

Hitachi Zosen  
INOVA

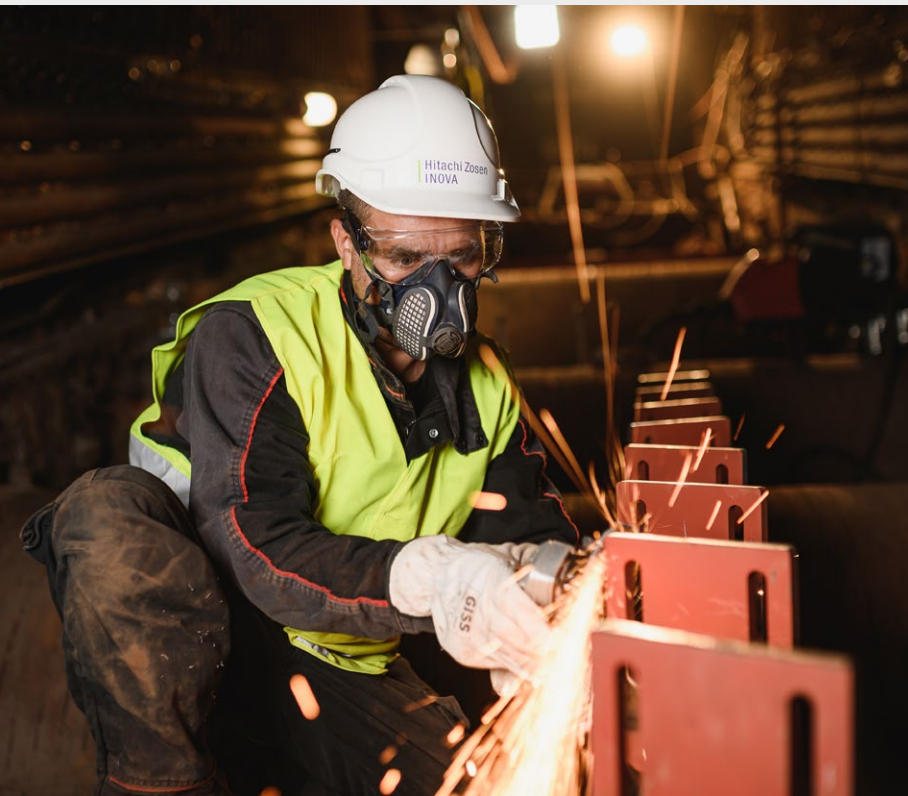
Hitachi Zosen Inova Service  
We Look After Your Plant





## With Hitachi Zosen Inova, Your Plant Is in Professional Hands

The employees of Hitachi Zosen Inova Service look after your plant throughout its life cycle. We specialize in combustion, boiler, flue gas treatment, digester, and biogas upgrading systems. Our service portfolio ranges from delivering spare parts through to extensive retrofits. You benefit from our long track record in service and maintenance, project execution, our comprehensive technological expertise, and our rich experience in designing, developing, and manufacturing a wide range of proven products and systems in-house.



We combine absolute commitment to research and development with extensive manufacturing and assembly capabilities to develop bespoke solutions. This means we can make sure your Waste-to-Energy (WtE) plant is tailored precisely to your specific operating requirements, enhancing its efficiency and extending operating periods. Thanks to the comprehensive expertise of our local companies we can deliver all the services you need from a single source. Our geographic proximity enables us to build trust with our customers and respond rapidly to their needs.

Carefully selected components are key to ensuring the smooth operation of a plant over a long service life. Components created in-house by HZI are installed in over 600 reference plants all over the world. We work hard to develop and refine our offering on a permanent basis. This way we can offer top-quality products and services at the cutting edge of technology.

