

## **Our Services at a Glance**

As a research institute of RWTH Aachen University, AMT, including its predecessor institutes, has been active in the field of raw materials technology for over 60 years and offers industrial customers a wide range of research and development services - from experimental fields to strategy consulting.

We would be pleased to discuss your development requirements or individual problems in your company with you. Contact us simply and without obligation by [e-mail](#).

The following overview provides you with further information on our individual services.

### Operational Measurements

The performance of operational measurements serves the collection and evaluation of measurement data as a basis for customer-specific consulting. The systems developed at the AMT Institute for the determination of vibrations, torques and other process variables in mobile measuring equipment are used. Classic applications are, for example, operational measurements on rolling mills, extraction and processing machines and drive motors in heavy industry.

### **Our service portfolio for operational measurements:**

- Development of diagnostic systems for stationary and mobile equipment
- Feasibility studies in the field of information technology and automation
- Investigation of structure-borne noise emissions from rolling bearings and gears
- Simulation of vibrating systems
- Operating and test bench investigations
- Performance of temporary and permanent torque and vibration measurements under the most difficult boundary conditions
- Development of database-driven plant monitoring software
- Structural analyses using the finite element method (FEM)
- Process monitoring, analysis and optimization
- Test bench investigations

### Modelling and Simulation

From test bench to simulation, from model to virtual prototyping: this is the current development in the industry. The Institute for Advanced Mining Technologies (AMT) participates in the field of Computer Aided Engineering. Recent developments include, for example, the coupling of real-time measurement data with simulations for predicting component damage.

## **Our service portfolio for modeling and simulation:**

- Vibration simulation of mechanical and electrical drives
- Motion analysis of complex kinematic systems using multi-body simulation (MBS)
- Component stress analyses and component optimization by means of finite element method (FEM)
- Fatigue-strength calculations

### IT-Services

RWTH Aachen University is increasingly developing into a service provider that transfers its know-how to industry. The Institute for Advanced Mining Technologies (AMT) makes a contribution in the field of communication, which is becoming more and more important for companies, through its strategy consulting in the environment of the introduction of modern IT-supported working techniques. The focus is on solutions for developing, structuring and communicating ideas and concepts.