

# *Federchimica*

*Chemistry 4.0: eventually, less Regulation and more Innovation!*

Chemistry 4.0:  
Safety & Security enhancements opportunities



Milan, June 29<sup>th</sup>, 2017

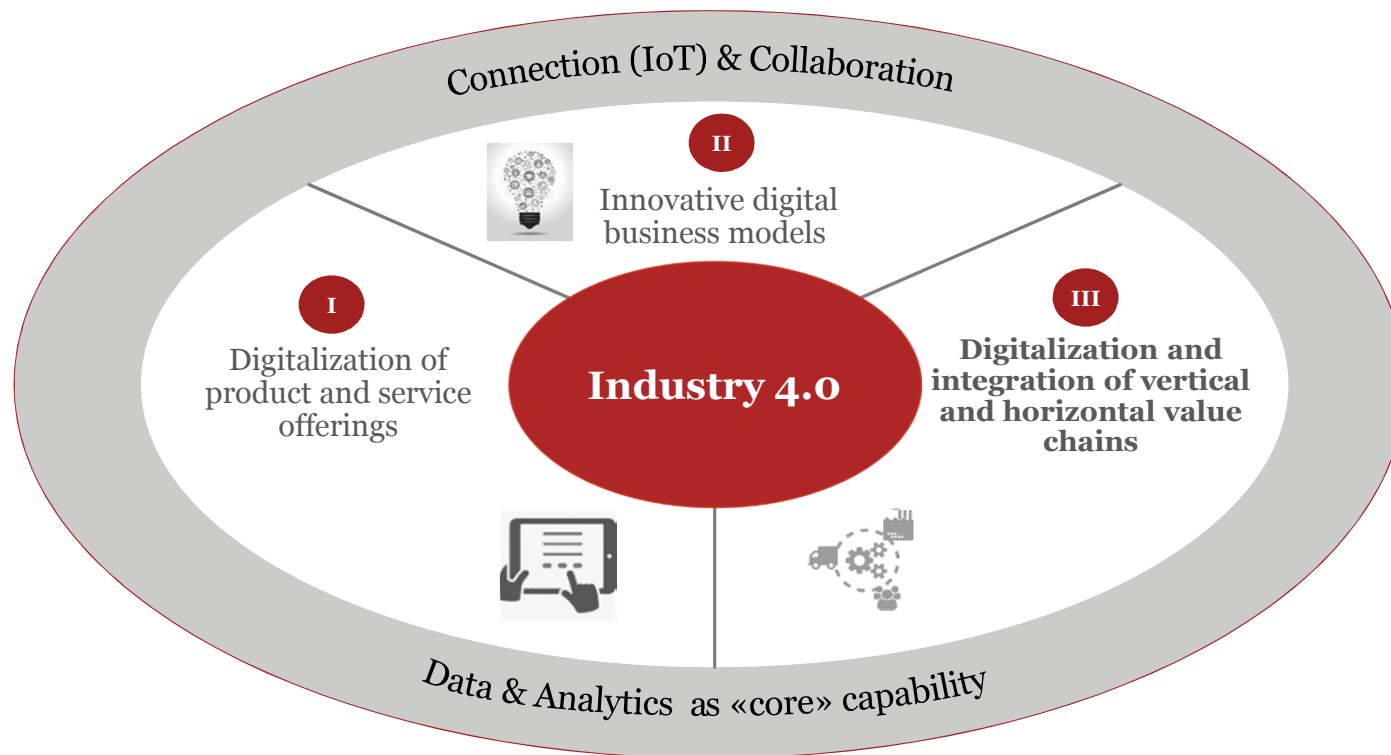


**pwc**

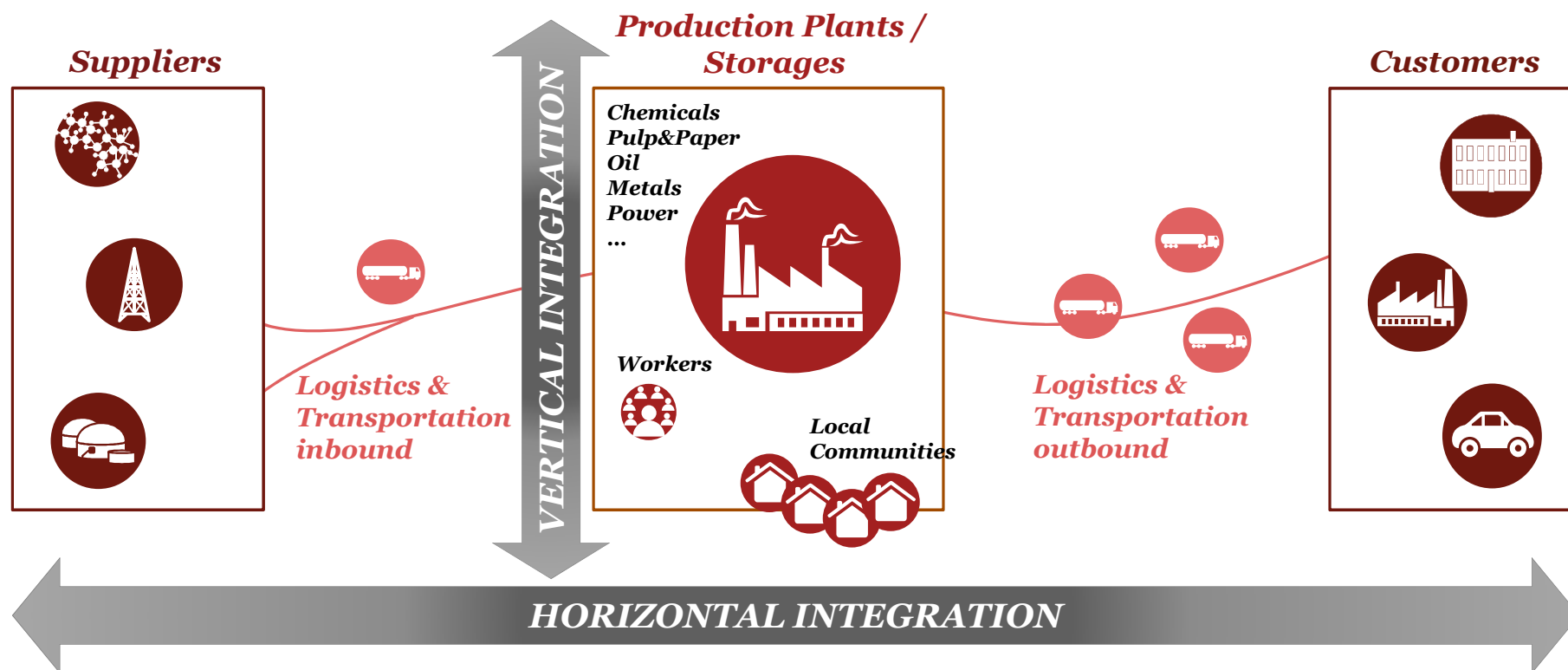
## Industry 4.0: the three macro-dimensions

Industry 4.0 represents a **new way of managing business**, which leverages the opportunities posed by **new technologies**.

PwC identifies **3 macro-dimensions** of Industry 4.0:



# *Digitalization and horizontal & vertical integration of the value chain*



# Safety & Security

## Safety = awareness + preparation

01

- Monitor
- Prevent or early detect failures
- Act properly to mitigate risks

## 02 Security = protection network that assures safe operations

- Data confidentiality
- Data integrity
- Data availability

*... and Industry 4.0 technologies and solutions can help dramatically improve both*

# Safety and I4.0: PwC Global Industry Survey\* results

## State of the Art

### Big lags and excellences

While a significant number of chemicals companies still have to face Industry 3.0 upgrades, **today 32% of interviewed companies** say have already achieved advanced levels of process digitisation, the highest level among the 9 industry sectors analysed.

## Horizontal Integration

Development integrations outside Production plant (customers, suppliers, business partners along the value chain).

## Future challenges

**But...**

17%

of companies still recognize a lack of competencies

14%

believe current business partners are inadequate (mainly maintenance services suppliers and carriers)

\*: year end 2016 – Chemicals industry key findings – interviews to a panel of executives from 222 chemicals companies from 26 countries

