



navisp INDUSTRY
DAYS 07 – 08 NOV
2023

HANDBOOK 2023

Welcome!

Dear Guests,

We are honoured to welcome you to the 4th NAVISP Industry Days, a gathering to stimulate your interest in the PNT world and facilitate the emergence of new opportunities offered by the NAVISP programme.

Positioning, Navigation and Timing (PNT) capabilities and in particular Global Navigation Satellite Systems (GNSS) are truly a global utility that positively affects the daily lives of many people around the world. As in the rest of the world, European society and many sectors of the European economy are increasingly reliant on satellite positioning, navigation and timing services.

The success of GNSS and in particular Galileo and EGNOS has created a huge expectation from the market and therefore an important responsibility for the Public Sector. Indeed, maintaining and exploiting these infrastructures to ensure that what is now considered as a basic need by European society has become an obligation for the Public Sector.

At the same time, increased reliance on satellite positioning, navigation and timing system has created a variety of business opportunities for the industry worldwide. Ensuring that European industries will continue to have the means to gain PNT market share is an important role for the Public Sector. Investing in innovation and competitiveness in PNT concepts, technologies and services is essential for Europe to remain at the leading edge of this sector and allow the European industrial stakeholders to seize market opportunities. These investments are also fundamental to follow and anticipate the evolution of the technical needs to offer attractive space solutions for the future.

To address the aforementioned challenges, the European Space Agency launched its “Navigation Innovation and Support Programme” (NAVISP) in 2016. The programme, now in its third phase of operation, is aimed at supporting European industry in succeeding in the highly competitive and rapidly-evolving global market for satnav, and more broadly PNT technologies and services, while supporting Member States in enhancing their national objectives and capabilities in the sector, in coordination with the EU and its institutions.

The importance of networking in the PNT ecosystem via the projects developed in the frame of NAVISP is at the heart of the ambition of this event. Take advantage of the flexible structure to engage with the all the participants.

We are confident that the programme will be of interest to you and invite you to enjoy the many opportunities offered during the next two days.

Kindly,

The NAVISP team



WHO ARE WE ?

ESA's Navigation Innovation Support Programme (**NAVISP**) is a strategic tool to foster innovation and competitiveness in the Positioning, Navigation, and Timing (PNT) landscape

In an increasingly interconnected world, where **PNT** data is of paramount importance, NAVISP takes the lead by fostering innovation beyond satellite navigation, nurturing competitive industrial capabilities, and spearheading the development of novel technologies to augment, complement or replace existing PNT systems.

How do we operate?

NAVISP plays a pivotal role in advancing the broader PNT domain through its multi-faceted approach.

Firstly, it supports early-stage research and technological developments, thereby advancing Technology Readiness Levels (TRLs). By increasing the TRLs, NAVISP sets the stage for technologies to move from conceptualization to practical application. (Element 1)

Next, NAVISP provides financial and technical assistance to industries for their independent developments. This not only nurtures innovation but also promotes a risk-sharing environment, encouraging bolder and more transformative innovations rather than merely incremental progress. (Element 2)

Lastly, NAVISP addresses the entire ecosystem by assisting institutional actors in shaping national and international strategies pertaining to PNT applications, such as autonomous driving and national PNT accessibility, ensuring a resilient PNT infrastructure. (Element 3)

These three strategic Elements don't function in silos; rather, they synergize and complement each other to create a more robust and effective approach.





Element 1 Innovation

 **ESA DRIVEN**
BASED ON YEARLY
WORKPLAN

 **FULLY FUNDED**

Element 1 strives for innovation in the PNT sector's complete value chain.

Specific objectives include conducting feasibility and viability studies for novel PNT concepts, actively participating in the formulation and implementation of PNT technology innovations, and showcasing proof of concept for promising PNT-driven services.



Element 2 Competitiveness

 **INDUSTRY DRIVEN**
BASED ON OPEN CALL FOR
PROPOSALS

 **CO-FUNDED**

Element 2 focuses on enhancing participating States' PNT industry capabilities and global competitiveness. This ensures industry readiness for emerging PNT market opportunities, emphasizing products for commercial or institutional use.

The ultimate goal is to support the **industry** in developing products ready for commercial use and facilitating entry into more challenging product development by sharing the associated risks.



Element 3 Member States

 **INDUSTRY DRIVEN BY
INSTITUTIONAL
NEEDS**
BASED ON OPEN CALL
FOR PROPOSALS

 **FULLY FUNDED**

Element 3 supports participating States in their national **PNT strategies**, promoting the development and promotion of GNSS and PNT products.

It encourages collaboration, partnerships, and supports the technical development of PNT products and services in various strategic areas, such as infrastructure management and testing campaigns. Universities, research centers, and national agencies are invited to propose projects aligned with **national strategies**.

