



Smart i4.0 Transformation Alliance

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## Background

In conjunction with the inaugural Industry Transformation Asia -Pacific, a Hannover Messe event, ASTech formed a new strategic alliance, Smart i4.0 Transformation Alliance (SiTA) with 14 members made up of local and international companies on 16th Oct' 18 with the support from Enterprise Singapore (ESG) and Singapore Precision Engineering and Technology Association (SPETA). It has now grown to 21 companies.

## Vision

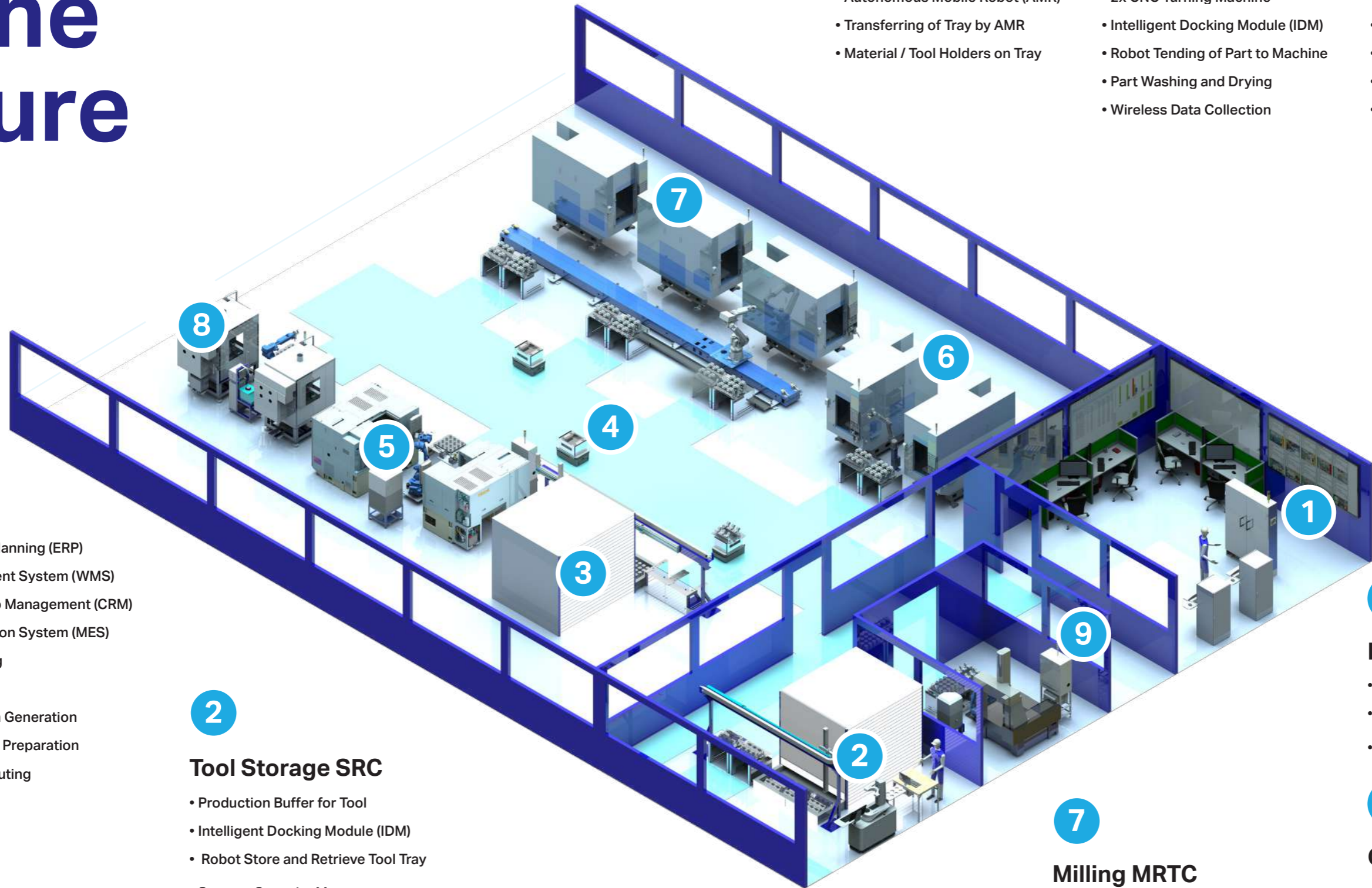
To become a World Leading Alliance for one-stop i4.0 integrated solutions in discrete metalmaking sector which encompasses hardware and software technology, best-practices and deployment.

