

New Energy at the Airport

1,166 kW of electricity for the trigeneration system at Bologna Guglielmo Marconi Airport.



Bologna Guglielmo Marconi Airport

Guglielmo Marconi Airport is the main hub of the Emilia Romagna region and one of northern Italy's major airports.

Covering 388,577 sq. ft., including 59,202 sq. ft. dedicated to commercial activities, 24 gates, 64 check-in desks and 35 stores, it is Italy's seventh-busiest airport.

Redeveloping the energy production system

Following modernisation and development work that began in 2013, Guglielmo Marconi Airport also asked Centrica Business Solutions to redevelop its energy production system.

Combined cooling, heat and power production

Centrica Business Solutions oversaw the design, installation and launch of a 1,166 kW trigeneration system for the self-generation of electrical power, heat and cooling energy. The Combined Heat and Power (CHP) E1200 NG system has an electrical power output of 1,166 kW and a cooling capacity of 259 tonnes, used for the self-generation of electrical power and for heating and air conditioning in the terminal building.

Tailor-made installation

The system was installed in just 50 days after civil works were completed, and was fully tested in the following 20 days. The unloading and placement of all the equipment, as well as some installation and testing operations, was carried out during the night to accommodate the airport's activity needs.

A perfect solution

The trigeneration system is based on a 12-cylinder Rolls-Royce MTU L62 Otto-cycle engine, coupled to a 400-V synchronous electrical generator. The system is expected to operate at full speed for approximately 8,000 hours per year.

The Results

The trigeneration system fully satisfied the needs of more than 6,580,000 passengers that the airport welcomed in 2014.



Electrical power
supplied



Cooling capacity
supplied



Hours of operation
per year

Why Choose the CHP System?

- Its primary energy saving helps reduce energy costs
- It offers financial savings of up to 40% compared to traditional energy supply
- It reduces CO₂ emissions by up to 30%
- It ensures greater security of the energy supply
- It includes real-time remote monitoring, technical support and nationwide assistance

Thermal energy recovered from the engine sleeves and exhaust gases is used to meet the airport's heating needs during the winter (heating, domestic hot water, etc.) and for cooling via an absorption chiller in the summer.

The trigeneration system not only delivers immediate economic benefits, but also and above all reduces the emission of pollutants and greenhouse gases into the atmosphere.

Full service

We oversee maintenance with a full service for the engine and all supply equipment. Maintenance is ensured thanks to our highly specialised employees, who are trained to perform any type of work on MTU engines.