

**NSE – NEW SPACE ECONOMY EXPOFORUM 2023
CONFERENCE PROGRAMME (Draft)
“THERE IS NO SPACE B”**

The only celestial body that can support us is the one we evolved with and this is now something scientifically established: “THERE IS NO PLANET B”. Could we say the same for the Outer Space? If we look at the Low Earth Orbit, where thousands of satellites and debris are orbiting and thousands of satellites are planned to arrive, perhaps yes. We need to preserve the near space for a fair development of the emerging new space economy: THERE IS NOT SPACE B then!

New Space Economy ExpoForum is the international technology transfer exhibition and conference focused on the capacity of the new space economy in enabling new terrestrial markets based on entrepreneurial-driven space innovation. It serves as a dynamic and innovative hub for technology transfer, where innovators and industry leaders can discover game-changing ideas, potential applications and how cutting-edge space technologies can be adapted, integrated, and applied to drive innovation and growth across various terrestrial markets such as transportation, agriculture, healthcare, telecommunications, and more. Building upon the success of our previous editions, we are proud to announce the manifesto of the 5th edition of NSE ExpoForum:

OVERCOMING LIMITS AND BARRIERS

Knowledge and self-doubt. Courage and calculation. Dream and project.

Opposites that live in our souls, but for some of us they become excellence, they become a life mission. Boundaries become goals, barriers become springboards. European excellence, whose roots lie in the Renaissance values of art and science, humanism and willpower, now faces new challenges and new barriers. We are called upon to continue that legacy, and push forward the frontiers of excellence.

BEYOND CURRENT BUSINESS MODELS

Challenges and barriers made of a rarified atmosphere, a vanishing gravity, infinite spaces and deafening silences, but what does not change is the approach that leads to achieving such goals.

The eclectic, ingenious vision full of cross-contamination, curiosity and courage that has accompanied Italian and European genius for centuries must remain.

TECHNOLOGY TRANSFER IS THE KEY

NSE ExpoForum turns the gaze of such genius upward, toward space, toward a new adventure where new successes can be written.

These successes, as it was during the Renaissance, will stem from the ability to bring together sensibilities that are distant for others: we must contaminate fields, let different sectors speak to each other, gently force a dialogue between non-adjacent areas. This is what we mean by “technology transfer” and lies at the heart of our mission.

SPACE HUMANISM

NSE ExpoForum wants all of the above: our event tackles both excellence and diversity, our event wants both ambition and control. NSE ExpoForum is the place where the eclecticism of the European excellence meets up and tells its story: NSE ExpoForum is the moment in which new market opportunities arise from cross-contamination and competences.

05 DECEMBER 2023

8:30 am- 10:00 am

Registration & Welcome Coffee

10:00 am- 10:30 am

Institutional Greetings

Alberto Tuozi - President, E. Amaldi Foundation

NSE Conference Scientific Committee:

- Alberto Tuozi
- Franco Federici – Gen. C.A., Military Advisor to Italian PM
- Geraldine Naja – Director of Commercialization, ESA
- Marco Villa – Chief Revenue Officer, Terran Orbital

Luca Voglino – President, Investimenti S.p.A. (sole shareholder of Fiera di Roma)

10:30 am - 12:30 am

Opening Ceremony “There is no SPACE B”

Moderator: Alberto Tuozi

Speakers

Teodoro Valente - President, Italian Space Agency ASI

Simonetta Cheli - Head of ESRIN ESA

Fiammetta Diani - Head of Market, Downstream and Innovation EUSPA

Aarti Holla-Maini - Director, UNOOSA

Francesco Rocca - President, Lazio Region

Elena Grifoni Winters - Director General, Space Office of Italian Prime Minister

Guido Crosetto - Minister, Italian Ministry of Defence

Adolfo Urso - Minister, Italian Ministry of Enterprises and Made in Italy

12:30 am- 1:00 pm

Exhibition Icebreaker–Ribbon Cutting Ceremony:

Institutional representatives

1:00 pm - 2:30 pm

Lunch Break

2:30 pm - 3:30 pm

Round Table “Geopolitics of space: the need of a global law”

Moderator: Eva Giovannini, Journalist, RAI

Speakers

Francesco Bonini – Rector, LUMSA University of Rome

Christopher D. Johnson - Space Law Advisor, Secure World Foundation

Aarti Holla-Maini - Director, UNOOSA United Nations Office for Outer Space Affairs

