



2021 MANAGEMENT REPORT

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Prepared by Eurospace executive

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About Eurospace

Eurospace is a non-profit association incorporated under the French law, created in 1961, fosters the development of space activities in Europe and promotes a better understanding of space industry related issues and problems. Its 76 members are the main space industry manufacturers and launch service providers, they cover the whole span of the space industrial chain, are present in all major European space countries and represent more than 90% of the European space manufacturing business in Europe.

Eurospace, within its mandate, supports the understanding and knowledge of European space industry and structures, it promotes coordination of industry views and the expression of consistent messages towards European policy makers covering key topics such as space policy, space markets, space research, technology and innovation, space standards and space industry compliance to European regulations.

Eurospace is a recognised interlocutor to the European Space Agency, and the European Union. As an active participant to European industry consultations on space, Eurospace provides data, analysis and assessments on space industry related issues. Having established independent capabilities for space markets and policy assessment, and in particular with the Eurospace facts and figures annual survey of European space industry activity, Eurospace is a reference source for space industry information.

Since 2004, Eurospace is the Space Group of ASD, where it represents and defines the space viewpoint of the association.

Eurospace has offices in Paris (Headquarters) and Brussels (within ASD).

The Year in review

Advocacy

The 2021 political agenda

One year after the Covid-outbreak, the European space sector slowly but surely resumed the path to a nominal situation in 2021.

As regards Eurospace, no less than four Eurospace Position Papers covering the fields of Space Traffic Management, ESA Industrial Policy, definition of next ESA-EU Flagship Programmes, ESA Exploration Strategy have been published. Most visible outputs of our Task Forces, it highlights their dynamism and efficiency in allowing to produce common and overarching positions in a few months.

At EU level, the Eurospace Position Papers on STM and on the Secure Connectivity Initiative (published late 2020), testify from the EU's preparatory work towards two important milestones to come: a proposal for a Regulation on a space-based secure connectivity and a Joint Communication on an EU approach on Space Traffic Management (STM) to offer a coordinated response to the challenges of safeguarding the efficiency and security of our current assets while developing European cutting-edge space technology to the benefit of European citizens and economy. In addition, the Eurospace's "Preliminary identification of technology and capability priorities for the European Defence Fund" aimed to bring the expertise of the European Space industry on how space can best serve the multilateral defence policy objectives of European Member States.

At ESA level, a new Director General, J. Aschbacher, took office unveiling a number of key priorities for his mandate. From "strengthening ESA-EU Relations, boosting commercialisation for a Green and Digital Europe, developing Space for Safety and Security, addressing critical programme challenges and completing the ESA transformation", Josef Aschbacher's "ESA Agenda 2025" is targeting SMEs, start-ups and "new space" companies while surprisingly devoting quite little attention to Europe's good positioning on commercial and export markets. A bias that seems to testify from an increasing "disaffection" of European authorities for a space industry that is competitive and delivers, in favour of the hype surrounding start-ups.

In the frame of ORDIN (Open Research, Development and Innovation Network), Eurospace's new technology strategy initiative, our two first Workshops were held on November 25th and 26th. For a first, participation was very high encompassing the whole spectrum of the European space sector: from SMEs to primes, from Industry and RTOs to Universities, and from Eurospace members to non-members. In total, 105 experts belonging to 48 entities from 17 European cooperation states have joined the discussions, reinforcing our commitment to allow all industry (large and small) to exchange priorities at cost affordable price and in a short amount of time.

The 2022 political agenda

2022 is an important year to start picking the fruits of Eurospace recent advocacy efforts, mostly in the domains of Space Traffic Management and Secure Connectivity. Regarding STM, Industry will aim at supporting the ambitions of the Commission and of the European External Action Service while insisting towards institutions about the impact of a future legislation at EU level (or lack thereof) on Industry as well on the possibility to support the emergence of new service markets. Regarding Secure Connectivity, efforts will be dedicated to support the adoption of the necessary Regulation by co-legislators while informing them about the opportunities that this new important initiative will help materialise; it will also be the occasion to address the ambiguous expectations of the European institutions about "new space" and to help achieving a better and more useful definition of the objectives pursued by institutions in favour of small and new companies.

Although the limitations imposed by Member States are dramatically undermining the initial ambitions of the possible future “co-programmed partnership” in favour of Industry competitiveness under Horizon Europe, Eurospace will continue to work closely with the Commission in order to set up this initiative in a way that would allow to prepare the ground for a more efficient and ambitious project in the future.

Issues related to (the absence of) a space industrial policy at European level remain high on the agenda both at EU and ESA level, with concrete actions related to the profitability of ESA contracts, the impact of inflation on the industry and the rapidly growing concerns linked to dependence issues (that have become even more critical with the consequences of the invasion of Ukraine by Russia).

2022 will also be an important year regarding the future of our sector as the Commission and the EEAS will be preparing a Joint Communication about Space Strategy for Security & Defence, in a context where the EU is taking an increasing role in defence matters and where the world geopolitical situation is increasingly tense. This increasing influence of defence/security-related concerns is also expected to impact the EU space programme in general with new initiatives such as the Secure Connectivity and STM but also existing ones such as Copernicus in particular.

Finally, in 2022 ESA will hold its Conference at ministerial level, the first one after the release of ESA DG “Agenda 2025”; with the quickly evolving redefinition of the respective roles of the private and public sector and the constant pressure on European industry competitiveness, it is all the more important that ESA is aware of the projects and challenges of Industry; Eurospace will be supporting ESA in the organisation of a large Industry consultation regarding the future of Earth Observation programmes (as it did in 2021 for Exploration programmes).

More generally, further efforts are to be deployed in 2022 to continue to bridge knowledgeability gap about the space sector (economics, challenges, international situation...) at EU and ESA levels, and to support Eurospace members to raise awareness at national level about the importance of a strong and efficient European space policy.

Communication and outreach

Events

Eurospace has a recognised capacity to organise and support the organisation of events aiming at creating cohesion and momentum in the European space sector.

In 2021 the following events were organised, co-organised or supported by Eurospace

- 13th European Space Conference (BBE) – 12-13 January 2021 – “hybrid” event supported by Eurospace
- ESA Workshop on Exploration strategy 2030+ – 21-22 June 2021 – Webex event, invitation only – full organisation by Eurospace, >100 participants >50 panellists and speakers
- DASIA 2021 – 21-22-23 September – online event fully organised by Eurospace – 96 participants, 50 panellists and speakers
- European Space Forum – 8-9 November 2021 – online event co-organised with Eurospace – 700 participants
- ORDIN workshops on technology strategy – 25 and 26 November 2021 – Webex events, open to industry stakeholders – full organisation by Eurospace - 40-50 participants at each event.

Official letters

On a regular basis, official Eurospace letters are transmitted to our institutional partners in the European Commission and in the European Space Agency to support our political agenda. In 2021, five formal letters were sent by Eurospace.

- Joint Letter from Eurospace and 14 Associations to Director General DG RTD Jean-Eric Paquet to request a meeting to discuss Co-programmed partnerships' Memorandum of Understanding - 14/01/2021
- Letter from Eurospace President André-Hubert Roussel to Commissioner Breton and MEPs David Sassoli, Massimiliano Salini, Nuno Brito to congratulate them on the adoption the new EU Space Programme Regulation – 03/05/2021
- Letter from Eurospace President André-Hubert Roussel to Director General DG DEFIS Timo Pesonen to express concerns on the Co-programmed partnership on Global Competitive Space systems – 28/06/2021
- Letter from Eurospace President to ESA Director General J. Aschbacher to accompany the release of the Eurospace Position Paper « Manifesto for a new ESA Profitability Policy for Space procurement activities » - 29/09/2021
- Letter from Eurospace President to ESA Director General J. Aschbacher to accompany the release of the Eurospace Position Paper « ESA Exploration 2030+ » - 28/10/2021

Newsletter activity

The Eurospace newsletter is prepared by Eurospace executive for its members. It aims at giving an overview of all ongoing activities at Eurospace and a political watch of the European space sector. In 2020, four Eurospace Newsletters were distributed to the members. In 2021, a brand-new version of the Eurospace Newsletter has been set up and was distributed every month.

Note that all editions of the Newsletter are available as annexes to this report (members only).

Website and social media

The Eurospace Website and social media accounts (Linkedin, Twitter) are key to improve the impact of our actions both in the press and on social media.

The Eurospace Website, redesigned in 2018, allows for each visitor to have access to all Eurospace public activities (i.e., general information about Eurospace, news, working bodies, published documents including Position Papers).

In 2021:

- 26 News were published
- 5 Position Papers were published
 - “Updated Best-Practice Guidance for the European Space sector to comply with SCIP notification” – 03/02/2021
 - “Space Traffic Management (STM): An opportunity to seize for the European space sector” – 02/03/2021
 - “Manifesto for a new ESA Profitability Policy for Space procurement activities” - 05/10/2021
 - “Accelerating the use of space in Europe” : PORTFOLIO OF INDUSTRY PROPOSALS” – 19/10/2021

- “Global space exploration is at a turning point – Support the further definition of ESA Exploration Strategy 2030+” – 28/10/2021
- The Facts&Figures Press Release 2021 was published in July 2021
- The Eurospace Preliminary identification and capabilities for the EDF (March 2021) was transmitted to the European Commission

ASD-Eurospace is also active on LinkedIn¹ with an account totalling 800 followers at the end of 2020 (630 followers in May 2021). Within a year, 35 LinkedIn posts were created, totalling 8500 views, 400 clicks on attachments (most of them being linked to Eurospace’s website News), and 160 “likes”. More particularly, posts that rather share Eurospace positions than just factual news are particularly followed. The ASD-Eurospace LinkedIn account is also complemented by personal accounts from its employees, relaying Eurospace key positions. In particular, Secretary General Olivier Lemaitre and Research & Managing Director Pierre Lionnet both rely on an audience of more than 500 relations each.

- **LinkedIn accounts**

- <https://www.linkedin.com/company/asd-eurospace/>
- <https://www.linkedin.com/in/olivier-lemaitre-b4ab62/>
- <https://www.linkedin.com/in/eurospacepierrelionnet/>

In the same sense, the ASD-Eurospace Twitter account² counted almost 400 followers at the end of 2021 (among which Members of the European Parliament, officials from the European institutions and European Space Agency, influential journalists etc.). Within the year, 70 Official Tweets were posted.