## Security and I4.0: PwC Global Industry Survey\* results

### State of the Art

#### Main concerns

28% of interviewed companies see **unresolved questions around data security and data privacy** in connection with the use of external data

### Digital Trust

Companies need to take a rigorous, proactive approach to data security and related issues and work to build digital trust before developing data lakes with internal and external data.

### Future challenges

## And so...

74%

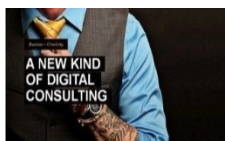
of companies believe that **Security issues, together with data analytics skills, are among the main challenges that have to be managed in order to boost data analytics capabilities**

\*: year end 2016 – Chemicals industry key findings – interviews to a panel of executives from 222 chemicals companies from 26 countries

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AMERICAN EXPRESS	fct hā OMAR	GANNETT	TIAA CREF	Qatar Airways	ExxonMobil	aetna	united internet	Lufthansa
CREDIT SUISSE	L'ORÉAL	Lilly	CATERPILLAR	critigroup	Emirates	SAUDI POST	STC	DISCOVER
BAA	france telecom	CISCO SYSTEMS	البريد السعودي Saudi Post	Dr Pepper	Emirates	REWE	الهيئة العامة للغذاء والدواء Saudi Food & Drug Authority	Google
Emirates	DB	Cultura Inglesa	البنك السعودي Saudi Post	verizon	Experian	cpb Corporation for Public Broadcasting	Ahold	GM
ebay	Emirates	LLOYD'S BANKING GROUP	Sparkasse	etisalat	Turkey	3M	Die Bundesregierung	VW
D&B	SAMENA BUILDING DIGITAL ECONOMIES	vestcom	reliant an NRG company	LIBERTYGLOBAL	JM FAMILY ENTERPRISES INC.	NIKE	Aol.	AASA
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- Global Digital Immersion & Data Labs

\*Sources: Kennedy Information, LLC, ranked PwC Strategy& Number 1 in digital strategy in 2013  
IDC Marketspace leader in Digital Strategy and Digital transformation consulting in 2015



# *Thinking for the future*

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