



## Q1 2015: “Industrie 4.0”

Welcome to the latest issue of the Industrial Group Deal Reader, a newsletter offering insights on trends, news and M&A transactions of interest to industry executives, business owners, and investment professionals. We are pleased to provide commentary regarding relevant topics and keep you informed about developments at our firm and in the market.

### Key topics covered in this issue include:

- Perceived chances and challenges of “Industrie 4.0”
- Key industry trend “Industrie 4.0” under an M&A perspective
- Regulatory and news update
- Selected “Industrie 4.0” transactions

## Perceived chances and challenges of “Industrie 4.0”

### Chances

“The launch of the “Industrie 4.0” platform shows that all of the relevant actors from industry, science, trade unions, and government are pulling together in this area (...) Our aim is to turn “Industrie 4.0” into a German success story and to establish our country as a key supplier of cyber-physical production systems. As a supplier of factory equipment to companies around the world, German industry has the right starting conditions.” (Sigmar Gabriel, German Federal Minister for Economic Affairs and Energy)

“The topic of “Industrie 4.0” is strategically important because it offers Germany a historical opportunity to enhance its competitiveness as an industrial location.” (Dr. Werner Struth, Member of the Board of Management, Robert Bosch GmbH)

“Industrie 4.0” opens the doors to our plants - with security solutions 'Made in Germany', we protect our know-how and our machines in an increasingly networked production environment. “Industrie 4.0” is a big opportunity for our industry if we use it in the right way. Confidence in data security is decisive for the successful implementation and the global competitiveness of German businesses.” (Reinhard Ploss, CEO Infineon Technologies AG)

### Challenges

“Digitisation of German factories is in full swing, but still has a long way to go. In view of the fierce international competition, say from China and the United States, companies must invest massively in the digitisation of their processes and products if Germany wants to hold on to its leading position in the manufacturing sector.” (Winfried Holz, CEO Atos Information Technology GmbH)

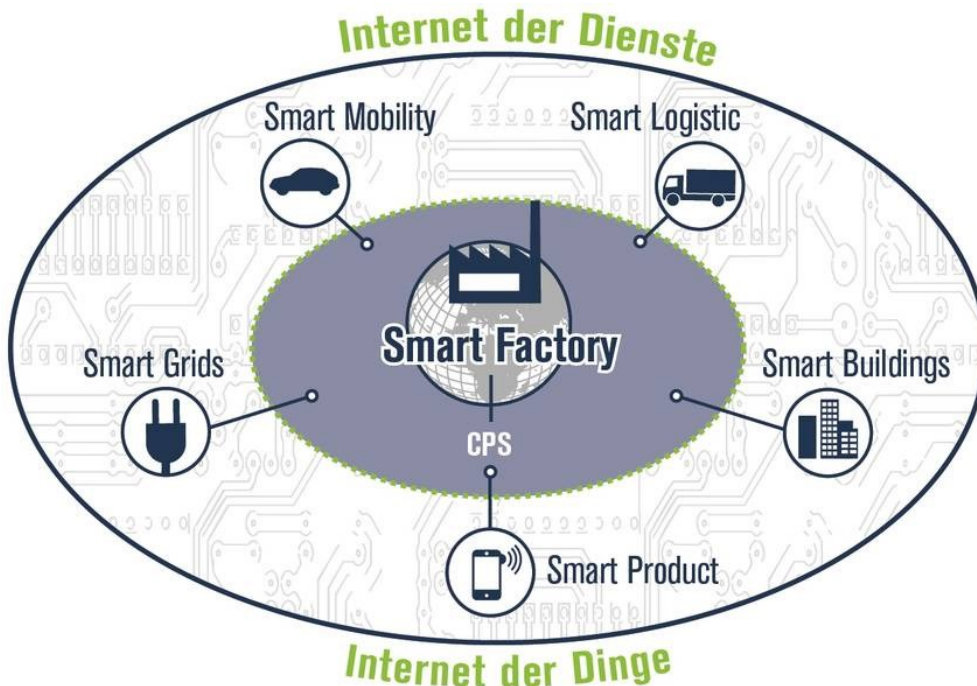
“Industrie 4.0” has rapidly become a reality since it was firstly mentioned in 2011 (...), but challenges, including standardization, security and education and training, must be resolved through cooperation among different industrial sectors and the government.” (Dr. Jochen Köckler, Member of the Board of Management, Deutsche Messe AG)

