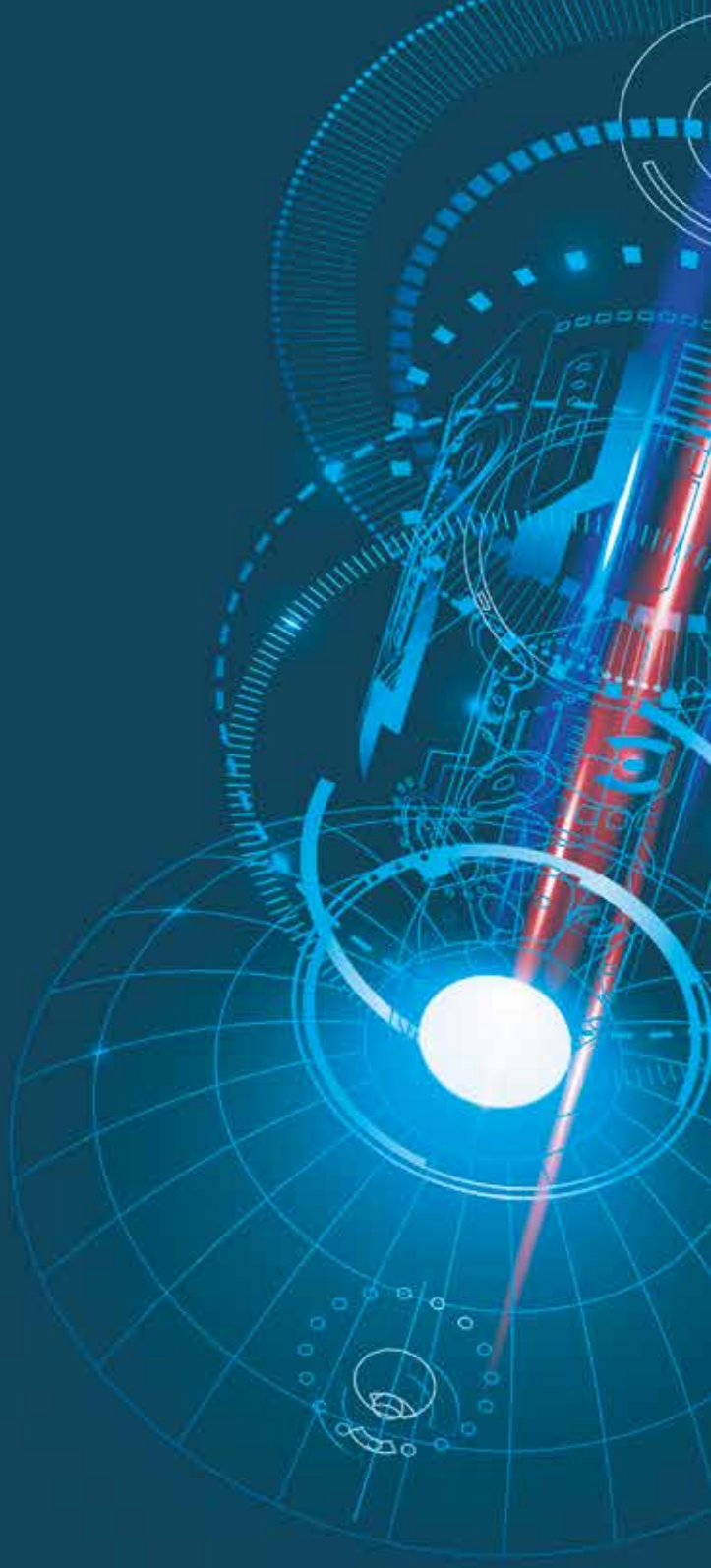
LAZIO AEROSPACE INNOVATION ECOSYSTEM



REGIONE LAZIO

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1. INTRODUCTION

Photo courtesy of ESA

We must seize every tangible opportunity of global relevance to show all the strengths of Lazio, support its economic ecosystem, as well as the region's creativity, innovation, and research in order to increase investment opportunities and support international cooperation by promoting regional areas of excellence.

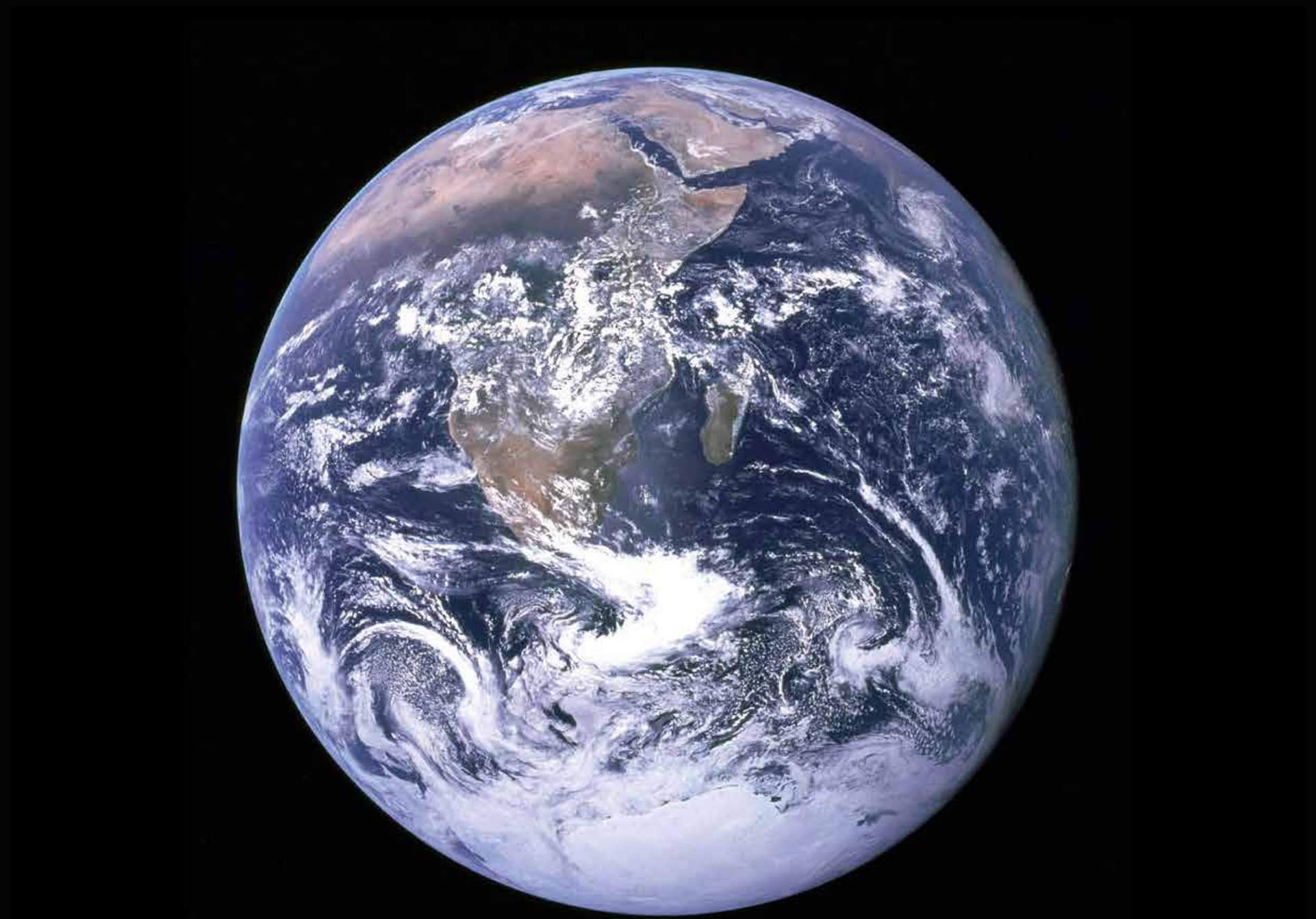
The areas of excellence include the Aerospace sector, which is the subject of the "White Paper" that we are presenting herein.

Lazio's vocation for aerospace research dates back to the beginning of the last century, fruit of a propension for research activities and innovation that has always been the distinctive hallmark of our region and that has turned the Aerospace industry into one of the *sectors driving regional economic development.* Aerospace also constitutes *an essential part of Lazio's Smart Specialisation Strategy (S3)* for the new 2021-2027 Plan, and represents a sector capable of attracting strategic projects by virtue of the presence in the region of an ecosystem of excellence made up of world-renowned universities and research centres, large corporations and production units owned by international groups, as well as high value-added SMEs capable of providing components, services and highly-specialized technical/industrial support.

The ecosystem that we are about to dwell upon in this document rotates around Lazio's DTA- Aerospace Technology District which, since 2004, the year of its establishment, operates as an "aggregator" – with an international outlook – of our Region's points of excellence, networking large corporations, SMEs, research centres, start-ups and innovators to support our production's competitiveness on the global market, offering innovative solutions for the economy and society, also through the transfer of technology. The strong interaction with universities and research centres is precisely one of the points of strength of our ecosystem, a strength that is also perceived and appreciated by international corporations and that enhances the prestige and attractiveness of the Lazio Region for aerospace productions.

Paolo Orneli

Regional Councillor for Economic Development, Commerce and Crafts, Universities, Research, Start-ups, and Innovation of the Lazio Region



2. FOREWORD

Image courtesy of Thales Alenia Space

Lazio is a ***Region of Space***.

This is the Region that, in Frascati, not far from Rome, hosts the headquarters of the **European Space Agency (ESA)** which, with ESRIN, was founded in 1966, and is one of the six European centres of excellence for the exploitation of Earth observation missions.

Here, at 55 km from Rome, lies **Colleferro**, the **European Space Capital 2022**, the historical founding city and bulwark of Avio, one of Italy's leading aerospace industries that designed the **Vega** launcher, a real crown jewel of Made-in-Italy production.

This is the base of the whole **Aerospace supply chain** that comprises the sector's leading national companies, acting as a system integrator with an industrial, research and academic supply chain capable of acting in different Space sectors: scientific research, launchers, manufacturing industries, services, infrastructure. In addition to ESA, the Lazio Region is also home to the **Italian Space Agency (ASI)**, Italy's top **research centres** and approximately **250 large, medium, and small enterprises** operating in the sector.

Here operates a **collaborative ecosystem** that aggregates all the major players of the regional aerospace system around **Lazio's Aerospace Technology District (DTA)** which was established in 2004: the first High-Tech District dedicated to the aerospace and defence sector.

It is a **prized ecosystem with an international scope** that really makes Lazio a *Region of Space* and that, through this "White Paper", we intend to present to the whole world at **EXPO 2020 DUBAI**.

This document starts with a comprehensive overview of the **opportunities and points of excellence offered by the Region (chapter 3)** and goes on to offer an in-depth **analysis of the Aerospace ecosystem in Lazio (chapter 4)** that has its "aggregative fulcrum" in the **Lazio Aerospace Technology District,** with its peculiar ***technological value chain*** **(chapter 5)**. The document closes with a **georeferenced list of the companies in the Lazio Aerospace Technology District (chapter 6).**

3. WELCOME TO LAZIO

Photo courtesy of ESA

Lazio offers an all-round opportunity. Its geopolitical position, the international appeal of the capital Rome, the unique cultural heritage offered by the whole regional territory, the wealth of tourist destinations, the presence of large and multinational corporations, of public and private research centres and internationally renowned universities, make it a **region with globally relevant points of excellence** which will be the focus of the chapter below, while the Aerospace sector will be analysed in the following chapter.

I - Logistic & Mobility

Thanks to its very central location, its infrastructures and services, the region is itself a strategic logistical platform in Italy, in the Mediterranean and in Europe:

- Two international airports (Fiumicino and Ciampino, over 50 million passengers per year). Fiumicino Leonardo Da Vinci Airport is the first stopover in Italy and the first European airport for the satisfaction of travelers.
- Two main railway stations (Termini and Tiburtina) which guarantee high speed rail connections with all major Italian and European cities. Lazio is part of the Trans- European Networks - Transport (TEN-T).
- Civitavecchia Port is the major italian touristic port, the 2nd in Europe and 7th in the world for number of passengers (3 million per year). It boasts a movement of 10 million tons of goods a year.
- Main Highways: A1 Milano – Roma - Napoli, A12 Roma - Civitavecchia, A24 Roma - L'Aquila. The extension of the road network in Lazio region consists of approximately 10 thousand kilometers, of which 473 are motorways and 553 national roads.

II - Lazio at a Glance

- Lazio is the 2nd Italian Region for Gross Domestic Product (GDP) with 200.9 billion euros, contributing to 11,2 % of Italian national GDP (2019). It is one of the most important R&D systems in Italy.
- GDP per capita is equal to € 33.600, above the Italian and the EU average. Lazio is the sixth Italian Region in terms of GDP per capita.
- Lazio is the location of important industrial and multinational groups with their own R&D centres, and the Italian Region with the highest level of specialization in manufacturing and in high-tech knowledge intensive sectors.
- Lazio's share of exports in global leading sectors is twice the national average (in percentage terms 72% vs 32%).

III - Lazio Key Indicators

IV - All Roads Lead to Rome

- TOURISM: Rome, with over 20 million tourists a year, is the most visited city in Italy and one of the most visited in the World.
- VATICAN STATE: Rome is home to the Vatican State, with its own 85 diplomatic representations of the main countries, residence of the Pope and home to the Basilica of St. Peter, the Vatican Museums and the Sistine Chapel.
- DIPLOMACY: Rome hosts 209 diplomatic missions (embassies, consulates, permanent missions and other diplomatic representations) according to Global Diplomacy Index 2019.
- ROME AS A STRATEGIC HUB: two international airports, Fiumicino and Ciampino. A direct train "Leonardo Express" connect Fiumicino Airport to Rome. Travelling time: only 32 minutes, trains run every 15 min.; three major railway stations: Termini, Tiburtina and Ostiense; head office of the important logistics centre CAR - the ROME AGRI-FOOD CENTRE (agroalimroma.it).

V - Why Choose to Invest in Lazio

- TERRITORIAL ATTRACTIVENESS
  - Geopolitical position of global relevance
  - High international attractiveness of the metropolitan area of Rome
  - Presence of important industrial and multinational groups with their own R&D centres
  - High number of public and private research infrastructures High concentration of graduates in technical-scientific subjects and qualified researchers

- GROWTH POTENTIAL
  - Strong growth of exports in technological niches of excellence
  - Presence of large companies, even multinationals, capable of stimulating SMEs' growth through innovative demand
  - Significant growth, in quantity and quality, of incubators, accelerators and other organizations and initiatives to support startups

4. THE AEROSPACE ECOSYSTEM IN LAZIO

Photo courtesy
of Thales Alenia Space

The context described above is enriched by specific evidence that gives Lazio its great appeal for the aerospace sector. As noted above, there is an industrial and research value chain operating in the region capable of covering practically all the aerospace sector's activities: an Aerospace Ecosystem that is the subject of this chapter and that thrives through networking and dialogue, also with institutions, finding its "aggregative fulcrum" in the **Lazio Aerospace Technology District** with its particular value chain, which will be analysed in chapter 5.

I - The Context of Reference

In this difficult phase dominated by the COVID pandemic, the Space industry, is one of the most resilient sectors thanks to its great high-tech-intensiveness, to medium-to-long-term investments and to the presence of advanced industries capable of interpreting the complexity of a continuously changing context. Despite the difficulties of this phase, which have seen the aviation sector strongly penalized, the prospects of the Italian Aerospace sector are encouraging, primarily because of the position that Italy was able to assume at the ESA Ministerial Council at the end of 2019 as well as other important results such as Italy's relevant role in the NASA's ARTEMIS programme which looks at the lunar orbit and surface as the new target for human space exploration.

The ESA Ministerial Council, the EU and national programmes and bilateral activities

Thanks to an unprecedented funding of ESA activities for the 2020-2022 period amounting to 2.29 billion euros (out of a total of 14.4 billion underwritten for programmes), over the next 3-5 years, the national aerospace sector can count on expected industrial returns of strategic importance for Italian companies, most of which are headquartered in Lazio.

Among the many ESA programmes underwritten by Italy, it is worthwhile mentioning:

- In the sector of **Launchers**, the development of the new VEGA (within the scope of the evolution of the European launcher Ariane 6), including the confirmation of the Space Rider programme, which will provide Europe with a space transportation system for routine access and return from low orbit. The key player in both programmes is AVIO, a company headquartered in Colleferro, in Lazio, which, despite recent difficulties, remains a global leader in the space transportation sector;
- In the **Earth Observation** sector, the involvement of large players such as Thales Alenia Space and Leonardo in developing some of the new Sentinel satellites of the Copernicus system, greatly enhancing Europe's capacity to generate high-quality public data to be used for environmental monitoring and security;
- The research and development of **new technologies** in every sector in which Lazio's research system is, in some cases, the absolute leader (the study of deep space, life support systems in space environment, telecommunications, new materials, etc.).

Alongside ESA's activities, equally essential are some of the national programmes promoted by ASI (Italian Space Agency) with the support of central and regional administrations. Among these, it is worthwhile mentioning:

❖ Reinforcing the **COSMO SKY-MED** Earth Observation system with radar satellites (managed by e-GEOS, controlled by Telespazio) made with Italian technology, mostly from Lazio, which represents the world's reference benchmark in this sector.

❖ The **National Space Economy Plan**, co-financed with national (360 million euros) and regional resources (from 13 regions for a total 140 million euros), whose first draft envisages the implementation of three initiatives with which to establish long supply chains spread throughout the territory of participating Regions and to consolidate strategic technological and production capabilities at national level:

I. *ItalGovSatCom*, under implementation, aimed at enabling Italy to restart producing, with domestic manufacturing plants, telecommunication satellites capable of offering institutional services (to civilian and military users) of a size compatible with the evolution of the VEGA national launcher. It is a product-driven policy aimed at securing a national capability that is strategic for the Country – Telecom satellites – which has been strongly weakened in the last 15 years;

II. *MIRROR COPERNICUS*, for the ultimate success of a Space Economy based on the value of the data produced by space assets. Mirror Copernicus aims to enable a public- private partnership to develop a platform capable of pre-processing the enormous amount of data of various nature already available from the Earth Observation systems, in orbit or on land, shortening the distance through which high value-added information is transmitted to users. This process is key to opening the market of service and application developers – generally SMEs – that today are obliged to bear excessively high development costs and are not able to grasp possibly important market opportunities;

III. *I-CIOS* (in-orbit servicing), through which to bring a national supply chain to the frontier of the developments in providing in-flight servicing to orbiting objects: a theme that is bound to assume an increasing strategic importance at European level, both as a factor of competitiveness (lengthening the useful life of space systems) and as a factor driving progress towards a common defence system.

❖ The implementation of **SICRAL 3** which, in synergy with the developments forecast by ItalGovSatCom, will make available to Italy and its partners intrinsically secure and effective communication systems.

The above activities constitute the grounds on which the national industrial system was able to optimize its competitiveness for the aerospace programmes that the European Union has decided to finance through the next Multiannual Financial Framework 2021-2027, the entity of which has not yet been finalized although it is estimated to be very significant, around at least 12-13 billion euros over the 7-year period. Similarly to what recently happened for the implementation of a tranche of the third batch of the Galileo programme (adjudicated to TAS-I), the national industry – and consequently that of the Lazio Region, by virtue of the role that it has in the Italian space sector – can authoritatively stand to play a key role in the Copernicus programme or in the soon to be established European Union Governmental Satellite Communications (EU GOVSATCOM).

Lastly, with respect to the opportunities arising from bilateral activities (implemented directly or through the ESA) with other global key players in the space sector, note should be taken of the participation in the NASA's **ARTEMIS** programme, which looks at the lunar orbit and surface as the new target for human space exploration. According to the current plans of the American Space Agency and its international partners – including Italy – the first woman and the next man will set foot on our satellite in **2024**, this time to stay.

In the cislunar mission envisaged by the programme, the Italian space industry holds a leadership position in the construction of the 2 European modules (I-HAB and ESPRIT) and participates in building the structure of HALO (Habitation And Logistics Outpost) and of the Human Landing System. Within the same context, by virtue of its specific expertise in advanced robotics solutions, the national industry was also commissioned to study the CLTV - Cis-Lunar Transfer Vehicle and the preliminary project design (phases A/B) of a multi-purpose vehicle to meet the needs of a human crew on the Moon.

This truly vast framework of opportunities should be the focus of the regional strategy for the sector, allocating the European resources planned for 2021-2027, especially those of the ERDF Regional Operation Programme for business enterprises, research, and competitiveness of the regional ecosystem to finance the actions aimed at supporting the competitiveness of the regional aerospace industry.

II - Industrial Trade Associations and the National Aerospace Technology Cluster

Italy's aerospace industry plays a leading role in the Italian economy and stands out as one of the high-tech industries capable of producing innovation, generating a positive fallout in other industrial sectors. Italy holds a global leadership position:

- It is a member of the exclusive club of world space Nations with a complete supply chain and a full range of capabilities in the field;
- It is characterized by advanced technology, a vast range of available applications (civil, military and dual use) and a fruitful interaction between research and industry;
- It delivers business value from unique capabilities (competences and infrastructure) developed by the sector's different actors (research institutes, universities and industries) and from a broad spectrum of enabling technologies ranging from the development of systems (satellites, launchers, inhabiting infrastructure, etc.) to the operational management of space centres, the provision of services in different civil society contexts (security, environmental monitoring, transports, telecommunications, science, monitoring of critical infrastructure, etc.);
- The national ranking results from the continuous investments that have long been a priority of the Italian Government and that materializes through the policies and programmes of the Italian Space Agency (national programmes, ESA programmes) and the initiatives of other organizations and institutions:

In Italy, the Aerospace sector accounts for a significant number of both large and small and medium-sized enterprises (SMEs), represented by three different national organizations – AIAD, AIPAS and ASAS – based in Rome, in the region of Lazio, in addition to another two regional organizations: Federlazio and Unindustria Lazio.

AIAD – Federazione Aziende Italiane per l'Aerospazio, la Difesa e la Sicurezza

AIAD is a Federation representing Italian Aerospace, Defence and Security Enterprises and is a member of Confindustria.

Founded in 1947 as an Association, in 2009 the Assembly of Members unanimously decided to change the Statutes, changing its status from "Association" to "Federation" in compliance with a resolution passed by Confindustria.

AIAD unites almost all the national high-tech companies conducting project design, production, research, and services in the following sectors: civil and military aerospace, military naval and terrestrial activities and the electronic systems related thereto.

It maintains constant relations with national and international organizations and institutions and within NATO for the purpose of promoting, representing, and guaranteeing the interests of the industry it represents.

AIAD, in representation of the Italian industry, is a member of the counterpart Aerospace and Defence industries association of Europe

(ASD). In this context, it is the interface of reference for all the national and foreign Institutions in coordinating any initiative needing to represent the national interests of this sector.

It drafts and submits industrial reports and positions to the various governmental ministries and to any other foreign institutions.

It makes a significant contribution towards developing sectorial plans requiring to be drafted by Defence organizations and/or other State Administrations in the following areas: Research and Innovation; procedural, technical, and contractual regulations.

It has established and consolidated a close cooperation relationship with the Defence Secretariat General and Administration as well as with other Ministries, including the Ministries of Foreign Affairs, Economic Development, University and Scientific Research, or with Institutions such as ENAC, ASI, CNR, etc.

To enable it to monitor and foster a more effective coordination in EU initiatives and activities, it has established an office of its own in Brussels. Another permanent office of the Federation is at the Defence General Secretariat and at ICE/ITA, the Italian Trade & Investment Agency, in Rome, for the purpose of monitoring and coordinating initiatives aimed at supporting the internationalization of its member companies.

AIAD coordinates numerous working groups at both national and international level, promotes the organization of workshops and conferences and receives statistical reports on the performance of major economic indicators. It also carries out an intense promotional activity abroad so as to aggregately coordinate Italy's participation in the most important international events and organize and coordinate the missions of our companies abroad and the visits of foreign delegations to Italy.

AIAD is Founding Member of the National Aerospace Technology Cluster (CTNA) and manages its General Secretariat.

