



A CULTURE FOR INNOVATION • A CULTURE FOR



SMA

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SMA, Segnalamento Marittimo ed Aereo (Marine and Aeronautical Signalling) S.p.A. was founded in 1943 to operate in the field of port and airport optical signalling. By 1948, it began developing the first Italian radar equipment for the Italian Armed Forces.

This gave rise to a technical and technological cooperation that is still the backbone of SMA's industrial activity. Through an ever increasing commitment to research, SMA has grown steadily to reach its present size and configuration as an industrial holding concern with participation or controlling interest in over fifteen sister companies.

In keeping with the strategic role of innovation, SMA focused on the development of its technical and technological capabilities and pursued the achievement of the highest level of knowhow in the micro and millimetric wave sectors.

In this manner, SMA was able to exploit its acquired design and manufacturing capabilities towards diversifying military production into a gamut of civilian applications.

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The SMA group currently operates in the high-tech and electronic market, designing, developing, and supporting systems in the field of micro and millimetric waves as well as that of data and signal processing.

In these areas the group's activities include, besides complete systems, subsystems, components and supercomponents.

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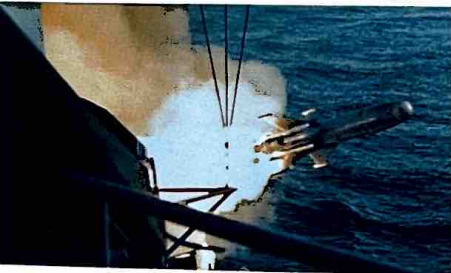
SMA presently employs approximately 600 people, 50% of whom hold college and advanced degrees. All its personnel is armed with a strong commitment to research and development.

The corporate headquarters, located near Florence, which comprise the engineering and prototype production departments, cover an area of approximately 10,000 m². Manufacturing facilities, located in Tuscany's industrial zone, cover approximately 13,000 m².

SMA's radar and system knowhow originated in the naval sector.

In this field of application, SMA has always based its operations on strong research and development.

It specialized in the X-band sensors to millimetric wave sensors which were first destined for naval applications and later evolved into ground and missile applications. SMA products comprise high-resolution navigation radar, detection radar for ground and low-altitude aircraft targets, firing control systems, and homing heads.



It is in this sector, in fact, that SMA today is one of the leading national and international producers. SMA designs, develops, and manufactures its products autonomously by applying its consolidated radar knowhow.

This capability has allowed SMA to develop the following product lines: equipment and integrated systems for naval, air, and ground defense; missiles, integrated command and control systems for

undersea and ground applications; logistic support for military applications.

In the radar sector, SMA possesses an extensive product line that ranges from standalone sensors to the most complex systems. Of fundamental significance are the series 700 low-altitude air and ground detection radar; marine and river radar; stabilized antenna units; command and control systems for submarines, minehunters, and high-speed craft. Over 200 naval radar have been produced to date. In addition, radar sensors, integrated with command and control systems, have permitted the development of fixed and mobile automated operational centers for port and coastal surveillance.

SMA's experience in the missile sector dates back to 1969. Its presence in this field is witnessed by the active guidance radar for the OTOMAT and MARTE missiles (on ground-to-ground as well as air-to-ground operation scenarios). The OTOMAT missile has been supplied to the Italian Armed Forces as well as those of seven other foreign nations. Over 600 of these radar have been produced to date. As part of the internationalization of the company, SMA has participated in the

development and production of the new-generation anti-aircraft missile ASTER, and SMA an integral part of the Anglo-Italian consortium committed to the technological development of the millimetric wave A/A seeker (TA-20 program).

SMA's capabilities and experience in these fields are confirmed by the applications developed for today's most sophisticated technologies and by the development of other, entirely new technological areas.

