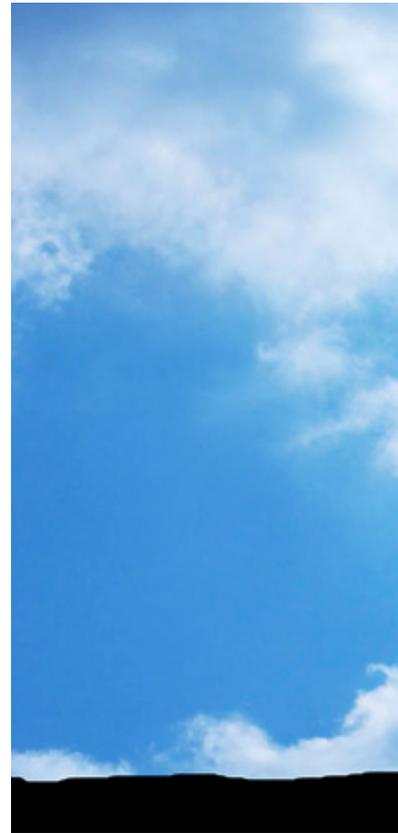




Research. Learn.
Develop. Live.

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Research Challenges



Global Trends

Mega trends like digitalization, globalization, climate change, mobility or the demographic development change the world and pose great challenges for society. Academia and industry are looking for solutions for these highly relevant topics of the future.

Interdisciplinary Approach

Complex correlations and issues like these can only be addressed jointly by multiple academic disciplines. Teamwork is required, a combination of multiple academic disciplines.

Transdisciplinary Approach

Businesses always strive for innovations to protect their competitiveness. That is why they increasingly seek the company of academia. It can often be challenging for individual companies to finance mid-term to long-term research on their own. Consortial cooperations – joint ventures of multiple industry partners with similar research interests – can pave the way.

Ongoing Research

For the fundamental questions arising from the mega trends, there are no short-term project-based solutions. Flexible research approaches and perseverance are needed here. Ongoing, long-term cooperation between academia and industry will create the necessary basis. Mutual trust is an indispensable prerequisite for joint strategic decisions.

RWTH Aachen Campus

Expansion Areas

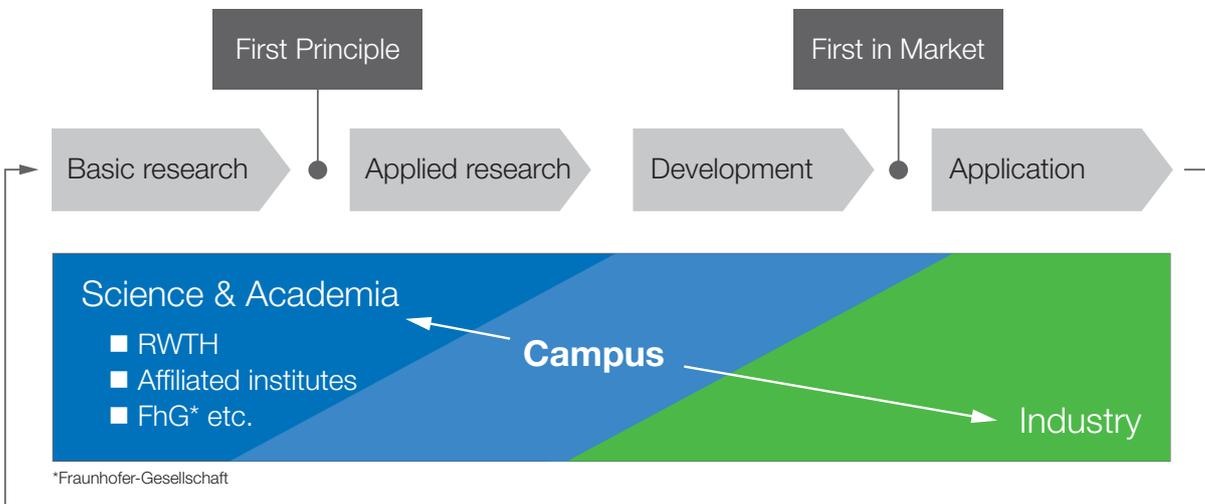
The expansion areas Campus Melaten and Campus West provide the workspace needed for overcoming the mega trend challenges. A completely unique locale for research and development is unfolding on approximately 800,000 m²: RWTH Aachen Campus. Together with Campus Mitte (Campus Central), it is fully integrated into public life.

