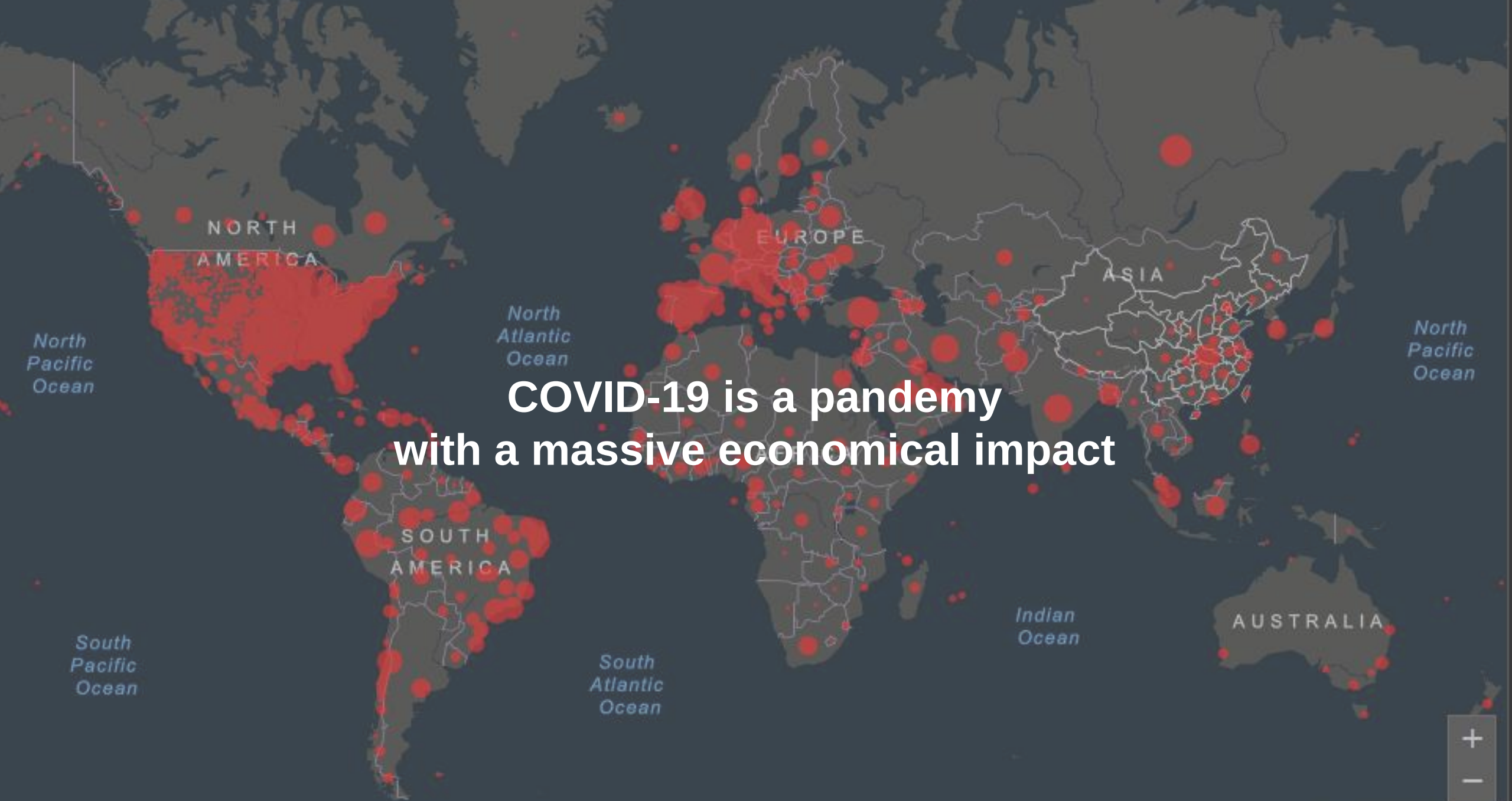




Survival through Innovation - Understanding Covid-19 as an opportunity rather than a threat

Univ.-Prof. Prof. h.c. (MGU) Dr.-Ing. Dipl.-Wirt. Ing. Thomas Gries
Institut für Textiltechnik der RWTH Aachen University

