Aeronautics

Space

Helicopters

Defence

FINMECCANICA

FINMECCANICA IS THE LEADING ITALIAN INDUSTRIAL GROUP IN THE FIELD OF ADVANCED TECHNOLOGIES. THE GROUP IS ACTIVE IN AERONAUTICS, HELICOPTERS, SPACE AND DEFENCE. IT ALSO HAS SOLID EXPERIENCE AND PRODUCTION ASSETS IN THE TRANSPORTATION, ENERGY AND INFORMATION TECHNOLOGY BUSINESSES.

FINMECCANICA

Through its skillful strategy of international positioning and development, **Finmeccanica** plays today a leading role in every major program and project in the key areas of aerospace and defence. Finmeccanica contributes to the design, development and production phases with its unique recognised know-how.

In 2001, the aerospace and defence businesses accounted for over 65% of consolidated group revenue and 75% of the order book. These activities include the manufacture of structural components for commercial aircraft and the production of complete combat and military transport aircraft, as well as aircraft overhaul and conversion and the design and production of commercial and military helicopters. In the space sector, Finmeccanica is a leader in the design, development and manufacture of military and commercial satellites and components for orbiting structures. Finally, in the defence sector, the Group is active in the design, development and manufacture of missile systems, radar systems, command and control systems for both land and naval applications, air traffic control systems, avionics systems and equipment, land and underwater weapon systems. The remaining revenue comes from information technology services, energy and transportation. Finmeccanica also holds an 18.3% indirect shareholding in STMicroelectronics, the world third largest microelectronics company.

Finmeccanica SpA is listed on the Milan stock exchange. The Italian Ministry of Economics holds 32.3% of the capital, with the rest owned by Italian and international investors. Finmeccanica has direct or indirect control of over 100 companies in Italy and in other countries, with a total workforce of 41,000.
In order to maintain and increase its technological know-how, Finmeccanica invests over 12% of its revenue in research and development activities.

AERONAUTICS

Complete military and commercial aircraft

Structural components

Aircraft overhaul and conversion

Finmeccanica is the Italian leader in aeronautics and one of the major European producers of commercial and military aircraft and aeronautical components. With the design capabilities and technological skills gathered in the manufacture, conversion and overhaul of aircraft, the Group has gained a strong international reputation for excellence.

Finmeccanica activities in aeronautics are concentrated mainly in Alenia Aeronautica and Officine Aeronavali, two companies with traditions that dovetail with the very history of Italian aviation.

Created in 2002 from the Finmeccanica Aeronautics Division, which in turn inherited the experience of Aeritalia, Alenia Aeronautica can claim over ninety years of presence in the industry and participation in the production of 12,000 aircraft.

For over half a century, Officine Aeronavali has provided leading world operators with aircraft maintenance, conversion and overhaul services of the highest quality and reliability.

Today, by virtue of its recognised technological know-how, Finmeccanica is a partner in the most important European projects and programmes through alliances and joint ventures in which it plays key roles.

Military aircraft

In the military sector, **Alenia Aeronautica** takes part in the design and production of the new Eurofighter Typhoon, the most ambitious defence programme ever attempted by European industry. It is designed and built by the Eurofighter Consortium (Alenia Aeronautica, BAE Systems and EADS) to meet the requirements of the air forces of four nations (Italy, Germany, United Kingdom, Spain).

Alenia Aeronautica holds a 21% share in this programme which is currently in the production phase. In addition to supplying structural elements and aircraft systems, the company is in charge of the final assembly and flight testing of the Italian Air Force fighters.

Based on the requirements of the Italian and Brazilian air forces, Alenia Aeronautica, with Aermacchi and Embraer, has designed and developed the AMX aircraft. The Italian company is prime contractor of the programme with a 46.5% share.

The Tornado multi-role combat aircraft is the successful result of an Italian-British-German partnership in the Panavia consortium (Alenia Aeronautica, BAE Systems and EADS). Alenia Aeronautica holds 15% of the programme.

The collaboration between Alenia Aeronautica and Lockeed Martin has led to the creation of the LMATTS joint venture which designs and develops the C-27J, the true new generation military airlifter. This aircraft provides rapid intra-theatre airlift with its multi-mission versatility, rugged dependability and all day-all weather operations. Due to its excellent performance and autonomous operation capabilities, it offers the best possible access to a wide range of airfields, including short, unprepared strips, in hot and high conditions and capacity in transporting heavy loads.

Now fully military and civil certified, the C-27J offers singular superiority in speed, range, payload, load compartment volume and cross section combined with system reliability.

The C-27J is the evolution of another successful aircraft, the G222, developed entirely by Alenia Aeronautica to meet the requirements of the Italian Air Force.

Commercial aircraft

In the commercial airliner business **Alenia Aeronautica** is one of the leading regional aircraft manufacturers. Through the recently formed ATR Integrated joint venture, which combines the ATR activities of Alenia Aeronautica and EADS, the company builds the ATR 42 and ATR 72. With more than 650 aircraft in service, this family of commuter aircraft is the most successful in its category.

Alenia Aeronautica produces the entire tail section, made up of composite materials, the entire fuselage and related systems. ATR has recently launched an ATR 42/72 cargo modification programme for the ATR42/72 to be accomplished by Aeronavali.

The ATR42 MP SURVEYOR embodies the systems integration skills and technologies developed by Alenia Aeronautica. The programme, wholly managed by the Italian company, integrates the advanced Maritime Patrol Mission System (MPMS) with the ATR42 turboprop platform and performs a great number of maritime patrol missions.

While it can also be used for search and rescue, pollution detection and control its primary roles are vessel search, identification and surveillance, maritime and coastal surveillance. The versatility of the basic platform allows a fast and easy reconfiguration of the aircraft for other purposes including: troop/paratroop transport, cargo transport, medical evacuation, corporate/humanitarian transport.

Lastly, the ATR72 ASW represents the new solution for the growing demand for a medium range anti-submarine warfare aircraft at lower costs. Based on the ATR72-500, it integrates the ATR42 MP Maritime Patrol Mission System with the same on board equipment but with additional ASW capabilities such as: rotary sonobuoy launcher and MAD system, chaff and flare for passive defence, armament launch system for torpedoes, anti-ship missiles and depth charges.