- **Twitter handle**

- @ASD-Eurospace

Conferences/Speeches/Lectures/Articles

President

- Key note speech “A Changing World: a look at European space” – 12/01 – Annual Space Policy Conference, Brussels
- Speech “Which space industrial strategy to face new global challenges?” – 7/10 – ESPI Autumn Conference, Vienna
- Speech “Industry views about Secure Connectivity” – 27/10 – Sky&Space Intergroup of the European Parliament, videoconference
- Welcome & introductory speech – 04/11 – ESA High level Forum, Noordwijk
- Keynote speech “Time to rethink Europe’s space ambitions?” – 08/11 – European Space Forum, videoconference

Secretary general

- Speech “Enseignements à tirer pour le modèle spatial européen” – 24/03 – conference Ifri-DGAP-IAI, videoconference
- Speech “The Challenges of Space for the European Union & CSDP” – 25/03 – IEDHN, videoconference

¹ <https://www.linkedin.com/company/asd-eurospace/>

² <https://twitter.com/ASDEurospace>

- Speech “*Durcissement de la compétition spatiale internationale : quels défis industriels pour l'Europe ?*” – 14/04 – Séminaire Ifri, videoconference
- Speech “Industry view on STM” – 15/05 – Sky & Space Intergroup of the European Parliament, videoconference
- Speech “New space, new space policy?” – 27/05 – DG DEFIS Lab #2, internal communication event of DG DEFIS
- Speech “New space for people” – 08/06 – New Space Atlantic Forum
- Intervention EU Space Programme launch Event
- Participation UN Round Table “facilitating multi-stakeholder engagement in UN processes regarding space security” – 26/08
- Participation Slovak Space Office roundtable “Space ecosystem building in emerging space countries” – 02/09
- Lecture “*La politique européenne dans le domaine de l’espace et l’influence industrielle*” – 21/10 – Mastère “*Expert en affaires publiques européennes*”, ENA
- Introduction & moderation “Session 1 Delivering a Globally Competitive and Innovative European Space Sector” – 8-9/11 – Forum Europe Conference, videoconference
- Speech “industry views about EU Secure Connectivity initiative” – 10/11 – EU Space Conference 2021 organised by the Slovenian presidency of the Council of the EU
- Speech “Emerging Space countries” – 30/11 – Emerging Space Conference, UNCOPUOS side event
- Presentation Eurospace priorities – 9/12 – IndustriAll workshop / Aerospace Network Meeting
- Presentation Eurospace views on STM – 14/12 – EU SST workshop with Industry

Team

Angel Cuellar

- Introduction to missiles and space launches – 19/11/2021 till present. Collaboration with a PhD candidate in the Aerospace engineering school of Universidad Polytechnical de Madrid, in the creation of the curriculum, references and introduction class for the course “Design of missile and rocket vehicles”
- Interview about Russia ASAT test – 18/11/2021: Interview of 21 min with a Spanish divulgation media about space – Fuera de Orbita
- Participation as speaker in the AEDDays 2021-30/09/2021 – Conference on “Space as a warfighting domain” given in the context of “Space for defence: new horizons”
- Interview with Leoni-Corporate-Advisors about ASAT systems – 23/06/2021 – Interview of 1 hours about history, uses and developments of ASAT systems to aid in the confection of a 2021 Global Space Market Observatory, Space-Defence convergence report.

Pierre Lionnet

- ISU MSS class, space economy lecture – 23/3/2021 – Three-hours lecture on the Space economy, addressing markets, statistics, budgets
- Press Conference Facts & Figures 2021 – 15/07/2021 – Press conference to present the main outcomes of the annual survey (online event)
- Newspace and space economics – 8/12/2021 – Space Hub Nouvelle Aquitaine (online event)
- Mega-constellation economics – 18/11/2021 – IFRI seminar³

³ Replay here <https://www.youtube.com/watch?v=7dLcstJM7NQ>

- ORDIN Initiative outreach presentation
- Forum Europe (online event)

Intelligence/Think Tank

Political watch

Eurospace Executive regularly monitors EU regulatory and political activity and provides briefings and information notes to its members. They provide intelligence, analysis and/or opinions on arising themes at EU and ESA levels.

Eurospace Executive regularly monitors EU regulatory and political activity and provides briefings and information notes to its members. They provide intelligence, analysis and/or opinions on arising themes at EU and ESA levels. In 2021, 55 key guidance documents were distributed throughout the year:

- Briefing “EU-UK Trade and Cooperation Agreement / Space”
- Briefing “Overview National Recovery and Resilience Plans”
- Briefing “European Space Alliance”
- Conference Report of the 13th European Space Policy Conference
- Briefing “Preliminary info about the “Action plan on synergies between civil, defence and space industries”
- Presentation Eurospace Webinar “ESA 2021 Budget: Highlights and 15-year historical perspective”
- Presentation “Space industry workforce 2021” to ESA Administration and Finance Committee
- Opinion Paper “From ‘Newspace’ to ‘new space policy’”
- Debunking Paper “CASSINI Space Entrepreneurship Initiative 2021 2027”
- Briefing “European launcher sector overview”
- Briefing “Copernicus space component evolutions”
- Briefing “REACH and the Space Sector”
- Briefing “2030 Digital Compass: the European way for the Digital Decade”
- Background Paper “European Launcher Sector Overview”
- Unofficial Report “Hearing in preparation of the European STM Conference”
- Unofficial Report “European Parliament's Sky & Space Intergroup Event on STM”
- Briefing “FFPA: a first glimpse into the distribution of responsibilities”
- Briefing “Overview of EU MS National Recovery and Resilience Plans”
- Briefing “ECA Report on Galileo and Copernicus service uptake”
- Briefing “Update of the EU 2020 Industrial Strategy”
- Briefing “CETA a situation at risk for the EU Space industry?”
- Briefing “Recent developments at EU level regarding Space Traffic Management”
- Eurospace submitted response to “Revision of EU legislation on registration, evaluation, authorisation and restriction of chemicals IIA”
- Eurospace submitted response to “Sustainable Products Initiative”
- Speech O. Lemaitre (Eurospace SG) at the occasion of the “4th New Space Atlantic Summit – New Space for people” on 08/06
- Eurospace Conference Report – “Launch event of the European Union Space Programme”
- Eurospace Unofficial Report – “Space launchers in Europe & future trends: Exchange of views with EU industry”
- Eurospace Press Release – “Facts & Figures 2021 Public Presentation”
- Briefing – “Overview of EU MS National Recovery and Resilience Plans (July update)”

- Briefing – “ESA NESTS studies outcome”
- Briefing – “ESA C-STS status update”
- Eurospace Workshop Report – “ESA Future of the Work”
- Eurospace Research Paper – “SpaceX Launch services economics”
- Briefing – “Soft review of ISO NWIP for “Space Traffic Coordination”
- Briefing – “Synergies between the EDF and the EU Space programme”
- Meeting Report “ESA HME bilateral meeting with Eurospace”
- Briefing – “Space Summit 2022: New Space Accelerators”
- Briefing – “Morgan Stanley's Financial analysis of SpaceX”
- Unofficial Report – “European Parliament's Sky & Space Intergroup Event on Secure connectivity constellation”
- Briefing – “Reform of the REACH Authorisation and Restriction System”
- Briefing – “Strategic Compass for Security & Defence - relevance for the space sector”
- Unofficial Conference Report – “ESA High-Level Forum (04/11/2021)”
- Unofficial Conference Report – “European Space Forum 2021 (08 & 09/11/2021)”
- Unofficial Conference Report – “EU Space Conference on Secure Connectivity (10/11/2021)”
- Briefing – “The economics of mega-constellations”
- Briefing – “Small satellites launch cost trends”
- Briefing – “Current status on Starlink”
- Briefing – “SpaceX falcon 9 economic model – uncovering SpaceX financials”
- Briefing – “SpaceX valued at 100B\$ by Morgan Stanley – analysis of baseline assumptions”
- Briefing – “Space Economy Fundamentals – what is the size of the Space Economy?”.
- Briefing – “Space priorities in the new German coalition deal”
- Briefing – “Competitiveness Council (Space) – 26/11/2021”
- Briefing – “United States Space Policy Framework”
- Briefing – “The Digital Europe Programme: Destination Earth Initiative”

Space Economics

Facts and figures

Every year Eurospace undertakes, with the participation of the companies in the sector the annual update of its facts & figures statistical series.

Created in 1996, and building a consistent data set acquired since 1991, the statistical collection aims at measuring the value of space systems design, development and production activities as performed in Europe (i.e. the space industry manufacturing activity). Space systems are defined in detail in order to ensure an appropriate data collection and to avoid misinterpretation of the data sets.

This statistical effort is supported by two main driving principles:

- The focus on manufacturing activities (with the exclusion of all services related to the exploitation of space systems: launch services and satellite operations). Service activities associated to the manufacturing process of space systems (such as engineering and test services, consultancies etc.) are included in the perimeter of the survey. A share of ground systems operations is also included, when they are performed for Space agencies in Europe.
- The effort to measure the value of the end-market, with the elimination of all inter-sectoral business that could be counted twice or more.

Perimeter of the survey

The Eurospace facts & figures survey focuses on measuring the economic value of industrial activities associated to the design, development and manufacturing of space systems (also called the upstream sector) in Europe.

It does not consider non-space products (such as missiles or consumer-end terminals such as GPS receivers, Satellite TV receivers and dishes, etc.) nor the provision of services based on the exploitation of space assets. This means that the revenues and employment of such companies as Eutelsat, Paradigm, Inmarsat, Arianespace, SES Global, and other operators are not included in the perimeter of the survey.

The Eurospace facts & figures economic currently includes 430 space units.

Data Collection

The data collection is supported by companies with space manufacturing activities operating in Europe (not limited to Eurospace membership). Companies answer a questionnaire providing detailed information on their sales and employment relevant to space systems design, development and manufacturing. All information released to Eurospace is protected by a confidentiality agreement. The quality of the survey is only as good as the data provided by participating companies.

Most companies in the space manufacturing sector have participated at least once to Eurospace survey in the past. The main players (companies with more than 100 space employees) usually support the survey on a very regular basis, while smaller players may only support the survey sporadically. When a reply is missing from a company, it is supplemented by an estimate based on a previous reply received from that company, and/or publicly available information on the company.

The space manufacturing sector in Europe is at the same time very fragmented and very concentrated. The 30 largest space units in Europe make for almost 80% of total employment of the sector. The remaining smaller players representing barely 20% of employment. It is also interesting to note that all smaller players work almost exclusively as subcontractors to the largest players.

From a statistical point of view, this means that an efficient data collection shall focus on collecting at least the main replies (the large players, and particularly the prime contractors) that will provide a good assessment of final sales. Collecting additional replies from increasingly smaller players, adds a layer of detail to the survey and improves marginally the measurement of employment; but does not affect the overall value of final sales and has a limited economic impact.

Consolidation Model

In the Space sector, as with many other industrial sectors, the delivery of a complex system involves the participation of a large number of companies at various stages of the development and production processes. This translates into a complex contractual chain, where one prime contractor signs with the customer and then divides the work among itself and many subcontractors.

When considering the revenues generated within the whole supply chain by the production of one space system, with the mechanism of subcontracts the cumulated value of all contracts exceeds the value of the system itself. This is due to the fact that without consolidation, some subcontracts are counted twice.

Within a given perimeter, the consolidation of sales can be done in two ways: either by measuring the consolidated sales at company level (total sales minus the value of subcontracts), either by measuring the final

sales at company level (total sales minus inter-sector sales, relevant to subcontracted work). Within a given perimeter the value of consolidated sales and final sales are identical.

LEAT database

Like every year, the Launch Events Analysis Tool (LEAT) was updated with the launch events of the previous year. The LEAT database is complete with launch events since 1957, and provides independent assessment of space market metrics. The database tracks every satellite launched, with information on the launcher used (including technical details) and on the payloads launched, focusing on mission aspects, and customer/manufacturer aspects.

