



Powering the Factory of the Future in Central and Eastern Europe

Key Takeaways from IDC Worldwide Manufacturing 2017
Predictions

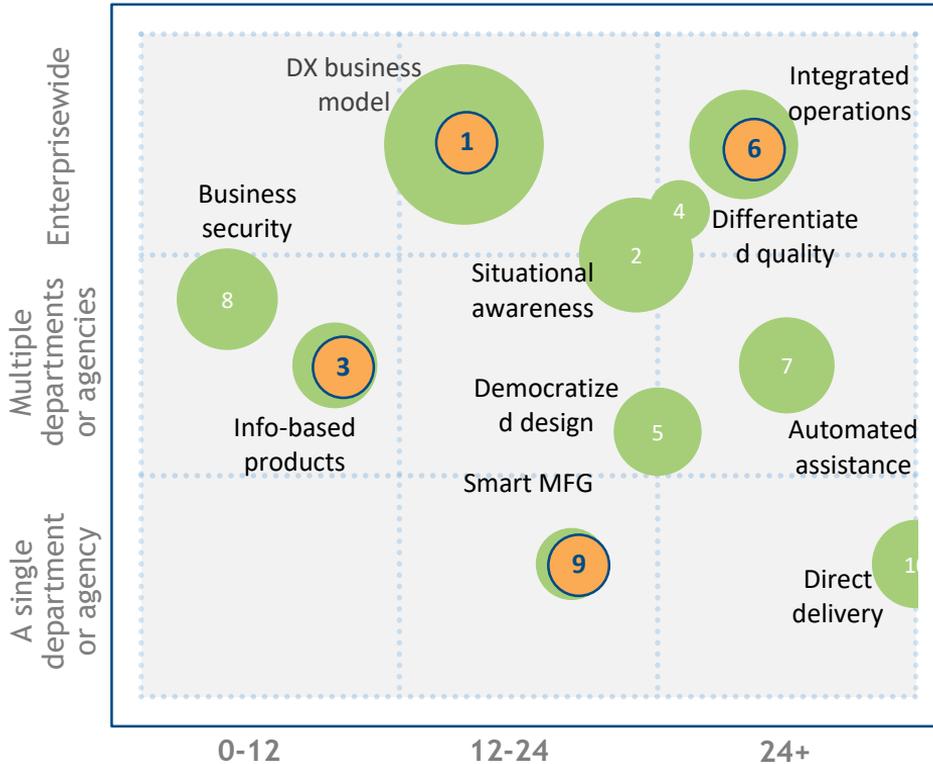
Martin Kuban, IDC Manufacturing Insights, February 2017

Manufacturing: Worldwide Drivers

1. **Everything, everywhere:** the rise of computer-based intelligence
2. **Digital transformation (DX) delta:** industry leaders widen performance gap
3. **Shifting economics:** data as digital capital
4. **Talent crunch:** global demand for digital workers
5. **Platform economy:** the ecosystem battle for scale
6. **Connected conflict:** convergence of technology and privacy
7. **Materialization:** revolutionizing industrial and commercial processes

IDC FutureScape Worldwide Manufacturing 2017 Predictions: Western Europe Implications

ORGANIZATIONAL IMPACT



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1 By 2019, only 20% of manufacturers investing in digital transformation will be able to maximize the outcome; the rest are held back by outdated business models and technology.

2 By 2020, 80% of large manufacturers will update their operations and operating models with IoT and analytics-based situational awareness to mitigate risk and speed time to market.

3 By the end of 2017, 60% of large manufacturers will bring in new revenue from information-based products and services, while embedded intelligence will drive the highest profitability levels.

4 By 2020, manufacturers will capture 30% more aftermarket revenue by using product and service quality measures to enhance customer experiences.

5 In 2019, 30% of large Western European companies will use design democratization and collaborative innovation to meet corporate targets for revenue from newly developed products and services.

6 By the end of 2020, 55% of manufacturers will derive business value from the integration of supply chain, plant operations, and product and service life-cycle management.

7 By 2020, 65% of plant floor workers at large Western European manufacturers will work alongside automated assistance technologies such as robotics, 3D printing, AI, and AR/VR.

8 By 2017, a proliferation of connected information, instrumentation, and decision cloud ecosystem networks will drive manufacturers to redesign their security architectures.

9 By 2019, 30% of large global manufacturers with smart manufacturing initiatives will integrate IT and OT systems to achieve advantages in efficiency and response time.

10 By the end of 2020, 40% of all manufacturing supply chains will have the capability, either in-house or outsourced, to enable direct-to-consumption shipments and home delivery.

Enterprise-Wide Prediction

Prediction #1: By 2019, only 20% of manufacturers investing in digital transformation will be able to maximize the outcome; the rest are held back by outdated business models and technology.