COVID-19



**COVID-19 is a pandemy
with a massive economical impact**



IRRATIONAL BEHAVIOR

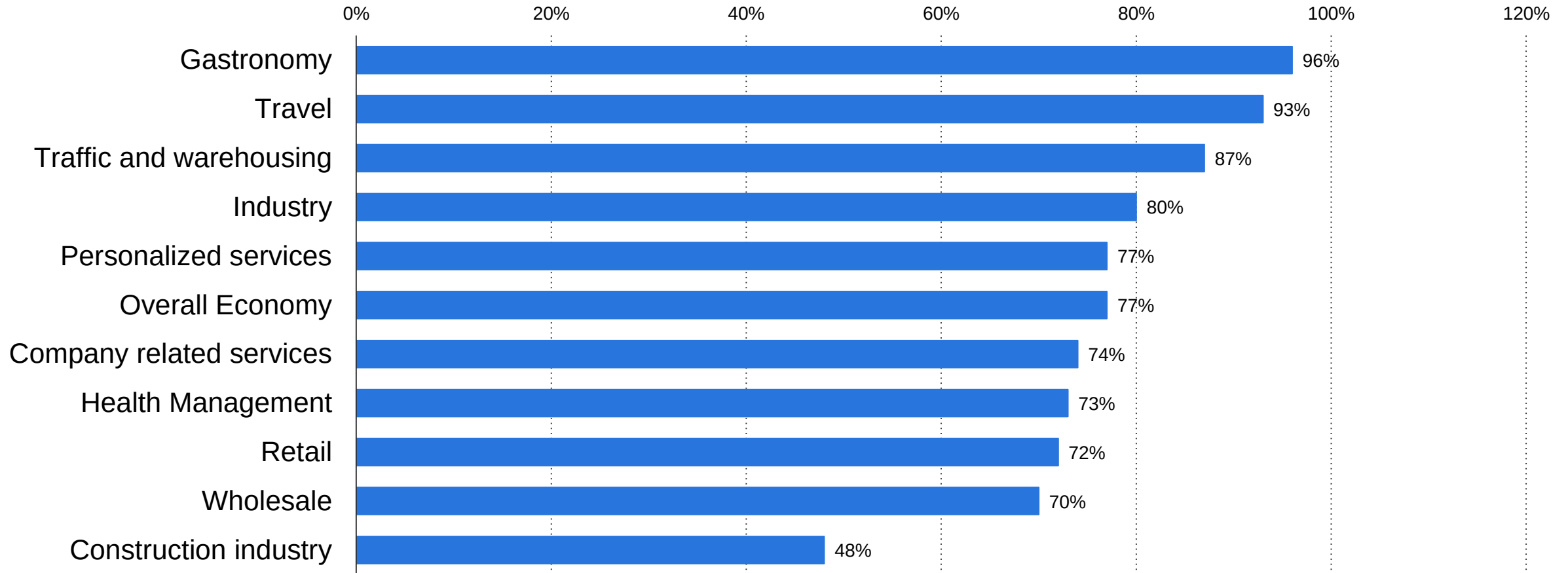


NEW WORK METHODS HOME OFFICE

DISCOUNT BATTLES TO BOOST SALES

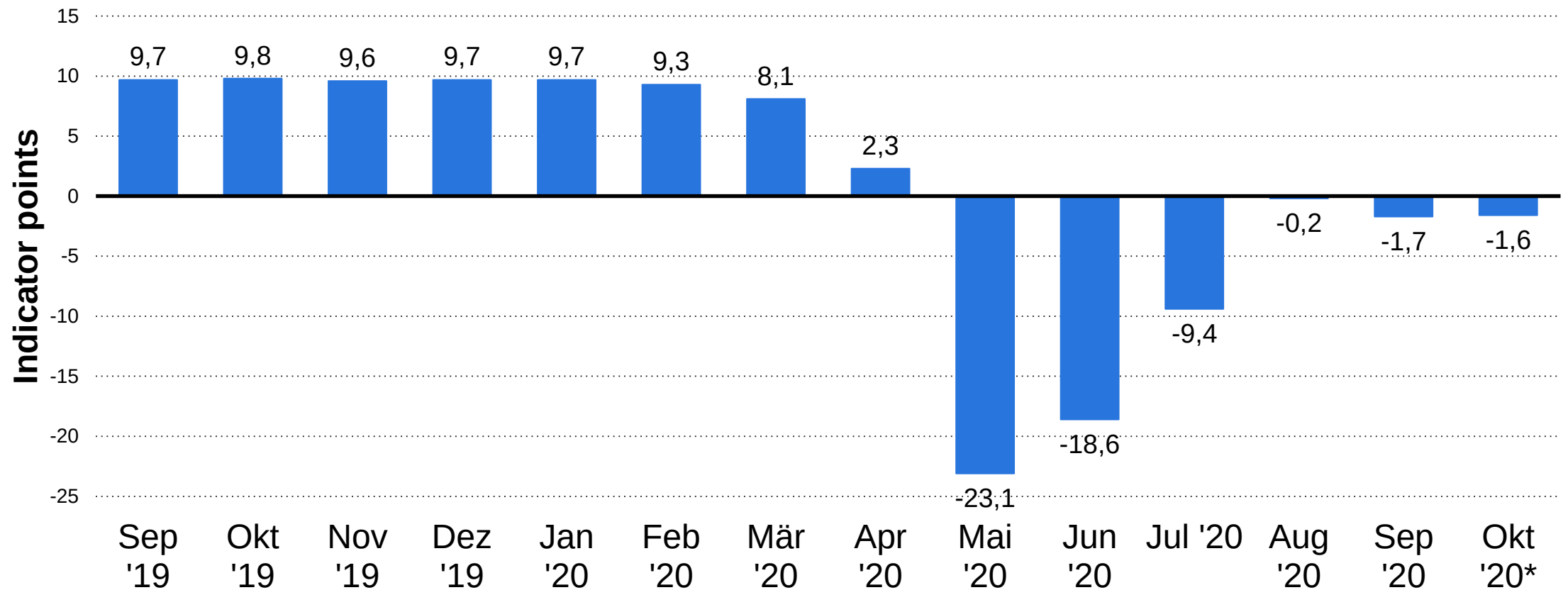
Proportion of companies in the respective industries that expect a decline in sales for the entire year 2020 due to COVID-19

Proportion of companies with declining sales due to corona by industry 2020



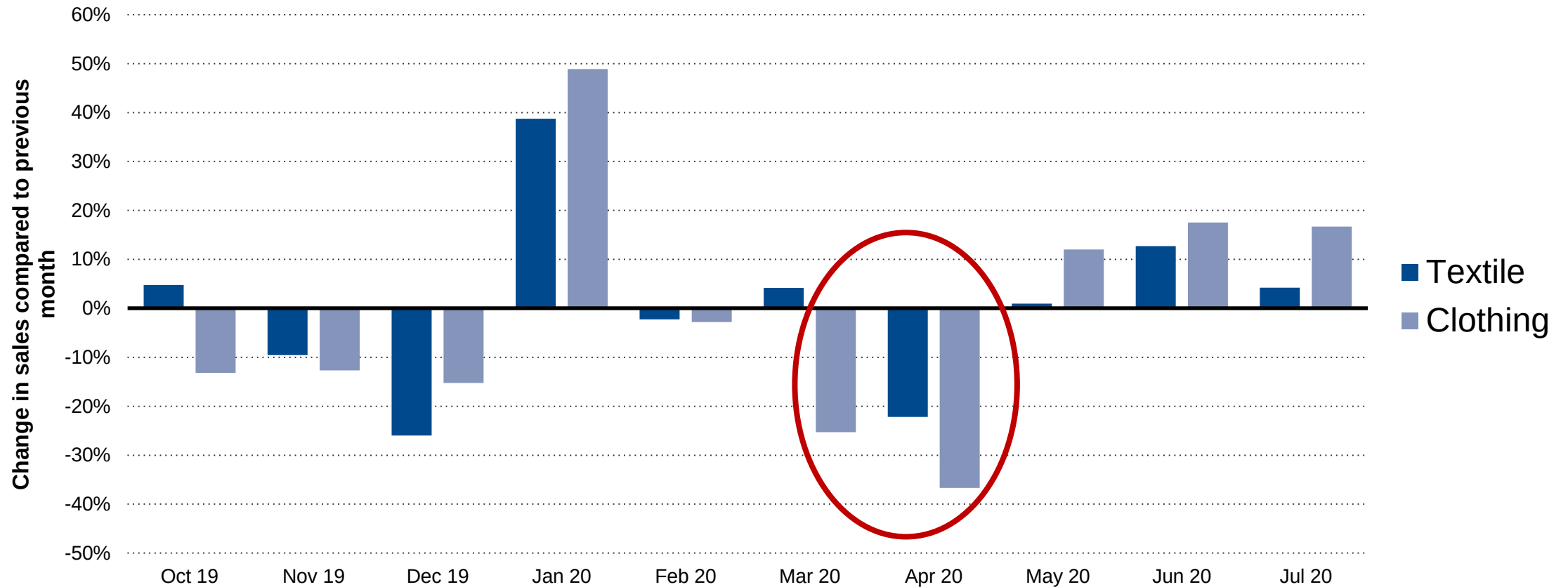
GfK Consumer Climate Index from September 2019 to September 2020 and forecast for October 2020