08:30-09:30	Registration	
Session 1: Introduction & Inspiration		Chair: P. Mancini
Time	Topic	Speaker
09:30-09:40	Welcome	Ennio Guarino <i>Head of Galileo and EGNOS Programme Department, ESA</i>
09:40-10:00	NAVISP Programme - Vision and Way forward	Pierluigi Mancini <i>Head of NAVISP Programme, ESA</i>
10:00-10:20	The role of the PNT Ecosystem in the Italian Space Strategy	Alberto Tuoizzi <i>Head of EU and EU Member States Relations Unit, Italian Space Agency (ASI)</i>
10:20-10:40	Midterm PNT Trends and their Reflection in the u-blox Portfolio	Markus Uster <i>Senior Director, Head of Positioning Products, U-Blox</i>
10:40-11:00	How robust are GNSS signals? Experiences from Jammertest 2023	Kristian Svartveit <i>Senior Advisor, Norwegian Space Agency</i> Paolo Crosta <i>Head of Navigation Segment Validation, ESA</i>
11:00-11:30	Coffee & Networking time – Opportunity for Bilateral discussions	
Session 2: PNT & Mobility		Chair: G. Martin de Mercado Co-Chair: O. Smeyers
11:30-11:45	Key note – PNT & Mobility (Title tbc)	John Tintinalli <i>Europe General Manager, SAE International</i>
11:45-12:00	Key Note – PNT & Mobility, Industrial perspective	Vlad Vinatu <i>Head of Public Private Partnerships, Continental Automotive</i>
12:00-13:00	Panel discussion – How can PNT unlock future mobility trends?	Cosimo Cervicato <i>Senior Executive R&D, Grimaldi Group</i> Rasmus Rettig <i>Lead Urban Mobility Lab, Hamburg University of Applied Sciences</i> Jeroen Brouwer <i>Director of Customer Sales & Analytics, Tom Tom</i> Rodrigo Castiñeira <i>Head of Innovation for Mobility & Technology, Indra</i>
13:00-13:15	Q&A	
13:15-14:45	Lunch & Networking Time	
Session 3 : Alternative PNT		Chair: M.Brammer Co-Chair: R. Lucas
14:45-15:15	5G and PNT	Fredrik Gunnarsson <i>Expert, RAN Automation and Positioning, Ericsson</i>
15:15-15:45	How eLoran can contribute to Resilient PNT	Lydia Hyde GLA – <i>The General Lighthouse Authority of UK and Ireland, Principal Systems Engineer</i>
15:45-17:15	Panel Discussion-The Opportunities of Alternative PNT	Sven Ingve Rassmusen <i>Project Leader Innovation & Space Technology, Space Norway</i> Fredrik Gunnarsson <i>Expert, RAN Automation and Positioning, Ericsson</i> Michael Hoppe <i>Senior Engineer, German Federal Waterways and Shipping Administration</i> Lukasz Bonenberg <i>Scientific Officer, European Commission</i> Florin Mistrapau <i>Coordinator of Consultancy and Advanced Navigation Solutions Romania, GMV</i>
17:15-17:30	Q&A and Wrap up Day 1	
17:30-19:00	Networking Cocktails	

Session 4: PNT Trends <i>Chair: S.Binda</i>		
Time	Topic	Speaker
09:00-09:30	Welcome & Coffee	
09:30-09:50	PNT Trends: Managing the Dichotomy: Better GNSS and less Dependence on GNSS.	Roger McKinlay <i>Challenge Director, Innovate UK - UKRI ES</i>
09:50-10:10	GNSS Receiver Algorithm Trends: Addressing Current and Future Challenges	Daniele Borio <i>EC, Joint Research Centre</i>
10:10-10:30	Space and Underwater precise PNT for the Society	Giuseppe Tomasicchio <i>Head of System Engineering & Design Authority, Telespazio</i>
10:30-11:00	Coffee & Networking time – Opportunity for Bilateral discussions	
11:00-12:15	Panel Discussion-What are the PNT Trends that European and Canadian industry shall consider in the next 3 – 5 years?	Bruno Bougard <i>Research and Development Director, Septentrio</i> Marco Palumbo <i>Director Business Development, Inflection UK</i> Roger McKinlay <i>Challenge Director, Innovate UK - UKRI ESA</i> Markus Uster <i>Senior Director, Head of Positioning Products, U-Blox</i> Pietro Giordano <i>LEO-PNT System Manager, ESA</i>
12:15-12:30	Q&A	
12:30-13:00	Wrap up and Conclusion	Rafael Lucas Rodriguez <i>Head of NAVISP Technical Programme Office, ESA</i>
13:00	Adjourn – End of the event	

Exhibition



Company: Albora Technologies (UK)

Website: <https://albora.io/>

NAVISP Project Reference: EL2 096, EL2 127

Description:

Albora provides reliable high-accuracy geolocation for mass-market and critical applications. The company is developing the next-generation GNSS technologies (Global Navigation Satellite Systems) to improve geolocation and navigation accuracy, sensitivity and security.

