The Role and Impact of Industry 4.0 and the Internet of Things in promoting digital transformation

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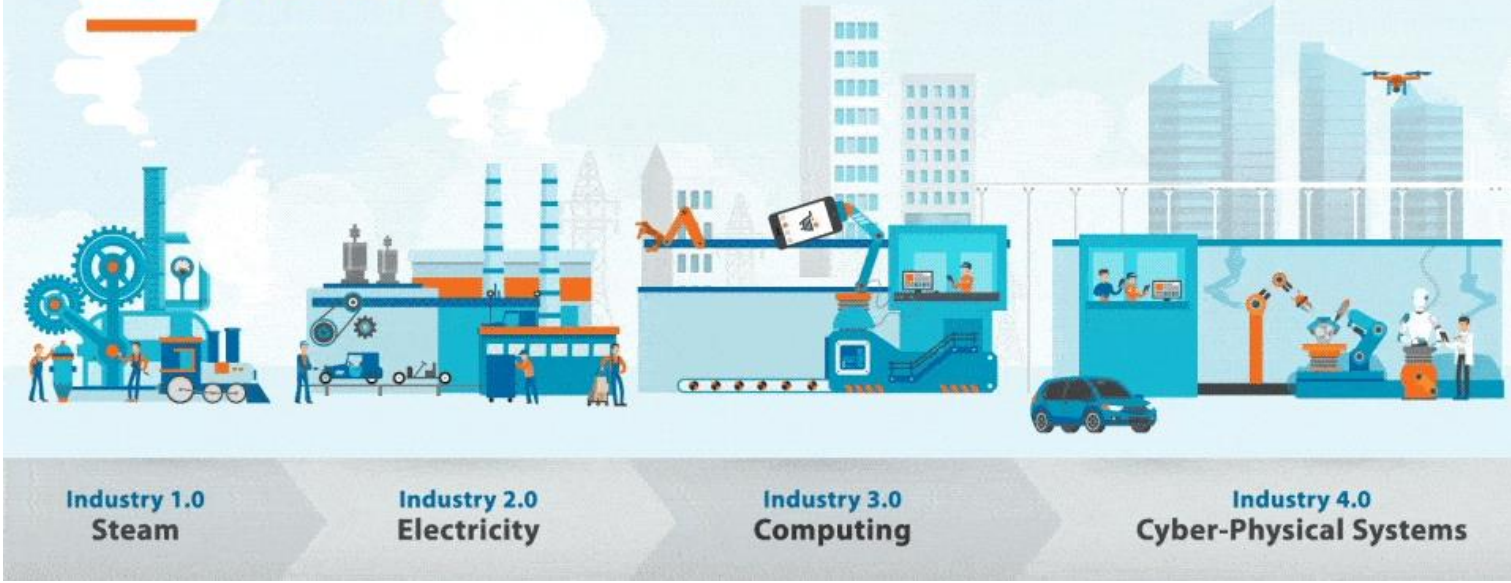
Industries are under constant pressure – to improve product quality, boost efficiency, stay competitive, enhance safety, security and sustainability, and remain profitable.

To innovate and address these issues a number of technologies characterized under the 4th industrial revolution are being deployed, generally over legacy systems… This ***digital transformation*** *is a key board-level discussion topic in companies across the world*

What is the
Fourth Industrial Revolution?



4IR vs. Industry 4.0

Both used interchangeably generally but have subtle differences

- 4th Industrial Revolution (4IR)

It represents the fourth major industrial era since the last Industrial Revolution and is characterized by a ***fusion of emerging or maturing (early stages) technologies that are blurring the lines between the physical and digital domains***… and in some cases, the biological domain as well.

- Industry 4.0

Initiated by the German government by their Plattform Industrie 4.0 strategy to secure and expand Germany's leading international position in the manufacturing industry.

Term being adopted by industries across the world for emerging or maturing (early stages) technologies in the ***manufacturing industry***.

Industry 4.0 – Supporting technologies

- **Industry 4.0** is rooted in the concept of advanced manufacturing, also called Smart Manufacturing.

