

# AIR TRAFFIC CONTROL

More than 700 primary- and secondary-radar channels are operated in diverse weather conditions in 55 countries across the world. Those figures illustrate clearly Alenia's position in the ATC market.

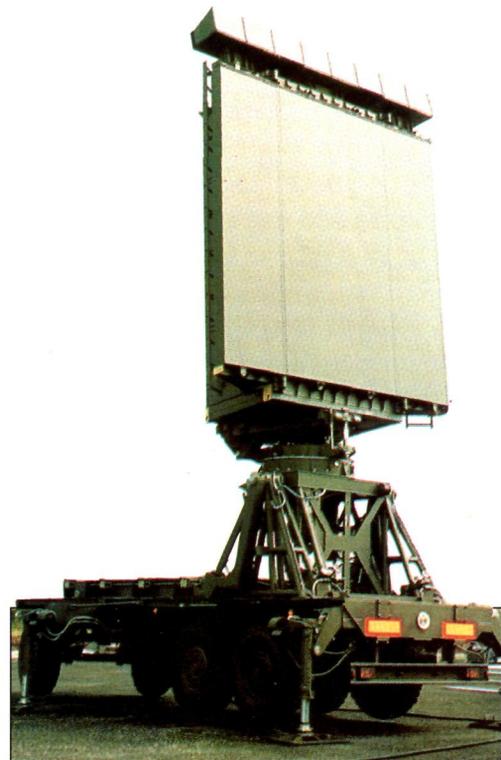
Its modular systems have distributed-intelligence techniques, with radar coverages ranging from a single airport to an entire country. Alenia's systems comprise primary and secondary radars, distributed-intelligence control centres and data networks for aerospace communications.

The company's main ATC products are the ALE 3x5, ACTR 33K and ALE 9 antennas, for primary and secondary radars, plus the CDS 2000 and DDS 80 data-presentation consoles. The ALE 3X5 planar

antenna is the latest product in the ALE series, designed to provide enhanced performance for new-generation ATC radar. A high-gain, multi-beam antenna, it has been designed to provide greater coverage, together with a signal ground-to-echo ratio better than that of current aerials.

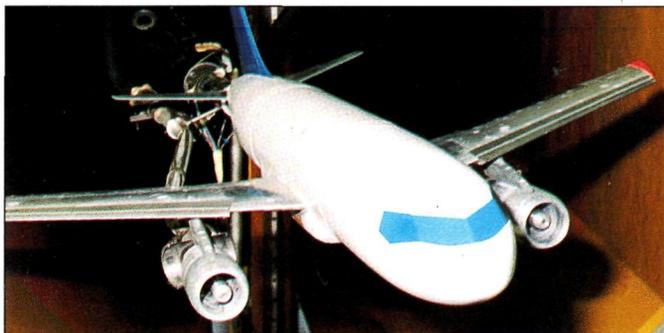
Measuring 15 x 5m and comprising 192 modules, despite lacking the protection of a radome it is maintenance-free and has been developed to cope with extremely adverse weather conditions. Radomes may reduce performance and Alenia does not plan to use one for ALE 3X5. The company estimates, however, that 20,000 research hours by systems engineers and specialists were required to refine an antenna design which did not require protection. The ALE 3X5 is now in use at Rome and Milan.

Presentation consoles produced by Alenia include the DDS 80 and CDS 2000. The DDS 80 is a high-performance, display system designed specifically for terminal areas and *en route* ATC systems. CDS 2000 is a raster-scan workstation based on a very-high-resolution (2000 x 2000mm[?]) colour display, with stand-alone processing capability. This, too, is for terminal area and *en route* applications, displaying both radar and flight information. It is part of Alenia's MAGICS family of high-performance displays. Design emphasis was placed on providing a logical and rational flow of information, utilising interfaces and meeting international standards. It is to be installed in the new regional ATC centre at Rome-Ciampino.



RAT 31SL is Alenia's long-range surveillance radar

## RESEARCH AND DEVELOPMENT



Technology is Alenia's strength

Great emphasis is placed by Alenia on R&D, with more than 5,000 employees — mainly engineers and technicians — involved in a wide variety of programmes.

Some 20% of its total sales income is spent on R&D. Some of the central areas for research include information technology, micro-electronics, signal and image processing, artificial intelligence and advanced materials. The company also places emphasis on the development and introduction of efficient production techniques.

Cross-linking of technology throughout the Alenia group contributes significantly to R&D efficiency.