

FRAUNHOFER INSTITUTE FOR
PRODUCTION TECHNOLOGY IPT

TECHNOLOGY MANAGEMENT CONSORTIUM PROJECTS 2019



Our Partners

KEX.
Knowledge Exchange®

**RWTHAACHEN
CAMPUS**

JOIN OUR CONSORTIUM PROJECTS

Speed of change is increasing in all areas of our professional environment. We encounter technology trends, but often do not get beyond buzz-word level. At the same time, a well-founded analysis demands capacities that are mostly not available in the desired amount.

Against this background, I recommend this year's consortium projects. We explore for you the technology trends 'Artificial Intelligence', 'Advanced Robotics & Automation' and 'Future of Construction & Building'. You have the opportunity to actively shape the consortium's search fields and research priorities, thus ensuring maximum relevance for your company. The cross-industry composition of the consortium with around 20 industrial companies and various research partners offers the opportunity to access a strong community. In this way, you manage to quickly penetrate trend topics, get in touch with research experts and build up a powerful network.

Welcome to our consortium projects – please find more information on the following pages!

A handwritten signature in blue ink, appearing to read 'Toni Drescher', with a stylized, flowing script.

Dipl.-Ing. Toni Drescher

Head of Department Technology Management

Fraunhofer Institute for Production Technology, Aachen



The idea behind our consortium projects

In consortium projects, we explore, identify, analyze and evaluate the opportunities and risks of industrial trend topics for you. As part of an exclusive network, you define the key questions to be answered and shape the structure of the project. You will gain a structured overview of innovative technologies and market trends, gain topical insights within your new network and gain a broad knowledge base of different technologies. Detailed technology and market studies, business cases, roadmaps and demonstrators enable you to make well-founded and quick decisions safeguarding your company's future success.

Our strong partners

- We host the project together with KEX Knowledge Exchange AG, a professional information service provider for technology and market information with great experience in technological consortium projects
- Research entities from the RWTH Aachen Campus ecosystem and beyond are integrated in the project according to required specific skills

Organizational Setup

- Approximately 20 consortium partners
- Project duration of 12 months
- Four major project meetings in Aachen
- Optional expert workshops and training sessions

OUR APPROACH

We decompose technological trend topics for you. By breaking them down to their constituting elements they become tangible and utilizable in the context of your business. Following this approach you receive a reliable decision basis.



EXPLORE

Creation of a basic common understanding of the topic and description of technological building blocks



IDENTIFY

Screening of existing and future technology applications within defined segments of the topic



ANALYZE

Elaboration of technological in-depth analyses of selected applications and concepts



EVALUATE

Assessment of business opportunities for applications and design of conceptual demonstrators

The consortium consists of research partners, experts and around 20 industrial partners. In a kick-off meeting plus three milestone meetings and additional workshops, you will get in touch with your new network to track the progress of the project and continuously influence the content of the upcoming phase.

YOUR RESULTS

Theory

Comprehensive research base for consistent understanding

Applications

Comprehensive, segmented overview of relevant applications and concepts

Technology deep-dives

Zoom into selected applications on technological detail level

Business deep-dives

Evaluation of business potential for selected applications incl. market analyses and business plans

Demonstrators

Proof of feasibility for promising applications

Expert speeches

Intimate insights by research institutes and industry partners

Network events

Point of contact to decision-makers within and outside the consortium

Further content according to your preferences ...

ARTIFICIAL INTELLIGENCE

Why this project?

Artificial intelligence (AI) is currently seen as the next big thing to revolutionize the way people interact with industrial systems, robotics, consumer products and apps. The automation of intelligent behavior will lead to the creation of future autonomous systems that will influence our daily lives and businesses. Be prepared for the upcoming disruptions induced by artificial intelligence.

