Personal Information

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Sex Male | Date of birth 26/12/1970 | Nationality Italian

Present Position Satellite and System Engineer at *Agenzia Spaziale Italiana* (Italian Space Agency)

Job applied for

Work experience summary

The main professional experiences hereafter resumed are detailed in the next pages of this CV

Satellite and System Engineer at ASI (since March 2006)

- **Space Segment Manager**, *Ital-GovSatCom* project, *Phase A/B* (since February 2021)
- **Satellite Manager**, *ArgoMoon* project, *Phase C/D/E* (since December 2017)
- **System Engineer**, *Mini-EUSO* experiment (2017 – 2020)
- **(Acting) System Manager**, *Development of infrastructures for the Chinese Space Station (CSS)* project, *Phase A* (2018 – 2020)
- **Verification and Validation Manager, Deputy System Manager, Ground Segment Manager** and other duties, *COSMO-SkyMed di Seconda Generazione (COSMO-SkyMed Second Generation)* programme, *Phase B/C/D/E1* (2009 – 2017)
- **System and Satellite Engineer**, Italian-Argentinean *SIASGE* EO programme (2006 – 2017)
- **Responsible for System Engineering Support during operations**, *COSMO-SkyMed Operative Phase* programme (2010 – 2014)
- **System and Satellite Engineer**, *COSMO-SkyMed* programme, *Phase C/D/E1* (2006 – 2011)

Security Manager at ASI (May 2013 – June 2017)

Security Manager in the frame of the *COSMO-SkyMed* (first and second generation) programme

Member in **international boards and committees** (since June 2000)

- **Advisor**, *ESA Joint Board on Communication Satellite Programmes* (JCB) (since May 2021).
- **Advisor**, *ESA Programme Board for Human Spaceflight, Microgravity and Exploration* (PB-HME) (July 2017 – May 2021)
- **Advisor**, *ESA Exploration and Utilisation Board* (PB-HME/EUB) (July 2017 – May 2021)
- **Member** of the *Joint Working Group ASI-CMSA* (China Manned Space Agency) about Infrastructures and Space Technologies for the *Chinese Space Station* (July 2017 – July 2019)
- **ASI Member** in the *ECSS Technology Readiness Level Task Force* (December 2013 – November 2016)
- **ASI support** to Italian Ministry of Defence in the frame of the *MUSIS (MUltinational Space-based Imaging System) Italian-French programme* (2013 – 2015)
- **Responsible for System Engineering Support**, ASI support team to Italian Ministry of Defence for the operative phase programme of *French Defence User Ground Segment* of COSMO-SkyMed (2010 – 2014)
- **ASI Member of the International Review Board**, *SAOCOM Argentinean programme* (2008 – 2013)
- **Member of the ASI delegation** in the *Inter-Agency Space Debris Coordination Committee* (2000 – 2006)

Project Manager at ASI (since 2010)

Project Manager for Technological developments, Contracts with industry and Agreements at ASI

Researcher and Teacher at University of Rome (March 1998 – July 2007)

Researcher, **Lecturer** in University courses and seminars, **Assistant Supervisor** for *Laurea* theses, **Member of the examination boards**, in the field of Astrodynamics and Space Systems

Aerospace Consultant (March 1998 – May 2005)

Consultant for *Telespazio*, *Contraves Space*, *InterSpace*, *Oerlikon Contraves Italiana*, *Alenia Marconi Systems*, *SELEX Sistemi Integrati*

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Work experience at
Agenzia Spaziale Italiana (Italian Space Agency, ASI), Rome, ITALY

Experience as Satellite and System Engineer (since March 2006)