Albora is a technology enabler for geolocation for B2B industrial applications such as logistics, critical infrastructures, manufacturing facilities, petrochemical plants, micro-mobility, asset tracking, workforce safety. Albora provides the best GNSS technology with unprecedented levels of accuracy, reliability and low-power consumption, at an affordable cost. Applications of their technology can be also used in drones, precision agriculture, geomatics, maritime & port operations, emergency response, military, etc.



Company: CSEM (CH)

Website: <https://www.csem.ch>

NAVISP Project Reference: EL1 032

Description:

The CSEM is a Swiss research and development center (R&D) active in the fields of precision manufacturing, digitalization, and renewable energy. It follows a public-private not-for-profit partnership model. CSEM develops and transfers technologies that are considered relevant in progressing the society. As relevant technologies, it can be mentioned the development of atomic clocks, ultra-stable lasers and related metrologies, lidars or opto-mechanical devices; all suitable for space applications.

Their research strategy centers on five programs: 1. Microsystems technology, exploring nanotechnologies and delivering enhanced device performance. 2. Systems engineering, integrating components for targeted functionality. 3. Ultra-low-power integrated systems, focusing on analogue and mixed IC design. 4. Surface engineering, delivering breakthrough surface effects. 5. Photovoltaics & energy management, covering the full chain of PV technologies. CSEM has over 30 years of experience in the space business, providing high-tech systems and components for spaceborne and ground-segment equipment. Collaboration with European entities ensures a comprehensive space program and close ties with key space organizations.



Company: DiMOS (DE)

Website: <https://dimos-ops.com/index.html>

NAVISP Project Reference: EL2 156

Description:

As a spin-off of the German Aerospace Center (DLR), DiMOS plays a prominent role in vehicle technical monitoring and operational management within the realm of automated mobility. This domain is significantly influenced by the legislation and regulations on autonomous driving passed by the Federal Council in May 2022. The current focus is on highly automated applications in public transportation and logistics sectors.

With our many years of experience in satellite operations within a critical infrastructure, DiMOS is ideally positioned to integrate proven aerospace solutions, such as satellite navigation, remote sensing and secure data connections, seamlessly, innovatively and economically into automated transport.



Company: ProNetix Ltd TA DriverNet (UK)

Website: <https://www.driver-net.com/>

NAVISP Project Reference: EL2 148

Description:

DriverNet is a five year old start up that provides Transport Management systems (TMS) to small businesses, local authorities and SME fleet operations. It has also been funded in its early stages by the DfT and Innovate UK, and in 2021 was awarded ESA and Liverpool City Region Combined Authority funding to develop a community transport marketplace for group transport to NHS appointments or related activities. The business is currently a minor player in the PNT sector, having been named UK winner of the ESA Sat Nav Competition in its first year in 2017 for the Smart Nav component within its TMS, which commercialised in 2019 is now used by private and public sector customers to optimise their deliveries.

Their product *There Maps* is a smart mapping and addressing system that can guide people to the door of their destination, without ever getting lost. Businesses and consumers can create profiles to smart map indoor and outdoor locations (such as parking, drop off & delivery points, disabled parking, entrances), then add contextual information, indoor directions or delivery instructions, safe places, preferred neighbours for people to follow on arrival.



Company: GMV (UK)

Website: <https://www.gmv.com/en>

NAVISP Project Reference: EL1 035, EL2 029, EL2 074, EL3 006

Description:

Since 1984, GMV provides engineering, software & hardware development and systems integration in the areas of GNSS, mission analysis, GNC, avionics, satellite and mission control, flight dynamics, data processing, mission planning, fleet management, on board software, robotics and applications.

GMV is today a worldwide leader in satellite-navigation systems. GMV has a major role on European GNSS systems, being today the prime contractor for the maintenance and evolution of the Galileo Control System and having the responsibility of critical subsystems in the Galileo Mission System. GMV is also the prime contractor for the development of multiple Galileo Service centers such as the European GNSS Service Centre, the Galileo Reference Centre, the Galileo Timing and Geodesy Validation Facility, the Galileo Search and Rescue Return Link Service Provider, the High Accuracy Data Generator for the provision of the Galileo High Accuracy Service (HAS), the Galileo Scientific Support Centre, and contributes to the development and operation of the Galileo Security Monitoring Centre. GMV is also a key player in international SBAS systems (e.g. EGNOS and Southpan), in the provision of high accuracy GNSS data products and Precise Point Positioning services for multiple applications and in the development of Galileo PRS receivers and applications for MoDs.



