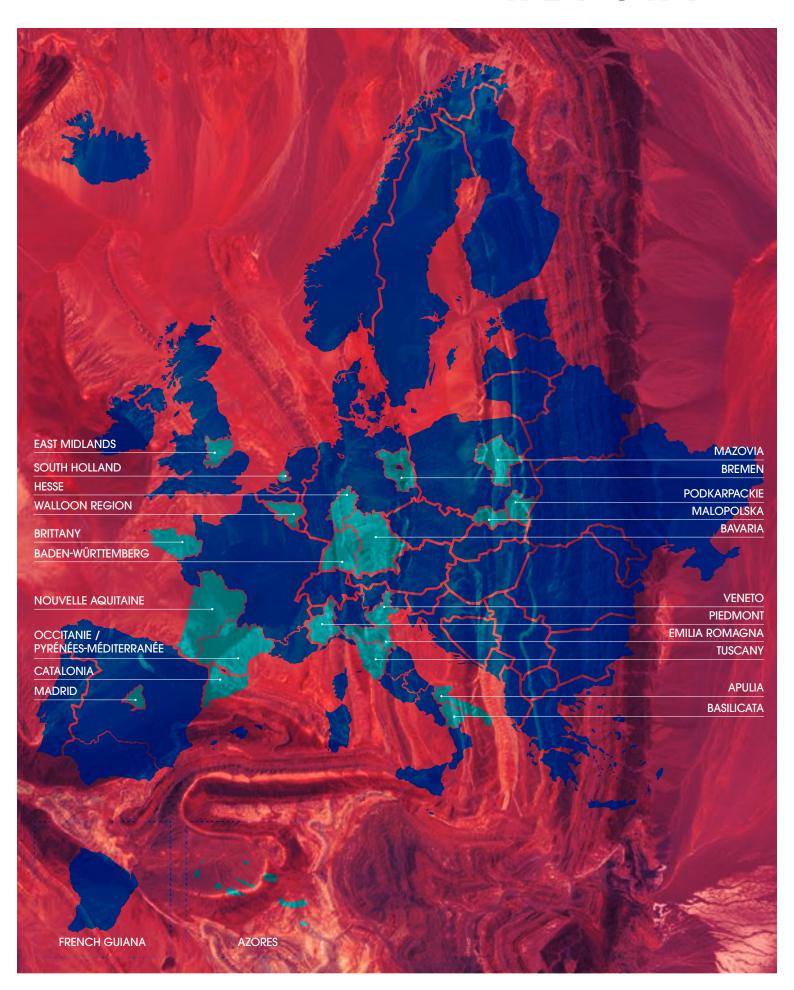


ANNUAL 2 REPORT 2





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INTRODUCTION

NEREUS (Network of European Regions Using Space Technologies) (https://www.nereus-regions.eu) is the only European association governed by regions for regions to promote the use of space for the benefit of the citizen at the local/regional and European levels. Its ultimate aim is to contribute to the betterment of societies. Moreover, it is the only space organisation offering a platform for regions to draw up their space policies with the aim of generating advantages for a wide range of public domains (maritime, agriculture, etc) and of promoting access to key policies such as the Smart Specialisation Strategy to expand upon their assets and resources. In addition, the Network represents the interests of European regions using space technologies at the EU level and shapes European space policy and programmes.



Why are regions significant players in the space sector? Regions are major users and procurers of space-based applications, products and services. In this respect, regional authorities define a strategic approach for their ecosystem (universities, SMEs/companies, etc) as to how to make the best use of space data, including the two flagship programmes Copernicus (Earth Observation) and Galileo/EGNOS (satellite navigation), under the umbrella of the EU Space Programme. Furthermore, the Network is becoming a unique focal point through which to link up space with non-space sectors by exploring new ways to integrate the use of space and its applications into other non-space sectors for various economic, environmental, social and political purposes. This Annual Activity Report 2022 covers the period from January 2022 to February 2023.

"NEREUS is the essential tool for European regions to take control of the use of spatial data. It is important to find solutions adapted to each territory, especially in view of climate change. Space data from the various European public programmes will be used all the more effectively as their applications are widely disseminated for the benefit of our economic sovereignty, to improve our daily lives, and to ensure our defence, our security, or simply to better understand our planet." Thierry Cotelle, Occitanie region

"The collaboration with other European regions offered by Nereus represents a precious opportunity for a region like Emilia-Romagna that wants to invest in space technologies and applications. We need a serious confrontation between territories, European political support and an ability to transfer knowledge to our productive system in a field that has a lot of potential and where there is still a lot to explore. I think my region could also offer a significant contribution to other members. The calculation capacity and investments for its use in the various fields of application that our region expresses is an asset that could be made available to the entire European aerospace system through the Association." Marina Silverii, Emilia Romagna Region

"NEREUS is like a brain. It gets worn out if its members do not use it. At a time of 'everything online', real contacts and real networking with relevant persons is a huge value that is offered by NEREUS. A real working brain." Rozenn Maréchal, Brittany region

"Horizon Europe and the Green Deal show that space technologies and applications are some of the key technologies of the future to master the challenges of the transformation processes. We need a strong voice in Brussels representing the upstream and downstream market to help Europe find answers to cyberattacks, climate change and in the application of artificial intelligence and quantum computing. NEREUS unites Europe's space regions and gives them one voice." Wolfgang Wolf, Baden-Württemberg region

MESSAGE FROM THE PRESIDENT

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Dear Reader,

This Annual Report is special to me as it showcases the realisation of my vision: to reinvigorate and share regional best practices on space use for our European regions together with a broad range of regional space activities!

Given my role as the Regional Councillor of the Occitanie region and NEREUS President, I had the opportunity, with the support of the rest of the member regions, to launch the European Regional Symposium by NEREUS regions, a new and promising annual event format to celebrate interregional cooperations and networking. The idea is to provide our community with an opportunity to explore the dimension of space in the context of topics of high relevance for the local and regional level while giving visibility to the capabilities and space stakeholders of the hosting regions.

The first symposium in 2022 marked the start of this new series of regional key events. Organised by NEREUS together with the Wallonia region and the European Space Agency (ESA/ESEC) in Redu at the ESA location in Belgium, it showcased how space can provide solutions to concrete challenges in regions linking regional authorities with service providers. At this point, allow me to extend my warm gratitude to the Basilicata region, which volunteered to organise the 2023 Regional Symposium on 28-29 September. Furthermore, my devotion to NEREUS's added value in successful interregional collaboration is evident through my decision to host the next Regional Symposium in 2024 in my region, Occitanie.