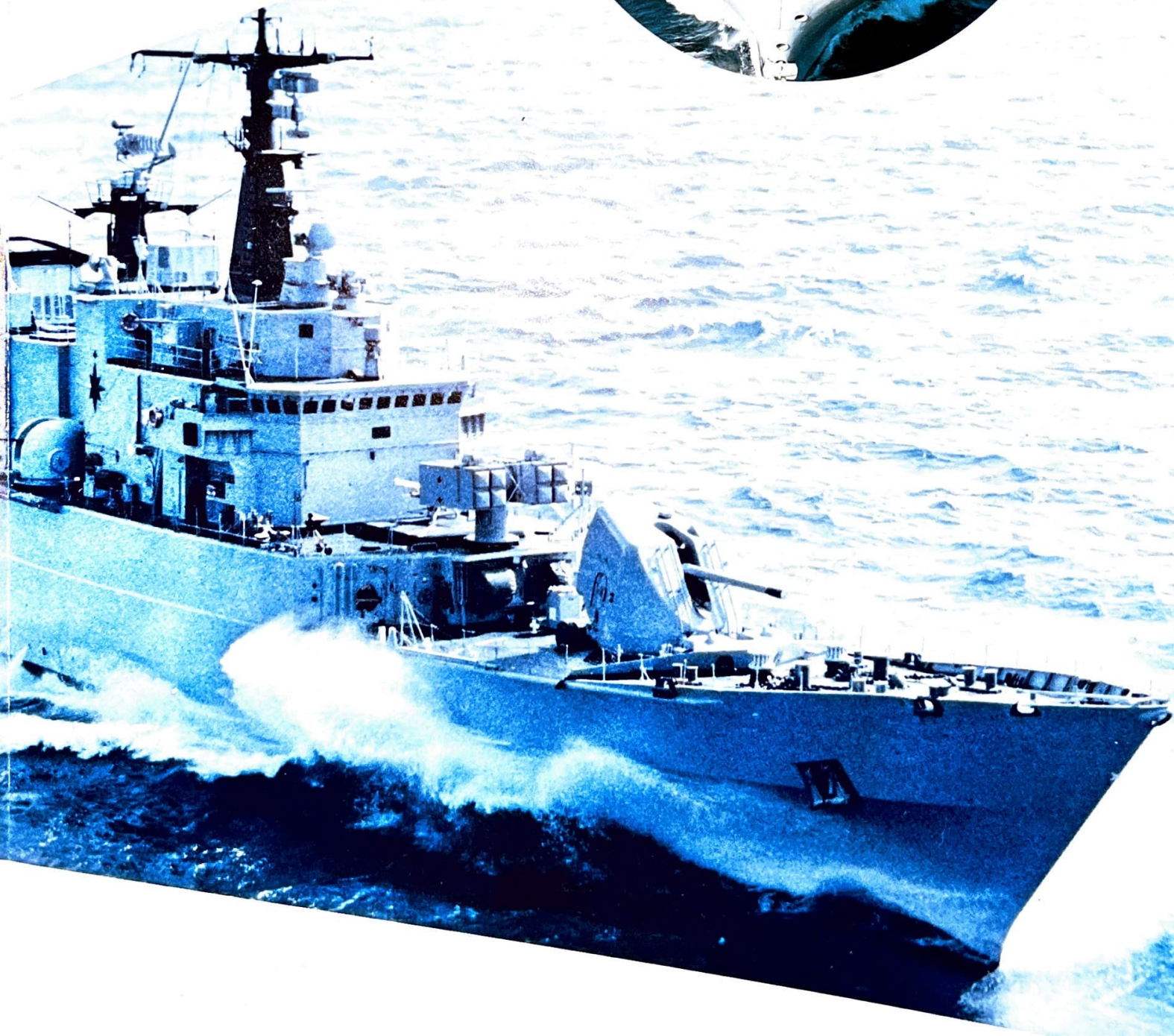
In the receiver sector, thin-film technologies and integrated subsystems constitute an example of SMA's technological supremacy with its operational presidium. Real-time digital signal and high-speed signal processing are likewise applied to data and signal processing applications.



Production includes phased and flat-array antennas, both of which are equipped with reduced secondary lobes, coherent transceivers using TWT, and solid-state transmitters.

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SMA's ground radar product line, which was successfully developed over the last 15 years, is directly related to the growing demand for radar systems in this sector.

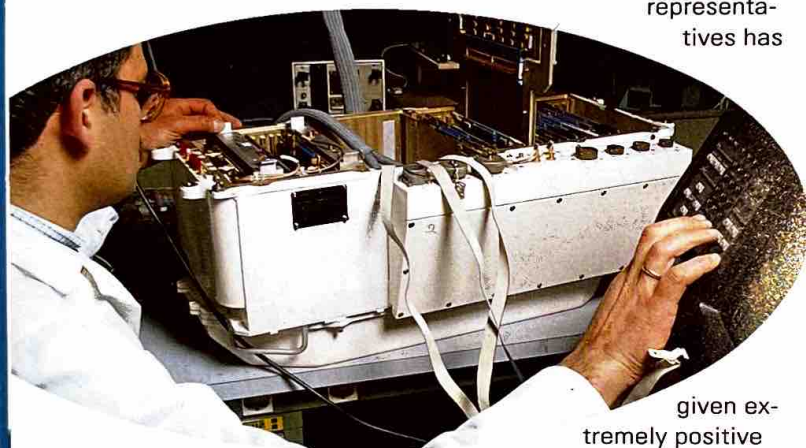
The performance thus attained fulfills requirements for countering low and very low altitude threats and hovering helicopters. Field testing conducted by the Italian Armed Forces in the presence of other NATO representatives has