Research Clusters

A total of 16 research clusters get realized on RWTH Aachen Campus, in close proximity to large-scale research institutes and facilities. Each cluster is the responsibility of a cluster director. Additionally, each cluster has an allocated construction site for buildings, which will house the interdisciplinary academic teams and industry consortia.

Synergy Effects

On RWTH Aachen Campus, businesses share resources with university institutes, utilize synergies, exchange knowledge and work towards future-proof innovations side by side. RWTH Aachen University expands its traditional field of activity of basic to application research with the campus project and dedicates itself even more to the needs of society and industry.



Expansion of RWTH Aachen University's field of activity for the greater good of society

Aachen – Location of Knowledge



Concentrated Research

Aachen is home to universities, affiliated institutes, Fraunhofer Institutes, a Leibniz Institute and the Helmholtz Association, making it one of the foremost research locations in Europe.

RWTH Aachen University

RWTH Aachen University is one of Germany's leading technical universities. Since 2007, it has held the status of an "Excellent University". With its 260 institutes, just short of 540 professors and almost 44,000 students, the university ranks among the European elite for academics and research. It is rare for a European university to have so many renowned and application-oriented university research facilities. Of the overall EUR 869 million budget in 2015, EUR 337 million come from public sector and private sector funding sources. That makes RWTH Aachen University one of Germany's most successful university in acquiring third-party funds.

