Engineering power
# Table of Contents

Full-scope project management with unique system solutions 04  
Company profile 05  
Power plants 06  
References 08  
Dunamenti Power Plant 400 MW<sub>e</sub> unit, high pressure gas station 08  
Pécs Power Plant 35 MW<sub>e</sub> straw-fired biomass unit 09  
Co-Generation Heating Plant, Budapest, Füredi út 10  
Kelenföld Power Plant, Budapest, water treatment plant 11  
Industrial energy facilities 12  
References 14  
Kecskemét Plant of Mercedes Benz Manufacturing Hungary Kft. 14  
Flue gas cleaning system of HANKOOK Tire Magyarország Kft. 15  
IBIDEN Hungary Kft. - Dunavarsány diesel particles filter factory 16  
BorsodChem Zrt. - Construction of steam transmission system 17  
Design work carried out by our own team 18  
Our maintenance department 20  
Our strategy is based on the future's energy 21  
Partners 22  
Engineering power 23
Full-scope project management
with unique system solutions

Building on the expertise of our innovative colleagues, our company has been a stable and dominant operator in the domestic energy and industrial market for over 20 years. We continuously expand our knowledge base by collecting their ideas and experience. We use this basis to provide our partners with a full range of project services that are unique in the market and comply with the most up-to-date standards.

We have a solid international background both in the professional and financial areas by means of our parent company, the German Alpiq Anlagentechnik GmbH and the Switzerland-based Alpiq AG. As one of the largest infrastructure service providers in Europe and a developer of energy supply systems, Alpiq Anlagentechnik GmbH has over 20 companies, 150 sites and offices, and a staff of about 4500, and successfully completed several recognised international projects with the participation of its subsidiaries, including Kraftszer Kft.

Our company provides unique services in the industrial sector. During their investments we support our partners with full-scope project management activities, from the design phase to turnkey delivery. Our uniqueness lies in our sector-specific, innovative expertise, with which we design and control our processes in a targeted, personalized manner, in accordance with market trends and customer demand, subject to our ISO 9001 and ISO 14001 certificates. We have several international and national references in the fields of power plants, industrial energy facilities, design and industrial maintenance.
Company profile

Power plants

We have comprehensive professional experience regarding the design of traditional power plants and the implementation processes of related projects; this includes the conversion and supplementation of the primary and auxiliary systems of power plants, their technical and economic alignment to operating conditions, and the design and implementation of new systems. We lay special emphasis on the use of green energy and compliance with the relevant environmental guidelines. Within one of our projects (detailed later on) relating to the production of green energy, we participated as an EPCM contractor in the design and implementation of the largest biomass-fired power plant of Hungary and Central- Eastern Europe. We support, and, by way of ongoing training sessions, we participate in creating and maintaining an environmentally conscious way of thinking.

Industrial energy facilities

As a general contractor of industrial facilities in the fields of energy and technology, our company performs its activities in the following relevant sectors: automotive industry, pharmaceutical industry, chemical industry and oil industry, in particular petrochemistry. In this field we take part in the implementation of related energy and technological facilities in compliance with the strictest professional specifications, from the design phase to full-scope completion.

Design

The activity of our own design section comprises technical design which is decisive as to the launching and alignment of the works. Through the preparation of the design and the processing of the technical content, to the calculation of the budget, the team performs all activities, be it individual design work or the related design phase of an entire project. We consider the ongoing, smooth communication of the market operators working on a project to be of high importance, and by that the alignment of the needs of the customers, the suppliers and the Kraftszer Kft..

Maintenance

Through our successfully implemented projects we have obtained sufficient experience in order to be able to provide for the continued efficient and optimum operation of the system following construction within the framework of our maintenance activities.
Power plants

Service performance:

- Turnkey power plant units < up to 50 MWₑ capacity
- Power plant systems
- Co-generation power plants
- Biomass power plants
- Water treatment systems
- Power plant pipeline systems
- Technological pipelines
- Design and implementation of I&C networks pertaining to the technology

Our references:

- Dunamenti Power Plant
- Budapesti Power Plant
- Pécs Power Plant
- Co-Generation Heating Plants
  - Tiszaújváros
  - Kazincbarcika
  - Szekszárd
  - Budapest, Füredi út
  - Ózd Power Plant
- Mátra Power Plant
# References

## Dunamenti Power Plant 400 MWₑ unit, high pressure gas station

| Performance: | Detailed design, execution and commissioning of gas station and compressor station under an EPC contract. |
| Client: | Dunamenti Power Plant, GDF Suez |
| Schedule: | 2010-2011 |
| Scope of works: | High and low pressure gas system, gas pressure booster with compressor, with heating and cooling unit, nitrogen system, electrical and I&C system. |