“In particular in the Mittelstand a large number of players is still sceptical with regard to “Industrie 4.0”. Therefore, we need to improve the reliability and security of information technology.” (Johanna Wanka, German Federal Minister of Education and Research)

## Regulatory update

### In the news:

- **2010:** Launch of “High-Tech Strategy 2020” by German Federal Government to improve general conditions for innovation
- **2012:** Start of high-tech strategy action plan to further implement the “High-Tech Strategy” - identification of 10 key projects (including “Industrie 4.0”) which will be supported by subsidies (Euro 200 million for “Industrie 4.0” projects)
- **2013:** Launch of cooperation by German industrial associations BITKOM, VDMA and ZVEI to establish “Industrie 4.0” business association platform
- **2015:** “Industrie 4.0” as a key topic of German major trade fair for digital business CeBIT
- **2015:** Start of new platform “Industrie 4.0” under the leadership of German Federal Minister for Economic Affairs and Energy Sigmar Gabriel and German Federal Minister of Education and Research Johanna Wanka. Key strategic goal is to place the topic “Industrie 4.0” on a broader political footing and to establish Germany as a key supplier of cyber-physical production systems worldwide
- **2015:** The world largest industrial fair, Hannover Messe, covered “Industrie 4.0” as one of five major global industry trends



### Commentary:

- Internet of Things and Services will have a strong effect on all other key areas
- Transformation will result in the emergence of new “smart” products and services
- The smart factory as key element of “Industrie 4.0”
- Smart factories being able to manage the increasing complexity, are less vulnerable to production disruptions and thus increasing production efficiency
- Smart factory as key element of future smart infrastructures by interfacing with smart mobility, smart logistics and smart grids
- Traditional value chains will be transformed and new business models will be established

The term “Industrie 4.0” was originally introduced in 2011 as part of the high-tech strategy of the German Federal Government in order to promote information and communication technology. It refers to the ongoing fourth industrial revolution which involves the interaction of the real and virtual worlds which represents a new aspect of the manufacturing and production process: Machinery, products, systems and human beings will continuously exchange digital information via (open source) protocols.

As “Industrie 4.0” primarily focuses on the creation of smart products, procedures and processes, smart factories play a key role in this concept. The role of a smart factory is to manage the rising complexity while also significantly increasing production efficiency. Based on the continuous direct communication smart products know the details of their manufacturing process and can provide active support. Ultimately, traditional value chains will be redefined and fully new business models will be introduced.

However, we would not only limit “Industrie 4.0” to the increasing digital intelligence in production processes, but also view the entire value chain as integral part of “Industrie 4.0”. Starting on the supply side with intelligent networks (smart grids) and ending with intelligent end markets including smart homes & buildings and other smart products.

The estimated potential of “Industrie 4.0” for the overall (German) economy is significant. Based on a joint study published by German Fraunhofer Institute and the industry association BITKOM in 2014 the total German gross value added could be increased by more than cumulative Euro 260 billion by 2025. In addition, the German National Academy of Science and Engineering, Acatech, expects that companies could increase their productivity levels by c.30% with the support of “Industrie 4.0”.

German companies, based on their key role in global production processes and technology as well as their strengths in

an interdisciplinary approach - linking electrical & mechanical engineering and IT - should benefit from “Industrie 4.0” in particular. However, there is still a number of open questions in particular with regard to security, standardisation, confidentiality or legal framework which have to be resolved.

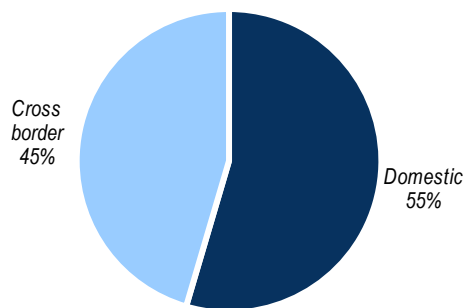
In the following we have analysed which M&A transactions in the D-A-CH region can be attributed to the trend “Industrie 4.0” since 2011. With this analysis we have tried to determine whether industrial companies have used M&A strategies in order to advance in their competitive position regarding “Industrie 4.0”.