Confidence in Economy: Massive drop, partial recovery and now respect of second lockdown



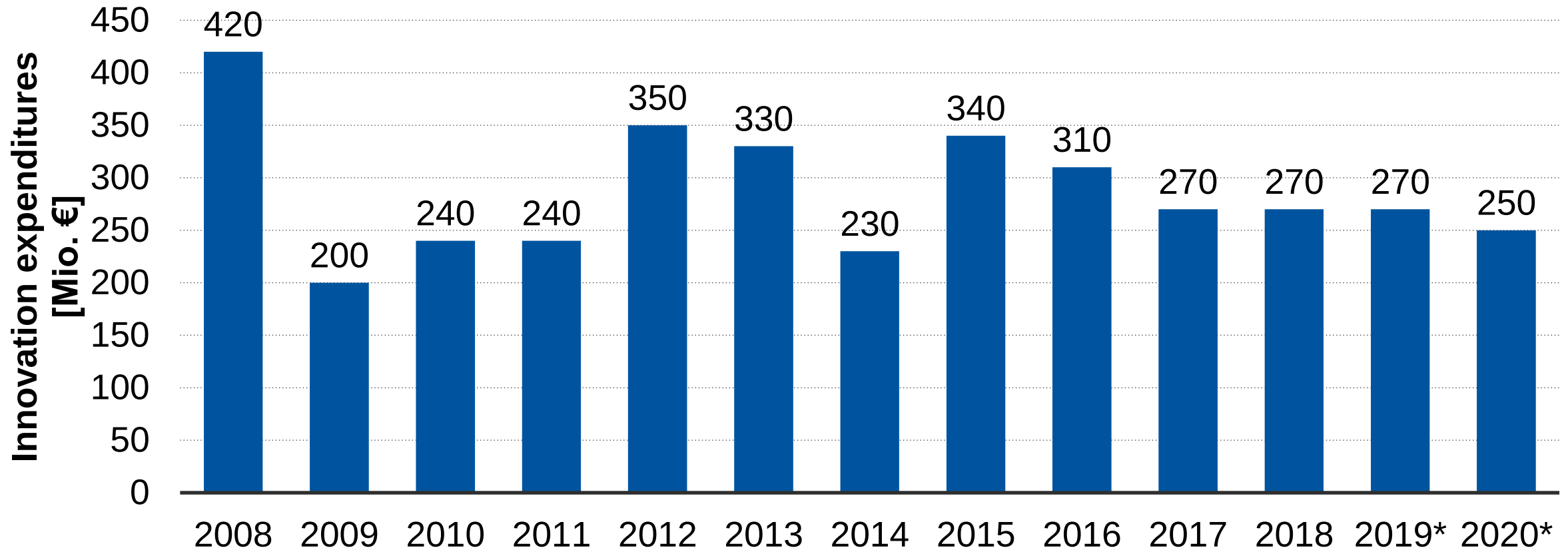
Development of sales in the manufacture of textiles and clothing in Germany in the months from October 2019 to July 2020 (compared to the previous month)