Aerostructures

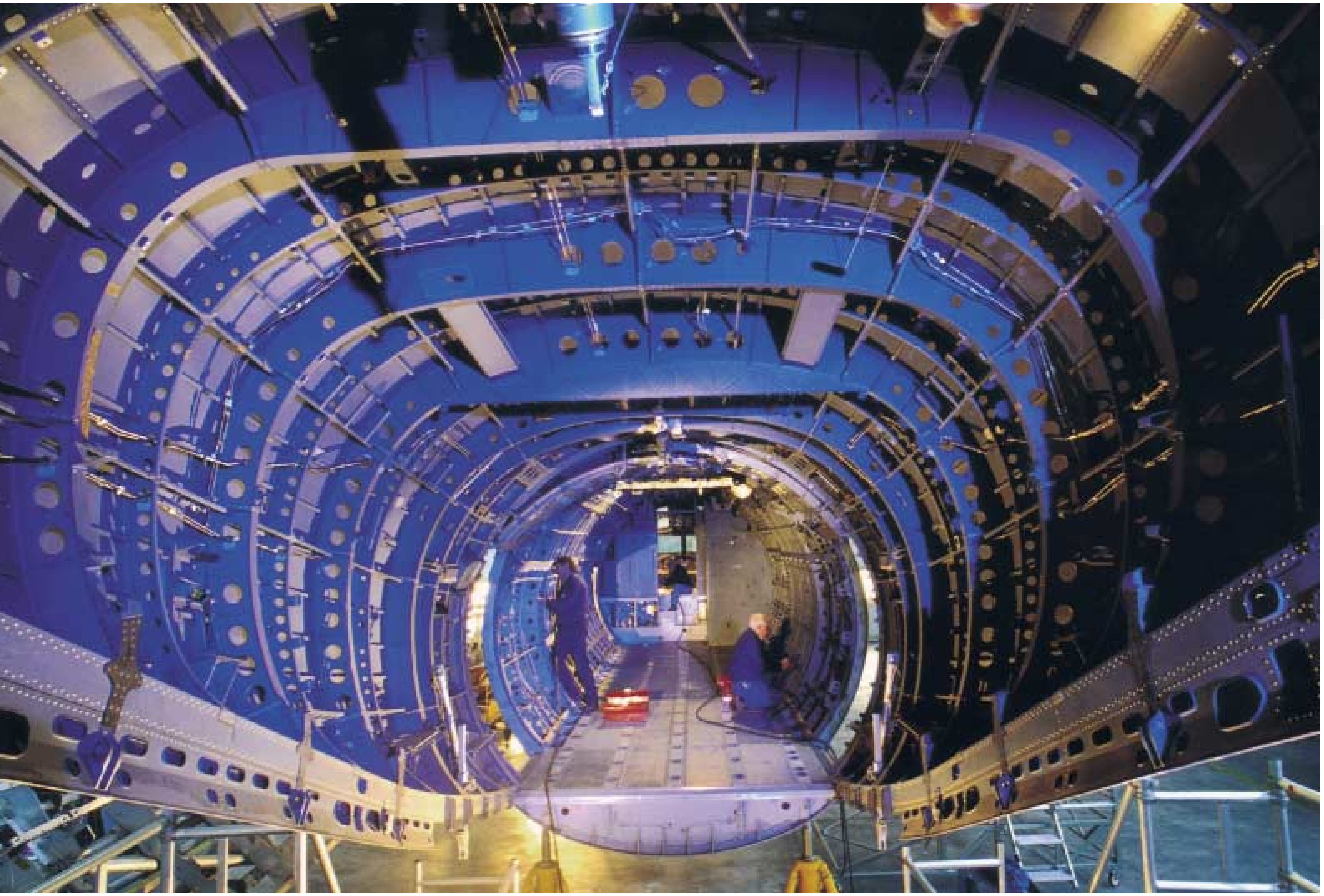
The technological expertise shown by **Alenia Aeronautica** in the aerostructures field is widely aknowledged, because it springs from many decades of co-operation with world leading airliner manufacturers in the construction of some of their most popular airliners.

With Boeing, in addition to supplying a large number of structural elements for its main programmes (B767, B777, B717, B757), the company has recently signed an agreement to participate in the Sonic Cruiser project.Alenia Aeronautica will develop key technologies for this highly innovative American aircraft.

As for Airbus, Alenia Aeronautica produces A321 fuselage sections, tail cones and mechanical parts for the A330/340 and A340-500/600. A recent agreement provides for Alenia Aeronautica participation in the Airbus A380 project, Europe’s largest and most important commercial aircraft project. Alenia Aeronautica will build a fully fitted section of the central fuselage, worth about 4% of the airframe.

Cooperation with American industry has been recently strenghtened wih the signing of a Memorandum of Understanding between the governments of Italy and the United States covering Italian participation in the industrial programme for the Joint Strike Fighter new generation combat aircraft.

Aeronautics



In the wider context of Italian aerospace industry involvement, Alenia Aeronautica will be the national leader for the eighteen Italian companies on the airframe side, in charge of the the design, development and manufacture of components of the new aircraft.

Finally, the company is committed, with Dassault, in the production of the new long-range business jets, Falcon 2000 EX and Falcon 900 EX

Aerostructures have been a distinctive mark of the company for over three decades, since it has always been leader in design and manufacturing technologies. In keeping with this long-standing pursuit of innovation, activities have been organised in “Centres of Excellence” located in Nola (Naples), Caselle (Turin), Pomigliano d'Arco (Naples), Casoria (Naples) and Foggia. Each centre is highly specialised in a specific phase of the production process and is closely integrated with the others for maximum efficiency.

Maintenance, overhaul and conversion

Officine Aeronavali provides maintenance, overhaul and conversion services for the Italian armed forces, Nato and many airlines. This confirms the levels of excellence achieved by the Group in aeronautics, for Officine Aeronavali is among the few companies in the world that can offer a complete range of services to meet every overhaul need of any commercial or military customer. Aeronavali is an FAA Repair Station since 1963, a Nato Source of Repair since 1986, JAA approved since 1994 and ISO 9001 since 2001.

Operations currently focus on the modification of commercial aircraft from passenger to cargo configuration (DC10, MD11, B767, ATR), avionics upgrades (DC10, MD80), maintenance and systems up-grading of the Italian Air Force Breguet Atlantic, maintenance and modification of the Nato E-3A AWACS and TCA, as well as manufacturing of aeronautical parts. Activities also include the overhaul and modification of the Italian Air Force Hercules C-130 H.

Aeronavali, with Alenia Aeronautica, has recently signed an agreement with Boeing to become partner in the development and production of a tanker/transport version of the Boeing 767. With a share of 20% the company will be the italian leader for the complete modification of the Italian Air Force aircraft and will also be responsible for modification kits for additional aircraft sold in the international market.