## Selected "Industrie 4.0" M&A transactions 2011–2015 in German speaking countries

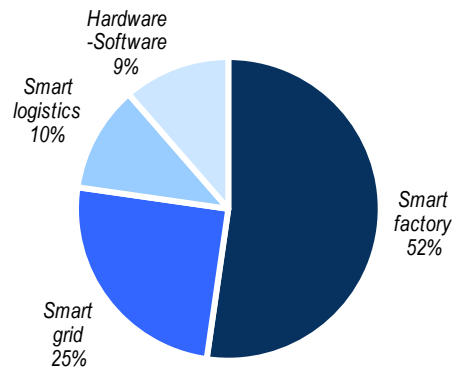
Date	Target	Description	Category	Acquirer
03/03/15	AXIT	Cloud-based logistic solutions	Smart logistics	Siemens
26/02/15	MACH4	Automation products and systems	Smart factory	Omnicell
16/02/15	ProSyst Software	Internet of things software products	Hardware-Software	Robert Bosch
06/02/15	iNDAT Robotics	Software solutions & integrated robots	Hardware-Software	NSM Magnettechnik
03/12/14	KUKA (24.1% Stake)	Industrial automation systems	Smart factory	J.M. Voith
08/10/14	HAHN Automation	Automation machinery equipment	Smart factory	RAG-Stiftung
30/09/14	Janke Industrial Automation	Industrial automation systems	Smart factory	Hirtenberger
25/09/14	Swisslog Holding	Automation solutions	Smart factory	KUKA
28/07/14	gateProtect	Security solutions for networks and IT infrastructures	Smart grid	Rohde & Schwarz
25/07/14	Spirit IT	Measurement solutions for oil & gas industry	Smart grid	ABB
02/07/14	Klug	Logistics software services	Smart logistics	TGW Logistics Group
19/05/14	connectBlue	Industrial-grade short range radio modules	Smart factory	u-blox Holding
09/05/14	Terman	Measurement instruments for industrial sectors	Smart grid	ABB
28/03/14	inconso	Logistics software & consulting services	Smart logistics	Körber
24/03/14	Werum IT Solutions	Manufacturing execution systems provider	Hardware-Software	Körber
06/03/14	Alema Automation	Advanced automation solutions	Smart factory	KUKA
13/02/14	Entelios	Demand response solutions and virtual power plants	Smart grid	Enernoc
09/01/14	Reis Maschinenfabrik	Industrial robots & automation systems	Smart factory	KUKA
19/12/13	Mercareon	Logistics software products	Smart logistics	Transporeon
17/12/13	Brähmig	Automation equipment	Smart factory	Mikromat
11/12/13	Funkwerk eurotelematik	Fleet monitoring systems	Smart logistics	BPW Bergische Achsen
10/12/13	Hytec Gerätebau	Industrial data communication products	Smart grid	KEYMILE International
02/12/13	Paradox Engineering	Solutions & services for pioneer markets & technologies	Smart grid	Minebea
16/09/13	CIDEON Holding	Software and engineering services	Hardware-Software	Friedhelm Loh Group
09/09/13	Jetter	Automation technology	Smart factory	Bucher Industries
26/08/13	MEL Mikroelektronik	Sensor technology and equipment	Smart factory	wenglor sensoric
19/06/13	Schleicher Electronic	Industrial automation solutions	Smart factory	Dübbers family
08/05/13	Asic Robotics	Industrial robots and industrial plant equipment	Smart factory	DEFIGestion
25/03/13	SolveDirect Service Mgmt.	Cloud-based IT solutions	Smart factory	Cisco
31/01/13	Blackbird Robotersysteme	Control technology and software	Smart factory	SCANLAB
22/01/13	PNEUMOTEC	Industrial automation solutions	Smart factory	Fastems
29/10/12	ITF Fröschl	Software for meter data collection and management	Smart grid	Dr. Neuhaus Telekom.
22/10/12	IDS Microchip	Software for meter data collection and management	Smart grid	Ams
21/06/12	Aberle Automation	Warehouse automation systems	Smart factory	Körber
01/06/12	Tropos Networks	Wireless broadband IP mesh networks	Smart factory	ABB
03/05/12	QUNDIS	Measuring devices and systems	Smart grid	HG Capital
28/02/12	BRANKAMP	Process monitoring systems	Smart factory	Marposs
19/12/11	EZE Technologies	Platforms for process integration & automation	Smart factory	Scheer Group
10/10/11	SMT Systeme	Systems for robot applications	Smart factory	Ingenieurtech. u. Masch.-Bau
18/07/11	inubit	Internet of things software solutions	Hardware-Software	Robert Bosch
18/07/11	GÖRLITZ	Hard & software for metering solutions	Smart grid	IDS
05/09/11	Pfuderer Maschinenbau	Machines and components for process automation	Smart factory	teamtechnik
19/05/11	Landis+Gyr	Metering products	Smart grid	Toshiba
09/05/11	Elexis	Factory automation systems	Smart factory	SMS Holding