Sergio Marchisio - Professor of Space Law, La Sapienza University of Rome

Loreto Moraga - Lawyer, President, Chilean Space Association ACHIDE

Marcello Spagnulo – Scientific Advisor, LIMES Geopolitical Review

In the mid-17th century, the Europeans laid the foundations of international law on sea trade based on the so-called “natural law” or “res communis”. Within the book *Mare Liberum*, a classic text in the history of international relations, the innovative principle that the sea was international territory and that all nations were free to trade through sea routes, was definitively proclaimed. Today many observers make the comparison between Space –a place by its nature unlimited and for the moment militarily indefensible –and oceans as a natural and normative term to inspire a regulation for the exploration of Outer Space. The basic law regarding Space is the ONU Outer Space Treaty of 1967, which was heavily dictated by the *res communis* doctrine, stating that Space belongs to mankind and not to one individual or country. A noble principle which resulted to be out of the evolving political and economic context. Furthermore, it resulted to be unarmed before the technology innovations as well as the evolution of the socio-political global context. Finally, this Treaty appears to be far from being a real safeguard. In fact, in the 21st century the orbits around the Earth are being populated by an increasing number of satellites and spaceships, many for commercial purposes but most for military and intelligence purposes, as the global military and economic confrontation recurs from the seas of the planet to the oceans of the Universe. The United States and China have started a new Space Race where the Moon, and the cislunar orbit, represents a strategic target rather than an operational one. Modern states have always regulated their relations on the basis of rigidly drawn boundaries, and when this was not possible, diplomatic activity was often followed by military activity, as basically taught by the above-mentioned “natural law”. But, is it possible to trace a “limes” (boundary in Latin) in Space and then elaborate a global Law to respect national interests? The Panel should try to speculate on that.

3:45 pm - 4:45 pm

Round Table "Space Defence"

Moderator: Roberto Vittori - Astronaut, European Space Agency, ESA

Speakers

Representative, US Space Command

Representative, NATO Defence College

Representative, COA, AM (Comando Operazioni Spaziali)

George Nield - President, Commercial Space Technologies

Neither national nor multinational military operations are conceivable without the support of space-based systems. Space-based assets and applications are essential to navigation, communication, meteorological, geospatial and imagery services, early warning and ballistic missile interception. Space and defence have continued to benefit from each other's breakthroughs and know-how and

this nexus has been constantly expanding in different ways. Space was born competitive, and has evolved to become an increasingly contested and congested environment. Moreover, satellites have become a critical infrastructure for the societies and economies on Earth. Space is the ultimate frontier for political, technological and industrial competition, with new scenarios regarding space

operations led by dedicated military commands. US, China and Russia pursue competitive advantages in the space higher ground, exploiting also innovative digital technologies and dual-use approaches. NATO officially recognised space as operational domain, while the armed forces of US and major European allies are undertaking policy and organisational adjustments. The EU space

programme has achieved significant results on Copernicus and Galileo, the former being particularly relevant for the armed forces' navigation through its Public Regulated Service (source EDA, IAI). The panel will address the current cooperation with US and the perspectives.

4:45 pm - 5:15 pm

Coffee Break

5:15 pm – 6:15 pm

Round Table “Space Culture”

Moderator: Concita De Gregorio, Journalist and Writer

Speakers

Ginevra Amadio - Journalist, Helvetia Editrice

Pietro Folena - Presidente, Associazione Culturale Metamorfosi

Alberto Improda - Lawyer, Cultura Italiae Association

Laura Ippoliti - writer, Conservatorio "U. Giordano"

Mattia Mor - Founder & CEO, Emotion Network

Vittorio Sgarbi – Undersecretary of State, Ministry of Culture

Ersilia Vaudo - Chief Diversity Officer, European Space Agency, ESA

This panel addresses debate into how space and popular culture intersect across a broad spectrum of examples, including cinema, music, art, arcade games, cartoons, comics, and advertisements. This is a pertinent topic since the use of space themes differs in different cultural contexts, and these themes can be used to explore various aspects of the human condition and provide a context for social commentary on politically sensitive issues. With the use of space imagery evolving over the past sixty years of the space age, this is a topic ripe for in-depth exploration. The panel will also discuss the contrasting visions of space from the late 19th and early 20th centuries and the reality of today, and analyzes space vehicles and habitats in popular depictions of space from an engineering perspective, exploring how many of those ideas have actually been implemented in practice, and why or why not (a case of life imitating art and vice versa). As such, it covers a wide array of relevant and timely topics examining intersections between space and popular culture.

7:00 pm

Networking Walking Dinner, Fiera Roma

6 DECEMBER 2023

9:00 am – 10:00 am

Round Table “Earth Observation space based Geospatial Services for Italian Institutions: State of the Art and expectations from new opportunities of the PNRR program”

Moderator: Guido Levrini \ Federica Mastracci, ESA IPT

Speakers

Carlo Cacciamani – Director, Italia Meteo

Giovanni Sylos Labini – CEO, Planetek Italia

Paola Carmela Pagliara – Director of technical and scientific activities for risk forecasting and prevention, Civil Protection Dept.