Change in sales in the textile and clothing industry in Germany until July 2020



Innovation expenditures of the textile industry in Germany

Level prior to financial crisis has not been reached again before COVID-19 hit



Financial Crisis of 2007-2009



Wall Street Crash & Depression 1929/39



UNKNOWN THREAT



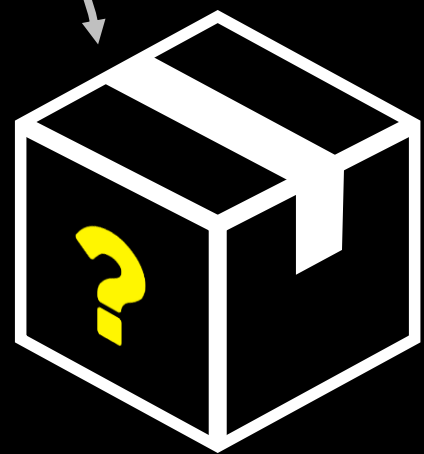
ECONOMIC IMPACT

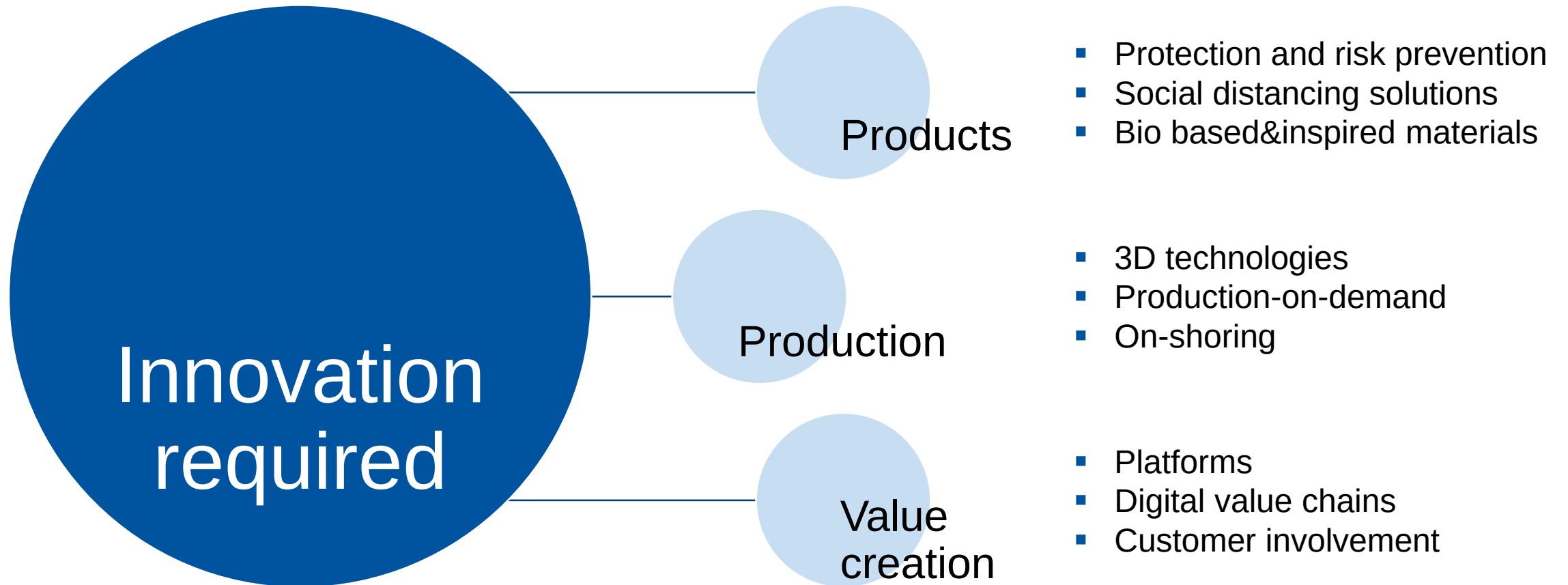


CHALLENGE 1:
Digital disruption

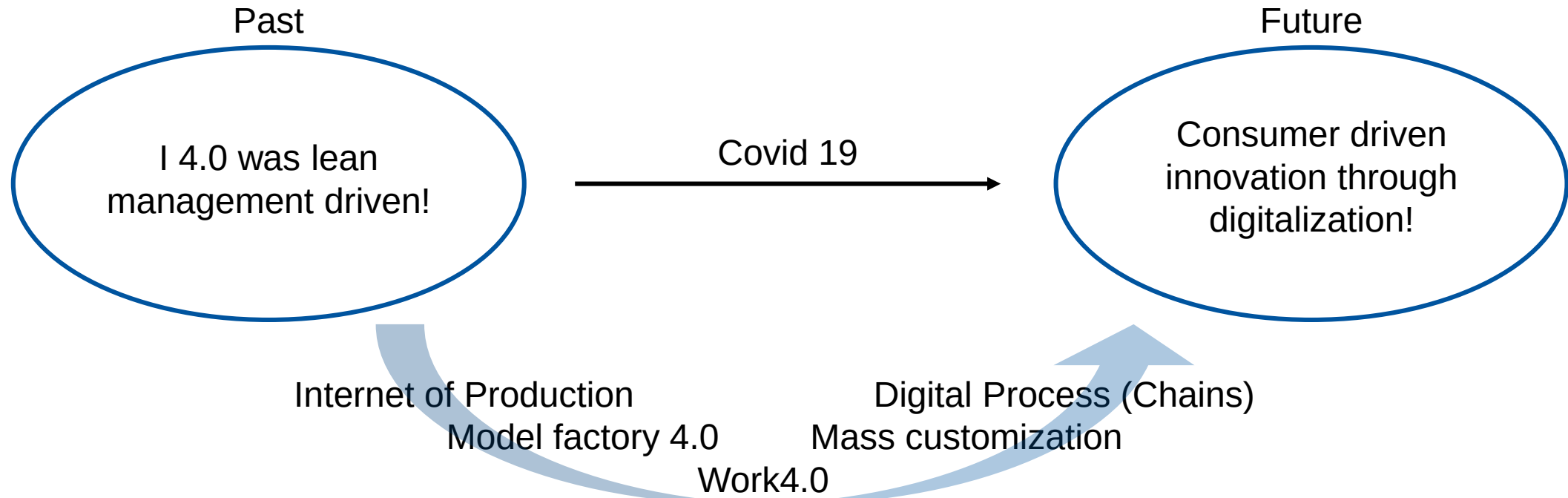


CHALLENGE 2:
Bio-economy





Ways to deal with COVID-19: Digital projects for B2C



B2C - The Cluster of Excellence “Internet of Production” @ RWTH Aachen University



Staffing

- 5 faculties
- 6 non-university research institutions
- 25 PIs
- 13 Associated Researchers
- >11 junior-professorships (or comparable)
- >85 postdoctoral and 500 doctoral researchers

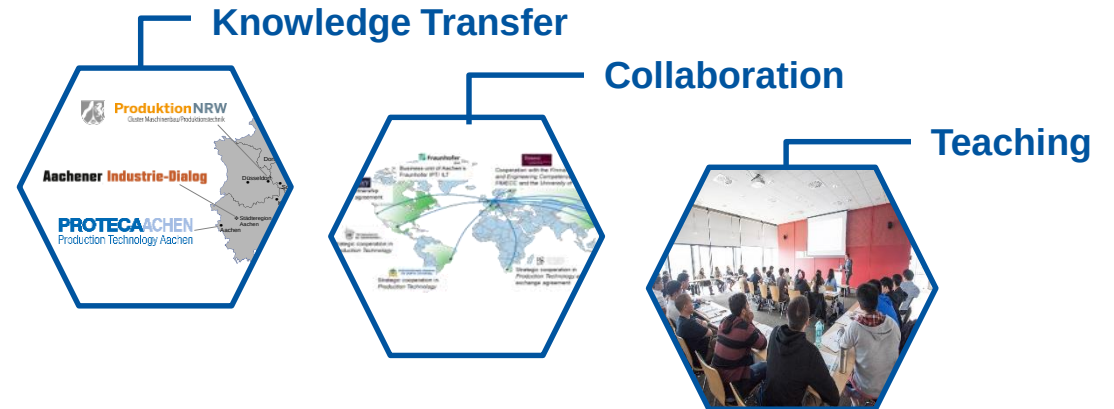


Infrastructure

- Unique technical infrastructure
- Funding grants
- RWTH Aachen Campus
- BMBF Research Campus Digital Photonics
- Digital infrastructure framework

Vision

Providing **semantically adequate** and **context aware** data from production, development and usage in industry...



Mission

... not only one-time, but rather continuously and highly iterative in **real time** with the **adequate level of granularity**...

Scope... for a new level of **cross-domain collaboration**.