Since February 2021	**Space Segment Manager** for the project *Ital-GovSatCom, Phase A/B* Ital-GovSatCom is the Italian national project which should contribute to the European *Governmental Satellite Communications* programme. The Italian project also has technological purposes, namely the development of a light platform for GEO satellites and of innovative sub-systems which could be used in different projects.
Main activities and responsibilities	The Space Segment Manager is in charge of all aspects related to the satellite and its interfaces, providing the Project Manager with expertise in the technical supervision of the Contractor activities with reference to sub-system and satellite system aspects. The role implies participating in all the review activities related to the project milestones, controlling the conformance of the projects to the requirements, supervising test activities and, in case of continuation of the project through the operational phase, the performance and in-flight results verification.
Since December 2017	**Satellite Manager** for the project *ArgoMoon, Phase C/D/E* ArgoMoon is a microsatellite which will be launched in the maiden flight of NASA's *Space Launch System* (SLS), presently scheduled for December 2019. The aim is autonomously manoeuvring the satellite just after its release to take pictures of the launcher during the payload deployment phase. ArgoMoon will be injected into an orbit which will bring it a few thousands km far from the Moon and, in the second phase of the mission, ArgoMoon will take pictures of the Moon and of the Earth.
Main activities and responsibilities	The Satellite Manager is the main technical role in the ASI project team, providing the Project Manager with expertise in the technical supervision of the Contractor activities with reference to sub-system and satellite system aspects. The role implies the participation in all the review activities related to the project milestones and the performance and in-flight results verification.
September 2017 – June 2020	**System Engineer** for the *Mini-EUSO* experiment In the frame of the EUSO (Extreme Universe Space Observatory) programme, Mini-EUSO is an equipment for Earth Observation in the Ultra-Violet band, which was installed on a nadir-pointing, UV-transparent window of the International Space Station. It is providing a night UV mapping of the latitude belt covered by ISS with a ground resolution of about 6.5 km and a high time resolution. The Mini-EUSO objective was the study of chemistry of the mesosphere, atmospheric phenomena, atmospheric emissions induced by meteoroids and cosmic rays, as well as the human contribution in the band around 400 nm. The equipment was launched on August 2019 and, since fall 2019, it was installed a number of times on the ISS window, successfully performing several observation campaigns.
Main activities and responsibilities	The System Engineer was the main technical role in the ASI project team, providing the Project Manager with technical expertise in the fields of system engineering and Earth observation and the relevant impacts in the programmatic aspects.
July 2018 – January 2020	**(Acting) System Manager** for the project *Development of infrastructures for the Chinese Space Station (CSS), Phase A* The main goal of the project "Development of infrastructures for the Chinese Space Station" was the realisation of the Italian Module of the Chinese Space Station in the frame of the co-operation between ASI and the Chinese Manned Space Agency. The Italian module should have been launched in 2025. The project has been cancelled by the Italian Government.
Main activities and responsibilities	The System Manager was the overall responsible from the technical point of view in the ASI project team. As the position was vacant for the entire duration of the project, the Project Manager (myself) was entrusted with the role. The main responsibilities of the position were the system requirements definition and the review of the technical documents prepared by the industry

February 2009 – July 2017

Verification and Validation Manager, Deputy System Manager, Ground Segment Manager, Responsible for the Quality and Certification of Products for the programme *COSMO-SkyMed di Seconda Generazione (COSMO-SkyMed Second Generation), Phase B/C/D/E1*

COSMO-SkyMed di Seconda Generazione (CSG) is a dual-use (Civilian and Defence) Earth Observation system, evolution of COSMO-SkyMed. CSG will be based on two satellites, equipped with a Synthetic Aperture Radar (SAR) advanced with respect to the first generation. CSG will provide operational continuity to COSMO-SkyMed, while significantly improving the performances, the capabilities and the services for the Earth Observation international community.

Main activities and responsibilities

System Verification and Validation Manager (January 2015 – July 2017)
Control and monitoring of industry's AIV activities. Review of the process and documentation relevant to the on-ground and in-flight verification of the end-to-end system and its segments. Attendance at the satellite and ground segment test activities and monitoring of results, non-conformances, SW problems. Control of the traceability and of the compliance of the requirements at all levels, also with the usage of a specific requirements management tool (DOORS). Review and monitoring of the industry's end-to-end system budgets. Control of the conformance of the sub-systems (as built and verified) with the upper level (segment and system/mission) requirements and identification of the actions to be given to the Contractor in order to improve the compliance to mission needs. Update of the Mission Requirements (including the classified annexes) through the different contractual phases of the programme.

Responsible for the Civilian and Defence User Ground Segments (April 2013 – October 2014), **Ground Segment Manager** (October 2014 – January 2015)
Review of industry requirements and architecture of the User centres and related sub-systems, such as those related to data acquisition, data processing, external interfaces for the user requests submission and the products delivery, etc.
Review of industry requirements and architecture of the overall Ground Segment, the relevant centres (User Ground Segments, Mission Planning Centre, Satellite Control Centre, External Stations, etc.) and related sub-systems and interfaces.

Deputy System Manager (February 2009 – October 2014)
Definition and maintenance of Requirements at Mission/System and Segment level, with particular reference to satellite and end-to-end system performances, mission planning, evaluation of the end-to end effects of the constraints coming from satellite and ground segment features, including security aspects/requirements; control of industry's budgets and requirements allocation to lower levels; review of the system architecture in the design phase.