simultaneously performing SRE and PAR functions.

effectuated. Along with other available units/products, they allow configuration of radar systems fully corresponding to the state of the art.

Coastal radar surveillance systems constitute a sector in which SMA has been active from the start, a prime example of competence in marine target detection. Various configurations of coastal stations have been developed to meet sophisticated military operations, antismuggling, and anti-infiltration requisites.

In the sector of battlefield surveillance, developments in keeping with this role have already been



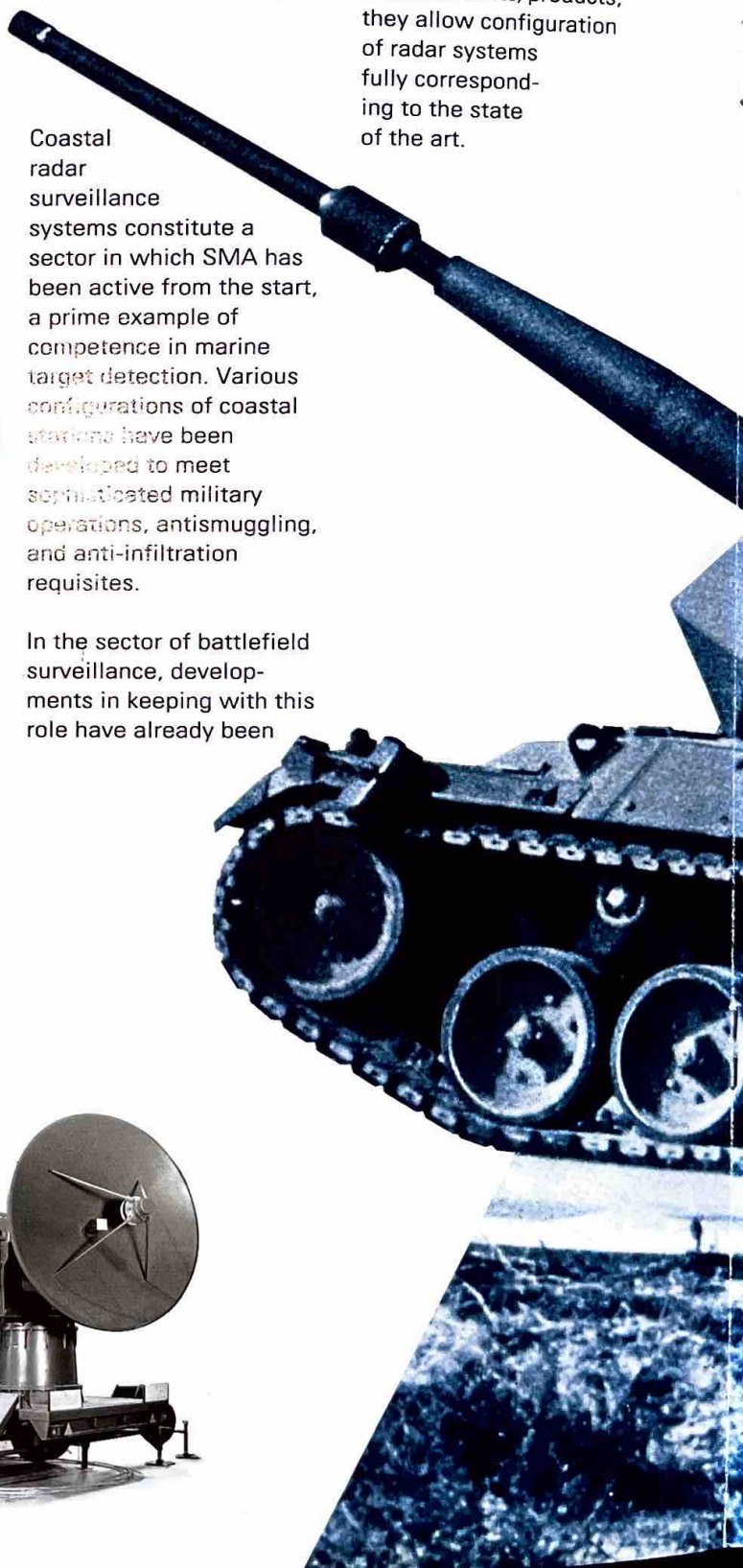
given extremely positive results.

