

# Industrial Revolution

## Industrial Revolution over the time

Steam engine



1712/1769

Moving assembly line



1913

IT and electronics



1970s

Smart factory, cyber-physical systems, internet of things

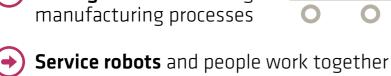


21st century

## A product's lifecycle

**Individually designed** products at manufacturing standards

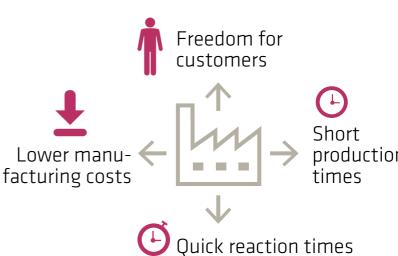
Intelligent machines align



**Unmanned transportation vehicles** handle logististics services

(StMWi Bayern Bayern: www.iwconsult.de/regional/pdf/Industriebericht\_Bayern\_2014.pdf)

# The smart factory delivers ...



# Potential

## What German companies expect for their business

#### Investment:

billion euros until 2020 Level of digitalisation: 80% within five years



Extra turn over: 30 billion euro per year

Increase in efficiency:

within five years

(PWC: www.strategyand.pwc.com/media/file/Industrie-4-0.pdf)

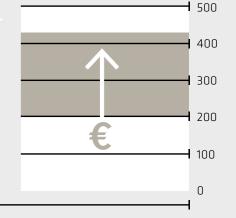
## What analysts expect for industry until 2025

# 1,25 Trillion Euro

value creation increase for European industry

#### German growth:

between 200 and 425 billion euros



(BDI: www.bdi.eu/media/presse/publikationen/information-und-telekommunikation/Digitale\_Transformation.pdf)

#### Bavaria on top of the development

In great company:



National and international Global Players within a three hour drive

#### Heavyweights on stock exchange:

7 of 30 DAX companies are located in Bavaria



#### Highest share of industry in gross value creation:

Bavaria 26.5 % Germany 22.2 % USA 12 % 11% France 9 % UK

(StMWi Bayern: www.stmwi.bayern.de/fileadmin/user\_upload/stmwivt/Themen/Wirtschaft/Dokumente\_und\_Cover/ 2015-08-04- Daten-Fakten-Argumente.pdf)

#### Academic landscape:

17 universities of applied sciences

Max Planck Society

Fraunhofer Society

9 state universities



Helmholtz Society



#### State of engineers:

2013, 215,000 employees generated a turnover of more than 45 billion euros

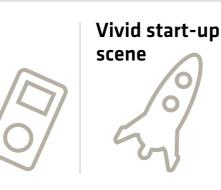


(1BR: www.br.de/fernsehen/bayerisches-fernsehen/sendungen/geld-und-leben/hannover-messe-industrie-104.html)

#### **Clusters in key** technologies

\* automotive

- \* mechatronics & automation
- \* sensor technology
- \* environmental technology



Easy access to neighboring countries

(GE Global Research: www.geglobalresearch.com/locations/munich-germany/work-and-life)

#### How Bavaria supports industrial development

Bavaria Digital strengthen the competitiveness of Bavarian companies



Zentrum Digitalisierung **Bayern** to extend digital competences

**Business incubators** 

to promote digital

Wachstumsfonds Bayern for co-investments with private venture capitalists





# Tap into new business opportunities