Responsible for the Quality and Certification of Products (February 2009 – July 2017)
Definition and improving of Mission Requirements (including the classified annexes) relevant to SAR products; definition of Mission Requirements relevant to the innovative, non-standard acquisition modes of CSG (based on SAR and platform agility); review and approval of the process of products certification proposed by the industry and monitoring of its application.

Mission Analysis Senior Engineer (February 2009 – July 2017)
In charge of the aspects relevant to Mission Analysis and Flight Dynamics (such as constellation configuration, time performances, interferometric baseline control, collision avoidance, launchers orbit injection accuracy, ΔV budget).

Support to the CSG Programme Manager (February 2009 – July 2017)
Organisation of programme meetings and reviews also in areas related to space and ground segment security. Documentation Management. Management of review item discrepancies, including panel secretariat functions. Cost analyses support. Evaluation of industrial proposals. Participation in Tender Evaluation Boards. Preparation of the Technical Addendum to the contracts relevant to the different phases. Technical contribution to the preparation of the agreements between ASI and partner (Italian Ministry of Defence).

August 2006 – June 2017

System and Satellite Engineer for the Italian-Argentinean Earth Observation programme *SIASGE*

SIASGE (*Sistema Italo-Argentino di Satelliti per la Gestione delle Emergenze*, Italian-Argentinean satellite system for emergencies management) is a programme of international cooperation, based on COSMO-SkyMed and SAOCOM (2 satellites in the design phase), aimed to observe the Earth with radar in different bands (X and L), in order to obtain images with different characteristics (e.g. higher resolution for the X-band, greater penetration below the vegetation for the L-band) and provide added value products to the Users.

Main activities and responsibilities

- **Responsible for the on-site qualification** of the SIASGE X/S band Antenna within the COSMO-SkyMed system;
- Member of the Programme Team in charge of the "Development and Validation of the L Band Transmit/Receiver Modules for the SAOCOM satellites";
- Participation in the SAOCOM Programme Reviews as an external reviewer or as a **Member of the International Review Board**.

July 2010 – April 2014	**Responsible for System Engineering Support during operations** in the *COSMO-SkyMed Operative Phase* programme COSMO-SkyMed is the most complex space system ever realised in Italy. It is a dual-use (Civilian and Defence) system for Night-and-Day, All-Weather Earth Observation with Synthetic Aperture Radars. The system is based on a Constellation of 4 satellites in sun-synchronous orbit, and on a complex, expandable and multi-mission/multi-sensor Ground Segment consisting of different centres (located in Italy and in the rest of the world).
Main activities and responsibilities	Monitoring of the system performances, availability, efficiency and control of the relevant activities performed by the Industry; evaluation of possible updates necessary to the system; evaluation of the Non-Conformance Reports and monitoring of the activities related to the qualifying (with the satellite simulator), uploading and in-flight testing of SW patches aimed to solve satellite HW NCRs; attendance to any kind of boards related to the system operations; co-ordination of the specialist resources in case of need/emergencies.
March 2006 – May 2011	**System and Satellite Engineer** for the programme *COSMO-SkyMed, Phase C/D/E1*
Main activities and responsibilities	• **Responsible for the Products Certification**; • **Satellite specialist** for on-board sub-systems and satellite system technical aspects; • Supervision of the **AIT/AIV** industry **activities** of the satellites FM2 (2007) and FM4 (2010); • Supervision during the system's **on-ground qualification** activities; • **Representative of Italian Space Agency** (ASI) in the Project Support Room of the COSMO-SkyMed Satellite Control Centre during the **Launch and Early Orbit Phase** (LEOP) of the satellites PFM (launched on June 7th 2007) and FM2 (launched on December 9th 2007); participation in the **Launch Campaign** of the satellites FM3 (launched on October 25th 2008) and FM4 (launched on November 6th 2010) at *Vandenberg Air Force Base*; • **Support to the Programme Manager**: documentation management, participation in all the **review activities** related to the programme milestones, with focus on end-to-end system performances; technical verification of the compliance of the Contractor activities to the requirements, participation in programme reviews and progress meetings.
Type of business or sector	Complex space systems, space projects and relevant international cooperation

Experience as Security Manager (April 2013 – June 2017)