ASAS – Association for Space-based Applications & Services

ASAS, founded in 2004, has as strategy the growth and new development of applications and services based on space technologies, moving the emphasis of the economic and social contribution of this sector "From Space to Earth".

Applications and services are, according to ASAS, key links between the most "commercial" space activities (satellites and platforms) with their associated ground segment and the users and the market. These activities hold a significant growth potential for development, so far not sufficiently exploited, which could contribute significantly to the technological innovation of the Country. For these reasons, the Association has as goal to propose and to present to the users the new exploitation opportunities offered by the space-based applications and services and, in the following, to support those users dealing with such opportunities.

As also shown by the Europe 2020 program, the space activities and technologies represent a powerful tool to develop knowledge and innovation, to support promotion of wellness and quality of life, as well as to contrast natural disasters and critical emergencies. We can stress the positive impact of use of space-based infrastructure and applications for public security, environmental protection, transport safety, telecommunications, health, energy, agriculture, control and management of land and many other sectors.

In this scenario, the service companies play a key role because being coupled to the end-users requirements they can monitor their real needs and the relevant evolution providing an effective feedback thus leading the contribution of the space sector closer to the market.

The Association has become the leading promoter of several initiatives of great impact for the represented companies in collaboration with the Italian Space Agency which reached a significant result in the on-going coordination activities contract signed by the Agency and by the national industrial associations; has promoted together with the other space industrial associations, the Industrial Board "Space Italy", playing a key role in the definition of the industrial priorities and suggested projects; the establishment of the Technological Platform SPIN-IT (Space Innovation in Italy) involving all the major companies, universities and research institutes

AIPAS – Association of Enterprises for Space Activities

AIPAS is a non-profit Association founded in 1998 with the aim of protecting the interests of Italian Space SMEs. From 2007, AIPAS has also given large companies the opportunity to take part in the life of the Association, becoming an example of good collaboration between SMEs and large corporations with the aim of developing an ecosystem favourable to all the sector's enterprises, independently of their size.

The objectives of AIPAS are: represent the general interests of its Members – SMEs and others – at national and international level; promote the solution of key issues of the Space sector, collaborating with the Supervisory Authorities, other Agencies, Associations, Institutions and Organizations in general, both public and private, foreign, national and regional; provide information and assistance to the Members, facilitating the coordination of activities and a cohesive spirit; perform and promote study and research activities concerning the Space sector, also through publications and conferences; join other Associations or similar Entities whose aim is to promote the general interests of their Members; generally perform any activity useful to achieve the Association's objectives; participate in the sector's most important national and international events; promote the visibility of its Members by disseminating informative

material and managing the Internet site; upon specific request, provide additional services (e.g., making its facilities available to companies without offices of their own in the capital).

Federlazio – Association of Small and Medium-sized Enterprises of Lazio

With a capillary network throughout the territory and offices in Frosinone, Latina, Viterbo, and Rieti and its affiliation in all the regional Chambers of Commerce, Federlazio has sound institutional relations with all the local administrations – from the Region to Provinces and Municipalities – and sits, through its representatives, at the institutional tables that bear more interest for the Region. Federlazio is one of the world's top players in terms of regional business representation. In addition to representing the interests of its own members, Federlazio supports them proactively in their growth, development, and consolidation process.

Through the "Federlazio Network", companies can share projects, capabilities, know-how, and establish contacts and synergies to develop new business opportunities. Moreover, the Association provides additional services, such as opportunities in which to meet and connect when seeking partners, training courses, and assistance in the creation of networks, consortia, and start-ups, establish relations with Public Administrations, banking institutions and private investors, provide support in analysing the company's organization chart, design retraining programmes for human resources, and business development plans in foreign markets.

Unindustria Lazio – Union of the industrialists and enterprises of Rome, Frosinone, Latina, Rieti, Viterbo

The Union of the industrialists and enterprises of Rome, Frosinone, Latina, Rieti, Viterbo, a.k.a. Unindustria, is a regional Association – the largest in the Confindustria system in terms of territorial extension – that is committed in pursuing the associational values on a daily basis, finding its utmost expression in the large and collaborative relational network that connects member entrepreneurs. Supporting those who do business through those who do business and transversally and miscellaneously putting into play the network of relations is Unindustria's added value. The system of entrepreneurs and managers, together with the in-house team of professionals, not only works to represent the collective interests of the association members but also to accompany them in solving the problems that create an obstacle to their corporate life, thanks to a solid relationship with all the local and national institutions, administrations, trade unions, and political movements, and acting as a third party of reference recognized for its planning capability and political interlocution.

Through the regional merger process, Unindustria has intended to give a modern answer to the demand for Representation, Service and Planning Capability of Lazio's entrepreneurial fabric. A more efficient, streamlined Association, closer to its associates was its mission. It was a proposal, making it possible to co-design the process with institutional interlocutors with a view to creating a favourable ecosystem for member companies and contribute to defining industrial policies for the economic system of Lazio and of the Country, always in close synergy with Confindustria. It monitors political activities at local level.

In actual fact, it acts as a "policy laboratory" in developing strategic and operational projects and proposals, aimed at intercepting and representing the collective interests of its corporate members.

It encourages the aggregation potential of the manufacturing and service sectors, leveraging the interdependencies with the aim of supporting and repositioning Lazio's industrial fabric according to a new logic based on the concept of sustainability and of an extended supply chain.

It assures companies assistance and protection at all levels with respect to tax policies, credit, corporate finance and, obviously, employment.

Its representatives sit at the negotiating tables of agencies, administrations, institutions, committees, and a variety of organizations, including regional economic organizations: from the Chambers of Commerce to Universities, Ministries, and the Lazio Regional Council.

In full synergy with Confindustria (the national Confederation that incorporates Unindustria), it focuses its attention on listening to the membership base in order to satisfy all the needs that arise from their corporate life, offering a tangible contribution towards boosting their competitiveness and broadening their reference market.

It protects enterprises on labour issues, knowing that companies grow only if they improve their internal structure by investing on human capital. The Association, as the whole Confindustria system, is a firm promoter of disseminating new models that favour the adoption of ever-more virtuous solutions by exploiting all the levers and opportunities in terms of taxes and social security that have been made available by lawmakers.

It concentrates its efforts on strategic issues that concern the membership base and offers qualified managerial advice on the most topical issues in every sector: from welfare to safety on the worksite, the environment, energy, company law and public contracts, taxes, and internationalization.

It acts to reduce the gap that exists between the duties of an efficient Public Administration and the constantly changing raisons d'être of a company.

It supports entrepreneurs in their financial preparedness and in grasping all the opportunities originating in the Region and in the European Union, where the Association holds a permanent office.

It supports start-ups and all new business activities with targeted actions, facilitating the dialogue between these companies and manufacturing companies with the aim of contributing to introduce new innovation models in the Region of Lazio.

It works to develop projects that can contribute to making the production system of Rome and Lazio more competitive and integrated.

The world of labour, schools and universities, research and innovation, cybersecurity, sustainable mobility and digital transformation are only a few of the themes to which Unindustria Lazio is unrelentingly committed and for which it develops proposals, general agreements, research and sectorial studies and debates, as well as projects that can be tangibly embedded in industrial supply chains, and promotes the sharing of great development goals in order to retain brains, jobs and capitals within the Region.

III - Lazio Aerospace TECHNOLOGY DISTRICT - industry & space economy sectors of excellence

Today, Lazio constitutes an area of international relevance for the sector thanks to companies with high technical capabilities, high-quality production systems and greatly varied activities for very important projects through approximately 250 enterprising businesses including large, small and medium-sized enterprises that account for roughly **23,500** employees and a yearly turnover of more than **5 billion euros** (of which 1.6 billion earmarked for export), **10** primary Research Organizations, **5** universities ("Sapienza" University of Rome, University of Rome Tor Vergata, University ROMA TRE, University of Cassino and Southern Lazio, and Tuscia University) with 4 engineering departments and approximately 30 post-graduate university courses, and a total of 3,000 university professors, researchers and other experts involved in research activities.

In addition to Rome, the Lazio Region also hosts the Italian Space Agency (ASI) and in Frascati, near Rome, the European Space Agency (ESA) with the ESRIN laboratories (one of the six European centres of excellence for the exploitation of Earth observation missions, founded in 1966). It also hosts the Nation's major research centres, including the National Research Centre (CNR), the National Institute for Nuclear Physics (INFN), the National Institute for Astrophysics (INAF), the National Institute of Geophysics and Vulcanology (INGV), the National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA), the Institute for Environmental Protection and Research (ISPRA), the Centro Sviluppo Materiali S.p.A. (CSM – Rina Consulting), and the Air Force Flight Experimental Division (RSV).

Lazio hosts an industrial and research value chain capable of covering almost all the activities of the Space sector and in part also those of the aeronautical sector. The importance of Aerospace for the regional economy appears to be evident both on the basis of the figures of the sector and of the role that it plays in promoting policies that benefit research, innovation and tecnology transfer.

Moreover, Aerospace is at the centre of the regional Smart Specialisation Strategy, as it embeds the development of frontier technologies entrusted with the task of making our companies in the sector even more competitive and with developing innovative solutions also in other less technological and more traditional sectors.

In 2004, the signing of the APQ6 between the Lazio Region, the Ministry of Economy and Finance and the Ministry of Education, University and Research, gave life to the **DTA – Aerospace Technology District of Lazio**, the first italian Aerospace and Defence High-Tech District. Coordinated by Lazio Innova, an in-house company of the Lazio Region, the DTA pools together all the key players of the regional aerospace system for the following purposes:

- Fostering industrial research, training, technology transfer, and the launch of new business initiatives in line with the Smart Specialisation Strategy;
- Acknowledging a complex ecosystem that puts together large internationally relevant companies, small and medium-sized production facilities with high value-added service providers in the world of training, science and knowledge;
- Further stimulating a context that currently constitutes an internationally relevant asset, whose vocation dates back to the beginning of the last century, with the first initiatives that laid the grounds for Italy to become the third Country in the world, after USA and URSS, to put a satellite in orbit in 1964.

Through the participation of the DTA - Aerospace Technology District of Lazio, the Lazio Region is one of the founding members of the CTNA – National Aerospace Technology Cluster, which aggregates all the key players in the national aerospace system.

The International Space Station - ISS

THE AEROSPACE MANUFACTURING DISTRICT OF LAZIO

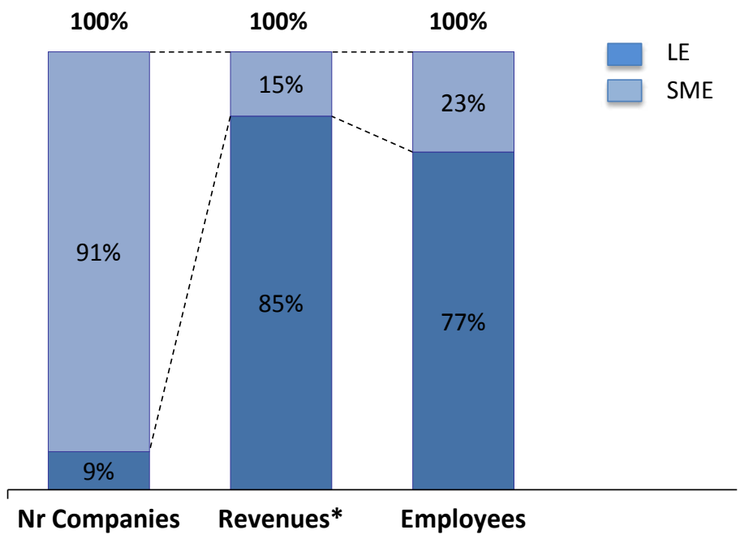
• **Approximately 250 companies**, including internationally renowned companies of excellence in the construction of satellites, propulsion systems and launcher components for access to space (Ariane and Vega), satellite systems for Earth observation, navigation and communication, equipment systems and aerostructures, electronics, information technology, avionics, air traffic management and airport management services (MRO),

• Annual turnover of € **5 billion** (of which € **1.6 billion** are produced by **exports**)

• **23,500 employees**

• **Main national airport network** (9 airports among which Fiumicino Airport with a passenger throughput of approximately 38 million in 2011)

In terms of industrial analysis, the sector is characterized by a high concentration of manufacturing companies: 9% of the businesses are large system integrators of national and international standing ("Tier 1" and "Tier 2") which generate 85% of total revenues and employ 77% of workers, compounded by a vast group (91%) of level 2 suppliers ("Tier 3") consisting mainly of SME subcontractors that provide electronic products and services, ICT for the development of systems and satellite applications for communication, Earth observation, satellite navigation, avionics and aeronautical and airport services.



** N.B.: the revenues of large enterprises (LE) with operational sites also outside the Lazio Region have been regionalised multiplying the global company turnover by the percentage of employees in Lazio.*

IV - Main players in the Lazio industrial supply chain

Large industrial enterprises

The large enterprises present in Lazio

• are cutting-edge companies of international standing in the following areas: "Access to Space", construction of large satellites and space systems, Earth observation satellite services, navigation and telecommunications, electronic systems, avionics, air traffic management, and management of airport services;

• are leaders (**"Tier 1"**) in the supply chain with significant international projects, besides which, there are also large **"Tier 2"** companies of excellence.

Manufacturing SMEs

The SMEs present in Lazio are companies active in a variety of areas, from the production of mechanical components to the assembly of electronic circuits, from the creation of advanced materials to heat treatments, from the construction of molds and equipment to electrical wiring. Many SMEs in the electronics sector design and develop components for the aerospace sector.

Value-added service companies

These companies provide technical industrial services with high added value such as systems engineering, material modeling, industrial design, structural calculation, software for the acquisition of satellite data, imaging analysis, laboratory tests, satellite technology applications in apparently unrelated industrial sectors ("downstream market").

In a nutshell, a general but certainly not exhaustive list of the main industrial stakeholders present in the Lazio region is provided in the following pages (details of their respective products and skills are described in the *Strengths* paragraph) while Chapter 6 provides a complete list of the companies based in the Lazio Aerospace Technological District.

Aeroporti di Roma
Company Profile

The **ADR Group** is currently composed of the subsidiaries ADR Ingegneria S.p.A, ADR Infrastrutture S.p.A, ADR Tel S.p.A., ADR Assistance S.r.l.- single-shareholder company, ADR Mobility S.r.l., ADR Security S.r.l. and Airport Cleaning S.r.l. which have further improved skills and professionalism in the specific sectors, making their knowledge available to the other companies of the Group.
In addition, Aeroporti di Roma S.p.A. holds shares in:
- SPEA Engineering S.p.A. (20%)
- Pavimental (20%)
- S.A.CAL. S.p.A. (9.229%)
- Aeroporto di Genova S.p.A. (15%)
- Leonardo Energia - Società Consortile a r.l. (10%)
- Azzurra Aeroporti S.p.A. (7,77%)

Products |Services | Applications |Technologies

Rome Airports, a company in the Atlantia Group, manages Rome Fiumicino and Ciampino airports and carries out other additional activities related to airport management. Fiumicino has two passenger terminals and is dedicated to business and leisure customers on domestic, international and intercontinental routes; Ciampino is mainly used by low-cost airlines, express-couriers and General Aviation activities.

In 2019 ADR recorded, as an airport system, 49.4 million passengers with over 240 destinations worldwide reachable from Rome, thanks to approximately 100 airlines operating at the two airports (In 2020, following the effects caused by Covid–19 on world air transport, the Roman airport system recorded 11.4 million passengers).

Web site www.adr.it/web/aeroporti-di-roma-en/

Aero Sekur
Company Profile

Aero Sekur is born from the split (2017) of the former Aero Sekur S.p.A. The Company is a Tier One leading provider of advanced survival equipment and systems for mission-critical air, ground and marine vehicles. The Company counts 130 and deploys its activities in two plants, both located in Aprilia (LT), one of those dedicated to maintenance, repair and overhaul. Thanks to a network of authorised repair station, the Customer Support is provided as near as possible to the End Customers. The Company certifications include AS 9100D (EN 9100:2018), EASA Part21.G, EASA Part145. Certification as per EASA Part21.J is ongoing.

Products |Services | Applications |Technologies

Aero Sekur provides design, manufacturing and maintenance for a suite of key safety and survival systems and services for the Aerospace & Defence industry, including helicopter Emergency Flotation Systems, External Liferaft Systems and Fuel Systems (the latter crashworthy and self-selaing as required by the specific application). Engineering capabilities include advanced design and simulation tools, used to optimise the features of the equipment in respect to the requirements and mitigate the risks associated to the certification process. The manufacturing is continuously evolving through the introduction of new technologies and capabilities aimed to improve existing products and propose innovative solutions to the market.

- **COMPONENTS**
  - **EQUIPMENT AND FITTING-OUT MATERIALS**
    - -For Airborne Platforms
    - -For Naval Platforms
    - -For Land-Based Platforms
- **DESIGNING**
  - **MISSION-RELATED SYSTEMS**
- **MAINTENANCE, TRANSFORMATION AND OVERHAUL**
  - **MISSION-RELATED SYSTEMS**
- **SECURITY, SURVIVAL AND RESCUE**
  - **SURVIVAL AND RESCUE**
    - -Inflatable Systems For Space Applications

Web site www.sekur.aero/

Airbus Italia
Company Profile

Airbus Italia, formerly known as Space Engineering, is the local industrial footprint of Airbus Defence and Space since 2015. The company changed its name in 2019 to fully integrate into the Airbus group. It has a recognized expertise in satellite communication, covering space as well as ground segment, with focus on enabling technologies for SatCom on the move, Internet of Things (IoT), RF components and signal processing. Since August 2017, Airbus Italia's Headquarters and Industrial Plant share the same industrial area in Rome, in Tiburtina area, thus ensuring a complete integration between Engineering and AIT effectively serving programs operations and products development. The 1.250 sqm plant has been mainly equipped for payload and electronic equipment assembly, integration and testing. Manifold facilities are available: Anechoic Chamber; Climatic Chamber; Clean Room; Motion and Attitude Simulator for mobile terminals; Digital, RF and Mechanical Laboratories. Airbus Italia employs a highly skilled workforce of about 110 people, focusing on cutting edge solutions and technologies. It is EN 9100:2018 and ISO 9001:2015 certified. Its significant experience in design, integration and test is serving key European programs like METOP-Second Generation, QUANTUM, BIOMASS, Galileo, Pléiades NEO and LEO satellite equipment for EDRS ISL. Along its history, the Company also contributed to ARTEMIS, Radarsat 2, COSMO-SkyMed, Alphasat TDP#5 and has been actively involved in major Italian programs such as SICRAL, PLATiNO, ItalGovSatCom.

Products |Services | Applications |Technologies

Over the past few years, Airbus Italia evolved to progressively meet its ambition of being a recognized industrial leader for selected products, including SatCom antennas for airborne and railways, passive and active RF components, ground modems. Airbus Italia is a leader in Airborne SatCom technology providing institutional customers with the most advanced state-of-the-art mobile terminals Janus Aero for ISR missions. The ATR P-72A aircraft of Italian Air Force is equipped with Airbus Italia's Janus antenna, which has also been indicated by Airbus Communication, Intelligence & Security as a powerful solution for "Network For The Sky" (NFTS), successfully integrated with Airbus MRTT aircraft in a flight demonstration of a connected airborne battlespace scenario. Furthermore, the Company can claim a long experience in SatCom terminals for railway applications, having delivered SatCom solutions for high-speed trains throughout Europe (e.g. French TGV trains).

Airbus Italia is a well-known Italian industrial leader, boasting several international patents related to antennas, radars, scientific software and digital signal processing. Its product portfolio also includes Inter-Satellite-Link and payload EO data transmission equipment for Low Earth Orbit satellites, passive and active RF components, antenna radiating elements, ground operational SW for configuration and spectrum monitoring of telecommunication flexible payloads, ground and flight firmware for digital signal processing and modems, key enablers for space-based architectures and secure spacecraft.
Leveraging on its distinctive heritage in Antennas, RF and Digital Equipment, Communication Protocol and System Design, Airbus Italia can offer a qualified portfolio of products and solutions:
Mobile multiband SatCom antennas for airborne applications. Airbus Italia invented the Janus line: very low profile dual-band (Ku/Ka, X/Ka) antennas for different kinds of aircrafts, including UAVs and helicopters. Janus is the unique broadband antenna concept patented by Airbus Italia (European Patent 2757632 A1) to enable remote switch between two frequencies. The switch is performed by mirror rotation with a dedicated RF chain for each frequency band. Thanks to Janus, the Janus Aero antennas can be provided in dual band configuration in Ku/Ka (X/Ka and Ka/QV also possible) with remote frequency switching. Janus Aero compact size and high throughput both in reception and transmission makes it the ideal solution for several types of Mission Patrol and UAV applications. Janus Aero product targets Institutional & Governmental Airborne. Starting from the first version Janus 1.0, Airbus Italia has been keeping on updating the antenna design considering always more advanced technical solutions and it is successfully developing the second version of the Satcom terminal named Janus 2.0.

World leading supplier of Broadband SatCom terminals for trains, providing fully operational terminals in France, Turkey, Russia, Kazakhstan. Designers of the only Ka-band antenna for trains. Onboard Communication Equipment for intersatellite link, including those enabling LEO/LEO and LEO/GEO (Data Relay systems like Globenet) connectivity Passive Onboard Antennas, RF components and Feed Chains, including high bands (Q/V/W) Active and reconfigurable onboard antennas for High Throughput and Flexible Satellites, new tools for the operation of flexible payloads. Flight FW for navigation/telecom applications Modem, Gateway and Professional Terminals for TM/TC, Massive Data Download, Internet of Things (IoT) Ground Operational Subsystem/Software for Telecomm (communication Spectrum Monitoring, flexible Payload configuration) for new generation satellites AIT services for subsystem/payload/satellite services Ground Transponders and Calibrators for EO Optical and SAR satellites.

Web site https://www.airbus.com/

ALMAVIVA
Company Profile

AlmavivA is synonymous with digital innovation. Extensive experience, unique expertise, on-going research and in-depth knowledge of the various public and private market sectors are the factors making AlmavivA Italy's leading Information & Communications Technology Group.
With 45,000 employees – 10,000 in Italy and 35,000 abroad – AlmavivA is the 5th largest private Italian group in terms of employees worldwide, with total sales amounting to 887 million Euro in 2019.

Products |Services | Applications |Technologies

Competence Center & Labs:

– Internet Of Things	– Enterprise Application Integration
– Blockchain	– Mixed & Virtual Reality
– Gis & Remote Sensing	– Cyber Security
– Artificial Intelligence	– Salesforce
– Ai & Nlu For Customer Transformation	– Service Management
– Cognitive Experience	– Application Performance Monitoring
– Ai & Nlu For Customer Experience	– Devops
– Cognitive Information	– Digital Experience
– Natural Language Processing	

BUSINESS SECTORS

- **COMPONENTS**
  - **EQUIPMENT AND FITTING-OUT MATERIALS**
    - -ELECTRONIC EQUIPMENT
- **CONSULTATION, COMMAND AND CONTROL, COMMUNICATION AND INFORMATION SYSTEMS/EQUIPMENT**
  - **COMMAND, CONTROL AND INFORMATION**
- **DESIGNING**
  - **MISSION-RELATED SYSTEMS**
  - **SOFTWARE**
  - **SYSTEMS AND EQUIPMENT FOR CRIMINAL INVESTIGATIONS ND FORENSIC SCIENCE**
- **ELECTRONIC MEASURE AND COUNTERMEASURE SYSTEMS AND EQUIPMENT DECISION SUPPORT SYSTEMS**
  - -HMI PRESENTATION OF INFORMATION
  - -BIG DATA ANALYTICS
  - -ARTIFICIAL INTELLIGENCE
  - -AUGMENTED REALITY
- **FIXED AND FIELD FACILITIES, LOGISTIC AND TRAINING SERVICES**
- **LOGISTIC SUPPORT**
  - -PREPARATION OF COURSES FOR USERS AND MAINTENANCE WORKERS
  - -PREPARATION OF TECHNICAL PUBLICATIONS
  - -INTEGRATED LOGISTIC SUPPORT TO GROUND SEGMENT FOR OPERATIONS AND DATA PROCESSING
  - -AIRCRAFT LOGISTIC SUPPORT
- **R&D ACTIVITIES**
  - **ICT**
- **SECURITY, SURVIVAL AND RESCUE**

Web site www.almaviva.it/en_GB

ALTRAN ITALIA
Capgemini Engineering
Company Profile

ALTRAN ITALIA is now Capgemini Engineering. Capgemini Engineering combines, under one brand, a unique set of strengths from across the Capgemini Group: the world leading engineering and R&D services of Altran – acquired by Capgemini in 2020 - and Capgemini's digital manufacturing expertise. With broad industry knowledge and cutting-edge technologies in digital and software, Capgemini Engineering supports the convergence of the physical and digital worlds. Combined with the capabilities of the rest of the Group, it helps clients to accelerate their journey towards Intelligent Industry. Capgemini Engineering has more than 52,000 engineer and scientist team members in over 30 countries across sectors including aeronautics, automotive, railways, communications, energy, life sciences, semiconductors, software & internet, space & defence, and consumer products. Capgemini Engineering is an integral part of the Capgemini Group, a global leader in partnering with companies to transform and manage their business by harnessing the power of technology. The Group is guided every day by its purpose of unleashing human energy through technology for an inclusive and sustainable future. It is a responsible and diverse organization of 270,000 team members in nearly 50 countries. With its strong 50-year heritage and deep industry expertise, Capgemini is trusted by its clients to address the entire breadth of their business needs, from strategy and design to operations, fueled by the fast evolving and innovative world of cloud, data, AI, connectivity, software, digital engineering and platforms.