Furthermore, the use of space as a tool for innovation, growth and societal advancement at the local and regional levels is a fundamental driver to transform and enhance multiple regional sectors engaging new user communities. Additionally, it led to the expansion of regional space policies and their set of key priorities, including entrepreneurship, employment and educational advancements. Through NEREUS, space is being promoted as a viable solution with strategic importance for local and regional decision-makers and offers a forum to provide the know-how for other regions to build their space strategies.

Moreover, as a response to the global challenges of climate change, water scarcity or civil emergencies, the Network takes drastic measures by contributing significantly to the goals of the EU Green Deal and digital transition. To quote just a few, the Copernicus4regions initiative, a joint effort by NEREUS, the European Commission and the European Space Agency, illustrates the benefits of Copernicus at the regional local levels, which I presented in the context of the 'Copernicus 25th anniversary' in the first half of 2023. As part of the new edition of Copernicus4regions, my objective is to strengthen political dialogue between NEREUS and Members of the European Parliament during the next event at the European Parliament in autumn 2023. Finally, NEREUS is closely following the work of the Green Deal Going Local Working Group of the Committee of the Regions represented by NEREUS Vice-President Władysław Ortyl, who promotes uses of space for public policy domains.

Looking further ahead in 2023 and following the last elections at the General Assembly, I am grateful to take office as NEREUS President for the second time. I would like to express my gratitude to the Management Board and the NEREUS community for their commitment and discipline in our mission to use space for the betterment of our societies.

Yours,



FOREWORD FROM THE SECRETARY GENERAL

Given common global challenges such as the consequences of climate change arriving at the local and regional level but also challenges that concern the domains of citizen's every-day lives, such as maritime, agriculture and cybersecurity, public authorities are increasingly exploring the dimension of space. In this respect, NEREUS is the only association by and for regions supporting the use of space-based information and services for the successful implementation of the European Green Deal Agenda and the UN Sustainable Development Goals (SDG), to benefit people and territories.

The ambition to provide public administrations with better access to understand and apply space solutions is reflected in a wide range of NEREUS activities and its dynamic platform along the three pillars of network activities. In this context, regions and their community recognise the benefits of strategic networking, namely exchanging best practices and interregional cooperation on a European scale in selected domains that support their respective regional strategies and overall policies.

Expanding and broadening the scope of the regional network to better spread the involvement of the regional level in space activities is a major objective of NEREUS. For this reason, we warmly welcome our new members, the regions of Malopolska (PL) and Catalonia (ES) and three associate members from the research/academia community, namely: the Krakow Technology Park (Malopolska), the Henryk Niewodniczański Institute of Nuclear Physics Polish Academy of Sciences (Malopolska) and the Laboratory of Atmospheric Physics, University of Patras (Western Greece)! These new members bring additional space experts into our Network.

Scrutinising how the use of space data and technologies benefits other domains outside the space sector locally, the Network identified new areas of interest such as the safety/security dimension of space, critical infrastructure, education/training in the space sector and tourism. Therefore, in 2022 NEREUS launched a successful series of relevant interactive webinars to help members (regional authorities, SMEs, universities) build partnerships remotely both within and beyond the space sector, learn about funding opportunities (these sectors receive considerable amounts of funding from the EU/ESA) and raise their visibility at the European level. These webinars will also be a forum for following up and preparing future annual symposia. Along these lines, the Earth Observation Working Group chaired by the Veneto region was re-launched with the aim of encouraging the uptake and development of new EO/Copernicus applications at the regional level!

Finally, as part of its advocacy, NEREUS identifies projects of regional strategic value and serves as a forum for its members to get involved in EU- and ESA-funded model projects. For example, we are proud to continue Copernicus4regions, a joint initiative between NEREUS, ESA and the European Commission, which showcased how Copernicus advanced public authorities' business processes and enhanced the political dialogue of the Network for the next four years (Copernicus4regions 2023-2027). Moreover, current and upcoming space initiatives, which are covered in this publication, enhance the dialogue between the regional and EU level, showcasing powerful regional space capabilities.

In light of the above, I would like to invite you to be part of our dynamic community which uses precious information generated by our satellites to serve the interests of citizens.

Enjoy your reading,



INTERNAL AFFAIRS

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RELAUNCH OF THE EARTH OBSERVATION WORKING GROUP



As part of the NEREUS innovative structure and mechanisms, the re-launch of the <u>Working Group on Earth observation</u> took place at the end of 2022. Its mission is to be a forum with unique grassroots to promote the uptake and development of new EO/Copernicus technologies at the regional level. The group links its space experts in member regions with the rest of the space community and entertains a dialogue with the Management Board, giving them advice on the Network's activities from time to time.

Members of the group hold frequent meetings to establish and carry out key priorities such as publishing and exploring new EO trends that can benefit their regions. During these meetings, other EU and international experts are invited to take part in the discussion and collaborate with members to introduce groundbreaking technologies and concepts. Other tasks of the group are to share experiences, ideas, tools and methodologies between European regions and carry out policy-related research and practical recommendations based on the needs of the regional stakeholders. The group is chaired by the Veneto region and it is constantly evolving and open to new members.

As a successful outcome of NEREUS's working efforts, the group aims to fill in each other's gaps, identifying weaknesses to be strengthened but also strong points of collaboration to yield the best results. In early 2023, the group approved the terms of reference document and launched its activities.

THE EUROPEAN REGIONAL SYMPOSIUM

AN ANNUAL CELEBRATION SPACE EVENT FOR REGIONS

I believe that the first gathering within the scope of the European symposium will initiate and expand fruitful cooperation between representatives of research centres, academic centres and entrepreneurs interested in the use of space technologies from all over Europe, which will result in the development of the space industry and EU regions, Władysław Ortyl – Marshal of the Podkarpackie region

"The regional symposium, organised by NEREUS and the Wallonia region in Redu, has shown the value of strengthening regional European cooperation. From now on, this event will be organised annually by a member region of the network. In 2023, it will be held in the Basilicata region and we would like to thank its President, Vito Bardi, for taking the first step!" Thierry Cotelly, Occitanie region



NEREUS's benchmark, the European Regional Symposium, was successfully launched in 2022. The first of these events was organised jointly with the European Space Agency and the Wallonia region for members as a one-day Regional Symposium at the ESA-ESEC location in Transinne/Wallonia on the 2nd of June 2022. This annual event format distinguishes itself from others as it helps regions to understand space as an asset to boost regional development with concrete use cases in the public and private sectors. As the space field continues to expand rapidly, the event

was a significant milestone and paradigm for other regions to follow and better equip themselves with the necessary tools in view of the development of their space communities, strategies and future activities.