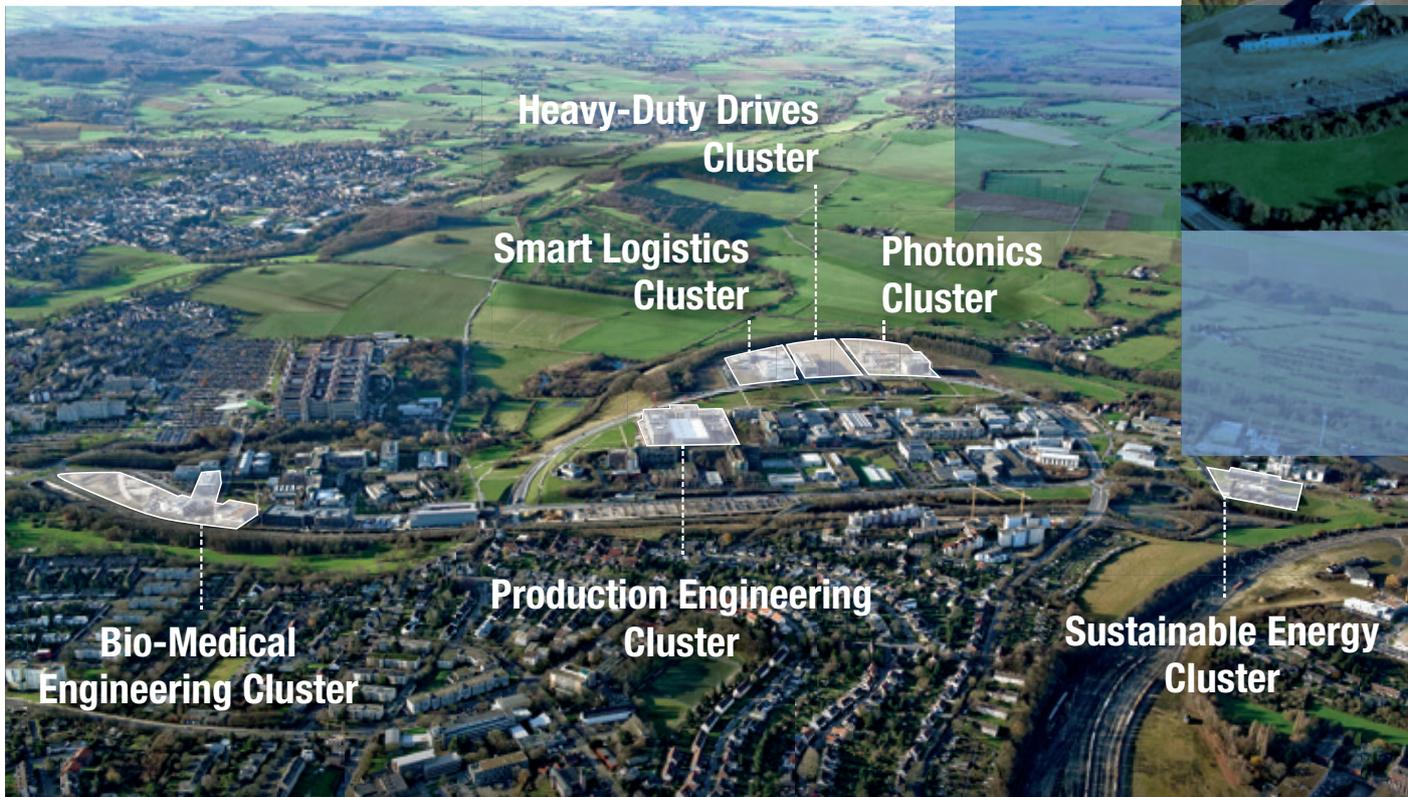
Growth Strategy

Businesses from a variety of industry sectors have been benefiting from cooperative ventures with the outstanding scientists and academics of RWTH Aachen University for a long time. In addition to the wealth of experience offered here, its unique infrastructure is an additional bonus. In light of the challenges of the mega trends, RWTH Aachen University recognized the need for increased interdisciplinary and transdisciplinary cooperation. The project RWTH Aachen Campus was initiated in 2009 as part of the university's „Strategy 2020“.

Campus Melaten

Campus Melaten represents the first RWTH Aachen Campus expansion stage. Since 2009 the following research clusters have been developed here: Bio-Medical Engineering, Sustainable Energy, Photonics, Production Engineering, Heavy-Duty Drives and Smart Logistics. More research clus-

ters are gradually being developed on the area of around 475,000 m² in close proximity to the University Hospital. The campus is complemented by public facilities such as restaurants, shops and banks.