  - IIoT
  - Autonomous Robots
  - Cloud-based systems
  - Augmented reality
  - Additive manufacturing
  - and so on…

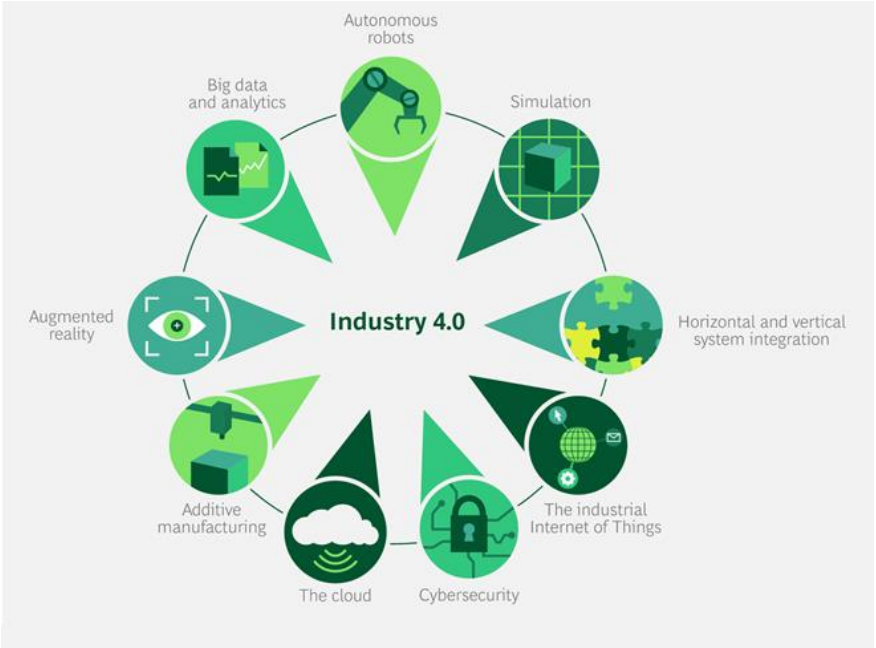


Image source*: BGC*

Industry 4.0 - Value Proposition

- Supports:
  - Top-line Growth
  - Bottom-line Impact
  - Risk Mitigation

- Utilizing and analysing data to make governance decisions is key.

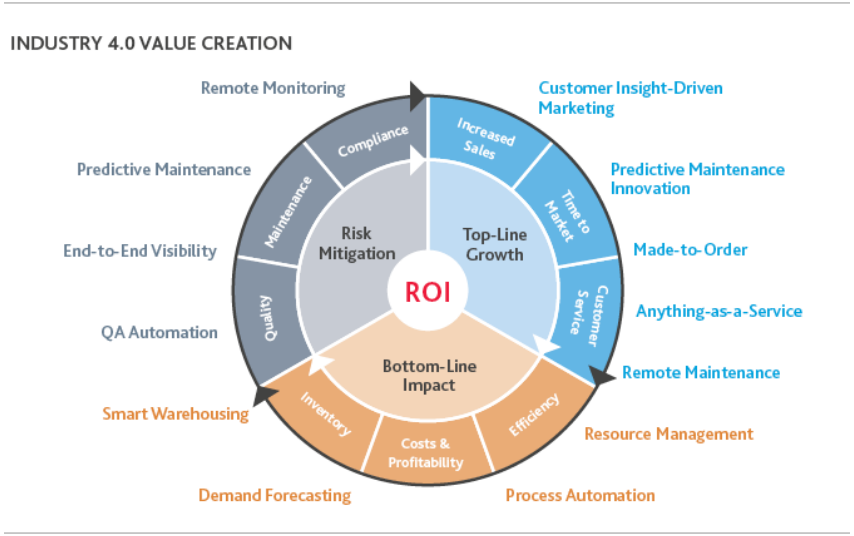


Image source*: BDO*

Industry 4.0 technologies are at the crux of Digital Transformation in today's age.

