PRESS INFORMATION

Research on RWTH Aachen Campus

With its new RWTH Aachen Campus, RWTH Aachen University is becoming one of the leading universities for technology in the world. With 16 research clusters on an area of 800,000 square meters, RWTH Aachen Campus will be one of the largest technology-oriented research landscapes in Europe.

The campus project creates a joint venture with the objective of finding answers to the challenges posed by mega trends. The respective long-lived topics are represented by the clusters. In the centers of the clusters, interdisciplinary teams and industry consortia work jointly on specific relevant issues of the future and develop visionary approaches to solving these issues. Currently six clusters are being developed on Campus Melaten: Bio-Medical Engineering, Sustainable Energy, Photonics, Production Engineering, Heavy Duty Drives and Smart Logistics.

More than 300 companies are already involved on RWTH Aachen Campus

The challenges faced by research in the coming years require an interdisciplinary approach. Companies – from mid-sized businesses to global enterprises – can help shape current and future-relevant research topics on RWTH Aachen Campus in close cooperation with higher education institutes. Common research issues are formulated and processed holistically and interdisciplinary in dedicated research clusters. Businesses share resources with the university institutes, use synergies and share knowledge on-site. Close cooperation facilitates coordination processes, accelerates research results and improves its quality, while research and development costs are reduced. Businesses can utilize the research infrastructure and competence of RWTH Aachen at various levels of intensity: from basic research to the further development of individual technologies in the form of collaborative research, all the way to the development of a market-ready product.

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Enrollment: Benefit Categories for Members

Businesses enroll in a center by signing a premium, business or basic 5-year membership. One important condition for enrollment of businesses in the centers is for them to be present on RWTH Aachen Campus. Depending on the type of membership, members will benefit from a variety of services in up to five benefit categories: Membership, research and development, community, further education and services.

1. Membership

Enrolled members have the following possibilities on RWTH Aachen Campus based on their presence:

- Direct access to an interdisciplinary team of scientists
- Knowledge exchange with other enrolled members and scientists
- Close proximity to qualified specialists and young academics
- Further education programs
- New business partnerships
- Visits to and implementation of events, conferences or seminars

2. Research & Development

The interdisciplinary team of scientists and the enrolled members jointly conduct research and development in the various centers. They have access to scientific know-how and are involved in the definition of relevant technology topics and research focal points on the topic areas of the relevant center over the coming years. The focus will be on visionary solutions that will strengthen the competitive edge of the enrolled members by way of e.g. product or process innovations. Decision-making processes are facilitated using shorter routes, the speed and quality of research results are improved and the research and development costs are reduced.

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3. Community

The RWTH Aachen Campus community consists of all scientists and enrolled members. Participating in congresses, fairs or symposia of the clusters and centers boost knowledge exchange. Every enrolled member is furthermore included in the virtual community, the RWTH Aachen Campus Extranet.

4. Further Education

The interdisciplinary team of scientists develops target-oriented personal development programs for industrial businesses. These include seminars and training courses, as well as certification and master programs. These further education programs allow employees to implement their newly gained know-how in their practical business environments, while at the same time developing their personal careers within their specific research environment.

5. Services

Services offered include consulting, certification, verification, approbation and many more. Based on research results, the scientists and academics develop tailor-made solutions for each individual company in close cooperation with the enrolled members.

Practice-Oriented Research with High Planning Security

RWTH Aachen Campus offers scientists and academics of RWTH the unique opportunity to participate in interdisciplinary projects under one roof. The close cooperation with enrolled businesses furthermore ensures access to research objects with practical relevance. The long-term commitment of the enrolled businesses increases third-party income and facilitates access to grants and scientific facilities due to the close collaboration between science and industry.

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Development of Clusters and Centers on Campus Melaten

Six of the envisaged 16 research clusters are already in the implementation phase. Overall, more than 30 centers are currently working on specific relevant issues of the future.