SMA's output is chiefly concerned with the following product lines: radar systems with the dual role of surveillance and tracking for anti-aircraft applications, mobile radar for aircraft surveillance and landing guidance, coastal surveillance systems, and battlefield radar surveillance systems.

Tracking and detection components may be installed on various types of vehicles meeting mobility and self-sufficiency requisites.

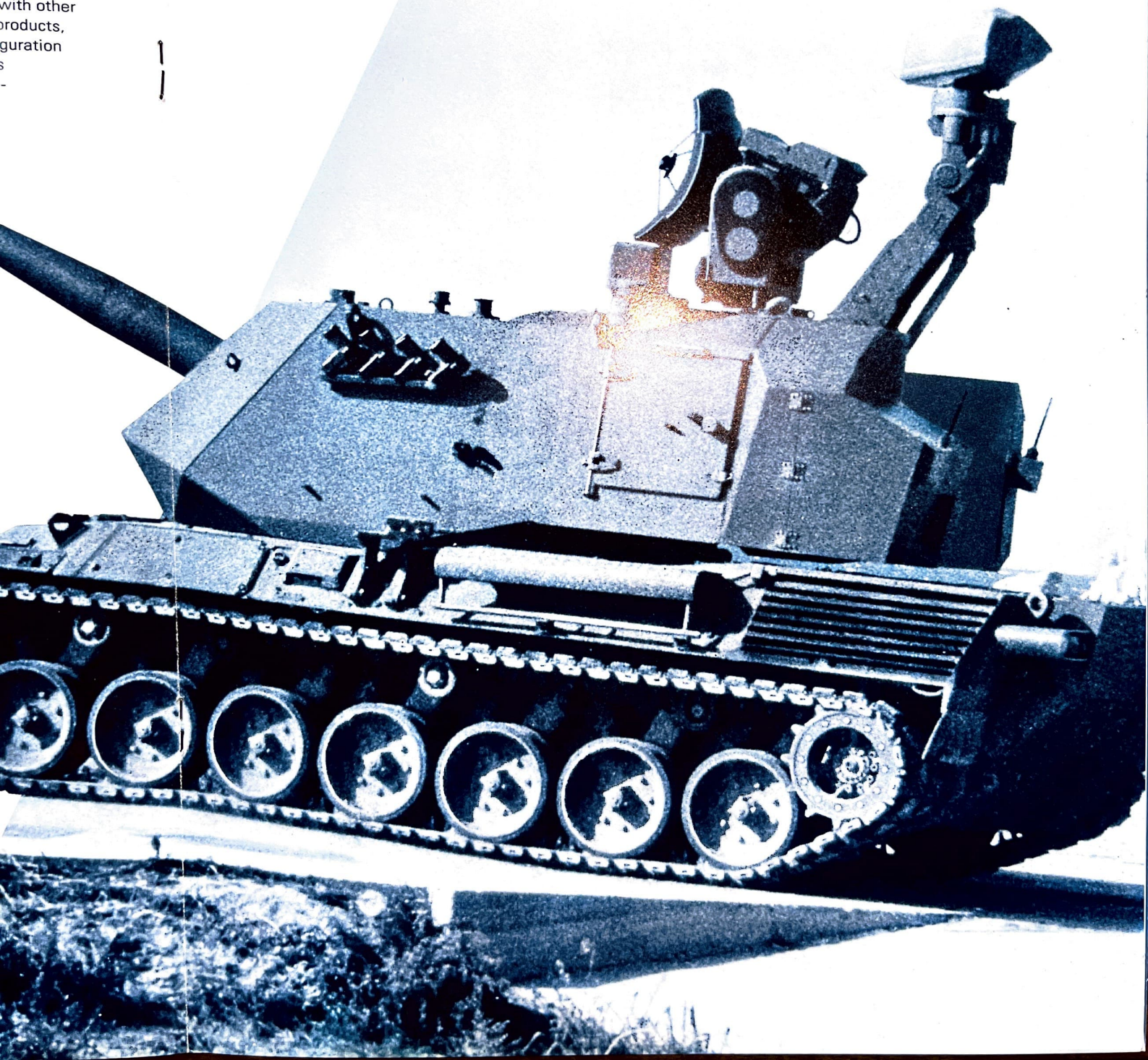
Another sector in which SMA operates is that of air surveillance and guidance radar. The system developed, which is also fully mobile, was designed and manufactured to satisfy the landing requirements of aircraft on unpaved terrain, with radar

