# POWERFUL PARTNERSHIP DELIVERS LONG-TERM AVAILABILITY AND EFFICIENCY

REFERENCE CASE – BARAJAS AIRPORT, MADRID, SPAIN

Wärtsilä and SAMPOL have forged a rock-solid relationship since first collaborating on a flexible power plant to provide reliable energy to Adolfo Suárez Madrid-Barajas Airport in 2005. The partnership has gone from strength to strength, and 15 years later a fourth extension has been signed to renew the maintenance agreement until 2024.

SAMPOL Ingeniería y Obras SA (SAMPOL) is an important contractor for AENA, the Spanish airport authority. In 2003 SAMPOL signed an agreement with Wärtsilä for the supply of dual-fuel engines and auxiliary systems for a power plant they were constructing to supply electricity to Barajas Airport in Madrid, Spain. The Wärtsilä technologies, which have helped SAMPOL to deliver a consistently high level of performance to their client, are part of a combined heat and power (CHP) facility that provides electricity, heating and cooling to Terminal 4, the airport's main terminal, and Terminal 4S. The plant supplies backup power for the airport, meaning that it must be always available. As well as offering a high level of availability, Wärtsilä's solution was initially selected for its ability to provide high power density and to operate for long periods between major overhauls. When combined with the agreement for lifecycle services featuring responsive on-site support, which allowed SAMPOL to maintain impressive efficiency levels over a sustained period, the solution was ideal for the long-term provision of power to the airport.

The first maintenance agreement was signed in July 2005, marking the beginning of an ongoing successful cooperation between SAMPOL and Wärtsilä. The latest renewal, which includes maintenance management services, technical support with upgrade recommendations, and logistical support, was signed in October 2019 and will run until 2024.

"Supplying power, heat and cooling to the Madrid airport is very important, and reliability is a must. The Wärtsilä engines have continued to provide this efficiency and reliability.

The plant has been extremely successful, providing impressive availability and efficiency. Continuing our relationship with Wärtsilä has been an easy decision as they've been a hugely important part of this success"

David Gabiola
Power Plant Manager, SAMPOL

## Long-term agreement supports efficient operations

The equipment Wärtsilä supplied for the plant includes six dual-fuel engines that run on gas around 99% of the time but can be instantly switched to diesel whenever the need arises. This dual-fuel system provides redundancy and is a functionality that few manufacturers were able to offer at the time. Once the plant was installed, SAMPOL and Wärtsilä formed a close partnership to take care of the management of its day-to-day operations.

With Wärtsilä's help, SAMPOL has been able to achieve consistently high availability and reliability, with no major issues over almost 110,000 hours of operation per engine since the plant was commissioned in 2005. The plant has continued to perform reliably, providing the promised efficiency levels – or better – over the long term and matching the efficiency ratings that would be expected with a new-build plant.

## Dedicated onsite expertise keeps things running smoothly

Although SAMPOL's own technicians take care of all smaller maintenance jobs, under the maintenance agreement Wärtsilä engineers are on hand to deal with any major work, allowing SAMPOL to tap into the company's in-depth knowledge of the system. In addition, Wärtsilä supports the customer with a dedicated technical advisor and contract manager on site. This arrangement allows Wärtsilä to ensure that the plant is always available to provide reliable energy for Barajas Airport.

Wärtsilä's technical advisor Alfred Hamberg explains what is involved in keeping the plant running smoothly: "My job is very diverse and it includes monitoring performance and any alarms, tuning the engines to maintain optimal performance and responding to any technical issues with the mechanical, electrical and control systems raised by SAMPOL's staff. I'm also the first point of contact for contractual issues like maintenance and parts planning, ordering and logistics, and any other concerns that the customer may raise. This daily collaboration is essential for both parties to continue with our successful agreement."

## A shared journey to mutual success

SAMPOL's story began in 1934 with a radio workshop. The company expanded into the hotel industry and other sectors over time, eventually moving into aeronautic ground signalling and lighting in the 1970s. The engineering company also has around 20 years of experience in the energy business, and it now designs and sells power plants.

"The partnership with Wärtsilä has helped to steer this evolution," says SAMPOL's David Gabiola, who continues, "Our knowledge and experience in power plants has grown hand in hand with Wärtsilä's support through our collaboration at Barajas Airport. Rather than being a case of one company providing services to another in a one-way agreement, the Barajas plant is very much an example of two companies working closely together to achieve success."

## Case summary

| The challenge | Wärtsilä's solution | Benefits |
|---|---|---|
| • Backup power generation and continuous heating and cooling at Barajas Airport in Madrid, Spain<br>• Need for reliable, always-available power<br>• Need for efficient power with long-term support | • 33 MW power plant with Wärtsilä 18V32DF (dual-fuel) engines<br>• Advisory service with Wärtsilä expert on site at all times<br>• Long-term service agreement to maintain high performance levels | • Reliable and efficient power generation<br>• Timely resolution of any issues<br>• Performance has always matched or exceeded agreed efficiency |

## Key data

| End customer | SAMPOL Ingeniería y Obras SA |
|---|---|
| **Solution** | Wärtsilä 33MW power plant with long-term maintenance agreement and onsite advisory service |
| **Operating mode** | Baseload |
| **Gensets** | 6 x Wärtsilä 18V32DF (dual-fuel) engines |
| **Total output** | 33 MW |
| **Fuel** | Natural gas and light fuel oil (LFO) |
| **Delivery** | 2005 |

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