Company: EGNSS Center of Excellence (NL)

Website: <https://gnss-coe.eu/index.php>

NAVISP Project Reference: EL3 031

Description:

The EGNSS Centre of Excellence (CoE) is a cooperation between NLR, CGI and S[&]T. Together the companies provide a one-stop shop for GNSS-related questions, services and support with conscious use. GNSS (Global Navigation Satellite System) is used commonly for Positioning, Navigation, and Timing (PNT) applications. These services are so seamlessly integrated into our daily lives that we sometimes forget how much we rely on them and what the effect is if this information is not correct or not available.

CoE creates awareness, combines knowledge and supports government, industry and users to increase conscious use and to improve the resilience of GNSS-based applications.



Company: Radiolabs (IT)

Website: <https://www.radiolabs.it/>

NAVISP Project Reference: EL3 012

Description:

The booth displays the P-CAR project funded under the NAVISP Element 3 program, that aims to develop a European level accredited laboratory for certified performance assessment of advanced driver assistance systems that rely on high integrity/high accuracy positioning solutions according to the norms and procedures in CCAM (Cooperative, Connected and Automated Mobility). Both absolute and relative positioning are considered as enablers of CCAM applications with strict safety requirements, thus GNSS, ranging and perception sensors are addressed in the project. The peculiarity of P-CAR consists of its independent testing approach that uses jointly Virtual and Hardware-in-the-Loop testing; its modular cloud-based architecture makes it feasible to configure a geo-distributed platform accessible to OEMs and Tier-1s as potential users.

The exhibition is organised by Radiolabs, prime contractor of P-CAR, and is supported by the Centre Ex-EMERGE and INTECS as project partners. Radiolabs is a no profit research consortium participated by universities and industries, with four laboratories specialised on high integrity PNT systems and communication technologies for land and maritime transport. Radiolabs is a member of the national Cluster on Transportation and of the Innovation Automotive Pole of Region Abruzzo contributing to the exploitation of technical synergies and osmosis between rail, automotive and maritime domains.



Company: SAGAX Communications (HU)

Website: <https://sagaxcommunications.com/>

NAVISP Project Reference: EL2 109

Description:

Sagax Communications is a dedicated community of professional engineers who seek continuous innovation. We work tirelessly to invent and create affordable, cutting-edge radio electronics equipment and systems. Together we have decades of hands-on experience for delivering working solutions to the toughest missions and environments. Our technology is based on internationally recognized research and development of the software defined radio. The product portfolio is proved on field and in real mission. Sagax is a veteran of the RF segment with a unique expertise in antenna design and digital signal processing and a full-stack developer of hardware solutions including design, simulation, algorithmic development, FPGA and embedded programming, and breadboarding with successful sale of many high-performance radar and direction finding and spectrum monitoring systems.

The project *Cyber-secure GNSS for Autonomous Mobility (CECIL)* develops antenna-based anti-spoofing defense for autonomous mobility. The project recently passed the system review phase meeting all technical requirements and is about to launch relevant environment testing in a proving ground.



Company: Spirent (UK)

Website: <https://www.spirent.com>

NAVISP Project Reference: EL2 027

Description:

Spirent test solutions have helped enable every major development in GNSS and additional PNT technologies for over 35 years. With customers on every continent and support operations around the world, Spirent is the trusted partner of the leading defence, space, and commercial organizations. Through proven technology, our simulators deliver the most realistic GNSS, inertial, and additional PNT test environments, so you can be confident that your products and systems will succeed; our record & playback systems bring the real-world signal environment into the lab in dynamic detail; and our custom services bring industry leading expertise into your programs. To ensure our customers can stay at the forefront of technology development, Spirent collaborates with world-leading academics and institutions, bridging the gap between ground-breaking research and the industrial innovations that depend on it.

At the NAVISP Industry Days we'll be discussing how our established professional services capabilities are helping deliver key projects in space, critical national infrastructure (CNI), and in commercial industries. To find out how Spirent can accelerate and de-risk your development through our expert test as a service capability, visit our exhibit on 7-8 November.



Company: Qascom (IT)

Website: <https://www.qascom.it>

NAVISP Project Reference: EL1 062

Description:

Qascom (Quality and Secure Communications) is a fast-growing company in the emerging markets of space cybersecurity and GNSS authentication. With over 30 publications in the R&D and scientific sector, Qascom has dedicated itself to Robust PNT, GNSS signal authentication, security simulators, interference detection, jamming and spoofing mitigation, as well as security and cryptography.

Qascom is committed to grow its worldwide leadership in GNSS authentication and it heavily invests in research and innovation. Its success is based on a powerful combination of talented employees, solutions and support that meets the most demanding customers' expectations.