Model Factory for Industrie4.0 – Integrating all aspects of digitalization for capability building

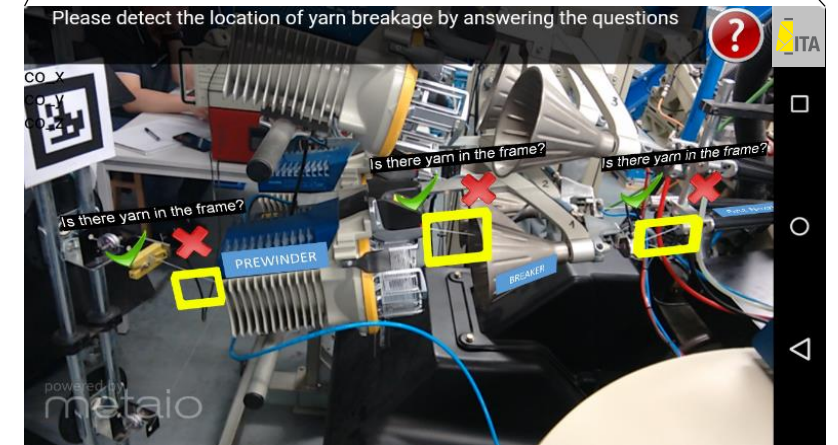
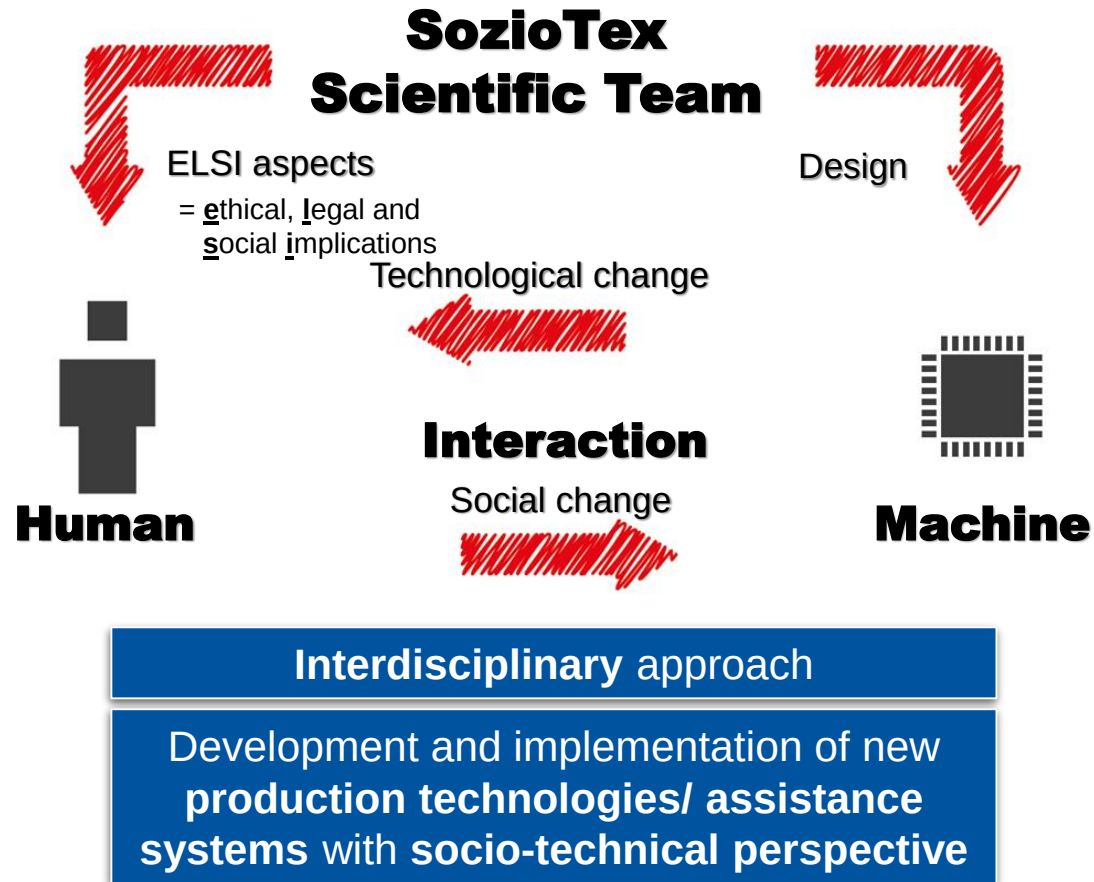


 Digital Capability Center
Aachen



Shop floor of the DCC in Aachen, Germany

Work4.0 based on Human-Machine-Interfaces



AR for machine service

B2C - MicroFactories

SPEEDFACTORY



Supported by:



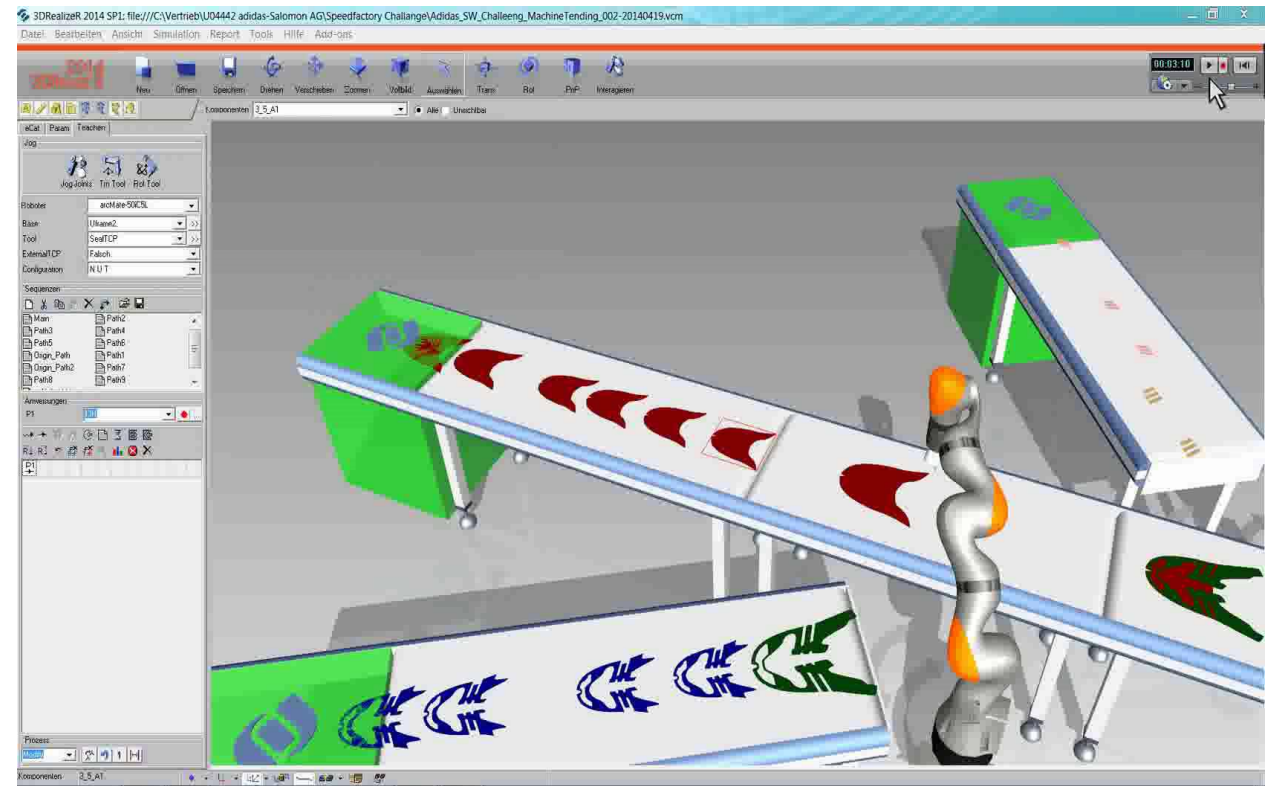
Federal Ministry
for Economic Affairs
and Energy