## Mission

- To create a complete eco-system for Industrial 4.0 transformation in Precision Engineering manufacturing companies.
- To promote the adoption of Industrial 4.0 to optimize manufacturing processes and increase productivity to facilitate the process of transforming conventional factory to SMART FACTORY.

**Transforming today for tomorrow**

# Factory of the Future



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## Control Tower

- Enterprise Resource Planning (ERP)
- Warehouse Management System (WMS)
- Customer Relationship Management (CRM)
- Manufacturing Execution System (MES)
- Work order Scheduling
- 3D Model Generation
- NC Code and Tool Path Generation
- Tool and Resource List Preparation
- Cloud and Edge Computing
- SMART MANAGER

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## Material Storage SRC

- Production Buffer for Material
- Intelligent Docking Module (IDM)
- Robot Store and Retrieve Tool Tray
- Storage Capacity Management

2

## Tool Storage SRC

- Production Buffer for Tool
- Intelligent Docking Module (IDM)
- Robot Store and Retrieve Tool Tray
- Storage Capacity Management
- Tool Presseting

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## AMR

- Autonomous Mobile Robot (AMR)
- Transferring of Tray by AMR
- Material / Tool Holders on Tray

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## Turning TRC

- 2x CNC Turning Machine
- Intelligent Docking Module (IDM)
- Robot Tending of Part to Machine
- Part Washing and Drying
- Wireless Data Collection

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## Milling MRC

- 2 x CNC Milling Machine
- Intelligent Docking Module (IDM)
- Robot Tending of Part to Machine
- Part on Zero Clamp
- Measurement probe for tool compensation and Tool breakage check

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## Deburring DRC

- Robot Deburring
- Auto Quick-change of Deburring Tools
- Wireless Data Collection

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## Milling MRTC

- Multiple CNC Milling Machine Line
- Intelligent Docking Module (IDM)
- Robot run-on-Track for Machine Tending
- Part on Zero Clamp
- Measurement probe for tool compensation & tool breakage check

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## Quality Control CRC

- Auto CMM and Manual Inspection
- Intelligent Docking Module (IDM)
- Robot Tending of Part to CMM
- Inspection Path and Program Generation
- Quality Inspection Report
- Tool Wear Compensation



# SiTA Alliance Members

## Singapore and International Partners

### ASTech

ASTech is an automation system provider, turnkey solution design house & industry 4.0 Integrators specializing in CNC automation integrated with secondary processes such as deburring, polishing, cleaning and other related processes. **ASTech is SiTA Alliance Champion.**  
[www.astech.com.sg](http://www.astech.com.sg)

### ABB

ABB is a pioneering technology leader in power grids, electrification products, industrial automation and robotics and motion, serving customers in utilities, industry and transport & infrastructure globally.  
[www.new.abb.com](http://www.new.abb.com)

### ASTERISK

HELPING BUSINESSES RUN BETTER

Asterisk specializes in consulting and the implementation of solutions that creates value for Manufacturers, Service Providers and Product Developers through adoption of Enterprise Resource Planning (ERP), Customer Relationship Management (CRM) and Warehouse Management System (WMS) and business applications.  
[www.asterisk.com.sg](http://www.asterisk.com.sg)

### ATE

ATE is a market leader in the supply of CAD / CAM / PLM and Digital Twin solutions for engineering companies. With broad experience in R&D, Manufacturing and Supply Chain, we solve business and operational problems by combining world-class software solutions with industry best-practices.  
[www.ateworks.net](http://www.ateworks.net)

### BLUM

focus on productivity

Blum-Novotest GmbH is a renowned manufacturer of innovative and high-precision measuring and testing technology.  
[www.blum-novotest.com](http://www.blum-novotest.com)

### catTHIS

catTHIS built an online management platform for eCatalogs and tremendously bringing down worldwide numbers of physically printed catalogs.  
[www.catthis.com](http://www.catthis.com)

### HAIMER

Quality Wins.