Andrea Taramelli – Senior Project Scientist, ISPRA

Bruno Versini – COO, e-GEOS

After a short introduction of ESA IPT on IRIDE program and on Service Segment, two questions will be asked to the participants:

1. In Italy, a very high level of competences on satellite EO data and geospatial products are present in research sector, in Industry, and in Institutions in charge of management of environment, of emergency, of infrastructures, etc. Nevertheless, the use of EO based services is not yet completely diffused and fully operational as it could be expected. Please, based on your experience, describe a “best practice” example of EO based services supporting PA activities and gaps to be filled for a wider use of this technology.
2. Italian PNRR (Next Gen EU Recover and Resilience) allocated a significant amount of money on space-based investments and in particular on EO based technology; as shortly introduced before, IRIDE Program is deploying a system including a multi-sensor constellation of new satellites and a portfolio of operational services based on use cases co-designed with End User Institutional community and involving a wide group of industrial actors of geospatial sector. You represent Public Institutions, Research, Industry: if you should list only the first two expectations that you want to fulfil thanks to IRIDE Program, what are the list items?

10:10 am – 11:10 am

Round Table “Cybersecurity and new space economy: role, market opportunities in space and on ground”

Moderator: Robert Mazzolin, RHEA Group, Chief Defence, Security and Technology Strategist

Speakers

Mariano Cunietti, Chief Information Officer, D-Orbit

Milena Lerario, CEO Airbus Italia

Rebecca Meads, AMAZON AWS Lead Security Solutions Architect EMEA TBC

Matteo Merialdo, Director, Security Engineering and Products, RHEA Group

Patrick Trinkler, CEO CYSEC

CSA Regulatory Affair officer, TBD

As the New Space Economy rapidly expands, driven by technological advancements and a surge in private sector participation, the critical issue of cybersecurity has emerged as a pivotal concern. This panel discussion seeks to delve into key aspects of cybersecurity within the evolving space industry, with a focus on addressing critical questions and examining potential market opportunities. The panel will consist of experts from various domains, including cybersecurity, space industry, and regulatory experts (TBC).

The following main topics will be discussed:

Customers' Perception of Cybersecurity: Willingness to Invest

Panel discussion will explore the attitudes and priorities of customers within the New Space Economy towards cybersecurity. Discussions will revolve around whether customers are inclined to invest in robust cybersecurity measures and the factors influencing their decisions.

Cybersecurity: Cost or Added Value?

This topic will scrutinize the economic implications of cybersecurity within the space industry. Panelists will discuss whether cybersecurity is perceived as a cost center or as an indispensable value-added component, and the resulting impact on businesses and their bottom lines

Quantum Computing, Cryptography, and the Future of Space Cybersecurity

With rapid advancements in quantum computing and cryptographic techniques, this segment will examine the potential benefits and risks for space cybersecurity. The panel will explore how these technological leaps could enhance security measures in space and translate to ground-based applications.

Market Drivers for Space Cybersecurity: Identifying the Demand

This segment will delve into the key factors propelling the demand for space cybersecurity. Discussions will encompass regulatory requirements, increasing space traffic, rising cyber threats, and evolving customer expectations. The panelists will evaluate the existing market and forecast potential growth trajectories.

11:10 am – 11:30 am

Coffee Break

11:45 am – 1:00 pm

Round Table “Emerging players in the Launch sector”

Moderator: Alexandre Mangeot, CEO, HyprSpace

Speakers

Marino Fragnito - Senior Vice President, Arianespace

Stella Guillen - CCO, Isar Aerospace

Marco Mariani - CEO, SAB Launch Services

The global space launch services market size is expected to reach USD 43.94 billion by 2032, according to a new study. Launch services refer to the process of launching spacecraft into orbit, including rockets, satellites, and crewed spacecraft. This industry has seen significant recent updates and developments, particularly in the areas of reusable rockets, small satellite launch services, and commercial crewed launches. The launch services industry is the development of reusable rockets. Companies such as SpaceX and Blue Origin have made major strides in this area, with SpaceX successfully landing and reusing its Falcon 9 rockets multiple times. This has significant cost-saving implications for the industry, as reusable rockets can reduce launch costs by a significant margin.

The launch services industry is the rise of small satellite launch services. With the advent of miniaturized satellite technology, there has been a growing demand for launch services that can cater to small satellite operators. New companies have emerged as key players in this market, offering dedicated launch services for small satellites. The launch services industry is undergoing rapid change and evolution, with new players and technologies constantly emerging. As the demand for satellite services continues to grow, the launch services industry will likely remain a key area of focus for investment and innovation in the years to come.

