



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 20 companies.

Vision

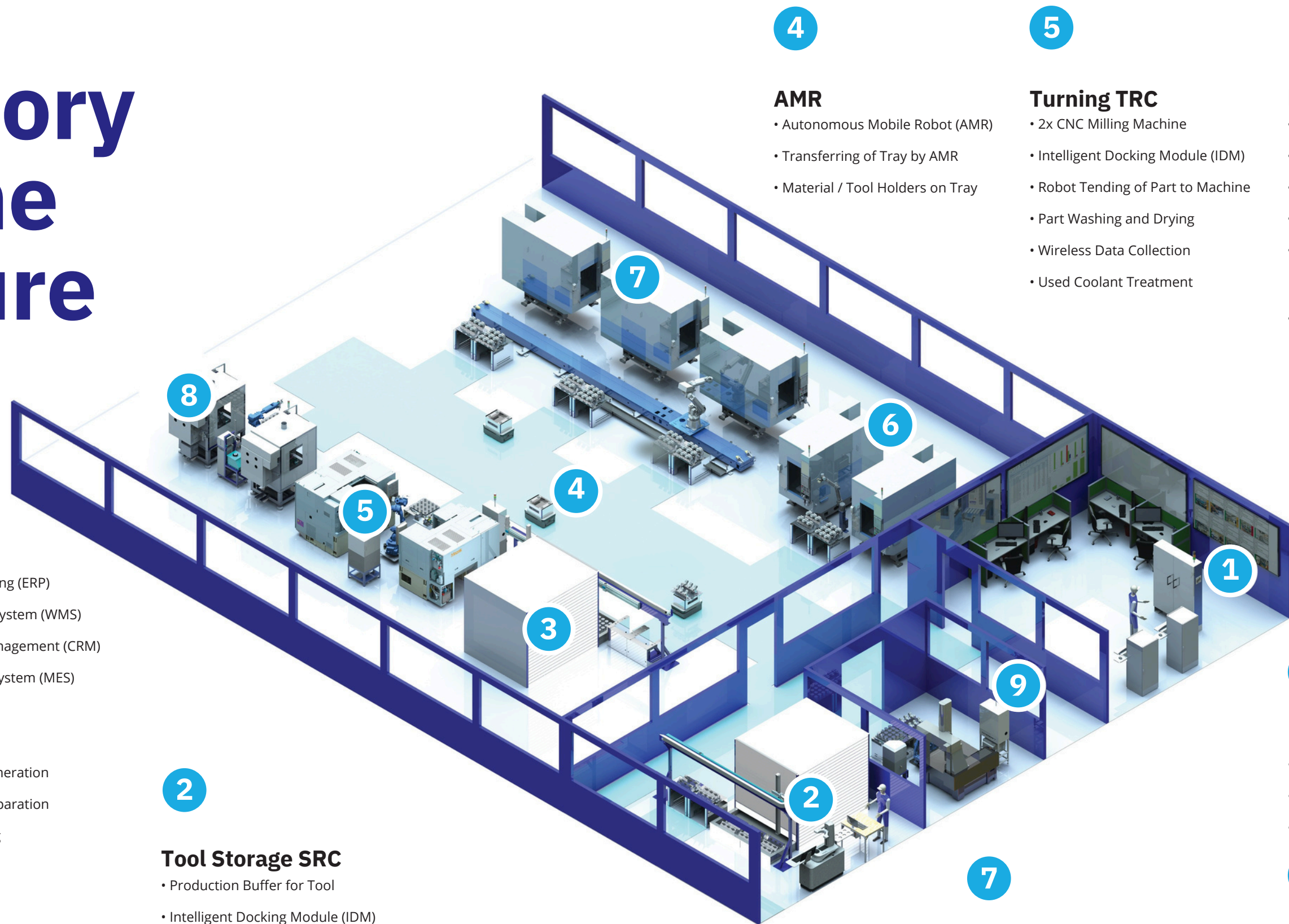
To be World Leading Alliance for one-stop i4.0 integrated solutions in discrete metalmaking sector, particularly in Aerospace, Oil & Gas, Electronics and Automotive industry which encompasses hardware and software technology, best-practices and deployment.

Mission

With this alliance, we aim to create a complete ecosystem for Industry 4.0 transformation in Precision Engineering manufacturing in Singapore, Asia-Pacific, other countries and promote the adoption of Industry 4.0 solutions to optimize manufacturing processes and increase productivity.

Transforming today for tomorrow

Factory of the Future



1

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

3

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

4

AMR

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

5

Turning TRC

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

6

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
- Used Coolant Treatment

1

8

Deburring DRC

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

7

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

9

Quality Control

- 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 is an automation system provider, turnkey solution design house & industry 4.0 Integrator specializing in CNC and secondary processes automation such as deburring, polishing, cleaning, etc. with an integrated software that interfaces with ERP/MES, Storage, Tools Data Management, CMM & Autonomous Mobile Robot.
ASTech is SiTA Alliance Champion.
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