on the basis of a decision
by the German Bundestag

AUTONOMIK
FÜR INDUSTRIE 4.0

Aim :

- Production of highly individualized products
- Highly flexible production infrastructure
- Future of Manufacturing



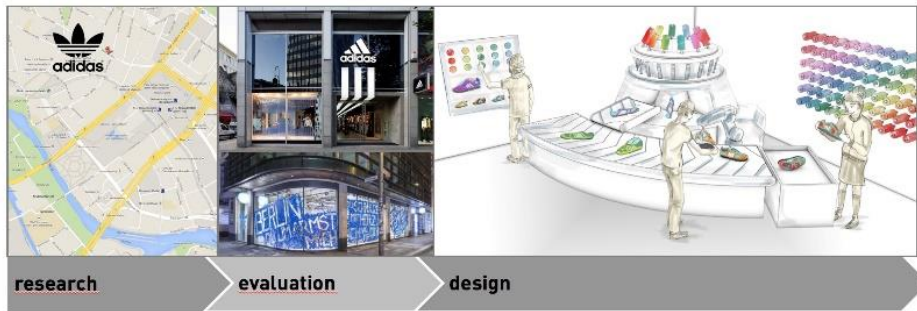
Results:

- Basic cognitive technologies
- Interfaces between process steps
- Human-machine interaction