Six initial clusters on Campus Melaten

Campus West

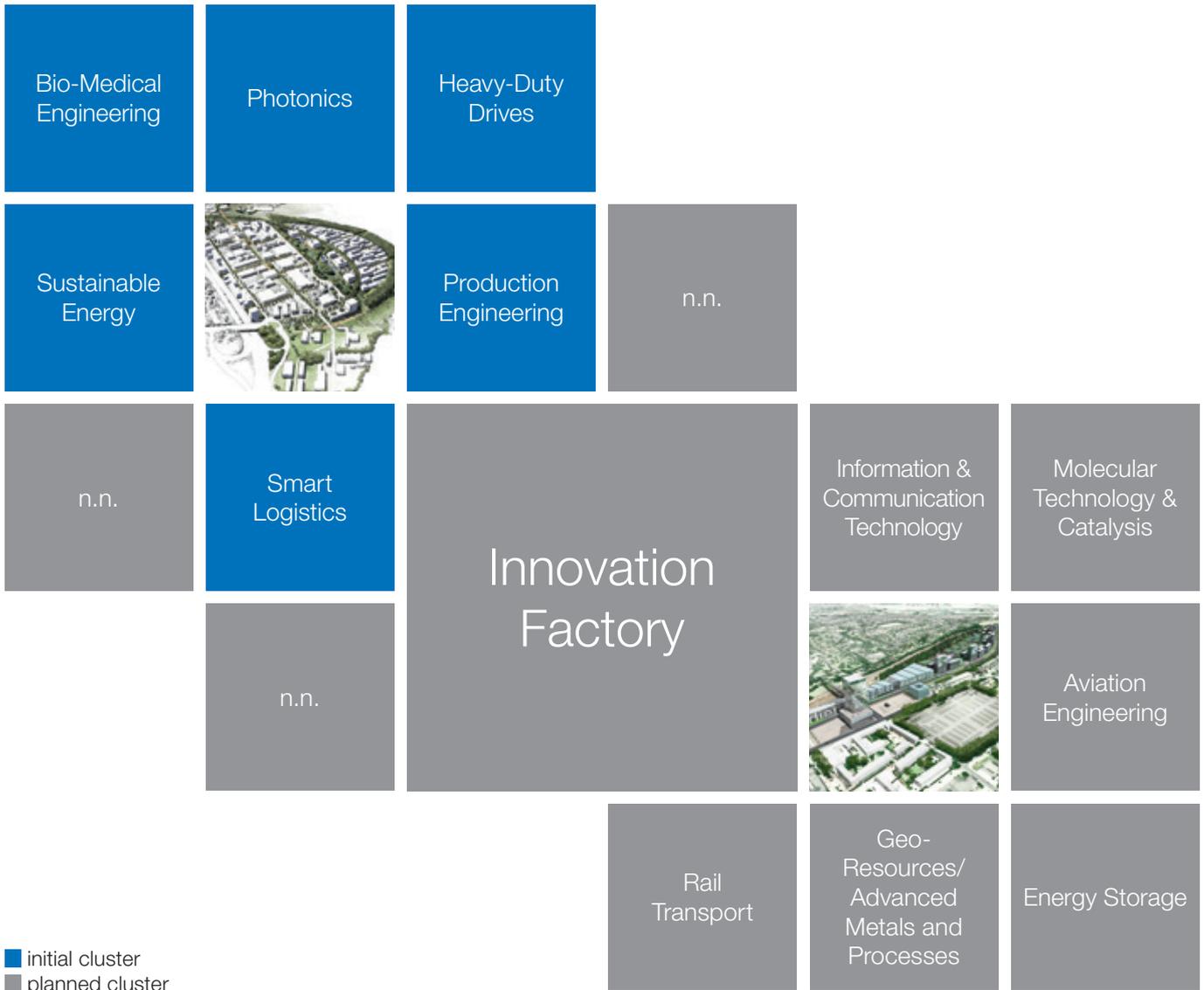


Work on the development plan is currently underway

The two step expansion of RWTH Aachen Campus continues on an area measuring 325,000 m² around Aachen's train station „Westbahnhof“: Campus West. The federal state of North-Rhine Westphalia (NRW) acquired the land of the now defunct former freight yard in 2009. BLB NRW (Bau- und Liegenschaftsbetrieb NRW) and the City of Aachen are currently working on the development plan for the area so that

the next research clusters of the campus project can get underway. These are closely linked to the existing institutes of Campus Mitte (Campus Central) in terms of location as well as topics. Offices, labs and halls create an attractive infrastructure for research. New residential spaces, a hotel, cafés and shopping facilities will ensure good quality of life.

