

**Deloitte.**



## **Cognitive Advantage**

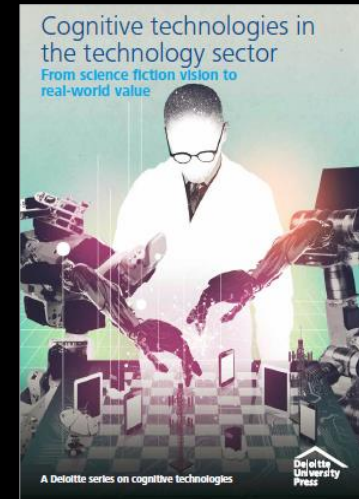
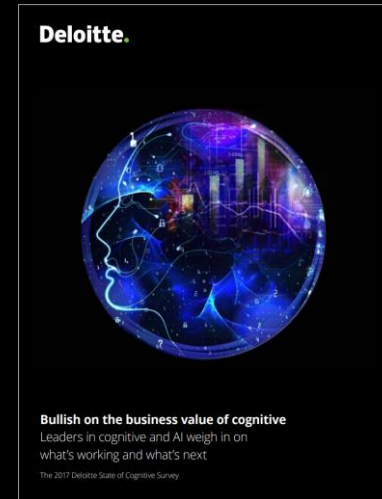
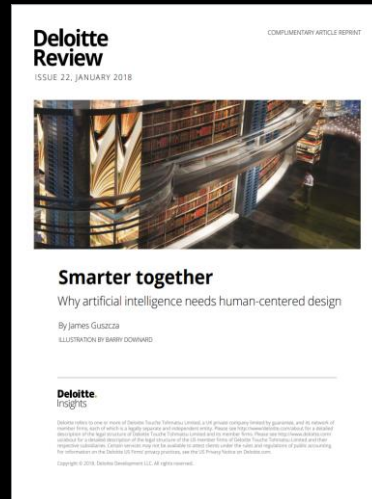
How companies can see eye to AI

Hannover, June 13<sup>th</sup> 2018

# Cognitive insights @ Deloitte

We engage in sector-specific A.I.-related research and client work for several years

Examples



## The cognitive status quo and perception

Expectations across emerging hype and factual business potential needs calibration

- AI is evolutionary. In the public realm there is **no clear demarcation** between an app that is “artificially intelligent” and one that isn’t (yet)
- AI which can synthesize human judgment and common sense remains **science fiction**; true “thinking machines” are a long way off. But conceivable in principle
- Cognitive tech today can dramatically improve the **speed, efficiency, accuracy and scope** of various business functions
- Most companies using AI tech are enthusiastic about its **transformation potential**. They foresee sweeping, across-the-board changes
- Significant economic value will come from AI algorithms with a **human-centered design**, i.e. carefully designed for human environments and understood

Technology, Media and Telecom (TMT) companies are proving grounds for AI  
TMT-leaders have an especially compelling rationale for AI based applications,  
based on the industry's unique data-analysis needs and business model ambitions

Percentage of companies that have spent \$10 million or more on cognitive technologies



TMT industry



25%

All other industries



7%

Source: Deloitte - Cognitive Technologies in the TMT industry

Not surprising, "Tech" companies are among the frontrunners when it comes to AI  
Both as platforms for clients to use 'as a Service', for own products or as "open source"