B2C - MicroFactories

URBAN STORE CONCEPT

Uedelhoven Studios / F.G.Meier



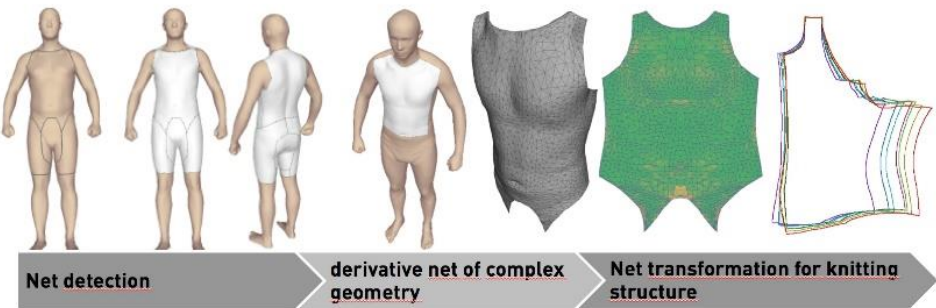
adidas

28



DIGITAL PROCESS CHAIN

FAU Friedrich-Alexander Universität Erlangen



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CONFIGURATION CUSTOMIZATION

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31



PROGRAMMING PRODUCTION

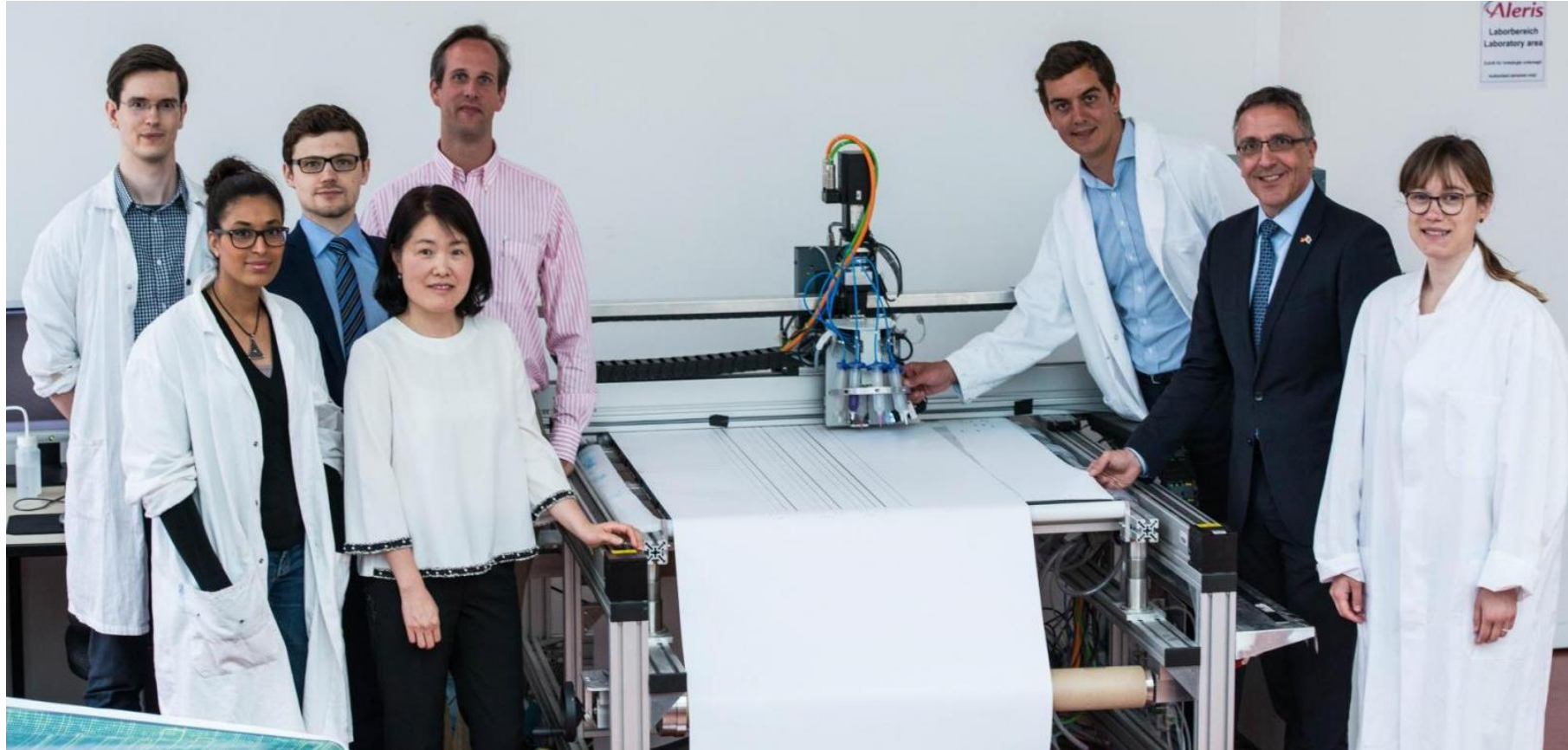
ITA RWTH Aachen,



adidas



Digital Printing – Functional Inks



Additive Manufacturing – 4D Textiles



'The best way to predict the future is to invent it.'

Alan Kay

**Invent your
new business model
customer oriented
based on digitalization!**



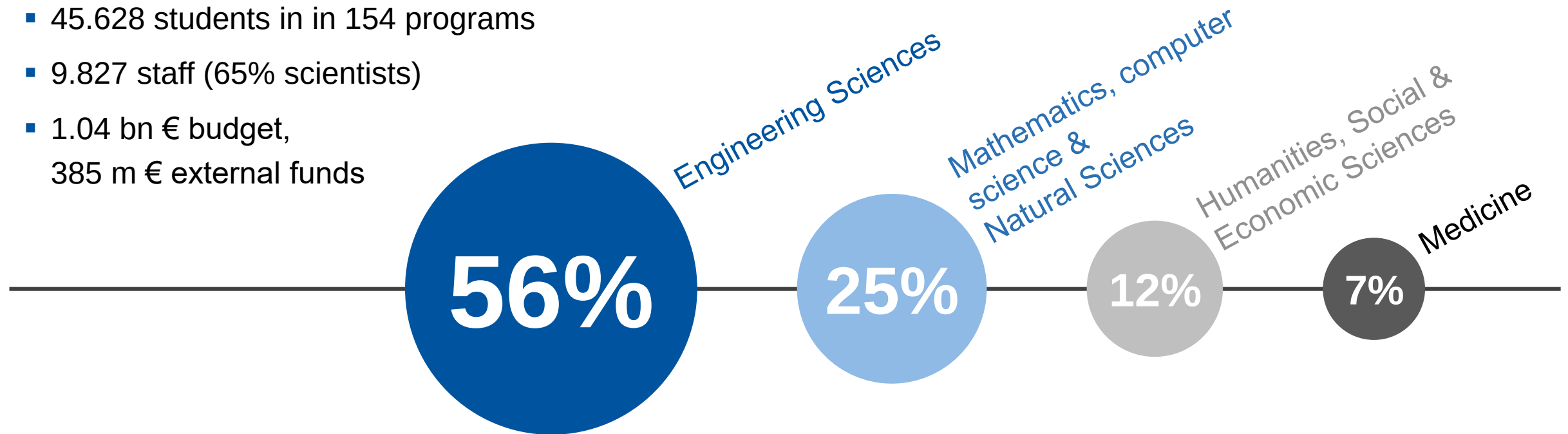
Thank you very much for your attention! ご清聴ありがとうございました

The Excellence Strategy – RWTH has already developed into an Integrated Interdisciplinary University for Science and Technology, focusing on the convergence of knowledge, methods, and insights.