The LEAT database is a key reference for international comparisons and the building of political messages. It enabled in particular, the elaboration of key messages in 2021:

- Eurospace facts and figures Press release: offsetting international budget analysis with launch statistics
- Trends in launcher cost per kg
- Trends in global space activity
- Introduction to space markets and economics: briefing to European MEPs
- Captive and open market dependence international comparison

European space budgets Monitoring

Eurospace executive maintains a budget watch, taking advantage of a variety of formal and informal sources and in depth understanding of budgetary processes in Europe. This budget watch enables the executive to perform an annual consolidation of European space budgets (bringing together the national, EU, ESA and Eumetsat budget in consistent way, as well as an in-depth analysis of the ESA budget (detailing contributions by source and outputs by programme).

Newspace observatory

Since 2014, Eurospace has developed an informal observatory of the New Space phenomenon. This analytical work is supported by an effort to characterise the New Space in a consistent way, and by an effort to track New space 'relevant' companies. This effort has enabled Eurospace to extend its knowledge of the European space sector and to open the facts and figures survey to new players of significance. The analytical and factual approach also serves to support independent information of European institutions on the actual economic impact of the New Space in Europe and abroad.

Today Eurospace is believed to maintain the largest New Space company list worldwide, counting near to 1200 entities in the manufacturing segment alone, including unipersonal units.

A quantitative review of the Newspace sector was provided to the Policy Committee with a dedicated webinar in 2021.

Industry cohesion

Policy committee

The Policy Committee (PC) is formed by the Council and chaired by the Secretary General. This Committee is carrying out the tasks delegated by the Council, submitting policy proposals to the Council. It decides on initiatives to promote and develop space activities and to defend the common interests of the European space industry, on the basis of proposals by the Secretary General. The Members of the Committee also alert the Secretary General about issues for which an action of the Association would be deemed relevant, and give feed-back about the reaction of national authorities to the advocacy messages promoted by the Association towards European organisations.

In order to maximise the impact of Eurospace limited resources, the policy-related activities of the association (drafting position papers, elaborating advocacy campaigns...) are under the responsibility of the policy committee meeting. Concretely, it means that issues that are deemed requiring an action of Eurospace are brought forward in the PC meetings, which then decides to set up a dedicated task force to deal with it (TF have a target focus and an expected output, a defined timeframe, and standard ToR where only calendar, objective/output and composition are adapted). Eurospace executive assessment of this new process is very positive.

The Policy Committee meets physically or online each month. In 2021, the Policy Committee met on 28/01; 25/02; 25/03; 27/04; 25/05; 23/06; 31/08; 28/09; 11/10; 02/11; 23/11; 21/12.

Task forces and active panels

ELA TF

The Eurospace “European Launchers Alliance” Task Force (ELA TF) is created by Decision of Eurospace Policy Committee on January 28th 2021.

Eventually, the European Launcher Alliance should support the elaboration of a vision for the European Launcher sector beyond 2030 with the objective to put Europe back on the world stage. This vision will also support the elaboration of a relevant technology strategy with a clear innovation path.

This Task Force should contribute to the Alliance by developing a Eurospace consolidated vision for the European Space Alliance while organise Eurospace members involvement. In addition, Eurospace should prepare, when ready, joint messages and coordinated approaches towards the European Launcher Alliance, and, if needed, the European Commission.

HEU FP9 Task Force

Original Mandate

The Eurospace FP9 Task force is created by Decision of Eurospace Council on December 5th 2016.

The FP9 preparation Task Force is established in view of supporting the preparation of a consolidated position of Eurospace on FP9-Space. The work shall be complete before the end of 2017. The TF will then be disbanded.

The Task Force will be led by Eurospace Research Director.

Mandate extension

Considering the political context, including the uncertainties on the fate of the Partnership for space, and the requirement to organise Eurospace stakeholder's inputs to the EC-Led Consultation Platform in the next 4 years, the FP9 Task Force mandate is extended to 2023. Its main tasks and framing conditions are modified as below.

The TF was renamed Horizon Europe (HEU) TF. The TF reports to the Policy Committee.

The core task of the Task Force will be to support the expression of coordinated Eurospace inputs in the context of the Consultation Platform and/or European Co-programmed partnership. The secondary task of the Task Force will be to support the Eurospace executive dialogue towards the establishment of a joint association with other associations in view of the potential establishment of the co-programmed partnership for space competitiveness.

The first meeting of the Horizon Europe Task Force took place on October 20th 2020

Secure satcom Flagship Task Force

The Secure Satcom Flagship Task Force was created by Decision of Eurospace Policy committee on July 3rd 2020 and chaired by Mrs Daniela Genta (Airbus Defence & Space).

The "EU Satcom Flagship" Task Force is established in view of consolidating a sector-wide support and providing Industry consensual recommendations to the ongoing reflections of the European institutions regarding the setting-up of a 3rd EU Flagship Programme for a global, strategic, resilient and secure space-based connectivity system, in line with the objective publicly laid out by European Commissioner Thierry Breton. More precisely, the Task Force will investigate and propose a rationale and a vision for a European space industry approach to a global, strategic, resilient and secure space-based connectivity system.

On October 15th 2020, the Eurospace "Industry Manifesto for a resilient satellite system for secure connectivity... to make Europe fit for the Digital Age", result of the work of the Task Force was officially published.

The 2021 targeted achievement of the TF was to provide a continuous support to the Secure Connectivity Initiative. Throughout 2021, the Secure Connectivity Initiative has still been high on the political agenda (EC amendment to EU Space Regulation Q1 2022).

European Defence Fund Task Force

The Eurospace "European Defence Fund" Task Force was created by Decision of Eurospace Policy committee on June 12th 2020 and is chaired by Olivier Lemaitre (Eurospace Secretary General).

The "European Defence Fund" Task Force is established in view of providing Industry consensual recommendations to the ongoing reflections of the European institutions regarding the space components of the European Defence Fund Work Programmes (2021-2027) and thereby improve the crucial link between space with defence and security, in line with the objective laid out by European Commission's President-Elect Ursula Van Der Leyen in the mission letter addressed to Commissioner-designate Thierry Breton, on November 7th 2019.

In 2021, the priority of the TF was to define a list of key space-based capabilities to be developed through the EDF, and associated R&D subjects. Eventually, the TF converged and transmitted to the European Commission in March 2021 the "Eurospace Preliminary identification and capabilities for the EDF".

Industrial Policy Task force (with subs: Profit scheme and Midcaps)

The Eurospace “ESA Industrial Policy” Task Force was created by Decision of Eurospace Policy Committee on December 2019.

The “ESA Industrial Policy” Task Force is established in view of providing Industry consensual recommendations to the ongoing reflections at ESA level on a new industrial policy (more specifically targeting the visibility of midcaps vs LSI and SMEs, the simplification of the ESA procurement process, the profitability of ESA contracts, IPRs, Supply chain aspects)

In 2021, the priority of the TF was to focus on the Profitability of ESA contracts. Eventually, in September 2021 a Eurospace Position Paper on Profitability was published. Worth to be noted are frequent and in-depth interactions between Eurospace TF and ESA executive throughout the year.

Space Traffic Management

The Eurospace “Space Traffic Management (STM)” Task Force was created by Decision of Eurospace Policy committee on November 13th 2019.

The “Space Traffic Management (STM)” Task Force is established in view of providing Task Force is established in view of consolidating a sector-wide support and providing Industry consensual recommendations for a joint European approach on Space Traffic Management in a context where it has been recognised as an issue of strategic importance by the European and national institutions.

In 2021, the objective of the TF was to obtain a European approach to STM encompassing regulation & standardisation, EUSST consortium and setting up new capabilities, internal market for SSA data, involvement of Industry. Following the publication of the Eurospace Position Paper in March 2021, STM continued to be high on the political agenda (EC Communication Q1 2022). In addition, EUSST proposals are getting closer and closer to Eurospace position (and opening up to the private sector).

STWG (STandardisation Working Group)

The Standardisation Working Group coordinates industry participation and representation in the ECSS (European Cooperation for Space Standardisation). As such, STWG is the standardisation body of Space industry. These activities enable the European space industry to develop a strategy for space standardisation, and promote it through ASD-Eurospace, as a member and/or a stakeholder of European Space standardisation organisations, and at international level through relevant channels.

STWG is chaired by Olivier Leronde (Thales Alenia Space), it has 16 active members representing 7 different companies plus representation from other standardisation bodies and industry associations (as BNAE and SME4Space). Apart from this, the STWG has a distribution mailing list to conduct all the ECSS associated process within industry (Public Reviews, WG nominations, ECSS reimbursement scheme).

During 2021, still impacted by the pandemic situation, STWG changed its physical meetings to teleconferences. During the year 6 main teleconferences to prepare the ECSS Technical Authority and ECSS Steering Board meetings were held. Plus, punctual teleconferences to accomplish punctual actions and discussions.

Among the main agenda points addressed in 2021, we can cite:

- Nomination of replacement of Eurospace representatives at the Steering Board

- Monitoring and comments on the ECSS simplification process, that started with a pilot attempt of simplification of the M (management) branch. And will continue with the Q (Quality) branch during 2022. This simplification of ECSS is a critical activity for industry and the evolution/future of ECSS.
- The active monitoring of ISO, including the detection and coordination of the STM US proposal. With the ensuing coordination within the Eurospace STM task force, to coordinate industry posture to the STM standardization discussion at ISO level.

During 2021, STWG conducted the following activities in the normal ECSS process:

- 4 calls for nominations and formation of WG to work in ECSS documents.
- 14 public reviews of ECSS documents.

EEE Panel (Electronic, Electric and Electromechanical Components)

The EEE Panel coordinates industry participation and representation in the ESCC (European Space Components Cooperation). The Panel ensures that Industry participants are nominated to ESCC management bodies (SCSB: Space Components Steering Board, CTB, Components Technology Board) and prepare for consolidated industry positions to be expressed as required by ESCC.

The Panel is chaired by Augustin Coello-Vera (ALTER Technology).

Routinely EEE-P activities include:

- ASD-Eurospace representation and coordination of position to be expressed at ESCC levels (CTB, SCSB, PSWG)
- General reporting of issues relevant to the EEE community, including CTB thematic sub-WGs.

This Working Group met 2 times in 2021. EEE Panel Meetings are organised by teleconference to ensure easiness of participation. Participation is adequate to the level of intensity of decisions taken, but remains limited to a few panel members (less than 10). Some members of the panel as industry members in the ESCC bodies were replaced during 2021. Email exchanges are frequent between WG members, and offline discussions allow the swift resolution of all issues as they arise.

ORDIN - Open Research development & Innovation Network

ORDIN is a proactive consultation process initiated in 2021 by Eurospace in order to improve the sector capacity to support the various technology strategy initiatives in Europe (ESA & EU) where industry contributions and/or feedback are expected. ORDIN is open to all stakeholders from the whole European space supply chain. The process is driven by both bottom-up and top-down exchanges on technology needs, drivers, challenges and capabilities.

The ORDIN objective is to streamline and enhance the capacity of the supply chain to formulate clear and comprehensive recommendations for future R&D and innovation programmes to ESA and the EU, in time and with the appropriate level of detail.

The process is open to ALL the European supply chain (RTOs, SMEs, newspace / emerging players, midcaps and large groups, primes and equipment suppliers, labs and research entities). Whether or not they are Eurospace members.

The process is supported by a **voluntary workshop-based approach** to collect information on stakeholders, state-of-the-art, technology trends, requirements, challenges and drivers. Workshops are open, free, and voluntary. They are only open to the Industry supply chain.

