

September 19 & 20, Frankfurt

Proudly organised by



#### **PLATINUM SPONSOR**



**GOLD AND LANYARD SPONSOR** 

patsnap

#### **EXHIBITOR**

#### **INNOVATION NETWORK PARTNER**





#### **MEDIA PARTNERS & ASSOCIATIONS**







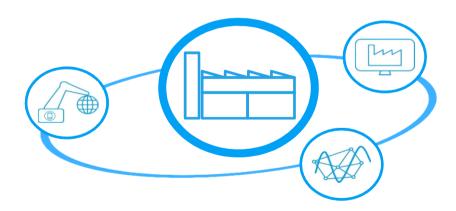








- thyssenkrupp Industrial Solutions
- Introduction
- **Advanced Automation**
- Summary













#### Leading engineering expertise from one source

# thyssenkrupp: a global corporation

> 2,200 production sites, offices and service location all over the world

> €778mn **R&D** spending

> > ~156,000 employees

Middle East / Africa

**€39,263**mn Sales

~2,000 industrial property rights in reporting period

~18,000 patents in total

Present in nearly 80 countries

Fiscal Year 2015/16



## thyssenkrupp – Business Areas

Key indicators – fiscal year 2015/2016 [€ mn]

Components Technology	Elevator Technology	Industrial Solutions	Materials Services	Steel Europe	Steel Americas
Sales <sup>1</sup> 6,807	7,468	5,744	11,886	7,633	1,489
EBIT <sup>2</sup> 335	860	335	128	315	-33
Employees 30,751	51,426	19,602	19,754	27,559	3,847

thyssenkrupp AG Sales: 39,263 | EBIT adj.: 1,469 | Employees: 156,487



<sup>1.</sup> Before consolidation | 2. Before consolidation/Corporate

#### Industries we serve

>17,600 machines and systems in use worldwide

Mining Industrial Solutions Naval Shipbuilding Almost 70%

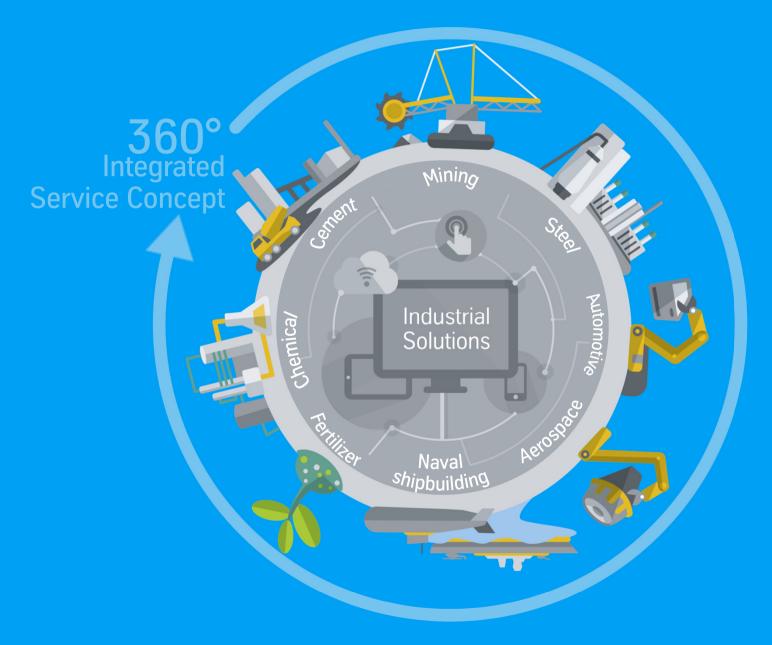
More than engineering excellence

over **2,500** chemical installations constructed worldwide

of our employees are engineers and technicians



# Industries we serve





#### **Business Units**

**Electrolysis &** Polymers Technologies



Fertilizer & Syngas **Technologies** 



**Industrial Specialties** 



Cement **Technologies** 



**Mining Technologies** 



Service



**System Engineering** 



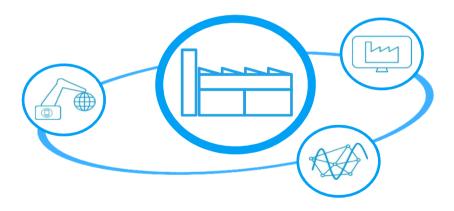
**Marine Systems** 



**Network of Excellence** 



- thyssenkrupp Industrial Solutions
- Introduction
- **Advanced Automation**
- Summary



