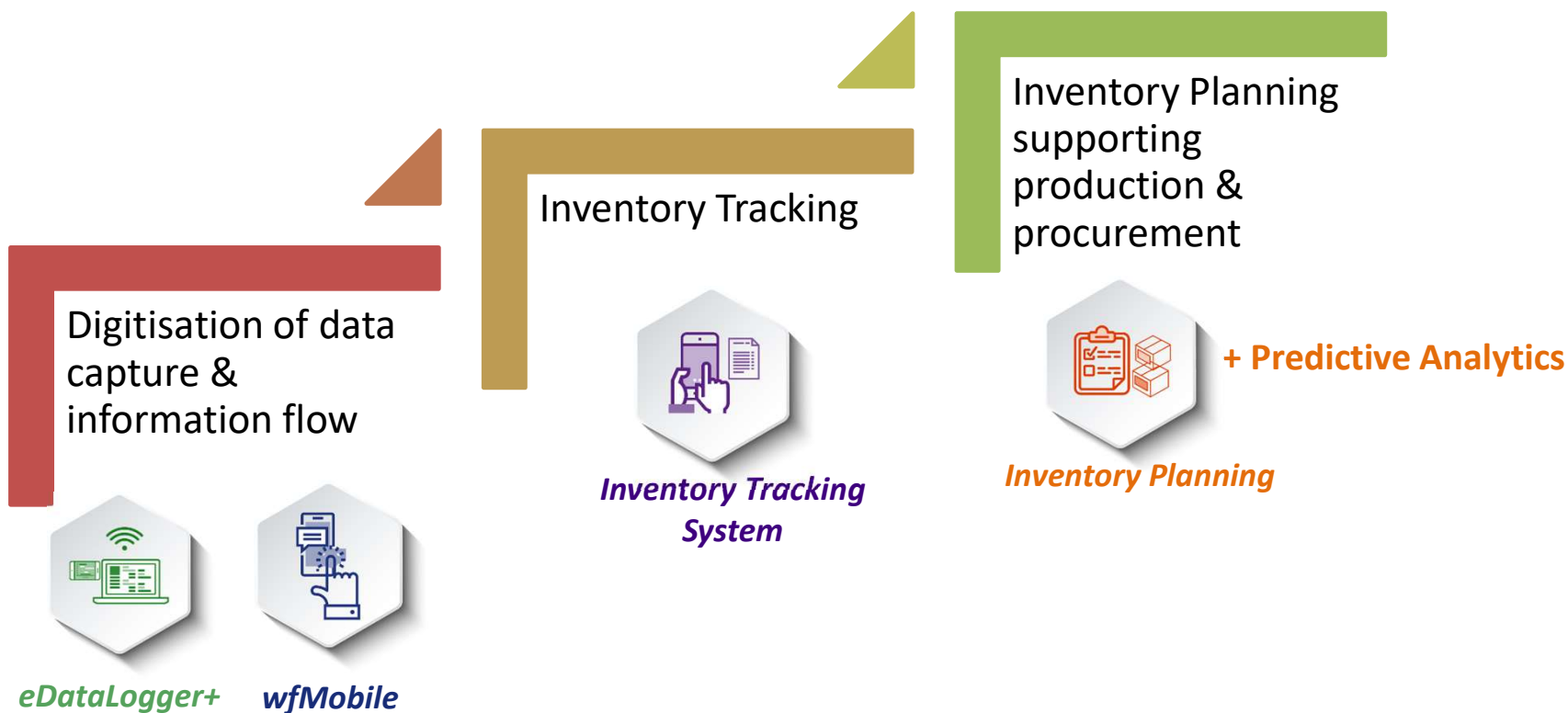
Shopfloor - Production Output & Yield Optimisation





Technology Pathways Examples - #3

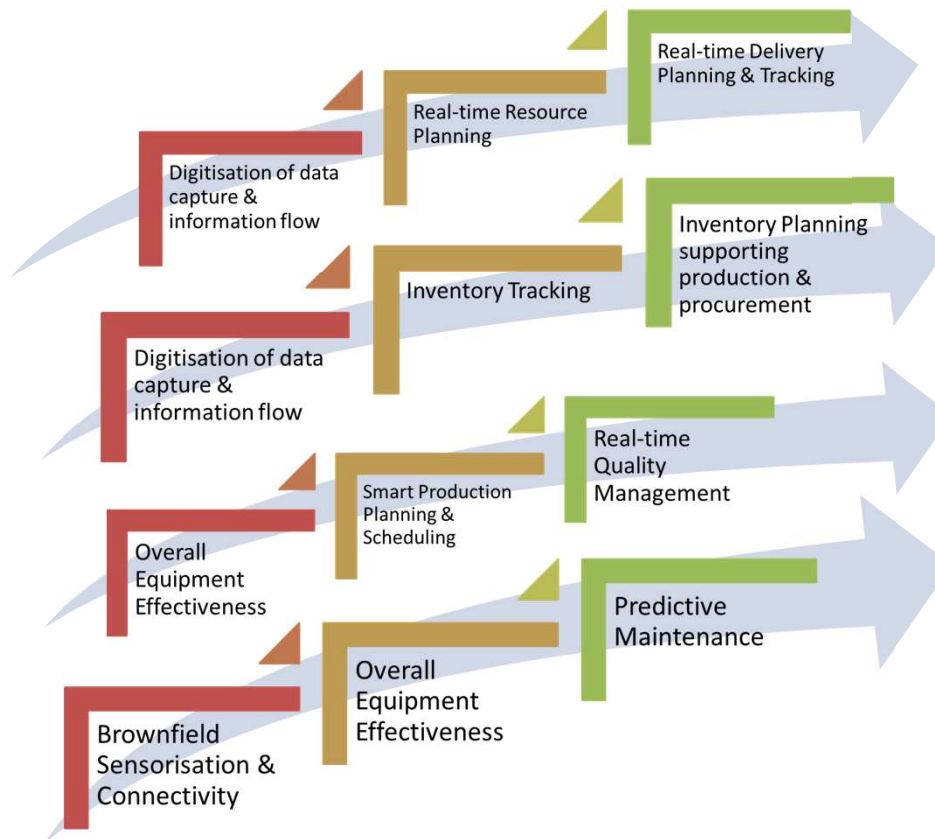
Real-time Inventory Management with Track&Trace capabilities