Examples –  
not exhaustive

**IBM - Watson**

**Alphabet-  
DeepMind**

**Facebook**

**Intel**

**Amazon**

**Cisco**

**Oracle**

**Microsoft**

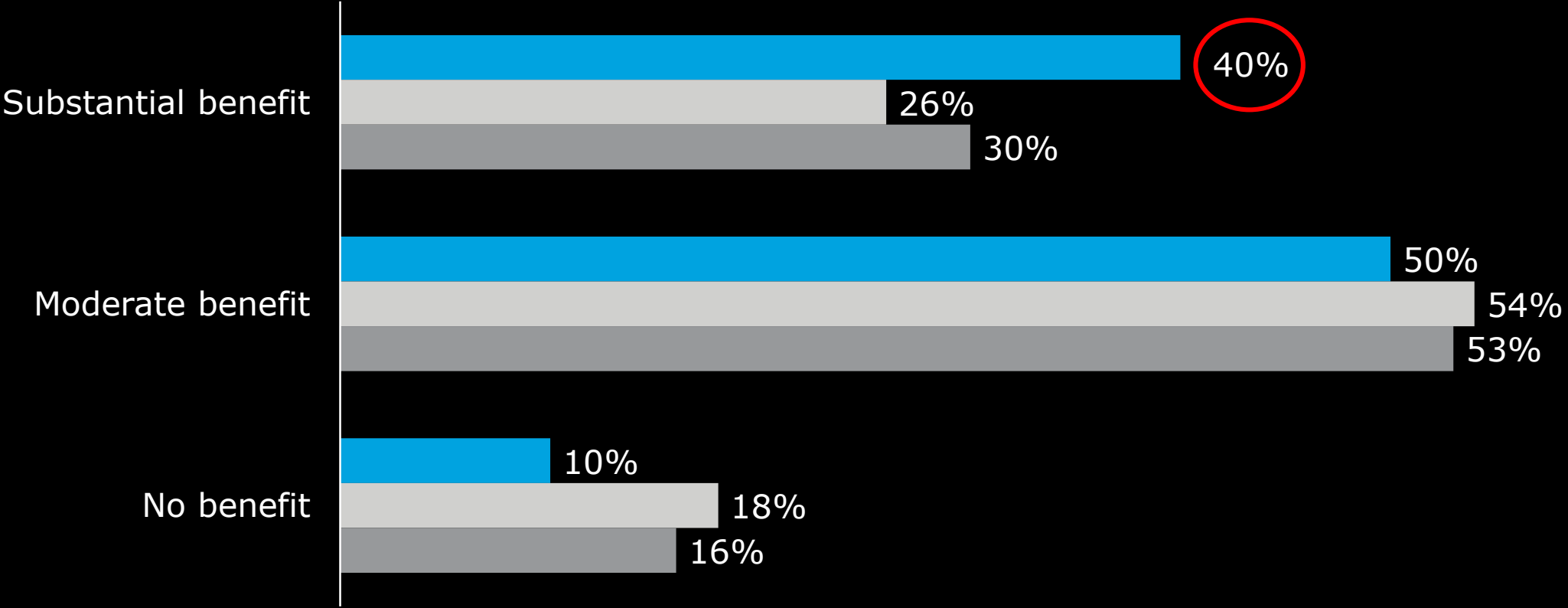
**Salesforce -  
Einstein**

**And many  
others...**

# Deloitte Survey - Cognitive Technologies in the TMT industry

And TMT companies in particular today believe that they stand to benefit from AI based efficiencies in their products and operations

How much economic impact / benefit has your company seen so far from AI projects? <sup>1)</sup>