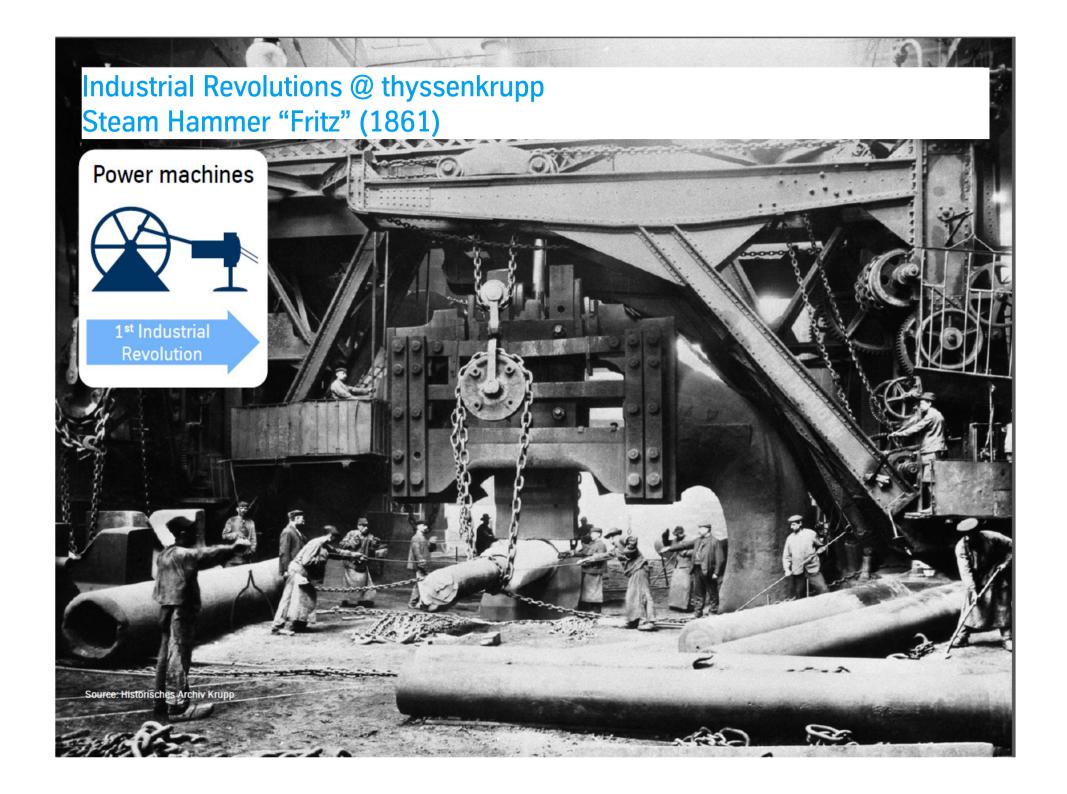


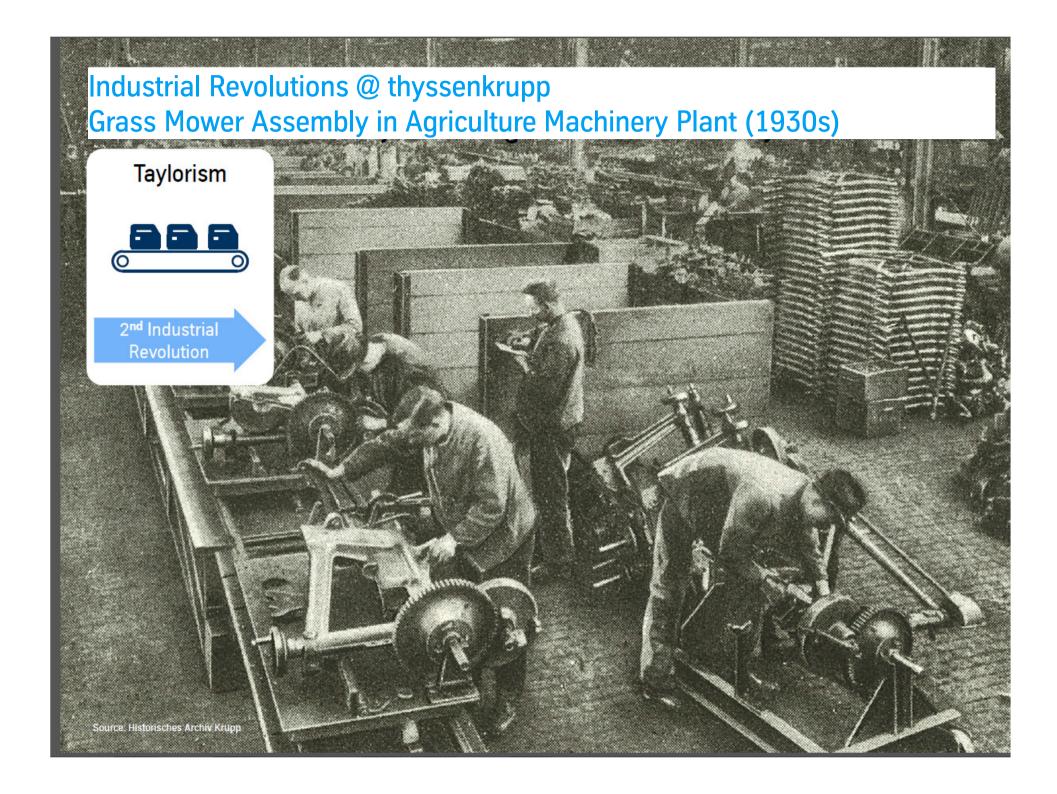




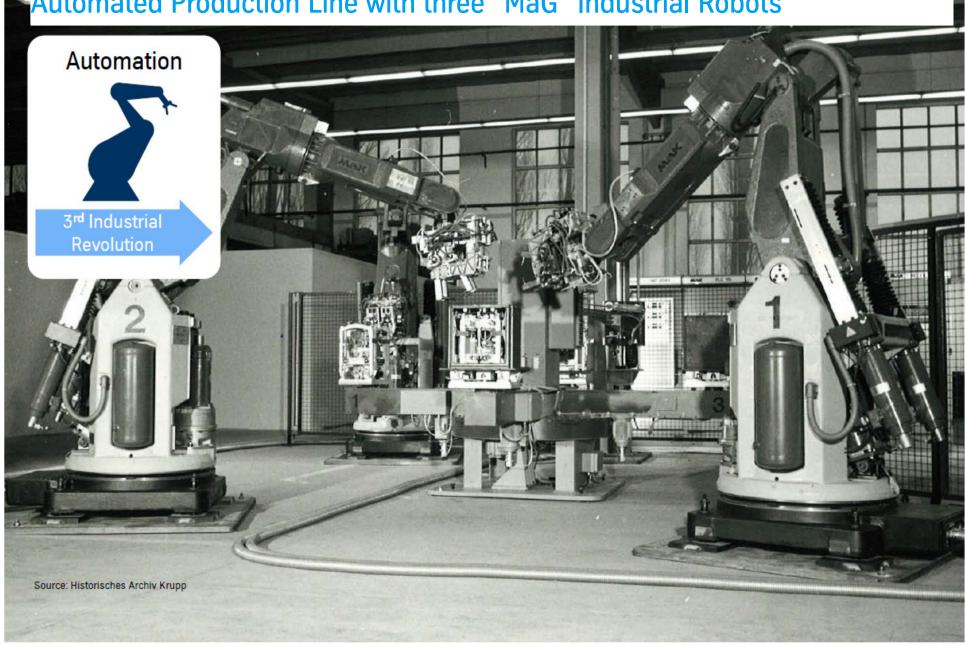






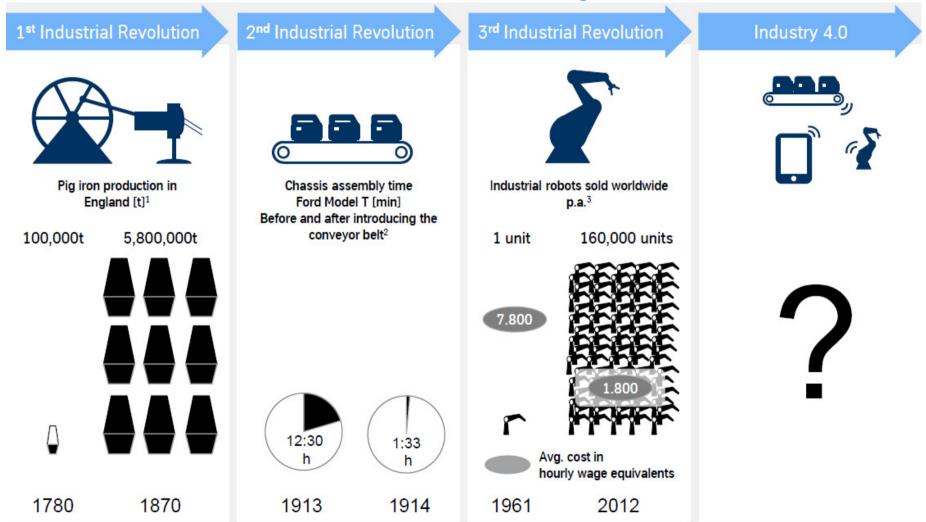


# Industrial Revolutions @ thyssenkrupp Automated Production Line with three "MaG" Industrial Robots





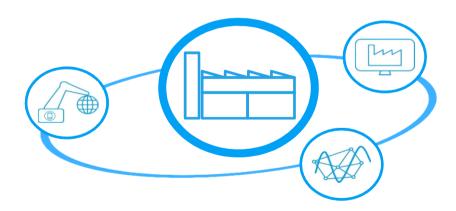
## **Industry in Profound Transformations:** Which Further Potentials can be Identified along the Value Chain?







- thyssenkrupp Industrial Solutions
- Introduction
- Advanced Automation
- Summary





