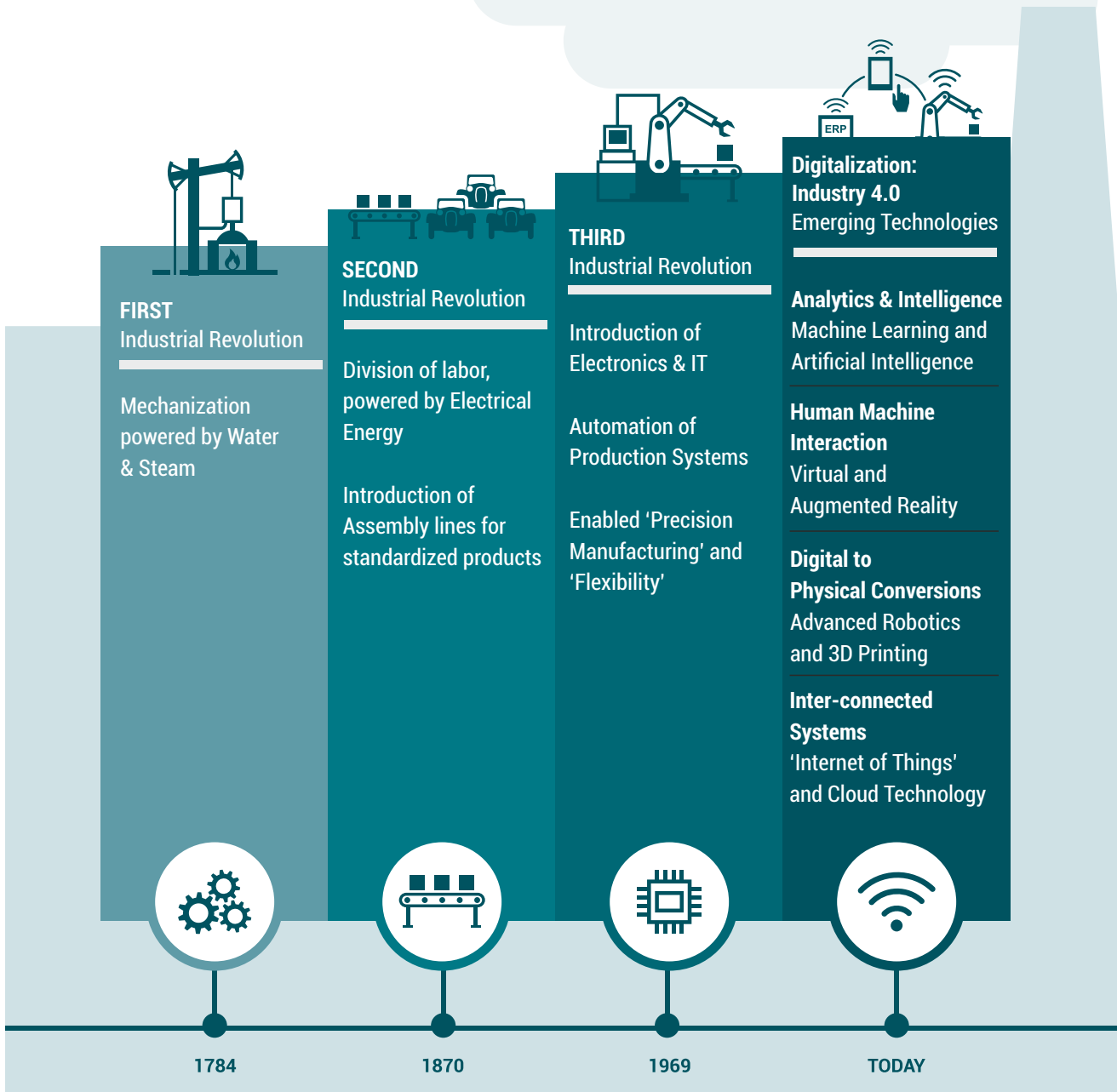


SMART FACTORY

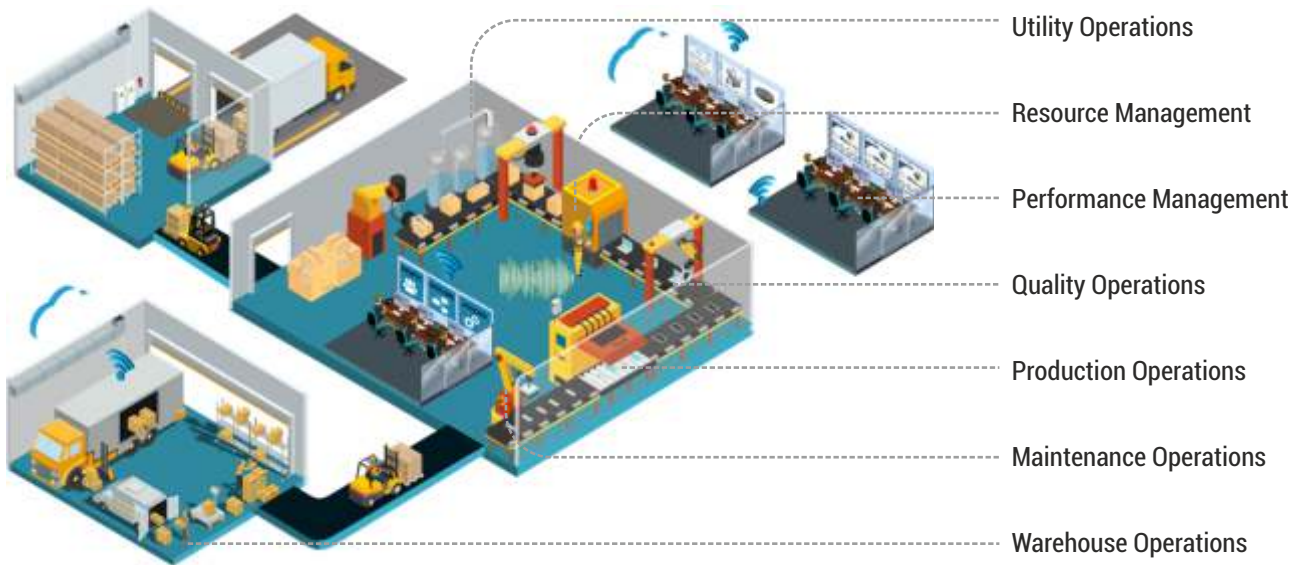
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Changing Landscape: Industry Evolution

Factories have been evolving continuously over the years from manual to mechanized production to electricity enabled mass production to IT/automation age with the advent of computers. The world is now moving towards the fourth industrial revolution. A revolution which is set to transform the way factories work.

