FACTORIES OF THE FUTURE

Tech Mahindra's End to End Solution
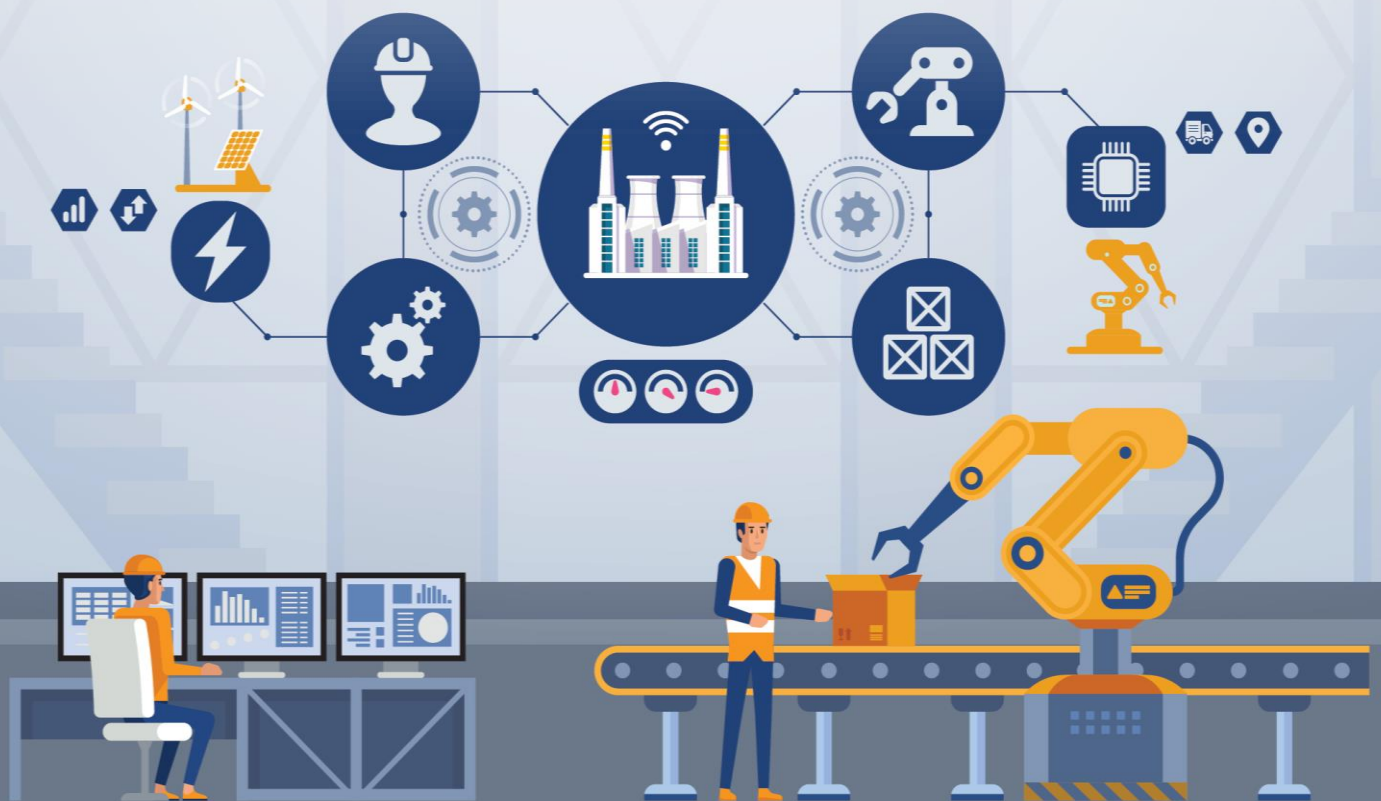for Industry 4.0