NEREUS President Thierry Cotelle strengthened the Network's political dialogue by engaging with representatives from the institutional, political and administrative level of regions, including Hugo Maree, European Space Agency, Head of Education Office, Rafał Siemianowski, Ambassador Extraordinary and Plenipotentiary of the Republic of Poland to the Kingdom of Belgium, and Georges Cottin, conseiller géneral of IDELUX, the regional development agency of the province of Luxembourg. In the same vein, the two NEREUS vice presidents, Vito Bardi, the President of the Basilicata region (IT) and Marshal Władysław Ortyl, the President of the Polish region Podkarpackie, underlined the significance of space for regional and economic growth and interregional collaboration.

Moreover, success stories from Wallonia, Apulia, Hesse, Basilicata and Occitanie showcased concrete space applications, fostering mutual learning and knowledge sharing among regions. The round table entitled 'Space applications adoption by regional authorities' featured tangible space applications in various domains: cybersecurity, agriculture,

critical infrastructure, entrepreneurship, education, transport, etc. Discussions with business, SMEs, research and cluster representatives emphasised harmonious regional development based on the commercialisation of space assets for sustainability, competitiveness, digitalisation and economic growth. This also aimed to enhance transparency in regional ecosystems, strengthen links with key space experts and initiate cooperation ideas concerning regional space assets and capabilities.

In this context, a Space Business Networking Evening hosted by the Embassy of Poland in Brussels at the invitation of the Polish Ambassador H.E Rafal Siemianowski to the Kingdom of Belgium and Marshal Ortyl, NEREUS Vice President, Marshal of the Podkarpackie Region, followed, with the aim of reinvigorating the added value of interregional

partnerships on a European scale in view of global challenges and of stimulating exchanges and partnerships between space companies from Belgium and Poland.

The first Regional Symposium hosted more than 60 participants (representatives of politics, administration, business, SMEs, research and space clusters) in both events. Already in the second half of 2022, the Network started preparing the next Symposium to be organised in Matera (Basilicata region) on 28-29 September, focusing on the use of space data for agriculture and tourism. A considerable number of public authorities/agencies and companies/SMEs will be invited to give insights in terms of the challenges in the tourism or agriculture sector and in terms of the space-based solutions provided by the private sector.















During the event, a selected group of regional represen-tatives from Germany and Poland and board members (Mr. Wolfgang Wolf and Ms Perdita de Buhr) MIS Percita de Bunri together with MIS Margarita Chrysaki (NEREUS Comm/ Project officer) visited the in-orbit testing facilities for Galileo's (Europe's global navigation satellite system) space infrastructure and a Galilao sepsor station Galileo sensor station









THE BIRTH OF THE REGIONAL SPACE STRATEGIES

KEY PRIORITIES

"The NEREUS network substantially contributes to strengthening the necessary cooperation between regional and European strategies for the space economy. The NewSpace Strategy of Catalonia is looking for these synergies and finds in NEREUS a very valuable support to turn niche knowledge into global solutions thanks to the strong connection with other European regions." Josep Colomé, Catalonia region

"In 2022, some NEREUS member regions have developed a strategic space policy. The Azores, Hesse and Catalonia regions have started this process, which will be joined by other regions in 2023. These policies and their implementation are a very valuable support for the continuation of NEREUS actions." Thierry Cotelle, Occitanie region



The recent and ongoing development of regional space strategies, including the ones in The Azores (2021, Portugal), Catalonia (2020, Spain) and Hesse (2022, Germany), become, for the first time, a vehicle for autonomy and better decision-making at the local/regional level. Moreover, the development of new departments within the Public Administration focused on the use of space and the expansion of regional space communities (academia, SMEs/companies) highlight that these regional trends/novelties play a decisive role in shaping the present and future of European space strategy and policy.



In line with their national space strategies, the strategy formulated by a region focuses on the specific needs of its citizens and aims at positioning itself at the interregional, European and global level in terms of innovation, economic growth, scientific advancement and visibility and addresses its regional needs and priorities. Common goals of these strategies refer to research and innovation, capacity building skills, the creation of partnerships with key stakeholders and the strengthening of their business and public sector. To this end, NEREUS strengthened its efforts in terms of developing activities around these three main themes: Space entrepreneurship, skills capacity building and the resilience of critical infrastructures. These topics are addressed to a wide range of the NEREUS community, including regional authorities, universities/research centres and companies/SMEs.



NEREUS HIGHLIGHTS THE REGIONAL POLICY PRIORITIES AT REGIONAL AND EUROPEAN LEVEL

SPACE ENTREPRENEURSHIP

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Within the framework of the smart specialisation strategy, the space sector plays a key role in innovation and in the economic development of the Apulia Region. NEREUS offers the opportunity to promote the use of space technologies and the implementation of useful space data applications in a wide European network of partners and stakeholders. Vito Bavaro, Puglia region

The expansion of this sector would not be possible without the significant involvement of enterprises, so it is very positive that these innovative areas are being addressed by enterprises. The role of the regions in this regard is to create good working conditions and stable development, including the development of international cooperation. Władysław Ortyl – Marshal of the Podkarpackie Region

Businesses are the cradle of regional dynamics shaping the economic profile of a region and boosting its visibility. Space entrepreneurship in NEREUS member regions can be multiversal, ranging from the development of the space infrastructure of the regions (for example, a spaceport) to services, applications and other technologies. The use of these technologies in other new domains broadens the spectrum of business activities within but also for an optimal cross-fertilisation with non-space sectors. The following activities showcased these aspects and emphasise the role of the private regional space sector in boosting the capitalisation of Europe's space infrastructure.







Frédéric Renaudeau POLEMER



Edoardo Camilli,



Roya Ayazi,



Guillaume Galtier, DG DEFIS



Olivier Michel



Paul Anciaux ENDR



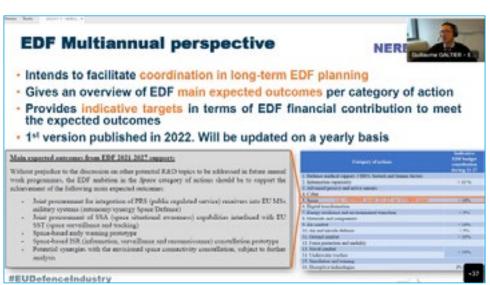
Giacomo Martinotti, Distretto Aerospaziale Piemonte

A. DIGITAL INFOSESSIONS

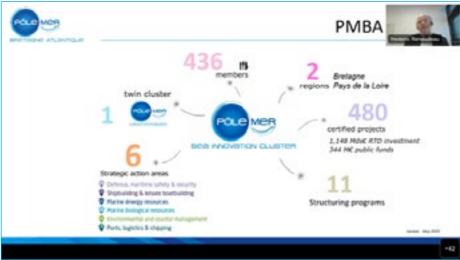
The digital infosessions on the <u>safety/security dimension of space</u>, public procurement and tourism moderated by Ms Roya Ayazi, NEREUS Secretary-General, which were organised on a monthly basis, share common objectives to help the companies/cluster/SME community raise their visibility towards the regional and EU level, enhance cooperations and partnerships amongst them, highlight the notable trends, funding opportunities (ESA BIC, Defence Fund) and challenges that have emerged within the industry, amongst other things. These infosessions introduced the Network to new user communities following the discussion on a constant basis.