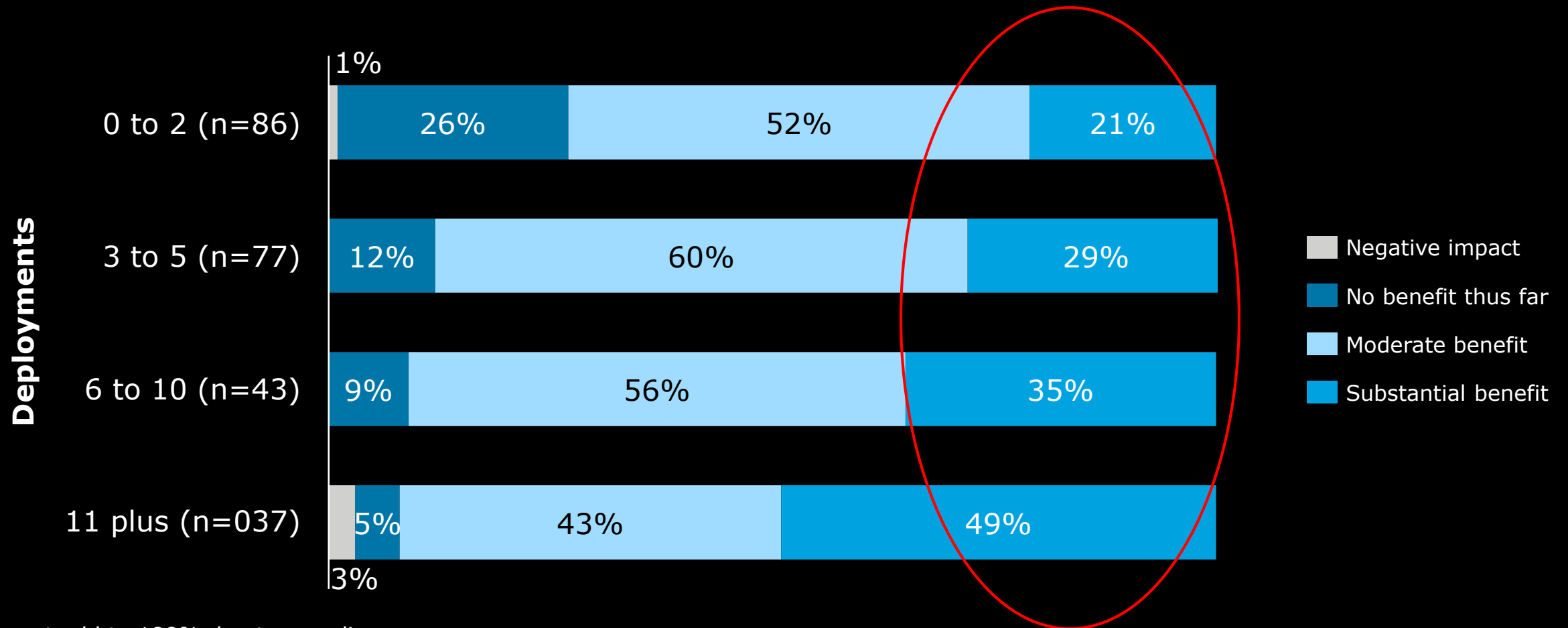


1) Total sample size = 250; TMT = 72; Others = 178

TMT industry All other industries Total

# Deloitte Survey - Cognitive Technologies in the TMT industry

...And the economic benefits of AI appear to increase with deployment experience



May not add to 100% due to rounding

Source: Deloitte State of Cognitive Survey

# Cognitive Advantage - typical application areas

Companies today can benefit from cognitive computing in three key areas



## Transforming how work gets done

- **Process robotics and cognitive automation** process large amounts of data
- Can make highly trained white-collar professionals anxious
- Challenge: unstructured data in different formats
- Example use case: processing invoices (in various formats)



## Transforming how decisions are made

- **Cognitive insights** analyse large quantities of information to generate real-time insights
- Programs draw on multiple data sets ('data lake')
- Challenge: previously siloed data needs to be integrated
- Example use case: customer service recommendations



## Transforming interactions

- With **cognitive engagement** computers e.g. handle customer support functions
- Natural language processing plays crucial enabling role
- Challenge: processes and solutions are complex and involve multiple formats
- Example use case: chat bots



# Identifying opportunities for cognitive technologies

Companies should probe for viable, valuable and vital indicators to identify opportunities

## Cognitive technology indicators

- A task, job, or work-flow which requires low or moderate level of skill and human perception
- Large data sets
- Expertise expressed as rules
- Workers' cognitive abilities or training are underutilized
- Business process has high labour costs
- Expertise is scarce; value of improved performance is high
- Industry-standard performance requires use of AI
- A service cannot scale relying on human labour alone