SPACE

Space infrastructures

Satellite systems

Control centres and software for space systems

Finmeccanica is the largest Italian operator in the space sector, mainly through Alenia Spazio, which designs and manufactures systems and subsystems for space infrastructures and satellites for science, telecommunications and Earth observation. Its activities are complemented by those of Laben, Space Software Italia and Quadrics, through which Alenia Spazio also supplies control centres and software for the management of space systems and parallel supercomputers.

Having worked on over 200 satellites, Finmeccanica has built up and consolidated an engineering, development and production experience that traces its roots to Selenia and Aeritalia activities of the 1960s.

Thanks to its manufacturing abilities, technology base and leading edge skills, Finmeccanica has linked its name to the main Italian and European programmes, in collaboration with the Italian Space Agency (ASI), the European Space Agency (ESA) and NASA.

Telecommunications

Having acquired wide experience in the construction of complex payloads for telecommunications satellites, **Alenia Spazio** is now acting as prime contractor in a number of important international programmes.

Artemis is the ESA satellite for advanced communications and satellite navigation. Built for the Italian armed forces Sicral, the most advanced European system for military telecommunications, allows three frequency bands to be used at the same time, thereby guaranteeing global coverage, flexible use, security and inter-operability. Atlantic Bird 1 will develop for Eutelsat links for television broadcasting, telephony and fast Internet between America and Europe.

In the field of multimedia systems Alenia Spazio has already built SkyPlexNet, the first satellite platform for television and Internet services, and is currently involved in the EuroSkyWay project.

Thanks to innovative technology, SkyPlexNet is the only satellite system able to regenerate the signal on board, thereby avoiding the need for ground stations as happens for traditional satellites.

EuroSkyWay will be the first European broad-band satellite network capable of receiving and transmitting huge quantities of information 100 times faster and 10 times cheaper than present communication systems. One of the main applications of EuroSkyWay will be access to multimedia services from mobile devices.

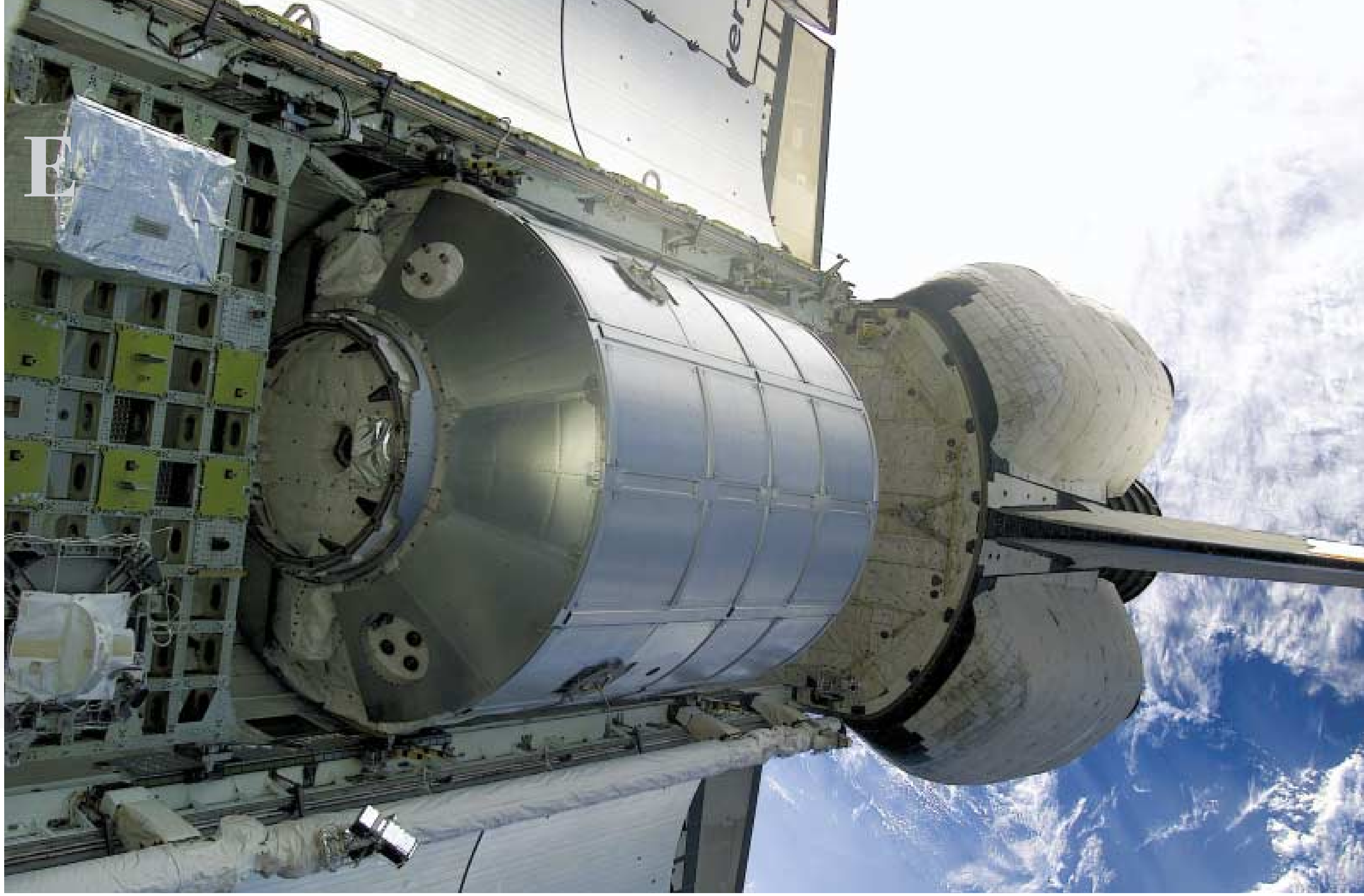
A further evolution in telecommunications is satellite navigation that allows moving objects and people to be located with very high precision. Europe is present in this strategic sector through the Galileo programme, for which Alenia Spazio is responsible for system definition and the co-ordination of the activities of over 60 companies.

Remote sensing

With the construction of synthetic aperture radars and microwave sensors, Alenia Spazio has carved out a leading position also in remote sensing missions. During the Nasa's X-SAR mission, the sophisticated radars designed and built by the Italian company for ASI were used simultaneously to map the Earth's surface.

The experience acquired led to Alenia Spazio's participation in the Shuttle Radar Topography Mission (SRTM) that re-used the X-SAR radars to produce the first three-dimensional map of the surface of the Earth. This new "portrait" of our planet covers, for the first time, 90% of uncovered land, providing a morphological description of the globe with a previously unachieved precision. For this mission, Alenia Spazio also designed and built for ASI a sophisticated data handling centre equipped with a computer able to carry out over 8,000 billion operations per second. The computer provides in real time high-resolution images, from which detailed topographical maps can be obtained in only a few hours.