April 2013 – June 2017	**Security Manager** in the frame of the *COSMO-SkyMed* programme. COSMO-SkyMed is a dual (Civilian and Defence) system, thus following proper security constraints, rules and procedures. Moreover, the highest resolution products (belonging to the "Spotlight 1" products portfolio) are for Governmental use only and are classified.
Main activities and responsibilities	**Security Manager** in the *COSMO-SkyMed di Seconda Generazione (COSMO-SkyMed Second Generation) Phase C* programme (April 2013 – October 2014) Monitoring and support to the industries for the activities related to identification of vulnerabilities, definition and updating of security requirements, establishment of the certification and approval process. Contribution to the Satellite requirements and trade-offs (e.g. the trade-off between safety and security in the satellite Tele-Command Decryption Unit). "End-to-End" responsibility: from the Satellite to the Ground Segment. **Responsible for Security Engineering** in the *COSMO-SkyMed Operative Phase* programme (May 2013 – June 2017) Control of the activities related to the updating of potential vulnerabilities and of security requirements as the system evolved from its original certified and approved design. Control of the compliance of operations, procedures, and system management to security regulations and requirements. Monitoring of the activities related to the improvement of the performance of SAR products. **Further details about Security activities** can be provided subject to need to know.
Type of business or sector	Security Engineering

Experience in international boards and committees (since October 2008)

Since October 2008 — Member in **international boards and committees**

Main activities and responsibilities

- **Advisor** in the ESA *Joint Board on Communication Satellite Programmes* (JCB) (since May 2021).
- **Advisor** in the *ESA Programme Board for Human Spaceflight, Microgravity and Exploration* (PB-HME) (July 2017 – May 2021).
- **Advisor** in the *ESA Exploration & Utilisation Board* (PB-HME/EUB) (July 2017 – May 2021).
- **Member** of the *Joint Working Group ASI-CMSA* (China Manned Space Agency) about Infrastructures and Space Technologies for the *Chinese Space Station* (July 2017 – July 2019).
- **ASI Member** for the *ECSS Technology Readiness Level Task Force* (December 2013 – November 2016), in charge of the following tasks:
  - preparation of the *Adoption notice* of the ISO 16290 standard, adapting its content to the ECSS language (ECSS-E-AS-11C standard);
  - preparation of the ECSS Handbook pertaining to Technology Readiness Level (ECSS-E-HB-11A handbook);
  - harmonization of the Technology Readiness Level concept inside ECSS documentation.
- **ASI support** to Italian Ministry of Defence in the frame of the *MUSIS (MUltinational Space-based Imaging System) Italian-French programme* (April 2013 – January 2015).
- **Responsible for System Engineering Support** in the ASI support team to Italian Ministry of Defence in the frame of the operative phase programme of the *French Defence User Ground Segment (F-DUGS)* of COSMO-SkyMed (July 2010 – April 2014).
- **ASI Member of the International Review Board** for several reviews of the *SAOCOM Argentinean programme* (October 2008 – November 2013).

Type of business or sector — International cooperation in space activities

Experience as Project Manager (since April 2010)

Since June 2021 — **Project Manager** for the contract *Autonomous oRbit dEtermination System for a Smallsat Constellation (ARES4SC).*
The purpose of the ARES4SC project is the study of a small constellation of micro or nano-satellites orbiting a celestial body, capable of having autonomous navigation and providing a navigation service to other spacecraft.

Main activities and responsibilities — Control of the research activities of the beneficiary of the ASI funding. The ASI team consists of 2 people, including the Project Manager.

Since March 2021 — **Project Manager** for the contract *gnsS-enabled urban air Mobility through Ai-powered environment-awaRe Techniques for strateGic and tactical path planning Operations (SMARTGO)*.
The purpose of the SMARTGO project is the study of the strategic (planned) and tactic (in-flight) path planning of drones in urban areas.

Main activities and responsibilities — Control of the research activities of the beneficiary of the ASI funding. The ASI team consists of 2 people, including the Project Manager, and 1 collaborator.

Since March 2020 — **Project Manager** for the contract *Four-year industrial services in the frame of ASI-ESA Agreement regarding the co-operation for the European Astronaut Centre operations*.
The Project relevant to the services for the European Astronaut Centre (EAC) marks ASI return (after several years) in the integrated team which operates at EAC (the team includes, beside ESA, also DLR and CNES personnel). In the frame of the Agreement with ESA, ASI provides 2 specialists: 1 Flight Surgeon and 1 Operations Support Engineer.

