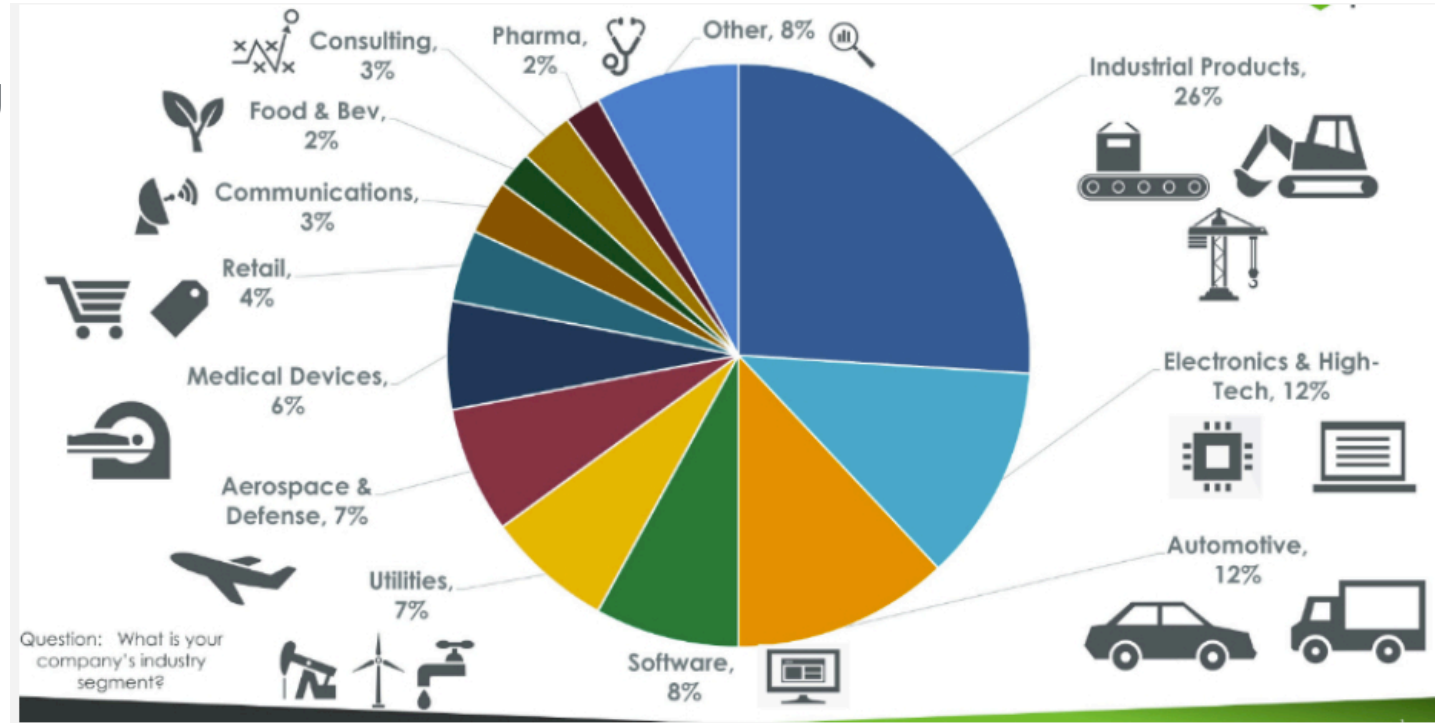


Industrial IoT (IIoT)

“Industrial”

- Manufacturing
- Transport
- Retail
- Healthcare



Industrial Internet of Things (IIoT)