ESA's Navigation Laboratory (NavLab)

Website: <https://technology.esa.int/lab/navigation-laboratory>

Description:

ESA's Navigation Laboratory (NavLab) at ESTEC investigates the full range of navigation applications, from practical to scientific ones, since decades.

The NavLab ensembles a set of engineering tools, enabling the design of new navigation systems and technologies, as well as a complete tests & measurement facility to support the tests, analysis and characterisation of navigation systems.

We can also perform outdoor test campaigns with dedicated vans, pedestrian test beds and a drone with configurable payload, able to collect real-time field data with signal recorders and multiple receivers. Data from past and current campaigns is stored into a wide database representative of a variety of environments, including open sky, sub-urban and urban scenarios, as well as perturbed scenarios with real jamming and spoofing attacks. Data is collected and stored for post-processing and it can be made available to third parties.

At the NAVISP Industry Days, we will show you how the NavLab supported many NAVISP projects and present also state of the art tools available in our laboratory. To find out how to request testing services or get access to the laboratory facilities, training and consultancy services pass by our exhibit on 7-8 November.

Speaker Information



Lukasz Bonenberg, Scientific Officer, European Commission

Lukasz Bonenberg is a Space Programmes Policy and Scientific Officer at the Joint Research Centre (JRC) of the European Commission in Ispra, Italy. His previous employment included the University of Nottingham (from which he received PhD degree in Space Geodesy) and the private sector. His work focuses on the alternative PNT technologies and the European Radionavigation Plan and Supply Chains.



Daniele Borio, EC, Joint Research Centre

Daniele Borio received the M.S. degree in communications engineering from Politecnico di Torino, Italy, and the M.S. degree in electronics engineering from ENSERG/INPG de Grenoble, France, in 2004. He received the doctoral degree in electrical engineering from Politecnico di Torino in April 2008. From January 2008 to September 2010, he was a senior research associate in the PLAN group of the University of Calgary, Canada. Since October 2010, he has been with the European Commission Joint Research Centre (JRC). He is currently a scientific technical officer in the JRC Food Security Unit where he is supporting the European Common Agricultural Policy (CAP) through the European satellite programs, Galileo and Copernicus.



Bruno Bougard, Research and Development Director, Septentrio

Bruno received his MSc in electrical engineering from the University of Mons, Belgium in 2000 and his PhD from the Catholic University of Leuven, Belgium in 2006. He used to be a staff researcher in the wireless system group of IMEC, Belgium before joining Septentrio in 2008 where he took the responsibility of the development of new OEM and scientific products. Since 2014, Bruno is Septentrio's R&D Director, in charge of research, development, and engineering worldwide.



Marc Brammer, Positioning Programme Lead, UK National Position, Navigation and Timing Office

Dr Mark Brammer, LL.D, MSc, BSc (Hons) Mark is the Positioning Programme Lead at the UK National PNT Office in the Department of Science Innovation and Technology. He studied in the United States, Spain and the United Kingdom, with specialisations in datalink design, RF spectrum utilisation and PNT. After serving as the Team Leader for Defence Intelligence Air and Space Capability Assessment, he joined the core UK Government team developing a technology framework for a UK National PNT System of Systems which was formally adopted in October this year. Mark sits as an advisor to both the UK Space Agency NAVSIP Programme and UK Strategic Command with an interest in developing alternate PNT technologies. He is a SCUBA instructor, pilot, keen photographer and currently lives in London, England.



Jeroen Brouwer, Director of Customer Sales & Analytics, TomTom

Jeroen is the Director of Customer and Sales Analytics within TomTom. Jeroen has over 10 years of experience in the Traffic Management space. Before TomTom, he worked at Sweco, where he was part of the Talking Traffic project. Since early 2020, Jeroen has rejoined TomTom and was initially responsible for the creation of success in the Traffic Management and Traffic Analytics market, all around the world. Since spring 2023 he became responsible for the Analytics team.



Rodrigo Castiñeira, Head of Innovation for Mobility & Technology, Indra

Rodrigo is Bachelor in Telecommunications Engineering. He works as head of innovation at the Mobility & Technology Business Unit at Indra, positioning and leading the participation of Indra in strategic and innovative transport opportunities. In the past, he has coordinated the R&D department leading several European innovation projects related to digitalization in the mobility sector. Rodrigo also participates in several European technological platforms as expert and as evaluator of European Innovative projects.



Paolo Crosta, Head of Navigation Segment Validation, ESA

Paolo Crosta holds a Master's degree in Telecommunication Engineering from University of Pisa (Italy). He is head of the Commercial User Segment and Navigation System Validation Section at the European Space Agency (ESA), where he provides support to EGNOS, Galileo and Earth Observation programmes for the development of commercial products in the user and ground segments as well as for the validation of complex space systems.