Tech
Mahindra
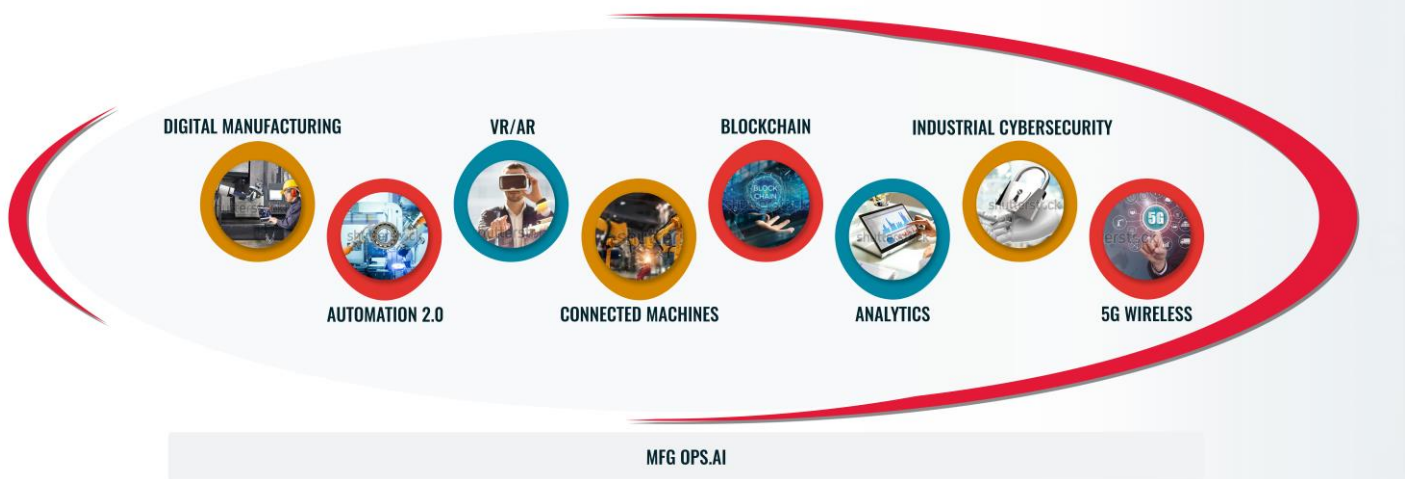
FACTORIES OF THE FUTURE

Impacting Product, Humans & Environment

- Factories Of the Future (FoF) core is about Automation & Robotics, Quality Throughput, Utilization, Flexibility and Reduced Time-to-Market

- Furthermore, FoF is also about new digital technology and its smooth alignment with human, it's about change management and how to achieve the desired target state

- & FoF is about reduced carbon footprint and waste, positive environment impact and health & wellness of the employees

Tech Mahindra is your single window partner from Consulting ,Tech Assessment, Project implementation, Roll out & Run... & we can do this with business outcome based engagement model