Other international remote sensing programmes to study the terrestrial ecosystem, like ERS-1 and –2 and Meteosat, have given Alenia Spazio an important role. The company has designed and developed the second-generation radar altimeter for ESA's Envisat. This satellite will monitor the environment on a global scale, providing total coverage and constant

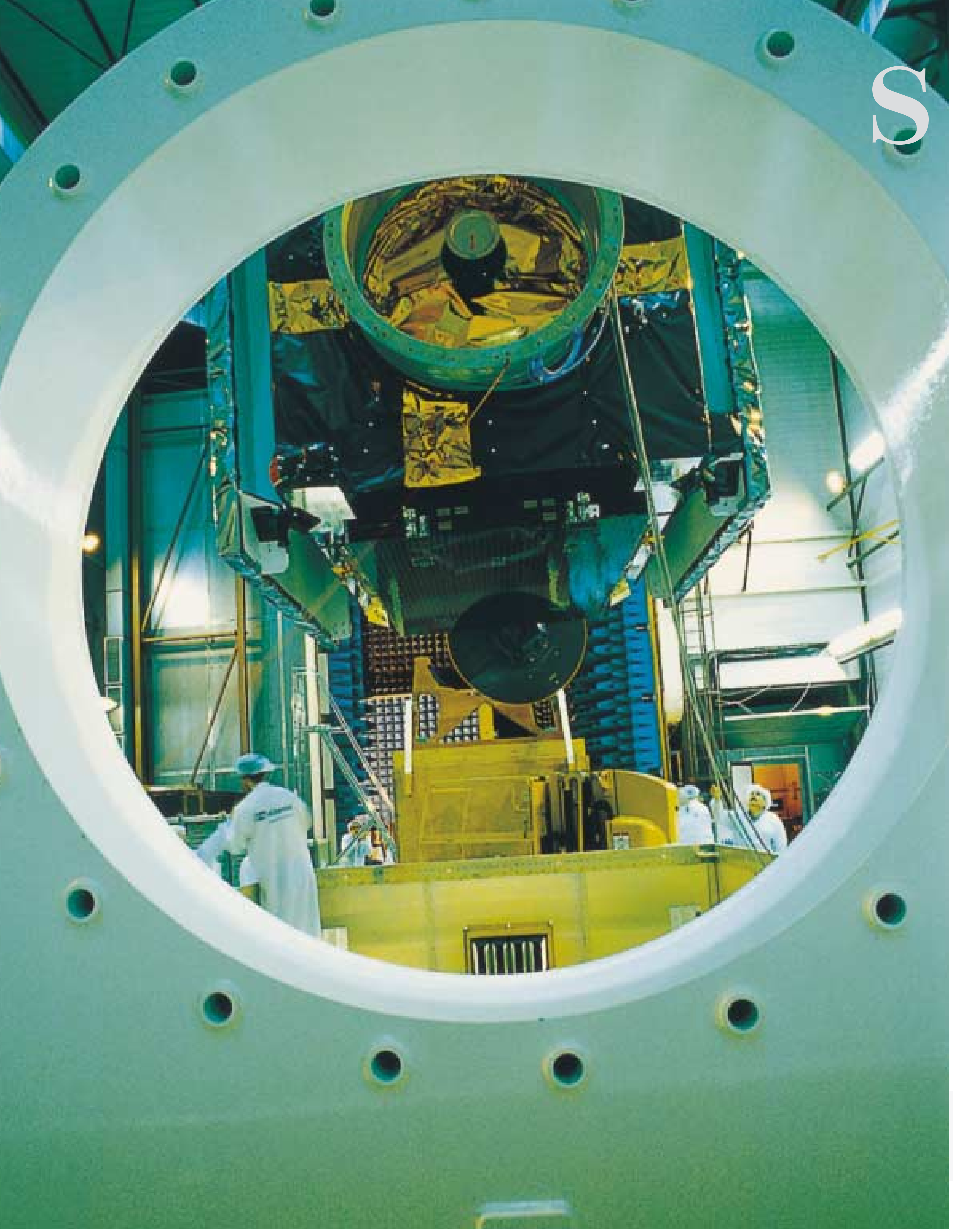


observation of phenomena in the ecosystem such as melting ice and the movement of the polar caps.

A further development of remote sensing technologies is the Cosmo SkyMed satellite constellation for environmental observation. Developed on behalf of ASI, Cosmo SkyMed will cover the entire Mediterranean basin and could be extended worldwide. The programme is particularly important for urban and agricultural monitoring, coastal surveillance, cartography, and the study and prevention of environmental disasters.

Orbital infrastructures

The International Space Station is one of the biggest projects ever



SPACE

conceived and has required the joint efforts of sixteen countries. The Alenia Spazio involvement is the culmination of increasingly close collaboration with the United States in the construction of orbital infrastructures that began in the 1970s when Nasa asked for European collaboration for a space laboratory compatible with the new Shuttle. Europe's Spacelab was an opportunity and a challenge requiring the development of highly sophisticated technologies, especially in the areas of structures and thermal control. The solutions found by Alenia Spazio allowed the company to take part in the most important manned space missions leading to its current position of internationally recognised leadership.

The International Space Station will house seven permanent astronauts. It will be a huge research laboratory with a microgravity environment for unprecedented research and studies in chemistry, physics, medicine, biology, pharmaceutics and metallurgy.

Alenia Spazio is playing a key role by developing some 50% of the total pressurised volume, some 1,300 cubic metres. More specifically, the company has developed for ASI the three Multipurpose Pressurised Logistics Modules (MPLM) to carry scientific payloads, supplies and materials between Earth and the Station and, for ESA, Nodes 2 and 3, interconnecting modules between the various pressurised elements, the Cupola control and observation tower, and the Columbus scientific laboratory.

Scientific satellites

Alenia Spazio plays a leading role in the construction of scientific satellites. Among the numerous missions the company was asked to join are the

BeppoSax programme (ASI), for the astronomical observation of cosmic sources, and the Tethered satellite system (ASI) to produce electricity in space. For both programmes, Alenia Spazio was prime contractor for the satellite. The company was also prime contractor for the Lageos 2 mission for geodesic and geodynamic studies using laser technology to measure the movement of tectonic plates and the consequent continental drift.

Alenia Spazio is currently prime contractor for the ESA Integral scientific satellite. The company has been responsible for the design, integration and test phases for this European astronomical observatory whose main purpose is to study high-energy phenomena in our Universe. Integral will study the nature of cosmic sources of gamma rays like novae, super novae white dwarves and black holes using high-resolution angular instruments.