<table>
<thead>
<tr>
<th>Technical specification:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Inlet gas pressure:</td>
<td>63 bar</td>
</tr>
<tr>
<td>Outlet gas pressure:</td>
<td>28 bar / 6 bar</td>
</tr>
<tr>
<td>Capacity of preheater unit:</td>
<td>5 MW</td>
</tr>
</tbody>
</table>
Pécs Power Plant 35 MW<sub>e</sub> straw-fired biomass unit

| Performance: | Basic and detailed design, establishment and commissioning of the entire straw-fired unit under an EPCM contract. |
| Client: | Dalkia / Pannonhő |
| Schedule: | 2010-2012 |
| Scope of works: | Civil works, integration of boiler supplied by the Customer, straw bale supply system, main steam 100 bar, feedwater system, BoP, middle and low voltage, I&C. |

| Specification: |
| Staw barn building area: | 5500 m<sup>2</sup> |
| Building area: | 10000 m<sup>2</sup> |
| Boiler (straw fired vibration grates) |
| Steam: | 137.2 t/h, 35 MW<sub>e</sub> |
| Steam features: | 100 bar, 540°C |
## Co-Generation Heating Plant, Budapest, Füredi út

<table>
<thead>
<tr>
<th>Performance:</th>
<th>Full-scope implementation of the entire gas-driven co-gen power plant by basic and detailed design, commissioning under an EPC contract.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client:</td>
<td>Sinergy Kft.</td>
</tr>
<tr>
<td>Schedule:</td>
<td>2005</td>
</tr>
<tr>
<td>Scope of works:</td>
<td>Civil works of complete building, delivery of 3 Wärtsila gas engines and their auxiliary systems, middle and low voltage electrical system, I&amp;I system.</td>
</tr>
<tr>
<td>Technical specification:</td>
<td></td>
</tr>
<tr>
<td>Building area:</td>
<td>2093 m²</td>
</tr>
<tr>
<td>Power:</td>
<td>18 MWₜ / 18 MWₑ</td>
</tr>
<tr>
<td>Electrical efficiency:</td>
<td>43.2%</td>
</tr>
</tbody>
</table>
Kelenföld Power Plant, Budapest, water treatment plant

Performance: Implementation of turnkey power plant water treatment plant under EPC contract including design, supply of equipment and commissioning.

Client: EDF


Scope of works: Refurbishment of historic building, delivery and installation of Chris-CWG technology, electrical and I&C system.

Technical specification:

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water capacity (makeup):</td>
<td>300 t/h</td>
</tr>
<tr>
<td>Water capacity (de-ionised):</td>
<td>160 t/h</td>
</tr>
<tr>
<td>Building area:</td>
<td>1000 m²</td>
</tr>
</tbody>
</table>
Industrial energy facilities

Service performance:
- Industrial energy centres (with co-generation and tri-generation solutions)
- Heat energy supply systems
- Cooling energy supply systems
- Ventilation systems
- Compressed air systems
- Technological pipelines
- Environmental investments

Special sectors:
- automotive industry
- pharmaceutical industry
- chemical industry
- oil industry (petrochemistry)

Our references:
- Mercedes Benz Manufacturing Hungary Kft.
- OPEL Magyarország Autóipari Kft.
- Magyar Suzuki Zrt.
- Hankook Tire Magyarország Kft.
- IBIDEN Hungary Kft.
- MOL Zrt.
- TVK Nyrt.
- BorsodChem Zrt.
- Hungrama Kft.
- MOM Park
- Hosszúrét Residential Community
References

Kecskemét Plant of Mercedes Benz Manufacturing Hungary Kft.

| Performance: | Turnkey implementation of the entire engineering energy centre, including construction design and commissioning under an EPC contract. |
| Client:      | Mercedes Benz Manufacturing Hungary Kft. |
| Schedule:    | 2010–2011 |
| Scope of works: | Construction works of the energy centre, installation of gas engines, construction of heating and cooling energy, compressed air and water treatment systems, electronic and I&C technology. |

<table>
<thead>
<tr>
<th>Technical specification:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building area:</td>
</tr>
<tr>
<td>Electrical output:</td>
</tr>
<tr>
<td>Heating capacity:</td>
</tr>
<tr>
<td>Cooling capacity:</td>
</tr>
<tr>
<td>Compressed air:</td>
</tr>
</tbody>
</table>
Flue gas cleaning system of HANKOOK Tire Magyarország Kft.

Performance: Establishment of a treatment system preceding emission for technical gas generated in the production process, with detailed design and commissioning under an EPC contract.

Client: Hankook Tire Magyarország Kft.