The outcome is a **supply chain-owned repository of technology requirements, capabilities, roadmaps and trends**. The repository supports the formulation of technology recommendations as required, on-time, and under stakeholders' control.

Eurospace objective is twofold:

- Improving the communication with ESA and the EU institutions when it comes to support technology development
- Improving the cohesion of the supply chain through increased industry exchanges and knowledge of the capabilities available in all Europe

The process eventually supports a globally enhanced end-to-end European space technology strategy both for ESA and the EU.

ORDIN activities in 2021

In 2021 ORDIN pilot activities were implemented in the form of two consultation workshops held in November 2021 addressing key subjects for technology strategy in 2022 (Antennas arrays and reflectors, PCBs and Optical technologies, including Photonics, Optical comms, Optical systems).

The pilot ORDIN workshops were very well attended (>100 participants globally) and generated a lot of interest with many panellists volunteering for presentation slots. The pilot workshops enabled to fine tune and validate the ORDIN approach and were furthered in 2022.

ORDIN activities are fully integrated with and coordinated by the Space Research and technology Committee of Eurospace, and in particular the THP (Technology Harmonisation Panel).

THP (technology Harmonisation Panel)

The Technology Harmonisation Panel is a subset of the Research and Technology Committee of Eurospace. It was specifically established and maintained for the purpose of supporting the ESA coordinated Technology Harmonisation process. Its mandate is extended to support any Europe-wide consultation on space technology related topics.

The THP is composed of almost 1300 experts from almost 500 entities including Industry, Research and Technology Organisations, Universities and Academia. The THP membership reaches way beyond Eurospace membership. All the THP experts are registered at their request on the active Harmonisation Technology topics (~50 dossiers) and are only contacted when their topic(s) of interest is reviewed (~every 2-4 years). This expert's database is updated on a regular basis to reflect the modifications of ESA active topics and up to date contacts.

The mandate of the THP is to:

- enable consistent collection of expert inputs in support of European technology strategy, including the ESA technology harmonisation
- map the relevant expertise in the European space actors
- provide European experts with the most recent information available on specific technologies
- collect Experts inputs on the European capabilities/products available
- allow European experts to confront their views and converge on the recommendations to be done for the upcoming short to mid-term developments

ESA changes the Harmonisation consultation framework

In 2020, ESA decided that *"With an evolution of the landscape and the Harmonisation process itself, it has been decided that it is appropriate to open the competition for the support function to the Harmonisation in 2021."*

This decision was taken without consulting the associations, neither the consulted entities (industry, SMEs, RTOs and academia), nor the delegations.

The consultation support activity, historically undertaken by Eurospace since 2004 (together with SME4Space since 2015) with a frame contract and an agreed procedure, is now proposed as an open competitive ITT with a number of critical changes in the process:

- The potential recourse to any contractor to perform the consultation (i.e. no specific role of Eurospace and/or SME4Space).
- The outcome of the consultation will not be presented by the consulting entity during the Mapping meetings anymore
- ESA will limit the consultation to the contact points that it will itself provide to the consulting entity, and if the contractor wants to add more contacts for the consultation, ESA will have to pre-approve them (the criteria and timeline for this are unknown)
 - This clearly deprives the supply chain from the freedom to organise itself autonomously, and will introduce bureaucratic burdens and costs that will inevitably have an impact on the quality of the consultations
 - This de facto negates the existence of the Technology Harmonisation Panel (THP)
- The stakeholder consultation on the roadmaps will be limited to *"Roadmap development approach, high-level aims, and high-level general remarks on the Roadmap"* and will not include a detailed review of the individual activities (i.e. The Roadmap tables).
- ESA introduced a requirement for **data access** by which the contractor will have to provide to ESA access to **all individual inputs gathered during the consultation phase**, and by which ESA can attend to all meetings organised by the contractor with the stakeholders. This is a breach of the confidentiality agreement Eurospace had so far with consulted entities, guaranteeing complete anonymity of all contributions received.
- The overall budget for the support activity has been reduced by 30%. The budget cut is "justified" by a reduction of the work effort expected from the contractor.

This new approach thus strongly deviates from the current principles and management approach of the Harmonisation process. It is the opinion of the stakeholders and of the executive that the contractual approach would not ensure a fair and effective industry consultation process.

After consulting with the members and chairs of the THP, the Eurospace Financial Committee, the Policy Committee and eventually the Council it was agreed that Eurospace would not bid for the new support contract in 2021, but would pursue, without ESA financial support, the normal industry consultation process for the Technology Harmonisation with industry THP members.

In 2021, Eurospace supported the Harmonisation process under the coordination efforts of Euroconsult (who won the bid for the harmonisation support contract). **As expected, the consultation conditions and the ability of the sector to express its concerns on the harmonisation topics was significantly degraded.** Are worth noting:

- The consultation timeline was dramatically shortened (for some dossiers the consultation timeline was under 3 weeks for the Mapping, which made it impossible to organise a consolidation of inputs at Eurospace level)

- The Roadmap meetings with ESA technical officers and Eurospace representatives were discontinued – a few Technical officers reached out to Eurospace to try and find a solution to collect Eurospace feedback on the roadmaps, but the Harmonisation Office did not allow them to proceed.
- The roadmap review phase was shortened, and ESA announced that it would not gather anymore industry comments on the detailed roadmap.
- The public document repository for the harmonisation process (the HDMS) maintained by ESA, was rehauled, and many documents are not available anymore
- Industry stakeholders are not invited to attend the Mapping meetings anymore, only the associations representatives are invited.

REACH

In 2011, an Agency-Industry REACH WG was set up, with ESA coordination, to monitor and address REACH issues affecting the space sector. This WG monitors in particular the evolution of the REACH Candidate List and Annex XIV and its impact on the space sector.

Since 2012, the REACH WG activities were put under the mandate of the Materials and Technology WG of the CTB that later transformed into the MPTB (Materials and Processes Technology Board). Eurospace monitors activities of the MPTB to enable the identification of actions requiring joint industry actions; key Eurospace member companies also participate in the regular WG meetings.

In the frame of REACH activities, Eurospace liaises with the ASD REACH & Chemicals Management Working Group, ensuring appropriate information flow and coordination of actions between space and aeronautics sectors.

Together with our partners, Eurospace also follows closely the proposed evolutions of REACH and other relevant EU chemicals legislation, such as those considered under the European Commission's '**Chemicals Strategy for Sustainability**' of 14 October 2020.

Eurospace supports the coordination and implementation of joint space industry actions in the REACH framework with dedicated Task Forces:

- EMWG – Energetic Materials Working Group
- LTF – Lead Metal Task Force
- HTF – Hydrazine Task Force (inclusive of other liquid propellants)
- STF – Space Chromates Task Force
- WFD TF – Waste Framework Directive Task Force

The REACH Task Forces are led by Pierre Lionnet (Research Director).

All REACH activities of the space industry are coordinated with the Materials and Processes technology Board, managed by ESA. They are technically supported by REACHLaw.

All REACH Task Forces are opened to all stakeholders in the sector, whether or not they are members of Eurospace. In some cases, REACH Task Forces will require a financial contribution from participating entities, whether or not they are members of Eurospace.

In 2021, most REACH related activities were driven by:

- the legislative agenda for the REACH review and simplification update, for this the EC and the ECHA have extensively consulted industry stakeholders via the associations
- the Lead registration and authorisation framework for which Eurospace worked closely with the ILA (International Lead Association) and the ASD

- the SCIP database regulation, and the waste framework directive, addressing the end of life and recycling aspects of industrial products.

More information (and in particular the list of substances of concern for the space sector) is provided in the Annex - REACH and the Space sector.

Relations with other associations

ASD

Eurospace is the space group of ASD. Eurospace monitors ASD activities to ensure the proper expression of Space specific aspects in all ASD related activities. This monitoring is particularly effective in the:

- Research and Technology Commission
- Chemicals WG
- External Affairs Committee
- Defence Business Unit (DBU)

In 2021 the majority of activities in relation with ASD were associated to the following ASD initiatives:

- Contribution to the ASD position paper about the “Action Plan on Synergies between civil, defence and space” for what concerned the space-related aspects
- Contribution to the ASD inputs toward DG DEFIS about the impact of the Covid crisis on the Aerospace&Defence Industry
- Collaboration and coordination regarding the organisation of the Sky&Space Intergroup meetings when it concerns space issues
- The ASD HEU Task Force where Eurospace executive gives regular updates on the developments of the The TecSov Task Force (coordinated by the ASD DBU) with the monitoring and contribution of inputs to the TF.
- Critical technologies: an initiative to produce an ASD position on critical technologies was promoted by the RTC in 2021. It has yet to produce an outcome. The space group supported it with many inputs and provided a full-scale methodology for its implementation.
- The liaison with Chemicals WG in the context of Eurospace REACH activities: all work in the REACH area performed at Eurospace is reported at ASD level to ensure full consistency of messages and procedures. Many REACH concerns are commonly shared by the three ASD sectors (such as Chromates, lead, Waste treatment).
- Eurospace Secretary General is invited to all meetings of the “External Affairs Commission” and the “Defence Business Unit” where, if relevant, he expresses the position of Eurospace
- ASD Defence Director has been invited and followed the activities of the TF “European Defence Fund” of Eurospace.

Other associations

Eurospace constitutes and maintains an active network of contacts in the main representative associations of the sector, at European and (occasionally) at national levels. Eurospace has thus regular contacts with following associations: SME4Space, ESRE, EARTO, ARSC, ESOA, GIFAS, BDLI, NEREUS, EASN, and AIAD.

Contracts and own revenue

DASIA conference

DASIA is an annual conference organised by Eurospace since 1996. It gathers space data systems specialists over 3 days for presentations, workshops/panels and discussion. It provides opportunities for exhibitors and networking. DASIA is an important event in the space community.

Following the postponement of DASIA 2020 from May to December due to the Covid-19, the conference was planned for this autumn in the period September 21st to 23rd in Bucharest, Romania.

By mid-April 2020 only 20 potential participants confirmed their attendance to the event, and the health situation and travel restrictions being unchanged, it was then decided to cancel the 2020 physical conference and to execute DASIA 2021 as a virtual conference in the same period in September.

DASIA 2021 "Digital" generated a gross margin of 27,4k€

- The consumption of Eurospace resources (31,3k€) results in a net loss of 3,9k€ on the activity.
- In its physical configuration the conference usually yields a gross margin of 35 to 45k€, which makes it profitable at about 10k€ net profit on the event (i.e. profit rate of 9% on total revenues of 110k€).