Products |Services | Applications |Technologies

Capgemini Engineering combines, under one brand, a unique set of strengths from across the Capgemini Group: the world leading engineering and R&D services and digital manufacturing expertise. With broad industry knowledge and cutting-edge technologies in digital and software, Capgemini Engineering supports the convergence of the physical and digital worlds. Combined with the capabilities of the rest of the Group, it helps clients to accelerate their journey towards Intelligent Industry. Capgemini is trusted by clients to address the entire breadth of their business needs, from strategy and design to operations, fueled by the fast evolving and innovative world of cloud, data, AI, connectivity, software, digital engineering and platforms.

System Engineering: - Project management - Architecture Definition - Requirement Management - E2E Performance Analysis - Test, Qualification & Operational support - Reliability, Availability, Maintainability, Safety - Integrated Logistic Support; Electronics Engineerin:- Electronics Design - FPGA Design and Development - Radio Frequency Testing - Electrical, Electronic and Electromechanical (EEE) Parts Engineering - Assembly, Integration and Test (AIT), MGSE & EGSE NCRs/ARS processing - Tuning and Test of Devices - Test, Validation and Acceptance - Equipment Test Bench & Validation of new HW/SW - PF & PL Functional & Performance Tests; Mechanical Engineering: - Mechanical System Engineering - Mechanical Configuration Management - Mechanical Functional and Performance Test - Integration & Systems Engineering - Test, Qualification & Operational support - Thermal analysis and design - Fluid Dynamics - Optics Analysis, Design and Validation - Analysis and Design CAD/CAE Mechanical Configuration; Quality and Processes:- Quality Control - Quality Assurance - Materials and Processes; Software Engineering: - SW Design - SW Development - SW Test and Validation; Satellite Operations Engineering: - Launch Campaign - Mission Planning Schedule - Monitoring & Control of Ground Segment - High Quality of Service Maintenance - Space Communication Technology Center Activitie (SCTC) - Integration & Validation of Ground Equipment.

Web site https://capgemini-engineering.com/it/en/

AVIO
Company Profile

Avio SpA, the Colleferro Rome-based leading Company in Space Transportation Systems, has been working in the space segment for more than 50 years. Thanks to the Ariane and Vega programs, we have acquired knowledge and expertise to design, manufacture, test and integrate not only solid / liquid fuel propulsion engines for space and defense applications, but also a complete Launcher System, i.e. Vega and its upcoming evolutions Vega C / Vega E. AVIO is a public Company listed on the Milan Stock Exchange since April 2017 (70% of free floating, 4% Management share), we are nearly 1000 people working in Italy, France and French Guiana, successfully running propellant, filament-wound structures and stage integration plants as well as operating the Vega launch pad at CSG, Kourou.

Products |Services | Applications |Technologies

SOLID ROCKET PROPULSION Design, manufacturing, assembly and testing of Solid Rocket Motors (SRM) and their different sub-assembly (Inert Motor Case, Thermal Protections, Loaded Motor Case, Nozzle): SRM P230 Solid Rocket Motors of about 240 tons of propellant and a Maximum Thrust of about 7000 kN, used as first stage booster of Ariane 5 launcher. P80 1 Solid Rocket Motor of about 88 tons of propellant and a Maximum Thrust of about 3000 kN, used as first stage of Vega launcher. P120C 1 Solid Rocket Motor of about 140 tons of propellant and a Maximum Thrust of about 4300 kN, to be used as first stage of Vega C launcher and booster of Ariane 6 launcher. Z40 Solid Rocket Motor of about 36 tons of propellant and a Maximum Thrust of about 1300 kN, to be used as second stage of Vega C launcher. LIQUID ROCKET PROPULSION Design, manufacturing, integration and testing of Liquid Rocket Propulsive Systems and their different subassembly: AVUM Liquid Propulsion System Vega launcher fourth stage main propulsion system; NTO/UDMH bipropellant pressure regulated system. Vulcain 1/2 and Vinci Turbo Pump Oxygene1 Liquid Oxygen Turbo Pumps for Vulcain 1/2 engines used for the first core stage of Ariane 5 launcher & VINCI used for Ariane 6 upper cryogenic stage. M10 Engine Cryogenic LOX/LCH4 10-tons class liquid rocket engine that will be the upper stage of the Vega E launcher. At the nominal point and steady-state M10 engine has to provide 98 kN thrust, with propellants mixture ratio 3.4 Satellites chemical liquid propulsion systems MON3/MMH bipropellant regulated chemical propulsion systems of the geostationary satellites Small GEO and EDRS-C.

Vega Launch Vehicle Vega is a 4-stage Launch Vehicle. It is composed by: 1st stage: P80 SRM (88 tons) 2nd stage: Z23 SRM (24 tons) 3rd stage: Z9 SRM (10,5 tons) 4th stage: AVUM liquid stage (including Liquid Propulsion System, Roll Attitude Control System, Avionics) Flight Program Software Upper Composite: Payload Adapter & Fairing for the satellite accommodation Vega C Launch Vehicle is an upgrade of present launcher Vega configuration aimed to improve the launch system performance.

Vega C is a 4-stage Launch Vehicle. It is composed by: 1st stage: P120C SRM (140 tons) 2nd stage: Z40 SRM (36 tons) 3rd stage: Z9 SRM (10,5 tons) 4th stage: AVUM+ (including enhanced Liquid Propulsion System, Roll Attitude and Control System, upgraded Avionics) Flight Program Software Upper Composite: Payload Adapter & Fairing (larger than the VEGA fairing) for the satellite accommodation. SPACE RIDER (under development) Space Rider is a reusable space transportation system to be launched by the VEGA-C launcher and able to perform experimentation and demonstration of multiple application missions in low Earth orbit and recovered. The Space Rider System is managed in co-premiership with TAS-I. It is made of the AVUM Orbital Module (AOM), designed and developed by AVIO, and a Reentry Module (RM) integrated in a single stack-up. The AVUM Orbital Module is made by: AVUM+ PLA1194-LEK: standard 1194mm conical adapter modified for Space Rider ALEK: hosts the avionics dedicated to the orbital operations and the solar panels. The AOM will start its operations as service module after the initial orbit acquisition at the end of the VegaC ascent phase and it is able to service the Space Rider System for more than 2 months supplying: Power Propulsion Attitude Control Guidance & Navigation.

Web site https://www.avio.com/

e-GEOS
Company Profile

e-GEOS, an ASI (20%) / Telespazio (80%) company, is a leading AN ASI / TELESPAZIO COMPANY international player in the Earth Observation and Geo-Spatial Information business. e-GEOS, an ASI (20%) / Telespazio (80%) company subject to the joint direction and coordination of Leonardo S.p.A and Thales S.A, is a leading international player in the Earth Observation (EO) and Geo-Spatial Information business offering a unique portfolio of application services. e-GEOS is the exclusive global distributor for the COSMO-SkyMed data of first and second generation, the most advanced and performing Radar Satellite constellation available today. Thanks to the superior monitoring capabilities of the COSMO-SkyMed constellation and the fusion with a broad range of EO and non-EO data, e-GEOS has become one of the global leaders in geospatial services and is leading the evolution to GeoInformation digital services through CLEOS, its digital market place, and the application platforms by verticals. The Matera Space Centre is dedicated to Earth Observation and Space Geodesy. At the Centre e-GEOS acquires, processes, stores and distributes remote sensing data from the main Earth observation satellites, and produces images, products and services in near real-time for maritime surveillance. In 2012, the Matera Space Centre was included in the Core Ground Segment of the European Space Agency (ESA) within Copernicu. e-GEOS runs a multi-purpose 24h Emergency Room and Mapping Centre that is able to work all-year-round with a 24 hour availability; Today these services are offered to both institutional and civilian customers like: European Copernicus Program (EMS) a main success cases, Copernicus SEA (Copernicus services in Support to EU External Action) the IMINT reports service for Defence and Intelligence.

From pixels to digital services – geoinformation into the platform economy: - SEonSE for maritime surveillance , oil spill and ship tracking services - Braint for defence and intelligence IMINT products - AWARE for infrastructure monitoring and operation - AgriGeo for thematic cartography, agriculture, forestry and precision farming - mapcy for the provision of quick maps for natural disaster management CLEOS is the digital infrastructure providing access to this whole spectrum of services, the new «digital market place».

Products |Services | Applications |Technologies

Covering the whole value chain, from data acquisition to the generation of analytics and insight reports, e-GEOS, thanks to proprietary assets, algorithms and AI based features, integrates data from all satellites with the IoT information gathered over different sources, creating a big data lake where all the e-GEOS platforms are able to extract signals and key indicators dedicated to different markets. This approach is one of the key assets of the new services and products offered by the company and it can be run both on premises and mainly on cloud.

AWARE

Aware is the platform designed by e-GEOS to support both Public Administrations and private companies along the whole lifecycle of an infrastructure. It provides a set of services to monitor linear infrastructures, buildings, urban areas, monuments. Using the most advanced radar data techniques combined with IoT, In Situ sensors and drones generated information AWARE provides information through standard GIS layers and a set of user customized data analytics workbench from the planning phase to the management and maintenance of complex infrastructures.

SEonSE

SEonSE (Smart Eyes on the SEas) is the e-GEOS new Maritime Surveillance Platform providing an innovative way to gain access to maritime domain awareness and tailored information, including early warning notifications, based on criteria established with the users. SEonSE to deliver Maritime Domain Awareness applications in Near Real Time, leverages on SEonSE-engine, the e-GEOS toolkit, for an advanced exploitation of Multimission and COSMO-SkyMed satellite data, integrating marine traffic data (e.g. SatAIS, AIS), meteo information and open-data satellites.

BRAINT

Image Intelligence analytical capability is continually improving as the technical performance of Earth Observation (EO) satellite missions evolve. In parallel to the proliferation of Open Source geospatial information, the intelligence community is set to experience a transformational sea change in capability, however as sources become more diverse and plentiful, so analysts need a platform to effectively and efficiently consolidate and synthesize it. braINT™ is the e-GEOS solution for imagery based actionable intelligence analysis, a modular environment for IMINT analysis and report generation. Based on a blended integration of proprietary algorithms braINT™ provides at its core a range of tailored operational workflows providing easy access to satellite imagery exploitation through simple steps to support analysts during each intelligence assessment phase.

AGRIGEO

From precision farming to crop yield and damage estimation, the combined use of Earth observation data, Deep Learning and the supervision of photointerpreter create the usable feed for AGRIGEO the platform dedicated to the agricultural market segment. The innovation activities is an important asset of e-GEOS. Indeed, in this field, where Drones, smallsat and Sentinel are giving food for in-cloud processing and new algorithms allow unexpected analysis and new indicators suitable to support both public administration and farmers to better manage their own resources.

CLEOS

CLEOS, the digital infrastructure providing access to the whole spectrum of services, the new «digital market place», the tool for the transformation and digital use of the solutions of e-GEOS solutions and of our partners. CLEOS allows customers to take full advantage of the digital services of the platforms and developers to quickly define new workflows making use of the potential of advanced algorithms that implement innovative Artificial Intelligence techniques for information extraction.

GEODESY

Space Geodesy activities within e-GEOS date back to the beginning of 80's when a Satellite Laser Ranging (SLR) station was installed at the Italian Space Agency's Space Geodesy Center in Matera. We collect, analyze, interpret and archive data from the main space geodetic techniques: Satellite and Lunar Laser Ranging (SLR/LLR), Very Long Baseline Interferometry (VLBI) radio telescope, Global Navigation Satellite System (GNSS) receivers and absolute Gravimeter.

Web site https://www.e-geos.it/#/

ELETTRONICA GROUP
Company Profile

Elettronica was founded in 1951 and it quickly ranked among the leading European Companies in the design, development and manufacture Electronic Defence equipment and systems.
Over the last 60 years our systems have equipped numerous air, naval and ground platforms, of both national and international Armed Forces. This is primarily due to the Company's ability to develop specific techniques and strategies in the production of its equipment, with emphasis on achieving excellence.
The accrued experience constitutes the backbone of its Defence Electronics capability, where a timely and exhaustive response is mandatory to always effectively meeting customer requirements.
An in-borne ability to perceive customer expectations and to almost anticipate needs, a total commitment to the Company's core business, and the ongoing effort to maintaining a privately owned share capital, are the unique qualities that have always qualified Elettronica from its outset on the international scene.
Elettronica S.p.A is the headquarter of Electronic Group which is composed by CY4GATE, specialized in Cyber Intelligence, Cyber Security and Cyber EW, and Elettronica Gmbh, the German susbsidiary active in Homeland Security solutions.

Products |Services | Applications |Technologies

ELT embodies excellence in the design, development and production of electronic defense systems.
Throughout the years the company has successfully met the challenges posed by a continuously changing scenario, demonstrating a proven solidity together with a unique flexibility.
By establishing fruitful collaborations, at both technical and commercial levels, with international partners, has enabled the company to pursue important programs for air, naval and ground purposes.
The foremost distinctive feature of the company's commitment is the interception, classification and identification of intentional/unintentional electromagnetic emissions in the radar, communications and Infrared spectrum bands, ensuring a reduced reaction time (Surveillance, Recognition and Intelligence function).
This is followed by a tailored countermeasures response in order to defeat the threat emission-associated weapon system (Protection function).

Elettronica thus provides equipment, sensors and actuators for installation on airborne, naval and land platforms by exploiting high level and sophisticated proprietary technologies.
The company's product range can be split up into passive and active systems for airborne, naval and land platforms.
In particular, Elettronica is specialized in the production of passive defence systems for the search, interception, analysis, identification and location of electromagnetic emissions (ESM/Tactical ELINT), Radar Warning Receivers (RWR), electronic countermeasures (ECM) defence systems, integrated ESM/ECM systems. Recent efforts are focused on developments in COMM EW, inclusive of the new Cyber warfare applications, and equally in integrated IR defense systems.
The main programs in which Elettronica participates address all aspects of the Electronic Defence needs, from single stand-alone equipment, to more complex multi-sensor integrated systems. Elettronica can rightfully claim to have installed its products in a large variety of internationally known platforms such as; EH101, NH90, Tornado, Eurofighter Typhoon, Mirage 2000, Horizon, FREMM, Baynunah, C27J, C130J
The air-space and defence sector is constantly evolving, which implies the need to constantly pursue a technological and production development in order to maintain the achieved level of innovation and the competitive edge compared with other manufacturers.
Elettronica approaches this requirement by constantly reviewing its product architectures and related enabling technologies in order to be able to claim a unique excellence, in terms of applied technology and production methods, that constitutes a key element to the successful supremacy in the Electronic Defence segment.

BUSINESS SECTORS

- **ELECTRONIC MEASURE AND COUNTERMEASURE SYSTEMS AND EQUIPMENT**
  - **FOR AIRBORNE PLATFORMS**
  - **FOR NAVAL PLATFORMS**
  - **FOR LAND-BASED PLATFORMS**
  - **FOR FIXED NETWORKS**

Web site www.elettronicagroup.com/ - www.elt-roma.com/

ENAV
Company Profile

Thanks to our 4,200 employees, we provide air navigation services from 45 control towers and four Area Control Centres. We are a key component of the international air traffic management (ATM) system and a major player in the creation of the Single European Sky, the programme to harmonise air traffic management in Europe. We are the only Italian company involved in recruiting, training and updating the variety of professionals operating in the air traffic control industry. ENAV has been listed on the Milan Stock Exchange since 2016, with a free float of approximately 46.7%. The majority shareholder, with a 53.3% stake, is Italy's Ministry for the Economy and Finance. The Company operates in a regulated market at the European level and delivers its services in Italy under the auspices of the Ministry of Sustainable Infrastructure and Mobility and ENAC, the national civil aviation authority.

Products |Services | Applications |Technologies

ENAV air traffic controllers operate in the control towers of 45 Italian airports, from which they handle take-offs, landings and ground movements of aircraft, while the four Area Control Centres (ACC) of Rome, Milan, Padua and Brindisi provide assistance to all aircraft in the en route phase of flight, whether they are landing at an Italian airport or simply flying through our airspace. In addition to the management and control of air traffic, ENAV provides all the services necessary for navigation: airspace design, aeronautical information and meteorology.

ENAV has been a leader in Air Traffic Control for 40 years, together with its fellow Group companies IDS AirNav, Techno Sky and D-flight. We guarantee the safety and efficiency of air navigation services thanks to our constantly evolving cutting-edge technology while ensuring environmental sustainability. Operational know-how and technological excellence are our strengths, making us a reliable partner and achieving high levels of efficiency and quality, as demonstrated by the more than 100 customers around the world who have chosen to work with us. ENAV are committed to ensuring EU standards for flying drones and providing all additional services to ensure the sustainable development of an expected rapidly growing market. To regulate such a rapidly growing market, the European Parliament delegated the European Union Aviation Safety Agency (EASA) to draft the guidelines for a Regulation governing aircraft weighing less than 150 kg.

ENGINEERING
Company Profile

Engineering is the Italian leader in the Digital Transformation, with over 50 offices in Italy and in the world, revenues exceeding 1 billion € at the end of 2017, 10,300 employees, IT initiatives in over 20 countries with projects in various business areas (Finance, Public Administration & Health, Industry & Services, Telco & Utilities). It operates in the outsourcing and cloud computing market through an integrated network of 4 data centers, having an infrastructure in line with the highest standards of technology, quality and safety.
The Group plays a leadership role in software research, coordinating several national and international projects with a network of scientific partners and universities across Europe.

Products |Services | Applications |Technologies

Within the Defence and Aerospace segment, which is part of the Public Administration division, Engineering has in-depth competence on : maritime surveillance systems, command and control systems (at both operational and tactical level), intelligence systems (particularly focused on radar data bases management systems), command support systems, datafusion, data protection systems (VPN, PKI), simulation and training systems, mission planning, security management of military message systems, management systems for the security of the mercantile fleet.

Main clients: Italian Navy, ITALIAN DEFENCE MINISTRY, Italian Army, Finmeccanica, Arma dei Carabinieri, European External Action Service (EEAS), Frontex, Maritime and Coastguard Agency (UK), ESA, ASI, La Spezia Harbour Authority.

- **CONSULTATION, COMMAND AND CONTROL, COMMUNICATION AND INFORMATION SYSTEMS/EQUIPMENT**
  - **COMMAND, CONTROL AND INFORMATION**
  - **DATA/IMAGE PROCESSING, DISPLAY AND RECORDING SYSTEMS/EQUIPMENT, DATA MANAGEMENT AND TRANSFER**
    - AIRBORNE
    - BASE SECURITY SYSTEMS
    - NAVAL
- **DESIGNING**
  - **GROUND SEGMENT FOR OPERATIONS AND DATA PROCESSING**
    - FOR UAV
  - **MISSION-RELATED SYSTEMS**
  - **SOFTWARE**
- **FIXED AND FIELD FACILITIES, LOGISTIC AND TRAINING SERVICES**
  - **LOGISTIC SUPPORT**
    - MAINTENANCE SERVICES
    - INTERACTIVE ELECTRONIC TECHNICAL PUBLICATIONS AND HANDLING OF CLASSIFIED AND UNCLASSIFIED DATA
    - PREPARATION OF COURSES FOR USERS AND MAINTENANCE WORKERS
    - PREPARATION OF TECHNICAL PUBLICATIONS
    - INTEGRATED MAINTENANCE SYSTEMS
    - LOGISTIC/ADMINISTRATIVE COMPUTERIZED SYSTEMS
    - INTEGRATED LOGISTIC SUPPORT TO GROUND SEGMENT FOR OPERATIONS AND DATA PROCESSING
    - LOGISTIC SUPPORT FOR NAVAL UNITS
  - **SIMULATORS**
    - SIMULATORS OF COMBAT OPERATIONS CENTER
  - **TRAINING CENTRES**
- **MAINTENANCE, TRANSFORMATION AND OVERHAUL**
  - **MISSION-RELATED SYSTEMS**
- **R&D ACTIVITIES**
  - **ICT**
  - **OPERATIONS AND TRAINING**

Web site www.eng.it/en/

INTECS SOLUTIONS
Company Profile

Intecs core business is in the area software controlling advanced defence systems. Intecs extended its market areas to cover also the Space sector in the 80's. This led to the acquisition of expertise in key technological areas, ranging from earth observation infrastructures and applications to satellite navigation and on-board/ embedded systems. The close working relationship with the European and national space agencies, exposing Intecs to cutting-edge technologies and standards, has become the vehicle for technological innovation in Intecs itself. An important expansion into neighbouring sectors occurred in the 1990's, when Intecs was able to leverage upon own experience with standards-based, mission-critical Space systems, to enter into the railway sector, developing safety-critical railway systems and certifying them against stringent safety standards. In the 2000's, Intecs was once again able to leverage upon its experience to make another strategic expansion into the Aerospace, Telecom, and Automotive sectors, expanding once again its portfolio of systems development and expert services of process and safety consulting. Intecs Solutions currently delivers high-tech systems across a wide range of markets, spanning from Railway to Telecom, Automotive, traffic Control, Defence and Aerospace, and offers expert services of processes and safety consulting.
It provides big national and international organizations with consultancy services on hightech systems, as well as prototypes, products, and "turn-key" software systems developments. Large and prestigious industries, such as ESA, Ansaldo STS, RFI, Leonardo Company, ASI, and Thales Alenia Space Italia, figure among Intecs' main customers. Large emphasis is also placed on the study and experimentation of innovative technologies, aiming at maintaining its expertise updated with the state-of-the-art. Intecs Solutions expertise in the Aerospace market covers the following areas: Earth Observation Infrastructures and Applications; Geographic Information Systems; Satellite Navigation Applications; Software Engineering and Software Quality; Scientific Visualisation Architectures; On-Board Software Systems; Embedded and Control Systems; Communications Software; Operating Systems and Software Architectures; Check-out Systems.

