OPENDEI

Aligning Reference Architectures, Open Platforms and Large-Scale Pilots in Digitising European Industry

Big Data and AI in the Manufacturing Sector

Market Analysis and Trends

Secure and Trusted Data Sharing Spaces

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Three main Trends…

1. FoF are becoming more and more "data hungry"

2. "Data first" as the key design principle of new plants

3. Accelerating convergence of IT and OT

"FoF are more and more data-hungry…"

1. Input : *raw material and components now with embedded information* about their provenance and suppliers as well as assembly instructions

2. Production: every step more digital in the *continuous interplay and information exchange between workers, machines and business applications*

3. Output: production of data-centric products is on the increase - *connected and smart products*

By 2020, 80% of manufacturers will need to extensively restructure, placing data at the center of their processes to increase speed, agility, efficiency, and innovation

In 2020, demand fluctuations and mass customization needs will drive 35% of manufacturers to consider augmenting factory capabilities using customer, connected-product, and social media data

"…'Data-First' as the Key Design Principle"

CIOs and IT leaders are getting more involved in designing plants and factory floors.

By 2020, 40% of manufacturers will have employed a cloud platform that crosses traditional IT boundaries and integrates operational technology driven by the need to turn more data into

Data flows across the plant will be as essential as process execution and optimization, hence adding more and new pressure on IT departments

By 2022, 75% of G2000 manufacturers will have established digital platforms to unify product and manufacturing process data to deliver complex products through

"IT and OT to accelerate convergence"

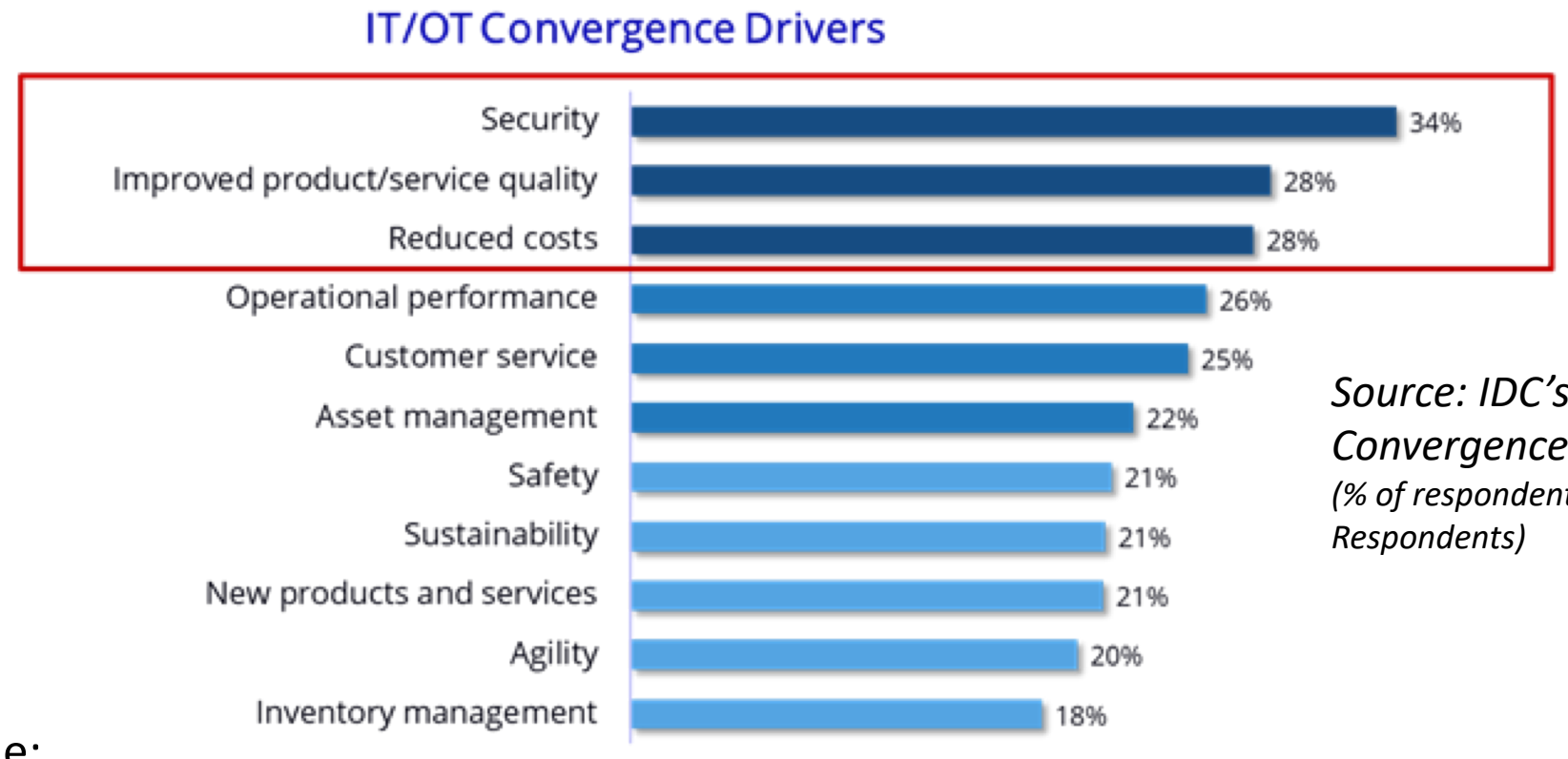
Data-driven innovation behind the accelerated convergence of IT (Information Technology) and OT (Operational Technologies, e.g: control, automation and manufacturing systems).

Increased incorporation of customer data to improve production flexibility (with mounting usage of AI) and increasing use of testbeds

over 50% of manufacturers have already begun incorporating governance models to integrate IT and OT, thus expanding the IT skills of OT users as these two domains continue to converge

By 2023, the need for complex integration and collaboration in smart manufacturing will have driven more than 50% of manufacturers worldwide to actively participate in testbeds

Apropos IT/OT Convergence….



Source: IDC's IT/OT Convergence Survey. 2018
(% of respondents, European Respondents)

Main benefits include:

- improvement of **operational performance** (throughput/service reliability at same or lower costs);
- more **efficient resource sharing**, better and more comprehensive **security,** improved product and service **quality;**
- greater **agility** and **flexibility.**

Bonus Track: The AI-Powered Enterprise

AI Drivers in Manufacturing

- **Accelerated disruption**: Navigating business challenges as volatility intensifies
- **Rising customer expectations**: More convenience, customization, and control
- **Economies of intelligence**: AI may fuel asymmetrical advantage

By 2024, with Proactive, Hyperspeed Operational Changes and Market Reactions, AI-Powered Enterprises Will Respond to Customers, Competitors, Regulators, and Partners 50% Faster than Their

As a result…

- Enterprises must monitor their business speed, improve their speed of response to customers, and adapt rapidly to all market changes.
- Data must be managed holistically and efficiently across the enterprise and its ecosystems.
- Enterprises must become AI powered to participate in the economy of intelligence.

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