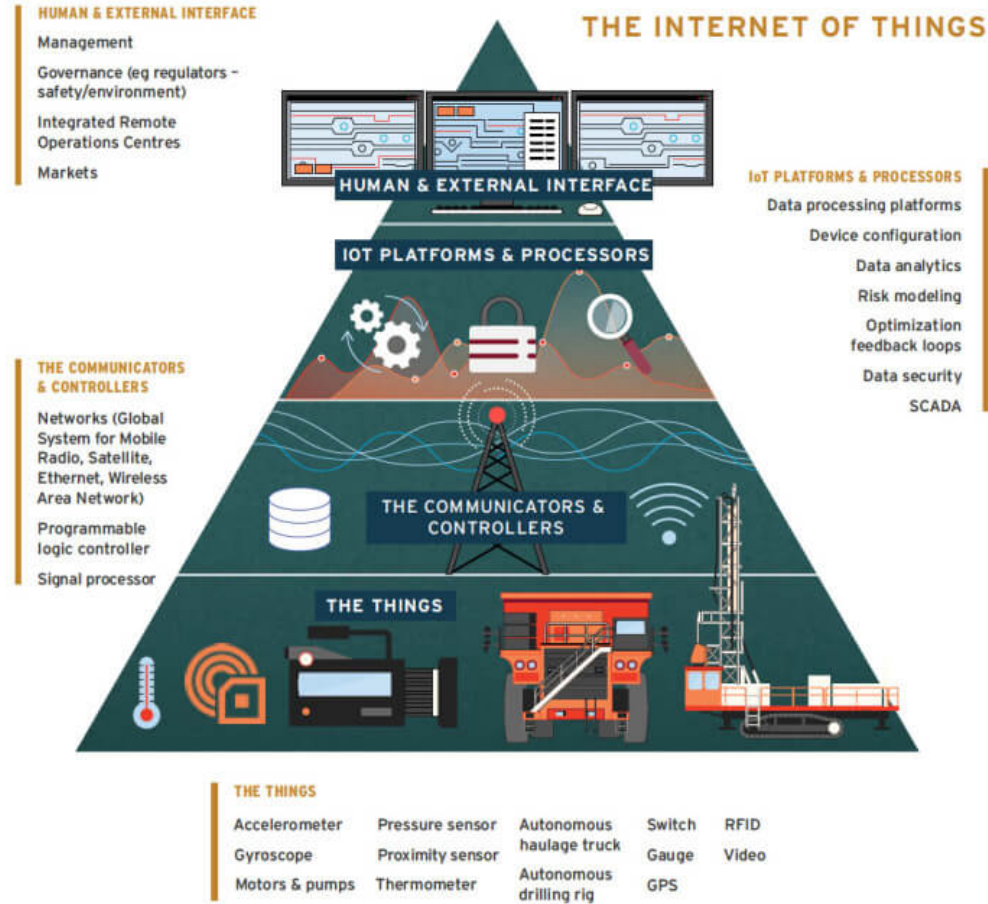
IIoT

- IoT for industries
- Value-added products and services

Increase

- Efficiency
- Data management
- Productivity
- Safety

Figure 1. The Internet of Things technologies in mining



- Cost of IIoT Security Breach
 - Loss of life
 - Environmental Damage
- Cyber Physical Systems
- Operational Technology



<https://sodaq.com/how-is-iiot-transforming-manufacturing-and-creating-the-industry-4-0/>