Products |Services | Applications |Technologies

The experiences of Intecs Solutions in advanced technological developments led to the identification and implementation of some products used in new applications and advanced systems productions. The following products are carriers of experience and investment consolidated over the years in both research and industrial fields. SOFT-REC: The SOFT-REC family includes two main product lines: a real-time software receiver and a software digital signal analysis tool. The first, called Softrec, supports GPS and EGNOS constellations. The second, called SoftrecG3, supports all GNSS Navigation signals. gLab: is the result of INTECS's experience in GNSS signal analysis, particularly in GPS, Galileo and EGNOS performance and signal quality monitoring: its flexibility allows to analyze the Galileo signals currently under definition. SIRIO-OD: SIRIO is an automatic system for the detection of targets along the railway lines. It consists of a remotecontrol system and many peripheral boards that are so-called SIRIO nodes. DEJAMM-R: The DEJAMM-R sentinels are autonomous devices that continuously monitor all the downlink and uplink GSM-R bands, which are used for ETCS Level 2 signalling in high-speed rail systems. DLT Analyzer is a software tool designed to collect and analyze log and trace information from a vehicle ECU. The tool works in the Eclipse environment SIMIS is a Sustainable and Intelligent Mobility Integrated System Ethernet Repeater (TL): TL-ER TechnoLabs Ethernet Repeater is a new system that can be used on existing Ethernet cabling to transparently drive Ethernet communications beyond the maximum permissible IEEE 802.3 Ethernet distance. Traditional 10/100/1000 Base-T Ethernet Networks utilize CAT5e copper cabling which has a distance limitations of 100 meters between geographically separated LANs DDF (TL): The DDF is a passive equipment used to minimize high density of the cables for distribution and communication from/to digital terminal equipment.
All the transmission rate is based on 2Mbit/s. EFAS (TL) is an innovative transport system designed for the next generation of access networks commonly known as Metro Ethernet. HRT-UML: The Hard Real-Time Unified Modelling Language (HRT-UML) method, and the supporting toolset, aims at providing a comprehensive solution to the modelling of hard real-time and dependable systems and their early verification, according to rigorous techniques based on formal theories, such as schedulability analysis and simulation, formal verification and quantitative evaluation of dependability attributes. Microsek is an INTECS Hard Real-Time and Networked Operating System compliant to the Osek/Vdx standard and suitable for the development of Embedded Real-Time Applications. D.I.A.N.A. Intecs has developed the test bench, to automate the validation process of network layer of the control units, Digital Instrument for Automatic Network Analysis. Sirio-LX is an automatic system for preventing trains from colliding with obstacles on the track at level crossings. EMUSER is an innovative solution providing a satellite Broad Band link certified to be used in the Railway domain.

Web site http://www.intecs-solutions.it/

LEONARDO
Company Profile

Leonardo is a global high-tech Aerospace, Defence and Security company. Our consolidated industrial capabilities, together with our outstanding human capital and constant attention to innovation, have led us to become one of the top ten players in the world in Aerospace, Defence and Security, with revenues of € 12.2 billion, 85% of which deriving from international markets. Leonardo - headquartered in Italy - has a strong industrial presence in four domestic markets: Italy, the United Kingdom, the United States and Poland.
We are a partner of choice for governments, institutions and Armed Forces, as well as for private customers and entities. We deliver products and integrated solutions based on cutting-edge technologies with dual-use applications, to strengthen global security; protect people, the territories, infrastructures and information networks; contribute to the sustainable management of the environment, urban spaces and climate.
Air, land, sea, space and cyberspace: wherever defence and security are needed, our customers find in Leonardo effective solutions for their requirements in each of these areas through a complete and integrated offer in strategic sectors such as helicopters, aeronautics, unmanned systems, defence and security electronics, defence systems, and satellite systems and services.
Leonardo's activities in Space date back to the mid-60s when Officine Galileo and FIAR participated to the first European programs promoted by the European Agencies ELDO (European Launcher Development Organisation) and ESRO (European Space Research Organisation). Since then, Leonardo has designed and produced qualified instrumentation for space activities implementing optical systems, star trackers, radio frequency devices, photovoltaic assembly, distribution and power control systems and robotic devices. At present, the products are used on-board the most important European space missions such as Rosetta, Exomars, Galileo, Copernicus, Cosmo-Skymed, METOP, MeteoSat Third Generation, Earth Explorer, within other ESA and NASA missions as well as for other international customers.

Products |Services | Applications |Technologies

E/O OPTICAL PAYLOADS: PRISMA hyperspectral payload (ASI); Thermal-InfraRed payload for PLATiNO (ASI); Sea Land and Surface Temperature Radiometer; Lightning Imager for MTG; Multi-viewing Multi-channel Multi-polarization Imager for MetOp-SG; FLEX on Earth Explorer 7.

PLANETARY EXPLORATION OPTICAL PAYLOADS: Visible InfraRed Thermal Imaging Spectrometer flown on Venus Express, Rosetta and DAWN; Spectrometer and Imager SIMBIO-SYS in flight on BepiColombo; Jovian Infrared Auroral Mapper - Camera and Spectrometer for the Juno mission to Jupiter; MAJIS and JANUS optical instruments for JUICE mission to Jupiter.

ATTITUDE SENSORS: Over 100 Automonous Star Trackers sold; SPACESTAR Star Tracker for Iridium NEXT constellation; Over 500 Earth Sensors delivered.

POWER CONDITIONING AND DISTRIBUTION: Electrical Power Systems & Equipment - up to 6 kW; Specific Application High Voltage Power Supply, EPC for TWTA and Converters for Electric Propulsion.

ATOMIC CLOCKS: Passive Hydrogen MASER (PHM), the master clock developed for Galileo Navigation Satellite System (more than 50 units delivered). The PHM is the most stable clock: frequency drift < 10-14; Rb POP atomic clock: under dev. in ESA program GSTP - smaller, lighter and more stable than the PHM.

PVA: PhotoVoltaic Assemblies for Scientific missions (Exomars, etc.), LEO missions (ATVs, etc.).

MEO/GEO missions (MTG, etc.); Small satellite applications (AGILE, PRISMA, PROBA, DUBAISAT); > 200,000 solar cells integrated on PVA and operating on orbit.

GROUND SEGMENT: Complete solution, from Master/Anchor Station to set of Terminals for Military and Civil Applications: Commercial and Military GEO Earth Terminals for telecom and LEO Earth Station for Earth Observation systems; Satellite network Management Solution providing a complete FCAPS model services.

GALILEO PRS: Galileo PRS receivers: P3RS-2, the first operational "unclassified when keyed"; PR2C (Prototipo Ricevitore Dual-Constellation), combining navigation data acquired from Galileo and GPS constellations; Galileo Security Monitoring Center, part of the Galileo Ground Segment, for managing Galileo PRS users/user-access to the PRS service.

ON ORBIT PROPULSION: Cold Gas Micropropulsion subsystem: ON/OFF Propulsion Micro thruster (1-500mN); Linear control Micro-thruster (LISA Pathfinder, Microscope, Euclid) up to 2mN, Low thrust noise; Micropropulsion Components: Pressure Regulation, Propellant Flow Regulation/Gauging; Hollow Cathodes and Thermionic Neutralizers.

ROBOTICS AND DRILLING: Dextrous Robot System: 7 degrees-of-freedom manipulator for exploration and servicing; DELIAN: lightweight robotic arm; Rosetta SD2: drilling, sampling and sample distribution system (operated in

2014 on the comet CG 67P); ExoMars Drill system (up to 2 meters depth) with embedded spectrometer and control system; Lunar driller for icy soil sampling; Bio-containment system for Mars Sample Return.

RF EQUIPMENT: Solid State Power Amplifiers (SSPA); UHF SSPA cover the bands from 200 to 1000MHz and deliver up to 200 W of output RF power; ATV, SkyNet V, Sicral missions; BIOMASS PAS (Power Amplifier System); Vacuum Tube Power Amplifiers (pulsed and continuous TWT and Klystron); Vacuum Tube Amplifiers are integrated with high voltage Electronic Power Conditioning units and cover the bands from 1 to 40 GHz (EarthCare, Cloud Profiling Radar); Ka and EHF satellite transceivers providing high integrated solution for Vsat Terminals operating in enhanced High Frequencies 30..50GHz; LASER transmitters; High Power Laser TxA for atmospheric LIDAR; ALADIN on board ADM-Aeolus since 2018 and to be flown on Earth-CARE, the two ESA "Earth Explorer" missions to the study Earth atmosphere; Laser High Power Transmitter (TxA), with an optical output power of 120mJ @ 355 nm with very high frequency stability; ALADIN is the most powerful laser source ever built in the UV band.

SPACE COATINGS: Center of Excellence for Thin Film Coatings (optical and functional) for space, aeronautics, defense and industrial applications; Coating systems: n.6 EB-PVD, n. 1 new Plasma and Ion Assisted Deposition (PIAD), n.5 Sputtering, n.3 PE-CVD; Testing: Spectrophotometers and Climatic chambers. Clean room area class 1000 (class 100 in loading zones). 20k coated surfaces per year, over 70 qualified optical coatings; GaAs/GaN foundry; Development and Production of GaAs/ GaN devices (LNA, HPA, ...) and T/R modules from L band to X band; Microelectronics Technologies for RF Sub-systems; 900 m2 ISO 5 clean room: from wafer to packaged device processing.

SPACE SOFTWARE: On-board s/w (OBDH for Cosmo-Skymed, SICRAL, PICS, Sentinel 1 and PRIMA; SAR payload s/w), Mission planning for remote sensing (CSK) and telecom (SICRAL, Athena-FIDUS); Network management/monitoring and control (SICRAL, CSK).

Web site www.leonardocompany.com/en/space

MBDA
Company Profile

MBDA, a world industrial leader in missile systems, is the unique multinational fully integrated European group on the Defense field. With over 10,000 employees in France, United Kingdom, Italy, Germany and Spain, the Group is controlled by the three major AD&S companies in Europe: Airbus Group (37.5%), BAE Systems (37.5%) and Leonardo (25%).
The MBDA consolidation, started on 2001 with the merging of the European main missile companies in France, UK and Italy, has been completed on 2006 with the acquisition of the German EADS/LFK.
The Brussels offices and the presence in the USA added weight to MBDA within the European and NATO contexts.
MBDA is present within over 90 armed forces worldwide with a portfolio of over 60 products, 15 of which under development.

Products |Services | Applications |Technologies

- **CHEMICALS, SURFACE AND SPECIAL TREATMENTS**
  - **CHROMIZING**
  - **NON DESTRUCTIVE TESTS**
- **COMPONENTS**
  - **SPACECRAFT PROPULSION**
    - CONTROL SYSTEMS FOR LAUNCHER ENGINES
- **DESIGNING**
  - **ENGINES**
- **ELECTRONIC MEASURE AND COUNTERMEASURE SYSTEMS AND EQUIPMENT**
  - **CHAFFS LAUNCHERS**
  - **FOR AIRBORNE PLATFORMS**
- **FIXED AND FIELD FACILITIES, LOGISTIC AND TRAINING SERVICES**
  - **TARGET DRONES**
- **MAINTENANCE, TRANSFORMATION AND OVERHAUL**
  - **MISSION-RELATED SYSTEMS**
  - **WEAPONS, WEAPON SYSTEMS AND AMMUNITION**

- **SENSORS**
  - **AIR DEFENCE AND SURVEILLANCE RADARS**
  - **NAVAL ELECTRO-ACUSTIC SENSORS**
- **WEAPONS, WEAPON SYSTEMS AND AMMUNITION**
  - **WEAPONS**
    - MISSILE COMPONENTS
    - ROCKET SYSTEMS
    - MISSILES AND LAUNCHERS
    - AUXILIARY ENGINES AND MISSILE COMPONENTS
    - WEAPON PROPULSION
  - **AMMUNITION**
    - EXPLOSIVES AND PYROTECNICS
  - **WEAPON SYSTEMS**
    - MISSILE SYSTEMS AND FIRE CONTROL SYSTEMS
    - MISSILE AND TORPEDO GUIDANCE SYSTEMS

Web site www.mbda-systems.com/

NORTHROP GRUMMAN ITALIA
Company Profile

The Northrop Grumman Italy expertise , ranging from development to production of inertial navigation systems and electronic systems, used in aerospace applications, avionics, land, and maritime missile in all the military applications. The development and production include both the research, design and implementation of experimental models and prototypical demonstration, manufacturing, assembly, integration and testing of production units. In addition, Northrop Grumman Italian designs and manufactures all the electronic equipment necessary for inertial systems testing as well as all additional equipment and complementary parts. The skills also extend to maintenance, repair, calibration, training and logistical support for the use of navigation equipment and related parts.
The great know-how in dealing with the inertial sensor technologies, expertise in software development and experience in designing both mechanical and electronic, are the basis of the success of Northrop Grumman on the Italian market.
It is increasingly consolidated the area of real-time simulation of inertial products that allows you to analyze the dynamic behavior of systems in the face of motion trajectories and thus to verify, at an early stage of product development, the necessary responsiveness to different operational requirements of the aircraft (or vehicle).
Decades of experience in the field have made it possible to Northrop Grumman Italy to specialize in providing navigation solutions “turnkey” applications for both aerial and marine or terrestrial, with a particular focus on ensuring the safety of the operator and the reliability of its systems.
Skills and products are summarized as follows:

Products |Services | Applications |Technologies

PRODUCTS
- Inertial Navigation Systems – INS
- Attitude & Heading Reference Systems AHRS
- IMU – Missiles Applications
- Hybrid Systems INS / AHRS / GPS
- Rate Sensors

CAPABILITIES

- Development and Production of Navigation Systems for Military

APPLICATIONS

- Software Development DO- 178B Levels A-D
- Development Hardware DO-254 Levels A-D
- Computerized Systems Development and Design CAD
- Test & Simulation
- Environmental Tests
- SMD Assembly Automatic Line
- Cleanroom Sensor
- Build to Print (PCB ‘s, Mechanical Gyro)
- Test Equipment Design and implementation
- Training
- Logistic Support

Web site www.northropgrumman.it/

RHIENMETALL ITALIA
Company Profile

Located in Rome, Rheinmetall Italia S.p.A., previously known as Oerlikon Contraves S.p.A, is a member of the Rheinmetall Defence Group.
Leader in Air Defense and Radar technology the Company has almost seventy years’ experience in the design, development and manufacturing of air surveillance and tracking radars in the frequency band from L up to W (millimeter waves) and it has been designated as “Radar House” of the Rheinmetall Group.
Since the 80’s, the Company actively operate in the Space and Civil fields, acquiring extensive experience and know-how in Composite materials, primary Structures for Launcher and Satellites, Solar Panels, large Ground Infrastructures for Launchers, precision Mechanisms, Radar technology and Telecommunications.
Rheinmetall Italia participate to important national and international space programs, serving as prime contractor or subcontractor and collaborate with the Italian Space Agency, the European Space Agency, universities, research centers and global space industries.
Among the many facilities, instrumentation and capabilities in the mechanical and electronics domains there are: Design and manufacturing (autoclave technology) of composite structures, components and antennas with carbon, glass and Kevlar materials; Design and manufacturing of primary and secondary structures for payloads, satellite, launchers, solar array and launch towers; Testing facilities for thermal and mechanical environment (temperature, humidity, solar radiation, shock, vibration, rain, salt fog, etc..); Three Anechoic chambers (far field, near field and compact range in addition to a shielded room) for Antennas, Radars and EMI/EMC testing; Clean rooms for mechanical and electronics assembly; Dimensional control and metrology laboratories for mechanics and electronics; Laboratories for non destructive (NDI) and destructive controls and measurements (mechanical loading, die penetrant, X-ray, magnetic particle, endoscopic, metallography and microscopy).

Products |Services | Applications |Technologies

In the space sector, Rheinmetall Italia has collaborated with leading space agencies such as NASA, ESA, ASI, DRL and CONAE: CPD (Coarse Pointing Device), external pointing mechanism for the International Space Station;

Interstage 2/3 of the European small launcher (VEGA) still in production; Small satellite structures, thermal control, solar panels, and launch campaign management (MITA, AGILE); Launch bases for the VEGA and SOYUZ vectors at the ESA Space Centre in Kourou, French Guiana; Precision mechanisms and restraint / release devices for payloads and solar panels (LARES, SAC-B, SAC-C); MGSE Design and manufacturing; Satellite and Payload AIT including Environmental Qualification Campaign; Launch Campaign acquisition and Management; High Power Amplifiers, in X and Ka Band, for all ESA DSS in Malargue (AR), Cebreros (SP), New Norcia (AU); X-Band Frequency Conversion Unit and Processing Unit for X-SAR; MMW Technologies, Q-W Band Oscillator and Amplifier for ASI.

Web site https://www.rheinmetall-defence.com/en/rheinmetall_defence/index.php

RINA CONSULTING
Company Profile

RINA provides a wide range of high quality tailored solutions in the Energy, Marine, Certification, Transport & Infrastructure, Industry sectors. Multiple assets for a unique purpose: to build mutual trust with customers and to be recognized as the right choice in any step of a project lifecycle. Our activities contribute to develope the qualitative level of the market by adopting measures to protect health and safety. RINA believes in the value of visionary ideas and the importance of protecting life and environment. For this reason, innovation and sustainability run through our business and increase the reputation of both RINA and the customers who care for the planet, look ahead and want to lead the way in the market. RINA's commitment to excellence is full and fuelled by our people's work and competences, essential to bring the best solutions on the stage where the market leaders play. RINA vision on strategic growth is to progress with the changing world, turning challenges into opportunities and visionary ideas into excellent solutions. RINA's ambition is to be identified as the smartest partner to work with: extraordinary promptness, the value of teamwork, courage in making choices, out-of-the-box thinking and innovative mindset are the values we believe in. The very same approach is in our focus for the services offered to the Space Economy: no boundaries and limits to the services we want to offer providing top performing project support to ranges of stakeholders operating in space. Services to the space assets are offered through two legal entities: RINA Consulting SPA and RINA Consulting CSM: the former focused on the consulting services and on-premises applications, the latter with deep specialization and competences on laboratories, materials testing, and development of new materials for extreme applications.

Products |Services | Applications |Technologies

Products: Whole range of materials, components and design of parts suited to be exposed to extreme space conditions and environments. Verification of the performances and modelling suites permitting the virtual verification of the performances under e.g. extreme temperatures, radiations, thermal or mechanical stresses (typical in space conditions)
Services: Security & cyber-security (secuirty by design for systems and HW/SW, support to accreditation, support to certifcation, vulnerability assessment/penetration testing, governance, PRS, ecc. SW/FW Engineering services to design, develop, prototype and test applications and tools (e.g. command and controls, simulators/emulators, validation tools, interface

management, TM/TC data analysis), mission and safety critical software development. System Safety (Hazard Analysis, Qualitative and Quantitative Risk Assessments and Risk Acceptance, Safety Requirements and SIL Assessments, Software Assurance and V&V, Design Validation through Simulation. Independent Safety Assessment. Safety Audits. Electromagnetic Compatibility (EMC testing and specialist measurements, Support of E3 protection & mitigation measures, EMC management & control, EMC design consultancy, EMC risk analysis & mitigation, EM Modelling & simulation, EMC qualification & validation). Technology Transfer: mapping, promotion, support to exploitation and effective implementation of space technologies in terrestrial domain (RINA is since 1992 the Broker for Italy of the Technology Trasnfer programme of ESA). Advanced modelling services: modelling of different physical phenomena: thermal, mechanical, chemical and coupled events, Finite Elements and Computational Fluid dynamic models. Aeroelastic modelling, Reduced Order Methods (ROMs), Impact models and large deformations modelling. System Engineering (telecommunication systems integration, data management, 5G data security and data access; satellite communication). Coupling of satellite communication capabilities, terrestrial 5G and NTN-5g IOT to the benefit of industrial processes. Enterprise Architecture definition; Capture, analysis and management of requirements; Stakeholder identification and management; Functional & physical integration management and support; Acceptance Testing and evaluation. Management Services Definition of requirements and preparation of System documents, Management of industrial activities, acceptance tests & trials, Cost, Schedule and Risks Management. Integrated Logistics Support (RAM&T Configuration Management, System Reliability and Maintainability, Maintenance planningand Level of Repair Analysis, Systems' Availability & Life Cycle Cost, Failure Report Analysis and Corrective Action System, Technical Publications development (S1000D), ILS Data Management, Maintenance Management & Monitoring System). Training & Learning (Training consultancy, Training analysis including the application of SAT ADDIE, Learning and development research studies, Training design and development, Human factors integration, Multi media learning solutions, Delivery and evaluation of training, Competence management, Trainer development. Supply Chain and Quality (Suppliers Technical Assessment, Supplier delivery management and coordination, Planning, tracking and production processes mapping for costs optimization, Supply monitoring and definition of key indicators (KPI), Product testing and verifications. Advanced Materials: integral materials engineering and consultancy; materials composition (metallic, ceramic, polymeric), processing, special testing design and execution. Advanced Coatings: design and development of advanced coatings for specific space applications (e.g. thermal barriers, oxidation protection, optical coatings). Manufacturing of prototypes for testing in operative conditions. Modelling of coating composition evolution in service conditions. Advanced characterization and testing: characterization of materials, components and systems according to standard testing procedures or tailored testing procedures developed for specific environments and operating conditions. Measure and analysis of material properties: microstructure physical properties, chemical properties, mechanical properties. Standard test facilities include: mechanical testing, oxidation and corrosion testing, tribological testing, electric, electronic and magnetic testing. Capability to develop specific test rigs to test materials subject to multiple and combined sources of stress. Full scale testing. Advanced materials formulation to model the performance of lunar regolith. Additive Manufacturing: design, development and manufacturing of standard and special alloys taylored for Additive manufacturing process. Production of gas atomized powders for AM, material characterization (powders and products) and process parameters optimization. Development of light alloys for space application.

Web site www.rina.org/en

SERCO ITALIA
Company Profile

Serco Italia is an Italian company belonging to Serco Group, the public services expert specialising in the delivery of essential public services and managing over 500 contracts worldwide. In Italy our core business sector is Space, and in particular the Earth observation (EO) domain: we have been providing a wide range of services to the European Space Agency (ESA), national space agencies, institutional governments and the European Commission (EC) for the past 30 years. Serco's teams of engineers, technicians and operations specialists support a wide range of space and ground activities: from data archiving and exploitation, data processing; to systems design, operation and maintenance; data production quality control; and the scientific and technical support for EO satellite data exploitation projects. In addition, as part of our user-facing functions, we provide specialised EO Helpdesk and Service desk as well as 24/7 operations for critical services (e.g.: to manage incoming requests for the International Charter for Disasters).
Our employees also play an important role in supporting prestigious European programmes, such as the EU Copernicus programme, where Serco Italia provides key services for the Sentinels Core Ground Segment and Data Access and for the data dissemination operations to final users. Serco is also participating in a number of EC H2020 Calls, such as EOPEN (opEn interOperable Platform for unified access and analysis of Earth observatioN data), which aims to fuse Copernicus Sentinel data with heterogeneous big data sources, and MOSES (Managing crOp water Saving with Enterprise Services), which proposes an integrated and innovative water management solution.

Products |Services | Applications |Technologies

Space: Systems Engineering; Service Operations; Scientific Support for data exploitation; Satellite Data processing; Satellite Data Archiving; Quality Control Services; CAL/VAL; Satellite Data Dissemination; Ground Segment Operations; Earth Observation Help Desk; Front-end User Services; Project Management; Training Services.
Information Technology: IT Infrastructure Maintenance and Operations; System and Database Administration; Web design and operations; Cloud Solutions.
Defence: Programme/Project management support services.
ONDA DIAS: Serco Italia leads one of the Copernicus Data and Information Access Service (DIAS) foreseen by the European Commission and operated by ESA. ONDA is a cloud-based platform providing direct access to one of the largest archives ever built for geospatial data (including full availability of all Copernicus Sentinel Missions data, information products from the Copernicus Services, and data from additional missions like Landsat-8 and Envisat). ONDA's aim is to support the development of Copernicusbased user applications and also to enable research and business by providing custom solutions.

Web site www.onda-dias.eu

SICAMB
Company Profile

SICAMB S.p.A. was established in 1975 with the participation of Martin Baker Aircraft Co. Ltd., with the main purpose of the production and overhaul of the Martin Baker ejection seats and major subassemblies for civil and military aircraft. Research, development and production, under licence of Martin-Baker, of ejection seats for military aircraft JSF, Typhoon, M346 (over 1200 ejection seats manufactured). Overhaul and modification plan on ejection seats for military aircraft Tornado, MB339A-CD, AM-X.
Research and development of crashworthy systems.
Production of crashworthy seats for helicopters.
Production of structural assemblies for military aircrafts such as MB339, AMX, ATL2, C27J.