DASIA 2021 financial details

DASIA 2021 revenues

Total revenues: 39850€

Of which:

- Participants fees: 30950€ (93 participants)
- Sponsors/exhibitors: 8900€ (9 exhibitors)

Total Costs: 43800€

- Eurospace human resources: 31300€ (569 hours of organisation work)
- External contractors: 12500€
 - Finn Hass: programme management - 6000€
 - MakeMeDigital: online event technical platform - 6500€

EPIC and EPIC 2 (H2020 Grant)

In September 2014 Eurospace was invited to join the ESA-led consortium to bid for the H2020/space call COMPET-03-2014 (In-Space electrical propulsion and station keeping) to support the Electric Propulsion Strategic Research Cluster (SRC). Other partners in the consortium are ASI, CNES, DLR, CDTI, Belpo, UKSA and SME4Space. The object of the activity is to support European Commission in the definition and implementation of coordinated calls to develop EP systems for the future. The project name is EPIC, for Electric Propulsion Innovation and Competitiveness. The work is organized in 5 workpackages

- WP1 - Management (led by ESA)
- WP2 - Technology and requirements survey (led by CNES) – with Eurospace involvement.
- WP3 - Gap analysis (led by ASI)

- WP4 - Activity Roadmapping and project calls technical assistance (led by CDTI)
- WP5 - Dissemination (Led by CDTI)

In 2019 the Commission decided to further the EPIC project, for 5 more years with the recommendation to widen the scope of industry participation in it, and in particular to allow industry inputs to the roadmapping process.

Under the name EPIC2, the project elaborated in 2020 a complete action plan for Electric Propulsion under Horizon Europe. Industry contribution through Eurospace was instrumental in its elaboration.

The work performed in 2021 on EPIC2 yielded 21k€ in 2021 (pending approval by COM).

EU Action 10

Eurospace joined the consortium led by Spaceteq partners for the Action 10 procurement launched by EU DG DEFIS.

Through this procurement, the European Commission is seeking to contract an expert advisory team which provides a one-stop-shop support capable of delivering in 2021-2024 detailed analyses, studies, stakeholder consultation and communication activities related to the programming and monitoring cycle of EU funded R&I in the space sector.

Eurospace joined a consortium led by Spaceteq Partners to bid for the tender. The consortium was eventually selected.

Eurospace has sought involvement in the activity with two main objectives:

- A political objective: ensure the involvement of Eurospace in a project that will manage the EU consultation Platform for Horizon Europe Space competitiveness – this involvement shall guarantee full visibility of related activities in the Platform
- A financial objective: seek alternative revenue sources in 2021 and beyond to compensate the termination of the ESA Harmonisation contract.

Eurospace was allocated a workshare of 284k€ for 4 years, with involvement in the following work packages

- Eurospace Lead
 - WP2.1 Analysis of the required industrial skills
 - WP5.2 Website development
 - WP5.5 Repository with the ensemble of the communication material
- Eurospace support
 - WP2.1.2 Recommendations on improving space community's leverage of and linkage to existing opportunities
 - WP3.1 Monitoring methodology for EU-funded projects
 - WP3.2 Monitoring of EU-funded projects - state of the art
 - WP3.3 EU-funded projects in the field of space and the path to innovation
 - WP5.1 Communication strategy development

Activities on the project started at end August 2021. The project will run over 4 years. The total Eurospace workshare is worth 284k€ in total. The annual revenue shares will be split according the usage of resources and project progression.

In 2021, mostly in relation to the work on WP5, Eurospace could recognise 22493€ of revenues on this contract.

ECSS support (ESA Contract)

ESA entrusts Eurospace to manage the reimbursement of travel costs to industry contributors to the standards drafting activities. This contract is of an administrative nature and covers the fixed costs of Eurospace management, a pro rata on each reimbursed amount covers the variable costs associated to the management costs of the reimbursements. Due to travel limitations imposed by the Covid crisis

In addition, Eurospace manages, coordinates and controls the industrial activities in ECSS and is responsible for:

1. distribution of information and documents (in particular draft standards) to industry
2. consolidation and transmission of industry comments, data, feedback from ECSS documents application, mail, organisation of the Contractor, ECSS Panel meetings.

This activity is supported by ESA with a cost reimbursement contract.

The contract yielded 31203€ in 2021.

GIFAS Facts & Figures

In 2021 GIFAS furthered the contractual support to the annual contribution of Eurospace facts & figures to the French industry association statistics.

The contract yielded 18k€ in 2021.

Data Licensing

Spacetec Partners

In the context of the work performed by SpaceTec for the European Commission under the EU Space Economics and the Global Context – FWC No 712/PP/2018/FC Lot 2 Specific Contract 6 an extensive data licensing was negotiated with Eurospace.

The licensed datasets are:

- The Eurospace facts & figures complete sales data matrix for the years 2010 to 2019 (included) i.e. 10 data tables to be provided as per the template shown in Annex 1 as a single Excel file with 10 data sheets.
- The Eurospace facts & figures complete employment data sets with country and segment details , for the years 2010 to 2019 (included) i.e. 2 data as a single Excel file with 2 data sheets.

The negotiated licensing fee is 27k€, data delivery was performed in January 2021 and invoicing was registered to the 2021 accounts.

ESA Exploration 2030+ Workshop

Eurospace organised, on behalf of ESA, an articulated ESA industry dialogue, including the organisation of an ESA/Industry workshop/seminar, with a view of supporting ESA in its elaboration of the Exploration Strategy for 2030 and beyond.

The overarching goal of the approach is to support the elaboration of well defined, consolidated industrial orientations for the ESA exploration strategy, and create momentum and political support for it in the industrial community.

The service provision included:

1. A dedicated survey with industry stakeholders, large and small, and including RTOs⁴.
2. The preparation of an ESA/Industry virtual workshop/seminar of 2 days addressing the key topics supporting the sharpening of the ESA Exploration strategy
3. The elaboration of conclusions drawing from the outcome of the survey and the workshop/seminar discussions.

The service was provided by Eurospace and SME4Space, with Eurospace as the prime contractor for the activity.

- The service was provided at a total firm fixed price of 46865 Euro
- A total of 15472€ were subcontracted to SME4Space

The revenue on the ESA Exploration 2030+ workshop contract was 31390€ registered to the accounts in 2021. The net profit for Eurospace on the activity (after deduction of Eurospace resources consumed by the action) was 2054€.

The ESA Exploration workshop, despite yielding very low profit, has exhibited strong positive synergies with Eurospace industry coordination and advocacy mandates. For instance, in the wake of the Workshop, and taking advantage of the large and diverse amount of supply chain viewpoints gathered during the workshop, and extensive Eurospace position paper on ESA Exploration strategy was produced and presented to ESA.

⁴ *Research and Technology Organisations*

Internal affairs

Eurospace President and Council

In 2021 Eurospace president was André Hubert Roussel (ArianeGroup CEO) on a 3-year mandate that started in June 2020.

The complete composition of the Eurospace Council in 2021 is provided in annex.

Eurospace statutes update

Two different issues have been identified in Eurospace Statutes linked to membership and seat allocation:

- on the one hand, several members have asked about the possibility to pay a unique fee covering their subsidiaries (and not multiple fees for multiple subsidiaries);
- on the other hand, the seat allocation foreseen by the current statutes does not take into account the evolution of our membership and could prove deterrent to attract new members.

In June, Eurospace Council gave mandate to the SG to propose a revision of the statutes and, in December the Council approved the proposed changes which have then been transmitted to ASD president for a formal approval to proceed with the changes by ASD Board.

The revision introduces a new Council membership seat allocation, more progressive and flexible, and three new membership fee calculation options for groups and SMEs.

The updated statutes were approved by the General Assembly of December 2020. They were approved by the Board of ASD on June 2021.

The latest versions of the statutes of Eurospace can be found on the website⁵.

Membership update

For membership status, refer to: Annex - Eurospace Council And Membership - December 2021 (page 33).

New members

One new member joined Eurospace in 2021:

- CS Group.

Members restructuring

In the course of 2021 two Eurospace members have announced corporate restructuring that have had impact on the Eurospace membership:

- CGI while moving to the new group membership approach, has reduced its membership perimeter by porting its CGI UK membership to CGI DE. CGI affiliates located in the UK will thus not benefit anymore from Eurospace advantages.

⁵ <https://eurospace.org/download/3692/>

- Vitrociset has announced the company full integration in the Telespazio Group. Telespazio eventually moved to a group membership in 2022 with the inclusion of the (then) Vitrociset entity. The membership perimeter is thus unchanged.

Members resigning

No members resigning in 2021.

Membership scheme update

Background

At the request of a few members and following the Council decision of June 2020, the Eurospace executive was tasked to reflect on the modernisation of the membership scheme of Eurospace, with a view to making Eurospace membership fee scheme fairer and more attractive to a wider array of stakeholders.

The guiding principles for the membership evolution were:

- A more balanced cost of membership for smaller entities and entities with a European footprint
- Allow current members to include their subsidiaries without additional high entry costs
- Attract new members with a more attractive membership scheme for smaller entities
- Maintain the 'legacy' membership fee scheme for all members who want to keep it.

The executive presented the outcome of its reflections to the Council and General Assembly of December 2020, and 3 new membership schemes were approved, targeting the membership of companies as corporate groups with medium and large group membership, and a special membership scheme for SMEs.

Four membership formula were available to Eurospace members in 2021.

"Legacy" membership	"Mid-size/midcap group" membership	"Large group" membership	"SME membership"
<ul style="list-style-type: none"> • Current • Accessible to members that wish to retain this scheme • Formula: <ul style="list-style-type: none"> • 8500€ entry fee (inclusive of 100 space employees) • 20€ for each employee above 100 	<ul style="list-style-type: none"> • New • Accessible to all members with a European footprint, and less than 3000 space employees • Formula <ul style="list-style-type: none"> • 10000€ entry fee (inclusive of 250 employees) • 22€ for each employee above 250 	<ul style="list-style-type: none"> • New • Accessible to all members with a European footprint, and 3000 space employees or more • Formula <ul style="list-style-type: none"> • 30000€ entry fee (inclusive of 750 employees) • 22€ for each employee above 750 	<ul style="list-style-type: none"> • New • Accessible to SMEs • Formula <ul style="list-style-type: none"> • 15000€ entry fee (inclusive of 30 employees) • 22€ for each employee above 30

Impact of membership scheme update

Introduction

With a view of improving the level of representation of Eurospace and enabling a more progressive membership scheme particularly targeting companies having subsidiaries scattered across Europe a new membership fee scheme was proposed and approved for implementation in 2021.

The membership fee scheme maintains the legacy membership fee calculation formula, introduces two new formulas for group membership (accessible to companies having more than one entity/subsidiary willing to join

the perimeter of the association) and one formula accessible only to SMEs (less than 50M€/sales and less than 250 employees).

In June 2022 we can draw the first lessons and measure the impact of the new scheme. The impact is globally positive when measured on:

- **Total representativeness** (number of employees covered by the Eurospace membership perimeter) has slightly improved
- **Company representativeness** (number of companies included in Eurospace perimeter) has significantly improved
- **New members** (new companies having adhered thanks to new membership options, in particular SMEs) - two new companies have adhered via the SME scheme

However, the **financial impact** (the new 'group' schemes offer a more progressive/proportional fee that is financially attractive to both medium and large size groups) is negative, we estimate the loss due to the transition to group membership of close to 30k€, or 3-4% of the revenues from fees.

Total representativeness

Eurospace calculates the membership fees by collecting voluntary declarations of space related personnel from the member companies with a 'reply slip'. The 2021 membership fee reply slip process yielded a total of 29938 employees (FTE) declared. The 2022 membership reply slip process yielded a total of 29400 employees (FTE). This is slightly unexpected, since it was expected that the group membership option would have incited member companies to grow their perimeter by including in the membership more entities, and thus more total employees. This was the case for most companies opting for the group membership, but was offset by a few personnel reductions in the wake of the COVID crisis affecting mostly the largest Eurospace members. These personnel reductions were partly compensated by two new members joining Eurospace (adding 500FTE to the total count).

