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CASE STUDY:

DATA CENTRE MADXX

Exhaust solutions for backup diesel gen-sets

DataFlue System

The System for Data Centers You Trust

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EXECUTIVE SUMMARY

The installation project at **MADXX** Data Centre in Alcobendas is part of their global expansion.

Utilising xScale technology, solidifying their presence in **Madrid as a strategic Data Centre HUB.**

The project involved **modular flue systems for the backup generators**, an essential component to ensure operational continuity in such critical infrastructure.

COMPANY OVERVIEW

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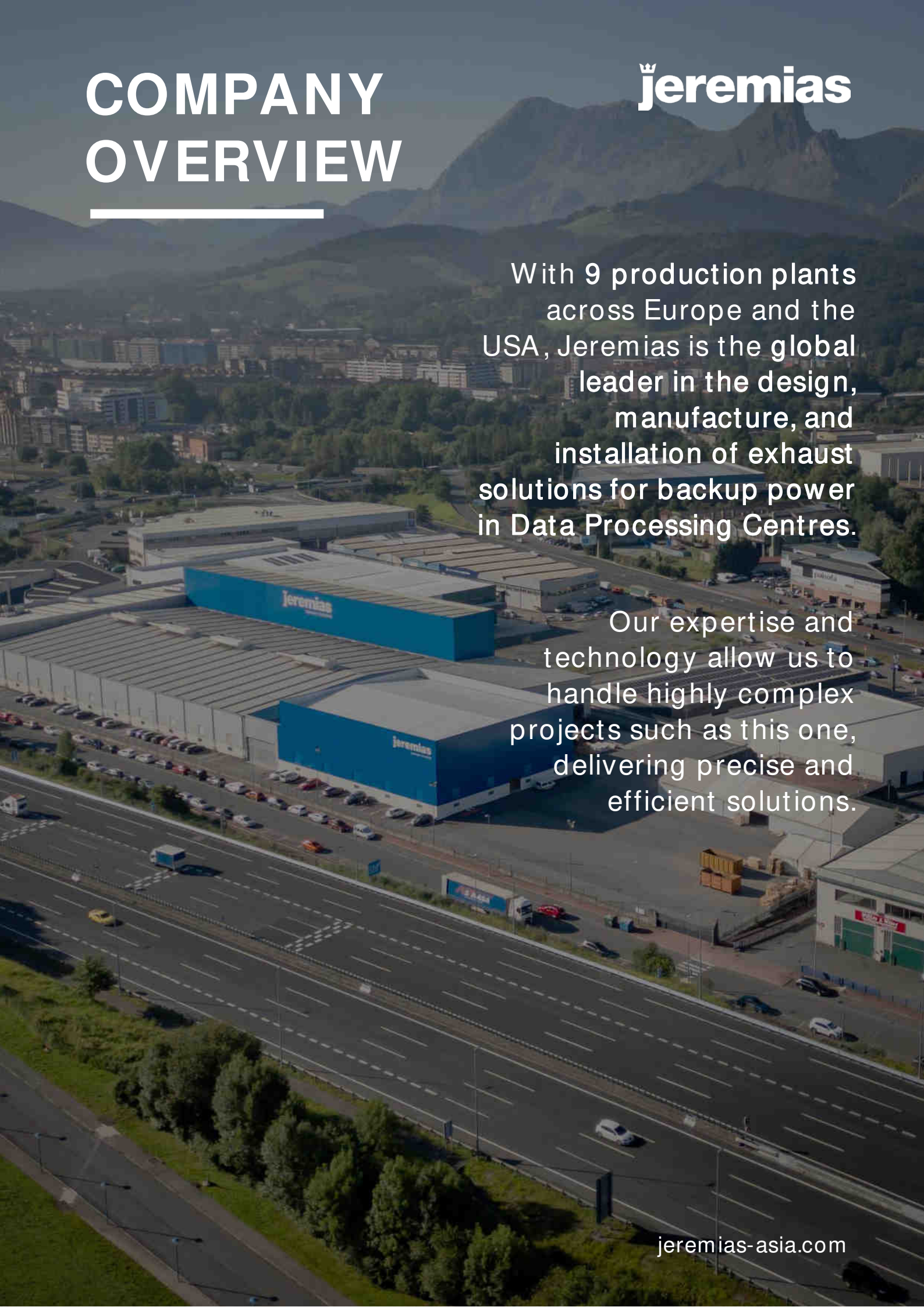
With **9 production plants** across Europe and the USA, Jeremias is the **global leader in the design, manufacture, and installation of exhaust solutions for backup power in Data Processing Centres.**

Our expertise and technology allow us to handle highly complex projects such as this one, delivering precise and efficient solutions.