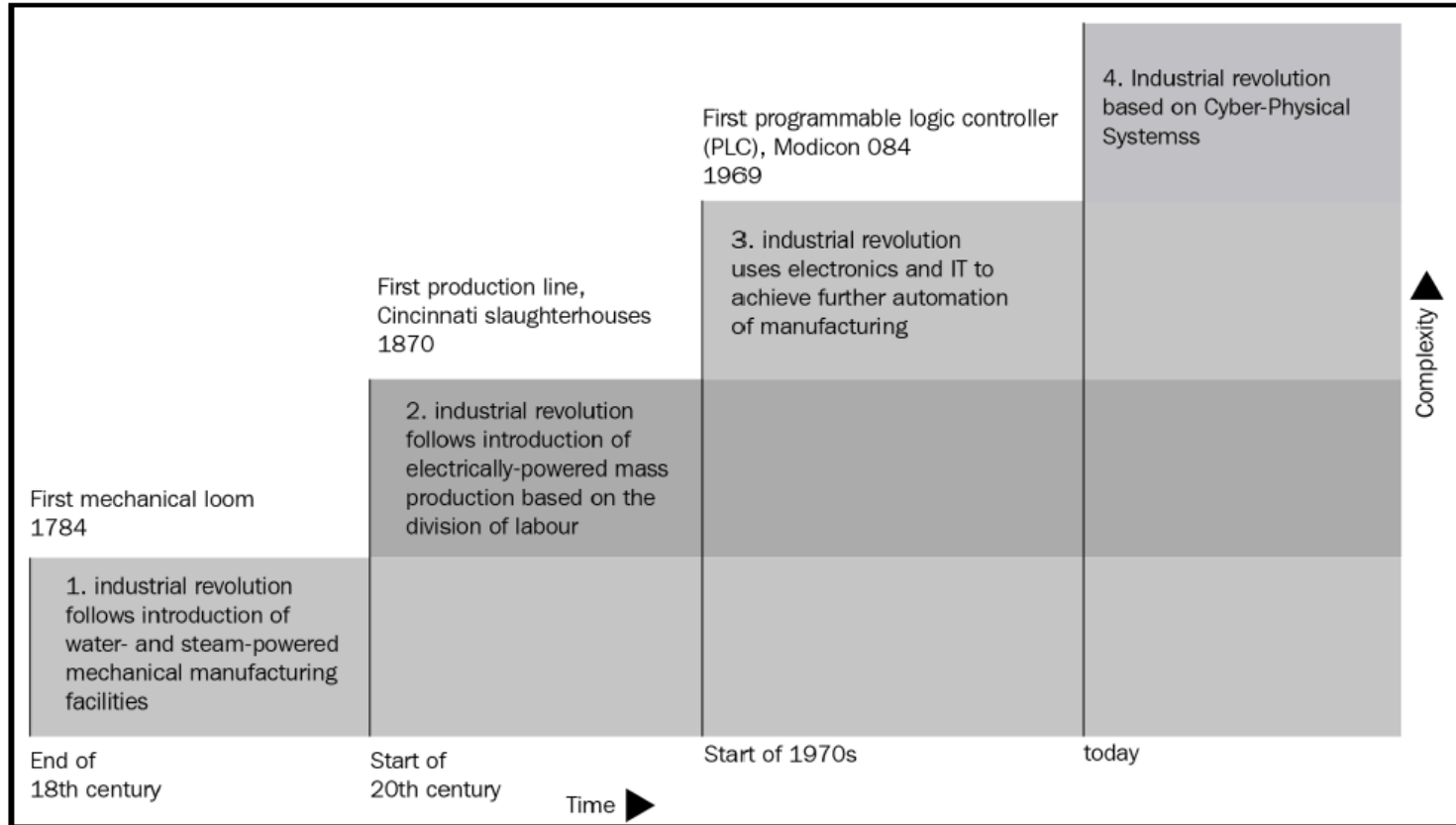


Figure 1.2: Industrie 4.0 as the fourth Industry Revolution (4IR); Source: Partially adapted from DKFI 2011 www.dfki.de

