5G loT and Industry 4.0

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What is Industry 4.0?

Industry 4.0 Defined

New Products Tackling Discrete I4.0 Elements



Interconnection:

Merging of physical, digital & biological







Information Transparency:

Mass data transparently shared & easily accessible









High Degrees of Technical Assistance:

Machines/Robots/AI heavily assist in problem solving









Additive Manufacturing



Decentralized Decision Making:

Enable decision making at every level coordinated with all other things



Cloud Computing

14.0 Promise: A fully autonomous, self-improving process of matching products, resources and work to the most appropriate resources

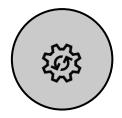


Customer pain points: Manufacturers face many challenges in accelerating their digitization efforts



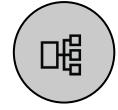
Heterogeneous Hardware

- SCADA
- DCS
- PLCs



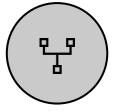
Legacy & Proprietary Apps/Protocols

- Ethernet
- Fieldbus



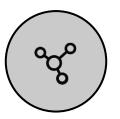
Fragmented Data Sources

- Sensors
- Batteries
- AR glasses
- AMRs



High Network Reliability

- Typically 100%
- Mostly hardwired



Massive Connections & Scalability

 100K+ data collection points

Digital Transformation of Intelligent Manufacturing

Source: ABI Research, "5G and Edge Networks In Manufacturing"



Industry 4.0 Critical Components

Autonomy	=	Connectivity	+	Devices, Endpoints & Management	+	Environmental Context	+	Data Capture & Processing
Pre-2011: Traditional Industry Automation of processes		Wired & Fiber		Robotics/PLCs/Etc.		Facility & Enterprise IT		Sensors & Metrology
2011-2027: Connected Industry Automation of insights		Wireless - 4G cellular & WiFi		Endpoint Management		Industrial IoT		API Gateways, Data Models, and Analytics
2027+: Orchestrated Industry Automation of operations		5G + MEC		Thin Client		Digital Twin / Simulation		Cloud & Edge Al