SMA's first specialization is linked to the operative scenarios of the SHORAD systems, employed in the defense of objectives in small areas such as those related to the use of antiaircraft requiring considerable surveillance and tracking capabilities in complex, disturbance-ridden environments.



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SMA entered the avionics market in the 70's, producing the first wholly Italian-developed radar designed for navy helicopters. To date, thanks to constant commitment towards the development of advanced technical knowhow and technologies, SMA offers an avionics product line that is capable of meeting the strictest operative requirements of military as well as civilian users of fixed-wing aircraft and helicopters.

Through accrued experience, SMA has become not only a supplier of technologically advanced radar but also a problem solver capable of optimizing and customizing the complex avionics systems inside of which its own products constitute a vital element.

In addition, SMA attributes special importance to all the support aspects of the products for which it is able to supply complete and customized solutions that are designed to fulfill each and every requirement.

SMA is present in the avionics market in the following sectors:

- military, with radar and system capabilities for weapons system applications for all

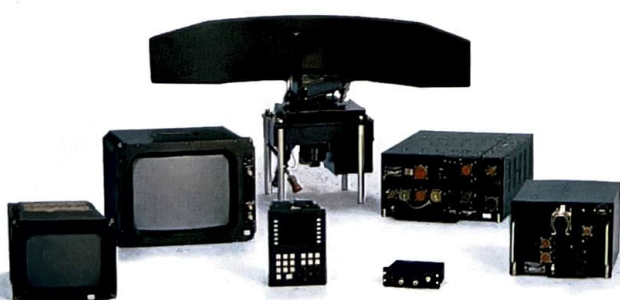
- armed forces aircraft;
- utility, for civilian and military users, with integrated system radar for support and/or protection aircraft;
- civilian, with technologies matured in the military sector that can be used onboard civilian aircraft.

In the military surveillance and designation radar sector, SMA offers various fixed-wing aircraft and helicopter products for antisubmarine and antisurface vessels as well



as anti-aircraft applications. It is also able to satisfy the requirements for airborne early warning.

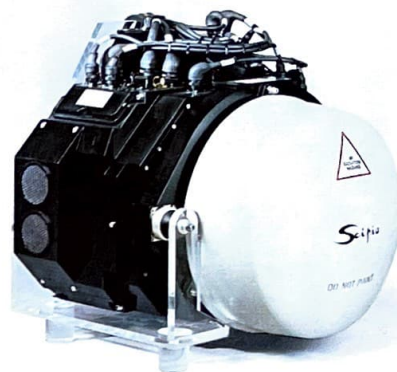
SMA's product line ranges from various frequency, medium power radar to pulse-compression and agility frequency radar with the capability of being inserted in avionics systems as standalone sensors. They can also be integrated with various configurations of weapons systems.



In the multimode radar sector for combat aircraft, SMA, jointly with TECNASA, Brazil, developed the radar for the Brazilian Air Force's AMX aircraft, which incorporates all of SMA's most advanced technologies. With its high upgrade potential, the product, developed together with TECNASA, is capable of meeting all requirements of the fighter plane market, even where retrofitting is envisaged.

information availability. To this end, SMA is able to supply complex integrated systems that fully exploit the processing capabilities of its radars. A case in point is the Sistema Integrato Radar Elettroottica (Integrated Electrooptical Radar System) used by the Italian Navy and Port Authority, which integrates infrared sensors and television cameras with surveillance and/or navigation radars.

and the civilian markets for applications such as navigation aid radar (anticollision, landing, takeoff) or passive remote monitoring sensors.



For the utility sector, SMA produces a radar family for the navigation and search segment capable of meeting the requirements of helicopters and planes used in transport, search and support, territorial water patrols, and civil protection applications. In the utility market, a major requirement is to optimize the integration of the equipment in order to decrease the operators' workloads and increase

SMA's capabilities are completed by a wide-ranging experience in the field of millimetric waves. This technology can be used by both the military