Technology Pathways Examples - #5

Where TOTAL Visibility Happens



CO-CREATE

Accelerate growth through deep partnerships

Innovate for Future Growth

Digital Ecosystem of Partners through Long Term Research Collaborations

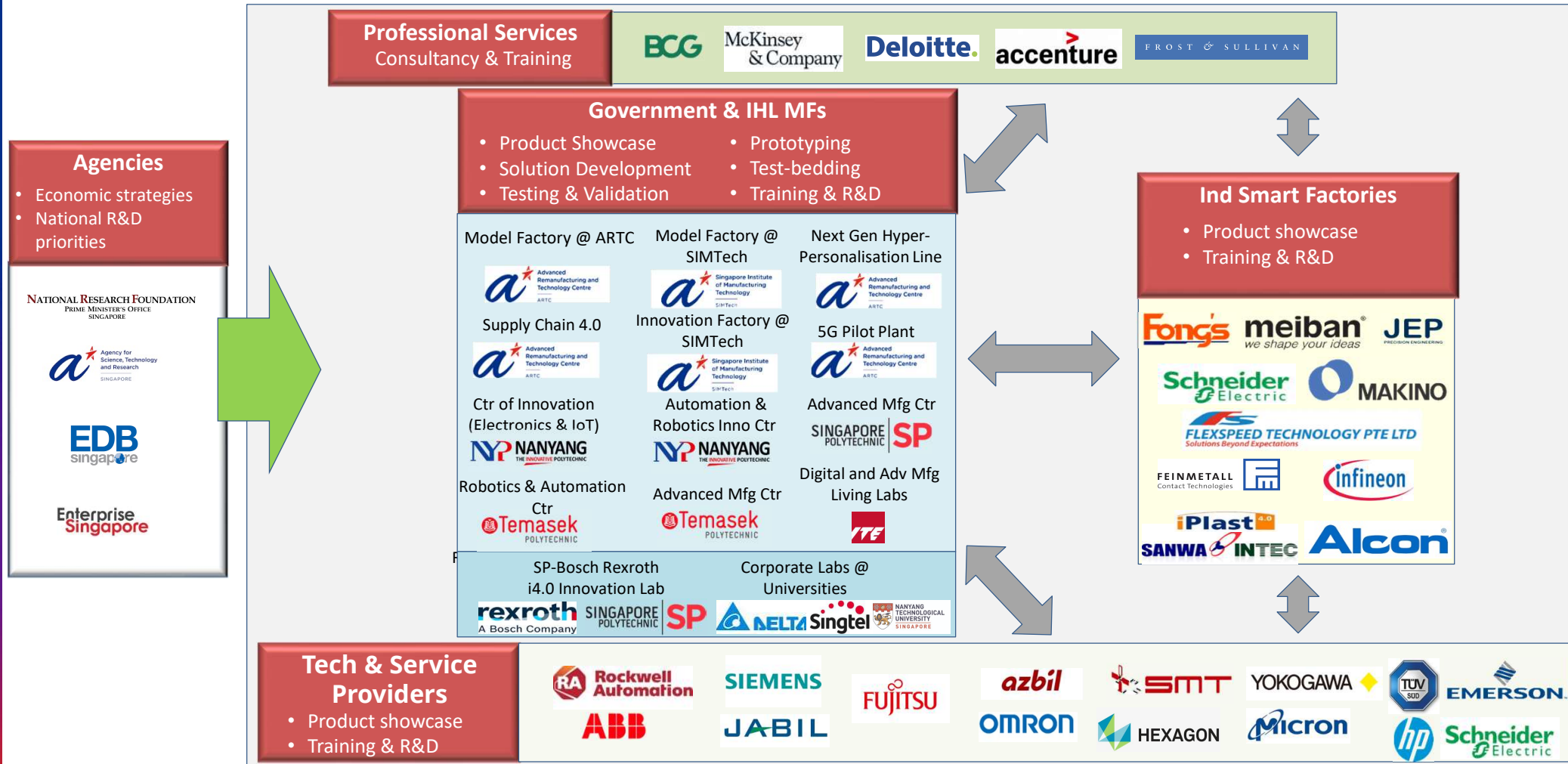
SIMTech and A*STAR as your partner of choice to co-innovate and co-create new technologies and services to accelerate and sustain growth.

Make Singapore the hub of innovation for advanced technologies for the region and the world.

Model factory@SIMTech



Singapore Has a Vibrant Ecosystem of Smart Factories



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Singapore Institute
of Manufacturing
Technology

SIMTech

for Industry

THANK YOU!

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