Schedule: 2007

Scope of works: Civil works, technology, pipe and flue gas duct systems with a stack, electric and I&C works.
References

IBIDEN Hungary Kft. Dunavarsány – diesel particles filter factory

| Performance: | Design, construcion and commissioning of utility systems. |
| Client:      | Marubeni          |
| Schedule:    | 2005              |
| Scope of works: | Implementation of cooling machines and cooling system, establishment of an exhaust system and related corrosion-proof bag filter. |
**BorsodChem Zrt. – Construction of steam transmission system**

**Performance:** Implementation of steam transmission line system with permit and detailed design, including commissioning.

**Client:** Sinergy Kft./RWE

**Schedule:** 2008-2009

**Scope of works:** Permit and detailed design, civil works, procurement, mounting, commissioning of pipeline system with pressure reducing stations at all pressure levels (HP, MP, LP).

**Technical specification:**

<table>
<thead>
<tr>
<th>Steam capacity:</th>
<th>160 t/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>High pressure steam:</td>
<td>30 bar, 370°C</td>
</tr>
<tr>
<td>Medium pressure steam:</td>
<td>15 bar, 290°C</td>
</tr>
<tr>
<td>Low pressure steam:</td>
<td>5 bar, 200°C</td>
</tr>
</tbody>
</table>
Design work carried out by our own team

Our design team of nine people is responsible for the general designing tasks in the course of project management activities. They carry out their work supported by an extensive network of subcontractors, including basic design, permit procedures and the compilation of detailed designs. The high standard and cost efficient designs are prepared by using modern software (Cadmatic, Solid Edge, MicroStation, AutoCAD). We consider the task we are commissioned to do as a designing process that we participate in by thinking together with our customers, and tailoring our professional knowledge to their concepts; if necessary, we are ready to make several modifications to achieve the most ideal solution.

Service performance:
- Technical plans, technical preparation
- Impact studies
- Basic designs
- Building permit plans
- Environmental plans
- Detail plans
- On-site works management
- As-built plans

References:
- Budapesti Power Plant
- Kelenföldi Power Plant
- Füredi út, Budapest, Co-Generation Heating Plant
- Csepel Power Plant
- Szolnok Biomass Power Plant
- Dunamenti Power Plant
- Ózd Co-Generation Heating Plant
- BorsodChem Zrt.
- Bridgestone Magyarország Kft.
- Procter & Gamble Hyginett Kft.
It is a natural requirement by a customer to establish optimal operational practices after the completion of a project. Our company is capable of fully meeting this requirement, having gained extensive experience in the implementation of domestic and international projects completed by our parent company. Our maintenance team is available to serve our clients from the power generation and industrial sector at three locations in Hungary (Budapest, Tiszaújváros, Szentgotthárd).

**Service performance:**
- Technical operations, supervision
- Scheduled preventative maintenance
- Audits, tests
- Monitoring
- Organisation and execution of refurbishment works

**References:**
- Budapesti Power Plant
- TVK Nyrt. Olefin Plant
- Opel Magyarország Kft. Szentgotthárd Plant
Our strategy is based on the future's energy
Partners

Mercedes-Benz
Budapesti Erőmű Rt.
Dunamenti Erőmű Rt.
ALPIQ
TVK
IBIDEN
MOL
FW
Opel
Fannon
Suzuki
VÉNL
Veresed Főmű Rt.
MÁTRAI ERŐMŰ RÉSZVÉNYTÁRSASÁG
Hankook
Hungana
BorsodChem
RG
Our company has been seeking new options for development on a continuous basis with an experience of 20 years in the power generation and industrial energy sector. This continuous efforts towards regeneration, our human resources and determination to meet the demands of market operators are the drivers of our company's operation. By setting the standard higher and higher, in addition to the traditional power generation and energy market, we also provide similar full-scope design, implementation and maintenance services in sectors requiring specialist know-how, such as the pharmaceutical, chemical, oil industry and automotive industries. The establishment and commissioning of a biomass-fired power plant unit, requiring project management skills different from traditional power plant projects, is a real rarity. Our project team has special sector-specific experience in this field as well. It is a challenge for us when our name is mentioned by domestic and international companies in the context of successful projects regarding any of our areas of activity.

Our goal is to establish long-term business partnerships by applying newly emerging state-of-the-art technologies and providing pure Hungarian added value in both traditional power generation and industrial energy, as well as special energy industries, and we also aim to promote the high quality, turnkey services hallmarked by Kraftszer Kft.

Our references and existing customer relations demonstrate that we are on the right way. My colleagues and I are working on welcoming you among our partners in the future.

István Jászberényi
Managing Director