**Viable**

**Valuable**

**Vital**

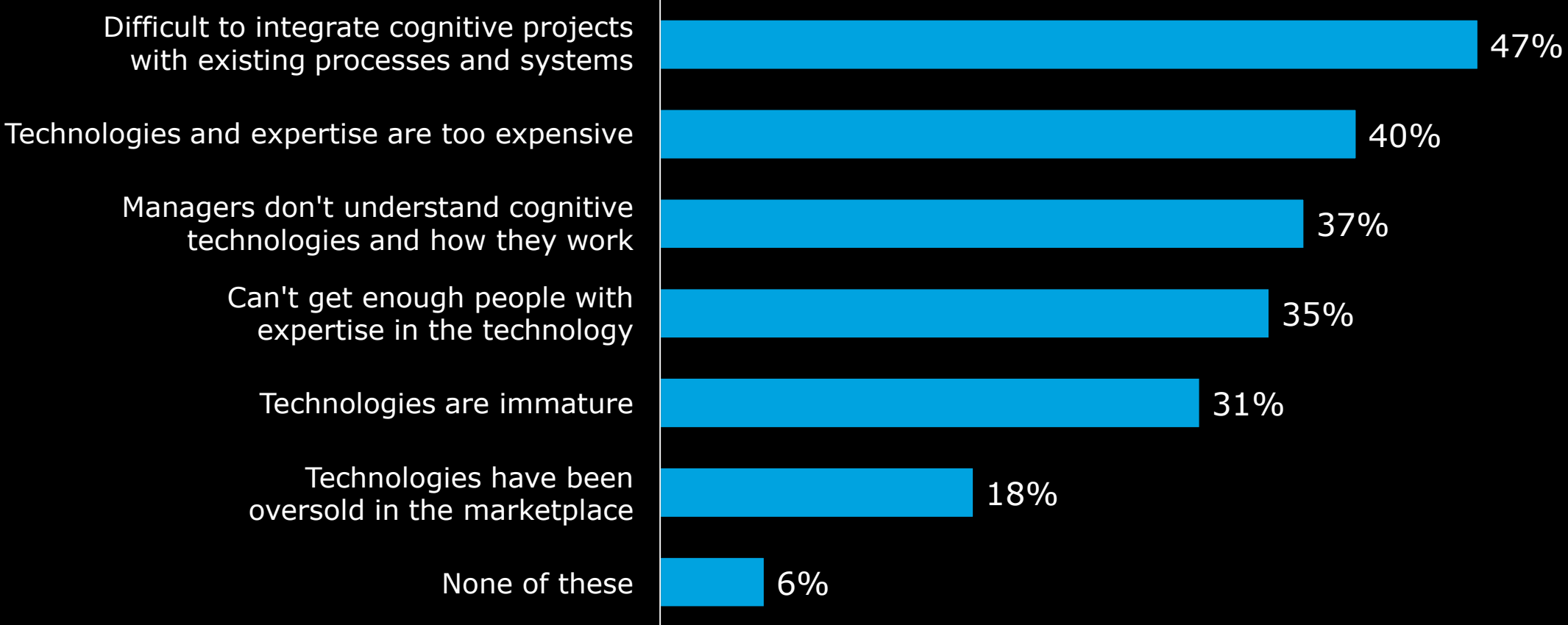
## Application examples

- Forms processing
- Investment advice, medical diagnosis, oil exploration
- Scheduling maintenance operations
- Writing company earnings reports; driving/piloting
- Medical diagnosis; aerial surveillance
- Online retail product recommendations
- Fraud detection
- Media sentiment analytics

Source: Deloitte - Cognitive Technologies in the technology sector

# The implementation challenges related to cognitive technologies

Difficult Integration, costs, and lack of expertise and know-how are cited most often



Source: Deloitte State of Cognitive Survey

Total (n=250)

## Overcoming challenges

Employee training and exposure seen as key to get to grips with AI

Practitioners emphasize the value of training to prepare employees for cognitive technologies:



Training employees to **develop cognitive technologies**

**70%**



Training employees to **work alongside cognitive technologies**

**64%**



Conducting **awareness education** on cognitive technologies and their implications

**63%**

## Take aways

Five recommendations help business leaders to successfully start their AI experience

- 1 Hands on approach and practice:** to get an understanding how AI works, what it is good at, and what data is required for it to thrive
- 2** Create a small internal function to support **a portfolio of AI initiatives** focused on creating measurable business outcomes
- 3** **Develop and implement some of your own solutions** to acquire skills to integrate AI into most promising processes and products
- 4** **Focus on change and innovation** to identify top-line growth and other benefits, not just automation-driven cost cutting
- 5** Actively **redeploy freed-up resources** to make your overall operations smarter and more productive.

# Contact

---



## **Milan Sallaba**

**Partner | Technology Sectorlead**

### **Deloitte Consulting GmbH**

Dammtorstraße 12  
20354 Hamburg  
Deutschland

Tel: +49 40 32080 4256

[msallaba@deloitte.de](mailto:msallaba@deloitte.de)

[www.deloitte.com/de/ki](http://www.deloitte.com/de/ki)



This presentation contains general information only, and none of Deloitte Consulting GmbH or Deloitte Touche Tohmatsu Limited (“DTTL”), any of DTTL’s member firms, or any of the foregoing’s affiliates (collectively, the “Deloitte Network”) are, by means of this presentation, rendering professional advice or services. In particular this presentation cannot be used as a substitute for such professional advice. No entity in the Deloitte Network shall be responsible for any loss whatsoever sustained by any person who relies on this presentation. This presentation is to be treated confidential. Any disclosure to third parties - in whole or in part – is subject to our prior written consent.

Deloitte refers to one or more of Deloitte Touche Tohmatsu Limited, a UK private company limited by guarantee (“DTTL”), its network of member firms, and their related entities. DTTL and each of its member firms are legally separate and independent entities. DTTL (also referred to as “Deloitte Global”) does not provide services to clients. Please see [www.deloitte.com/de/UeberUns](http://www.deloitte.com/de/UeberUns) for a more detailed description of DTTL and its member firms.

Deloitte provides audit, risk advisory, tax, financial advisory and consulting services to public and private clients spanning multiple industries; legal advisory services in Germany are provided by Deloitte Legal. With a globally connected network of member firms in more than 150 countries, Deloitte brings world-class capabilities and high-quality service to clients, delivering the insights they need to address their most complex business challenges. Deloitte’s approximately 263,900 professionals are committed to making an impact that matters.