“It’s worth entrusting your plant to Hitachi Zosen Inova. Not just because of their expertise, but also because you get everything delivered from a single source by people who passionately believe in what they’re doing. People you can rely on completely, around the clock.”

| Urs Brunner, CEO, VfA Buchs SG, Switzerland

## Engineering & Design

### Efficient, Sustainable, and Innovative Solutions Tailored to Individual Customer Needs

Our goal is to work with you closely to develop solutions tailored exactly to your needs – from concept design and engineering to commissioning and beyond. Our broad range of products and technologies, coupled with the ability to draw on expertise all over the world, enables us to offer our customers a first-class array of planning and design services:

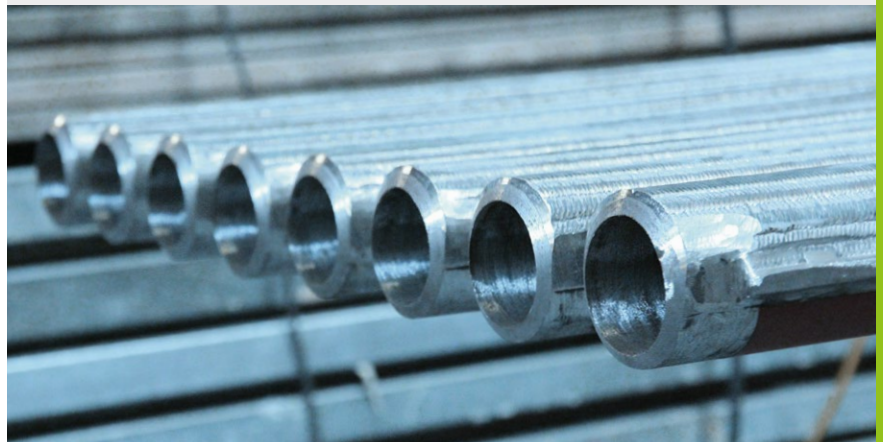
- planning and executing feasibility studies
- planning and executing economic analyses
- process engineering for problem-free and efficient plant operation
- planning of revisions for complete plants or subsystems
- component condition analysis
- project execution

Our support continues beyond commissioning to cover the entire lifetime of your plant. We deliver economically efficient solutions that also meet the highest quality standards.



“We’ve been using the very high quality Alloy 625 weld overlay manufactured by HZI on the walls of our three boilers for more than ten years – and with great success. The same goes for the weld-cladded pipes for the superheaters.”

Robert Meisner, Head of Technical Operations, Ingolstadt waste treatment plant, Germany



## Manufacturing

### Flexible, Customer-Oriented Solutions of The Highest Quality – Thanks to In-House Manufacturing

Our business is built on the experience of our people and the high quality of our products. We manufacture various components for WtE plants at our own facilities:

- modularized feed hoppers
- incinerator grates
- cladding
- ash hoppers
- ram and chain-type bottom ash extractors
- boiler parts
- piping
- complete biogas upgrading systems

Components are manufactured in line with project deadlines on the basis of our own drawings or designs supplied by the customer. Our stringent safety standards, extensive specialist expertise, and ongoing staff training enable us to ensure that the construction and operation of plants conforms to the required norms and regulatory provisions.

In addition to TÜV, SVTI, ISO 9001, ISO 14001 and OSHAS 18001, we are certified for work in many other areas, including manufacturing pressure vessels and steel structures, and also hold welding workshop certification in accordance with AD 2000 reference sheet HPO and DIN EN ISO 3834-3.



## Assembly

### Efficient Installation Services and Flexibility Thanks to Local Presence

We have the state-of-the-art equipment and highly qualified staff to deliver comprehensive customized erection and service solutions for industrial and complex steam generation/boiler installations. The range of services we offer spans from installation planning through project management to site management:

#### Implementation:

- complete installation of boiler plants
- installation of power station components
- modernizing and converting existing plants
- dismantling discontinued plants
- general steel construction
- steel and pipework installation

#### Revision:

- repairs after accidents and damage incidents
- plant inspections
- boiler revisions emergency service (24h)
- grate revisions
- long-term service contracts and shut-down management
- general maintenance

In addition to professionally trained and qualified staff, we are ISO 9001, ISO 14001, and OSHAS 18001 certified and have all the certificates we need to ensure the proper performance of our assembly services.