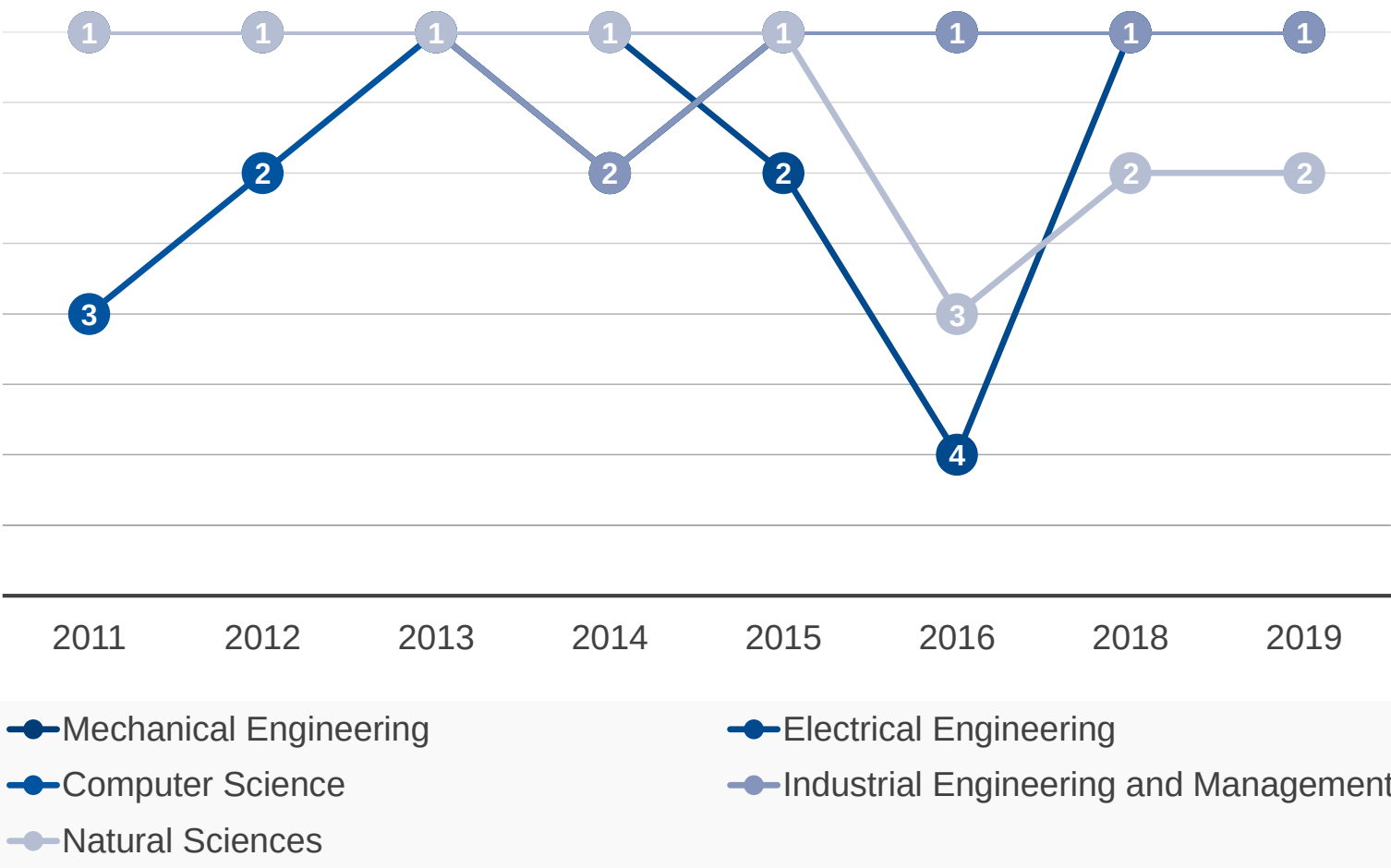
RWTHAACHEN
UNIVERSITY

- 45.628 students in in 154 programs
- 9.827 staff (65% scientists)
- 1.04 bn € budget,
385 m € external funds



RWTH Aachen University - Rankings

1.		University of Cambridge	
2.		Imperial College London	
3.		University of Oxford	
4.		RWTH Aachen University	
5.		ETH Zurich - Swiss Federal Institute of Technology	





ITA

Personnel

- 100 scientists
- 60 technical and service staff
- 190 undergraduate research assistants
- 50 students, who major in textile engineering per year

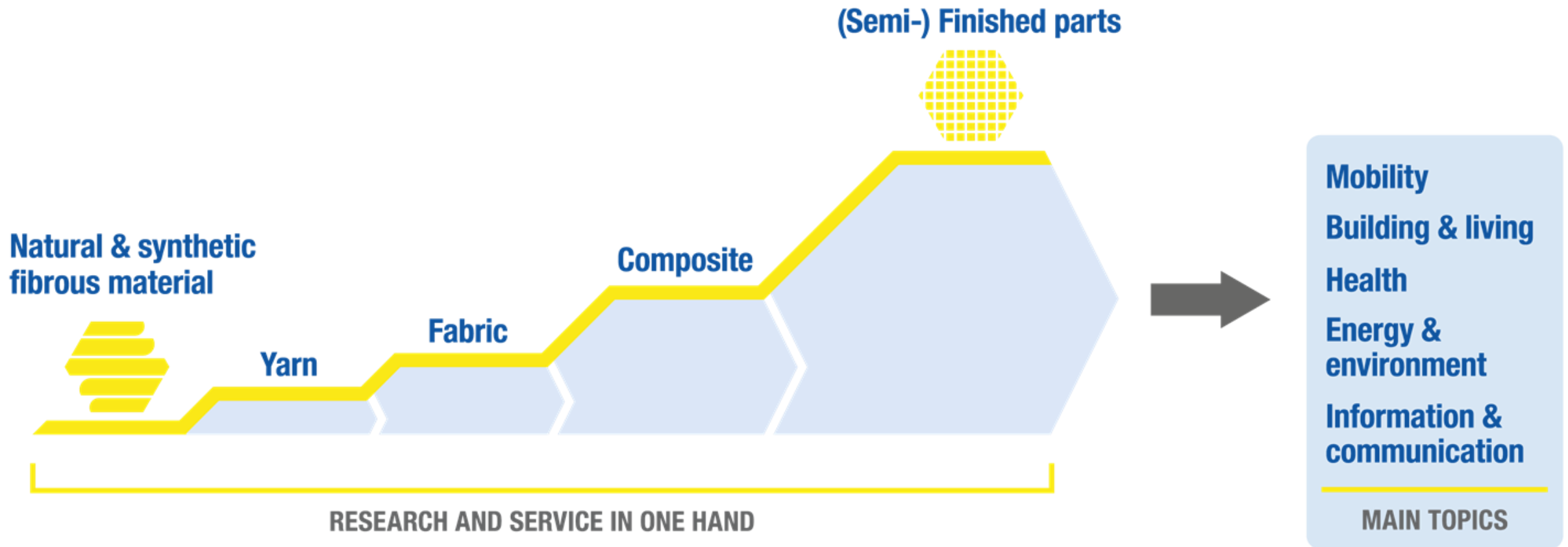
Our Approach: Comprehensive Service



INTEGRATED



INTERDISCIPLINARY



Your Contact:

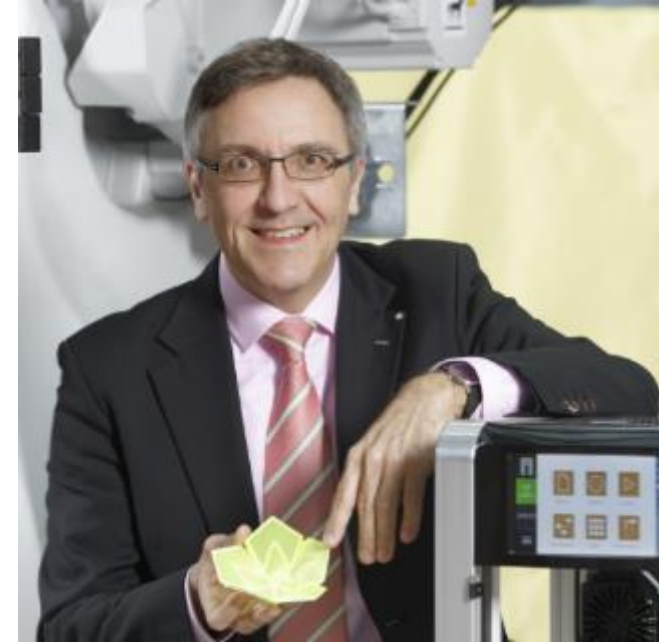
Prof. Thomas Gries

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Prof. Dr.-Ing. Stefan Schlichter
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