Products |Services | Applications |Technologies

Research and development of main structural assemblies for civil aircraft such as 787 Auxiliary box, A380 Floor grid, A380 Cargo door, A330 Cargo doors, A321 Passenger to Freighther Cargo Door.
Production of structural assemblies for civil aircraft such as EC135 Fuselage sub-assy, AIRBUS A330 and A321 Passenger to Freighther Floor structure, A380 floor, A320/A321 floor, A300/310 floor, AIRBUS A330 Cargo door, AIRBUS A380 Cargo door, MRJ passenger-service-baggage doors, FALCON 2000 Baggage e Rear doors, ATR-42 Pylon, BOEING 767 Cargo/Tanker Vertical Fin Chords.
Design and production of Thrust Reverser for FALCON 900EX and FALCON 2000, HAWKER 900, HAWKER 4000, CESSNA ENCORE.
Production of main wheels and brakes for the EUROFIGHTER aircraft as work share partner of Meggitt Aircraft Braking Systems.
Production of composite parts for ejection seats and civil aircraft structures.

Web site www.sicamb.com/site/index.php

SIMAV
Company Profile

INDUSTRY SEGMENT

Simav for the last thirty years has been working in the Industry field following its customers for the entire production cycle through an integrated logistics support.
In fact it stands as a privileged interlocutor in the advanced management and maintenance of technical plant services, the general and production plants at sites in which they develop high-tech products.
The company is a strategic partner to its customers providing all the know-how acquired in maintenance services. It is thus able to offer metrology services, in which it excels, multi-technology and facility management.
Simav deals with maintenance and operation of industrial plants and production support, through the integrated management of services to buildings, spaces and people, with the following actions:

- Redevelopment Production Process
- Implementation of the new layout of Production Lines
- Re-engineering and Management of Plant Maintenance Production and Associated Facilities
- Management of the Factory Logistics (raw materials and semi-finished products and spare parts)
- Management of laboratories Metrological for calibration and repair of measuring instruments
- Logistics Service to Product
- Generali Plant Maintenance (both processes that asset)
- Logistics on Infrastructure
- Creation, management and optimization of plants for energy production and cogeneration.

Products |Services | Applications |Technologies

AEROSPACE AND DEFENSE SEGMENT

The services for the Aerospace and Defense sector are characterized by extensive technical and wide geographical distribution activities and content can range from maintaining, and improving the efficiency of plants and

military infrastructures (barracks, airports and military bases), with the logistic support integrated complex command and control systems, radar, telecommunications, vehicles and aircraft.

Simav today is able to propose to the customer through the plurality of services aimed at integrated solutions applicable to complex systems such as civil airports, infrastructure and military airports.

Among the maintenance services offering ranges from maintenance of GSE and AGE, through the calibration and repair of commercial equipment, technical assistance, specific services to airport facilities in Global Service optics, including multiservice technology and facility management services, with particular attention to the environmental management aspects.

MAINTENANCE SERVICES TO COMPLEX SYSTEMS

Simav provides asset management services and maintenance of complex systems such as civil airports, airports and military bases abroad, with excellent expertise in metrology services and technical assistance, developing and customizing its offering in this area with:

- Optimization of maintenance processes for airports airside and landside area, with the use of “predictive” methods and advanced cost effective technologies
- Technical specialized peculiar activities, metrological support and test & validation activities
- Maintenance systems and operations supporting systems to airports
- Feasibility studies, statistical research, consultancy and engineering designs for military and intergovernmental agencies
- Supply of integrated systems for the security and control of military infrastructure
- Development of multi-technology applications and energy with a sustainable approach.

Web site www.simav.it/

TECHNO SKY
Company Profile

Techno Sky is the Group company responsible for managing and **maintaining the entire range of hardware/software platforms and systems used to deliver air navigation services**.
The results it has achieved are the product of over 40 years of specific experience in the sector. As an integrator of ENAV’s mission critical systems, Techno Sky is involved along the entire value chain: research and development, systems engineering, design, software development, development of weather systems, installation, integration and maintenance of measurement instruments, spare parts management and repairs.

Products |Services | Applications |Technologies

With its 800 employees, the company handles the technical/operational management of:
4 Area Control Centres (ACC) at Brindisi, Milan, Padua and Rome
45 airports
44 radar systems
121 telecommunications centres
68 weather systems
239 navigational aid systems

Web site www.enav.it/en/group/companies

TELESPAZIO
Company Profile

Telespazio works to bring Space closer to Earth, benefitting citizens, institutions and companies in a variety of sectors ranging from design and development of space systems to management of launch services and in orbit satellite control; from Earth observation to integrated satellite communication, navigation and localisation services, and through to scientific programmes.
Its open innovation approach, together with the cross-contamination of different operational domains and a constant focus on issues of environmental sustainability, allow Telespazio to operate in sectors that will become increasingly important in the years to come: from communication and positioning services for the Moon to management and monitoring of satellites and other orbiting objects (Space Domain Awareness), and creation of advanced in orbit services and satellite operation of drones and unmanned vehicles.
Moreover, using innovations such as artificial intelligence and machine learning to process big data from satellites, Telespazio is in the front lines of development of space applications capable of improving people's lives on our planet and helping to win the great challenges of our times, such as the effects of climate change.
Telespazio is a joint venture between Leonardo (67%) and Thales (33%) and one of the world's biggest suppliers of satellite solutions and services. Telespazio is based in Rome and counts 3000 employees in nine countries through its various subsidiaries and joint ventures.
Telespazio is present in France - Telespazio France; in Belgium - Vitrociset Belgium; in Germany - Telespazio Germany, GAF and Spaceopal (a joint venture with the German Space Agency DLR), in the United Kingdom - Telespazio UK; in Spain - Telespazio Ibérica; and in Romania - Rartel. The company operates in South America - Telespazio Brasil and Telespazio Argentina. In Italy, it can count on e-GEOS, a leader in geoinformation services 20% owned by the Italian Space Agency.
With know-how acquired over 60 years in the business, an international network of space centres and teleports, the participation in space programmes such as Galileo, EGNOS, Copernicus and COSMO-SkyMed, Telespazio serves the market as service provider and large mission integrator, offering services for the upstream, midstream and downstream segments to help space missions achieve their goals.

Products |Services | Applications |Technologies

SATELLITE COMMUNICATIONS
With its long track record in the satellite telecommunication and television sectors and thanks to a portfolio of cutting-edge products and services, Telespazio offers its clients secure, reliable and globally available solutions. Telespazio is the Italian leader and a major European player in radio and television broadcasting, thanks to its facilities at the Fucino and Lario Space Centres and to the equipment installed and managed at clients' premises. The company manages communications networks capable of integrating satellite and ground-based infrastructure, responding effectively to the requirements of business and institutional markets, media and broadcast sectors and global telecommunications operators. In the business market Telespazio offers dedicated services for the oil &gas, utilities, maritime and telco sectors, implementing fixed-line, mobile broadband satellite services in Italy and abroad. In tactical military satellite communications (Milsatcom), Telespazio provides telecommunications services to the armed forces of NATO countries, through its involvement in the Italian defence programme SICRAL. In non-tactical military communications (Comsatcom), the company offers telemedicine, distance learning and wideband connectivity services. As part of the institutional satellite communications, Telespazio participates with a strategic role in the ATHENA-FIDUS programme and delivers innovative applications and services in the field of civil protection, security and e-government. Finally, in its Fucino and Scanzano Space Centers, Telespazio hosts ground segment equipment dedicated to telecommunications satellite systems managed by leading international operators (Inmarsat, Eutelsat).

GEOINFORMATION
Telespazio is one of the major global suppliers of geospatial application solutions and services. Through its subsidiaries - mainly through e-GEOS in Italy and GAF in Germany - Telespazio is active in all areas relating to the Earth observation market: from acquiring and processing satellite data to develop and sell software and products. The company provides application services such as environmental protection monitoring, rush mapping in support to natural disaster management, specialized products for defense and intelligence, oil spill and ship detection for maritime surveillance, interferometric measurements for landslides and ground subsidence analysis, thematic mapping for agriculture and forestry. Telespazio is involved in the major Earth Observation programmes including the European Copernicus and the Italian COSMO-SkyMed. Lastly, in the geoinformation sector, Telespazio offers GIS solutions and applications for the control of vehicle fleets, the monitoring of dangerous sites and e-tourism services. In

support to its operational applications, e-GEOS - a joint venture between Telespazio (80%) and ASI (20%) - operates the Matera Space Centre for acquisition, archiving and processing of multimission satellite data including COSMOSkyMed and ESA Sentinels. e-GEOS is the exclusive distributors of COSMOSkyMed data worldwide.

SATELLITE SYSTEM AND OPERATIONS
Telespazio is one of the world leaders in the design, development and qualification of Integrated Satellite Systems and in the supply of In Orbit Control services for launch, early orbit phase and routine operations (LEOP, IOT, relocation, mission operations) during the working life of satellites in low, medium Earth and geostationary orbits. These services are provided by means of proprietary ground elements: satellite control center, flight dynamics systems and ground stations, together with all the necessary teleport facilities (aux systems, communications, logistic and security facilities). Telespazio employs highly skilled staff, with internationally recognized know-how, to operate via the proprietary Space Centres in Italy (Fucino, Lario and Scanzano), as well as through customer infrastructures throughout the world.Based on 50 years' experience supporting the majority of National and European agencies, Telespazio provides engineering, operations and logistic services for large and complex institutional Earth Observation programmes (COSMOSkyMed, Copernicus), Navigation (Galileo, EGNOS) and the relevant downstream applications.In this field Telespazio is a key innovator in the development of systems, applications and services providing: in Earth Observation missions, the user ground segment elements and processor applications that properly handle and elaborate the optical or radar images; for Navigation and Aviation missions, the capability - thanks to proprietary laboratory, simulators and facilities - to develop and provide applications and qualify new services for the downstream market. The most important customers are the main satellite operators and satellite manufacturers, the main National and European space agencies and defence administrations.

Web site https://www.telespazio.com/it/home

THALES ALENIA SPACE ITALIA
Company Profile

THALES ALENIA SPACE, joint venture between Thales (67%) and Leonardo (33%), is a key European industrial player in Space Telecommunications, Earth Observation, Navigation, Science, and Exploration of the Solar System and beyond. With over 40 years of unrivaled experience, the Company is the natural partner to countries willing to expand their Space programs and invest in the Space Economy. Governments, Space Agencies, private companies count on THALES ALENIA SPACE as global system integrator to design, test, manufacture costeffective Space-based systems and technological solutions. Our spacecrafts and payloads are a worldwide benchmark for: civil, military and dual use missions, telecom constellations, high-resolution radar and optical sensors, connections and positioning, environmental monitoring, human spaceflight, planetary robotics, scientific probes, space transportation vehicles, flexible payloads, altimetry, meteorology. THALES ALENIA SPACE also teams up with TELESPAZIO to form the parent companies' SPACE ALLIANCE, which offers a complete range of systems, services and space data. THALES ALENIA SPACE ITALIA SpA is the Italian component of THALES ALENIA SPACE operating on four sites: Roma, Torino, L'Aquila, and Milano. Since 1970s the Company has designed, manufactured, integrated, tested, operated and delivered over 200 satellites and innovative space systems, fundamental applications for sustainability of Earth: Remote sensing, Telecommunication, Navigation, Space Science and Exploration. THALES ALENIA SPACE ITALIA SpA as one of the top historical players worldwide, collaborates with the leading international space industries and the most prestigious agencies, as: NASA, ESA, and ASI. It offers cutting-edge space technology to commercial and institutional customers around the world: Systems design for Human Spaceflight and Robotic Exploration, Pressurized living compartments, Earth Reentry Vehicles, Scientific Probes, Spacecrafts and Constellations assembly, integration and testing; Earth observation radar, Navigation systems, Telecoms Defence Satellites; High revisit small sat Constellations; Digital payloads and Equipments for platforms and payloads of all the above applications. THALES ALENIA SPACE ITALIA SpA acts as catalyst of the national Space Economy supporting win-win collaborations with SMEs and StartUps.

Products |Services | Applications |Technologies

SPACE FOR EARTH CARE
COSMO-SkyMed Italian radar-based Earth Observation system developed

for ASI and MoD, provides worldwide high resolution images. Constellation of four satellites with X-band radar, can operate day and night under any weather or visibility conditions with high revisit. Conceived dual purpose (civil and military) is top of precision, features and image quality for: risk management and damage assessment within natural or manmade disasters, strategic infrastructures management. Responsible of 1st and 2nd generation entire system. COSMO-SkyMed enables strategic and tactical Image Intelligence helping Armed Forces and Governments in decision making for people security. EOS20 Radar Constellation compact, lightweight, high performance imaging platform with high revisit time to satisfy military and civil purposes. Innovative technologies: Payload Data Handling & Transmission, Control Moment Gyro, Very High Resolution Radar reflector and radar sensor , Integrated Processing, data-handling and AOCS Controller. The product won the Korean Defense bid for space radar surveillance. COPERNICUS-SENTINEL EU'program for environmental monitoring, sustainable agriculture, maritime surveillance, natural and anthropogenic threats. Provides ESA with timely, easily accessible high resolution images. In Copernicus Extension: new generation C- band Sentinel for service continuity; in Copernicus Expansion extends the scope with: ROSE-L for Land Monitoring and Emergency Management by L-band; CIMR multifrequency microwave radiometer for sea and Artic monitoring.

SPACE FOR SMART MOBILITY

GALILEO Europe's Global Navigation Satellite System, key where extreme accuracy and reliability are critical: railways, maritime and air traffic management, Smart Cities'services. Prime contractor for 6 second Generation's satellites, leveraging on serial manufacturing of wide constellations and the heritage on IOV and 1st generation: ESA Engineering System and Calibration support; signal generation units and antennas supplier for the first 22 satellites.

SPACE FOR SECURITY

SICRAL Italian MoD communications system of 3 satellites, it improves capacity for strategic and tactical links in Italy and for out-of-area operations with terrestrial, naval and air platforms assured until 2030 with the launch of 2 new satellites. Geostationary satellite operating in UHF and SHF band, allows interoperability between the networks of defence, law enforcement, civil emergency agencies and those responsible for strategic assets. Seamless integration with infrastructure of NATO allied countries.

SPACE TO LIVE IN

SpaceHOME Product Line of any Human Life' support System for institutional and commercial customers. Responsible for decades for most of the International Space Station pressurized living spaces (as Columbus Lab, Nodes, CUPOLA observation deck) and its logistic resupply: Multi-Purpose Logistic Modules, Automated Transfer Vehicle and Cygnus at its 15th visit to the ISS. ARTEMIS, returning humans on the Moon by 2024. Habitable element provided for NASA's HALO and ESA Prime Contractor for two elements of the Lunar Gateway, next space station in Moon vicinity: International Habitat iHAB and ESPRIT (crew quarters, panoramic view, communication/refueling services). Mission enabling studies: human lander, surface shelter, logistic carriers. In the frame of ISS commercialization, collaborates with: Northrop Grumman, Axiom, Nanoracks for LEO private exploitation. After Trace Gas Orbiter, that gathered valuable information orbiting Mars since 2016, Prime contractor to ESA/Roscosmos for ExoMars 2022 and integrator of Mars Sample Return Earth Return Orbiter, Missions aimed to find evidence of life on Mars. Integrator and Spacecraft/Payload developer for Deep Space Exploration: BEPICOLOMBO first European mission to Mercury; EUCLID a near-infrared space telescope to study dark matter. Leader for reentry vehicles in Earth atmosphere (IXV), is now developing SpaceRider: launch to LEO, execute up to 2 months experiments before softly land on Earth. SpaceSTART Product Line for On Orbit Servicing and debris management.

Web site www.thalesalenispace.com/

VITROCISET
Company Profile

More than fifty years of experience in logistics to support operations in mission critical areas, expertise in integrating complex systems, consolidated presence all over Europe and in several other countries in the world, the substantial investments in Research & Development, the high skilled staff with young graduates coordinated by experienced professionals, make VITROCISET, a LEONARDO Company, the ideal technology partner for Companies and Public Administrations. The areas of intervention of VITROCISET range from systems for the Defense to those for Air Traffic Control, from Satellite Technologies to Telecommunications, from Transportation to Integrated Logistics. In particular, VITROCISET's activity in Space business area dates back to 1982 with the awarding of a turnkey contract for the ESA Redu tracking station. The gradual and constant expansion of its offer to the key players of the sector (ESA, ASI, CNES, Arianespace, Space Systems Manufacturers and Satellite Operators) has required the diversification of its products and services, such as the design and development of mission-critical systems.

Products |Services | Applications |Technologies

GROUND DATA SYSTEMS
VITROCISET is involved as a key partner of the Italian MoD, from the early stage of the project, providing engineering support to establish Space Situational Awareness capacity. In this context, VITROCISET has developed for the Italian Space Operation Centre, located in Pratica di Mare Air Force Base, the software platform to support SST (Space Surveillance and Tracking) activities, fully integrated with SATCEN and EU-SST database and national sensors. Main capabilities of VITROCISET software platform are the following: Providing a full view of space objects and relevant orbits (with related events) thorough the Space Picture; Activities planning; Catalogue management; SST Services: Conjunction Analysis, Re-entry event and Fragmentation events Integration. Currently, VITROCISET is in charge for the study and development of the Test Bed realization of the Joint Operation Centre of the ITA MoD for the integration of the Space Domain Information. Command and control systems are among the core competences of the Company that is providing turnkey solutions for several applications, from aerospace to civil and defence markets. Among these programs, there is the Command and Control Bench developed for European Launcher VEGA, for which Vitrociset has been involved since its preliminary design phase (2004) till the maiden flight in 2012 and the following upgrades, with the implementation of VEGA evolution programs and the new powerful version named VEGA-C.

SPACE G/S ILS & OPERATIONS
Working at the PISQ (Poligono Interforze Salto di Quirra) VITROCISET actively participated in the realization of the bi-static radar BILARES, consisting of a receiving unit (owned by INAF) located near Bologna and a transmitting unit, entirely developed by Vitrociset and located at PISQ. In addition VITROCISET has been awarded for the maintenance of the sensors belonging to the nation SST infrastructure. VITROCISET is deeply involved into SST Operations, in accordance with Italian Air Force procedures, the company is in charge for the following tasks: Execution of the analysis procedures of Conjunction Analysis, Fragmentation, Re-Entry and related report generations; Execution of the task generation and sensor planning procedures; Execution of the orbital determination; Catalog updating. Ground Sensors VITROCISET is supporting the Italian Consortium for the implementation of SST operations based on radar technologies. UHF transmitter has been provided and installed by VITROCISET and it is currently operated with the support of VITROCISET team, working in bistatic configuration with other Italian assets provided by the Italian National Institute for Astrophysics, granting the capability to discover objects with an area less than 10 cm, at a distance up to 2,000 km. The UHF transmitter is also able to operate in coordination with the receiving site SRT (Sardinia Radio Telescope), creating the BIRALET (BIstatic Radar for LEO tracking), sensor used to track LEO orbit objects. The company has designed and delivered for the Italian National Institute for Astrophysics two systems for the ranging and synchronization of the bi-static radar system. These kits are used to the extraction of the bi-static distance of objects in LEO orbit as part of the SSASST operations. In parallel VITROCISET is in charge for the realization of a debris tracking radar for the ITA MoD in Vigna di Valle Space Center. The system is composed by an advanced high performance monostatic radar, working in C band that allows very high level of accuracy. Big Science Building on its experience in the space market and on its capabilities in critical system management, and command & control systems development, VITROCISET works on different international projects, supporting the implementation of large experimental physical facilities, providing highly specialized systems engineering services and developing ad-hoc systems. VITROCISET is involved in ITER program (International Thermonuclear Experimental Reactor project), working in command&control (CODAC), diagnostic systems and remote handling domains, being one of the few authorized CODAC Core System development center worldwide. VITROCISET is also working at Fusion For Energy (F4E), the European Agency supporting the ITER program, in the Instrumentation and Control department. At European Spallation Source (ESS) program in Sweden, VITROCISET has been awarded with three framework contracts for electronics, SW development and mechanical consultancies services. The Company has also provided the complete command and control system for STAR Materia, a linear accelerator developed for University of Calabria, in South of Italy and is currently developing for the ITER Program the control system for the remote handing in operation maintenance activities.

Web site www.vitrociset.com/

V - Lazio Research Centers, Universities and Facilities

The research system is an important asset of the aerospace sector in Lazio. In addition to the European Space Agency (ESA) and the Italian Space Agency (ASI), Lazio is home to 5 universities with faculties and departments highly specialised in aerospace study and research. The following is a list of some of the main Agencies, Italian Research Centres of internationally recognised excellence, Universities and Laboratories that are part of the innovation ecosystem.

ASI – The Italian Space Agency, born in 1988, is a national public body supervised by the Ministry of Education, University and Research that cooperates with several other departments. It has established itself as one of the most important global stakeholders on the scene of space science, satellite technologies and development of means to reach and explore the cosmos. Today the Italian Space Agency plays a leading role both at a European level, where Italy is the third major contributor to the European Space Agency, and at a global level.

ESA BIC Lazio (Business Incubation Centre) offers business start-up support as well as technical expertise throughout their incubation period in a number of space related areas, i.e. systems and software infrastructures for data handling and integrated Earth observation, satellite navigation and communication applications. Located at the business incubator ITech in Rome, ESABIC Lazio is a partnership among Lazio Region, ASI (Italian Space Agency) and ESA, and it is part of Innovation and Ventures Office (TIA-AI) of the European Space Agency.

ESA-ESRIN, located in Frascati (Lazio) is the European centre of excellence for exploitation of Earth observation missions. The mission and payload operations of ESA's Earth observation satellites are managed here, and ESRIN is the primary source for the acquisition, distribution, and exploitation of data from these and other non-ESA satellites.

European Space Research Institute

Italian Space Agency

Rome Airport

Italian air navigation service provider

National Institute for Nuclear Physics

Italian National Agency for New Technologies, Energy and Sustainable Economic Development

National Research Counci

Italian Civil Aviation Authority

Telecommunication, Remote Sensing, Earth Observation

National Institute for Astrophysics

National Institute of Geophysics and Volcanology

Italian Institute for Environmental Protection

- "Sapienza" University of Rome: aerospace plants and systems, flight mechanics, aerospace construction and structures, aerospace propulsion, remote sensing and telecommunications, space/astronautics missiles and ballistics, microsatellite design and construction, observation of satellites and space debris for orbital analysis, earth observation & earth science, access to space, human activities in space, electronics, robotics, thermal control, deep space observation, fundamental physics.

- University of Rome "Tor Vergata": astrophysics and space physics, study of antimatter, cosmology, mission planning, systems for space, space biomedicine, electronics, tlc and systems engineering.

- Roma Tre University: astrophysics and cosmology, space cryogenics, applied electronics, mechanical engineering.

- University of Cassino: study of materials, construction and motor engineering, sar signal processing and radar-interferometric observations.

- University of TUSCIA: technologies for agro-space, technologies for cultural heritage.

- ESA/ESRIN (European Space Research Institute): Earth observation, development of launchers and new spacecraft, space weather.

- ASI (Italian Space Agency): promotion, development and dissemination, with the role of agency, of scientific and technological research applied to the space and aerospace field.

- INAF (National Institute of Astrophysics): Rome headquarters and Monte Mario and Monte Porzio Catone observatories. The Institute of Space Astrophysics and Planetology is Italy's largest centre for space astrophysics and cosmic physics.

- CNR (National Research Council): in Lazio it is active through 25 institutes and 19 territorial sections. The CNR has a consolidated presence in the Space theme and is present above all in the areas of Earth observation, information technology and telecommunications, flight dynamics and propulsion, materials, sensors and devices, robotics, astrobiology, development of application services.