Clusters & Centers



Clusters

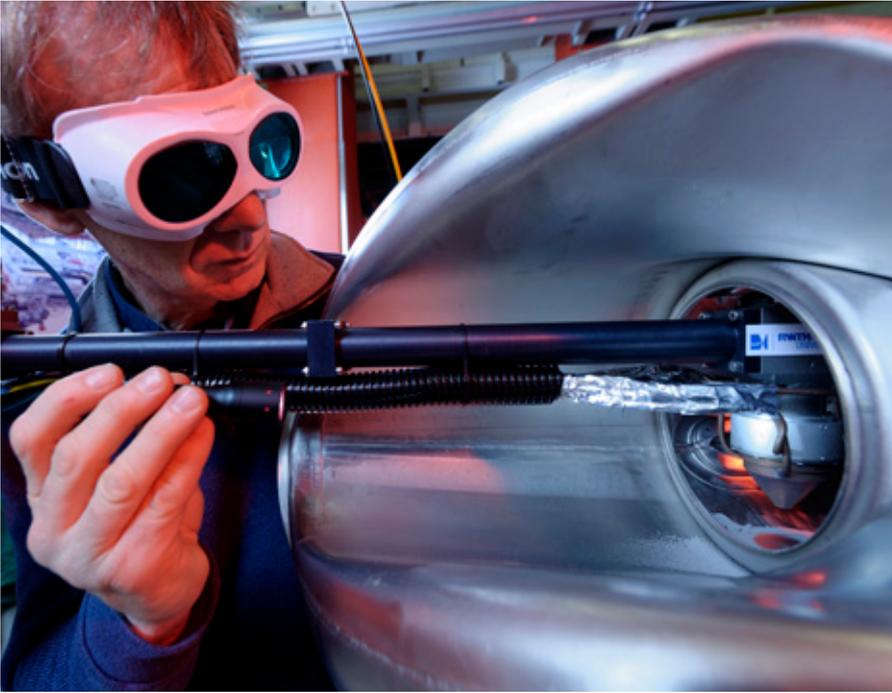
A total of 16 research clusters will be developed on RWTH Aachen Campus. Each of these form the contextual framework for long-term research. Each cluster has its own allocated construction site, where the various research buildings will be realized one by one. The clusters are the common spaces for ongoing joint ventures between academia and industry. They will be hot spots for research and development and will provide optimized environments for solving relevant issues.

Centers

Each cluster comprises several centers. The centers are operative units, which focus on the development of visionary solution approaches for relevant topics. The topic focus of a center is defined by the relevant interdisciplinary team of scientists and the associated industry consortium for a period three to five years. Short-term policy decisions are made jointly in twice-yearly general meetings.



Practical Orientation: Science & Academia



Access to Relevant Research Topics

RWTH Aachen Campus offers scientists and academics the unique opportunity to participate in interdisciplinary projects under one roof and without organizational or physical barriers. The close cooperation with enrolled businesses furthermore ensures access to research objects with practical relevance.

Optimized Calculability

The scientists with involvement improve and consolidate third-party funding by way of long-term commitments of businesses. The resulting calculability allows institutes and faculties to optimize their provision of capacities and resources. This trend allows for topic-specific research activities and long-term strategic partnerships, away from individual projects. Acquisition efforts get reduced.



Funding & Scientific Facilities

The strong bond between academia and industry facilitates the access to funding and scientific facilities. Bundled competences convince funding authorities of the effective and efficient use of public grants. The increased research infrastructure then facilitates a joint, holistic approach to future challenges.

Direct Involvement: Industry

Enrollment

Around 300 businesses are currently enrolled in the various centers, making them members of RWTH Aachen Campus. Every membership requires on-site representation for direct cooperation with the local teams of academics and scientists. Three options are offered: the lease of own space in the cluster buildings, their own building on RWTH Aachen Campus or temporary workspaces in the centers.

Membership Types

Businesses can choose to become premium, business or basic members. Various elements from a range of five benefit categories are provided, depending on the chosen type of membership. Premium members with the highest financial contribution have the right to develop project proposals for the research agenda jointly with academics and scientists. Business members have co-decision rights regarding the projects that will be taken on and actively contribute to research and development. A basic membership entails general participation and is an interesting option for small to medium enterprises.



Benefit Categories

The scope of benefits of each of the centers encompasses elements out of up to five categories that will ensure a return on investment for the enrolled members:



Membership

Enrolled members have the following options on RWTH Aachen Campus:

- Direct insight and influence in future research topics
- Access to an interdisciplinary team of scientists
- Exchange with other experts from academia and industry
- Taking on a lecturing role
- Recruitment of qualified experts and leadership personalities (demographic change, „War for Talents“)
- Target-oriented personal development opportunities
- Forging of new business partnerships
- Attending or organizing of events
- Receiving public awareness



Research & Development

Enrolled businesses benefit from fast, high quality research results, reduced research and development costs and competitive advantages like product and process innovations.