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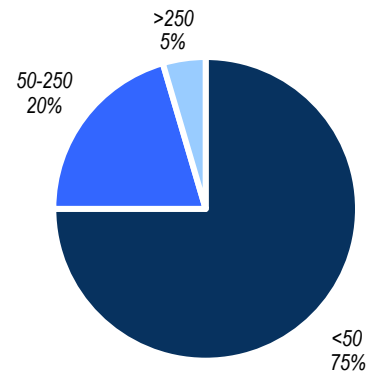
Transactions by geography



Transactions by category



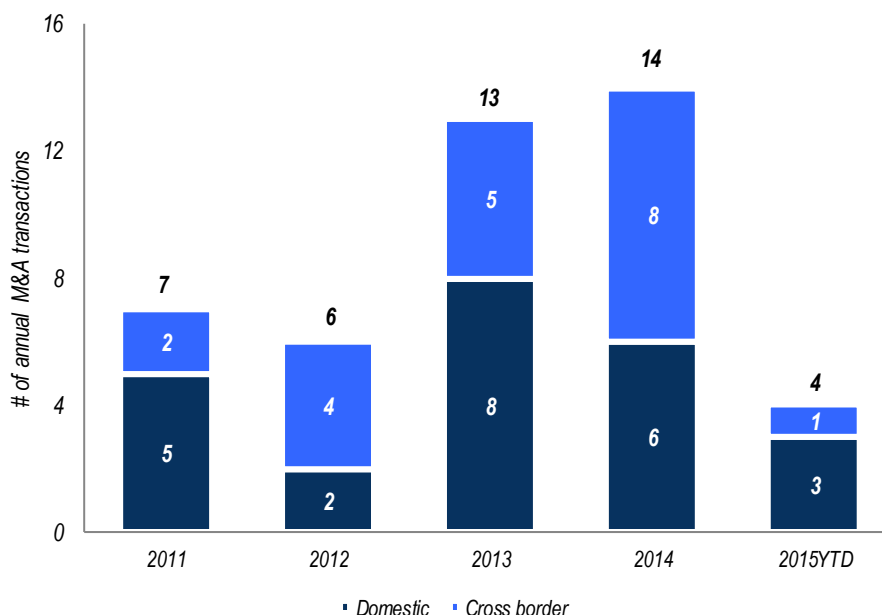
Transactions by target sales (in Euro m)



### Commentary:

- High percentage of domestic transactions within the D-A-CH region — cross-border M&A not yet exploited as a primary source of “Industrie 4.0” competencies additions
- Smart factory as central “Industrie 4.0” discipline representing largest number of transactions — in line with its critical role and major focus area of German industry
- Three-quarter of the identified transactions are involving target companies with sales < Euro 50 million — expression of both early development phase of “Industrie 4.0” activity and high degree of fragmentation of relevant technology companies

