



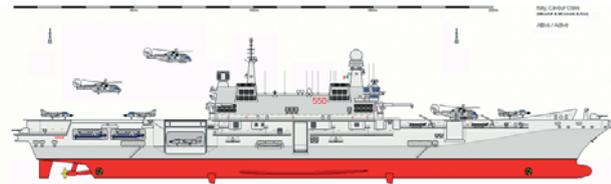
## “Cavour” aids relief operation

The Italian Navy's newest aircraft carrier, the “Cavour”, set sail in January 2010 for its first operational mission. By contrast with its main function, this was for purely civilian purposes: to provide relief after the disaster in Haiti. Thanks to the on-board Bender technology, the crew can rely on a dependable power supply for the medical equipment.



## The newest Italian aircraft carrier on aid duty in Haiti

>> With a length of 244 metres and a displacement of approx. 27,000 gross registered tonnes, the Cavour, named after the first Italian prime minister Conte di Cavour, is designed as a multi-purpose vessel which can reach a speed of 27 knots. The flight deck measures 220 × 34 m and offers 8 parking positions for fixed-wing aircraft and 6 helicopter landing places. The 134-m-long and 21-m-wide hangar (2500 m<sup>2</sup>) offers space for 12 helicopters or 8 fixed-wing aircraft (possibly more). There are generally 16 fighter jets and 8 helicopters on board. These are transferred from the hangar to the flight deck in two aircraft lifts. Thanks to a ramp at the rear, the hangar can be used as a garage and can hold up to 100 lightweight, 50 medium-sized or 24 heavy vehicles. By using the ramp, hangar and on-board lifts, additional vehicles can be moved to the flight deck if required and transported there. In addition, there is space for up to 416 marines who can then be deployed by helicopter.



### IT system und IRDH dream team

The Cavour's propulsion system consists of a combination of various gas turbines, each of which delivers 22,000 kW. The ship therefore has a total output of approx. 120,000 hp. The ship's electricity supply is ensured by six 2200 kW diesel generators and two 2200 kW axle-driven generators on the main screws. In addition, there are two dockside connections of 6000 V. The entire electricity supply is designed as an IT system (unearthed), with each main and subsidiary circuit fitted with type IRDH575 A-ISOMETER<sup>®</sup> insulation monitoring devices and EDS470 insulation fault location systems. The FTC470XMB protocol converters used convert the information from the communication-capable EDS to the standardised, widely



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### TECHNICAL APPLICATION

used Modbus-RTU format. This provides an excellent response to the demands for communication capability, data transparency and flexibility.

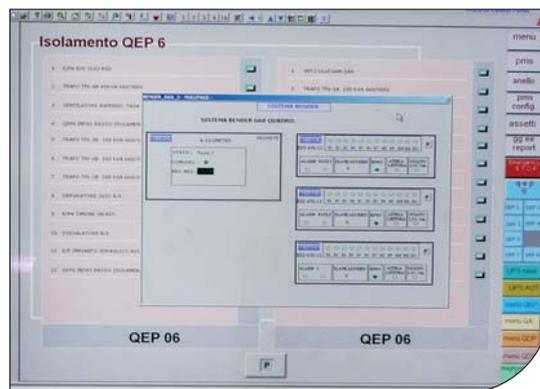
The technical planning and programming of the power system was carried out by the shipyard planners in conjunction with Bender's agents in Italy, Fancos, based in Milan, with particular assistance from Dr. Claudio Gariboldi and former Bender employee Klaus Schnitzer. In total, some 90 IRDH575s, 130 EDS470s, 6 FTC470XMBs and 850 varied converters are installed. All the Bender products (fitted in the distribution systems) have to pass rigorous testing, for example a drop test from a height of 3 metres. The expert preliminary work undertaken by Fancos meant that there were no problems at all in the testing station.

#### Flexible usage concept

Its sophisticated process sequences and high-level automation mean that the Cavour requires a complement of only 451 men and women, together with 203 navy flight crew and 140 soldiers, to lead a naval formation. The Cavour is designed for long periods at sea and, in addition to a casino, several common rooms and laundries, has an on-board hospital with two operating theatres, an intensive care unit, X-ray and CT scan facilities, a dentist and a laboratory. The large hangar not only offers space for military equipment but can also be used for civilian purposes, e.g. during relief actions.

#### Maiden voyage to the disaster area

The Cavour's medical facilities were also a key factor in the decision on where it should go on its first official mission two months ago: on 19 January 2010 the aircraft carrier, carrying only helicopters, aid workers and aid equipment, left its home port for Haiti to provide relief aid following the devastating earthquake on 12 January this year; some 50 doctors, nurses and other specialists



were also on board. The Air Force had assigned paramedics to fly with the helicopters. En route to Haiti the Cavour diverted to Brazil to pick up further rescue personnel. The Cavour arrived in Haiti on 31 January 2010, where its assistance is urgently required.

As in all operating theatres, it is essential for the performance of the medical equipment to be absolutely reliable. This is all the more true at sea, far away from dockside connections or alternative facilities. The carefully planned IT systems and Bender technology leave personnel free to concentrate on the job in hand because a dependable power supply is guaranteed – wherever in the world the vessel finds itself. ■

*Dipl.-Ing. Andreas Möschl  
Business Development*