Smart Logistics Cluster

More than 350 individuals from science and industry are currently engaged in research projects in the Smart Logistics Cluster. The research focus here is to find solutions for the flow of information and goods in the cyber-physical world of the future. The research is based on the presumption that the digital world will be networked at near real-time via the internet. The following centers form the research focus in the Smart Logistics Cluster: Center Smart Services**,** Center Enterprise Resource Planning**,** Center Connected Industry, the Demonstration Factory and the Electromobility Lab (eLab).

Production Engineering Cluster

The Production Engineering Cluster is currently one of the largest research laboratories for production engineering and Industrie 4.0 in Europe. The research focus here will be digitally integrated production. Industry and science will explore the possibilities of Industrie 4.0 and the Internet of Things (IoT) for the production development process and cyber-physically integrated production. The following centers form the research focus in the Production Engineering Cluster: WBA Tooling Academy Aachen, AZL – Aachen Center for Integrative Lightweight Production, Invention Center, Complexity Management Academy and Ramp-Up Factory.

Photonics Cluster

The Photonics Cluster researches and develops processes to generate, shape and utilize light, specifically as a tool for industrial production. Researchers are currently working on the next generation of laser printers and on laser-based rapid manufacturing processes that will allow the printing of metal products. A particular highlight of the Photonics Cluster is the "BMBF Research Campus Digital Photonic Production", which will receive funding of up to 30 million euros from the Federal Ministry of Education and Research (BMBF) over the next 15

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years. The following centers form the research focus in the Photonics Cluster: Center Digital Photonic Production (DPP) and Aachen Center for Additive Manufacturing (ACAM).

Heavy Duty Drives Cluster

The Heavy Duty Drives Cluster conducts research and development projects in drive technology systems. The objective here is the consideration of complete systems and the deployment behavior of the individual components within the complete system. The following centers form the key research areas in the Heavy Duty Drives Cluster: Center for Wind Power Drives and Center for Mobile Machinery.

Bio-Medical Engineering Cluster

The Bio-Medical Engineering Cluster specializes in the research and development of integrative methods and products for diagnostics and therapy. The following centers form the key research areas in the Bio-Medical Engineering Cluster: Translation Center for Precision Medicine, Bio-hybrid Implants and Organ Support Systems, Telemedicine Center Aachen and Center Medical Training & Testing.

Sustainable Energy Cluster

The objective of the Sustainable Energy Cluster is increased energy efficiency and a switchover to sustainable energy generation. The BMBF initiative "Research Campus" selected the RWTH Aachen consortium "Electrical Networks of the Future" as one of the ten winners from a pool of 90 submissions in a national competition of the Federal Ministry of Education and Research (BMBF) in 2012. The BMBF will be providing funding of up to 30 million euros for research projects of the "BMBF Research Campus Flexible Electrical Networks" over the next 15 years. The following centers form the key research areas in the Sustainable Energy Cluster: Research Campus Flexible Electrical Networks (FEN) and E.ON Energy Research Center.

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Flagship Projects in Electromobility

The e.GO Life is the second electric car developed on RWTH Aachen Campus. Production researchers have shown that Industrie 4.0 allows for highly iterative development processes and particularly cost-efficient production of prototypes and small numbers. The network of science and industry experts enables the development of this close-to-production car for less than 30 million euros. The European 4.0 Transformation Center, the Demonstration Factory, WBA Tooling Academy, the Aachen Center for Additive Manufacturing and the Ramp-Up Factory were particularly invested in the development of the city electric car. Series production of the e.GO Life will begin in spring 2018 at a new factory in Aachen Rothe-Erde. The State of North Rhine-Westphalia provides funding for the construction of e.GO Mobile AG's production site from the Regional Economic Development Program NRW (RWP).

In 2010, StreetScooter was launched, who now produce a fully electric, light commercial vehicle for the postal service in series. Deutsche Post DHL Group acquired the company in 2014 and the electric cars are today used on a daily basis all across Germany. The StreetScooter demonstrated that the overall running costs of a pure electric car are comparable and even undercut those of a traditional car with combustion engine. Its development involved an RWTH Aachen team of scientists and more than 80 industrial enterprises.

Further Information:
www.rwth-campus.com

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