“HZI was commissioned to repair the boiler at our bio-oil facility in Magdeburg. Thanks to their structured, professional, and solution-oriented assembly services, we were able to get our plant back into operation on time despite the tight schedule.”

**Daniel Reinhardt, Division Head, Getec Heat & Power, Magdeburg, Germany**



## Operation & Maintenance

### Reliable Operational Partnerships Thanks to Efficient Processes and Effective Strategies

The owners and operators of WtE and biogas plants have to focus on increasing efficiency and maximizing commercial revenue. We help them get the best possible value out of their investment. Thanks to our proprietary process monitoring system Pamela, we have all the data we need to develop a bespoke strategy for enhancing your plant's performance. Our service and maintenance agreements cover:

- gaining a full picture and analysis of your plant's operating data

- individual advice based on the evaluated data
- professional maintenance at optimal intervals
- regular inspections and overhauls
- providing spare and wear parts
- 24-hour on-call service

This enables us to ensure a high level of safety and security and maximum availability, with the ultimate goal of running your plant at peak performance in terms of waste throughput and energy generation.

## Laboratory Services

### Optimally Addressing Specific Customer Needs Thanks to Profound Expert Knowledge

HZI's laboratory offers an extensive range of services as diverse as the variety of issues that arise in connection with waste treatment. We can provide the full array of relevant tests and analytical methods to help you address operational problems and analyze their causes:

- verifying compliance with emission limits and performance guarantees
- examining waste and bottom ash
- analyzing wastewater and flue gas treatment residues
- determining process-relevant parameters, emissions, noise levels, and surface temperatures
- drawing up issue profiles
- support with official approval processes

Thanks to our own professionally equipped laboratory, our customers benefit from short response times and lean processes. We have a comprehensive range of tools and instruments enabling us to comply with all the most stringent European standards and directives.



“Throughout the entire process of analyzing our combustion residues, from taking samples to reporting, we were impressed by HZI's expertise, dependability, and flexibility on deadlines. Our easy working relationship with HZI's lab team has enabled us to optimize procedures at our plant's own lab on more than one occasion.”

Stefan Ringmann, Operations Manager at KVA Linth, Switzerland



## Spare Parts Management

### Supplying Original Spare Parts at Short Notice Thanks to Intelligent Logistics

As well as being complex, costly, and taking up storage space, strategic spare parts management also requires constant maintenance input. By entrusting all this to us, you can make significant cost savings, in turn bolstering the overall economic efficiency of your plant. We can handle all your logistics needs:

- procuring and delivering wear components with short response times
- manufacturing custom-built components at our own workshops

- original spare parts directly from our warehouse
- specialist installation and erection support
- providing tools and vehicles

The materials used and their processing meet the highest quality standards, guaranteeing flawless products, preventing downtime, and making revision work easy to schedule.



## Retrofit

### Enhanced Plant Efficiency Thanks to Comprehensive Solutions and Modern Technology

Increasingly tighter legislation and more stringent environmental and economic requirements are presenting new challenges for WtE plant owners and operators. We have the answer with our holistic solutions and state-of-the-art technology. Our focus is on extending the operating life of your plant, fully exploiting the potential to boost efficiency and performance, while at the same time minimizing emissions:

- replacing specific components and renewing subsystems
- installing plant extensions
- modernizations for extended service life and lower emissions
- increased efficiency and higher steam output through constant monitoring of heat exchangers

Together we draw up a customized strategy that will help you increase the profitability of your plant and enhance efforts to recycle energy and materials.



“Thanks to HZI, we now once again have a plant with state-of-the-art technology. The project was executed without any problems while operations continued, allowing us to successfully commission the new plant with a minimum of interruptions and ahead of schedule.”

