

# The Industrial Internet: Towards the 4th Industrial Revolution

<https://marketpublishers.com/r/I4C9041A195EN.html>

Date: May 2017

Pages: 98

Price: US\$ 3,300.00 (Single User License)

ID: I4C9041A195EN

## Abstracts

This report describes the phenomenon of the Industrial Internet.

It provides a general analysis of the trend and specific examples of recent developments in various verticals.

This analysis focuses on the impacts of integrating IoT technologies into industrial assets (the 'smart factory'), as well as into end products: impacts on the value chain, on existing business models and in new monetisation opportunities.

The report also describes the main drivers and barriers for the take-off of the Industrial Internet market and provides market sizing.

## Contents

### **1. EXECUTIVE SUMMARY**

### **2. METHODOLOGY**

### **3. VISIONS OF THE INDUSTRIAL INTERNET**

#### 3.1. The Industrial Internet: how industry uses connected objects

##### 3.1.1. A key enabler of the digital transformation strategy

##### 3.1.2. Production optimisation: Smart Factory

##### 3.1.3. Selling connected objects: towards servitisation

#### 3.2. Key enabling technologies

##### 3.2.1. Connectivity technologies for the Industrial Internet

##### 3.2.2. Connecting tools of production

##### 3.2.3. Connecting the employees

##### 3.2.4. Making sense of connectivity: Data analytics

#### 3.3. Key trends supporting the vision of an Industrial Internet

##### 3.3.1. National and international initiatives

##### 3.3.2. Anticipated societal impacts

### **4. VALUE CHAIN AND KEY PLAYERS**

#### 4.1. Value chain overview

#### 4.2. Smart Factory solution providers

##### 4.2.1. Sensor and actuator providers

##### 4.2.2. Industrial solution providers

#### 4.3. Implementations in selected industries

##### 4.3.1. Aeronautics

##### 4.3.2. Automotive

##### 4.3.3. Energy

##### 4.3.4. Transportation

#### 4.4. Connected end product

##### 4.4.1. Aviation

##### 4.4.2. Automotive

##### 4.4.3. Heavy equipment

#### 4.5. Evolution of customer relationship

##### 4.5.1. Transportation

##### 4.5.2. Healthcare

#### 4.6. The roles of telcos, platforms and IT service providers

- 4.6.1. Telcos
- 4.6.2. Platform providers
- 4.6.3. Service providers and IT players

### **5. IMPACTS OF THE INDUSTRIAL INTERNET ON INDUSTRIES**

#### 5.1. Evolution of value chains

- 5.1.1. Transformation of the manufacturing ecosystem
- 5.1.2. Evolution of connectivity value chain

#### 5.2. Business model evolutions

- 5.2.1. Manufacturing platforms and manufacturing-as-a-service
- 5.2.2. Smaller, local, production units for personalised products
- 5.2.3. Product as a service
- 5.2.4. Data monetisation

#### 5.3. Connected objects as part of digital transformation of industry

- 5.3.1. Needs of manufacturing domain
- 5.3.2. Constraints of manufacturing domain
- 5.3.3. Vision of potential adoption of connected objects by vertical industries

### **6. MARKETS AND FORECASTS**

#### 6.1. Market development factors

- 6.1.1. Drivers
- 6.1.2. Barriers

#### 6.2. Market sizing and forecast

## Tables

### TABLES

Table 1: Mobile technologies specifications

Table 2: Key 5G applications on IoT/M2M

Table 3: ISM bands sample

Table 4: ISM bands analysis (for European region)