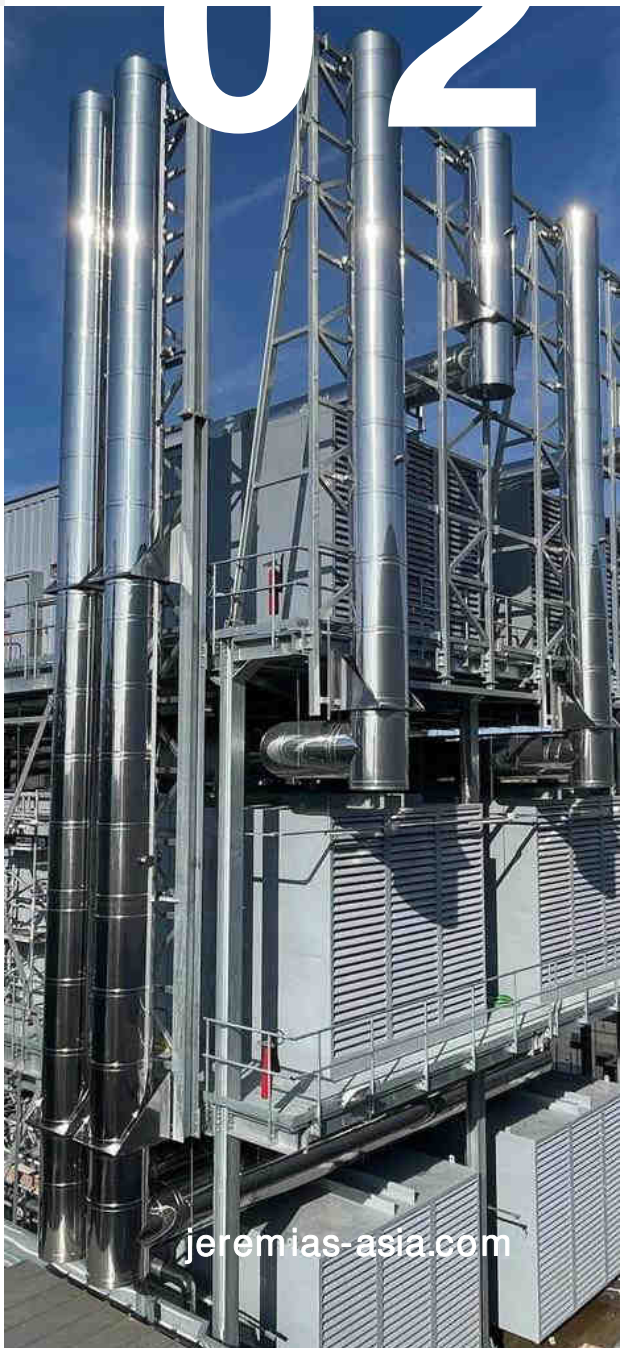
INITIAL CHALLENGES

The primary challenge of this project was the **installation of multiple generators sets across different levels** of an external structure **separate from the Data Hall**, forming a critical energy centre. This **multi-level design optimises the use of space**, reducing the area required for generators, while the external placement of the energy building minimises the need for passive fire protection measures.

We are involved in **all the phases of a Data Center Project**

Jeremias was involved from the design phase, advising the engineering team, the contractor, and the generator installer to provide an optimal solution. The integration of the modular chimney systems into the steel support structure, designed to meet the required environmental height regulations, was a key part of the project.