Romano Wild, Director KVA Horgen, Switzerland



## In-House Innovations

### Smooth Operations Thanks to In-House Innovations and Developments

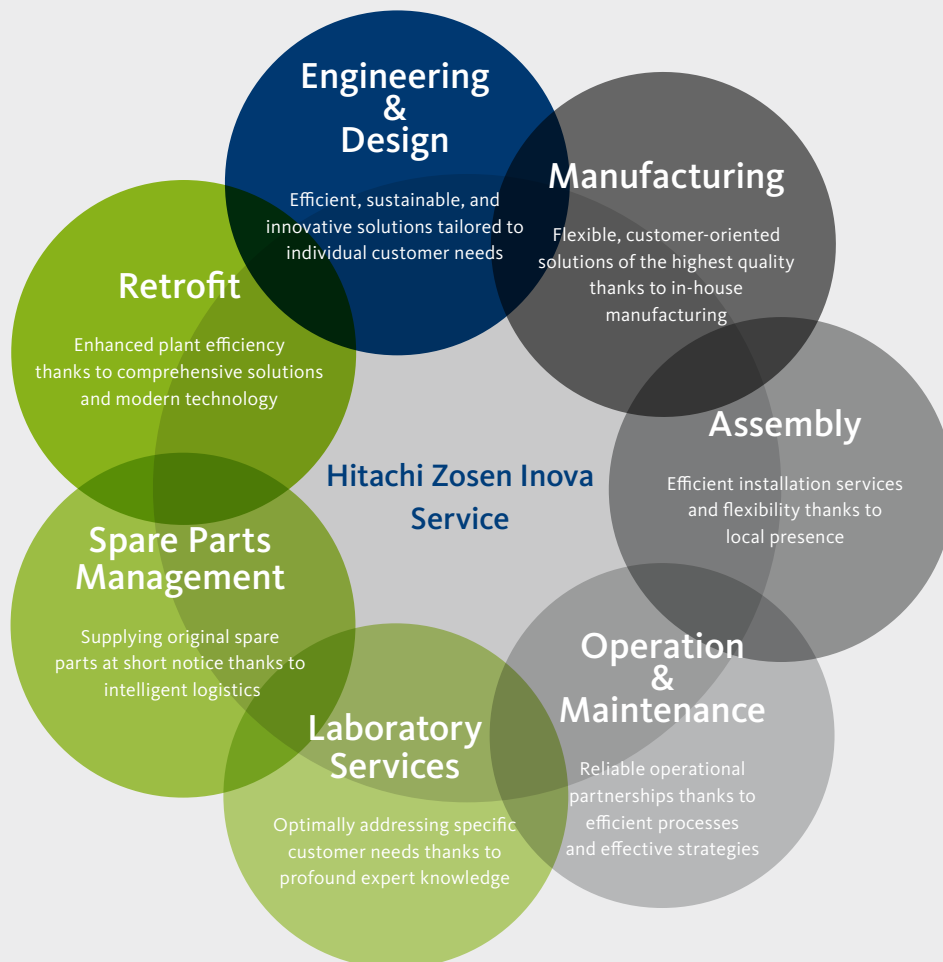
We develop and manufacture many products ourselves, safeguarding our independence and allowing us to deliver an array of components for WtE and biogas plants from a single source. To ensure outstanding plant performance, we continually work on product development and innovations:

- HZI's combustion control system Autaro® for more effective process management
- HZI's reciprocating grate with integrated sliding bearing for grate carriages
- feed hoppers with bridge breakers for optimal waste introduction

- modular feed hopper
- HZI's dry or wet bottom ash extractors for maximum material recycling
- DyNor®, our non-catalytic DeNO<sub>x</sub> process for efficient denitrification
- Kompogas® plug-flow digesters
- KOM+PRESS, our dewatering press for the separation of residue
- BioMethan amine scrubbing and membrane technology for upgrading biogas plants

All of HZI's in-house products are designed for smooth, stable plant operation and improved long-term economic efficiency – to the benefit of our customers.

## Services Throughout Your Plant's Life Cycle



“Working with Hitachi Zosen Inova is exceptional. During the entire installation of lines 1 and 2, and the subsequent service and retrofit contracts, there has never been an interruption due to financial or technical issues. We’ve always been able to resolve problems together before the financial responsibility even had to be discussed.”

| Jan Egil Bredsten, Operation Manager of KVA Bergen, Norway



The HZI Group  
Worldwide Presence, Always within Reach