6 DIGITAL TECHNOLOGIES WILL HELP BUILD THE FACTORIES OF FUTURE

DIGITAL MANUFACTURING | VR/AR | BLOCKCHAIN | INDUSTRIAL CYBERSECURITY

AUTOMATION 2.0 | CONNECTED MACHINES | ANALYTICS | 5G WIRELESS

MFG OPS.AI

Greenfield Plants with New Age Tech Infrastructure

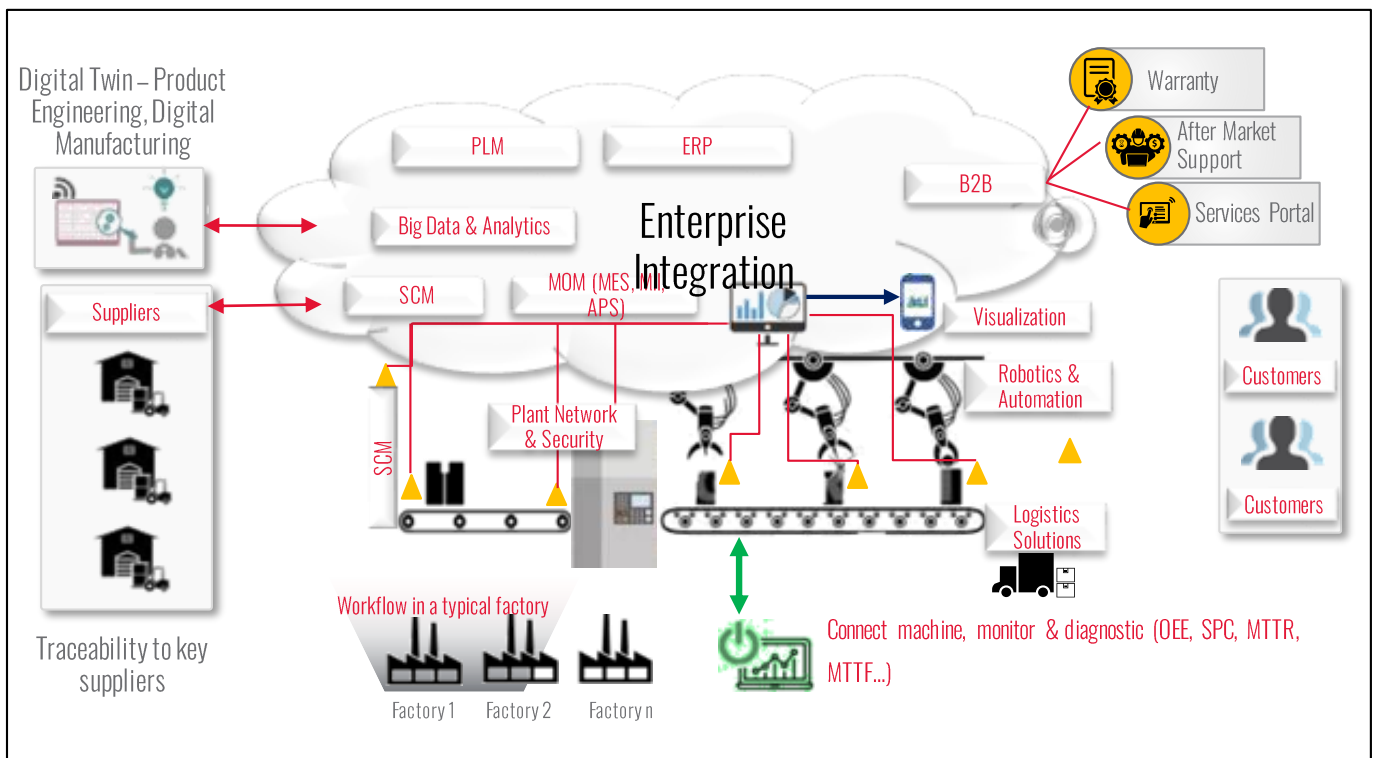### Brownfield Plants with Legacy System

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& these digital technologies will integrate with the existing legacy landscape of...

- Enterprise Asset Management
- Manufacturing Execution System
- Manufacturing Intelligence
- Enterprise Resource Planning
- Supply Chain Management
- Warehouse Management System

- Supplier Relation Management
- Mainframe
- Attendance Management
- BOM
- Planning & Scheduling Systems
- EHS

TECH MAHINDRA HAS ENVISIONED INDUSTRY 4.0 ALIGNED FACTORY ARCHITECTURE

Enabling Interoperability, Virtualization, Real time Technical Assistance, Modularity, Service Orientation & Decentralized Decisions with effective change management for specific factory needs

TECH MAHINDRA'S SOLUTION CATALOGUE FOR INDUSTRY 4.0

Industry 4.0 Consulting

- Industry 4.0 Assessment : business process & technology
- MVP definition : Minimal Viable Product
- Technology & product assessment

Industrial IoT

- Machine connectivity
- Edge Analytics
- Sensor and Gateway development

Digital Manufacturing & PLM

- Product Data Management – eBOM, mBOM, BOP
- Plant Management – Factory 3D Layouts, Process & Plant Simulations
- Plant Ergonomics, Dimensional Quality & Work Cell Optimization
- Digital twin for Processes
- Product Life Cycle Management

TECH MAHINDRA'S SOLUTION CATALOGUE FOR INDUSTRY 4.0

AR & VR

- Smart Work Instructions
- Hands free Maintenance Solution
- Training Support

Manufacturing Analytics

- Plant/ Equipment Condition Monitoring & Analytics
- Predictive Maintenance & Quality
- Engineering Analytics
- Machine Learning

Manufacturing Execution Systems (MES)

- Production Planning & Scheduling
- Product & Process Traceability
- Error Proofing & Quality
- Production Execution, Data Collection & Performance Analysis
- Asset Management & Labor Management

