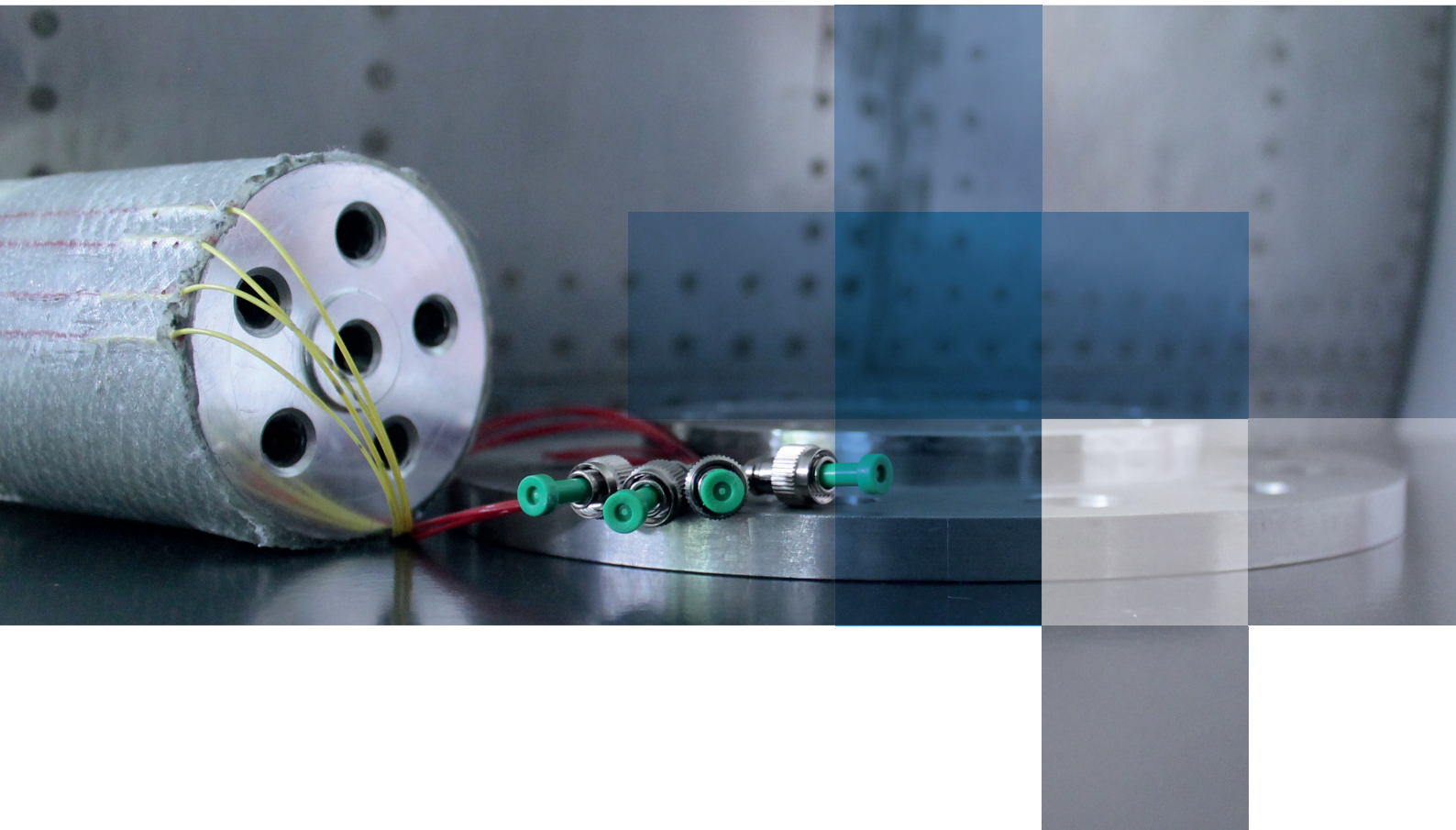




**SMART
SENSING
SYSTEMS**



Consortium Project

Sensor Matrix: Development of Smart Components

Sensor Matrix: Development of Smart Components

Following to research and industry defined goals in the context of digitalisation in Industry 4.0, for which the increasingly autonomous applications in all sectors require a new class of technical systems: "Smart Sensing Systems" (S3) - consisting of "sensing" components. In fact, in an effort to exploit the full potential of automated measurement methods, other smart functionalities and services that are created by way of sensor integration are holistically observed. Such complex systems can only be realized if the fields of application and the manufacturing technologies are known.

Why smart components?

- Allows a continuous assessment of production and performance quality
- In the longer term, an extension of the component lifetime and economic efficiency

What benefit do smart components bring me?

- The answer to this question is part of the project



Project content and process



Phase 1: Challenges for Smart Components

- Techno-economic analysis – What are the costs, benefits and risks of smart components?
- Where are strengths and weaknesses?
- What are the optimal areas of application?
- Why are smart components relevant and what are the requirements?

Phase 2: Technologies for Smart Components

- How does sensor integration work?
- What are the required technologies?
- Is it possible to turn current components/structures “smart”?

Phase 3: Application of Smart Components

- What are the specific applications of smart components?
- How are the approaches to quality control and maintenance?
- How can the integration into value networks look like?

Results and benefits for the partners

- Result of the Study: The Sensor Matrix
 - Overview of suitable methods with example use cases, advantages and disadvantages
- Market insights and technology overview of the state of the art / research
- Regular workshops and networking meetings

Project Summary



Kick-Off Meeting: Q1 2022 in Aachen
Duration: 9 Months



Challenges:

- Selection of reasonable (number of) sensor option and manufacturing technology
- Insertion and proper positioning of the sensors
- Economic efficiency



Project Goals:

- Market insights and technology overview
- Overview of possible application fields for smart components
- Example process for sensor integration



Benefit for the partners:

- Answer to the question: Do smart components make sense for me?
- Regular workshops and networking meetings



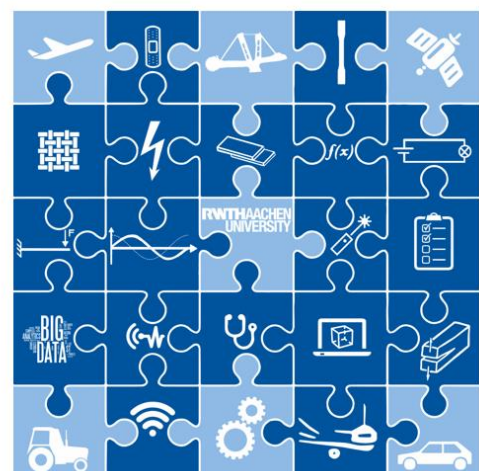
Participation fee per partner:
8500* €

Center members receive discount

* (excluding the travel costs)

Why to be a partner by Consortium projects of Center Smart Sensing Systems?

Our action	Your benefit
<ul style="list-style-type: none"> ▪ Providing innovative and short-term projects in the field of Smart Sensing Systems 	<ul style="list-style-type: none"> ▪ Cooperation in the formation of the consortium projects based on the need of your company
<ul style="list-style-type: none"> ▪ Considering the focal points of the joint partners in the projects 	<ul style="list-style-type: none"> ▪ The multifaceted impact on partners occurring during a collaborative effort
<ul style="list-style-type: none"> ▪ Organising and implementing the projects by the Center Smart Sensing Systems experts 	<ul style="list-style-type: none"> ▪ Cost sharing of the projects
<ul style="list-style-type: none"> ▪ Providing review process at different phases of the project 	



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