Today Eurospace members perimeter represents 60% of the total Eurospace space sector workforce. It was 70% in 2009.

If all Eurospace members opted for the full inclusion of their space entities in the membership the Eurospace members FTE coverage could grow to 33000 and reach 62% of total workforce.

Company representativeness

The new 'group' membership has enabled companies with a European footprint to adhere to Eurospace with the progressive inclusion of all the relevant entities, including the smaller ones, taking advantage of a more progressive fee formula.

Taking advantage of this option some groups⁶ have grown significantly the perimeter of the Eurospace membership, with new many entities now being included.

As a result, the number of companies in the Eurospace membership is now of 76 with a footprint of 16 different countries. In 2021 Eurospace counted only 46 members distributed among 13 countries.

⁶ The following Eurospace members have opted for the group membership in 2022: Air Liquide, ALTER-TÜV, CGI, CS Group, Deimos, GMV, OHB, Telespazio, Thales Alenia Space

New members

The SME accession scheme was probably instrumental in the adhesion of two new members in 2022 (Loft Orbital and SpaceAble).

Financial impact

The group membership fees have provided existing members the possibility to optimise their involvement in the association and reduce the total cost of membership for the same perimeter. The executive had hopes that this opportunity would provide a strong incentive to include in the perimeter more entities in order to grow the coverage and preserve the level of income from fees. The Council had made a formal recommendation to the General Assembly in this direction.

The outturn from membership fees in 2022 is 859k€ compared to 885k€ invoiced in 2021.

Considering that the 2021 employment perimeter had shrunk by 1000 FTE (a 'structural' loss of or 20k€ not attributable to the new membership schemes) and that two new members have joined Eurospace in the period (worth 24,4k€ of additional fees) we estimate that the **transition to group membership has cost Eurospace finances about 30k€.**

Personnel in 2021

Permanent team

In 2021 the Eurospace team was composed of:

- Alecton Nathalie - Office and Conference Manager
- Charles Galland - Temp contract was converted to permanent contract in 2021
- Cuellar Angel - Standardisation and database manager
- Hallakoun Jérémy – Technology Strategy Manager – joined the Team in January resigned in September 2021 2020 to pursue its career at French Ministry of Foreign Affairs
- Lemaitre Olivier - Secretary General
- Lionnet Pierre - Research and Managing Director
- Treuet Jean-Charles – Head of Technology Strategy

Temporary contracts

None in 2021.

Other internal matters

None in 2021.

Annex - REACH and the Space sector

Background

In 2011, an Agency-Industry REACH WG was set up, with ESA coordination, to monitor and address REACH issues affecting the space sector. This WG monitors in particular the evolution of the REACH Candidate List and Annex XIV and its impact on the space sector.

Since 2012, the REACH WG activities were put under the mandate of the Materials and Technology WG of the CTB that later transformed into the MPTB (Materials and Processes Technology Board). Eurospace monitors activities of the MPTB to enable the identification of actions requiring joint industry actions; key Eurospace member companies also participate in the regular WG meetings.

In the frame of REACH activities, Eurospace liaises with the ASD REACH & Chemicals Management Working Group, ensuring appropriate information flow and coordination of actions between space and aeronautics sectors.

Together with our partners, Eurospace also follows closely the proposed evolutions of REACH and other relevant EU chemicals legislation, such as those considered under the European Commission's '**Chemicals Strategy for Sustainability**' of 14 October 2020.

Substances of concern

To date, the following substances are high on the space industry agenda (the list is not exhaustive):

- **Hydrazine:** Managed in the frame of the Hydrazine Task Force (HTF). The substance has been included as SVHC in the REACH Candidate List in 2011. Following an in-depth analysis involving all relevant space sector stakeholders Eurospace presented an Authorisation Exemption Position Paper for propellant-related uses to the European Commission in October 2012. A clarification by the European Commission is expected at the latest, if and when Hydrazine would be prioritised for Annex XIV. In 2019, other liquid propellants (namely MMH, UDMH and NTO/MON-x were also included in the Task Force scope. An updated position paper was issued in April 2020.
- **Chromates, especially Chromium Trioxide:** Managed by the Space Chromates Task Force (STF). STF has prepared a joint Analysis of Alternatives and Socio-Economic Analysis for the use of Chromium Trioxide in chromic (or chemical) conversion coating (CCC) and the repair or maintenance of such coating on aluminium alloy parts used in launchers and space vehicles. A summary of these analyses has been submitted to the ECHA in 2015 in order to support an upstream application for authorisation ("CTACSub"); subsequently STF has been monitoring the decision-making in the case CTACSub. Following the Commission's authorisation decision of 18 December 2020 Eurospace has published a compliance guideline for EU/EEA downstream users.
- **N-Methyl-2-Pyrrolidone (NMP)** – This substance was identified as an SVHC in the REACH Candidate List in 2011. Subsequently a restriction procedure was initiated. In 2017 ECHA decided to review the situation and NMP could now also be subject to authorisation (inclusion on Annex IV). This is a subject for serious concern for our industry. On 9 May 2020 a new restriction (entry 71 of REACH Annex XVII) on the manufacture, placing on the market and use of NMP to ensure that the exposure of workers remains below specified maximum levels entered into application.
- **Metallic Lead (Pb):** The substance is used in space systems. The major use of concern is in: Tin-Lead soldering for electronics. Lead has been included in the SVHC Candidate List in June 2018. Since March 2018 Eurospace has been supporting the MPTB for the set-up of the **Lead Task Force** (LTF) addressing lead-related issues for the space sector and advocacy in the REACH process. In 2020 a Space case study on lead has been published as part of the cross-sectoral "Lead Matters" campaign.
- **Diisocyanates:** Diisocyanates for production of polyurethanes are used in the European Space Sector for a variety of applications (e. g. cryogenic foams). In August 2020 a new restriction (entry 74 of

REACH Annex XVII) on the placing on the market and use of diisocyanates entered into force; it requires adequate training before industrial and professional use as from 24 August 2023.

- **Propellants and explosives (energetic materials):** Managed in the frame of the Energetic Materials Working Group (EMWG). The EMWG is a long-term collaboration of industry and agencies to monitor and take the required actions to determine and mitigate possible regulatory obsolescence risks – mainly but not limited to the REACH – for substances used in energetic materials for space applications. The list of energetic materials currently being monitored comprises more than 50 entries, going beyond the liquid propellants subject to the Hydrazine Task Force to also include other essential propellants and explosives, such as **ammonium perchlorate, hexogen “RDX”, hydrogen peroxide and lead azide.**

In the medium term, **other substances may be prioritised by REACH with potential concerns for the space sector; examples include:**

- **Perchloric acid**, its salts and precursors (used as oxidiser in solid propulsion systems: e.g. Ariane and Vega main propulsion)
- **Boric Acid**
- **Borates** (crystals, lasers, optical instruments)
- **Gallium Arsenide** (GaAs – solar generators, EEE components)
- **Nickel derivatives** (surface treatment, energy storage)
- **Bisphenol-A (BPA)** (Used in Epoxy resins)

In terms of magnitude, ~8% of the materials used in the space industry may be affected in the mid-term, and possibly 20% in the long-term, based on analysis of the REACH Candidate List for authorisation and relevant precursor lists. These high numbers show the significant potential impact of the REACH chemicals regulation on the space sector, which was not a primary target of these rules.

Waste management and SCIP notification

In addition, the sector is working on the application aspects of the revised [Waste Framework Directive 2008/98/EC \(WFD\)](#):

- **Article 9 of the revised WFD** foresees a notification requirement for EU article suppliers as from 5 January 2021 and creation of a corresponding database on ‘Substances of Concern in Products’ (SCIP) by ECHA for articles containing substances included in the REACH Candidate List above 0.1% weight by weight. ECHA shall provide access to that database to waste treatment operators, but is even planning to publish it. **Products sent into space and related means of transport such as launch vehicles typically do not result in waste on the EU territory.** Therefore, such products are not part of the Circular Economy and appear to fall outside the scope of the WFD. Yet, an explicit exemption is not foreseen for such products, and information disclosure in ECHA’s SCIP database would raise serious concerns. Against this background the WFD Task Force of the European Space Sector has prepared a Best-Practice Guidance in 2020 to comply with SCIP notification, taking into account the special case of space products.

Eurospace REACH Task Forces / Working Groups

Eurospace supports the coordination and implementation of joint space industry actions in the REACH framework with dedicated Task Forces:

- EMWG – Energetic Materials Working Group
- LTF – Lead Metal Task Force
- HTF – Hydrazine Task Force (inclusive of other liquid propellants)
- STF – Space Chromates Task Force
- WFD TF – Waste Framework Directive Task Force

The REACH Task Forces are led by Pierre Lionnet (Research Director).

All REACH activities of the space industry are coordinated with the Materials and Processes technology Board, managed by ESA. They are technically supported by REACHLaw.

References and positions

The REACH task forces are very active and have published numerous communications, position papers and guidelines for industry:

- [Eurospace compliance guideline](#), to facilitate the continued use of **chromium trioxide** in chemical conversion coatings for space hardware with the authorisation requirement under REACH (February 2021)
- Eurospace updated [SCIP Space Best-Practice Guidance v1.1 – 3FEB2021](#) (February 2021)
- Eurospace [Space case study](#) for Lead Matters (December 2020)
- Eurospace New Space Sector [Working Group on Energetic Materials](#) (28 September 2020)
- Eurospace revised position on [Hydrazine](#) and other liquid propellants (April 2020)
- Eurospace Space sector contribution to [RoHS Evaluation](#) (28 November 2019)
- Eurospace position on [Waste](#) (September 2019) Eurospace position on [Metallic Lead](#) (20 April 2018)
- Eurospace [position on NMP](#) (June 2 2017)
- Eurospace contribution to the EC REACH Review (January 27 2017) – [Eurospace Questionnaire REACH Refit 2017-27JAN2017](#) & [Eurospace Position Paper REACH Refit 2017-27JAN2017](#)
- [Parliamentary question \(E-003827-2016\) “Impact of REACH legislation on the European space industry”](#) (May 9 2016) and [Answer given by Ms Bieńkowska on behalf of the Commission](#) (28 July 2016)
- [Space Chromates Task Force \(‘STF’\) Comments on the CTAC\(Sub\) application for authorisation in public consultation](#) (6 October 2015)
- ASD-Eurospace [response](#) to the EC public consultation on REACH Authorisation (29 April 2016)
- [ESA, REACH Obsolescence Risk Management for Space Programs](#) (22 April 2015)
- [1st Space Stakeholders’ Day on REACH](#) – Summary and presentations (2 December 2013)
- Rohr et al., Impact of REACH Legislation on European Space Programs
- ASD-Eurospace Position Paper on [Hydrazine](#) (14 June 2012)
- [EU policy and legislation on chemicals](#) – European Parliament Research Service (D. Bourguignon) – 2016.