Asset Management & LIMS

- Enterprise Asset Management
- Analytics & PMQ of Assets
- LIMS Implementation
- Research Optimization
- Data acquisition, processing and transfer
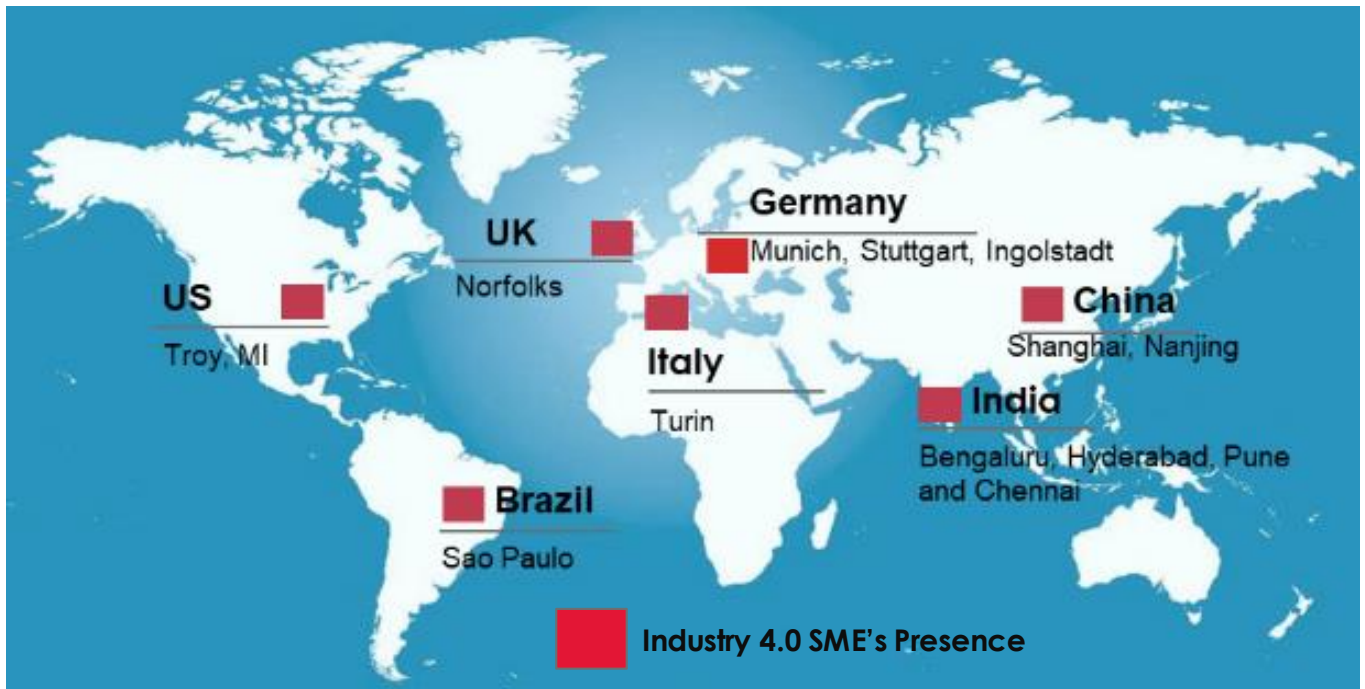
Robotics & Automation

- PLC & Robots Programming and commissioning
- Robots off-line programming
- Automation HW integration
- SCADA Programming

Industrial Infra, Networks & Security

- Network Consultation & Architecture
- Cyber security
- Industrial Infrastructure Management
- Hybrid Cloud
- OPEX model of Infrastructure

TECHM'S PRESENCE IN THE INDUSTRY 4.0 : 1800+ Team Size & Partners

US — Troy, MI

UK — Norfolks

Germany — Munich, Stuttgart, Ingolstadt

China — Shanghai, Nanjing

Italy — Turin

India — Bengaluru, Hyderabad, Pune and Chennai

Brazil — Sao Paulo

■ Industry 4.0 SME's Presence

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1. Digital Manufacturing
DASSAULT SYSTEMES · SIEMENS · ptc · SAP

2. MoM
SIEMENS · DASSAULT SYSTEMES · SAP · Rockwell Automation · Optessa

3. Advance Analytics
Microsoft · SAP · GE · IBM · SIEMENS · splunk>

4. PLM
DASSAULT SYSTEMES · SIEMENS · ptc · ORACLE · agile · tribold product · performance · profit · SAP · aras

5. Industrial IoT
ptc · GE · SAP · Telit · CISCO · ThingWorx · BOSCH · IBM · Microsoft

6. Robotics & Automation
KUKA · SIEMENS · ABB · Rockwell Automation

7. AR-VR
Microsoft HoloLens · VUZIX · Meta

8. Network & Security
Microsoft Azure · IBM · CISCO · amazon.com

TECHM'S LAB – HELPING OUR CLIENTS ACCELERATE EXECUTION

Visualization

Quality

FACTORIES OF THE FUTURE

Enterprise Application Integration

Predictability

DIGITAL MANUFACTURING

VR/AR

BLOCKCHAIN

INDUSTRIAL CYBERSECURITY

AUTOMATION 2.0

CONNECTED MACHINES

ANALYTICS

5G WIRELESS

MFG OPS.AI

FACTORY END TO END IMPLEMENTATION @ BROWNFIELD DISCRETE MANUFACTURING, 120+ PLANT GLOBALLY (JAPAN, CHINA, EUROPE, US...)

Visioning
- Workshop and High level discussion along with Mahindra Plant Visit ~ June 2015 (1 week)

Reference Architecture & Roadmap
- Consulting Assessment on Industry 4.0 ~September - October 2015 (6 weeks)

Manufacturing Execution
- Track & Trace
- Quality Management, Error Proofing

Energy Monitoring
- Energy Monitoring
- Visualization for efficient management

Production Planning & Scheduling
- Real time updates in production planning
- Re-sequencing & agile, flexible production

Real time Visibility
- Machine, Process Visibility, Visualization & Dashboard
- Factory IoT

Roll Out & Support
- Enhancement, application & Infrastructure support
- Multi-lingual support

Contact Us : connect@techmahindra.com