Main activities and responsibilities — Project management and control of the activities carried on by the Contractor in charge of providing the human resources to EAC. The ASI team consists of 2 people including the Project Manager.

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Since January 2018	**Project Manager** for the contract *Feasibility study for the re-flight of the Mice Drawer System (MDS) facility and flight models adaptation for the ground testing at ESTEC facilities and operative and engineering support to the testing*. Mice Drawer System is an Italian facility for studying the effects of microgravity on rodents. The facility already flew in 2009 to the International Space Station (ISS) via the Space Shuttle. The study for the re-flight concerns the adaptation to spaceships currently operational and the adoption of the lessons learnt from the first mission. Furthermore, the contract foresees the actual modification of the MDS Flight Models for the adaptation to ESTEC's Large Diameter Centrifuge and the support to the experiment about rodents in hyper-gravity
Main activities and responsibilities	Project Manager, coordinating ASI's Project Office (consisting of 5 people). Control of the industrial activities and interface to ESA for the test activities to be performed at ESTEC.
July 2018 – January 2020	**Project Manager** for the contract *Development of infrastructures for the Chinese Space Station (CSS), Phase A*.
Main activities and responsibilities	Project Manager, coordinating ASI's Project Office (consisting of 6 people). Control of the industrial activities, interface to Chinese Manned Space Agency and China Academy of Space Technology for negotiating the evolution of the needs and requirements.
July 2017 – July 2019	**Project Manager** for the *In vitro bone* agreement activities. The "In vitro bone" agreement (between ASI and University of Genoa) is aimed to manage the activities related to the eponymous experiment about the effects of gravity on bone's cells, led by University of Genoa and co-funded by ASI. The experiment was conducted on the International Space Station in 2018
Main activities and responsibilities	Project Manager, coordinating ASI's Project Office (consisting of 4 people). Control of the university activities and monitoring of the schedule and results of the research activities.
April 2010 – June 2014	**Project Manager** for the *Technological developments for next generation SAR antennae* contract. "Technological developments for next generation SAR antennae" (Contract between ASI and Thales Alenia Space Italia) is a programme of technological developments for spaceborne SAR (Synthetic Aperture Radar) antennae, including 5 technological lines: amplifiers in Gallium Nitride, data transmission over optical links, innovative radiating boards based on commercial materials, True-time Delay Line based on switches realised with MEMS (Micro Electro-Mechanical Systems) technology, innovative packaging for the transmitting / receiving modules based on solderless interconnections. The programme also includes the design of SAR antennae architectures based on the 5 innovative technologies developed
Main activities and responsibilities	Project Manager, coordinating ASI's Project Office (consisting of 5 people). Control of the industrial activities and tight monitoring of the schedule of the 5 developments in order to meet the common contractual deadline. Technical evaluation of the results and review of the TRLs declared by the industry.
Type of business or sector	Space Projects Management

Participation in proposal evaluation phases, negotiation activities and Cost Engineer activities (since February 2009)

Since February 2009

Preparation of **requests for expressions of interest, invitations to tender** and **requests for proposal**; **proposals** and **tenders evaluations**, **technical** and **programmatic negotiations**; **cost fairness evaluations**