Community

The RWTH Aachen Campus community consists of all associated scientists and enrolled members. Participation in cluster and center activities like conventions, fairs or conferences facilitates exchange and networking. The RWTH Aachen Campus extranet ensures continuous virtual communication.



Further Education

Targeted further education programs of the centers offer opportunities for employees of enrolled businesses to improve their knowledge and apply the results directly to their business environments. The programs include seminars, training and certificate courses, as well as master study programs.



Services

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

Excellence: RWTH Aachen University

Increased Visibility

The research competence of RWTH Aachen University is gaining international visibility and appeal on the basis of RWTH Aachen Campus. This trend acts as a catalyst for all other activities.

Academic Competence

The campus project ensures the retention of leading and highly talented academics and scientists and the influx of highly qualified experts for this research location. As a result, the competitive advantage and position in university rankings increase.

Businesses

Enrolled members from industry act as multipliers and increase public perception. More and more businesses seek involvement on RWTH Aachen Campus. This positive trend not only increases the R&D volumes at the centers, but also the third-party income of the institutes and faculties.

Students

RWTH Aachen University currently has around 44,000 students, about 20% of these are foreign nationals. The immersion in topic areas with practical relevance on RWTH Aachen Campus ensures that the university remains attractive for students long after graduation.

„Super C“, located next to the venerable main building is a modern and lively meeting center at the heart of the city and university



In demand: Students

Outstanding Teaching

The lecturers at RWTH Aachen University provide students with theoretical knowledge as well as practical findings from their many years of working alongside industry. Guest speakers from various businesses further enhance the offering and demonstrate the relevance of taught subjects in examples from actual business operation activities.

Practical Relevance

On RWTH Aachen Campus, students have the opportunity to get in contact with businesses early on. During their studies, students already have access to interesting industry topics and can work on their Bachelor or Master thesis in one of the centers. They forge important contacts and learn directly from employees long before they start out in their chosen careers.

Career Entry

All these points contribute to personal development and facilitate a career entry at a leading company. Industry, on the other hand, can approach demographic change and the associated „war for talents“ head on with an enrollment on RWTH Aachen Campus.



Graduation ceremony at RWTH Aachen University: Joint ceremony for all faculties and academic titles