Your benefits

- Understand the technological building blocks of artificial intelligence such as text mining, natural language processing or machine vision and get to know the challenges in the core competences of data science such as machine learning or data and process mining
- Evaluate and benchmark your own technology competencies and gain strategic decision support for prioritizing technology and competence fields
- Identify and select individual project ideas and formats and expand your research and industry network for future cooperation

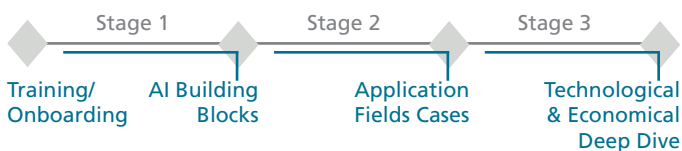
Outcomes

- Assessment of technological and economic potential for selected applications
- Classification of data mining and machine learning disciplines, algorithms and developer frameworks



- Worldwide overview of market-ready solutions and the state of research and development, including use cases, pilot projects and concepts for AI applications
- Methodological knowledge and tools in technology and innovation management for the long-term monitoring of technology trends to support strategic allocation of resources
- Supplementary offer: Data science certification course (please ask for detailed information)

Structure and framework conditions



Start: Q2 2019

End: Q2 2020

Cost: 29,000 Euro

Become a partner in our consortium project and learn to benefit from the groundbreaking potential of artificial intelligence for industrial systems or commercial products and services.

ADVANCED ROBOTICS & AUTOMATION

Why this project?

Research shows, that by 2030, robots and automation in general will replace one quarter of the entire working capacity by hours. Until 2055, this may even increase to 50 percent. Thus, especially for manufacturing industry this research field is of crucial importance.

This project will provide a structured and comprehensive overview on all robotics and automation solutions already available or under development. Solutions are aligned subsequently with your organization's requirements in order to derive detailed business cases and individual implementation roadmaps in cooperation with experts.

Your benefits

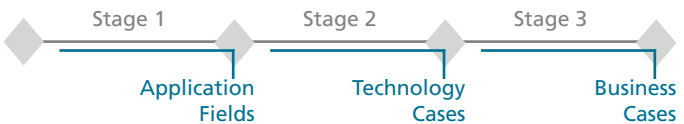
- Meet the growing need for individualization and the massive cost pressure of emerging markets by using new technologies such as collaborative and cognitive robots, automated guided vehicles and self-optimization
- Gain an understanding of where and how you can profitably integrate these technologies into your process chain
- Learn how to improve quality and flexibility of your processes while maintaining competitive manufacturing cost and times
- Get access to a large interdisciplinary and cross-industry network of partners and experts



Outcomes

- Structured and comprehensive overview of trends and applications in advanced robotics and automation
- Technological feasibility studies and implementation roadmaps for selected applications
- Proven business cases or joint development demonstrators for selected applications

Structure and framework conditions



Start: Q2 2019

End: Q2 2020

Cost: 29,000 Euro

Become a partner in our consortium project to learn more about new opportunities for automation and see promising approaches to optimize production processes.

FUTURE OF CONSTRUCTION & BUILDINGS

Why this project?

Over the next five years, both construction industry as well as supply and infrastructure sector will open up enormous potential for increased productivity and efficiency through digitization, innovative technologies and new construction methods.

Trends such as 3D printing, construction drones, self-healing concrete or green and modular construction further promote this development. In this consortium project, we will enable you and your team to efficiently identify and evaluate the most relevant applications and technologies for your business.

Your benefits

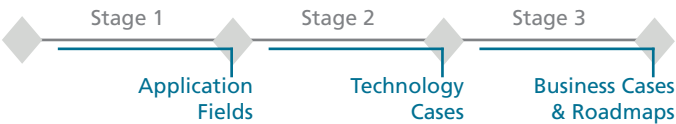
- Learn how to use digitization approaches in areas like planning (BIM), visualization (AR/VR), maintenance, facility management and optimization
- Discover new technologies and materials that help you to meet the challenges of climate neutrality, durability and space constraints in fast-growing urban environments
- Take advantage of the potential of digitization and learn from innovative benchmarks, to develop new business models or offer innovative services



Outcomes

- Fields of action for your corporate strategy or product development and their alignment on the basis of more than 200 currently available applications and future concepts
- Comprehensive technological and economical deep dive for selected applications
- Evaluation of emerging future infrastructure platforms that may disrupt your future business

Structure and framework conditions



Start: Q3 2019 End: Q3 2020 Cost: 25,000 Euro*

**modular project approach with multiple options to address customer specific deep dives with additional flexible budget*

Become a partner in our consortium project, learn about the opportunities of new materials, smart building systems or advanced project management and assess their impact on your business.

**Fraunhofer Institute for
Production Technology IPT**

Steinbachstraße 17

52074 Aachen

Germany

www.ipt.fraunhofer.de

Your Contact

Thomas Scheuer, M.Sc.

Phone +49 241 8904-366

thomas.scheuer@ipt.fraunhofer.de