Alenia Spazio is also involved in the European Mars Express, Rosetta and Goce missions. The first is a two-year scientific mission to discover the composition of the atmosphere and surface of the Red Planet as well as map it scientifically.

The Rosetta probe will study the Wirtanen comet during one of its periodic approaches to the Solar System. On that occasion, a lander carried by Rosetta will descend to the icy core of the comet to study its nature and composition.

ESA has also made Alenia Spazio responsible for the construction of the Goce satellite that will measure the terrestrial gravity field. Finally, the company is studying the Impact project that was born from the need to make a map of minor heavenly bodies whose orbit could come dangerously close to that of the Earth.

SPACE

HELICOPTERS

A complete range of military and civil helicopters

Finmeccanica has achieved and consolidated a position of international leadership in the helicopter field, building upon leading edge technologies and a partnership strategy that resulted in the merger of its activities in the AgustaWestland joint venture.

AgustaWestland, which began operating in February 2001, combines the Finmeccanica helicopter business, represented by Agusta, with that of Britain's GKN, represented by Westland.

Through AgustaWestland, Finmeccanica can provide a wide range of products offering market-leading world-class technologies and solutions. The integrated platform systems developed by AgustaWestland encompass all the principal weight categories and can be adapted to any kind of mission. Its highly competitive and versatile helicopters respond to the most varied needs of both commercial and military users, including law enforcement, passenger transport, emergency medical services, civil protection and firefighting, tactical transport, patrolling, naval operations, search and rescue.

AgustaWestland handles every phase of helicopter production, from preliminary analysis and definition of operational requirements to the design, development and production of transmissions, rotors, metal and composite structures and avionics, all the way to the integration of these components into a complete "helicopter system".

Civil sector

In the segment of commercial helicopters the A109, launched in 1971, was the first helicopter entirely designed by Agusta. Endowed with high performance and innovative characteristics, it immediately met with international success. Today, its latest evolution is the A109 Power

which introduces significant technological innovations in the well proven A109 family design while offering superior performance and versatility.

The A109 Power is a light-weight, twin turbine, 8 seat helicopter with a flexibility that allows it to be utilized in a large number of applications: executive transport, emergency medical services, police operations, surveillance and patrolling; due to its versatility, it can also be used by the armed forces (in its A109 M Light Utility Helicopter version) in a wide range of missions.

The A119 Koala is the new wide body, 8 seat, single turbine helicopter developed in the 2 tons category. Excellent performances and high flight qualities make it the most productive helicopter in its class. The absence of internal structures allows rapid and easy configuration changes.

A119 is suitable for aerial work, public utility and law enforcement missions as well as for some typical military roles such as liaison, command and control, light utility, medical evacuation and flight training.

Military sector

Helicopters have always been an effective capability in the military theatre of operations. In either high intensity conflict situations against sophisticated threats, or in peace keeping missions, helicopters are deployed in a great variety of roles. AgustaWestland can provide armed forces with a wide range of systems to meet multi-role requirements demanded in land, sea and air operations.

In the military segment a fundamental stage in Agusta's development of helicopter technology was reached in 1983 with the first flight of the A129 Mangusta anti-tank helicopter, the first combat helicopter to be designed and produced wholly in Europe, which demonstrated Agusta's capacity to satisfy the most complex technical requirements. The latest version of this helicopter

is the new A129 International which adds more firepower and new avionics equipment to the well proven Mangusta.

The A129 International is a multi-role combat helicopter for day/night and all-weather combat. Operational effectiveness is guaranteed by the complete integration of armament, sensors and aircraft sub-systems in a single advanced technology mission equipment package, integrated at human-machine level by state-of-the-art cockpit design. A129 can perform different missions such as armed reconnaissance and surveillance, high value ground target engagement, escort, fire support and air threat suppression.

In 1992, the four participating governments of France, Italy, Germany and the Netherlands launched the design and development phase of the NH90 programme. The four companies that entered the joint venture (Agusta, Eurocopter Deutschland, Eurocopter France and Fokker) established the NHIndustries company to ensure international programme management.

The NH90 is a twin turbine, 10 ton class helicopter. It is based on the

stringent requirements jointly expressed by the armed forces of the four participating nations to face up to the military scenario of the next decades. The NH90 helicopter is developed in two variants sharing a common basis: the naval version NFH, and the tactical transport version TTH. Agusta is responsible for the development and manufacturing of the main transmission and tail rotor drive train, the hydraulic system, the rear ramp of the TTH, the integration of the mission system of the naval variant (NFH) as well as the assembly and testing of the Naval prototype and the Ground Test Vehicle (GTV).

EH101

The EH101, developed jointly by Agusta and Westland Helicopters, is a major breakthrough in helicopter design, combining military and civil variants in a single integrated programme with an optional rear loading ramp and full ice protection system. The 14 ton EH101 is now in full production in both Italy and the United Kingdom. The entire programme is managed through EH Industries, a company owned on a 50/50 basis by Agusta and GKN-Westland Helicopters.

The EH101 is the only new medium lift helicopter that is in full production and available in four variants: civil, naval, utility, search and rescue.

The EH101 Commercial Variant is the most advanced helicopter industry can offer today. Long range, large capacity and advanced technology are combined in a cost-effective, multi-mission aircraft that heralds a new era in commercial helicopter operations. It is available in either Heliliner standard for passenger services or Commercial Utility with rear ramp for passengers or bulky freight.
The EH101 military variant is the medium lift helicopter to be taken as reference for any future military requirement. It is the most advanced military helicopter industry can offer today for its flexibility in terms of configuration and utilisation.

Military production also includes the Super Lynx, the world's most successful small ship helicopter, designed specifically to operate from small ships in all weathers and high sea states; for the British Army

AgustaWestland produces the AH MK1, one of the most potent systems on the modern battlefield, to be employed in all levels of armed conflict.