His main areas of expertise are signal processing for space telecommunications and radio navigation techniques, interference detection and mitigation and GNSS receivers.



Cosimo Cervicato, Senior Executive R&D, Grimaldi Group

Cosimo Cervicato has been working in Grimaldi Group for quite some years now. He started out as an electrical engineer and in 2009 became project manager for Finnlines Oy PLC –a Grimaldi Group company from Helsinki, Finland–, managing a project related to digitalization, specifically working on the Asset Management System that Finnlines uses to manage general maintenance. Between 2011 and 2012 Cosimo was stationed in Malmö, Sweden, working on the same project, but focussing on training goals. Moving back to Naples in 2013, he moved up the corporate ladder, and since the end of 2015 he is Senior Executive Engineer at Energy Savings, R&D and Ship Design department and project leader for all R&D projects developed by Grimaldi Group. Cosimo worked closely with the Trans European Network for Energy (TEN-E) and the Maritime Single Window (MSW).



Pietro Giordano, LEO-PNT System Manager, ESA

Pietro worked in Thales Alenia Space Italy before joining ESA/ESTEC in 2009. He worked several years within the Galileo project covering many roles, from user segment to operations and in the ESA technical directorate as overall coordinator for spaceborne GNSS and space PNT technologies. He has overseen the definition and coordination of the European technology harmonisation roadmap for on-board radio navigation receivers, and he supported Earth observation Programmes (e.g.: Copernicus/Sentinel). He contributed to the development of new concepts such as real-time on-board autonomous POD (P2OD concept), LEO PNT payloads, definition of new spaceborne GNSS receiver components (e.g.: AGGA family ASIC) and use of GNSS signals for lunar autonomous navigation. He was the chain lead for the navigation services within the ESA Moonlight Programme. Since 2023 he covers the role of LEOPNT system manager.



Ennio Guarino, Head of ESA Galileo and EGNOS Programme Department, ESA

Born in Rome, Italy, Ennio Guarino graduated at University of Rome “La Sapienza” with a Master of Science in Electronic Engineering - Telecommunications. He worked for 30 years in the space industry, as responsible of several large national and international telecommunication, earth observation and navigation programmes, gaining a solid program management experience, alongside a complete practice in complex system segments design, implementation and maintenance, as well as in satellite operations, launch services management, LEOP and IOT. His carrier started in Telespazio satellite operations domain, being involved with growing responsibilities in several national and international missions and LEOP (BeppoSAX, MITA, Sicral 1, ARTEMIS, Atlantic Bird 1). From 2003, he held various managerial positions, first as Head of GEO Satellite Systems and then as Head of Business Unit Navigation and Telecommunications Programs in the development and operation of earth observation, telecommunication and GNSS systems. In 2015, he moved to the SATCOM Line of Business, acting as Head of Institutional Programmes. In 2022 he joined ESA as Head of ESA Galileo and EGNOS Programme Department, being responsible for the management and implementation of Galileo, EGNOS and Horizon Europe programmes



Fredrik Gunnarsson, Expert, RAN Automation and Positioning, Ericsson

Dr. Fredrik Gunnarsson is an expert in positioning and RAN automation at Ericsson Research. Sweden. He works in the wide range of research, concepts, standardization, prototyping, use case adaptation and realization aspects, and has been engaged in standardization of assisted GNSS and 5G positioning in 3GPP. He also holds a part-time position as adjunct professor in signal processing at Linköping University, Sweden. He obtained his MSc 1996 and PhD 2000 from the same university.



Michael Hoppe, Senior Engineer, German Federal Waterways and Shipping Administration

Michael Hoppe received his diploma as a radio engineer in 1990. Since 1991 he has been working for the German Federal Waterways and Shipping Administration in various positions. He is responsible for the field of radio navigation systems for maritime and inland waterways applications. Michael Hoppe is a member of various national and international working groups dealing with development and standardization of integrated PNT systems. At present, he is acting as chair of the PNT WG within the IALA Engineering Committee.



Lydia Hyde, GLA – The General Lighthouse Authority of UK and Ireland, Principal Systems Engineer

Lydia is Principal Systems Engineer at GRAD (General Lighthouse Authorities). A physicist by background, she has worked in R&D across the defence, policing, and maritime sectors, with a specialism in sensing and navigation technologies. Focusing on strategic and future technologies, she works with colleagues across the GRAD team to identify and develop cutting-edge technology that will benefit keeping all mariners safe at sea.



Roger McKinlay, Challenge Director, Innovate UK - UKRI ESA

Since 2018 Roger McKinlay has been leading the Quantum Technologies Challenge in UK Research and Innovation. The QT Challenge funds industry-led collaborative projects and has funded over 140 projects with more than £200m over the past five years. The programme covers sensing, imaging and communications as well as quantum computing and has funded activities in many sectors including space.