In particular, the safety/security webinars provided a concrete overview of EU security/defence programmes with an impact on the regional level and opportunities for SMEs, just to quote three, the European Defence Fund (EDF) and its multiannual perspective with a budget of about €8 billion for the 2021-2027 period, the EU's Action Plan on synergies between civil, defence and space industries and its benefits for businesses and the European Network of Defence-related Regions (ENDR) and the synergies between Security/Defence and Space. Moreover, NEREUS initiated the discussion between its members' companies and clusters, such as the Distretto Aerospaziale Piemonte or Pôle Mer Bretagne Atlantique and the EU representatives from DG DEFIS, the European Network of Defence-related Regions (ENDR). NEREUS members presented their views on the fact that space applications play a major role in defence/security, which is now a concern shared at a regional level.











Furthermore, the two targeted webinars (link & link) on the HORIZON Pre-commercial Procurement call entitled 'Strategic autonomy in developing, deploying and using global space-based infrastructures, services, applications and data' in collaboration with EUSPA provided insights to interested businesses in NEREUS member regions on how to build a consortium and apply. In the same vein, and given that the majority of NEREUS members are touristic destinations, space-based applications developed by the downstream sector can be useful to respond to a diverse spectrum of challenges, such as health risk, transport, safety or cultural protection. The Network linked space companies/clusters with an ESA representative and presented their proposals for applications to the open ESA calls.

The organisation of the digital infosessions demonstrate a persistent and notable level of success, including in 2023.



B. CONFERENCES AT REGIONAL AND EU LEVEL

Hessen in Space- Brussels edition on the 7^{th} of September 2022

Following the recently published space strategy for the Hesse region, the event entitled 'Hessen in Space' was organised by Hesse (NEREUS member founding region) and NEREUS with the aim of discussing the strategy with the European institutional stakeholders and the audience in Brussels, and debate on the role of European regions with respect to new European space policy and shifting global trends. The speakers who were invited, including Hessen State Secretary Uwe Becker and Professor Johann-Dietrich Wörner (Hesse space coordinator) emphasised that the region is a space location with a growing number of space start-ups and SMEs underscoring the benefits of space utilisation for regional growth and for the regional economy.

During the discussion, NEREUS President Thierry Cotelle highlighted the strategic value of space and the need for European-scale partnerships and interregional cooperation for successful regional space strategies, quoting the space strategies from The Azores and the Catalonia regions, which also serve as best practices. Ms Evi Papantoniou, from the side of the European Commission, recognised the key role of regions in transforming the space ecosystem, utilising space data to address various challenges and contribute to regional growth. In addition, Mr Michael Gahler (Member of the European Parliament) outlined the role of networks such as NEREUS in promoting an autonomous approach to space and the wide range of space applications was acknowledged. It is quite important to add here that NEREUS brought together the three regions which developed their space strategies (Catalonia, The Azores, Hesse) to exchange ideas and work together on those strategies.

Overall, more than 160 attendees took part in the event, which aimed to foster dialogue and collaboration in the space sector.









Regional anchorage: Hessen in Space- Frankfurt edition on the 4th of November 2022

During the 'Hessen in Space' conference (Frankfurt edition), Hesse showcased its recently adopted space strategy to over 175 participants from various space domains. The conference served as a platform to highlight the growing business aspects of Hesse's space sector, foster collaboration and showcase the region's contributions to the space ecosystem. The region's space community, including companies, academic institutions and the two European sites, ESOC and EUMETSAT, was highlighted, with a



particular focus on the strong presence of over 100 space-related companies and 50 professorships in Hesse. Moreover, it was emphasised how significant it is to involve the regional stakeholder in the European level, and therefore being part of NEREUS is a necessity for the region to showcase its space capabilities in Europe.

The event featured discussions with key figures such as Minister-President Rhein, astronaut Alexander Gerst, Prof. Johann-Dietrich Woerner, current space coordinator and advisor to the Hesse government, and EUMETSAT Program Director Cristian Bank, and NEREUS Secretary-General, Ms Roya Ayazi, who emphasised the value of the Network in establishing a robust link between regions and Europe and how collaboration and partnerships facilitated by NEREUS can further strengthen Hesse's space ecosystem. Finally, the conference illustrated best practices, including the use of space technology for climate and environmental protection, securing critical infrastructure, market-oriented Innospace networks for ground observation and advancements in space research for space applications.









Regional anchorage: The role of SMEs in cybersecurity and space, European Cyber week 2022 in Rennes, Brittany

The strategic value of cybersecurity in the Brittany region stems from its industrial and maritime aspects, including its commitment to fostering a sustainable cybersecurity ecosystem involving key stakeholders such as industry, SMEs, the cyber team of the French Ministry of Defence and various research institutions. Recognising the challenges faced by regions and organisations, particularly SMEs, in the face of cyber threats, the pooling of resources and expertise becomes imperative for bolstering resilience. Hence, forging strong partnerships and synergies becomes essential for regions, with the EU action plan on defence, space and industry synergies holding particular importance. In this context, Brittany presented its EU 'Cybersecurity Smart Regions' partnership led by the region itself to the NEREUS Management Board, which received positive feedback and interest from various regions considering their space strategies, highlighting the pivotal role of space in strengthening cybersecurity services and applications.



In this context, Brittany hosted the 7th edition of the European Cyber Week 2022, held in Rennes and supported by the Brittany region. The event served as a platform for valuable exchanges between the private and public sectors on cybersecurity solutions, fostering collaboration within the French and European ecosystems. On this occasion, NEREUS was invited to report on the discussion launched amongst its members regions and Board members regarding their activities on cybersecurity.

As part of the European Day on November the 16th, Ms Roya Ayazi, Secretary-General of NEREUS, participated in a panel discussion focused on the EU action plan regarding synergies between the civil, defence and space sectors sharing this collective experience from members. The panel explored the potential for cooperation among specialised regional ecosystems in the areas of space, cybersecurity and defence, with a particular emphasis on enhancing complementarity and innovative approaches to securing space assets. To this end, NEREUS intends to organise a series of webinars to explore the synergies between cybersecurity and space utilisation and to share best practices in 2023.