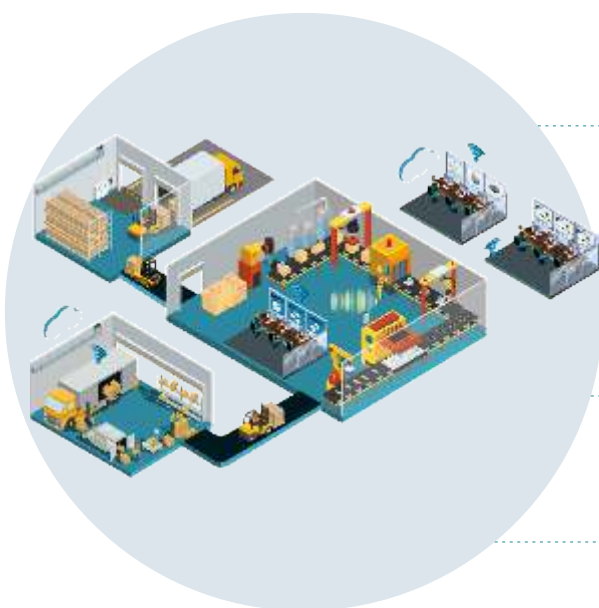


Impact in Manufacturing: Concept of Smart Factories



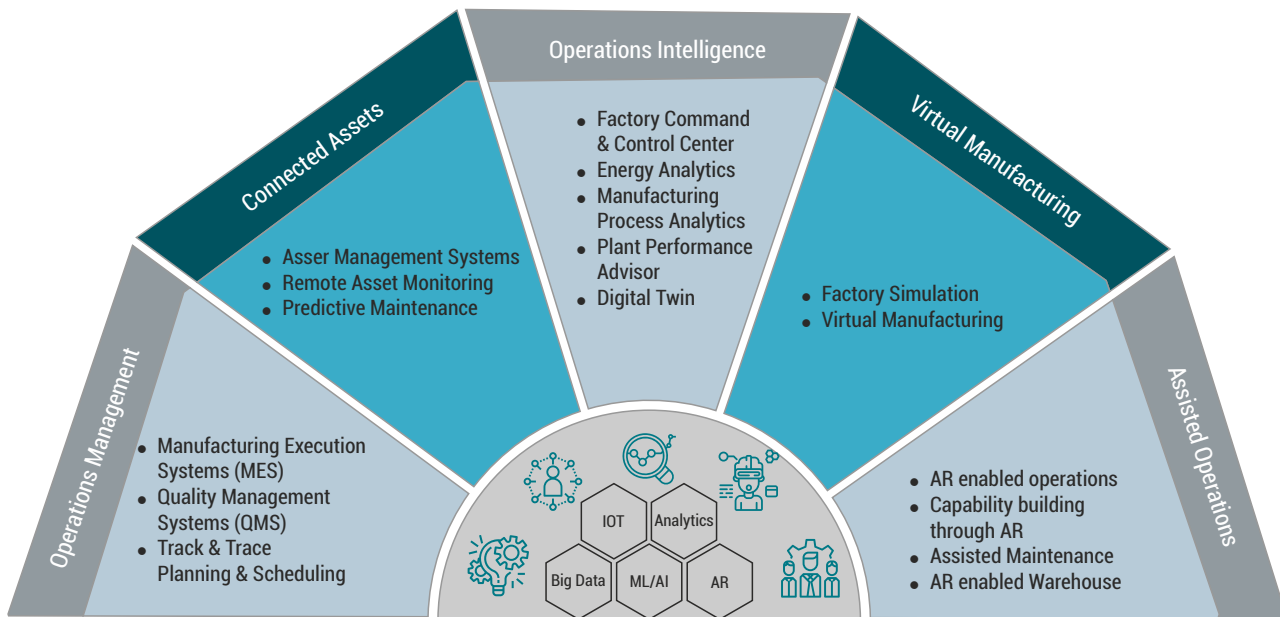
- Integrated Ecosystem:** Unified network of assets, resources & processes with collaboration across departments
- Optimized Processes:** Reliable operations with minimal human interventions and synchronized systems & assets.
- Visible Performance:** Real time visualization of all key metrics with seamless exchange of information in the factory.
- Proactive Decisions:** Prediction of anomalies & scenarios before their occurrence & guided corrections.
- Responsive Value Chain:** Flexible operations and factory systems to respond to changing customer needs.

Smart Factory Field of Play : Key Application Areas



- 
 - Manage your assets
 - Optimize your asset lifecycle and utilization
 - Predict asset behaviour and performance
- 
 - Manage your operations
 - Synchronize people, process and machines
 - Enhance flexibility and responsiveness
- 
 - Simulate and optimize manufacturing process
 - Provide continuity between the design and execution layer
- 
 - Get visibility into the organization performance
 - Extract hidden insights from the data collected from process and machines
- 
 - Improve process efficiency and productivity by combining the digital and physical world

ITC Infotech Smart Factory Solutions & Capabilities



Operations Management



Coordinate and synchronize People, Processes, Equipment, Resources and Systems on a global scale to improve manufacturing operations performance !!

- Lower utilization, higher changeovers, poor productivity due to ineffective planning and allocation of demand & resources.
- Poor shop floor visibility and performance due to lack of coordination between people, processes and departments.

- Ineffective production process and lower quality of product due to lack of unified approach to quality assurance.
- Higher investments and lower compliance levels due to limited visibility into product and value chain performance.

MANUFACTURING EXECUTION SYSTEMS (MES)

Real-time visibility and control across global manufacturing operations

PLANNING AND SCHEDULING

Collaborative manufacturing planning and production scheduling in factories

QUALITY MANAGEMENT SYSTEMS (QMS)

Comprehensive, enterprise approach to Quality Management

TRACK AND TRACE

End to end traceability and visibility into product and value chain

Connected Assets



Revolutionize the operation and management of your factory assets to reduce operating and maintenance costs, while improving uptime and production !!