How to approach Digital Transformation in the age of Industry 4.0 – Levels of maturity

Level	Details
'The Wild West'	Organizational silos, inconsistent technology deployment, disparate data sources (with varying level of usage)
Initial state of connectivity	Connected systems, initial breakdown of silos, consistent technology strategy, basic data analytics
Integrated Entity	Integrated operations and data to automate processes, horizontal and vertical systems integration, architectural and governance standards, basic digital twin, collaboration across sites
Adaptable Entity	Agile and adaptable organizational culture, flexible experimentation opportunities, 'single pane of glass' view of operations for governance decisions, enhanced digital twin, collaboration across sites

End goal - ***to improve product quality, boost efficiency, stay competitive, enhance safety, security and sustainability, and remain profitable***

How to approach Digital Transformation in the age of Industry 4.0 – Factors to consider

- Technology-choice
- Data strategy
- Business process refinement
- Cybersecurity
- Management Buy-in
- Data-based governance culture
- Agile approach

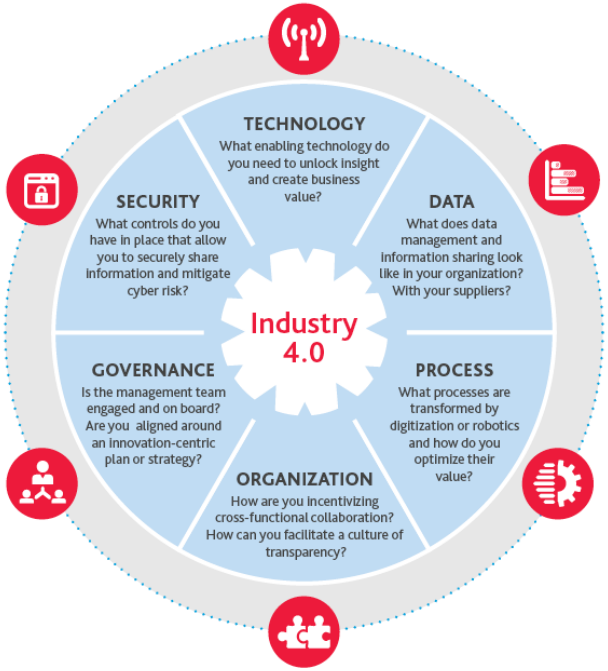
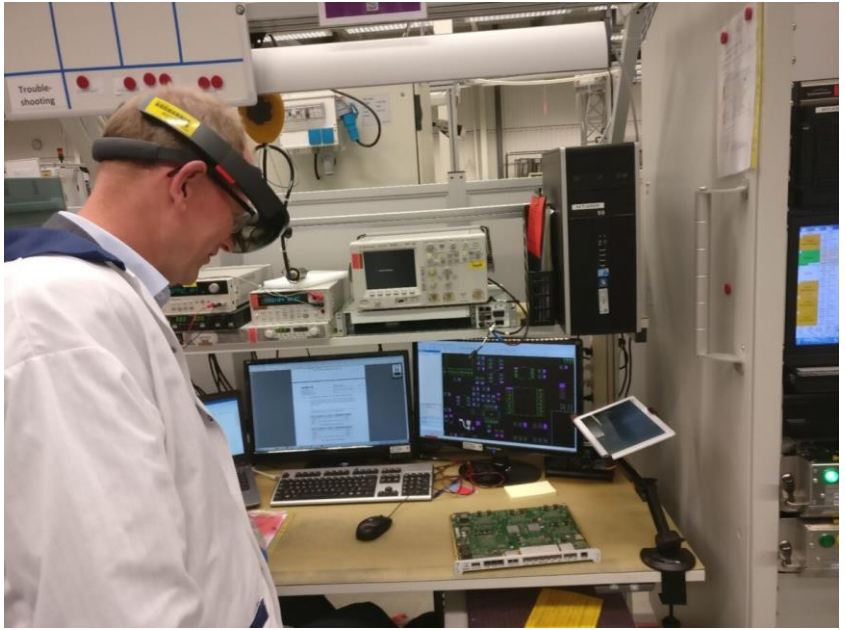


Image source: *BDO*

Use Case – Smart Factory

- Ericsson's factory in Tallinn, Estonia has demonstrated that with augmented reality (AR) troubleshooting, the average fault detection time reduction combined with better ergonomics and faster information sharing, **can boost productivity by up to 50%.**

- https://www.ericsson.com/en/news/2018/1/5g-manufacturing---tallinn



Thank you - شكرا

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