Main activities and responsibilities

- Responsible for system performance and image quality in the preparation of requirements and request for proposal phase for the *COSMO-SkyMed Operative Phase* programme, 2009.
- Participation in the request for proposal phases, proposal evaluations, requirements negotiation with industry and negotiation with industry of the contracts' technical and programmatic contents for the contracts of phases B, C1, C2, C3 and C4/D/E1 of *COSMO-SkyMed di Seconda Generazione*, 2009-2015.
- Participation, as observer, in Tender Evaluation Boards performed by the Prime Contractor of *COSMO-SkyMed di Seconda Generazione*, concerning the procurements of space and ground segment items, 2010-2016.
- Member of the Cost Fairness Evaluation Board for the proposal *Design, Qualification and Manufacturing of the DCDC converter (external filter included) for the TR module and Manufacturing of the FMs, EMs and additional EQMs of the TR modules for SIASGE/SAOCOM*, 2010.
- Co-ordinator of the Cost Fairness Evaluation Board for the proposal *Additional activities for PMM life extension and CAD models*, 2017.
- Technical Responsible for the preparation phase (negotiation of the contract and its technical and programmatic contents) for the project relevant to the *Feasibility study for the re-flight of the Mice Drawer System (MDS) facility and flight models adaptation for the ground testing at ESTEC facilities and operative and engineering support to the testing*, 2017.
- Technical Responsible for the preparation phase (from the request for proposal to the contract signature) for the project relevant to the *ASI Medical and Engineering support services to the European Astronaut Centre*, 2017-2018.
- Technical Responsible for the preparation phase (from the invitation to tender to the contract signature) for Phase A of the project *Development of infrastructures for the Chinese Space Station*, 2017-2018.
- Technical Responsible for the preparation phase (from the agreement negotiation to the agreement signature) for the Agreement *The MDS on LDC: Tissue Sharing Program* between ASI and University of Milan, 2018.
- Technical Responsible for the preparation phase (from the Request for Expressions of Interest to the Contract preparation) for the Project *Pre-feasibility Study about Lunar Modules and Systems*, 2019-2020.
- Technical Responsible for the preparation phase (from the negotiations relevant to the international agreement and the tender phase to the Contract preparation) for the Project *Italian participation to NASA's Human Landing System*, 2020.
- Co-ordinator of the Cost Fairness Evaluation Board for the proposal Industrial activities for the E1 phase of the Euclid project, 2020.
- Technical Responsible for the preparation phase (from the Evaluation of the Expressions of Interest to the issue of the Invitation to Tender) for the Project *Supply of services for the Italian Utilisation of the International Space Station in the timeframe August 2021 – November 2024*, October 2020-April 2021.
- Co-ordinator of the Evaluation Board for the Expressions of Interest relevant to *R&D activities relevant to space integrated applications for the development and life sustainability in Italian small and medium towns*, since April 2021.
- Technical Responsible for the preparation phase (from the Evaluation of the Expressions of Interest to the issue of the Invitation to Tender) for the Project *Deep Learning for the Navigation of small satellites around asteroids (DEEP-NAV)*, since May 2021.

Type of business or sector

Technical and programmatic activities for contracts preparation

Experience in Concurrent Engineering Design (2009 – 2015)

2009 – 2015

Team Leader, **System Specialist** or **Mission Analysis Specialist** in Concurrent Engineering Design studies carried out at ASI's *Concurrent Engineering Facility* or at ESA's *Concurrent Design Facility*, refining and analysing mission concepts covering space and ground segments

Main activities and responsibilities

1. **System Specialist** for the Pre-feasibility Study of the mission *MINAS ITHIL* (MIcro and NAnosatellites System for Inter-planetary Transfer and Hyperspectral Imaging of the Lunar surface), carried out at ASI with ESA consultancy, 2009.
2. **System Specialist** for the Feasibility Study of the *Rover Lunare Italiano* (Italian Lunar Rover), ASI, 2009-2010;
3. **Mission Analysis Specialist** for the Feasibility Study of the mission *System for Earth Observation (SEO)*, carried out by a joint ASI/ESA team at the "Concurrent Design Facility" of ESA/ESTEC, 2010;
4. **Mission Analysis Specialist** for the Concurrent Engineering Study for *COSMO-SkyMed di Seconda Generazione* (COSMO-SkyMed Second Generation, CSG), ASI, 2010;
5. **Team Leader** for the *Study of possible alternative applications for the Galileo satellites Doresa and Milena*, ASI, 2014;
6. **Coordinator of ASI Team** and **System Specialist** for the Feasibility Study of the *Mini Piattaforma spaziaLe ad Alta TecNOlogia* (High Technology Small Space Platform, PLATiNO) jointly carried out by ASI/ESA/CIRA, ASI, 2015

Type of business or sector

Concurrent Engineering Design for space missions

Work experience at
***Università degli Studi di Roma "La Sapienza"* (University of Rome "La Sapienza")**, *Scuola di Ingegneria Aerospaziale* (School of Aerospace Engineering) and *Dipartimento di Ingegneria Aerospaziale e Astronautica* (Department of Aerospace and Astronautical Engineering), Rome, ITALY