Roger is a Chartered Engineer and a past president of the Royal Institute of Navigation. He joined UKRI having held positions in the defence and aerospace industries. In a varied and chaotic career, he has managed R&D programmes, notably some early work in GPS receiver design and pioneering work on aeronautical satellite communication.



Florin Mistrapau Coordinator of Consultancy and Advanced Navigation Solutions Romania, GMV

Florin Mistrapau holds a MSc. In Avionics and Aerospace Navigation from the Faculty of Aerospace Engineering, Politehnica University of Bucharest. He joined GMV in 2014 and is currently working in the Consultancy and Advanced Navigation Solutions Division as Coordinator in GMV Romania. He has been involved in projects for the European Space Agency (ESA) and the European Commission (EC) with a focus on resilient PNT, jamming/spoofing and associated GNSS vulnerabilities. His main focus in NAVISP revolves around building resilient PNT for maritime applications, especially by leading the RIPTIDE initiative.



Marco Palumbo, Director Business Development, Inflection UK

Dr. Marco Palumbo graduated in Materials Engineering from the University of Salento, Italy in 2000, and holds a PHD in Engineering from the University of Durham, UK. He began his career with postdoctoral roles at the University of Durham, University of Salento, and University of Surrey. In 2008, he joined Nano ePrint, a spinout from the University of Manchester. Dr. Palumbo later moved to the Centre for Printed Electronics in 2010, initially as an R&D scientist and transitioned into a Business Manager role in 2012. In 2013, he took on the position of Commercial Manager at the University of Liverpool and subsequently served as Principal Licensing and Ventures Manager at Oxford University Innovation from 2016. At Oxford University Innovation, he played a pivotal role in creating twelve University spinouts, significantly contributing to the British quantum ecosystem. In 2022, he joined Innovate UK as Innovation Lead in the Quantum Technologies Challenge Team, overseeing substantial investments in the UK's quantum industry. Since October 2023, Dr. Palumbo has been serving as the Director of Business Development at Inflection, a leading quantum information company, based in Oxford, UK



Sven-Ingve Rasmussen, Project Leader Innovation and Space Technology, Space Norway

Sven-Ingve Rasmussen holds the position as Project Manager at Space Norway AS. In this role Sven-Ingve coordinates and manages several satellite projects within the area of Navigation, VHF Data Exchange System and Earth Observation. Sven-Ingve brings 15 years of R&D management and leadership experience to Space Norway. He spent 10 years as R&D Manager at Honeywell Life Safety and 12 years at "EIDEL AS" working first as Hardware designer, Project Leader, and 5 years as R&D Manager. Sven-Ingve has in the period from 2006 to 2009 been executive member in the Norwegian Industrial Forum for Space Activities "NIFRO". Sven-Ingve also invented the concept of "Remote Crypto Distribution System, RCDS" which is today one of EIDEL AS key defense products. Sven-Ingve holds a Master of Science degree in Nano & Opto Electronics from the University of Glasgow, Scotland. When time allows, Sven-Ingve is performing private teaching in Mathematics and physics at high School level and also maintains his interests within space exploration, Chess and Star Observation.



Rasmus Rettig, Lead Urban Mobility Lab, Hamburg University of Applied Sciences

Between 1989 and 1994, Robert pursued a degree in Semiconductor Physics at the University of Hamburg. He continued his academic journey at Philipps-Universität Marburg from 1994 to 1998, earning a doctoral degree while serving as a Research Assistant in Semiconductor Epitaxial Growth. Transitioning to the corporate sector, he joined Robert Bosch GmbH from 1998 to 2011, where he held various managerial roles. These positions encompassed Sensor Development, Quality Management, Product Line Management, and Development in domains such as Vehicle Networks, Airbag systems, Transmission Control, and Engine technologies. In 2011, he re-entered academia, assuming the role of a Professor specializing in Electrical Engineering and Sensors. From 2014 to 2018, he also served as Vice Dean for Research. His research interests encompass Acoustic Sensors, Data Acquisition and Analysis, Autonomous Driving, Surround Sensing, Localization, Mapping, and Energy Efficiency in Electric Vehicles.



Kristian Svartveit, Senior Advisor, Norwegian Space Agency

Kristian Svartveit is a navigation expert with a master's degree in engineering cybernetics from the Norwegian University of Science and Technology. Kristian has conducted research in the field of navigation, with a particular focus on integrated inertial navigation, during his 18-year tenure at the Norwegian Defence Research Establishment.

In 2021, he transitioned to the Norwegian Space Agency, where he currently serves as a Senior Advisor for satellite navigation. Kristian is a delegate to the ESA Programme Board on Satellite Navigation, overseeing the coordination of Norwegian NAVISP projects.