C. PROJECT: EU GLOBAL ACTION ON SPACE





The EU Global Action on Space is an initiative of the European Commission's Directorate-General for Defence Industry and Space (DG DEFIS), financed through the Foreign Partnership Instrument, that aims to raise awareness of the EU Space Programme solutions and applications around the world, increase cooperation and promote digitalisation. The project publishes calls addressed to European SMEs and entities outside Europe with the objective of supporting European SMEs to do business outside Europe in different ways, such as education, matchmaking, business coaching, space diplomacy (i.e. outreach, meetings and events), and market intelligence.

NEREUS is a subcontractor of a successful consortium, tasked to promote these calls to its members (space enterprises, clusters, networks and aerospace districts) by organising a dedicated infosession. The

first webinar was organised in February 2022, inviting project key experts to inform you about the open calls for funding opportunities and upcoming webinars.

The coming months will also see the release of the new country-level Global Market Reports, updated to include the latest information available on the state of the space industry of different regions around the world. The market reports list the opportunities available to European industry by segment (upstream and downstream) and by thematic area (satellite systems, agriculture, emergency response etc.). Under Business Coaching, eligible entities have the chance to apply for EU Global Action on Space internationalisation support services and find suitable partners abroad through a series of matchmaking and pitching activities. NEREUS will organise a relevant webinar on this development.

SKILLS CAPACITY BUILDING



One of the biggest communities of the Network is academia (universities, research centres) given that they are one of the main stakeholders in regions. To achieve economic growth, strong space strategies and advancement of regional downstream markets, regions need a well-equipped and skilled workforce to know how to use and translate satellite data with the most updated tools. In this vein, education/training is key for the implementation of this objective. During 2022, the Network accomplished several activities to support this process, raise awareness and link these educational players with other key stakeholders at the regional and EU levels.

A. DIGITAL INFOSESSIONS



Margarita Chrysaki NEREUS

The interdisciplinary nature of space is evident considering that new skills and knowledge are needed to know how to use space data in a wide range of regional domains, including agriculture, maritime activities, urban planning, air quality, climate adaptation and sustainable development. The digital infosessions on education/training moderated by Ms Margarita Chrysaki, NEREUS Communication Officer, aim to raise the visibility of member universities and research centre activities in the space domain, to prepare the ground for potential partnerships within but also outside the Network and to present funding opportunities and innovative trends on the uptake and integration of space/geospatial data and services to be used by academia.





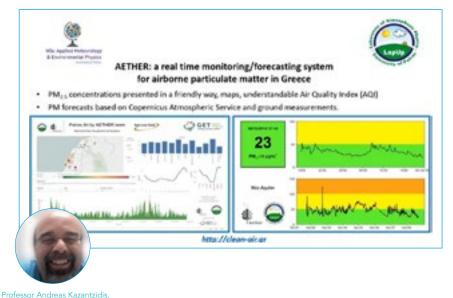
Dr. Benjamin Bonsu, All Nations University





Mark Lester, University of Leicester





Laboratory of Atmospheric Physics (LAPUP)





These targeted webinars were organised monthly, exploring different topics, such as what are the main challenges and obstacles to organising an educational offer on space-related skills or whether the current skills in Europe meet market needs. Speakers who were invited from EU large scale partnerships, international space experts and space businesses interacted with our university members, including Leicester University (East Midlands, NEREUS member region), the University of Padova or the Cyprus University of Technology (CUT) on how to enhance collaboration, identify areas of interest and join programmes such as Horizon, INTERREG, Erasmus. In view of the European Year of Skills 2023, the Network continues this successful series in 2023 with speakers such as Simonetta di Pippo, former Director of UNOOSA (United Nations Office for Outer Space Affairs) being invited.

371
YOUTUBE VIEWS

225
PARTICIPANTS

14 SPEAKERS

11,004
TWITTER IMPRESSIONS



Professor Diofantos G. Hadjimitsis, Cyprus University of Technology (CUT)



Raffaella Brumana, Politecnico di Milano



Mathilde Marcel, UNIVERSEH



Francesca Albanese, Planetek Italia

B. REGIONAL ANCHORAGE: NEWSPACE ECONOMY FORUM 'SUSTAINABILITY AS THE GAME CHANGER' IN ROME, ITALY, 1-3 DECEMBER 2022

NSE, the New Space Economy Expoforum organised annually, is a great opportunity for regions to promote their space capabilities and increase their network (big industrial players, small- and medium-sized innovative companies, investors, venturers, start-ups, research centres, academia, space agencies, institutions and international organisations).

This year's topic was focused on the rapid evolution of institutional and private involvement in the New Space era. On behalf of NEREUS, Ms Margarita Chrysaki (Communication/Project Officer) joined an inspiring panel for STEM education highlighting the key role of regions in education/training in the space sector and the significance of gender equality in achieving this.







C. PROJECT ERASMUS+: UNIVERSEH, EUROPEAN SPACE UNIVERSITY FOR EARTH AND HUMANITY





Education/training EU projects are of strategic value for NEREUS. Since 2021, NEREUS President Thierry Cotelle has therefore been a member of the advisory board of <u>UNIVERSEH</u>, an alliance of five young and mature universities from five European countries, which develop a new way of collaboration in the field of Space, within the new 'European Universities' initiative promoted by the European Commission. UNIVERSEH leverages a diverse range of expertise and has established extensive connections with the space industry and European Space Institutes. This enables them to quickly adjust and implement a highly suitable Teaching & Learning environment that addresses the specific requirements of European space-related education.

As of 2023, UNIVERSEH has been prolonged for a period of four years through the Erasmus+programme. This grant serves as a catalyst for UNIVERSEH to advance its mission as the foremost European university in the dynamic field of space. Guided by principles of innovation, interdisciplinary collaboration, multilingualism, multiculturalism,

inclusivity and sustainability, UNIVERSEH is poised to make significant contributions. The UNIVERSEH 2.0 initiative comprises a consortium of seven esteemed higher education institutions from all over Europe (Université de Toulouse (Toulouse INP, Université Toulouse – Jean Jaurès, Toulouse Business School, Université Paul Sabatier Toulouse III, ISAE-SUPAERO); AGH University of Krakow; University of Düsseldorf; Luleå University of Technology; University of Luxembourg; Université de Namur; University of Rome 'Tor Vergata'). Together, these universities form a powerful alliance committed to the objectives and principles of UNIVERSEH. The initiative is led successfully by the University of Toulouse, which is located in the NEREUS founding region Occitanie.