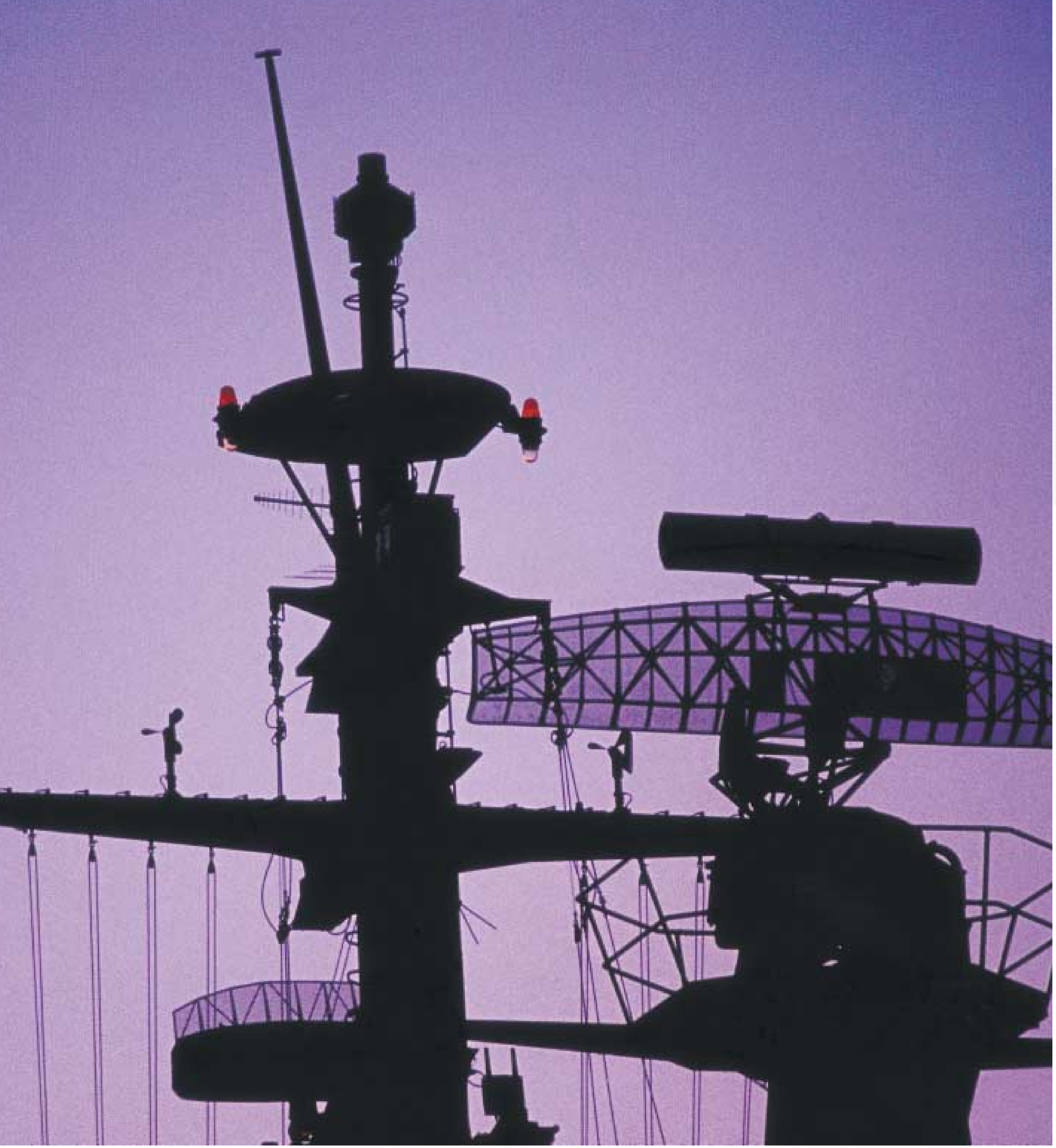
In the United States AgustaWestland has joined forces with Lockheed Martin to offer to the military US101 helicopter, an EH101 variant developed specifically for the American market. The agreement provides for manufacture of the US 101 in the United States.

Bell Agusta Aerospace Company

In 1998, the long-standing co-operation with Bell led to the forming of the Bell Agusta Aerospace Company (BAAC) joint venture. This created new perspectives for the Italian helicopter industry, giving it the opportunity to open up the American market for the AB139, one of leading Italian helicopters, while simultaneously allowing Agusta to participate in the design and development of the world's first commercial tiltrotor.

The AB139 is a brand new helicopter in the six ton twin-turbine class. Designed for the new century with inherent multi-role capability and flexibility of operation, it is suitable for a wide array of operations including emergency medical service, law enforcement, offshore, search and rescue, VIP transport. It is capable of carrying up to 15 passengers or 2,500 kg pay load in the most spacious cabin and with power to spare.

The BA609 Tiltrotor combines the advantages of aeroplanes and helicopters by offering the vertical take-off and landing capability of a rotorcraft with the cruising speed and efficiency of fixed wing aircraft. Being capable of operating almost anywhere, flying in any weather and seating up to nine passengers in comfort at twice the speed of typical helicopters of comparable capacity, the BA609 will be at the forefront of the next generation of transportation systems.



DEFENCE

Radar, command and control systems
for land, sea and air traffic applications
Missile systems, land and naval armaments,
underwater systems
Avionics, optoelectronic systems
Armoured vehicles

The defence sector is one of the strategic business areas of the Finmeccanica Group. In response to the marked consolidation process within the European defence industry, this is the area in which Finmeccanica has made the deepest organisational and corporate changes.

Finmeccanica operates through both subsidiaries and joint ventures with leading European operators. The goal is to leverage its skills and to increase its presence in key markets, mainly by exploiting its experience as systems integrator. Armed forces, the key customers in this market, are asking industry to supply integrated and technologically advanced systems in order to perform co-ordination and management roles in increasingly complex scenarios.

Through its subsidiaries, the most important of which are Galileo Avionica, Oto Melara and WASS, Finmeccanica is the Italian leader in the design, development and manufacture of on-board radar, surface and underwater naval systems, armoured vehicles, and naval, anti-aircraft and field artillery.

Finmeccanica has concentrated all of its radar, land and sea control and command systems and air traffic control systems in AMS, a joint venture with BAE Systems which owns 50% of the company.

Finmeccanica has, through AMS, an indirect shareholding in MBDA, the European joint venture that includes virtually the entire European missile industry, ranking first in Europe and second worldwide in the sector. EADS and BAE Systems each own 37.5% of MBDA and Finmeccanica 25%, with corporate governance powers equivalent to those of the other partners.

Finally, through its Naval Systems Division, Finmeccanica participates, on a 50-50 basis with Fincantieri, in the French-Italian Horizon frigate programme. These ships are tailored for the air defence of naval forces and Finmeccanica will provide engineering and integration for the on-board combat systems.

Through its operating subsidiaries, Finmeccanica holds key positions in many European and international programmes.

Avionics

Finmeccanica operates in this sector through **Galileo Avionica** and its subsidiaries. Finmeccanica avionics are present on the main military airborne European platforms, from Tornado to Eurofighter, from EH101 to NH90. This participation has ensured cutting edge technology, along with comprehensive management expertise and consolidated skill in industrial collaboration.