- INFN (National Institute of Nuclear Physics): subnuclear physics and astroparticles. Its headquarters are in Rome and in Lazio it has three sections and one national laboratory (LNF-Frascati). It has its own centre for integrating instruments for space missions in the Tor Vergata area and has carried out over 20 space missions, including instruments aboard space stations and free-flyer satellites.

- ENEA (National Agency for New Technologies, Energy and Sustainable Economic Development): energy, environment and new technologies; nuclear fusion and advanced technologies; high temperature ceramics for space launchers.

- ISPRA (Italian Institute for Environmental Protection and Research): is one of the Italian Copernicus Relays and chairs the Copernicus User Forum.

- INGV (National Institute of Geophysics and Volcanology): Italian research body on geophysical and volcanological phenomena, which also manages the national monitoring networks for seismic and volcanic phenomena.

- KetLab - Key Enabling Technology LABoratory: a scientific hub for technology transfer in the aerospace sector to small and medium-sized enterprises, located in Rome at the ASI headquarters.

The innovation ecosystem of the Lazio Aerospace Technology District also relies on an important infrastructure support network, created in collaboration with businesses, local institutions and the academic world, including

- Science and Technology Parks: Tecnopolo Tiburtino, Tecnopolo di Castel Romano, Pa.L.Mer.

- Incubators and accelerators supporting technology transfer and start-ups, including the Spazio Attivo ITech Roma Tecnopolo managed by Lazio Innova, home to the ESA BIC Lazio Incubator, Key Enabling Technology LABoratory (KetLab) at the Italian Space Agency, E2bLab Tor Vergata, Sapienza Innovazione, ILO Roma Tre, as well as numerous private accelerators.

- Venture Capital operators: Fare Venture, Lazio Venture and Innova Venture by Lazio Innova, AstraVentures and CdP Venture Capital.

Lastly, in light of the strategic importance for national security of the players in the Lazio Aerospace Technology District and the significant military contribution to the development of 'dual use' technologies, such as the COSMO-SkyMed earth observation satellite system, it is worth recalling the primary role and extensive know-how of the following research centres and military laboratories located in Lazio and dedicated to research activities and the management of territorial security programmes:

- **RSV** (Experimental Flight Department) - Air Force

- **CITS** (Interforce Satellite Remote Sensing Centre)

- **CORDIFESA** (formerly C4 Defence Headquarters)

- **RESMA** (Aeronautical Meteorology Experiments Department)

- **SEGREDIFESA/DNA** (General Secretariat of Defence/National Armaments Directorate)

- **CASD** (Centre for Advanced Defence Studies)

- **Scuola delle Trasmissioni e Informatica** (School of Transmissions and Information Technology) Cecchignola.

VI - ESA Business Incubation Center LAZIO

ESA BIC Lazio – Business Incubation Centre is co-funded by the local Government of Lazio region and by the Italian Space Agency (ASI) in the frame of European Space Agency Business Applications and Space Solutions Generic Program Line.

ESA BIC Lazio is one of the first three ESA BICs started in 2009 and based in Rome metropolitan area, the first one established in Italy.

It is hosted and managed by Lazio Innova, the in-house Agency of the local Government of Regione Lazio, acting for the promotion and development of entrepreneurial and productive ecosystem by fostering research, innovation, quality and entrepreneurial culture.

ESA BIC Lazio aims to work with and inspire entrepreneurs to turn space connected business ideas into commercial startup companies, applying space technologies, solutions and systems in everyday life.

ESA BIC Lazio offers an incubation program with integrated services for creating and developing business and support to finance and technology transfer.

ESA BIC Lazio is part of the ESA SPACE SOLUTIONS, the go-to place for innovative business ideas involving Space in all areas of society and economy. The mission of the network is to support entrepreneurs in Europe in developing their business using satellite applications and space technology.

ESA BIC Lazio startups are hosted in Spazio Attivo Roma Tecnopolo, located in Tiburtino Technology Park in Rome, close to the European Space Research Institute (ESRIN) headquarters in Frascati (Italy). The incubator is about 3.500 square meters size.

In addition, ESA BIC Lazio takes part in open innovation projects of space industry large companies to scout ideas, solutions, tools and technological skills that meet the innovation needs, coming from outside, from startups, SMEs, universities and research institutes.

Finally, ESA BIC Lazio takes part in European Commission funded projects (i.e. Horizon 2020, Horizon Europe) to put in place coordination support action for facilitating access to finance through outreach and networking and maximising opportunities offered by the EC funding schemes for Space.

Why ESA BIC Lazio?

A leading region at national and European level, Lazio has achieved a recognition of absolute excellence with the DTA - Lazio Aerospace Technological District, coordinated by Lazio Innova and born with the aim of promoting industrial research, training, transfer technology and the launch of new business initiatives in line with Regione Lazio's Smart Specialization Strategy. In addition, Regione Lazio is the coordinator of the DTA and one of the founding members of the National Aerospace Technological Cluster (CTNA). In such contest, ESA BIC Lazio aims to operate as an enabling agent of the Space Economy, a sort of gateway for startups to access space technologies, and aims at the exploitation of space resources and the creation and use of innovative products and services which derive from it, in downstream markets segment as well as in upstream segment.

The Lazio Region, the European Space Agency (ESA) and the Italian Space Agency (ASI) through their calls for tenders support the launch of start-ups that intend to apply space-derived know-how and technologies in other sectors of activity (downstream) or propose terrestrial technologies to be applied in the space sector (upstream).

The Call's resources are provided by a co-financing from the Lazio Region and the Italian Space Agency.

Each selected project is awarded funding to support part of the costs of prototyping, new product/service development and intellectual property protection.

The call is addressed to: 1) aspiring entrepreneurs; 2) researchers, university professors and technical staff of research organisations or universities (public and private); 3) innovative start-ups (Legislative Decree nr. 179/2012 and Law nr. 221/e 2012 and subsequent amendments and supplements); 4) start-ups with a maximum of 5 years of life.

Mandatory requirements: in cases 1 and 2, establishment of the company with operational headquarters in Lazio; in case 3, setting up at least one operational headquarters in Lazio, if not already available; in case 4, in addition to what is provided for in case 3, registering in the special section of "Innovative Start-ups" of the Italian Register of Companies established pursuant to Legislative Decree nr. 179/2012.

The selected start-ups will carry out their incubation process for the development of the business idea at the Lazio Region's Spazio Attivo Roma Tecnopolo for a maximum period of 24 months.

ESA BIC Lazio is hosted at BIC Lazio's Business Incubator ITech

VII - Tiburtino Technology Park & Tecnopolo SPA

Tiburtino Technology Park mainly hosts SMEs, Startups and Research Centers operating in ICT, Electronics, Telecommunications and Aerospace & Space Economy. It is part of Tecnopolo S.P.A, a public company created in 1995 with the aim to promote and improve the location and development of high-tech and innovative initiatives.

Facts and Numbers:

- 70 Hectares
- 100 Companies
- Presence of Key Players of the Aerospace and Defence Industry
- Innovative Infrastructures and Services
- Strong links with Universities and Research Centres

VIII - Castel Romano Technology Park

Castel Romano Technology Park is one the main italian centers for applied research and a first-class location for business. It is connected to the most qualified national and international partners focused on Health and Life Sciences. It is part of Tecnopolo S.P.A..

Facts and Numbers:

- 52 Hectares
- 400 People involved
- Presence of Key Players of Biotechnology, Energy and Environment, ICT and Cultural Heritage
- Innovative Infrastructures and Services for the New Materials and Advanced Manufacturing
- Strong links with Universities and Research Centres

IX - Venture Capital & Trans Tech Support for Innovation Ecosystem Development

- Lazio Region, through Lazio Innova, in partnership with private investors, promotes equity financing to startups and SMEs, to support their growth and their competitiveness
- The Region invests both directly in companies and in Investment Funds interested in locating and developing in Lazio
- A best practice recognized at a community level, which has already been replicated by some Italian regions and used as a “ready-made” scheme in the new European regulation
- The new regional funds (Lazio Venture & Innova Venture) dedicated to venture capital are around 80 M€ and, through further synergies with private investors, aim to stimulate the growth of the regional entrepreneural ecosystem
- Lazio Region - with Lazio Innova - therefore intends to nurture the ecosystem with the stable presence of professional managers of venture capital funds, to offer new financing opportunities for entrepreneurial projects, aimed above all at those who do not yet have the possibility to obtain from the credit market the necessary financing lines.
- Main venture capital and technology transfer companies that support the Lazio ecosystem:
  - Lazio Innova – Spazio Attivo ITEC Roma Tecnopolo
  - Lazio Innova - Fare Venture (Venture Capital)
  - Lazio Innova - Lazio Venture (Venture Capital)
  - Fondo Nazionale di Innovazione – CdP Equity (Venture Capital)
  - Invitalia (Smart & Start)
  - ENEA Tech (Tech Transfer)
  - Primo Space AstraVentures (Venture Capital)
  - KetLab, E2bLab Tor Vergata, Sapienza Innovazione, ILO ROMA TRE as well as many private accelerators
  - Vertis (Venture Capital)

X - The main initiatives of the Lazio Region in support of the Aerospace Technology District (DTA)

The Lazio Region is implementing the following actions in support of the economic development, innovation, and internationalization of the companies in the Aerospace Technological District, in particular SMEs and innovative Start-ups:

- **Promotion and implementation** of aid instruments provided under the ROP (Regional Operational Programme) - ERDF (European Regional Development Fund which aims to strengthen economic, social and territorial cohesion in the European Union by correcting imbalances between its regions), under the Three-year Regional Research Programme, under the Smart Specialization Strategy and under the Internationalization Plan;
- **Catalysing initiatives** to facilitate collaboration between SMEs and innovative Start-ups, and between Research centres and government “demand” for highly innovative cutting-edge technology, with a special focus on Space applications developed within the Aerospace Technology District of Lazio (DTA);
- **Assisting the SMEs of the DTA for their participation** in incoming and outgoing missions, international aerospace fairs and exhibitions, and international business conventions in the sector;
- **Institutional cooperation (I2Labs Project)** with national and international counterparts (technology transfer and participation of SMEs in cross-border European projects);
- **Attracting foreign direct investments** in conjunction with ICE/ITA Agency for the promotion and internationalization of Italian companies abroad, with the Italian Chambers of Commerce abroad and with Venture Capital.

5. THE TECHNOLOGICAL VALUE CHAIN OF THE AEROSPACE TECHNOLOGY DISTRICT OF LAZIO

Photo courtesy of ASI

This chapter examines the forms of collaboration between SMEs and the large companies that have grown within the Lazio Aerospace Technology District according to the **“network value chain” model**, facilitated also by **specific initiatives promoted by the Lazio Region** which have benefitted the SMEs in terms of growth, technological development, and greater visibility at national and international level. The chapter also offers an overview of the **technological roadmaps** and gives a preview of the last section of the document which contains the geo-referenced list of companies operating in the Lazio Aerospace Technology District.

Lazio is a ‘region of Space’. It was in the Lazio region that the Italian space adventure began back in the 1950s, thanks to the inspiration of pioneers such as Luigi Broglio and Carlo Buongiorno and has continued to this very day. Indeed, Lazio is still, very much a ‘region of Space’. Today, our Region’s economic and scientific profile is defined by the presence of industrial champions and small and medium-sized high-tech enterprises, universities, and research centres, as well as national and international institutions such as the Italian Space Agency (ASI) and the European Space Agency (ESA).

Lazio is one of the few regions in the world where all the various components of the Space industry are well represented: from Space transport (e.g., the European Launcher VEGA), to the design and development of satellites and the ability of reading data and transforming it into services for citizens, industries, and public administrations. An activity where giants, such as Leonardo, work in close cooperation with smaller companies that bring precious added value.

I - Summary of the technological capabilities of the aerospace sector

Lazio is the only Region in Italy where the entire aerospace supply chain is present. Thanks to this particular feature the companies in the Aerospace Technology District have a competitive advantage at national and international level. The supply chain in Lazio includes the leading national companies of the sector and has taken on the role of system integrator with a growing tendency to outsourcing activities to a vast plethora of 1st and 2nd level suppliers that are mainly SMEs. The main dynamics include:

- ✓ Global competition and emerging markets
- ✓ Worldwide industrial consolidation processes
- ✓ High intensity innovation and investment in R&D (entry barrier for SMEs with lower investment capacity)
- ✓ High technological diversification.

In recent years, the forms of collaboration between the SMEs and the larger companies have intensified and developed according to the **collaborative model of the “network value chain”** also thanks to specific initiatives taken by the Lazio Region which have brought benefits to the SMEs in terms of:

- ✓ Channels providing access to structural growth
- ✓ Building up skills, technologies, and products
- ✓ Opportunities providing visibility at both national and international levels.

Among the most recent space programmes for which the Lazio manufacturing context has been a driving factor, mention can be made of the:

- ✓ Creation of the First and Second generation “dual use” Constellation of 4 COSMO-SkyMed remote sensing satellites (one of the most sophisticated satellite systems in the world) which plays a primary role for various important strategic applications at national level, including environmental control, the management of natural disasters and territorial monitoring;
- ✓ Construction of the Vega Launch System, developed under a European Space Agency (ESA) program, 65% of which is manufactured at the Colleferro plants, in the province of Rome.

Main business sector industrial capabilities:

1. Launchers (Vega, solid rocket motor for Ariane)
2. EO, NAV & TLC SATELLITES
- *Design & Assembling of payloads*
- *Micro nano sats constellations*
- *Applications*
- *GovSatcomm*
- *Space surveillance and tracking (SST)*

3. Manned and unmanned Space Exploration (incl. International Space Station)
4. Ground Segment Control Centers
5. Safety &Security
6. Air Traffic Management
7. Homeland / Cyber Security
8. Aeronautical & stratospheric systems, interior design manufact.
9. RPAS - UAV
10. Sub systems and components:
- *Propulsion (Guidance Navigation and Control, Attitude and Orbital Control Systems)*
- *Thermomechanical (incl. Environmental Control and Life Support)*
- *Electric power*
- *Avionics and electronic systems*
- *Optical / Electro-optical*
- *Software*
- *Structural components and mechanical equipment*

11. Key enabling technologies
- *Micro & Nano-electronics*
- *Photonics*
- *Advanced materials (composite, ultralight alloys, nano-structured materials)*
- *Advanced manufacturing technologies.*

II - Strengths: Development Guidelines

- **Propulsion and energy management**: Avio manufactures space launchers complete with propulsion systems.
- **On-board systems and installations**: Intecs, MBDA, SICAMB manufacture on-board systems, subsystems, and equipment.
- **Air traffic management**: Aeroporti di Roma and ENAV provide airspace management and design, traffic control and associated services; e-Geos, Intecs, Leonardo, Northrop Grumman Italia, TechnoSky, Telespazio and Vitrociset offer technologies and services for navigation and air traffic control.
- **Telecommunications:** Almaviva, Leonardo, Telespazio and Thales Alenia Space Italia offer systems and services for telecommunications.
- **Earth observation**: e-Geos, Leonardo, Telespazio, and Thales Alenia Space Italia offer systems and services for Earth observation.
- **Access to Space**: Avio produces complete space launchers.
- **Space Exploration**: Thales Alenia Space Italia manufactures equipment and systems for space exploration.

III - Strengths: Platforms

- **Satellites:** Telespazio, Thales Alenia Space Italia.
- **Remotely Piloted Aircraft**: Airbus Italia.

IV - Strategic development lines - Space sector

National law nr. 7 of 2018 reformed the governance of the national aerospace sector and established the **Interministerial Committee for Space and Aerospace Policies (COMINT)** chaired by the President of the Council of Ministers (or by the political authority delegated by him) which includes 12 Ministers (or Delegated Undersecretaries) and the President of the Conference of Regions.
COMINT is entrusted with the task of laying down the strategic guidelines for the national aerospace sector, thus providing a framework of reference for the activities of the Italian Space Agency and for its collaboration with other State administrations. The "Government Guidelines on Space and Aerospace" were approved by COMINT in March 2019 and they identified 7 national strategic sectors for Space and Aerospace. All policy documents and plans for aerospace activities drawn up at national level – first and foremost the "Strategy Document of the National Space Policy - DSPSN" and the ensuing "Strategic Vision for Space - DVSS", both produced by ASI – are to comply with the Government Guidelines.

The seven strategic sectors (SS) of the space sector identified by COMINT, in order of priority, are the following:

- ❖ SS1 - Telecommunications, Earth Observation and Navigation, with special reference to satellite services and applications
- ❖ SS2 - Study of the Universe, also by participating in international cooperation programs, primarily with ESA and NASA
- ❖ SS3 - access to space by increasing the competitiveness of Vega, including launch services for mini, micro and nanosatellites, and platforms for accessing space and re-entry to Earth
- ❖ SS4 - sub-Orbital Flight and Stratospheric Platforms to acquire technological and industrial capacity at national level, also using the capabilities offered by potential national Spaceports
- ❖ SS5 - In-Orbit Servicing, including capabilities for the de-orbiting of satellites and the possibility of intervening with maintenance operations on satellites
- ❖ SS6 - the Robotic Exploration of the Moon, of asteroids, planets and their satellites which must necessarily precede any human solar system exploration and colonization programme
- ❖ SS7 - Human Exploration of Outer Space, maintaining the role of excellence in participating in programmes involving the International Space Station and ensuring a significant role in monitoring the lunar orbit and the opportunities offered by the future presence of human beings on the Moon's surface.

For a more thorough examination of the capabilities and technological priorities of both the space sector and the aeronautical sector, the reader can refer respectively to the following technological roadmaps

V - Technological Roadmap of the Aerospace Technology District – Outer Space

In line with the seven strategic sectors indicated by COMINT referred to above, the main enabling technological and architectural developments required to pursue the strategic priorities outlined in the main national documents of reference have been identified (the 2020-2029 Strategic Vision for Outer Space of ASI; the 2020-2022 Three-year Plan of Activities of ASI; the National Research Program and the PRORA Program of the MUR - formerly MIUR - for the aspects related to Space; the ESA and European Commission programs for the aspects related to the Space sector). The lines for technological development are listed below:

✓ **Applications, downstream services, and upstream technological developments for Earth observation (OT)**

Thanks to the technological, scientific, and industrial skills of its companies, Italy holds an internationally recognized position of excellence throughout the Earth observation value chain – from the outer space segment to services and applications – where it operates using both active and passive

sensors and where it can rely on an active supply chain in the service sector. This position highlights the consolidated synergy jointly produced by the ASI, the Ministry of Defence, the supply chain of manufacturing companies, the geo information services / applications, and the Research Community (University, CNR, ISPRA, Interuniversity Consortia).
In this context, the Italian missions – COSMO-SkyMed, COSMO Second Generation, PRISMA – are different and complementary given their nature and they enable the generation of huge quantities of high-quality data. These missions are aimed at studying the environmental phenomena which have a direct impact on the atmosphere, ocean, climate, natural and anthropogenic risks, sustainable use of resources, energy, protection and management of ecosystems. They provide the groundwork for exploiting the potential offered by integrating the data acquired by satellite sensors with the measurements obtained through other observation platforms (air, land, marine and other networks and types of sensors available) and for developing new generation applications for the production sectors (e.g., precision agriculture, infrastructure monitoring, ...) and the economic sectors (e.g., applications in the insurance and risk management fields). Below are the areas for which a specific CTNA roadmap for the Earth Observation domain should be drawn up, in line with the detailed priorities set out for the development of the Strategic Telecommunications Sector, Earth observation and navigation.

- ✓ **Applications, downstream services and upstream developments for telecommunications and satellite navigation**

Telecommunications and satellite navigation are essential and commonly required for a very wide range of activities, thanks to the services enabled today and above all to the potential still waiting to be tapped in many sectors of industry, agriculture, transport, communications, and energy, just to mention a few. Italy has an important role in this domain thanks to its participation in European programs with ESA and the Commission, such as: EGNOS and GALILEO in navigation, ARTES (ESA) in telecommunications and the European program GovSatCom for government satellite telecommunications. At national level, still in the context of the Space Economy, ASI is the Lead Partner of the ItalGovSatCom programme (public-private partnership for innovation), “Mirror” of the European programme.
On this topic it is therefore desirable to promote activities aimed at achieving the following main objectives:
a. enhance the chain of applications and services (downstream) based on existing infrastructures (GNSS and SATCOM) through technological and product development also for performance monitoring and identification of vulnerability (availability, multipath, interference, spoofing)
b. develop new technologies and enabling infrastructure for future systems throughout the entire value chain from the Space segment to the terrestrial and user segment.

- ✓ **Development of technologies for space transport systems, launch and re-entry, IOD / IOV missions, in-orbit servicing, sub-orbital flights, and stratospheric platforms**

Independent access to Space requires the competitive positioning of national and European companies and products in the global launch services market.
In order to maintain a significant role in the field of space transport and access to outer space, Italy and Europe must identify an area where they can establish their leadership taking into account both the institutional demand in Europe and the global commercial market, taking a competitive approach at the global level, while at the same time ensuring the sustainability of the national and European supply chain. In this context, the vision developed at national level involves specialization in the launch and space transport of small and medium class satellites for low orbit access (LEO) and a significant contribution to European space transport systems for large payloads. This vision is consistent with the evolution of the market, where a significant increase in low orbit micro- and mini-satellites and constellations is envisaged. The first-level objective is to maintain the competitiveness of Vega C; the development of the enabling elements for Vega E (infrastructure and green propulsion systems based on liquid oxygen and liquefied natural gas), making it capable of carrying and transferring several satellites on different orbits and consolidating the positioning of the VEGA launcher; and the development of solutions from the technologies that have been developed within the VEGA program, to capture the growing demand for the launching of small satellites now made possible by strongly competitive costs.
In-Orbit Servicing is a new market with significant growth potential that changes the paradigm of space operations. All services - mainly refuelling, manufacturing and assembly operations, and removal from orbit - require both generic enabling technologies such as propulsion, CNG, smart materials, avionics, AI / machine learning, robotics, and specific enabling technologies for the application of in-orbit servicing. Similarly, there is growing interest and increasing market potential for de-orbiting technologies and the management / removal of space debris. This will require the development of technologies to enable mission architectures suitable for these objectives.
Suborbital flights open up new scenarios for research, experimentation and commercial exploitation of Aerospace through the use of quotas that cannot be exploited with standard aircraft or space vessels. To bring this opportunity to fruition, national efforts are focused on strengthening partnerships in the sector and on developing national skills for the implementation of flight systems and ground infrastructure. In particular, the results of the Space Rider programme and of the Hyperdrone programme have shown suborbital flights to be important for the validation of mission concepts and for the development of new payloads. Furthermore, there are several technological elements that are enabling factors for developments in suborbital flights: gas dynamics at

different speeds (including hypersonic), propulsion, materials for thermal protection, protection from radiations, and infrastructure for testing.
For various applications, the cost-effectiveness, simplicity of execution and recovery of payloads make the use of stratospheric platforms very interesting, compared to conventional Space systems, for studies in the atmospheric field and observation of the universe, as well as for the qualification of a series of payload technical developments for satellites.
Similarly to the sub-orbital flight sector, stratospheric platforms represent an interesting sector for specific technological developments and for developments that enable space missions in the field of materials, storage and the management of solar energy and propulsion systems.

✓ **Research and enabling developments in the domain of the Study and Observation of the Universe, Science, Robotics Exploration**

The study of the Universe as a whole (Astrophysics, Physics of the Solar System, Cosmology, Fundamental Physics) is one of the points of national excellence thanks to an effective coordination of Universities, Research Centres, and the relevant bodies (INAF, CNR, INFN). Italy has a longstanding tradition in all the segments of the Space supply chain that it has maintained and consolidated over time, with a prominent position in scientific missions, where it has often been leader, and it has obtained particularly distinguishing results in cosmic studies, physics of stellar evolution, high-energy cosmic rays, physical and chemical conditions of exo-planets, physics of the components of the Solar System, detection of gravitational waves, and experiments for the study of the concepts of fundamental physics.
The Italian community is mainly supported by ASI, while INAF is the main stakeholder with the decisive contribution of numerous universities and the significant involvement of the CNR, INFN, and INGV. The repercussions on the national Space industry are quite sizeable in the medium and long term due to the "flywheel" effect associated with the objectives of technological development in support of the increasingly challenging requirements of the new scientific missions.