- Design
- Advising the engineering team
- Advising the contractor
- Advising the generator installer
- Integration of the modular chimney systems into the steel support structure
- Installation



The world's most widely installed Prefabricated Exhaust Pipe System

- High Pressure Tightness of the inner pipe up to 15.000 Pa
- Up to 600 º working Temperature
- Pre-Insulated with minimum 50mm high Density rigid mineral wool
- Pre cladded with Stainless steel
- 25 years corrosion warranty
- More than 1,500 projects in 30 countries

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PROPOSED SOLUTION

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Jeremias proposed its modular **DWKL-50** system, a highly reliable chimney system produced from corrosion-resistant stainless steels with high-density rigid mineral insulation, manufactured using semi-automatic laser welding processes in an **Industry 4.0** environment.

The **DWKL-50** system offers **H1 tightness** up to 15,000 Pascals, a unique feature that requires no internal or external sealants thanks to its high-precision metallic conical connection.

Using Jeremias' **REVIT BIM Add-In**, our technical team was able to design the entire system with high precision, offering optimal support options to make the installation process faster, easier, and more economical.

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Fast

Easy

Precise

IMPLEMENTATION PROCESS

Phased Installation: Carried out in phases based on generator set availability across three floors with a total of 9 enclosed generator sets. Jeremias' lightweight modular systems facilitated **easy** transportation to higher levels using a site hoist.

Installation Method: Elevated platforms were used for efficient installation.

Team Oversight: A dedicated team of three personnel from Jeremias in Madrid managed the installation, ensuring it was completed **without significant incidents**.

Efficiency and Safety: The modular design eliminated the need for on-site welding and insulation, which **reduced labor time** and **minimized occupational risks**.

RESULTS AND BENEFITS

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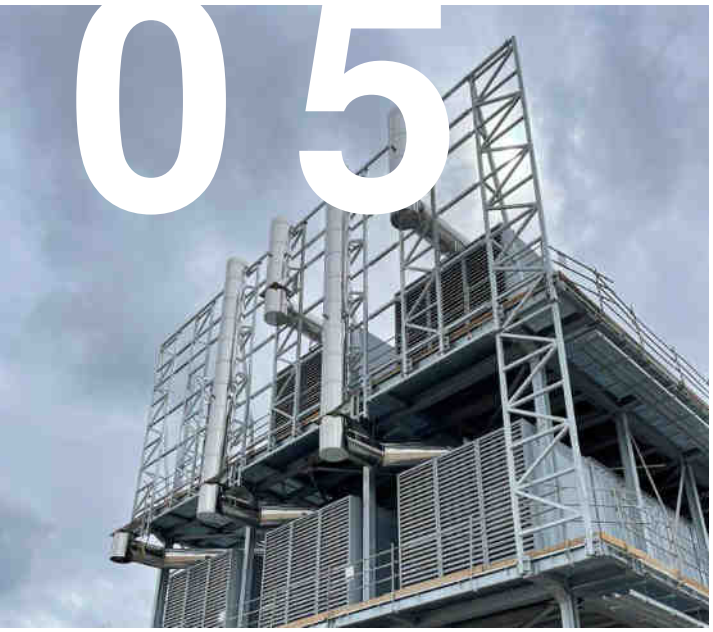

Jeremias' modular design optimised space usage, saving floor area allocated to generators and freeing up more space for the Data Hall. The complete separation of the energy building from the main server building minimised the fire protection requirements.

The modular installation of the flue ducts accelerated the assembly process, and by avoiding on-site welding and insulation, we significantly **reduced installation time and risks.**

Thanks to the availability of our technical team and the **REVIT BIM Add-In**, Jeremias was able to integrate the chimneys into the pre-planned structures from the outset of the project, ensuring a comprehensive solution under one umbrella.

Space efficiency

Improved fire protection

Accelerated installation

Integrated design process

KEY ACHIEVEMENTS OF THE PROJECT

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- **Modular** prefabricated solution
- **Collaborative** design with the main contractor
- Comprehensive delivery of design, production, and installation under a **single provider**
- **Quick and safe installation**
- Full compliance with **environmental and safety regulations**

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The Data Centre Partner You Trust

Jeremias Group, Asia Office Level 40, Ocean Financial Centre 10 Collyer Quay, Singapore 049315 SINGAPORE, Singapore

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