SPACE4CRITICAL INFRASTRUCTURES

"Each initiative that is intended to foster the region's vibrant development in a wide range of areas in the space sector, including the use of satellite data, is worthy of support, as it contributes to the implementation of the EU's Economic Recovery Plan, Green Deal and Digital Transformation and, most importantly, shapes and strengthens the region's competencies in such an innovative sector as the space industry." Władysław Ortyl - Marshal of the Podkarpackie region

The collapse of the Morandi Bridge in Italy in 2018 and the cyberattacks in Germany in 2022 are just a few of the cases in which the protection of critical entities has become urgent. For this reason, the European Commission presented a proposal for a directive on the resilience of critical entities in 2020, which aimed at replacing the directive on the identification and designation of European critical infrastructure, adopted in 2008. The aim of the proposed directive is to enhance the resilience of critical entities by extending its scope to 11 sectors, including the protection of space assets: energy, transport, banking, financial market infrastructures, health, drinking water, wastewater, digital infrastructure, public administration, space and food. In cooperation with EURISY, NEREUS organised a series of webinars to showcase how space data can monitor and safeguard critical entities in these different domains.

Representatives of the public administration and academia discussed, together with private sector service providers, the challenges in their region and the proposed space-based solutions. In addition, representatives from the European Commission, the European Parliament, the European Space Agency and other EU institutions emphasised the indispensable role of space technologies in enhancing the preparedness of critical entities providing essential services for the functioning of our society and economy and better quality of life for the citizens. The webinars were open to the public and speakers engaged in a dialogue and responded to inquiries from the audience.







During the implementation of these webinars, the Council and European Parliament reached a political agreement for the Critical Entities Resilience Directive (CER) followed by the approval of the European Parliament and the Council. As of the 16th of January 2023, the NIS 2 Directive and the CER Directive entered into force, and Member States must integrate the requirements of the CER Directive into national law by 2024. NEREUS will follow up on these advancements and organise a second edition of the webinar series, showcasing examples of how public administration integrated the directive in its national law to use space technologies for the maintenance of critical entities.

273

YOUTUBE VIEWS

280 **PARTICIPANTS** **SPEAKERS**

TWITTER IMPRESSIONS









Lukas Mandl, a Member of the European of Kayrros, and Albert David Lewandowski, CEO of Magellanic Space, in a moderated debate led by Margarita Chrysaki from NEREUS.

The discussion revolved around the proposed directive and how satellite solutions contribute to the green and digital transition, specifically focusing on their role in maintaining and monitoring road and railway infrastructure, as well as ensuring safe transport and distribution of energy.



Metropolitana Milanese on drinking water and



Matteo Campora, Councilor for Transport, Mobility, and Environment of the Genoa Municipality reflecting on the Morandi Bridge

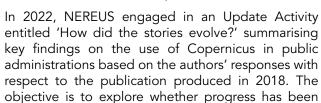
NEREUS, AN OPEN SOURCE OF NEW REGIONAL BEST PRACTICES AND TESTIMONIALS

COPERNICUS 4 REGIONS, THE UPDATE



Copernicus4regions, the flagship project of NEREUS, is a joint initiative between the Network, the European Commission and the European Space Agency. The project started in 2018, highlighting the success of the system on how Copernicus benefits the Public Administration through the publication of 99 user stories and serves as a paradigm for other regions. The initiative was further promoted, including via events at the European Parliament and the production of videos and infosheets illustrating the advancement of the stories since 2018.

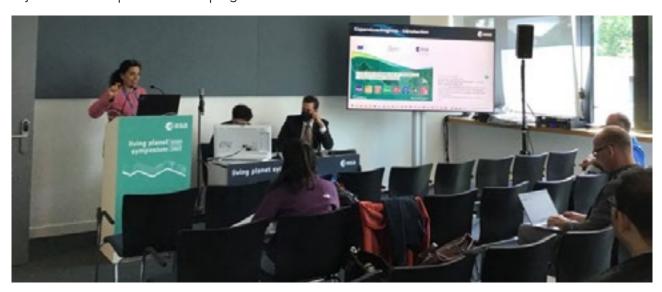
Four years after the original publication, the organisers wanted to explore the sustainability of the formerly portrayed Copernicus solutions in how far they have been integrated into the workflows of the respective public authorities and identify the broader context of regional Copernicus uses given the technological advancement of Sentinels and services and the dynamic European political background (Green Deal, digitalisation, CAP...). The outputs of this Update Activity were: 1) a series of 5 Copernicus4regions webinars bringing new user stories to the floor in the context of the latest policy agendas such as the Green Deal and Digitalisation, which was featured in the 2021 Annual Report and 2) the Copernicus4Regions Update Activity, a concise report and analysis of the consultation of former Copernicus4regions authors and users and a set of 55 up-date sheets.



made in the use of Copernicus in these particular use cases in the last two or three years. More specifically, the aim of the updated report is to highlight: To what extent have Sentinel-based services and products been incorporated into the flow of daily administrative processes; if new applications emerged from the portrayed use cases; if the space solution was institutionalised and what was the degree of engagement of public administration; if the portrayed space solution made it to the market. A NEREUS member, the Politecnico di Milano, was commissioned with the update report.

To further promote the update, NEREUS organised, together with the European Commission and the European Space Agency, a Copernicus4regions early breakfast meeting on 25-26 May as part of the ESA's <u>Living Planet Symposium</u>, the biggest event on Earth Observation's role in building a sustainable future and a resilient society. On this occasion, the organisers welcomed and updated the Copernicus4regions authors on the most recent tools and preliminary findings of the evolution of the Copernicus4regions user stories. Furthermore, on the following day, Ms Ayazi, Secretary-General of NEREUS, illustrated the significance of interregional best practices and knowledge exchange in the context of space capacity-building, using the Copernicus4regions initiative as an example. Importantly, she highlighted the dynamic nature of the Copernicus4regions community, underscoring its ongoing development and continuity.

Currently, a new edition of the initiative is under preparation in 2023.





Copernicus4Regions "How did the stories evolve?"

Report of the Update activity







SATSDIFACTION, SATELLITE DATA AND SPATIAL DATA INFRASTRUCTURES FOR AN EVIDENCE-BASED REGIONAL GOVERNANCE





NEREUS is the only space organisation that offers a forum for regions to discuss and develop space endeavours. Moreover, as part of its interregional collaboration efforts, it initiates successful projects, such as <u>SATSDIFACTION</u>. <u>SATSDIFACTION</u> is a unique project which aims at promoting the exchange and transfer of experiences related to the use of Satellite Data in local and regional Spatial Data Infrastructures as a means to improve the performance of regional policy instruments, eventually leading to better, evidence-based governance of the regional territory. The project was submitted to the INTERREG Programme for approval in 2022, and most of the partnership is composed of NEREUS member regions: Basilicata, The Azores, Occitanie, Podkarpackie, Wallonia, Veneto and Riga (municipality).

