Service & Engineering Portfolio
for Business and Technology Development

In cooperation with:
The AZL: Lightweight center and one-stop shop for business and technology development

We are technology experts for composite-based multi-material technologies and bring together experts and decision makers from academia and industry in sustainable partnerships and efficient projects.

We combine our technology know-how with our market intelligence systematics to offer technology and business development in lightweight.

As a one-stop shop, we enable efficient cooperation with our international industry network and our unique high-tech ecosystem, the RWTH Aachen Campus.
Business and technology development for the lightweight industry: Our synergetic approach

We analyze target markets and applications for composite-based multi-material technologies, ...

... and find the right partners for industrial implementation and establishment in the market.

Business development

... to identify economically relevant technology improvements.

Technology development

Thus we develop competitive innovations for economically highly relevant market segments...
Our services for Business development

- Market and technology studies
- Market and technology workshops
- Product cost analysis and benchmarking

Our services for Technology development

- Technology screening and benchmarking
- Production processes analysis and optimization
- Component development and feasibility analysis
- Prototype development and production
- Access to joint partner projects
- Technology and product workgroups

Bilateral Service Projects

- Networking and matchmaking events
- Joint product cost benchmarking

Partnership Services
Our collaboration models:

How to work with us

Model 1
Define your individual project
- Customized project for your specific needs
- Individually defined contracts and budgets for each project

Model 2
Use a framework agreement
- Fast and easy setting up of various customized projects for your specific needs
- Definable budget, min. 15,000 €
- Framework agreement also included in Business+ Partnership (individual budget)

Model 3
Collaborate as an AZL Partner Company
- Joint, pre-competitive business and technology development
- Cost-sharing and open innovation
- More than 80 companies involved

Through the flexible Partnership format, our team is currently using a voucher to participate in a joint market and technology study, “Next Generation Mobility Solutions”.

Dr. Dana Miloaga, Product Leader – Composites at Johns Manville
Our ecosystem: RWTH Aachen Campus
RWTH Aachen University:
One of the leading technical universities in Europe since 1870

3 Clusters of Excellence:
- The Fuel Science Center
- Internet of Production
- Matter and Light for Quantum Computing

Renowned for production technology and materials science

Aachen ecosystem: Interdisciplinary clusters of science and industry

- Students in Total: 45,256
- Professors: 564
- International Students: 10,455
- Scientists: 2,200
- Students Mechanical Engineering: 12,652
- Financial volume Total Budget in Million €: 998.5
- Graduates: 7,164
- Publications: 9,404
Our 9 RWTH partner institutes:
Composite-based lightweight research since 1987 in 1000m walking distance

- 9 established institutes with composite-based research
- +750 scientists and 1,100 student employees
- 100+ parallel running publicly funded lightweight research projects

1987
today
From fiber to product:
Research covering the entire lightweight value chain

- Process Chains for Hybrid Composite Materials
- Plastics Material & Processing Technologies
- Production Technologies
- Machine Tools and Measurement Technologies
- Laser Technology
- Automotive Science and Engineering
- Fiber & Textile Technology
- Bonding Technology
- Lightweight Design

» Scan to watch the video:
30+ technologies of the AZL partner institutes
Our technology know-how
Our technology know-how:
Integrative composite-based lightweight production

Lightweight materials & design
- Material modelling
- Plastics processing
- Composite/multi-material systems
- Product design

Production technology
- Manufacturing technologies
- Production machines & tools
- Quality assurance
- Production- & cost planning

Integrative research on interdependencies:
- Materials
- Machines, tools
- Processes
- Product design

Integrated process combinations
Hybrid production machines
Self-optimizing „intelligent“ process chains

Expertise
Prof. Hopmann
Expertise
Prof. Brecher

» Scan for the video
Our international cross-industry network

» Scan to download the AZL Partnership brochure
Our international cross-industry network:
80+ AZL partner companies from 21 countries
AZL Partnership:
Trusting, pre-competitive cooperation in continuous activities

Technology and product workgroups
Networking & open innovation events
Joint product cost benchmarks
Access to joint partner technology projects
Our innovation strategy:
We bring industry and academia together for efficient industry solutions

Technology Push
9 RWTH institutes

- Lightweight materials & design
- Production technology
- Machine tools
- Processes

Innovation strategy of the AZL and its industrial partners

Market Pull
80+ partner companies from 21 countries
Our systematics for market intelligence
Jointly:
- Contact to a broad network of industrial players
- Cost-effective budget due to cost sharing
- Pre-competitive knowledge exchange

Individually:
- Detailed analyses for your products and technologies
- Involving relevant experts from ecosystem and industry network

Funnel approach from market to business case

- Identifying economically relevant technology improvements
- Combination of technical know-how and market intelligence
- Hardware on-site for realizing resulting project ideas

Exemplary studies
Our activities for market intelligence:
AZL market and technology studies

1. Definition of Trend markets
2. Structuring and analysis of the Market segments
3. Systematic analysis of Attractive applications
4. Identification of Technological enablers and business cases
Highlight analyses within the scope of the AZL Partnership

Innovations radar in workgroups

10x per year
Market news and new applications

Product cost benchmarks

Semi-annual sessions for Joint business case analysis
One example of our cooperation:

New machine concept for efficient double belt presses

- Belt width 350 mm, scalable
- Inductive heating of belts (up to 300°C)
- Elastic rollers for areal pressure application (up to 23 bar)
- Scalable system (speed, heat and pressure distribution)
- Potential energy saving > 50%
Joint market and technology study: Efficient double-belt presses as enabler for composites applications

- **Proof of principle test facility**
- **Prototype machine**
- **Industrial machine close to series application**

**Exploitation of the results**
- Bilateral projects
- Commercialization
- Application in public projects

**Partners of joint study**
- 3M
- AAF PT
- ASHLAND
- BASF
- Bayer MaterialScience
- Borealis
- DSM
- DuPont
- ExxonMobil
- Henkel
- Johnson Controls
- Kureha
- LionTek
- Lürssen
- Maha
- MAHR
- Röchling Industrial
- Sabic
- SABIC
- SABIC
- Schuler
- Siemens
- Ticona
- Celanese
- TOYOTA

**Partners of machine development**
- AsahiKasei
- berndorf
- cato
- CONBILITY
- DuPont
- e.m. joint venture
- Faurecia
- KraussMaffei
- Lenzing
- MAHR
- Sabic
- Schuler
- Siemens
- thyssenkrupp
- TOYOTA
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The reasons why:
Your benefits

AZL One-stop Shop

- Efficient initiation and realization of your project with several institutes and industrial partners
- Relevant expert teams from RWTH and industry
- Deepening into almost every detail technology through broad ecosystem

AZL Partnership

- Pre-competitive, trusting collaboration along the entire value chain
- Cost-sharing for joint business and technology development
- Cross-industry networking and matchmaking

With its broad technological expertise, the AZL supports us very efficiently in the technology development for our composite materials.

For me personally as a business developer, the AZL partnership offers valuable market insights and sustainable cooperation with the entire value chain.

Arne Böttcher, Market Development Composites at Covestro Deutschland AG

AZL’s way to work internationally and open minded, makes me feel welcome every time I come to Aachen.

I do appreciate the broad background available in Aachen and the effective and pragmatic approach of the Joint Partner Projects.

Thierry Renault, Faurecia Clean Mobility Composite Technologies – Manager of Partnerships
Contact us for more information! Your AZL – Lightweight Center and One-stop Shop for Business and Technology Development

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