✓ **Development of enabling space technologies in the field of devices, materials, multidisciplinary software, and surface engineering techniques**

– Development of technologies, devices and circuits using advanced semiconductors GaAS, GaN, RF CMOS, SiGe, and Deep Sub Micron digital technologies
– Development of large or ultra-light deployable reflector antennas and/or planar array antennas, for operations in the microwave field (C, L, X bands and up to Ka) and in the optical field
– Development of advanced technologies, materials, and systems for additive manufacturing processes
– Development of multifunctional materials for space structures and mechanisms
– Development of functional systems based on 4D printing
– Development of components with complex reticular geometry structures
– Development of Carbon-Carbon structures having high structural and thermal performance
– Development of technologies for the design, verification, and validation of control software for systems having a high degree of autonomy
– Development and use of ICT technology platforms, big data and cloud computing, algorithms based on machine and deep learning techniques, and AI for applications and services (downstream)

✓ **Development of new generation integrated services that exploit the integration of Earth observation, navigation, and satellite telecommunications services**

– Development of integrated applications of telecommunications, navigation and satellite observation services with the new broadband and ultra-broadband networks with global coverage for fixed and mobile stations (terrestrial, sea and air)
– Development of technologies and systems for reducing the time lag in accessing updated territorial data
– Development of service delivery systems and applications integrated by Space systems (OT, NAV, and TLC) and by aerial platforms (airplanes, helicopters, balloons, LTA stratospheric platforms, UAVs)
– Integrated space services to support risk prevention and management operations, emergency interventions, land management and for the dissemination of territorial information updates in near real-time
– New generation sensors (including "non-sensor sensors")

✓ **Research and development to support the exploitation by the national scientific community of the ISS for experimentation (including medicine and biotechnology in microgravity)**

Thanks to the creation of a complete Space supply chain and also thanks to the synergy between the scientific and industrial communities, Italy is an international leader in the implementation of remote and in situ investigation missions and tools and has participated in various missions organized by the European Space Agency and by NASA. This experience has provided an important return in terms of knowledge and of innovative industrial development, which sees the Country ready for the next exploration initiatives of the Moon, Mars, and asteroids also with a view to the potential exploitation of their natural resources. These activities have also made it possible for Italy to be in the forefront in the training of astronauts who have played and will continue to play leading roles in the International Space Station.

✓ **Research and Development for the protection of space assets (Space Situational Awareness)**

Italy is an important participant in the ESA Space Safety programme, originally called Space Situational Awareness (SSA), which is divided into three segments: Space Surveillance and Tracking (SST), Space Weather (SW) and Near-Earth Objects (NEO). In line with the activities currently under way, developments can be identified in the specific roadmap of the CTNA aimed at consolidating the role of the national scientific and industrial communities in the security sector, in Space situation awareness including the segments of Space Weather and NEO, in the identification and tracking of SST space debris and in the protection of infrastructure.

✓ **Quantum Technologies for Space**

The development of quantum technologies is one of the main objectives for all technologically advanced nations. It is part of the flagship programmes of the European Commission and almost all the nations of the Union are developing their own national programmes for the development of quantum technologies. Space represents the sector where a specific application of quantum cryptography appears to have a high TRL (Technology Readiness Level). Italy has an important tradition in scientific research in the sector and its researchers are present in all major European and US research centres. The national industry, although not yet organized into a supply chain, participates in existing international programmes, both for industrial research activities and for the supply of mechanical-optical components and, to a limited extent, of photonic integrated systems, and for the development of software for activity planning and prognostics. The expected applications cross all areas of development of the sector, with the possibility of offering new competitive advantages to the national space industry, in the upstream, midstream, and downstream sectors.

VI - The Technological Roadmap of the DTA – Aeronautical sector

The technological roadmap for Italian aeronautics is the result of the consultation of stakeholders in the sector of reference, coming from all the territories interested in the Aerospace field of specialization and from entrepreneurs, with a special attention to SMEs.
The proposed lines of technological development reflect the definitive confirmation of three important drivers for competing in the aeronautical sector:

1. - Environmental sustainability
2. - Digitalization
3. – Safety.

These lines of development have taken on even greater centrality in association with the following factors:

• The crisis in the aeronautical sector (caused primarily by the coronavirus pandemic) and its impact on investment capacity in the next three years;
• The new 2021-2027 programming and its priorities in the allocation and concentration of resources both at European and national-regional level;
• The opportunities associated with the National Plan for Recovery and Resilience;
• The growing priority taken on by the issue of the development of climate neutral air transport;
• The need for the digitalization of the supply chain, which can no longer be deferred.

1. - Environmental sustainability

Development of new low-emission aircraft thanks to innovations from the aeronautical, motor and systems industries concerning:

- The development of architectures and subsystems for hybrid-electric propulsion systems and development of solutions for testing them
- The development of production techniques with reduced energy consumption
- The development of processes with reduced energy impact
- The development of solutions for the monitoring of aircraft and engines
- The development of data analysis techniques for predictive and prognostic maintenance.

2. - Digitalization

The introduction of digital technologies will improve product quality (aircraft), air traffic management, the effectiveness and efficiency of the production chain, operations, and cyber security. Among the main areas of application:

- Digitalization of design, production, and in-service support processes to reduce the time lag from idea to product, production costs and product management costs
- Development of technologies and solutions to ensure flight safety in conditions where threats evolve and wherever greater levels of autonomy are introduced.

3. – Safety

The architectures of the new generations of products will be competitive on the international market by continuing to guarantee high applicable safety standards. The main areas of application include:

- The development of innovative configurations for national product classes and related subsystems
- The development of solutions for improving quality in production and assembly processes
- The development of innovative production techniques
- The development of technologies and solutions capable of increasing flight safety through automatic flight management systems designed to reduce the pilot's workload and to provide support in case of emergencies.

6. LIST OF COMPANIES IN THE AEROSPACE TECHNOLOGICAL DISTRICT (DTA) OF LAZIO AND THEIR GEOREFERENCED DATA

In concluding this document, the **LINK** and **QR CODE** are provided for consulting the **GEOREFERENCED MAP** of the companies of the Aerospace Technological District of Lazio (DTA) and the **LAZIO AEROSPACE CAMPANIES LIST**: including large, medium, small and start-up companies which are based in Lazio and have a competitive edge upstream and downstream of the aerospace value chains.

I - The Link for the Georeferenced Map of the Companies in the Aerospace Technological District of Lazio (DTA)

Georeferenced Map of the Companies in the Aerospace Technological District of Lazio (DTA):

https://goo.gl/maps/7qEaXdok5NgQJPRq8

II - The QR Code for the Georeferenced Map of the Companies of the Aerospace Technological District of Lazio (DTA)

Point the camera of a smartphone, tablet, or PC at the QR code and wait a few seconds. The image will be decrypted and the georeferenced map will appear on your device.

III - The List of Companies in the Lazio Aerospace Technological District (DTA)

Source: TELEMACO - InfoCamere, Italian Chambers of Commerce online business register

Nr.	Company name	Address	Postal Code	City/Town	Province	Web site
1	A.F.M. S.R.L.	VIA SIRACUSA, 5	00041	Albano Laziale	RM	https://www.afmsrl.it/
2	ABL S.R.L.	VIA FRANCESCO D'OVIDIO, 2	00137	Rome	RM	https://www.ablsrl.com/wp/
3	ACMECUBO S.R.L	VIA ARDITO DESIO, 60	00131	Rome	RM	https://acme3.it/
4	ACS AIRCRAFT SOLUTIONS S.R.L.	VIA GIOSUE CARDUCCI, 4	00187	Rome	RM	http://www.aeronauticalcs.com/
5	ADPM DRONES S.R.L.	VIA GIACOMO PERONI, 386	00131	Rome	RM	https://www.adpmdrones.com/it/home/
6	AEREL S.R.L.	VIA CLITUNNO, 2	00198	Rome	RM	https://www.alacorporation.com/
7	AERO SEKUR S.P.A.	VIA DELLE VALLI, 46	04011	Aprilia	LT	https://www.sekur.aero/
8	AERONAUTICAL SERVICE S.R.L.	VIA MONTE CADRIA, 67	00054	Fiumicino	RM	https://www.aeronauticalservice.com/
9	AEROPORTI DI ROMA S.P.A	VIA PIER PAOLO RACCHETTI, 1	00054	Fiumicino	RM	https://www.adr.it/bsn-servizi-di-engineering
10	AEROSPACE GATEWAY S.R.L	PIAZZA ALBANIA, 10	00153	Rome	RM	https://www.aerospacegateway.com/
11	AEROSTRUTTURE S.P.A.	VIA ARINGO, 5	03030	Castelliri	FR	http://www.aerostrutture.it/aero/
12	AERTEKNO S.R.L.	VIA DEI CASTELLI ROMANI, 2	00040	Pomezia	RM	http://www.aertekno.it/
13	AERTEKNO SERVIZI SOCIETA' COOPERATIVA DI PRODUZIONE E LAVORO A R.L.	VIA DEI CASTELLI ROMANI, 2/L	00071	Pomezia	RM	https://www.aertekno.it/
14	AGI S.R.L (ASSIST IN GRAVITATION AND INSTRUMENTATION)	VIA ENRICO STEVENSON, 3	00040	Monte Porzio Catone	RM	https://www.agi-tech.com/
15	AGT ENGINEERING S.R.L.	VIA PAOLO EMILIO, 34	00192	Rome	RM	https://www.agtengineering.com/
16	AGUSTAWESTLAND S.P.A.	VIA SERDEGNA, 38/9	00187	Rome	RM	https://www.museoagusta.it/agusta-westland-oggi/
17	AIRGLOSS S.R.L.	VIA GIACOMO PERONI, 442/444	00131	Rome	RM	https://www.airgloss.com/

Nr.	Company name	Address	Postal Code	City/Town	Province	Web site
18	AIRWORKS S.R.L.	PIAZZA DEI GIURECONSULTI, 27	00167	Rome	RM	http://www.air-works.eu/
19	AIZOON CONSULTING S.R.L.	VIALE LUCA GAURICO, 9/11	00143	Rome	RM	https://www.aizoongroup.com/home.aspx#intro
20	AKKA ITALIA S.R.L.	VIA TIBURTINA, 1072 (4° PIANO, SCALA A)	00156	Rome	RM	https://www.akka-technologies.com/italy/
21	ALENIA AERMACCHI S.P.A.	PZA MONTE GRAPPA, 4	00195	Rome	RM	https://www.leonardocompany.com/it/home
22	ALMA SISTEMI S.R.L.	VIA DEI NASTURZI, 4	00012	Rome	RM	https://alma-sistemi.com/
23	ALMAVIVA - THE ITALIAN INNOVATION COMPANY S.P.A. IN BREVE ALMAVIVA S.P.A.	VIA DI CASAL BOCCONE, 188/190	00137	Rome	RM	https://www.almaviva.it/it_IT
24	ALMX S.R.L.	VIA LUDOVISI, 35	00187	Rome	RM	https://almx.eu/
25	ALTRAN ITALIA S.P.A.	VIA TIBURTINA, 1232	00131	Rome	RM	https://capgemini-engineering.com/it/it/
26	AMDL S.R.L	VLE SOMALIA, 133	00199	Rome	RM	http://www.amdl.biz/index.html
27	ARC DATA S.R.L.	VLE DELLE ARTI, 101	00054	Fiumicino	RM	https://www.arcdata.it/
28	ARCA DYNAMICS S.R.L.S	VIA GIACOMO PERONI, 442/444	00131	Rome	RM	https://www.arcadynamics.space/
29	ARESCOSMO S.P.A.	VIA DELLE VALLI, 46	04011	Aprilia	LT	https://www.arescosmo.it/#
30	ARGOS INGEGNERIA SOCIETA' A RESPONSABILITA' LIMITATA	VIA TIBURTINA, 1166	00156	Rome	RM	http://www.argosingegneria.com/homeProfile.html
31	ARPSOFT S.R.L	VIA DELLA STAZIONE DI S.PIETRO, 65	00165	Rome	RM	https://www.arpsoft.it/en/
32	ARROW ELECTRONICS ITALIA S.R.L	VIA COLLEVERDE, 16	00131	Rome	RM	https://www.arrow.com/it-it
33	ARS ELECTRONICS S.R.L	CORSO DELLA REPUBBLICA, 151	04012	Cisterna di Latina	LT	http://www.arselectronics.it/
34	ASE - ENGINEERING S.R.L	VIA ADRIANO OLIVETTI, 24/26	00131	Rome	RM	https://www.ase.engineering/
35	ASITALY S.R.L.S.	VIA DELLA MOLA, 1	00037	Segni	RM	https://www.asitaly.it/
36	ASS.EL. S.R.L.	VIA PONTINA VECCHIA, 189	04011	Aprilia	LT	https://www.assel.it/

Nr.	Company name	Address	Postal Code	City/Town	Province	Web site
37	ASTER S.P.A	VIA TIBURTINA, 1166	00156	Rome	RM	https://www.aster-te.it/
38	ATEN IS S.R.L. - RETE DI IMPRESE	VIA DEI LAVORATORI, 6	04100	Latina	LT	http://www.aten.it/Indice_Ita.html
39	AVIO S.P.A.	VIA LEONIDA BISSOLATI, 76	00187	Rome	RM	https://www.avio.com/
40	AVIOGEI AIRPORT EQUIPMENT S.R.L	VIA DEI CARDI, 1	00040	Ariccia	RM	https://www.aviogei.com/index.php/en/
41	AVIOINTERIORS S.P.A.	VIA APPIA, KM 66/400 SNC	04100	Latina	LT	http://aviointeriors.it/it/
42	AVIOREC S.R.L	LOC PADUNI, SNC	03012	Anagni	FR	http://www.aviorec.com/it/home-portfolio/
43	AZETA INFOTEC S.R.L	VIA CAPO SPARTIVENTO, 31	00122	Rome	RM	https://www.azetainfotec.com/
44	BLUE LAB S.R.L.S	VIA ANDREA MILLEVOI, 683	00178	Rome	RM	http://www.lab.blue/
45	BLUE THREAD S.R.L.	VIA ADRIANO OLIVETTI, 24/26	00131	Rome	RM	http://www.blue-thread.eu/
46	BOEING ITALIA S.R.L.	PZA SALLUSTIO, 24	00187	Rome	RM	https://www.boeingitaly.it/
47	B-OPEN SOLUTIONS S.R.L	VIALE PALMIRO TOGLIATTI, 1639	00155	Rome	RM	https://www.bopen.eu/
48	C&C S.R.L.	VIA LUIGI GENTILE, 40	00012	Guidonia Montecelio	RM	http://www.cae-and-cooling.it/index.htm
49	C.G.T. ELETTRONICA S.R.L	VIA DELLA GIULIANA, 80	00195	Rome	RM	https://www.cgtelettronica.it/
50	C.M.T. COSTRUZIONI MECCANICHE DI TAGLIONE EMILIO & C. SAS	STRADA STATALE 156, SN	03023	Frosinone	RM	http://www.cmt.frosinone.it/
51	CELAB S.R.L.	VIA MAIRA, S.N.C.	04100	Latina	LT	www.celab.com
52	CENTRALE VALUTATIVA S.R.L.	VIA ARDUINO, 11	00162	Rome	RM	https://www.centralevalutativa.it/
53	CERERETECH S.R.L.	VIA PALESTRINA, 5	00189	Rome	RM	http://www.cererетech.com/
54	CIVITANAVI SYSTEMS S.R.L.	VIA PONTINA VECCHIA, KM 34	00040	Ardea	RM	https://www.civitanavi.com/
55	CND SERVICE CONTROLLI NON DISTRUTTIVI S.R.L.	VIA PAOLO EMILIO, 7	00148	Rome	RM	http://www.cndservice.it/1/azienda_1101224.html

Nr.	Company name	Address	Postal Code	City/Town	Province	Web site
56	COLOMBOSKY S.R.L	VIA GIACOMO PERONI, 452	00131	Rome	RM	https://www.colombosky.com/
57	COMPAGNIA GENERALE TELEMAR S.P.A	VLE TIZIANO, 19	00196	Rome	RM	https://www.telemarspa.it/default.aspx
58	CONSORZIO ARES - ADVANCED RESEARCH AND ENGINEERING FOR SPACE	VIA DEL POLITECNICO, 1	00133	Rome	RM	http://www.ares-consortium.org/
59	CONSORZIO DI RICERCA HYPA-TIA	VIALE I MAGGIO, 156	00046	Grottaferrata	RM	https://www.consorzioipazia.it/
60	CONSORZIO UNIVERSITA' INDUSTRIA - LABORATORI DI RADIOCOMUNICAZION I - ABBREVIATO IN CONSORZIO RADIOLABS	CSO D'ITALIA, 19	00198	Rome	RM	http://www.radiolabs.it/radiolabs/
61	CRISEL S.R.L	VIA MATTIA BATTISTINI, 177	00167	Rome	RM	https://www.crisel.it/
62	D. MARCHIORI S.R.L.	VIA PONTINA, SNC	04011	Aprilia	LT	https://www.dma-aero.com/eu
63	D.& P. DEVELOPMENT AND PRODUCTION OF ELECTRONIC SYSTEMS S.R.L.	VLE BALILLA, 9 10/11	00044	Frascati	RM	http://www.depelsys.it/
64	DARMEC TECHNOLOGIES S.R.L	VIA CAMPOVIVO, 454	04100	Latina	RM	http://darmec.it/
65	DEEP BLUE S.R.L	VIA ENNIO QUIRINO VISCONTI, 8	00193	Rome	RM	https://dblue.it/
66	DEFENCE TECH HOLDING	VIA GIACOMO PERONI, 452	00131	Rome	RM	https://www.defencetech.it/
67	DG FLY SAFE S.R.L.S.	VIA DEL PEPERINO, 56	00158	Rome	RM	-
68	DIGIMIMIC S.R.L	VIA DELL'ORSA MAGGIORE, 21	00144	Rome	RM	https://digimimic.com/
69	DIMAC S.N.C.	VIA QUARTO NEGRONI, 69	00040	Ariccia	RM	https://www.dimacsnc.com/
70	DPG CONSULTING S.R.L	VIA PIO VI, 36	04100	Latina	LT	http://www.dpgconsulting.it/
71	DUNE S.R.L	VIA TRACIA, 4	00183	Rome	RM	-
72	ECOENGINEERING S.R.L.	VIA DEL PETTIROSSO, 1	00040	Ardea	RM	http://www.ecoengineering.it/
73	E-GEOS S.P.A.	VIA TIBURTINA, 965	00156	Rome	RM	https://www.e-geos.it/#/

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74	ELECTRON SOURCE CO S.R.L	VIA ARMELLINI, 7	04100	Latina	LT	www.escitaly.com
75	ELETTRONICA E SISTEMI PER AUTOMAZIONE - ELE.SI.A. S.P.A.	VIA MONTE NERO, 63/65	00012	Guidonia Montecelio	RM	https://www.elesia.com/
76	ELETTRONICA S.P.A.	VIA TIBURTINA VALERIA, KM 13	00131	Rome	RM	https://www.elt-roma.com/
77	ELITALIANA MAINTENANCE S.R.L	VIA SALARIA, 2061	00138	Rome	RM	-
78	ELITALIANA S.R.L.	VIA SALARIA, 2061	00138	Rome	RM	http://www.elitaliana.eu/homepage/index.php
79	ELMACOM S.R.L.	VIA DELLE GENZIANE, SNC	00012	Guidonia Montecelio	RM	http://elmacom.com/
80	ENAV S.P.A.	VIA SALARIA, 716	00138	Rome	RM	https://www.enav.it/sites/public/it/Home.html
81	ENGINEERIG FOR SUSTAIN-ABLE DEVELOPMENT S.R.L. - ESD S.R.L.	VIA PIETRO NENNI, 11	00047	Marino	RM	http://www.esdsrl.eu/index.htm
82	ENGINEERING - INGEGNERIA INFORMATICA S.P.A.	PIAZZALE DELL'AGRICOLTURA, 24	00144	Rome	RM	https://www.eng.it/
83	ENGISIS S.R.L	VIA BONCOMPAGNI, 79	00187	Rome	RM	https://www.engisis.com/
84	ESPERIA AVIATION SERVICES S.P.A.	VIA SALARIA, 825	00138	Rome	RM	http://www.esperia-aviation.it/
85	ESRI ITALIA S.P.A.	VIA CASILINA, 98	00182	Rome	RM	https://www.esriitalia.it/
86	EUROLINK SYSTEMS S.R.L.	VIA PIEDICAVALLO, 51	00166	Rome	RM	https://eurolinksystems.com/
87	EUROUSC ITALIA S.R.L	VIA ENNIO QUIRINO VISCONTI, 8	00193	Rome	RM	https://www.eurousc-italia.it/en/
88	EXPRIVIA SPA (ADVANCED COMPUTER SYSTEMS A.C.S. S.R.L.)	VIA DELLA BUFALOTTA, 378	00139	Rome	RM	https://www.exprivia.it/it/show-modal-full.php?id_modal=4910
89	F&N COMPOSITI S.R.L.S	VIA MIGLIARA 46, SNC	04016	Sabaudia	LT	https://www.fen.it/
90	FATA INFORMATICA S.R.L.	VIA TIBURTINA, 912	00156	Rome	RM	https://www.fatainformatica.com/
91	FERRARI FARM SOCIETÀ AGRICOLA S.R.L.	VIA COLLE CERQUETO, 1	02025	Petrella Salto	RI	https://www.ferrarifarm.com/it/
92	FONDAZIONE E. AMALDI	VIA DEL POLITECNICO, SNC	00133	Rome	RM	www.fondazioneamaldi.it

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93	FULL AVIATION SERVICES S.R.L.	VIA GUGLIELMO MARCONI, 3	00047	Marino	RM	https://fullaviationservices.wixsite.com/fullaviationservices
94	FUTURPLAST S.R.L.	VIA DELLA MECCANICA, 19/A	04011	Aprilia	LT	https://www.futurplastsrl.com/
95	G.A.U.S.S. S.R.L.	VIA SAMBUCA PISTOIESE, 70	00138	Rome	RM	https://www.gaussteam.com/
96	G.R.TRATTAMENTI TERMICI S.R.L.	VIA MARITTIMA II, 55	04014	Pontinia	LT	https://www.grtt.it/
97	GALVANICA PACIOTTI ORESTE S.R.L.	VIA CHIESINA UZZANESE, 38	00138	Rome	RM	https://galvanicapaciotti.it/index.php/it/
98	GAUSS S.R.L.	VIA LARIANA, 5	00199	Rome	RM	https://www.gaussteam.com/
99	GC ROTORSGROUP S.R.L.	VIA LUDOVICO MICARA, 41	00165	Rome	RM	-
100	GELCO S.P.A.	STR POGGINO, 45/D 45/E	01100	Viterbo	VT	https://www.gelcospa.it/
101	GEMAC ENTERPRISE NETWORK	VIA GIACOMO PERONI, 104/106	00131	Rome	RM	http://www.gemacnetwork.com/
102	GENERAL DYNAMICS MISSION SYSTEMS - ITALY S.R.L.	VLE EGEO, 100-106	00144	Rome	RM	https://gd-ms.it/
103	GENEX RF S.R.L.	VIA TORRE SANT'EUSEBIO, 144	00131	Rome	RM	https://genexrf.it/
104	GEO-K S.R.L.	VIA DEL POLITECNICO, 1	00133	Rome	RM	https://www.geo-k.co/
105	GEORES S.R.L.	VIA MARITTIMA, SNC	03100	Frosinone	FR	https://www.geores.it/
106	GLOBAVIA - S.P.A.	VIA FLAMINIA, 495	00191	Rome	RM	-
107	GMATICS S.R.L.	VIA ARBIA, 15	00199	Rome	RM	https://www.gmatics.eu/
108	GMSPAZIO S.R.L.	VIA STEFANO LONGANESI, 14	00146	Rome	RM	www.gmspazio.com
109	GRIF ITALIA S.R.L.	VIA GALILEO GALILEI, SNC	01030	Castel Sant'Elia	VT	http://www.grifitalia.com/
110	GTER S.R.L. INNOVAZIONE IN GEOMATICA GNSS E GIS	VIA CRISTIANO DI MAGONZA, 6	00044	Frascati	RM	https://www.gter.it/
111	HELICOPTERS ITALIA S.R.L.	VIA DEI LUXARDO, 24	00156	Rome	RM	https://www.helicoptersitalia.it/