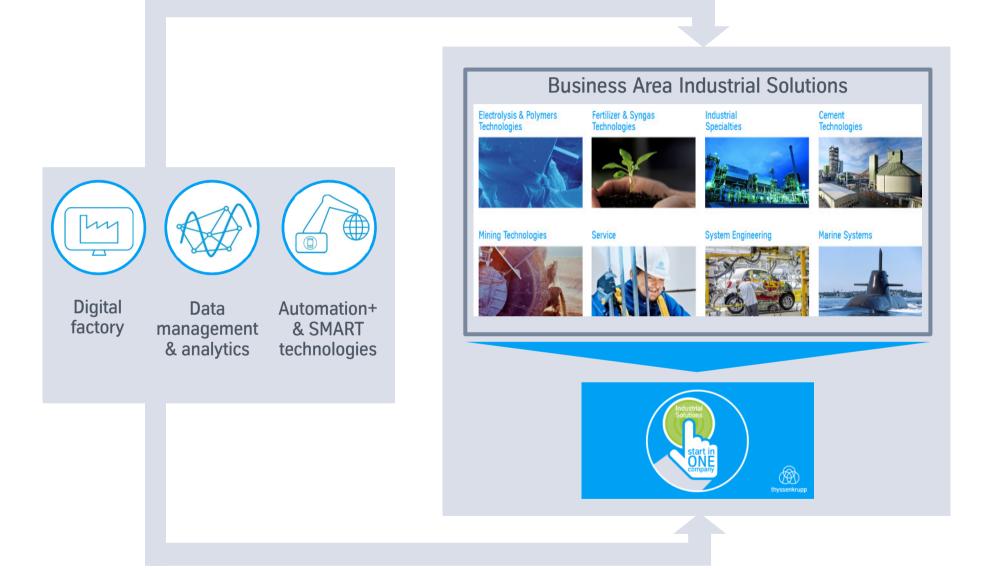














3 technology cluster for advanced automation





Virtual production in planning, realization & operation

Implement advanced engineering tools & **SMART** factory ideas



## Data management & analytics

Generate, merge & analyse field data to create value

Apply advanced automation technologies



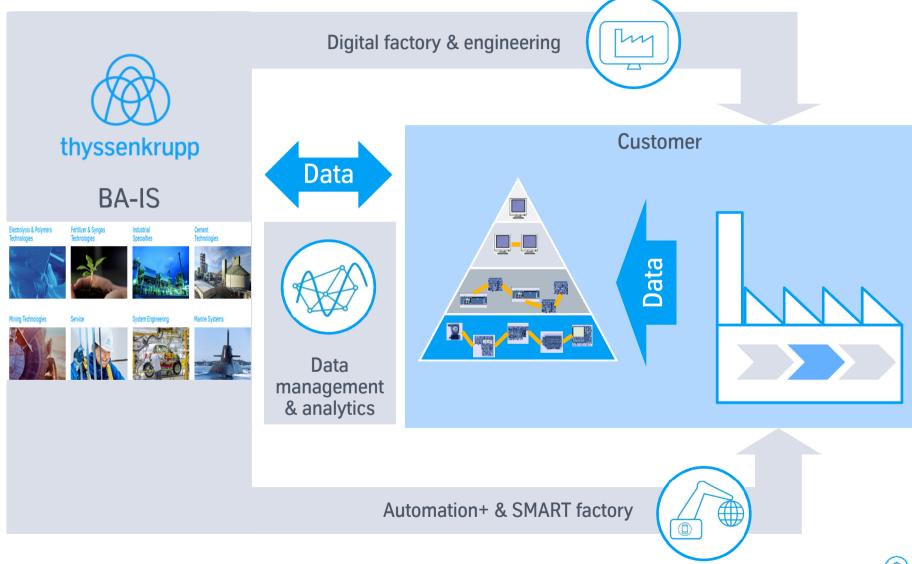
# **Automation+ SMART** technologies

Increase automation level and add automation solutions. Make automation easy to operate

> Strengthen data driven portfolio



3 key areas for advanced automation





#### **Customer** value

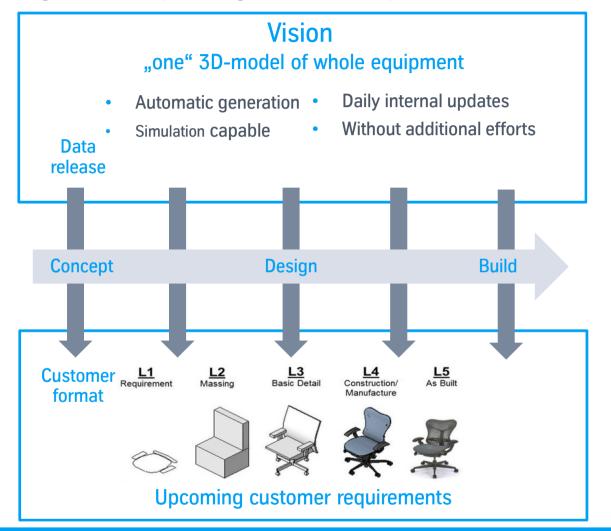


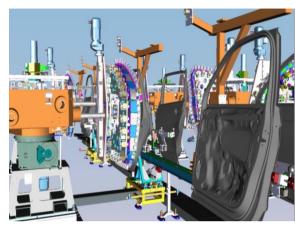
**OEE: Overall Equipment Effectiveness** 

TCO: Total Cost of Ownership



**Digital Twin- Upcoming Customer Requirements** 





**Digital Twin** 

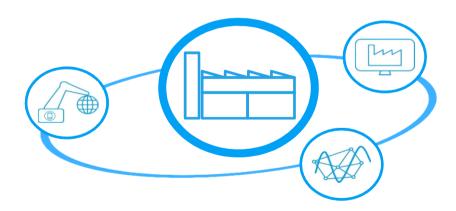
Build



Our customers set new requirements ...



- thyssenkrupp Industrial Solutions
- Introduction
- **Advanced Automation**
- **Summary**













#### Digitalization is implemented in steps

- > Culture Change
- > Education of People
- New Business Models

#### The benefits:

- > Reduction of costs
- ➤ Higher Flexibility
- > Improved Quality
- ➤ Less energy consumption & floor space
- > Faster time-to-market



engineering.
tomorrow.
together.

Thanks for your Attention!

Questions?





#### **EXHIBITOR**

#### **INNOVATION NETWORK PARTNER**





#### **MEDIA PARTNERS & ASSOCIATIONS**













#### **PLATINUM SPONSOR**



**GOLD AND LANYARD SPONSOR** 

# patsnap



September 19 & 20, Frankfurt

Proudly organised by