“Air gaps” are no longer effective

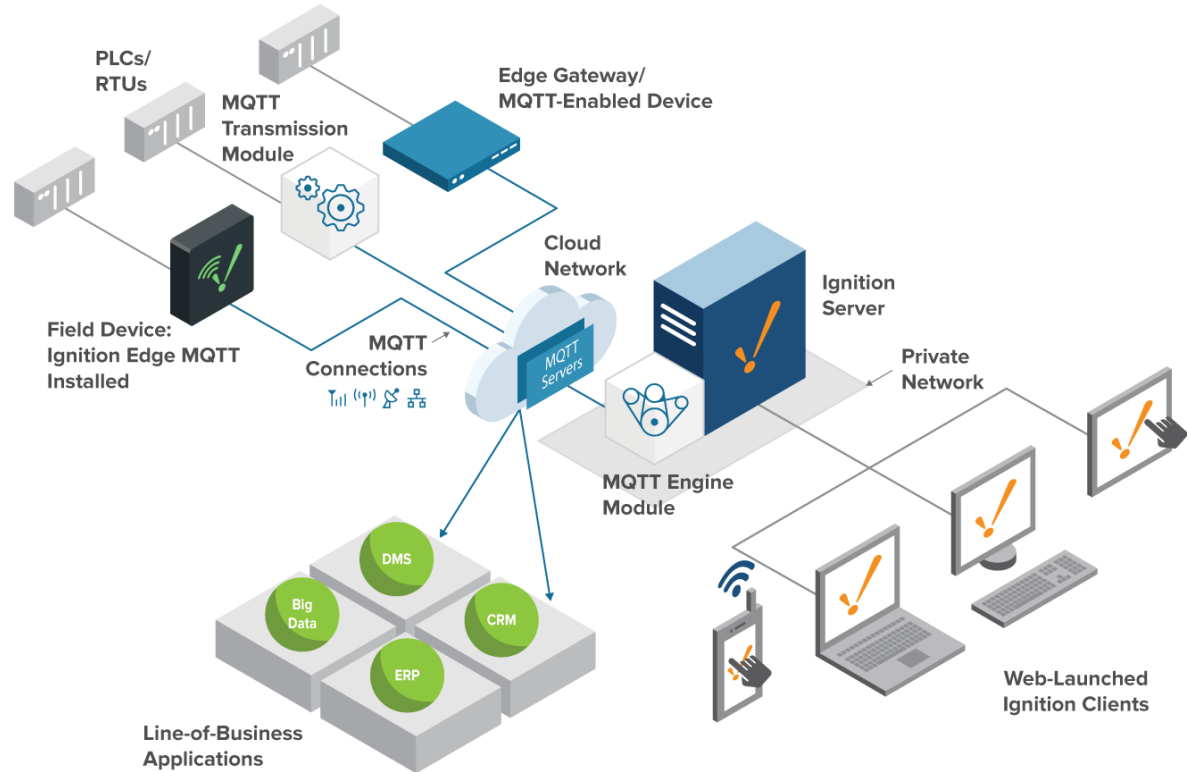


<https://www.cytomic.ai/alerts/stuxnet-large-attack-cyberwar/>

- Sensors
- Interoperability
- Integration
- Virtual Reality
- Physical Env. Interaction
- Distrib. Mgmt. and Control
- Uncertainty
- Real-time
- Geographically distrib.



- Sensors
- Controller
- Edge Gateway
- Cloud
- Apps



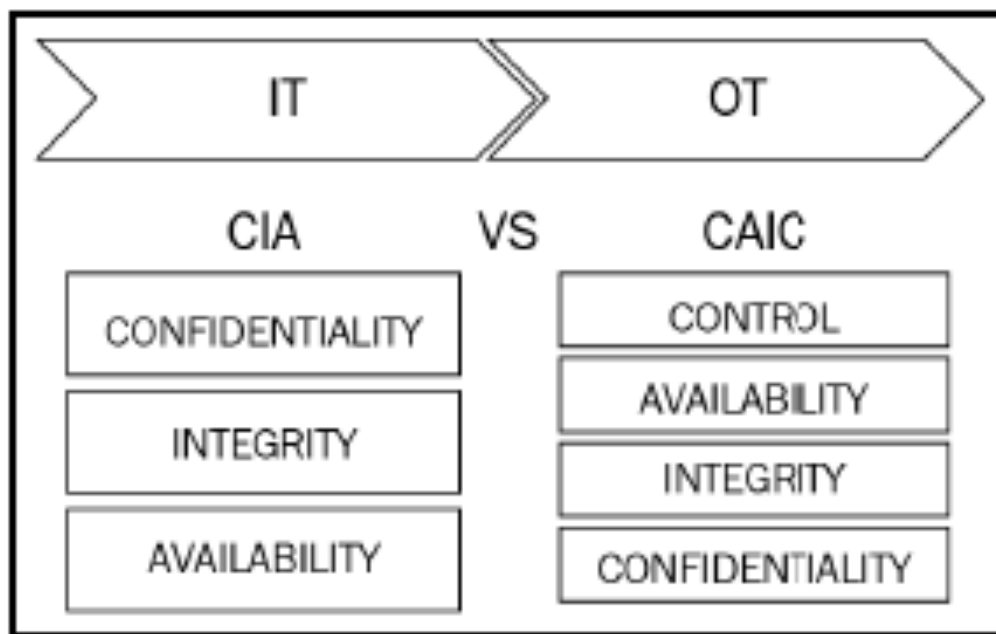


Figure 1.9: Divergent priorities of IT and OT

Attack Surface and Threats

Threats

- Cyber Attackers
- Bot-nets
- Criminal/Terrorist Groups
- Insiders

Vulnerabilities

- Policy and procedures
- Platform
- Software
- Network