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112	HTT S.R.L.	VIA GIACOMO PERONI, 400	00131	Rome	RM	www.httonline.it
113	HUGHES NETWORK SYSTEMS S.R.L.	VIA PO, 162	00198	Rome	RM	https://www.assintel.it/soci/d-mulassano/
114	I.D.S. - INGEGNERIA DEI SISTEMI - S.P.A.	VIA GINO CERVI, 40	00139	Rome	RM	https://www.idscorporation.com/
115	IACOBUCCI HF AEROSPACE S.P.A.	STR SC ASI, 1/S 16-18	03013	Ferentino	FR	www.iacobucci.aero
116	ILM - INDUSTRIA LAVORAZIONI MECCANICHE S.R.L.	VIA ANGELA VACCHI, 20/26	04011	Aprilia	LT	https://www.ilm-srl.com/
117	IMT S.R.L.	VIA CIPRIANO FACCHINETTI, 67	00159	Rome	RM	https://imtsrl.it/
118	IN QUATTRO S.R.L.	VIA GIACOMO PERONI, 442/444	00131	Rome	RM	https://www.in-quattro.com/
119	INFO SOLUTION S.P.A.	VIA ZOE FONTANA, 2-10-20	00131	Rome	RM	https://www.infosolution.it/index.php?lang=it
120	INGEGNERIA & SOFTWARE INDUSTRIALE S.P.A.	VIA DELLA SCROFA, 57	00186	Rome	RM	http://www.ingesw.com/ingesw/
121	INIZIATIVE INDUSTRIALI ITALIANE S.P.A.	VIA LEONARDO DA VINCI, 19/23	00015	Monterotondo	RM	-
122	INNOVA - CONSORZIO PER L'INFORMATICA E LA TELEMATICA S.R.L.	VIA ADRIANO OLIVETTI, 24/26	00131	Rome	RM	https://www.consorzio-innova.com/
123	INTECS SOLUTIONS S.P.A.	VIA GIACOMO PERONI, 130	00131	Rome	RM	http://www.intecs.it/page/homepage
124	INTELLIGENCE FOR ENVI-RONMENT AND SECURITY IES SOLUTIONS S.R.L.	VIA MONTE SENARIO, 98	00141	Rome	RM	https://ies.solutions/
125	INTERCONSULTING ENGINEERING S.R.L.	VIA ADRIANO OLIVETTI, 24	00131	Rome	RM	www.rina.org
126	INTERNATIONAL MINICUT ITALIA S.R.L.	VIA DELLA MAGLIANA, 525	00148	Rome	RM	https://www.minicutitalia.com/
127	IPTSAT S.R.L.	VIA SALLUSTIANA, 23	00187	Rome	RM	https://www.iptsat.com/index.php/it/
128	ITAL ELETTRONICA S.R.L.	VIA IGNAZIO PETTINENGO, 72	00159	Rome	RM	http://www.ital-elettronica.it/
129	ITALCONSUL S.R.L.	VIA FRANGIPANE, 24	00184	Rome	RM	https://www.italconsul.it/
130	JET AVIONICS AVIATION & MARINE SERVICE CENTER S.R.L.	VLE JOHN FITZGERALD KENNEDY, 78/A	00043	Ciampino	RM	http://www.jetavionics.eu/

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131	JHAS S.P.A.	VIA SEZZE, 6/8	04100	Latina	LT	https://www.jhas.it/
132	KAY SYSTEMS ITALIA S.P.A.	VIALE LUCA GAURICO, 9/11	00143	Rome	RM	https://ksi.it/
133	KELL S.R.L.	PIAZZA CAVOUR, 17	00193	Rome	RM	https://kell.it/
134	L.E.M. - LAVORAZIONI ELETTRONICHE E MECCANICHE S.R.L.	VLE REGINA MARGHERITA, 140	00198	Rome	RM	https://lemsrl.eu/
135	LABORATORIO TEVERE SOCIE-TA' A RESPONSABILITA' LIMITA-TA O, IN FORMA ABBREVIATA, LABORATORIO TEVERE S.R.L.	VIA GIACOMO PERONI, 104-106	00131	Rome	RM	-
136	LARIMART S.P.A. (SOCIETÀ CONTROLLATA DA LEONARDO)	VIA DI TORREVECCHIA, 12	00168	Rome	RM	http://www.larimart.it/it/home/
137	LATITUDO 40 S.R.L.	VIA GIACOMO PERONI, 442/444	00131	Rome	RM	https://www.latitudo40.com/
138	LEAT S.P.A. (GLOBAVIA GROUP)	VIA FOSSO DELLA MAGLIANA, 34/F	00148	Rome	RM	https://www.leat.it/
139	LEONARDO S.P.A	PZA MONTE GRAPPA, 4	00195	Rome	RM	https://www.leonardocompany.com/it/home
140	LINK S.R.L.	VIA BRUNO PONTECORVO, 10	00012	Rome	RM	https://linkitaly.com/it/
141	LTG ELETTRONICA S.R.L.	LARGO BIANTE, 6	00124	Rome	RM	http://www.ltgelettronica.it/LTG_Elettronica/Home.html
142	M.E.RIN S.R.L.	VIA MONTE LE MOLE, 15	00060	Capena	RM	www.merin.it
143	M.P.G. INSTRUMENTS S.R.L.	VIA RAFFAELLO NASINI,13	00156	Rome	RM	http://www.mpginstruments.com/it/
144	MACH AVIATION S.R.L.	VIA CANCELLIERA, 27/D	00041	Albano Laziale	RM	https://www.machaviation.com/
145	MAGNAGHI AERONAUTICA S.P.A	VIA DEI CONDOTTI, 61	00187	Rome	RM	https://www.magroup.net/
146	MAGNAGHI AIRCRAFT S.R.L.	VIA DEI CONDOTTI, 61	00187	Rome	RM	https://www.magroup.net/
147	MAX AVIATION S.R.L.	STR CASTIGLIONE, SNC	01100	Viterbo	VT	http://www.maxaviation.it/Home.html
148	MBDA ITALIA S.P.A.	VIA MONTE FLAVIO, 45	00131	Rome	RM	https://www.mbda-systems.com/

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149	MECAL S.R.L.	VIA COLLE LAMI, 4	03023	Ceccano	FR	http://www.mecal-srl.it/
150	MECCANICA PER L'ELETTRONICA E SERVOMECCANISMI - M.E.S. - SOCIETA PER AZIONI ED IN FORMA ABBREVIATA M.E.S. S.P.A.	VIA TIBURTINA, 1292	00131	Rome	RM	https://www.mesroma.com/it/
151	MED TECHNOLOGY S.R.L.	VIA ENRICO FORLANINI, 63	00012	Guidonia Montecelio	RM	http://www.medtechnology.it/
152	MED.EL. MEDITERRANEA ELETTRONICA S.R.L.	VIA DELLE MONACHELLE, 66	00071	Pomezia	RM	http://www.med-el.com/
153	MEDITERRANEAN TECHNOLGIES S.R.L.	VIA DEL FOSSO CENTRONI, 4	00118	Rome	RM	https://medit-tech.it/
154	MES S.P.A.	VIA TIBURTINA, 1292	00131	Rome	RM	www.mesroma.it
155	MESAR S.R.L.	PZA D'ARACOELI, 1	00186	Rome	RM	https://www.mesar.it/
156	MICROSIS S.R.L.	VIA DEGLI OLMETTI, 8/A	00060	Formello	RM	http://www.microsis.it/
157	MICROWAVE VISION ITALY - S.R.L.	VIA DEI CASTELLI ROMANI, 59	00071	Pomezia	RM	https://www.mvg-world.com/en
158	MIPRONS S.R.L	VIA DEI LAURI, 32	00037	Segni	RM	www.miprons.com
159	MPM TELECOMUNICAZIONI S.R.L.	VIA ANTONINO SILIGATO, 4/A	00053	Civitavecchia	RM	http://www.mpm-tlc.it/index.php/it/
160	N.C.M. TECNOLOGY S.R.L. - COSTRUZIONI MECCANICHE AERONAUTICHE	VIA DEL TRIDENTE, 33	00048	Nettuno	RM	https://www.ncmtecnology.it/
161	NABLA QUADRO S.R.L.	CASALE 5, VIA ARDITO DESIO, 60	00131	Rome	RM	https://www.nablaquadro.it/
162	NAIS - NEXTANT APPLICATIONS & INNOVATIVE SOLUTIONS S.R.L.	VIA ANDREA NOALE, 345/A	00155	Rome	RM	https://www.nais-solutions.it/
163	NAUTISAT S.R.L.	VIA CHIUSI, 76	00139	Rome	RM	https://www.nautisat.com/
164	NAYAK AIRCRAFT SERVICES ITALY S.R.L.	VIA FRANCESCO DE PINEDO, SNC	00054	Fiumicino	RM	https://www.nayak.aero/
165	NEAT S.R.L.	VIA EDOARDO D'ONOFRIO, 304	00155	Rome	RM	https://www.neat.it/
166	NEXOS ELECTRONIC SYSTEMS S.R.L.	VIA VAL DI LANZO, 85	00141	Rome	RM	http://www.nexoselsys.com/

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167	NEXT INGEGNERIA DEI SISTEMI S.P.A.	VIA GIACOMO PERONI, 452	00155	Rome	RM	http://www.defencetech.it/next/
168	NEXTANT APPLICATIONS & INNOVATIVE SOLUTION S.R.L.	VIA ANDREA NOALE, 345/A	00155	Rome	RM	https://www.nais-solutions.it/
169	NHAZCA S.R.L.	VIA VITTORIO BACHELET, 12	00185	Rome	RM	https://www.nhazca.it/
170	NHOE S.R.L.	VIA LUIGI PERNA, 51	00142	Rome	RM	http://www.nhoe.it/
171	NIDES SRL	VIA VAL SAVIO, 3	00141	Rome	RM	http://www.nidesoftware.com/
172	NORTHROP GRUMMAN ITALIA S.P.A	VIA PONTINA KM, 27.800	00040	Pomezia	RM	https://www.northropgrumman.it/
173	NOVA S.R.L. MECCANICA PER L'ELETTRONICA	VIA SIRACUSA, 5	00041	Albano Laziale	RM	http://www.novamecc.com/
174	O.M.S. OFFICINE MECCANICHE SEGNI - S.R.L	VIA CARPINETANA SUD, KM 6.200	00037	Segni	RM	www.officineoms.com
175	O.M.S. OFFICINE MECCANICHE SEGNI S.R.L	VIA CARPINETANA SUD, KM. 6.200	00037	Segni	RM	https://www.officineoms.com/
176	OHB ITALIA S.P.A.	VIA DEI BERIO, 91/97	00155	Rome	RM	https://www.ohb-italia.it/
177	OMICA S.R.L.	VIA ANTONIO SPINETTI, 10	00176	Rome	RM	http://omica-energy.com/
178	OMNIASERVICES S.R.L.	PIAZZA DELLA RADIO, 12	00146	Rome	RM	https://www.omnia-services.it/
179	ON-AIR COSNULTING & SOLUTION S.R.L.	VIALE REGINA MARGHERITA, 278	00198	Rome	RM	http://www.onaircs.com/
180	OPTIMARES S.P.A.	STRADA STATALE 156 DEI MONTI LEPINI, KM 44 SNC	04018	Sezze	LT	http://optimares.com/
181	OPTO SERVICE S.R.L.	VIA ROMA, 70	00063	Campagnano of Rome	RM	http://www.optoservice.it/azienda.html
182	PIAGGIO AERO INDUSTRIES S.P.A.	LARGO ANGELO FOCHETTI, 29	00154	Rome	RM	http://www.piaggioaerospace.it/it
183	PIMSOFT S.P.A.	VIALE REGINA MARGHERITA, 86	00198	Rome	RM	https://pimsoftinc.com/
184	PROESYS S.R.L.	VIA GIACOMO PERONI, 442/444	00131	Rome	RM	http://proesystech.com/
185	PROGESI S.P.A.	VIA DEL MAGGIOLINO, 125	00155	Rome	RM	https://www.progesi.eu/index.php?lang=IT

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186	PROGRESSIVE SYSTEMS S.R.L.	VIA ENRICO FERMI, 62	0044	Frascati	RM	https://progressivesystems.it/
187	PROSER S.R.L.	VIA GIACOMO PERONI, 102	00131	Rome	RM	https://www.proser-italia.it/
188	PSI - PROGETTI SPECIALI ITALIANI S.R.L.	VIA MONTE SANTO, 2	00195	Rome	RM	www.psi-space.eu
189	RADIO ANALOG MICRO ELECTRONICS S.R.L.	VIA CARLO FRANCESCO BELLINGERI 1	00168	Rome	RM	http://ramesrl.it
190	RAIT 88 S.R.L.	VIA DI CERVARA, 49	00155	Rome	RM	https://rait88.com/
191	RDSLAB S.R.L.	VIALE GIUSEPPE MAZZINI, 131	00195	Rome	RM	https://cbrnitalia.it/wp-content/uplo-ads/2018/12/Rdslab-Prospetto-Informativo.pdf
192	RGM SPACE S.P.A.	VIA ZOE FONTANA, 220	00131	Rome	RM	http://www.rgmspace.com/it/azienda/
193	RHEINMETALL ITALIA S.P.A.	VIA AFFILE, 102	00131	Rome	RM	https://www.rheinmetall-defence.com/en/rheinmetall_defence/index.php
194	RINA CONSULTING - CENTRO SVILUPPO MATERIALI S.P.A.	VIA DI CASTEL ROMANO, 100	00128	Rome	RM	https://www.rina.org/it
195	ROHDE & SCHWARZ ITALIA S.P.A.	VIA TIBURTINA, 1095	00156	Rome	RM	https://www.rohde-schwarz.com/it/pagina-iniziale_48230.html
196	S.A.R.A. - NISTRI S.R.L.	VIA ODERISI DA GUBBIO, 101	00146	Rome	RM	https://www.saranistri.com/
197	S.R.S. ENGINEERING DESIGN S.R.L.	VLO DELLE PALLE, 25/25 B	00186	Rome	RM	http://www.srsed.it/
198	S.T.E. SERVIZI TECNICI PER L'ELETTRONICA S.P.A. IN BREVE STE S.P. A.	VIA DEL MARE, 2/D	00040	Pomezia	RM	-
199	S2G TECHNOLOGIES S.R.L.	VIA GIACOMO PERONI, 442/444	00131	Rome	RM	https://www.s2g-technologies.eu/
200	SAFE STRUCURES COMPANY S.R.L.S.	VIALE GIULIO CESARE, 47	00192	Rome	RM	-
201	SATEC S.R.L.	VIA VELLETRI, 7	00198	Rome	RM	https://www.satecunderwriting.eu/
202	SE.TE.L. - SERVIZI TECNICI LOGISTICI S.R.L.	VIA CASAMARI, 6	00142	Rome	RM	http://setelgroup.it/
203	SEFIND-SERVIZI E FORNITURE INDUSTRIALI-S.R.L.	PZA DELL'ALBERONE, 20	00181	Rome	RM	https://www.sefind.com/
204	SERCO ITALIA S.P.A.	VLE DELLA TECNICA, 161	00144	Rome	RM	https://www.serco.com/eu

Nr.	Company name	Address	Postal Code	City/Town	Province	Web site
205	SICAMB S.P.A.	STR ESCHIDO, 1	04100	Latina	LT	www.sicamb.com
206	SIEM S.R.L.	VIA VALLE PRATO TOFA, 45	03018	Paliano	FR	http://www.siemsrl.org/
207	SIGMA CONSULTING S.R.L.	VIA CAVARENO, 13	00124	Rome	RM	https://www.sigmaconsulting.it/it/home/
208	SIGMA INTEGRATED SYSTEMS S.R.L.	VIA ADRIANO OLIVETTI, 24/26	00131	Rome	RM	https://www.sigmaconsulting.it/
209	SIMAV - TECNOLOGIE E SERVIZI PER SISTEMI COMPLESSI S.P.A.	VIA GIUSEPPE GIOACHINO BELLI, 86	00193	Rome	RM	https://www.siram.veolia.it/mercati/difesa-e-aerospazio
210	SIMMEL DIFESA S.P.A.	VIA ARIANA KM. 5,200	00034	Colleferro	RM	https://aiad.it/aziende-federate/simmel-difesa-2021/; https://www.nexter-group.fr/filiales/simmel-difesa.html
211	SIRA - SOCIETA PER L'INFORMATICA, LA RICERCA E L AUTOMAZIONE S.R.L.	VIA SERGIO AMIDEI, 12	00128	Rome	RM	https://www.sira.net/it/
212	SISTEMATICA S.P.A.	VIA GIACOMO PERONI, 400/402	00131	Rome	RM	https://gruppositematica.it/
213	SKY STAR SERVICES S.R.L.	VIA VALDEROA, 34	00054	Fiumicino	RM	https://www.skystar.it/
214	SKYTECHNOLOGY S.R.L.	VIA ADOLFO RAVA', 124	00142	Rome	RM	http://www.skytechnology.it/en/
215	SMART STRUCTURES SOLUTIONS S.R.L. - SPIN-OFF COMPANY OF THE "UNIVERSITÀ DI ROMA LA SAPIENZA"	VIA LUCIANO MANARA, 51	00153	Rome	RM	http://www.smartstru.com/web/index.php
216	SOCIETA' ITALIANA ELICOTTERI S.R.L.	VIA SALARIA, 825	00138	Rome	RM	-
217	SOUTH EAST AVIATION SERVICES S.R.L.	VIA ALFIO FLORES, S.N.C.	00053	Civitavecchia	RM	https://www.seas-italy.it/
218	SPACEARTH TECHNOLOGY S.R.L.	VIA DI VIGNA MURATA, 605	00143	Rome	RM	https://www.spacearth.net/
219	SPACEEXE S.R.L.	VIA DEGLI ALBATRI, 24	00169	Rome	RM	http://www.spaceexe.com/it/home/
220	SPACELAB S.P.A.	VIA LEONIDA BISSOLATI, 76	00187	Rome	RM	https://www.avio.com/it/group/spacelab
221	SPAZIOFUTURO S.R.L.	VIALE PASTEUR, 45	00144	Rome	RM	https://www.spaziofuturo.eu/
222	SPIDERLOG S.R.L.	VIA GIACOMO PERONI, 442/444	00131	Rome	RM	https://www.spiderlog.eu/

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223	SSE - SOFITER SYSTEM ENGINEERING S.P.A. SIGLABILE SSE S.P.A.	PIAZZA DEL POPOLO, 18	00187	Rome	RM	https://www.sofiter.it/
224	STAM S.R.L.	VIA FRANCESCO ANTOLISEI, 6	00173	Rome	RM	https://www.stamtech.com/
225	STUDIOMAPP S.R.L.	VIA GIACOMO PERONI, 442-444	00131	Rome	RM	https://www.studiomapp.com/
226	SUPERELECTRIC S.R.L.	VIA GIACOMO PERONI, 104-106	00131	Rome	RM	www.superelectric.it
227	SURVEY LAB S.R.L	VIA EUDOSSIANA, 18	00184	Rome	RM	http://www.surveylab.info/it/home
228	SVC CONSULTING S.R.L.	VIA ANTONIO VALLISNERI, 7	00197	Rome	RM	http://www.svc-consulting.it/
229	SYSDECO ITALIA S.R.L.	VIA GUSTAVO BIANCHI, 7	00153	Rome	RM	https://www.sysdecoitalia.com/
230	SYSTEMS DEVELOPMENT & SUPPORT - S.R.L. (IN BREVITA' SDS - S.R.L.)	VIA ROMA, 130	00010	Moricone	RM	https://www.sds1.it/
231	T2 - SOCIETA A RESPONSABILITA LIMITATA	VIA ZOE FONTANA, 220	00131	Rome	RM	http://www.t2srl.net/
232	TAITUS SOFTWARE ITALIA S.R.L.	VIA FRASCATI, 60	00078	Monte Porzio Catone	RM	https://www.taitussoftware.com/
233	TECHNO SKY S.R.L - TECHNOLOGIES FOR AIR TRAFFIC MANAGEMENT	VIA DEL CASALE CAVALLARI, 200	00156	Rome	RM	https://www.enav.it/en
234	TECNAVAN INTERIORS S.R.L.	VIA PESCARA, SNC	03030	Castelliri	FR	http://www.tecnavaninteriors.it/
235	TECNO ENGINEERING 2 C - SOCIETA' A RESPONSABILITA' LIMITATA IN SIGLA T E 2 C - S.R.L.	VLE DEL POLICLINICO, 131	00161	Rome	RM	http://www.te2c.com/
236	TECNOLOGIE AVANZATE S.R.L.	VIA CASINO NOVELLI, 14	03029	Veroli	FR	http://www.tecnavan.it/
237	TECNOLOGIE FUTURE S.R.L.	VIALE MAESTRI DEL LAVORO, 1	02100	Rieti	RI	https://www.tecnologiefuture.it/index.htm
238	TECNOLOGIE NELLE RETI E NEI SISTEMI - T.R.S. - S.R.L.	VIA COLA DI RIENZO, 212	00192	Rome	RM	https://www.linkedin.com/company/t.r.s.-s.p.a./about/
239	TECNOSPAZIO S.R.L.	VIA DEI POLACCHI, 42	00186	Rome	RM	https://www.tecnospazio.net/
240	TECS - TECHNOLOGICAL CONSULTING SERVICES S.R.L.	VIA ADRIANO OLIVETTI, 24/26	00131	Rome	RM	http://www.ares-consortium.org/tecs/

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241	TELESPAZIO S.P.A.	VIA TIBURTINA, 965	00156	Rome	RM	https://www.telespazio.com/it/home
242	TERRADUE S.R.L.	VIA RAVENNA, 34	00161	Rome	RM	https://www.terradue.com/portal/
243	TERRASYSTEM S.R.L.	VIA PACINOTTI, 5	01100	Viterbo	VT	http://www.terrasystem.it/
244	TESEAS S.R.L.	VIA IV NOVEMBRE, 3	00046	Grottaferrata	RM	www.teseas.com
245	THALES ALENIA SPACE ITALIA S.P.A.	VIA SACCOMURO, 24	00131	Rome	RM	https://www.thalesgroup.com/en
246	TITAN4 S.R.L.S.	VIA APPIA NUOVA, 359	00181	Rome	RM	http://www.titan4.it/
247	URBYETORBIT S.R.L.S.	VIA DELLE ORCHIDEE, 21	00071	Pomezia	RM	https://www.urbyetorbit.it/?lang=it
248	VIRTUALMIND S.R.L.	ERMINIO MACARIO, 45	00125	Rome	RM	www.virtualmind.it
249	VITROCISET S.P.A.	VIA TIBURTINA, 1020	00156	Rome	RM	http://www.vitrociset.it/
250	WAVE ADVANCED TECHNOLOGY APPLICATIONS S.R.L.	VIA ADRIANO OLIVETTI, 24/26	00131	Rome	RM	http://www.wave-srl.com/
251	WISE ROBOTICS S.R.L.	VIA ARDITO DESIO, 60	00131	Rome	RM	https://www.quake.cloud/
252	WIXTA INDUSTRIES S.R.L.	VIA DELLA TENUTA DI TORRENOVA, 142	00133	Rome	RM	https://www.esa.int/Applications/Telecommunications_Integrated_Applications/Business_Incubation/Company_Wixta_Industries
253	YLICHRON S.R.L. - ENEA SPIN-OFF COMPANY	VIA ANGUILLARESE, 301	00123	Rome	RM	http://www.ylichron.it/

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