John Tintinalli, Europe General Manager, SAE International

As General Manager of SAE Europe, John Tintinalli is responsible for supporting the mission of SAE International as it relates to its European constituency. A native of Detroit with a background in software engineering, John has spent much of his career in automotive and now lives in the Netherlands. He holds a B.S. in Natural Resources from the University of Michigan, Ann Arbor and an M.B.A. from the University of North Carolina, Chapel Hill. In his spare time, he enjoys fixing and making things.



Giuseppe Tomasicchio, Head of System Engineering & Design Authority, Telespazio

Giuseppe Tomasicchio is currently Head of System Engineering & Design Authority of the TELESPIAZIO CTIO. He received his Master Degree in 1989 at the University of Bari (Italy) in the science and engineering field of Computer Vision/Artificial Intelligence, applied to Nuclear Physics. He has also a post-degree Engineering Specialization in Signal Processing in 1994 and a postgraduate diploma in Educational Communication Technologies in 1991. He has been working in the field of Satellite System Engineering for 24 years. In the past, he was a Senior System Engineer at THALES ALENIA SPACE Italy and Technology Researcher at INFN (Italian Institute of Nuclear Physics) and CERN (European Center for Nuclear Physics, Geneva, Switzerland). He became Member of INCOSE as Certified Systems Engineering Professionals (CSEP). Currently, within the CTIO-Department of Research and Digital Innovation, he is Domain Manager of Space Exploration & space station services and coordinates the Concurrent & Collaborative Design Facility dealing with feasibility studies for new initiatives in the field of Navigation, Telecommunications and Space Exploration Missions. He is author of two patents and numerous scientific and engineering articles.



Alberto Tuozzi, Head of EU and EU Member States Relations Unit, Italian Space Agency (ASI)

Alberto Tuozzi, born in Rome in 1957, he is married and has two daughters. Master's Degree cum laude in Electronic Engineering - University of Rome La Sapienza, a long time ago I fear. Currently Head of Relations with the European Union of the Italian Space Agency (ASI), President of the E.Amaldi Foundation (Scientific Foundation for technological transfer to and from the space sector). Currently he is National Delegate to: ESA PB-NAV Navigation board, United Nations Committee on Satellite Navigation (International Committee on GNSS, ICG) and Space Committee for horizontal configuration satellite programs and Galileo&EGNOS configuration. Previously Head of Telecommunications and Satellite Navigation for ASI . He is working for a bit less than 40 years continuously in the space field, first in the industrial sector (17 years) and then in the public sector, taking on technical and management responsibilities for large space programs. Its main activities have been in space telecommunications, satellite navigation and space strategy. He also carries out teaching activities in university and post-university masters and is the author of numerous scientific articles and communications and speeches at international conferences.



Markus Uster, Senior Director, Head of Positioning Products, U-Blox

Markus Uster received his diploma in electrical engineering (equivalent to today's master degree) and PhD degree from the Swiss Federal Institute of Technology (ETH) in Zurich, Switzerland. In his PhD Thesis he worked on integrated current mode CMOS A/D-converters for sensor applications at the Electronics Laboratory. From the same laboratory u-blox was founded as a spin-off company in 1997. Markus Uster joined u-blox beginning of 2020 as the head of the product center positioning where he is responsible for the positioning (GNSS) business. He is based in the headquarter of u-blox in Thalwil, Switzerland. Starting his career as a hardware development engineer he did hold several roles in R&D and product management before joining u-blox. Today, his main interest is to grow the business and adjusting the organization to be 'business agile' and allow further growth



Vlad Vinatu, Head of Public Private Partnerships, Continental Automotive

Mr. Vlad-Florin VINATU, Head of Public Private Partnerships South-East Europe for Continental AG and Country Industry Contact Point for the IPCEI ME/CT (Important Projects of Common European Interest on Microelectronics and Computer Technologies) in relations to the European Commission. With over a decade of experience in Research and Innovation, spanning both academia and major industry roles, expertise proven to be instrumental in representing Continental AG in more than 80 research and innovation project funding proposals. Since assuming this role in 2019, he has overseen activities involving over 90 consortiums, managing a diverse range of technical use cases, covering topics from R&I to manufacturing. With his extensive knowledge in Engineering Applied Sciences (BA & MSc) and Finance (BA), he diligently explores and tracks funding prospects throughout Europe. Furthermore, he serves as the representative of Continental AG in multiple European technology platforms, industry associations and workgroups. In this capacity, he provides his expertise and counseling to policymakers, aiding in the development of national and European strategies, all the while nurturing partnerships to gain access to funding opportunities and actively contributing to the advancement of technological roadmaps.



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Meet the Team!



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