In early 2023, the project led by the Veneto region was granted approval by the programme for a total budget of €1,745,943, spanning a duration of four years. As the advisory partner, NEREUS will be at the forefront of this initiative, leading the communication and outreach strategy, facilitating cooperation amongst the regions also after the project ends while establishing connections between regions and other regional communities outside the consortium. In June 2023, the project kick-off was successful, including the first learning deep dive to discuss strategic case studies for territorial planning and how they could be relevant to inspire new policies for decision-makers . Best practices will be available gradually for all partner regions in the coming years.





SPACE FOR OUR PLANET

The Network had the chance to illustrate more regional achievements on the use of space through the Space4OurPlanet initiative (https://bit.ly/38et6J0), a mobile photo exhibition of 25 portraits of interviewees from different domains, who share their stories on how space technologies, through the use of satellite data, contribute to the ecological transition towards a more sustainable future and thus the fulfilment of the United Nations' Sustainable Development Goals (SDGs).

As reported in the past, the exhibition presents testimonials from member regions including (Hesse (DE), Apulia (IT) and Occitanie (FR)). In 2022, it toured the French space museum Cité de l'Espace (NEREUS Associate Member) in Toulouse, Occitanie (Full Member) for six months. Quoting their 2022 report, the exhibition toured Bonn, Germany, ESA Living Planet Symposium, Berlin, Germany, Trento, Italy, MUSE Science Museum, Barcelona, Spain, Port of Barcelona, Rome, Italy, New Space Economy Expoforum, New York, UNITED NATIONS, gathering thousands of visitors. NEREUS is a co-sponsor of the initiative, retaining exclusive image rights until the conclusion in 2023 and regions are invited to bring these inspiring portraits to their territories.









GOVERNANCE

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FULL MEMBERS











































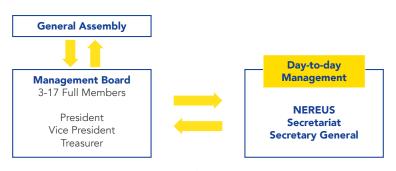




ASSOCIATE MEMBERS



NEREUS aisbl Structure



THE GENERAL ASSEMBLY REPRESENTS ALL NEREUS FULL AND ASSOCIATE MEMBERS.

The General Assembly represents all NEREUS Full and Associate Members.



The General Assembly is the organisation's key decision-making body and its supreme authority. NEREUS is a network of regions in which Full Members are the key players and have full voting rights while Associate Members may only express views in a consultative role and participate in the General Assembly in a non-voting capacity. Only the regions (Full Members) may nominate representatives to sit on the Management Board. The NEREUS General Assembly 2022 was held online on the 20th of May 2022. The Management Board met in March, May, September and in December 2022. The Management Board, which is the Network's steering committee, decides on strategy and monitors the implementation of the work programme. It is entrusted with overall responsibility for managing the association, appoints the Secretary General and engages in a regular exchange with the Secretariat on the Network's three main areas of work: political dialogue, interregional cooperation/partnership and technological trends and developments relevant to future space solutions and user needs. You can read more about our current Management Board as below:

NEREUS PRESIDENT Thierry Cotelle (Occitanie region)

Graduated as Engineer in Industrial Chemistry (Conservatoire National des Arts et Métiers), Thierry Cotelle has managed several SMIs (Small and Medium Industries) in the aeronautics sector for 25 years and is currently General Director of a Business Unit at Satys Aerospace. In terms of political commitments, Thierry Cotelle has been Deputy Mayor of Toulouse in charge of employment, economic development, space and aeronautics between 2008 and 2014. Thierry Cotelle has been Regional Councillor since 2016 and was previously President of the regional agency for renewable energies (AREC). Since 2021, he has been First Vice President

for the 'Economy, Employment, Re-industrialisation' Commission and belongs to the following thematic commissions: 'Climate Emergency' and 'Water and Risk Prevention'. Thierry Cotelle was elected NEREUS President in December 2021. He has also been a member of the Board of NEREUS Associate Member Cité de l'Espace for 20 years.

NEREUS Vice-President (Basilicata region)

Vito Bardi, former Deputy Commander General of the Guardia di Finanza (Army Corps), was elected President of the Basilicata Region on the 24th of March 2019 with 42% of the vote. He has led the regional government since the 16th of April 2019. He started his long military career in the Guardia di Finanza. He was promoted to Colonel in December 1995 and commanded the Tuscany Region of Florence. He was appointed Brigadier General in January 2001 and Head of the 1st Department of the General Command. He was promoted to the position of Major General in January 2005 and was assigned as Regional Commander of Campania. As

General in the Army Corps, promoted in February 2009, he held the posts of Interregional Commander of Southern Italy and then Inspector for Educational Institutes. He was then appointed Deputy Commander General of the Corps (Guardia di Finanza) from the 5th of September 2013 until the 4th of September 2014. President Bardi holds a degree in economics, law, international and diplomatic sciences, financial economic security sciences.

NEREUS Vice-President (Podkarpackie region)

Władysław Ortyl is Marshal of the Podkarpackie Region, Poland (elected in May 2013) and a member of the European Committee of the Regions (Commission for the Environment, Climate Change and Energy (ENVE) and Commission for Territorial Cohesion Policy and EU Budget (COTER)). In the European Committee of the Regions (CoR), he is also the President of the Carpathian Inter-Regional Group, rapporteur on the Carpathian macro-regional strategy and the CoR spokesperson on regional airports. He is currently the Vice-President of the Union of Regions of the Republic of Poland and the President of the European Conservatives and Reformists

Group in the European Committee of the Regions.

NEREUS Treasurer (Baden-Württemberg region)

Senator Wolfgang Wolf studied economics at the Eberhard-Karls-Universität in Tübingen. Wolfgang Wolf has been working for the Baden-Württemberg-based Industry Association (LVI) since 1980. He was appointed to the management of the LVI in 1981 and became a member of the Executive Board of the LVI in 1994. He headed the founding of the Aerospace Forum in Baden-Württemberg (LR BW) in 2005 and, since then, has been Managing Director of LR BW. He is also a Managing Director and board member of other associations and clusters and holds numerous honorary offices in economically oriented institutions.

NEREUS Board Member (Apulia region)

Vito Bavaro has been in charge of the Digital Transformation Section at the Economic Development Department of the Apulia Region since 2021. He holds a degree in electronic engineering from the University Federico II of Naples (2001), a Master of Science in aerospace systems from the Kingston University of London (2003) and a PhD in electronic engineering from University Roma Tre (2008). In 1995 he joined the Italian Air force Academy of Pozzuoli. From 2001 to 2009 he worked as avionic system test engineer at the Italian Air Force Flight Test Centre in Pratica di Mare (Rome). In this period he was involved in several experimentation campaigns and testing activities of avionics and communication systems. In 2002 he attended the 35th Aerosystems Course at the Royal Air Force College in Cranwell. Since 2009, he has been working at the Apulia Regional Government. He was in charge of the Digital Systems, Technology and Infrastructures Section of the Healthcare Department until 2020. Today, within the framework of the smart specialisation strategy of the Apulia Region, his activity is focused on supporting the digital transformation of public local institutions and private companies and the regional aerospace sector.