March 1998 – July 2007	**PhD Student**, **Researcher**, **Lecturer** in University courses and seminars, **Assistant Supervisor** for *Laurea* theses, **Member of the examination boards**, in the fields of Astrodynamics and Space Systems
Main activities and responsibilities	**PhD Student** (March 1998 – February 2001) and **Researcher** (February 2001 – February 2006) ➢ Project Responsible and conductor of the **first Italian campaign for the detection of space debris**, which was carried out in April 2002; ➢ monitoring and orbit determination of Space Debris by means of optical systems and "in situ" impact sensors; ➢ lunar and interplanetary transfers mission analysis; ➢ estimation of the collision probability among satellites; ➢ study of the trajectories of ballistic missiles; ➢ microsatellite design and AIT; ➢ experimentation in the International Space Station. **Teacher, Tutor** (October 2000 – July 2007) ➢ **Lecturer** in University courses and seminars, **Assistant Supervisor** for *Laurea* theses, **Member of the examination boards** for the courses of Astrodynamics and Space Systems at the School of Aerospace Engineering and at the Faculty of Engineering of the University of Rome "La Sapienza".
Type of business or sector	Research and teaching in the space sector
June 2000 – February 2006	Member in **international boards and committees**
Main activities and responsibilities	**Member of the Italian Space Agency (ASI) delegation** in the *Inter-Agency Space Debris Coordination Committee (IADC)*, for the Working Group 1, "Measurements"; involvement in the measurement campaigns and in the IADC plenary and WG meetings (June 2000 – February 2006).
Type of business or sector	International cooperation in space activities

Work experience as Aerospace Consultant

March 1998 – May 2005	**Aerospace Consultant**
Main activities and responsibilities	**Consultant for *SELEX Sistemi Integrati*** in the frame of a study about "Non-linear stochastic filtering for accurate modelling of ballistic trajectories" (March 2005 – May 2005). **Consultant for *Alenia Marconi Systems*** in the frame of a study about "Modelling of trajectories of ballistic objects and satellites" (September 2003 – May 2004). **Consultant for *Oerlikon Contraves Italiana*** on the evaluation of the space debris flux around the International Space Station (September 2000 – October 2000). **Consultant for *InterSpace*** in the frame of a ESA contract about Mission Analysis for low-cost *Weak Stability Boundary* lunar and interplanetary transfers (September 1998 – June 1999). **Consultant for a team of Italian companies** (*Telespazio*, *Contraves Space*, *InterSpace*) in the frame of a ESA contract about space debris detection and orbit determination with low-cost monitoring techniques (March 1998 – March 1999).
Type of business or sector	Aerospace engineering

Work experience at
***3° Reggimento di Sostegno dell'Aviazione dell'Esercito* (3rd Support Regiment of the Army's Light Air Force)**, Orio al Serio (BG), ITALY

April 1997 – March 1998	**Officer of the Italian Army**, enrolled in a Support Regiment of the Army's Light Air Force as Aeronautical Engineer
Main activities and responsibilities	**Head of supply office (of aeronautical parts)**. Inventory management for helicopters spare parts; aligning the new electronic archive of spare parts to the old paper archive; responsible for the convoys transporting spare parts and armaments from the companies to the regiment.
Type of business or sector	Defence

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Education and training

January 2010 – 15 April 2011	Second Level Master in Governance of Information Technology Systems: Development, Management, Monitoring *Università degli Studi "Roma Tre"* (University of Rome "Roma Tre")
March 1998 – 16 February 2001	**Doctor of Philosophy in Aerospace Engineering** *Università degli Studi di Roma "La Sapienza", Scuola di Ingegneria Aerospaziale* (University of Rome "La Sapienza", School of Aerospace Engineering)
November 1989 – 18 July 1996	***Laurea*** degree in Aeronautical Engineering, Space specialisation Università degli Studi di Roma "La Sapienza" (University of Rome "La Sapienza")
September 1984 – July 1989	*Diploma di Maturità Classica* (Education to A level in Classical and Ancient Studies) *Liceo Ginnasio "Giulio Cesare"* (Classical and ancient studies High School "Giulio Cesare"), Rome
Since 1989	Courses attended: several specialisation courses, vocational training, language courses, hands-on training, management courses, etc.
Principal subjects covered or skills acquired	Economy, Project Management, Soft skills, Concurrent Engineering Design, Innovative approaches to space systems design, Engineering software and CAD, Aerospace software tools, Space standardisation, Occupational safety, IT, French and English languages, Laws related to Public Administration

Personal skills

Mother tongue **Italian**

Other languages	Understanding				Speaking				Writing	
	Listening		Reading		Spoken interaction		Spoken production			
English self-assessment	C1	Proficient User	C2	Proficient User	C1	Proficient User	C2	Proficient User	C2	Proficient User
exams	C2.a Course attended at ASI and Final Exam passed on 30/05/2017 with score 84/100 C2.b Course attended at ASI and Final Exam passed on 31/05/2018 and 07/06/2018 with score 74/80									
French self-assessment	A1	Basic User	A2	Basic User	A1	Basic User	A1	Basic User	A1	Basic User

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user. *Common European Framework of Reference for Languages*

Communication skills

- Good communication skills, due to long-lasting work in team and to effective oral interaction improvements due to communication and soft skills courses (e.g. I have learnt to substitute "*you don't understand*" with "*I didn't explain myself properly*");
- Customary to work in a multi-cultural environment, due to the numerous work experiences in international contexts.