Dynamic: City of Aachen

Scientific and Academic Location

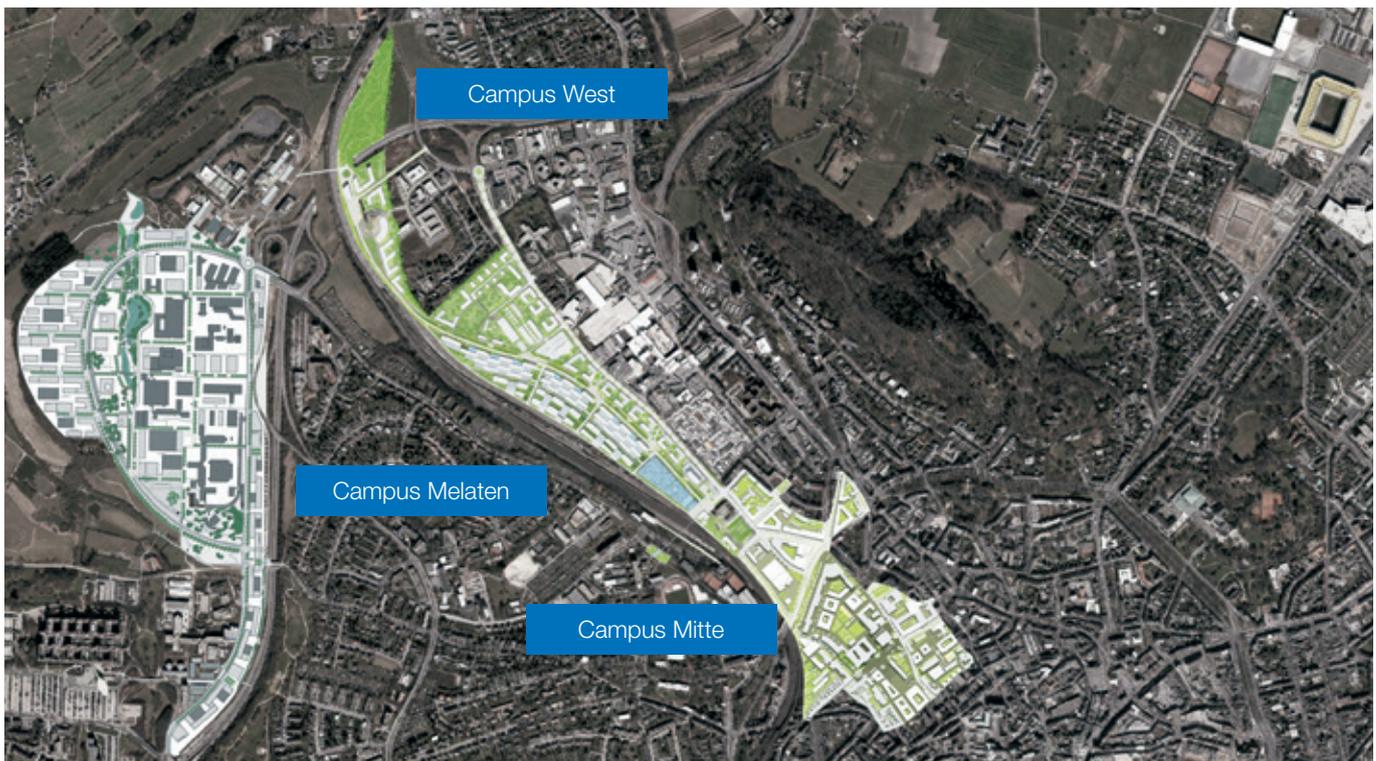
RWTH Aachen University is Aachen's largest employer with more than 9,000 academic and non-academic staff. From an economics point of view, every euro spent by the university has a regional multiplication effect. More than 50,000 students live in the region. For Aachen as a city of science and academia, it is of crucial importance that RWTH Aachen University continues to improve its competitiveness nationally as well as internationally.

Strengthening the Industry Location

The campus initiative creates an estimated 10,000 new jobs. These are created either directly by activities of the centers or the enrolled businesses and by new business startups resulting from innovative business ideas, or indirectly in the wake of newly created service and infrastructure facilities.

Urban Development

In conjunction with Campus Mitte (Campus Central), the expansion areas Melaten and West create a contiguous teaching and research landscape on an area of 2.5 km². RWTH Aachen Campus is fully integrated in public life and in terms of area comparable to the inner city district of Aachen. The project therefore also has importance in terms of urban development.



One of the largest research landscapes in Europe is being created on 2.5 km²

Wanted: Investors

Research buildings

Research needs room and therefore relevant buildings and facilities. The federal states, which already provide the basic financing of the universities, cannot be held solely responsible for catering to growing demands as well. That is why RWTH Aachen Campus seeks private investors for the construction of the cluster buildings on the university expansion areas. These buildings are highly relevant investment objects in an outstanding university environment with excellent growth and future perspectives. The first cluster buildings have already been sold on at attractive conditions to portfolio holders by the initial project developers. The RWTH Aachen Campus model plays a pioneering role in the establishment of an entirely new asset category: „research building“.

Leasehold with Works Concession

The university expansion areas are the property of the federal state North-Rhine Westphalia (NRW). The plots are offered for leasehold via BLB NRW (Bau- und Liegenschaftsbetrieb NRW). The works concession for the clusters will be allocated within the scope of a pan-European tender invitation by way of a competitive bidding and negotiation process.