NEREUS Board Member (Brittany region)

Rozenn Maréchal has been in charge of research and innovation, transport and social affairs at the Delegation of the Brittany Region to the EU since 2020. She holds a Master's degree in international management from Kedge Business School, France (1998) and a Master's degree in European affairs from Louvain La Neuve University Belgium (2004). After starting her career in the IT sector in Belgium, she worked at the European Commission in the External Relations Directorate for 3.5 years. She then spent 15 years in public affairs/lobbying and marketing/communication for two European industry associations (EVA -vending; Orgalim- Technology ries, including its consulting services), she was notably Secretary to the MSSI Electrical initiative and Deputy

industries, including its consulting services), she was notably Secretary to the MSSI Electrical initiative and Deputy Secretary General of CEIR. Rozenn was also an ad personam member of the EURAMET (metrology) Research Council. She is also a Board Member of the Kedge Business School Alumni Association and the coordinator of its alumni network in Belgium. In addition, she is a board member and treasurer of the Bretons of Belgium association (UBB).

NEREUS Board Member (Catalonia)

Dr. Josep Colomé is the director of the Area for the Promotion of the Space Sector of Catalonia (APEC) at the Institute of Space Studies of Catalonia (IEEC). He holds a degree and PhD in Physics from the University of Barcelona (UB) and has been involved in space technology and research projects since 2002, when he joined the IEEC. He obtained a permanent position at the Institute of Space Sciences (ICE-CSIC, IEEC) in 2007 and, since then, he has had different responsibility roles as project manager (Cherenkov Telescope Array, Warwick 1-m Telescope, CARMENES instrument) and unit director (Director of the Montsec Observatory at the IEEC, Head

of the Advanced Engineering Unit at the ICE-CSIC, Head of the Knowledge Transfer Office at the IEEC). He is currently the Spanish national project manager for two missions of the European Space Agency (ESA) – Ariel and LISA –, and he is leading the APEC since 2022, one of the key instruments in Catalonia for the promotion of space sector and the implementation of the NewSpace strategy, in collaboration with other partners and under the leadership of the Catalan Government.

NEREUS Board Member (Emilia Romagna)

Marina Silverii is an ART-ER Executive Director and former ASTER Director, she has an honorary degree in statistics and economics. For 10 years, she has been in charge of the Resource Centre for Guidance and Employment promoted by the Ministry of Labour and the European Commission, through which she led several initiatives concerning vocational training and development of human resources. In October 2020 she was elected member of the Technical Scientific Committee of APRE – the Italian Agency for the Promotion of European Research. Since January 2020 she has been a member of the EIC (European Innovation Council) and EIE

(European Innovation Ecosystem) Shadow Program Committee as Italian Delegate Alternate designated by the Ministry of University and Research under the new European Horizon Europe Framework Programme 2021-2027; in March 2021 she was confirmed as a Full Member Expert in the National Task Force of the Italian Delegation. Since July 2022 she has been Vice President of the ECOSISTER Foundation – Territorial Ecosystem of Innovation of the Emilia-Romagna region focused on sustainable transition, established under Mission 4 – Component 2 – Investment 1.5 of the NRRP – National Recovery and Resilience Plan.

NEREUS Board Member (Hesse region)

Perdita de Buhr has been Head of Unit for Economics, Energy, Transport and Housing at the Representation of the State of Hessen to the European Union since 2011 and became a Member of the Management Board of NEREUS in 2015. She grew up in the Netherlands and read law at Passau University as well as Münster University. After qualifying as a German lawyer and after obtaining a PhD in law in 1993, she started her professional career at the Saxon State Ministry of Science and Art. From there, she moved to other positions related to economics and science, including the Federal Foreign Office in Berlin.

NEREUS Board Member (Madrid region)

Eugenio Fontán has a Masters degree in Science (MSC) in telecommunications from the Universidad Politécnica de Madrid. He is currently the General Director of Cooperation with the State and International Affairs in the Madrid Regional Government. He has extensive experience in the fields of telecommunications, space industry and political management, both as a senior consultant for European public administrations and private companies. His experience includes being the principal advisor for telecommunications, space and aeronautics for a former Prime Minister of Spain, José María Aznar. He has also been a partner in and coordinator of a significant

number of projects in Horizon 2020, Erasmus and Interreg calls for tender.

NEREUS Board Member (The Azores region)

Duarte Cota has a BEng degree in Computer Engineering and is currently finishing an MSc in Computer Engineering and Web Technology. He is a technical and scientific consultant for the Portuguese delegation of ESERO, the European Space Education Resource Office of ESA (the European Space Agency) for several educational projects in the aerospace sector and a member of the Technical Evaluation Board of EuRoC (European Rocketry Challenge), an initiative of the Portuguese Space Agency. He has two decades of experience teaching high school students. Since 2022 he has been a member of the Azores Mission Structure for Space that has the main role

of implementing the Azores Space Strategy and he is also a member of the executive board for RIS3 Azores (Research and Innovation Strategy for Smart Specialisation in the Azores) for the strategic sector of Space.

NEREUS SECRETARIAT



The permanent NEREUS Secretariat is run by Ms Roya Ayazi, the NEREUS Secretary-General, and Ms Margarita Chrysaki, the NEREUS Communication/Project Officer. The secretariat is responsible for the daily management of the association, the coordination of the Network and political representation to the European institutions

Ms Ayazi heads the Brussels/Belgium-based secretariat and is the main interface for the association at the European level. Backed up by her training as a lawyer in Germany and over 20 years of work in European affairs, her core responsibilities are advocacy at the European, regional and local level as well as positioning and coordinating the Network with respect to space policy developments.

As a member of different advisory councils of EU-funded projects, Ms Ayazi supports NEREUS members' activities by representing the regional dimension in EU space developments.

Ms Chrysaki collaborates with the Secretary General in the overall management and promotion of the Network's activities, including being tasked with the communication of pan-European/European Space Agency (ESA)-funded initiatives and managing the website and other communication tools.

Her work experience and in-depth knowledge of politics, communication and space studies, which are underpinned by her Masters' degrees, clearly emerged in her publication entitled 'The Sustainable Commercialisation of Space: The Case for a Voluntary Code of Conduct for the Space Industry' in the world's leading academic journal, *Space Policy*. In 2023, she has been appointed as mentor of Space4Women, an initiative of UNOOSA.