Table 5: Features of main short-range technologies

Table 6: Connecting production tools: technological requirements

Table 7: Connecting employees: technological requirements

Table 8: Main providers of smart factory solutions

Table 9: Main initiatives around the smart factory

Table 10: Main initiatives around connected end products

Table 11: Main initiatives around innovative pricing schemes

Table 12: Main initiatives of Medtronic in connected health market

Table 13: MaaS new roles value propositions

Table 14: Value propositions, from mass production to personalised product

Table 15: Use cases of factors in adoption

Table 16: Factors of adoption across industries

Table 17: Timeline for adoption in selected vertical industries

## Figures

### FIGURES

- Figure 1: The IDATE framework for digital transformation
- Figure 2: Technologies of third wave of digital transformation
- Figure 3: Smart factory use case
- Figure 4: Architecture of an M2M solution
- Figure 5: Landscape of IoT/M2M networking technologies
- Figure 6: LTE developments to address M2M and IoT
- Figure 7: Different specifications of LTE versions focused on IoT
- Figure 8: Scope of 5G
- Figure 9: Siemens automated factory, in Amberg, Germany
- Figure 10: The Siemens vision of smart factory convergence
- Figure 11: Track and Trace IIC Testbed
- Figure 12: Baxter uncaged robot
- Figure 13: New Balance shoes with 3D-printed midsoles presented at CES 2016
- Figure 14: ABB control rooms
- Figure 15: HTC Vive virtual reality headset
- Figure 16: Optis HIM VR solution used to validate assembly movements in aerospace industry
- Figure 17: Augmented Reality deployment at Bechtle
- Figure 18: Use of big-data analytics in manufacturing
- Figure 19: Intel production line data analytics setup
- Figure 20: Overview of European initiatives on digitising industry
- Figure 21: Increases in productivity in component manufacturing
- Figure 22: INDUSTRY 4.0 to generate significant productivity gains in Germany
- Figure 23: Expected gains of digitising industry
- Figure 24: Impact of automation on the job market
- Figure 25: Shifts in demand of skills in future manufacturing industries
- Figure 26: Industrial Internet value chain
- Figure 27: 2014 ranking of MEMS players
- Figure 28: TE connectivity positioning in sensors
- Figure 29: Dassault Systèmes 3DEXperience platform
- Figure 30: Siemens digitisation
- Figure 31: Siemens Digital Factory portfolio, compared with Industry 4.0 plans
- Figure 32: Kuka divisions and offerings
- Figure 33: Kuka future vision integrating moving and fixed robots in a uniform factory platform

- Figure 34: National Instruments vision as a provider of data analytics for the Internet of Things
- Figure 35: Typical aircraft assembly environment
- Figure 36: Smart glasses usage within factory
- Figure 37: Use of uncaged robot at Audi
- Figure 38: Competence islands at Audi
- Figure 39: A centre to pilot the production and consumption of energy
- Figure 40: Monitoring production by layers
- Figure 41: Industrial Internet strategy at SNCF
- Figure 42: Direct operating costs of an airline company
- Figure 43: Rolls-Royce engines equipped with sensors
- Figure 44: The Industrial Internet applied to aviation industry
- Figure 45: The Predix platform
- Figure 46: Value proposition evolution, GE Aviation
- Figure 47: Connected car service roadmap
- Figure 48: Key services in the automotive sector for major stakeholders
- Figure 49: Willingness to pay for connected car services
- Figure 50: 17-inch Touch screen features
- Figure 51: Supercharger network plan in the US and in Europe for 2016
- Figure 52: Autopilot feature setting, by Tesla
- Figure 53: Ford SYNC AppLink applications
- Figure 54: GoRide experience
- Figure 55: Use of drones at Caterpillar
- Figure 56: Driverless truck, by Komatsu
- Figure 57: Evolution of Michelin's commercial offering
- Figure 58: EFFIFUEL solution principle
- Figure 59: Continuous Glucose Monitoring (CGM) systems
- Figure 60: Key positioning differentiation among carriers in the Industrial Internet market
- Figure 61: Connected Industry Platform showcased at the CEBIT 2015
- Figure 62: Taleris home page
- Figure 63: SMILE distribution of value added, by manufacturing activity
- Figure 64: Survey by Citigroup linking smart factory development and reshoring
- Figure 65: Manufacturing-as-a-service reorganisation of the value chain
- Figure 66: Volume variety relationship in manufacturing
- Figure 67: Personalised production
- Figure 68: Effects of servicisation on customer relationship
- Figure 69: Roadmap of different services offered by industrial players
- Figure 70: Data resale to service company
- Figure 71: Data resale to a third-party service company

Figure 72: EU manufacturing sector, activity breakdown and share in EU economy

Figure 73: Evolution of manufacturing domain

Figure 74: Michelin Solutions architecture

Figure 75: Use cases adoption over time

Figure 76: European industrial players invest €140 billion p.a. in Industrial Internet applications, to 2020

Figure 77: Compared adoption readiness of Industrial Internet (USA – Germany)

Figure 78: New business model opportunities

Figure 79: Industries naming 'security' as top challenge in implementation of big data

Figure 80: Greatest challenges to progress toward Industry 4.0 (survey)

Figure 81: World installed base of manufacturing and logistics connected objects

Figure 82: World installed base of manufacturing and logistics, by region

## I would like to order

Product name: The Industrial Internet: Towards the 4th Industrial Revolution

Product link: <https://marketpublishers.com/r/l4C9041A195EN.html>

Price: US\$ 3,300.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

[info@marketpublishers.com](mailto:info@marketpublishers.com)

## Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/l4C9041A195EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:  
Last name:  
Email:  
Company:  
Address:  
City:  
Zip code:  
Country:  
Tel:  
Fax:  
Your message:

**\*\*All fields are required**

Customer signature \_\_\_\_\_

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970