Organisational / managerial skills

- Inclination to leadership, which do not hinder an absolutely respectful attitude towards superiors. The flair for leadership is partly inherent predisposition, partly related to experience made in the work environment (such as teaching, mentoring of students, training of younger colleagues, leading of working groups) as well as in private life (e.g. the direction of some choirs of Sacred Music);
- Skill in programme management, acquired either directly as Project Manager, and as a member of teams managing programmes exceptionally complex from the system engineering, technological, management and economic points of view (COSMO-SkyMed and CSG);
- Excellent ability to carry on the work in an organised and structured way, due to aptitude and work experiences such as joining the Programme Office of COSMO-SkyMed, which required a quick adaption to a highly structured approach to work;
- Accustomed to work with fixed and mandatory milestones;
- Proven ability to carry out work both in absolute autonomy (acquired primarily during the years spent in the scientific research) and in team (acquired mainly working in the Programme Offices of COSMO-SkyMed and CSG, as well as in teams of Concurrent Engineering).

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Job-related skills

- Long-lasting experience in monitoring and controlling activities and schedule of industrial contractors;
- Excellent knowledge of space systems design, development, operations and programme management. Great familiarity with ECSS standards;
- Familiarity with the DOORS tool for requirements management;
- Knowledge of tools and procedures specific to the Concurrent Engineering Design.

Digital competence

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Independent user	Proficient user	Independent user	Proficient user	Proficient user

Levels: Basic user - Independent user - Proficient user. Digital competences - Self-assessment grid

Second Level Master in "Governance of Information Technology Systems: Development, Management, Monitoring"

- Significant experience in software programming in different languages (FORTRAN, C, BASIC, VISUAL BASIC, MATLAB, PASCAL, HTML), with particular reference to the application of numerical calculus to space matters.
- Significant experience in the use of software packages for engineering and design activities (with particular reference to aerospace sector): requirements management (DOORS), proposal costs management (ECOS), satellite telemetry (SCOS), orbital propagation and tracking of satellites (STK, ORBITRON, WINORBIT, WISPDDE, ARSWIN), concurrent engineering design (IDM), space debris (MASTER, PROOF, ORDEM), astrometry (ASTEROID CATCHER), electronic circuit design (ORCAD), structural design using 3D CAD (CATIA), graphical display of data (GNUPLOT).
- Long-lasting practice in the advanced use of office automation tools, with particular reference to the tools of MS OFFICE package.
- Designer of two websites.

Other skills

- Keen about Music:
  - Former Director of 3 Sacred Music choirs, in particular the "Santa Maria Maddalena de' Pazzi" Choir, 1994-1996 and 1998-2006;
  - Amateur acoustic and electric guitar player.
- Practising sporting Light Saber Combat

Driving licence

Category A (all kind of motorbikes) and B (cars)

Additional information

Publications, Congress papers and Main technical documents

Author or co-author of 14 scientific publications in books or journals, 60 congress papers and scientific publications in congress proceedings, several technical documents, ECSS standards, internal reports, operational manuals for the astronauts. The list of technical publications and main technical documents has been uploaded as a separate file.

Reviews for technical journals and congresses

1. Advances in Space Research (October 2004 – January 2007);
2. IEEE Aerospace and Electronic Systems Magazine (April – July 2011);
3. Acta Astronautica (November 2013 – February 2014).
4. SpaceOps conference (since September 2019)

Chair in scientific congresses

"*20th Ka and Broadband Communications, Navigation and Earth Observation Conference*", Salerno / Vietri sul Mare, Italy, October 1-3, 2014: Chairman of session Ka 4, "Earth Observation Applications".

Memberships and volunteering

Member and campaigner of **ONE** (an international campaigning and advocacy organisation taking action to end extreme poverty and preventable disease, particularly in Africa).

I authorise to deal with my personal information according to the Regulation EU 2016/679 ("General Data Protection Regulation").

Signature

Rome, June 7th 2021

Manfredi PORFILIO



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