

MiRIS, Belgium

**2 MWp - 5.5 MWh**



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## Our own green energy production and storage station

John Cockerill Energy has constructed the largest battery park on its Seraing site in Belgium. It is made up of 2MWp of photovoltaic panels coupled with 2 types of flow batteries, one lithium-ion battery along with a sodium-sulphide battery, representing a total of 5.5 MWh of energy storage.

The installation is managed by an intelligent Energy Management System (EMS) which is considered to be the brain of the system. Its role is to optimize reductions in the energy bill by determining the best moment to charge or discharge the batteries depending on various parameters/factors such as consumer demand, climatic conditions, the market price of energy and numerous other variables.

The produced electricity is being used by the John Cockerill headquarters for its own consumption. The energy bill may also be reduced by selling the excess electrical energy to the grid (in accordance with regulations), or contributing in primary reserve market using the available energy stored in the batteries. With the objective of determining the profitability of the batteries, John Cockerill has been testing the latter subject to different energy production profiles.

Thanks to our demonstrator, we are able to undertake project simulations. These simulations serve to validate the equipment sizing, provide technical recommendations, and evaluate the performance of the EMS. Another key advantage of MiRIS is the ability to operate off-grid, enabling us to cover electricity needs in areas where the electrical grid is weak.

### Photovoltaics

6500 PV panels

10.000 m<sup>2</sup> of surface area (roofs)

36 PV inverters

2MWp - 1.75GWh

### Storage

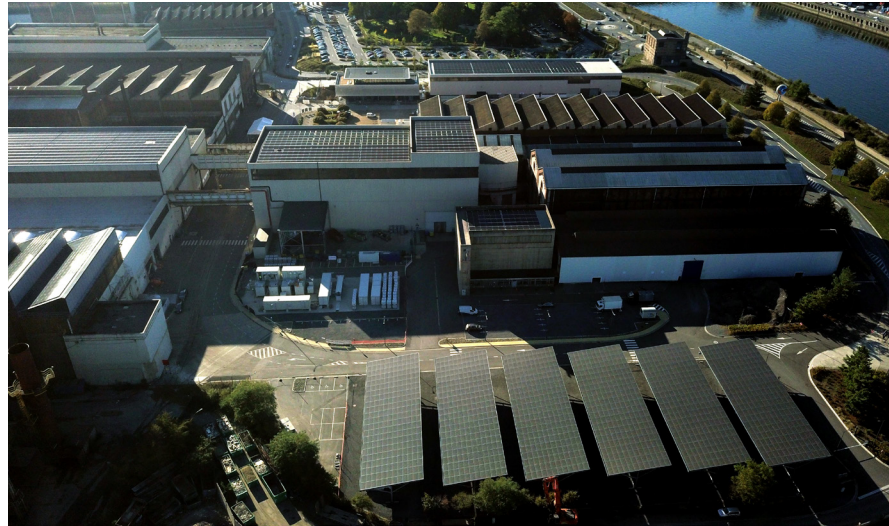
1.260 kW/1.340 kWh lithium-ion battery

400 kW/1200 Wh redox-battery

200 kW/1.200 kWh sodium-sulphide battery

500 kW/1.754 kWh redox battery

For a total of 2.4/5.5 MW/MWh



The roofs of the John Cockerill workshops are covered with 6,500 m<sup>2</sup> of photovoltaics panels.