Status Quo

The following investor and architect teams have successfully invested to date:

Smart Logistics Cluster

ante4C GmbH (Aachen) with
Architectural Office Meyer &
van Schooten (Amsterdam)

Production Engineering Cluster

IMMOFINANZ Group (Vienna) with
HENN Architekten (Munich)

Photonics Cluster

ante4C GmbH (Aachen) with
KPF Architects (New York)

Bio-Medical Engineering Cluster

Frauenrath Group (Heinsberg) with
sop-Architekten (Dusseldorf)



Photonics Cluster – Entrée



Bio-Medical Engineering Cluster – bird's eye view

Structural Development



1 Bio-Medical Engineering Cluster (3rd phase of construction), Building for Teaching & Advanced Training



2 Bio-Medical Engineering Cluster (2nd phase of construction)



3 Bio-Medical Engineering Cluster (1st phase of construction), Center for Bio-Medical Engineering (ZBMT)



4 Production Engineering Cluster (1st phase of construction)



5 Smart Logistics Cluster (1st phase of construction)



6 Smart Logistics Cluster (2nd phase of construction) Building for Electric Mobility Research (eLab)



7 Heavy-Duty Drives Cluster Center for Wind Power Drives (CWD)



8 Photonics Cluster (2nd phase of construction) Center for Digital Photonic Production (CDPP)



9 Photonics Cluster (1st phase of construction)



10 Day-care facility Vincerola



11 Temporary Student accommodation



12 Sustainable Energy Cluster E.ON Energy Research Center (ERC)



Facts & Figures

(Version: June 2016)

RWTH Aachen Campus	
Project idea/initialization	2005
Campus Melaten implementation	since 2009
Campus West implementation	since 2015
Clusters (overall)	
16	
Initial clusters on Campus Melaten	6
Follow-up clusters on Campus Melaten	5
Follow-up clusters on Campus West	5
Centers	
Centers ACTUAL	30
Centers TARGET	50–60
Businesses/Enrolled	
approx. 300	
Faculties	
all 9	
Professors	
approx. 90	
Area (overall, incl. Campus Mitte (Campus Central))	
2,5 km²	
Campus Melaten	
473,000 m ²	
Owner	Federal State of NRW
Development	since 2010
Campus West	
325,000 m ²	
Owner	Federal State of NRW
Development	from 2017

Investment amount (total)	approx. €2 billion
Campus Melaten ACTUAL	over €300 million
Campus Melaten TARGET	approx. €1 billion
Campus West TARGET	approx. €1 billion

Building development	
Private sector installations	4
91b-Buildings (Funding by Federal & State NRW)	8
Objective 2-Buildings (Funding by State NRW & EU)	1

Investors & architects	
Smart Logistics Cluster	ante4C GmbH (Aachen) Architectural Office Meyer & van Schooten (Amsterdam)
Production Engineering Cluster	IMMOFINANZ Group (Vienna) HENN Architekten (Munich)
Photonics Cluster	ante4C GmbH (Aachen) KPF Architects (New York)
Bio-Medical Engineering Cluster	Frauenrath Group (Heinsberg) sop-Architekten (Dusseldorf)

Projected work place development (overall)	approx. 10,000 (direct/indirect)
Campus Melaten ACTUAL	approx. 1,000
Campus Melaten TARGET	approx. 5,000
Campus West TARGET	approx. 5,000

Central Contacts



RWTH Aachen Campus GmbH

RWTH Aachen Campus GmbH is responsible for the planning and implementation of the campus project. The subsidiary of RWTH Aachen University and City of Aachen organizes the land use and its framework conditions. Its responsibilities include the initiation of centers and clusters, the support of academics and scientists in their acquisition of industry partners and pan-European tenders for the selection of investors for the construction of the required campus buildings and facilities.



BLB NRW

The university expansion areas are the property of the federal state North-Rhine Westphalia (NRW). BLB NRW (Bau- und Liegenschaftsbetrieb NRW) is responsible for the property management and manages around 4,100 properties in the region with a total asset value of over nine billion euro. It provides the plots for RWTH Aachen Campus as leaseholds. The BLB branch office in Aachen is responsible for the development of the construction sites on campus. It furthermore realizes research buildings and infrastructure facilities for the university on campus.



City of Aachen

The city and university have the common goal to develop RWTH Aachen University into a worldwide leading technical university and to promote Aachen as an international science and industry location.

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