- Higher operating costs due to introduction of new complexities into existing assets and equipments.
- Huge investments of time and money into Preventive Maintenance with negligible effect on uptime & failures.

- High amount of random asset failures leading to production losses and investment into contingent capacities.
- Poor visibility into the asset performance and their operations.

ASSET MANAGEMENT SYSTEMS

- Manage asset operations, maintenance, schedule, inventories, compliances

REMOTE ASSET MONITORING

- Connect, monitor and analyze operations and performance of assets

PREDICTIVE MAINTENANCE

- Intervene at the right time and optimize preventive maintenance

Operations Intelligence



Leverage the power of machine learning, data science and advanced analytics to unlock new potential improvements on the factory shop floor !!

VISIBILITY (WHAT IS HAPPENING?)

- Monitor and control through real time information
- Factory Command and Control Center

INSIGHTS (WHY IS IT HAPPENING?)

- Diagnostic analysis for targeted actions
- Energy Analytics

PREDICTION (WHAT WILL HAPPEN?)

- Analysis and prediction of future scenarios and performance
- Manufacturing Process Analytics
- Plant Performance Advisor
- Digital Twin

Virtual Manufacturing



Connect the virtual and real worlds of design and production to engineer, operate and optimize your factory operations !!!



PROCESS PLANNING

Design and validate manufacturing processes



ROBOTICS AND FABRICATION

Program and simulate industrial robots, CNC/NCs



FACILITY PLANNING

Design and optimize the factory shop floor, lines, manpower



LOGISTICS & MATERIAL FLOW

Simulate and analyze material flow and associated logistics



DESIGN



Manufacturing Simulation



PRODUCE

Assisted Operations



Leverage the power of Augmented Reality (AR) to enhance productivity and accuracy in the existing factory operations !!



AR ENABLED OPERATIONS

Complex assembly and inspection operations executed in real time with augmented reality



AR ENABLED MAINTENANCE

Guided maintenance operations through AR based instructions



CAPABILITY BUILDING THROUGH AR

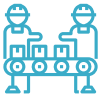
Training delivered effectively through AR based modules



AR ENABLED WAREHOUSE

Guided inventory operations via virtual assist

Our Success Stories



MES for a leading FMCG major in India

- Cost saving of 2.5 % year on year
- Efficiency improvement by 6 %
- Productivity improvement 16 %



Asset Management solution for an industrial equipment manufacturer

- Improvement in equipment availability by 15 %
- 20% improvement in energy consumption



Energy Management solution for a carbon black factory

- Energy saving by 8 % (USD 200 K per year)
- Return on investment in less than 6 months



Global MES Program for a leading elevator manufacturer

- Cost reduction by 3 % on a overall basis
- Efficiency improvement by 15 %



Virtual manufacturing and design solution for leading auto component manufacturer

- Improvement in product development turn around time by 30 %



Mfg. Process Analytics for a leading paper manufacturing company

- Delivered annual savings of USD 800K per year
- Quality efficiency improvement by 8 %

About ITC Infotech

ITC Infotech is a specialized global technology solutions provider, led by Business and Technology Consulting.

ITC Infotech's Digitaligence@work infuses technology with domain, data, design, and differentiated delivery to significantly enhance experience and efficiency, enabling our clients to differentiate and disrupt their business. The company is powered by a growing portfolio of specialized solutions addressing critical business challenges, including: Industry 4.0 solutions (PLM, IoT and Embedded), Customer Value Management, Loyalty, Trade Marketing & Distribution, Supply Chain Optimization, Data Engineering and Analytics, Healthcare Analytics, Digital Banking solutions and Digital Agriculture solutions. The company provides solutions to enterprises in Supply Chain based industries (CPG, Retail, Manufacturing, Hi-Tech) and Services (Banking, Financial Services and Insurance, Healthcare, Airline, Hospitality) through a combination of traditional and newer business models, as a long-term flexible, trusted and sustainable partner.

ITC Infotech is a fully-owned subsidiary of ITC Ltd, one of India's foremost private sector companies and a diversified conglomerate.

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