Engineering

Success can be engineered. We will prove it.

Our approximately 150 engineers, technicians and project managers, who are experienced in process, EI&C and civil engineering, develop top quality solutions – from the calculation of individual components all the way to the complete plant design.

For all solution areas offered by the Kraftanlagen Group, we are engineering complex process technology related systems, as well as their integration into entire plants, at our locations in Munich, Burghausen and Ploiesti. In doing so, we make use of fully digitised planning and cross-system engineering. In that way we create sustainable solutions that have been of long-term benefit to our customers and the environment.
Our solutions and sites

Interdisciplinary engineering expertise for your project

We provide engineering services in all of the Kraftanlagen Group’s product areas. We engineer, calculate and design plants that meet the needs of investors and operators as well as environmental, safety and health regulations.

We are digitising the entire engineering process. Our experts are using 3D laser scanners and are able to virtually document the existing plant in this way. From the initial plant design to the calculation of components, we develop top-quality technical solutions for our customers.

The Kraftanlagen Group is a versatile partner for industry and the energy sector. We provide our customers with solutions from a single source that cover the entire life cycle of the plant engineering. Your benefit: Within the Kraftanlagen Group, our designers and engineers are closely interconnected with the production and installation departments. Our range of services in the field of engineering includes the following services:
With highly specialised software solutions, we simulate the flow in piping systems and conduct fatigue checks to determine the service life of plant components. Designed accordingly, a plant calculated and engineered by us will meet the highest standards.

These are our technical calculation services:
- Process-related calculations and process simulations
- Thermodynamic designs
- Pressure and heat loss calculations
- Static and dynamic analyses of piping systems
- Static analysis of primary and secondary steel construction
- Regulation-based component design

Today’s ideas, tomorrow’s solutions

We advise you during the conception of process technology related systems and develop tailor-made solutions – from the process design of individual components to the design of complete plants. These are our consulting and concept services:
- Consulting and customer support throughout all phases of the project
- Design and feasibility studies
- Close cooperation with licensors
- Cost and economic viability studies
- Scheduling and schedule monitoring
- Preparation of tender documents
- Fire protection plans

Consulting and concept are one of our strong suits – both domestically and internationally. Employees of ECM, a member of the Kraftanlagen Group, are working on a project in Singapore.

From design to implementation

As general contractor responsible for engineering, procurement and construction of a complete plant for the supply of an ultra-pure silicon production plant with abrasives.

Our specialists calculate and document every detail

The demands on technical computation have increased as a result of the energy transition. For example, by adding regenerative energy heat recovery systems, the operating mode of fossil power plants changes, which lastingly influences the load conditions of the piping systems and the safety technology related components and therefore the plant availability.

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Deformation at a thermally stressed component

Tension curve in a piping system
Energy and power plant technology

As specialist or general planner, we design tailor-made combined heat and power generation plants for a wide range of fuels. In doing so, we are using the diversity of services and the know-how of the Kraftanlagen Group. Our own employees are responsible for the project management for all project phases, including the coordination of all interfaces. We engineer and calculate piping systems for:

- Gas-fired combined cycle plants and fossil power plants
- Energy systems for waste incineration plants
- Heating power plants and heating plants
- Refrigeration units
- District heating networks

Chemistry and petrochemistry

As a partner to the chemical and petrochemical industry, we support our clients across the globe with technical know-how. Thanks to our customer-oriented branches, we can offer maximum flexibility and create the ideal preconditions for our clients’ projects in terms of reliability, adherence to schedules and, above all, safety. Our experienced project management ensures a smooth engineering process.

Optimum progress, cost and quality control is a top priority for us, as is sustainability, which is a central part of our corporate philosophy.

Thermal waste recycling

General engineering of a plant for the thermal recycling of chemical industry production residues.

State-of-the-art, with a proven design and optimally integrated

These are our engineering and design services:

- P&ID process engineering
- Safety analyses
- Approval engineering
- Building and steel construction engineering
- Layout engineering
- E&I engineering
- Piping and support engineering
- 3D models
- Revamps

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- Heating power plants and heating plants
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Technical support

We make sure you always maintain an overview

These are our technical support services:

- Project management
- Technical analysis of existing plants
- Inventory using a 3D laser scan process
- Testing in accordance with pressure equipment directive and work safety regulations
- Construction and installation monitoring
- Plant documentation (manual and digital)

Our engineering tools

<table>
<thead>
<tr>
<th>Process design and engineering</th>
<th>CAD and CAE systems</th>
<th>2D-CAD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conval 9.0</td>
<td>PDS 3D / SMART-PLANT 3D</td>
<td>Bentley-Microstation</td>
</tr>
<tr>
<td>ASPEN plus</td>
<td>PDMS / E 3D</td>
<td>COMOS Isometrics</td>
</tr>
<tr>
<td>COMOS P*,</td>
<td>AUTO-CAD / Inventor</td>
<td>SMART-PLANT Isometrics</td>
</tr>
<tr>
<td>SMART-PLANT P&amp;ID</td>
<td>Solid Edge / PTC-Creo</td>
<td>EasySteel</td>
</tr>
<tr>
<td>Microstation P&amp;ID</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Laser scanning</th>
<th>Calculation</th>
<th>Digitisation of existing plants as basis for 3D engineering in brownfield systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMF-Server / ZF-Viewer</td>
<td>DIMy / Probad</td>
<td>By overlaying scanned plant parts (grey point cloud) with newly engineered plant parts (coloured plant parts) complex relationships will be simulated through 3D visualisation.</td>
</tr>
<tr>
<td>Leica Cloud Worx / Reshaper</td>
<td>Rohr 2 / Caesar II</td>
<td></td>
</tr>
</tbody>
</table>
Product ranges of the Kraftanlagen Group:
Energy and power plant technology
Decentralised power generation
Underground piping systems
Nuclear technology
Industrial plants
Utility services
Fire protection
Engineering
Fabrication
Welding and testing technology

Contact Germany:
Johann Allertseder
T +49 89 6237 360
johann.allertseder@kraftanlagen.com

Contact Romania:
Florin Mihalcea
T +40 244 511566
mihalceaflo@pip.ro

www.kraftanlagen.com
A Company of the Alpiq Group

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