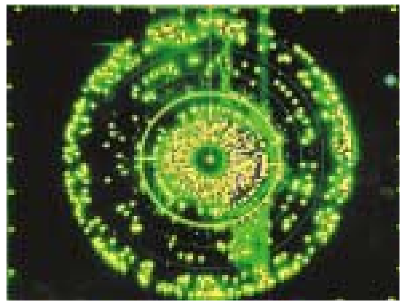
Activities in this sector cover the design, development, test and production of avionics mission systems, airborne radars, avionics and electro-optical equipment, precision approach radars both naval and ground based, fire control systems for main battle tanks, armoured fighting vehicles and anti-aircraft guns, artillery automation, tactical and training UAVs, training simulators and space equipment for platforms and payloads.

Galileo Avionica has developed the ATOS (Airborne Tactical Observation and Surveillance System) advanced and flexible airborne integrated mission management system. Various configurations are available to fit medium range aircraft, small aircraft and helicopters. The system is being successfully operated by the Italian Customs and Coast Guard on the ATR42 MP and on the Piaggio P166.

From the development of avionic sub-systems to full systems upgrades, Galileo Avionica provides and integrates a wide variety of equipment and sensors and covers the full spectrum of avionics operational requirements. The Mission Core System, developed on the basis of the experience gained in major international programmes such as Eurofighter and NH90, is intended to be the key element of every avionic system application.

To support the development of the Mission Core System, Galileo Avionica has developed ATENA (Advanced Test Environment for Avionics), a flexible, integrated and modular virtual environment for the development and validation of the Mission Systems Requirement and the MCS Operational Flight Programme. The Latest development is the Mission Core System for the Aermacchi M346 advanced trainer aircraft.

The Grifo is a family of compact I/J band fire control radars produced by Fiar. These are modular, multimode, pulse doppler radar for fighter aircraft with high ECM immunity, low life cycle costs and look-up/look-down capabilities. Designed for air superiority aircraft, over 350 Grifo radar have been sold to various air forces worldwide and are installed on board F-5, Mirage III, F-7, L159.



Safe landing in extreme weather conditions is made possible by Fiar's new generation PAR (Precision Approach Radar), which is characterised by operational simplicity, multiple runways servicing, transportability and high resolution colour display. Fifty systems are currently being operated in eight different countries.

Fiar has also acquired a comprehensive expertise in surveillance radars with Creso, a battlefield surveillance radar installed aboard the AB412 helicopter for the Italian Army; the APS-784 ASV/ASW and HEW-784, early warning radars installed on the Italian Navy EH101 helicopter; and ENR, the advanced maritime surveillance radar for the NH90/NFH helicopter.

In cooperation with EADS, Thales and Fokker Space, Fiar is developing SOSTAR-X, the future Stand Off Surveillance and Target Acquisition Radar, to meet the NATO Alliance Ground Surveillance (AGS) requirement. SOSTAR is an operational and tactical airborne ground reconnaissance system for battlefield surveillance and target acquisition.

The Seagull 2000 is a recently developed for a maritime surveillance radar for light to medium platforms. Seagull 2000 features fully coherent operation, digital pulse compression, automatic track-while-scan up to 32 targets, Ground Moving Target Detection, stand alone and operator console configurations, light weight for longer mission endurance and easy integration on any platform.

Fiar can also offer a wide range of products for targeting and surveillance applications for land, naval and airborne systems thanks to its expertise in electro-optic, infrared and microwave technology. These products answer the growing need to upgrade existing equipment and enhance threat countering capability at affordable cost.

TURMS is a complete, modular, third generation fire control system that enhances gun stabilisation and overall firing accuracy to the latest generation tanks, even in move-to-move firing. TURMS is installed on all Italian armoured vehicles and has proven a successful option for T-72 tank upgrades.

Galileo Avionica subsidiary Meteor designs, produces and operates target drones and tactical UAVs. Mirach 100/5 is a highly successful target drone system, utilized by Italy, France, United Kingdom and directly operated by Meteor at the NATO Forces NAMFI Firing Range in Crete. Recent developments include Falco and Nibbio, meeting surveillance and environmental control requirements and the increasing need of unmanned systems.

The Falco turboprop UAV covers area surveillance, identification, border control, accident control, pollution and environmental disaster control. Falco can include highly standardised last generation payloads (integrated multisensor platform – FLIR, color TV, Spotter of Laser Range Finder).

Nibbio is a long penetration high subsonic reconnaissance UAV developed to meet specific the requirements of surveillance and operations in high risk environments.

Flight simulation is another important asset of Meteor, the prime Italian company for Harrier, Tornado and Eurofighter simulation programmes.

DEFENCE

Weapon systems

Finmeccanica is a leader in advanced naval armament systems, in artillery and in armoured vehicles, through its controlled company **Oto Melara**.

With its 90 year experience in naval artilleries, Oto Melara is a world leader in this field. Currently it produces two medium caliber naval guns: the 127/54 (in Compact and Light Weight versions) to be installed on board frigates or higher class ships and the worldwide famous 76/62 (Compact or Super Rapid) to be used against aircraft, ships and sea-skimming missiles and installed on any ship class. The company also produces the Albatros launchers for the Aspide missile.

In the field of small caliber guns and rocket launcher the company produces guns ranging from 25 and 30mm up to 40mm, in single and twin naval mounts, remote controlled, with antiaircraft and anti-missile roles. Rocket launchers include the SCLAR, closing-in missile passive defence installation, the Bombardment Rocket Launcher for landing craft and the Light Chaff Launching system.

The long Oto Melara experience and know-how in the manufacture of armoured vehicles and artilleries enables it today to have production lines for advanced-design material such as: the second generation Ariete MBT adopted by the Italian Army and produced in collaboration with IVECO FIAT; the Dardo fighting vehicle, an updated system intended to perform firing actions in collaboration with tanks in any combat phase and visibility condition; the Centauro 8x8 wheeled vehicle characterized by high mobility and great fire power.

Complete families of turrets for any kind of chassis, ranging from 25 up to 120mm, are entirely designed, developed and produced by Oto Melara.

To enhance the 76/62 gun performance, a large series of purpose-developed ammunition is produced by Oto Melara with anti-missile, anti-aircraft, anti-tank and surface roles, including the advanced semi armor piercing extended range HE-SAPOMER.

To face the threat of modern warfare, Oto Melara has set up the production of airborne automatic cannon and bombs under licence for conventional aircraft armament, such as the BK27 for the Tornado, the 20mm Gatling M61 AI GE for the AMX and AV8B, the TM197B heliborne turreted gun for helicopters engaged in A/A role and against ground targets.