1:00 pm – 2:30 pm

Lunch Break

2:30 pm – 3:30 pm

Round Table “Investment opportunities in the NSE”

Moderator: Artur Klutz, CEO, Kluz Ventures

Speakers

Gianluigi Baldesi - Senior Commercialization Officer, ESA

Francois Chopard - Founder & CEO, Starburst Aerospace

Marino Fragnito – Venture Partner, The Flying Object

Greg Ombach - Head of Disruptive Research & Technology, Airbus

Representative, Intesa San Paolo

Representative, Cassa Depositi e Prestiti

The New Space Economy has opened up a huge opportunity for emerging players to enter the market and grow big. The mission is to transform ground-breaking innovations developed by national scientists into global market leaders in the strategic field of Aerospace. (Galaxia-CDP)

The age of the aerospace unicorn is here. This is a rare opportunity, where barriers to entry have decreased, competition is thriving, and the industry is being disrupted – today. Aerospace investing can be complicated: the technology is cutting edge, government needs are often classified, and the industry is historically insular. (Starburst)

To succeed in this environment, investors need to have a flexible mindset, be actively involved in managing their portfolios, and have a multi-strategy approach. They also need to have sector expertise, as this will allow them to identify the winners in the new economy. (Klutz)

3:30 pm – 4:00 pm

Coffee Break

4:00 pm – 5:30 pm

Round Table “Education for the Space Economy”

Moderator: Francesco Cupertino, Rector, Polytechnic University of Bari

Speakers

Simonetta Di Pippo – Director, Space Economy Evolution Lab, SDA Bocconi

Luciano Violante – President, Fondazione Leonardo

Representative – Politecnico of Milan

Representative – Politecnico of Turin

Representative - LUISS, University of Rome

Space has Scientists and Technicians, now it needs Managers. In recent years we have been witnessing a renewed and increasing attention to (the) Space (sector) that has become so relevant to deserve the name of the New Space Economy. We aim to offer the missing managerial competences to those highly specialised professionals who operate in the space sector or who intend to move there, to enable their professional growth into top positions. Our goal is therefore to start you off to a path that goes from being a professional, to becoming a manager, to developing into a leader an organisation. (LUISS)

We are committed to training future leaders with an out-of-the-box thinking, by generating and disseminating a comprehensive knowledge on the key aspects of the space economy in the short, medium and long term, at global level. For accomplishing its goals, we deliver strategic insights to private and public institutions to gauge the opportunities presented by space sector. (SEE Lab)

7:00 pm

Gala Dinner

7 DECEMBER 2023

8:30 am – 9:30 am

Welcome Coffee

9:30 am – 11:00 am

Round Table “Panel about the Remote Sensing service provides and the Italian Local Government”

Moderator: Guido Levrini \ Federica Mastracci, ESA IPT

Speakers

Andrea Cruciani, CEO, Agricolus

Valeria Fascione - Councillor of Research, Innovation and Startup, Campania Region

Aldo Ianniello – Director of Urban Planning, Toscana Region

Marcello Maranesi, CEO, GMATICS

Paolo Pesaresi - Defence, Space & Security Business Area Sales Director, Engineering D.HUB

Roberto Tartaglia Polcini, CEO, MapSat

The panel will address the following topics:

- Introduction of ESA: why the Local Public Administration is a very important user of satellite remote sensing
- Intervention by the Tuscany Region which briefly describes their priorities in the world of territorial control and how satellites for earth observation is useful
- Speech by the Campania Region which briefly describes their priorities in the world of territorial control and how satellites for earth observation is useful
- Interventions by Agricolus, Mapsat, Engineering D-HUB, GMATICS. Their vision of the next 5 years on the use of earth observation in territorial control.
- Conclusion of ESA

11:00 am – 11:30 am

coffee break

11:30 am - 12:30 am

Round Table “Commercial Space”

Moderator: Aniello Violetti - Space Attaché, US Italian Embassy

Speakers

Representative Axiom

Representative Voyager

Representative Blue Origin

Representative Northrop Grumman

What comes after the ISS? With the International Space Station (ISS) scheduled to retire in 2030, NASA is placing a huge emphasis on a seamless shift to future private space stations in low-Earth orbit. Scientists still need outposts in low Earth orbit to conduct studies of the science and technology necessary to fly humans into deep space safely. NASA is looking to open the space station to commercial business to allocate its budget elsewhere. In addition, with the recent decrease in price to get any kg to orbit, individual companies are now able to create, launch and operate their own space stations. What opportunities for Italian/European Space system?

12:30 am – 1:00 pm

Final Remarks & Next Steps

NSE Conference Scientific Committee (Alberto Tuozi, Franco Federici, Geraldine Naja, Marco Villa)