## Development of annual “Industrie 4.0” M&A transaction activity



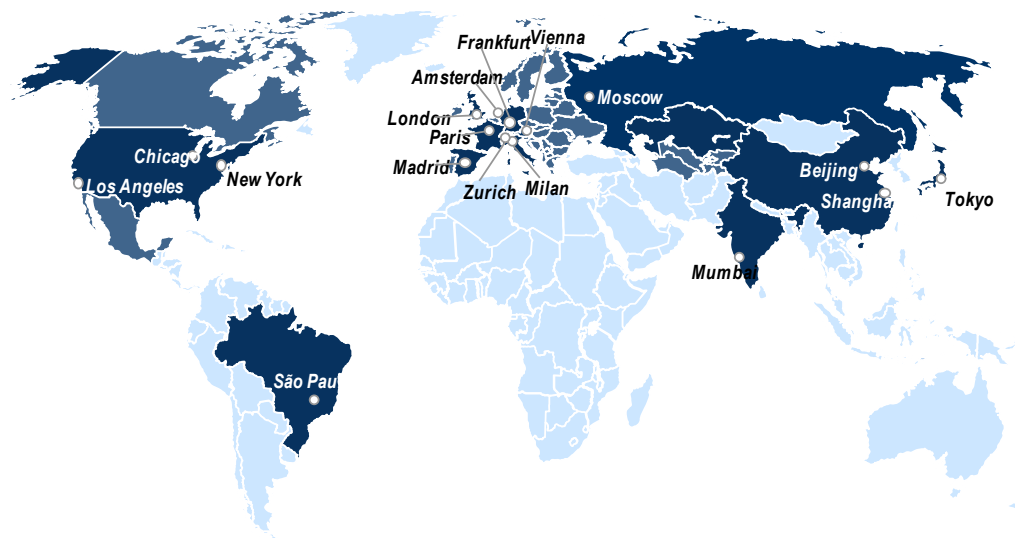
### Commentary:

- Limited “Industrie 4.0” M&A transaction activity in the years 2011 and 2012
- Definite increase in number of transactions since 2013 with continuing trend in 2014
- Sustained trend of evolving “Industrie 4.0” M&A activity with 4 relevant transactions in Q1 2015 already
- No clear trend yet with regards to domestic vs. cross border transactions

While the “Industrie 4.0” topic has dominated the industrial media landscape and recent industry fairs, such as CeBIT and Hannover Messe, in the recent past as well as increasingly playing a pivotal role within corporate development strategies, the related M&A activity has so far been moderate. We do expect though that we will experience a further pick-up of transaction dynamic as the search for required technology content and expertise will gain pace. In particular we anticipate companies from the D-A-CH region with a strong mechanical engineering competence to make increasingly software and IT driven acquisitions while for instance North American technology companies may seek to strengthen their production processes and engineering capabilities. Both trends should lead to a growing share of cross-border / cross-Atlantic transactions in the overall accelerating “Industrie 4.0” led M&A activity.



## About Lincoln International



**17**

own offices in the 10 major world economies

**380**

professionals globally for M&A and Debt Advisory

**50**

professionals in the Frankfurt office

**No. 1**

globally as financial advisor to Private Equity on exits

**No. 1**

in German M&A sell-side league tables for 2014

**> 135**

successful transactions in 2014 worldwide

**26**

successful transactions in DACH region in 2014

### Selected recent industrial transactions advised by Lincoln International

**DÜRR**

**Sale**

Dürr Automation (F)  
from Dürr / Schenck (D)  
to Quantum Kapital (D)

**December 2014**

**NORDholding** **RADEMACHER**

**Sale**

Rademacher (D)  
from NORD Holding (D)  
to Cross Equity Partners (CH)  
and Pinov a Capital (D)

**September 2014**

**entelios**

**Sale**

entelios (D)  
from the shareholders (D)  
to EnerNOC (USA)

**February 2014**

**BURKLE**  
PROCESS TECHNOLOGIES

**Sale**

Robert Bürkle (D)  
from the Shareholders (D)  
to nimbus (NL)

**December 2013**

**FLEX**  
Das Original

**Sale**

Flex Elektrowerkzeuge (D)  
from trustee (D)  
to Chervon Group (CN)

**October 2013**

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