Underwater systems

The Finmeccanica presence in underwater systems hinges upon new generation torpedoes. Its **WASS (Whiteheads Alenia Sistemi Subacquei)** subsidiary designs and produces light and heavy torpedoes, as well as torpedo countermeasures and sonar systems.

The A244/S is the result of decades of submarine technical and tactical evolution; it represents the right way to counter modern conventional submarines and first and second generation nuclear submarines with sophisticated TCM, even in very shallow waters. More than 1000 torpedoes are in service with Navies all over the world. It can be launched by surface platforms, aircraft and ASW rockets.

The MU 90/IMPACT is the result of the co-operation between WASS, Direction Constructions Navales and Thales Underwater System. Aknowledged as the most advanced lightweight torpedo system in the world, the MU 90 has been already ordered by several Navies (Italy, France, Germany, Poland, Denmark). It can be considered the main NATO ASW system, capable of being launched from ships, missiles, helicopters and aeroplanes.

The A184 weapon system, can be launched by surface vessels or submarines, it has been conceived to counter the any type of surface and underwater target.

DEFENCE

The Black Shark is the latest development in heavy weight torpedoes. It is a dual purpose, wire guided torpedo, considered the most advanced and powerful system available in the market. It features a completely new acoustic head named Astra and a new powerful propulsion system and can be considered the best underwater weapon for the next century. The current development is performed by WASS for a specific Italian Navy operational requirement.

Thanks to its long experience in torpedo production, WASS is a step ahead in the development of reliable and advanced systems for the protection of surface vessels and submarines from attacking torpedoes, such as the C309 and C310 for surface vessels applications and the C303 and C303/S for submarins.

The company cooperates with HDW (Howaldtswerke-Deutsche Werft AG) to develop a joint system called Circe. The system, initially conceived for the U212A submarines of the German and Italian navies, is offered as a reliable torpedo defence system for any type of submarine and has already been selected and purchased by other navies.

In the field of sonar systems, WASS acts mainly in co-operation with leader companies (such as TUS, L3-OS, Raytheon and Ultra) to develop and produce up-to-date sensors, sonar sub-systems and systems that will operate on ships of Italian and Europeans navies.

Wass also produces systems for underwater surveillance, tracking and noise measurement test ranges and integrated anti-mine warfare.

Missile systems

Thanks to the combined forces and the tradition of experience brought by its constitutive companies (BAE Systems, EADS and AMS) MBDA has reached a world leading position in the missile systems sector. It is able to satisfy the requirements of several world's armed forces with 32 programmes currently in production and a further 23 in development. Its products can arm all the European platforms (Eurofighter Typhoon, Mirage, Rafale, Gripen, Tornado, Tiger, Lynx, NH90, new frigates). Its aknowledged expertise enables the company to act either as prime contractor or principal partner in the development of the major European cooperation programmes (Meteor, PAAMS, Aster, Storm Shadow/Scalp-EG, Milas).

Through its participation in **MBDA**, Finmeccanica is involved in all the mayor multinational programmes. In particular:

• METEOR is the next generation beyond visual range, air-to-air weapon system that provides a superior operational capability in all future combat scenarios. Its ramjet propulsion system will ensure a range in excess of 100 km and a speed of more than Mach 4.

• BRIMSTONE has been designed to meet the British RAF requirement for an air-to-ground anti-armour missile providing fire and forget launch capability from en effective stand-off range. Its millimetre wave radar seeker ensures target searching and identification operations in poor visibility and in all wather conditions.

• PAAMS (Principal Anti-Air Missile System) satisfies the need to significantly improve the anti-aircraft area defence of the ships. It is a 360° (omnidirectional) system providing multi-layer air defence to armed fleets or groups of unarmed support and merchant ships.

• OTOMAT/TESEO is a powerful anti-ship missile that may be used from surface ships or coastal batteries and is well adapted to current conditions under which naval forces are deployed. Its characteristics, including its long range (180 km), powerful warhead (210 kg) and precision, offer long term and credible dissuasion and provide a powerful tactical striking force.

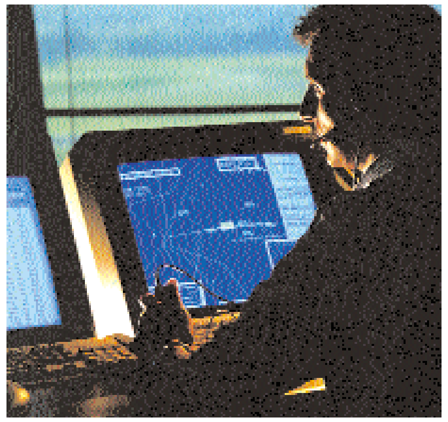
• MARTE MK2 is an anti-ship missile that can be fired from fleet, helicopter or aircraft support ships. It offers an all-weather solution of the "fire and forget" type. Its efficiency and the capability for firing with direct trajectory programming make Marte MK2 a family of systems fully adapted to destruction missions at medium range against vessels of any tonnage.

Radar, air traffic management, command and control systems

The operating divisions of **AMS** in Italy and the United Kingdom have a wide range of capabilities in ground and naval radar, air traffic management, command and control, simulation and synthetic environments, engineering, software design and manufacturing, all backed by comprehensive customer support facilities.
In particular AMS is one of the three world leading ground and naval radar suppliers, a leading world producer of air traffic management systems and an acknowledged expert in land and naval command and control systems.

• AIR DEFENCE AND BATTLEFIELD SYSTEMS
The advanced radar and weapon control systems provide accurate and timely information to sophisticated command and control systems in order to counter any kind of threat. As a world leader in systems integration AMS can meet the challenges of any operational requirement.

• AIR TRAFFIC MANAGEMENT AND AIRPORT SYSTEMS
AMS provides user-friendly systems and support for smooth running, efficient



DEFENCE

operations. Utilising the latest communication, navigation and surveillance technologies, its systems deliver total flight management from gate to gate, ensuring increased safety, speed and comfort.

• NAVAL SYSTEMS
The tools supplied by AMS allow to identify threats more quickly, assess situation with the greatest accuracy and, if necessary, take action more rapidly than any challenger. Not only do its systems ensure that any warship can operate to its maximum potential, but also that they can be efficiently coordinated to work as a single overpowering force.

• SIMULATION AND SYNTHETIC ENVIRONMENTS
AMS is a world leader in this field offering both civil and miltary applications on land, at sea and in the air. From individual simulators to networked systems, AMS can provide complete turnkey solutions having already delivered over one thousand systems in more than fifty countries worldwide.

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