Annex - Eurospace Council And Membership - December 2021

Eurospace Council status

As of December 2021

Company	Country	Council status	Last Name	First Name	End of mandate
AEDCP	Portugal	Member	CARVALHO	Bruno	June 2023
AIRBUS DEFENCE & SPACE GmbH	Germany	Member	PLASS	Joerg	December 2023
AIRBUS DEFENCE & SPACE Ltd	United Kingdom	Member	MACKEN	Sarah	June 2022
AIRBUS DEFENCE & SPACE NETHERLANDS B.V.	Netherlands	Member	SCHIPPERS	Maarten	June 2022
AIRBUS DEFENCE & SPACE SAS	France	FinCom	WAGNER	Alain	June 2022
AIRBUS DEFENCE & SPACE SAS	France	Member	NASR	Jean-Marc	June 2022
ARIANE GROUP SAS	France	President	ROUSSEL	André-Hubert	June 2023
ARIANESPACE	France	Member (Rotation F)	ISRAËL	Stéphane	June 2022
AVIO SpA	Italy	Member	RANZO	Giulio	June 2021
CGI IT UK Ltd	United Kingdom	Member (Rotation UK)	OVERBEEK	Cock	December 2023
KONGSBERG DEFENCE & AEROSPACE	Norway	Member	DRØPPING	Ingelin	June 2022
OHB SYSTEMS AG	Germany	Vice-President	FUCHS	Marco	June 2023
RUAG SCHWEIZ AG RUAG SPACE	Switzerland	Member	FÜRST	Daniel	June 2023
RUAG SPACE AB	Sweden	Member	LARSON	Anders	June 2022
RUAG SPACE FINLAND OY AB	Finland	Member	HÄNNINEN	Timo	June 2022
RUAG SPACE GmbH	Austria	Member	BUHL	Andreas	June 2022
SABCA	Belgium	Member	JONGEN	Thibauld	June 2021
SCISYS UK Ltd	United Kingdom	Member (Rotation UK)	WULF	Horst	December 2023
SENER Ingeniería y Sistemas, S.A.	Spain	Member (Rotation E)	RODRIGUEZ GOMEZ	Diego	June 2021
TELESPAZIO SpA	Italy	Vice-President	PASQUALI	Luigi	June 2022
TELESPAZIO VEGA DEUTSCHLAND GmbH	Germany	Member	KELLER	Sigmar	June 2021
TERMA A/S	Denmark	FinCom Chair	JÖRGENSEN	Carsten	June 2022
TESAT Spacecom GmbH&Co. KG	Germany	Member	STECKLING	Marc	June 2022
THALES ALENIA SPACE BELGIUM	Belgium	Member	MALLER	Inna	June 2023
THALES ALENIA SPACE FRANCE	France	Member	DERREY	Hervé	June 2023
THALES ALENIA SPACE ITALY	Italy	FinCom	GRECO	Sergio	June 2021
THALES ALENIA SPACE ITALY	Italy	Member	COMPARINI	Massimo	June 2023
THALES ALENIA SPACE SPAIN	Spain	Member (Rotation E)	BELLIDO ARROYO	Eduardo	June 2022

Eurospace Policy Committee status

As of December 2021

Company	Country	Last Name	First Name
AED	PORTUGAL	SANTOS	Rui
AIR LIQUIDE ADVANCED TECHNOLOGIES	FRANCE	ROMA	Delphine
AIRBUS DEFENCE & SPACE GERMANY GmbH	GERMANY	MAYER	Thomas
AIRBUS DEFENCE & SPACE Ltd	UNITED KINGDOM	MACKEN	Sarah
AIRBUS DEFENCE & SPACE SAS	FRANCE	PARIS	Rodolphe
AIRBUS DEFENCE & SPACE SAS	FRANCE	GENTA	Daniela
AIRBUS DEFENCE & SPACE SAS	FRANCE	RUDLOFF	Patrick
ALTER TECHNOLOGY-TÜV NORD S.A.U.	SPAIN	NUNEZ TERUEL	David
APCO TECHNOLOGIES	SWITZERLAND	MANZONI	Didier
ARIANE GROUP SAS	GERMANY	MAGER	Alexander
ARIANE GROUP SAS	FRANCE	D'HEILLY	Agnes
ARIANESPACE	FRANCE	OESTERSCHLINK	Manuel
AVIO SpA	ITALY	FONTANA	Angelo
AZUR SPACE	GERMANY	STROBL	Gerhard
CGI IT UK Ltd	UNITED KINGDOM	OVERBEEK	Cock
CGI Deutschland B.V. & Co. KG	GERMANY	LEIBNITZ	Ulli
CGI Deutschland B.V. & Co. KG	GERMANY	HINÜBER	Arndt
DASSAULT AVIATION	FRANCE	VALES	Marc
DEIMOS	SPAIN	TOURNE	Ignacio
DEIMOS	SPAIN	GONZALEZ	Jose Antonio
GMV Aerospace and Defence S.A.U.	SPAIN	MOLINA	Miguel
INDRA SISTEMAS SA	SPAIN	GONZALEZ	Pablo
INDRA SISTEMAS SA	SPAIN	LUENGO	David
KONGSBERG DEFENCE & AEROSPACE	NORWAY	SAELEBAKKE	Stig
MT AEROSPACE AG	GERMANY	HACKENBERG	Christian
OHB Italia S.p.A.	ITALY	STANGHINI	Marco
OHB SE	GERMANY	TUGNOLI	Matteo
OHB SYSTEMS AG	GERMANY	BORIES	Alain
PROESPAÇO	PORTUGAL	CARVALHO	Bruno
RUAG SCHWEIZ AG RUAG SPACE	SWITZERLAND	FUERST	Daniel
RUAG SPACE GmbH	AUSTRIA	EICHINGER	Bernhard
SABCA	BELGIUM	DUBOIS	Marc
SAFRAN AIRCRAFT ENGINES	FRANCE	LANCON	Brice
SENER Ingeniería y Sistemas, S.A.	SPAIN	AYUSO	Antonio
SENER Ingeniería y Sistemas, S.A.	SPAIN	RODRIGUEZ GOMEZ	Diego
SITAE S.p.A.	ITALY	ZACCHEO	Nicola
TECNALIA RESEARCH & INNOVATION	SPAIN	MARCOS	Jesus
TELESPAZIO SpA	ITALY	ARIDON	Giuseppe
TERMA A/S	DENMARK	JOERGENSEN	Carsten
TESAT Spacecom GmbH&Co. KG	GERMANY	SCHÄFER	Gregor

Company	Country	Last Name	First Name
THALES ALENIA SPACE BELGIUM	BELGIUM	MALLER	Ina
THALES ALENIA SPACE FRANCE	FRANCE	BURY	Patrick
THALES ALENIA SPACE FRANCE	FRANCE	REIX	Claire-Anne
THALES ALENIA SPACE ITALY	ITALY	ARTIBANI	Viviana
THALES ALENIA SPACE ITALY	ITALY	GATTI	Laura
THALES ALENIA SPACE SPAIN	SPAIN	BELLIDO	Eduardo
THALES ALENIA SPACE SPAIN	SPAIN	ALVAREZ	Jose
TNO	NETHERLANDS	COURT	Andy
TTTech Computertechnik GmbH	GERMANY	RYABOKON	Anna
TTTech Computertechnik GmbH	GERMANY	MAEKE-KAIL	Matthias
TTTech Computertechnik GmbH	GERMANY	MASAR	Ivan
VITROCISSET	ITALY	ROSSI	Federico

Eurospace Members status

As of December 2021

Company	Country
AEDCP	PORTUGAL
AIR LIQUIDE ADVANCED TECHNOLOGIES	FRANCE
AIRBUS DEFENCE & SPACE GmbH	GERMANY
AIRBUS DEFENCE & SPACE Ltd	UNITED KINGDOM
AIRBUS DEFENCE & SPACE NETHERLANDS B.V.	NETHERLANDS
AIRBUS DEFENCE & SPACE SAS	FRANCE
AIRBUS DEFENCE & SPACE SAU	SPAIN
ALTER TECHNOLOGY-TÜV NORD S.A.U.	SPAIN
APCO Technologies	FRANCE
ARIANE GROUP SAS	FRANCE
ARIANESPACE	FRANCE
AVIO SpA	ITALY
AZUR SPACE	GERMANY
CGI DEUTSCHLAND B.V. & Co. KG	GERMANY
CS GROUP	FRANCE
Dassault Aviation	FRANCE
DEIMOS	SPAIN
GMV Aerospace and Defence S.A.U.	SPAIN
INDRA SISTEMAS SA	SPAIN
KONGSBERG DEFENCE & AEROSPACE	NORWAY
MT AEROSPACE AG	GERMANY
OHB ITALIA	ITALY
OHB SYSTEMS AG	GERMANY
RUAG SCHWEIZ AG RUAG SPACE	SWITZERLAND
RUAG SPACE AB	SWEDEN
RUAG SPACE GmbH	AUSTRIA

SABCA	BELGIUM
SAFRAN AIRCRAFT ENGINES	FRANCE
SENER Ingeniería y Sistemas, S.A.	SPAIN
SITael S.p.A.	ITALY
TELESPAZIO SpA	ITALY
TELESPAZIO VEGA DEUTSCHLAND GmbH	GERMANY
TELESPAZIO BELGIUM	BELGIUM
TERMA A/S	DENMARK
TESAT Spacecom GmbH&Co. KG	GERMANY
THALES ALENIA SPACE BELGIUM	BELGIUM
THALES ALENIA SPACE FRANCE	FRANCE
THALES ALENIA SPACE ITALY	ITALY
THALES ALENIA SPACE SPAIN	SPAIN
TNO	NETHERLANDS
TTTech Computertechnik GmbH	AUSTRIA

Annex: simplified financial report

2021 Accounts closure

The closure of accounts⁷ for 2021 exhibited quite a few deviations from the projections presented to the Council by FinCom Chair in June 2021. In particular, Eurospace had lower than planned expenses, and more specifically:

- Salaries: 56k€ lower than budget
 - Olivier Lemaitre – not yet full charge (paid leave was partly settled in the closure of his previous contract and thus not charged in 2021 Eurospace accounts)
 - Jérémy Hallakoun resignation in September – partial year offsets costs
 - No statutory evolutions in 2021
- Some expenses were positively affected by COVID, worth savings of 17k€
 - Office costs (maintenance and consumables)
 - Travels/receptions
- Usual expenses were further reduced by management and cost control measures worth savings of 8k€:
 - cost control measures: 4k€ of savings
 - Amortisation: 4k€
 - Taxes: 4,5k€ Lower than expected
- Some revenues were higher than expected, worth 22k€ in recharges from the previous year:
 - STEPP experts: recharge 10k€ (double count invoice in 2020 accounts, recharged to 2021)
 - DASIA 2020 was cancelled and the hotel advance was lost. Notwithstanding, in 2021, the negotiation with the commercial partner WECO Travel led to partial reimbursement of the advance. In addition a few DASIA pre-paid fees of 2020 were transferred to the 2021 revenues.

The chart below provides the review of budget vs realisation in 2021.

⁷ Accounts are closed and certified by the Eurospace chartered accountant (Fatima Boumerzag, working for Cabinet In Extenso - <https://www.inextenso.fr/agence/expert-comptable-paris-boulogne-billancourt/>). They will be, as usual, audited by an independent auditor (Commissaire aux Comptes) in view of their endorsement by the General Assembly of June.

