SAAB



## Secure electricity supply in the Horn of Africa













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The defense and security Group SAAB operates a civilian camp in a UN area in the Somali capital Mogadishu. Electricity is supplied by three generating stations, which after a relatively short time began to fail, one after the other. With only one diesel generator still operating, SAAB contacted Coromatic to provide a permanent solution to its electricity supply problems.

#### Background

SAAB runs a vehicle repair garage under a mandate from the UN and the African Union on the 15,000 sqm camp, which was built in 2013.

It was mainly set up for its own personnel and operations, but other companies and organizations from various countries can also rent space. Infrastructure at the camp must function faultlessly in order to run operations.

The camp had serious problems with its electricity supply after only a year, says
Anders Hågnäs, project engineer at SAAB.
We found that the generator windings were completely rusted through because of the incredibly corrosive environment at the site.
The generator cooling fans also caused the damp and salty air to become even more abrasive, accelerating the degradation.

#### Solution

- We were aware of Coromatic from earlier projects together and knew that the company worked with large and small ventures in various places around the world. With this experience, the company had probably come across quite a few problems that it had learnt from. We presented a wide-ranging list of requirements to Coromatic in order to answer several questions and to create a sustainable solution together.

#### Requirement for a rustproof solution

Climate conditions in the area are tough, with an average temperature that rarely falls below 30 degrees. SAAB understood at an early stage that the generators needed a protective environment in the form of an enclosed solution.

- We saw a standard steel container that had stood at the camp for three years and where the doors were almost falling off. So we understood that Coromatic's solution with modules built from composites in a sandwich structure was the right way to protect the generators, Anders Hågnäs states.

#### Joint development work

Coromatic began the quotation and design process, which was jointly developed as the project progressed.

The objective was to allow as little air as possible into the generator space. This is why the cooling system and other units are placed on the roof outside and special filters clean the intake air.





- We wondered how we could efficiently change oil and filters. By using pipes and pumps, we can now manage most of oil and cooling water maintenance from the outside, explains Anders Hågnäs.

Several other problems were rectified as work continued. The camp's existing hot water supply was designed with continuous flow heaters to a standard that created problems when several people showered at the same time.

The strong heat produced by diesel generators was sent to a heat exchanger, which converted this into hot tap water.

#### Results

The completed building is the size of two 20-foot containers that are joined together to about  $5 \times 6$  meters. SAAB is operationally responsible and can sit at its offices in Östersund and remotely monitor the system. Coromatic has also taken care of communication and database management for the collected data.

- We have had a very good relationship with the Coromatic team throughout the development process and have discussed a lot of ideas back and forth. SAAB can be a very demanding customer, and Coromatic was the only company that could satisfy our requirements. The entire solution looks good and the installations are attractive, Anders Hågnäs summarizes.

- Now we expect everything to work exactly as a generator here at home, without rusting. To crown it all, the system can supply as much hot water as needed – but first and foremost we have secured our electricity supply. We now have two diesel generators in operation and there is space in the building for an additional generator if this is needed in the future, concludes Anders Hågnäs.

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Anders Hågnäs Projektingenjör SAAB



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