HAIMER offer shrinking and balancing machines, as well as our 3-D Sensors and tool presetting machines.  
[www.haimer-asia.com](http://www.haimer-asia.com)

### Julian Grey

Julian Grey Group business comprises of investments, corporatefinance, trading, advisory and consulting for corporate and private clients.  
[www.julian-grey.com](http://www.julian-grey.com)

### MAKINO

In the metal-cutting industry, Makino is known for more than just machines. We introduce game-changing solutions to transform digital innovation for premium performance. Contact us today to bring your productivity to the next level.  
[www.makino.com.sg](http://www.makino.com.sg)

### Mazak

Your Partner for Innovation

Global leader in the manufacture of advanced machine tools and technology solutions including multi-tasking, 5-axis, milling, turning, laser processing, Hybrid Additive Manufacturing, CNC controls and factory automation.  
[www.mazak.com.sg](http://www.mazak.com.sg)

### mpdv

WE CREATE SMART FACTORIES

The MPDV Group provides the trendsetting Manufacturing Execution System (MES) solution HYDRA, mainly for discrete manufacturing companies ranging from SME's to MNC's.  
[www.mpdv.com](http://www.mpdv.com)

### Opex Consulting Group

Operational Excellence is our DNA.

With >20 years of experience in operational excellence, Opex Consulting Group helps companies grow their businesses while improving productivity and profitability, using Lean Six Sigma as foundation, integrated with a comprehensive range of industry 4.0 technology solutions.  
[www.opexcg.com](http://www.opexcg.com)

### PILZ

THE SPIRIT OF SAFETY

PILZ is a leading and innovative company in the field of automation techniques. As an expert in the safety of people, machines and the environment, PILZ offers Worldwide personalised solutions for all industrial branches.  
[www.pilz.com/en-SG](http://www.pilz.com/en-SG)

### Relancer

Professional embedded electronics and wireless solution for industry 4.0 and IoT integration.  
[www.relancer.com.sg](http://www.relancer.com.sg)

### SANDVIK

Coromant

Sandvik Coromant is the world's leading supplier of cutting tools, tooling solutions and know-how to the metalworking industry. We invest extensively in research and development in order to create unique innovations and set new productivity standards together with our customers.  
[www.sandvik.coromant.com](http://www.sandvik.coromant.com)

### SSI SCHAEFER

SSI SCHAEFER is the world's leading provider of modular warehousing and intralogistics solutions. Across six continents, it develops and implements industry-specific answers to its customers' unique challenges. [www.ssi-schaefer.com](http://www.ssi-schaefer.com)

### SCHUNK

SCHUNK is a competence leader for gripping systems and clamping technology with more than 11,000 standard components.  
[www.schunk.com](http://www.schunk.com)

### SKYLAB

SkyLab focuses on connecting people, businesses and the internet of things, gathering data and harnessing the power of cloud and edge computing. Our solution empowering industrial internet of things with secured connectivity, accelerated data transmission and actionable insights.  
[www.skylabteam.com](http://www.skylabteam.com)

### ST Engineering

ST Engineering acquired Aethon Inc. in July 2017. Aethon is known for its smart autonomous mobile robot which helps automate intra-logistics in industrial, healthcare, hospitality and other commercial environments. The robot is used to deliver load of up to 635kg, and deployed in more than 140 customers sites across the globe.  
[www.stengg.com/en/](http://www.stengg.com/en/)

### WENZEL

The WENZEL Group is one of the global leading manufacturers of metrology solutions.  
[www.wenzel-group.com](http://www.wenzel-group.com)

### YASKAWA

Yaskawa Electric core businesses of servo motor, controller, AC drives and industrial robots using core technologies of new solution concept "i-Mechatronics" to realize continuous improvements in customers' productivity by integrating mechatronics products with utilization of digital data.  
[www.yaskawa.com.sg](http://www.yaskawa.com.sg)