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Local Insights

- We are “Followers”, i.e., we like to replicate known & working use cases/business models.
- Biggest gaps between digital thrivers and survivors today is in the area of leadership.
- High share of “keep the light on” IT investments in CEE, resulting in slow transformation to Industry 4.0.
- Resistance to cloud-enabled solutions & business models, low penetration of “as a service models”.

Local Examples

Leading companies in Industry 4.0 / DX are typically local branches of international manufacturers:

- BOSCH DIESEL – dedicated Industry 4.0 team since 2015
- SIEMENS – established a new CDO role in 2016, responsible for driving Industry 4.0 initiatives both internally and externally.
- FOXCONN – established Foxconn 4Tech, company developing own smart industrial solutions for Industry 4.0
- GE Aviation Czech – appointed a digitalization leader, leverages know how developed by GE Digital (e.g., Predix IoT Platform)
- ŠKODAAUTO – established a new CDO role in 2016, established DigiLab in Prague that focuses on development of services for mobility.

Products & Services Prediction

Prediction #3: By the end of 2017, 60% of large manufacturers will bring in new revenue from information-based products and services, while embedded intelligence will drive the highest profitability levels.

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Local Insights

- We have a vision to transform to a high added value production models / increase profitability.
- Yet, we are at the first phase, i.e., exploring / piloting connected products
 - Data maturity: Low monetization of data, General Data Protection Regulation (GDPR) concerns
 - Technology maturity: Low spending on technologies that will create a foundation for new services and revenue streams (big data/analytics, machine learning, or cognitive computing)
 - People maturity: We face a big challenge in how to attract IT talents (front-end developers, data scientists, experienced designers etc.)

Local Examples

- In the automotive industry, car becomes a platform for connected services
 - From car maintenance & infotainment to car security & insurance, and to urban mobility, retail & finance services for the convenience of the driver
- Examples of industries that undergo similar transformation:
 - Consumer electronics
 - Smart home and smart buildings systems (e.g., Jablotron)
 - Smart utility networks (e.g., 2N TELEKOMUNIKACE)
 - Industrial/agriculture/construction equipment

Supply Chain Prediction

Prediction #6: By the end of 2020, 55% of manufacturers will derive business value from the integration of supply chain, plant operations, and product and service life-cycle management.

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Local Insights

- Siloed systems within siloed organizational units make digital transformation more difficult.
- We have a strong focus on Manufacturing Operations Management (MoM), IT support for Product Lifecycle Management (PLM) & Supply Chain Management (SCM) is often a weakspot.
- Rapid growth of system integrators (IT consulting), success with Industry 4.0 / digitalization value propositions.
- We have seen first concepts of digital twin & digital thread.

Local Examples

- Platform approach in PLM
 - Autodesk (Product Innovation Platform launched in CZ in 2016)
 - Siemens PLM (Simcenter launched in CZ in 2017)
- End-To-End SCM solutions, transformation of the supply chain domain is critical, yet most painful
 - Zetes partners with Zebra & Honeywell to provide solutions based on HW, SW, Services (supply chain visibility & traceability benefits)
- Integrated MoM
 - Some ERP vendors shift to the MES domain, simplifying the system integration

Manufacturing Operations Prediction

Prediction #9: By 2019, 30% of large global manufacturers with smart manufacturing initiatives will integrate IT and OT systems to achieve advantages in efficiency and response time.

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Local Insights

- Right now we have pockets of integration
 - IDC's surveys showed that in average less than a half of equipment is connected to a network in the plant.
- According to 2016 IDC Manufacturing conference in Prague, 39% respondents were embracing/considering the Industry 4.0 concept (44% substantially use digital technologies).
 - This is the base that is instrumenting existing factory floor equipment and substantially improving connectivity to bring the pieces together.
 - Transitioning from segregated to coordinated and eventually fully integrated IT/OT
- Major challenges for IT/OT integration are costs, security concerns, lack of vision

Local Examples

- Companies that run only one infrastructure, connected IT & OT equipment to one network connected to Internet, deployed advanced plant security:
 - Panasonic AVC Networks Czech
 - AISIN EUROPE MANUFACTURING CZECH

Essential Guidance

*“Transformation is the
change of people & culture”*

*“Digitalization is first of all
about people unlearning old
way”*

- 1. Establish digital leadership for your digital factory**
 - With an executive support and a clear vision
 - Consider setting up of a Chief Digital Officer (CDO)
- 2. Rethink the position of your products in the connected world**
 - Consider adding connectivity and developing a services layer
- 3. Connect equipment to the network to enable smart factory**
 - Connect it in a secure way, but as simple as possible
- 4. Treat data as the new digital capital**
 - Look into data for new sources of revenues/innovation/optimization
 - Take data security & privacy seriously, implement GDPR
- 5. Think as broad as possible when defining new information systems and IT architecture**
 - Consider embracing a platform approach
 - Define a "digital core" that delivers all business applications (from PLM to SCM, MOM, CRM, service, etc.)
- 6. Transform your workforce, attract and retain digital workers**

Thank You

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