

Engine Power Plant Performance Optimisation and Market Participation ALTEO Group

CASE STUDY



Integrating an engine power plant with energy storage

The European Union is currently driving one of the most ambitious carbon neutrality initiatives around the globe. Some of the more popular tactics in response to climate change include investing in renewable generation sources like wind, solar and hydropower. One of the lesser known, though arguably equally significant efforts, is optimising the current thermal energy generation infrastructure. Energy storage systems (ESS) have emerged as a viable upgrade to optimise generation performance for both renewable and traditional power sources and to help energy providers increase their revenue streams.

“The project was accomplished smoothly, owing to the great engineering work of Wärtsilä. The integration of the energy storage system is a huge step in ALTEO’s Virtual Power Plant development and we strongly believe that this technology has opened us new opportunities to successfully respond to upcoming challenges.”

Peter Luczay, Director of Wholesale Energy Trading & Virtual Power Plant Management at ALTEO

KEY DATA

CUSTOMER:

Sinergy KFT (ALTEO Group)

SITE SIZE: 6 MW / 4 MWh

SITE LOCATION: Budapest, Hungary

APPLICATIONS: Frequency Regulation, Ancillary Services

SCOPE OF SERVICES: Engineering, Procurement and Construction (EPC)

DELIVERY: 2018

SUSTAINABLE ENERGY FOCUS

ALTEO Group is an energy service provider and trading company based in Hungary. ALTEO provides its customers with reliable and environmentally conscious solutions for their energy needs while also focusing on sustainability. ALTEO was looking to increase its revenue streams, participate in the energy trading market and to have the first energy storage installation in Hungary. ALTEO turned to Wärtsilä for their Engineering, Procurement and Construction (EPC) expertise and industry leading software platform, GEMS, plus experience in complex energy storage and multi-application systems.

HYBRID SOLUTIONS FOR OPTIMISED PERFORMANCE

As the first energy storage system in Hungary, the deployment between Wärtsilä and Sinergy KFT, a subsidiary of ALTEO Group, leverages energy storage to open new opportunities in the Hungarian energy market.

Wärtsilä's hybrid solution is co-located with a Wärtsilä plant, delivering flexibility, reliability and resilience. The solution combines GridSolv Max – standardised, flexible and modular storage for core hardware assets – with GEMS energy management technology and Wärtsilä engines.

The hybrid system operates as part of a virtual power plant that includes thermal generation, often handling primary frequency regulation requirements so that the other thermal assets can operate at optimal performance.

As a result, Sinergy KFT now participates in the electricity market by providing frequency and secondary regulation to the Hungarian national grid operating in virtual power plant mode.

Ancillary services are a proven application provided by GEMS, and will help generate revenue for ALTEO. The deployment showcases competencies in traditional and emerging energy generation (as the existing power plant is running on three Wärtsilä W34SG engines), enabling power companies and developers to integrate and optimise a diverse mix of grid resources.

ENABLING ANCILLARY SERVICES

The 6 MW / 4 MWh energy storage system includes batteries, inverters and power electronics. GEMS is a critical component of the engine plus storage installation as the smart energy management technology platform is able to analyse changes in market conditions and rate structures.

Having such robust optimisation capabilities helps ALTEO not only maximise revenue, but also protect their energy storage investment for years to come. An additional layer of protection is provided by Wärtsilä's services organisation.

THE CHALLENGE	WÄRTSILÄ'S SOLUTION	BENEFITS
Increase customer revenue streams	Hybrid solution delivers flexibility, reliability and resilience	Empowers the customer to participate in the electricity market by providing frequency regulation to the national grid
Enable participation in the Hungarian energy trading market	First energy storage installation in Hungary, and first to feature Wärtsilä's GridSolv Max standard solution	Enables power companies and developers to integrate and optimise a diverse mix of grid resources