	2020	2021 (budgeted)	2021 (real)
Annual Gross Result	€ 55 711	-€ 17 663	€ 86 326
Profit tax	€ -	€ -	€ 16 578
Organic profit/loss	€ 55 711	-€ 17 663	€ 69 748
Year	2020	2021 (budgeted)	2021 (real)
Revenue	€ 1 326 752	€ 1 079 864	€ 1 082 353
Products	2020	2021 (budgeted)	2021 (real)
Membership fees	€ 874 950	€ 885 540	€ 872 757
Financial Products	€ 115	€ 300	€ 1 157
Contracts	€ 341 865	€ 131 338	€ 146 811
Grants	€ 109 642	€ 19 541	€ 21 775
Conferences	€ -	€ 27 180	€ 39 850
Miscellaneous	€ -	€ -	€ -
Subvention	€ -	€ -	€ -
Recharge	€ 180	€ 15 965	€ 3
Own revenue	€ 451 802	€ 194 324	€ 209 596
			0
Expenditure	€ 1 271 041	€ 1 097 527	€ 996 027
Charges	2020	2021 (budgeted)	2021 (real)
Salaries	€ 849 088	€ 840 308	€ 784 216
Amortizing	€ 10 025	€ 10 000	€ 5 487
Usual expenditures	€ 131 666	€ 125 059	€ 117 560
Add. Expenditures	€ 38 032	€ 2 020	€ -
Usual External providers	€ 155 023	€ 82 481	€ 81 973
Add. External providers	€ 59 123	€ 3 739	€ 10 000
Usual missions expenses	€ 7 487	€ 13 903	€ 4 191
Add. missions expenses	€ 817	€ -	€ -
Taxes	€ 17 075	€ 17 075	€ 12 600
Miscellaneous	€ -	€ 2 940	€ -
Exceptional management costs	€ 2 706	€ -	€ -

Management concerns

Workforce

- In 2022 Eurospace workforce is down to 6 permanent + 1 VIE
- Management margins for Contracts, Task forces, Events organisation are extremely reduced
- Workload pressure on team
- No margin for retainer/incentives/bonus, career path/evolution, hiring

DASIA was a profit center, now in jeopardy

- Issues and concerns:
 - Covid impact: Virtual event yields much lower sponsor/exhibitor revenue
 - Programme committee renewal
 - Abstract and papers are dwindling
 - Programme lesser focus and consistency
 - ongoing pandemic concerns
- DASIA Programme Committee meeting approved DASIA 2022 digital as a risk mitigation measure but financial prospects are much reduced (-30k€)

Contract revenues

- Action 10 procurement with EU provides a breath of air (average 70k€/year until 2025)

- ECSS contract: reduced income lacking variable handling fees (20k€ loss due to pandemic)
- GIFAS F&F contrat (18k€) is at risk in 2022
- EPIC grant revenue and activity planning uncertainties due to unpredictable COM requests

Membership fees perimeter is shrinking

- Collection process: slow, cumbersome and resources hungry (late payments require a lot of handling)
- Transition to group membership: no positive (nor negative) impact on fees
- Membership fees income growth becomes FIRST priority

FinCom conclusions

The FinCom notes a good control of the financial situation by the executive. The 2021 financial execution was executed above planning:

- Fiscal Profit: 86k€
- Net profit: 69k€

This positive outturn is mostly due to COVID related reduction on expenditure (travels and consumables), and lower than planned personnel costs.

The 2022 financial prospects improved with added Contracts Revenues (+80 k€) but negatively affected by DASIA digital event (DASIA as a digital event barely breaks even mostly due to lesser interest from sponsors and lower participants rates, only partially offset by the reduction of operational costs).

Considering the current situation, the executive believes that Eurospace will face a structural loss from operations of 50-60k€/year.

The financial projections to 2026 are thus a concern but no critical situation (until >2026) thanks to the good level of reserves and liquidities. Noting also that contract revenues are difficult to plan in advance which means that with management efforts some unplanned contracts can offset the loss prospects in coming years.

- The equity situation in control until 2026
- Treasury and cash situation in control (no debt on daily operations) - Current liquidities > 500k€

FinCom recommendations to council

In view of the financial situation and financial planning information, the FinCom formulates the following recommendations to the Council:

Current concerns:

- Financial situation provides little to no management margins in particular for HR (hires, retainers, incentives). This limits also management flexibility to allocate resources to contracts, events, task forces and to the active recruitment of new members
- DASIA conference and ECSS support contract (two core profit centers in past years) are in jeopardy with Covid with a structural impact on gross margin in 2021 & 2022 of approx. 30-40k€

Recommendations:

- Take stock of improved contract revenue in 2021 and 2022, and in particular Action 10 prospects (+70k€/yr). Management targets have been exceeded by far in 2022-2025

- Address the structural loss issue with membership fees targeted actions
 - Increase membership perimeter: FinCom invites Council members to advocate Eurospace membership in the context of high level networking opportunities (target list of prospects available in annex 5)
 - Adopt specific resolution on membership enlargement at next general Assembly
- Assess financial situation in full at June 2022 Council meeting

Proposal for resolution to the General Assembly adoption

With a view of improving the level of resources of the association, in order to create more value added for Eurospace members, the Financial Committee recommends to seek avenues to increase the outturn from membership fees.

As a first step, the Financial Committee invites the Council and General Assembly Members to actively contribute to the enlargement of Eurospace, in particular by advocating for Eurospace membership in the context of high level networking opportunities.

Financial prospects 2022

Globally the financial situation in 2022 is in control, with a moderate loss forecast at 4,5k€. The Financial Committee reviewed the details of the 2022 financial prospects and have approved the management plan for 2022.

Worthy highlights of 2022 budget:

- Workforce in 2022: moderate growth (inclusive of statutory growth)
 - Hiring of VIE in Brussels: starting on 03/2022
- Travel budget :
 - Reinstated at pre-covid values (optimistically)
- Membership fees: (UPDATE 14/3/22)
 - Planned income 859k€ based on reply slips and invoices issued.
- Own revenue: +110k€ new contracts in 2022, exceeding management targets set in June 2021
 - Contract with ESA for EO workshop (47k€)
 - Action 10 winning bid: total Eurospace workshare 289k€/48 months: potential chargeable revenue of 71k€ in 2022
 - DASIA 2022 may yield less than planned (20k€ risk margin)
 - EPIC2: WP2 potential to charge >35k€
- Cost control measures
 - Renegotiation of two telecon contracts: phone lease (2K€ saved) and IRIS Docshare hosting (4500 K€ saved)
 - Partially offset by statutory rental increase (+3% or 2,7k€)

Simplified financial statements 2018 to 2022

Situation of revenues 2018-2022⁸

Title/Year	IT	2018 (r)	2019 (r)	2020 (r)	2021 (r)	2022 (e)
Revenue		2 016 861	2 136 106	1 326 752	1 082 353	1 112 074
⊕ Membership fees		852 238	868 440	874 950	872 757	859 529
⊖ Contracts		314 179	369 509	341 865	146 811	163 400
contract: Action 10			-		22 493	70 000
contract: ECSS		34 722	35 591	35 530	31 203	36 400
contract: Explo 2030+ (2021) EO Strategy (2022)					46 865	47 000
contract: FF & Data					28 250	
contract: GIFAS		-	18 000	18 000	18 000	10 000
contract: Harmonisation		279 457	315 918	252 335		
contract: REACH HTF				36 000		
⊖ Grants		665 073	750 745	109 642	21 775	52 995
contract: EPIC (1 & 2)		6 249	-	24 691	21 775	52 995
contract: PPOSS		31 468	7 358	-		-
contract: STEPP		627 355	743 387	84 951		-
⊖ Conferences		113 230	112 890		39 850	30 850
contract: DASIA		113 230	112 890		39 850	30 850
⊕ Financial Products		3 460	1 211	115	1 157	300
⊕ Miscellaneous		5 970	4 993	-		-
⊕ Recharge		42 121	28 319	180	3	-
⊕ Salaries				-		
⊕ Subvention		20 590	-	-		5 000

Situation of expenditures 2018-2021

Title/Year	IT	2018 (r)	2019 (r)	2020 (r)	2021 (r)	2022 (e)
Expenditure		1 795 588	2 219 918	1 286 514	996 027	1 116 630
⊕ Add. Expenditures		39 977	40 154	38 032		-
⊕ Add. External providers		67 233	301 540	59 123	10 000	600
⊕ Add. missions expenses		11 681	14 453	817		-
⊕ Amortizing		11 466	13 307	10 025	5 487	6 200
⊕ Exceptional management costs		36 088	374 872	2 706		-
⊕ Miscellaneous		2 719	1 404			1 500
⊕ Salaries		1 151 019	1 048 082	849 088	784 216	829 518
⊕ Taxes		22 574	13 494	17 075	12 600	17 075
⊕ Usual expenditures		174 654	166 507	131 666	117 560	130 636
⊖ Usual External providers		226 727	212 031	170 496	81 973	108 498
contract: DASIA		79 419	67 356	54 824	6 890	-
contract: Explo 2030+ (2021) EO Strategy (2022)				15 473	15 473	47 000
Recurrent		147 309	144 676	100 199	59 610	61 498
⊕ Usual missions expenses		51 449	34 074	7 487	4 191	22 603

⁸ (r): real - (e) estimate

List of attachments

The following documents are attached to the management report. They are restricted to General Assembly and Council members.

Financial Committee

- FinCom Report to the council of April 2022 (updated to May 2022 status).

Position papers issued

- “Updated Best-Practice Guidance for the European Space sector to comply with SCIP notification”⁹ – 03/02/2021
- “Space Traffic Management (STM): An opportunity to seize for the European space sector”¹⁰ – 02/03/2021
- “Manifesto for a new ESA Profitability Policy for Space procurement activities”¹¹ - 05/10/2021
- “Accelerating the use of space in Europe” : PORTFOLIO OF INDUSTRY PROPOSALS¹² – 19/10/2021
- “Global space exploration is at a turning point – Support the further definition of ESA Exploration Strategy 2030+”¹³ – 28/10/2021
- “Eurosace Preliminary identification and capabilities for the EDF (March 2021) was transmitted to the European Commission” (not published)

Official letters sent

- Joint Letter from Eurospace and 14 Associations to Director General DG RTD Jean-Eric Paquet to request a meeting to discuss Co-programmed partnerships’ Memorandum of Understanding - 14/01/2021
- Letter from Eurospace President André-Hubert Roussel to Commissioner Breton and MEPs David Sassoli, Massimiliano Salini, Nuno Brito to congratulate them on the adoption the new EU Space Programme Regulation – 03/05/2021
- Letter from Eurospace President André-Hubert Roussel to Director General DG DEFIS Timo Pesonen to express concerns on the Co-programmed partnership on Global Competitive Space systems – 28/06/2021
- Letter from Eurospace President to ESA Director General J. Aschbacher to accompany the release of the Eurospace Position Paper « Manifesto for a new ESA Profitability Policy for Space procurement activities » - 29/09/2021
- Letter from Eurospace President to ESA Director General J. Aschbacher to accompany the release of the Eurospace Position Paper « ESA Exploration 2030+ » - 28/10/2021

⁹ <https://eurospace.org/updated-best-practice-guidance-for-the-european-space-sector-to-comply-with-scip-notification/>

¹⁰ <https://eurospace.org/eurospace-position-paper-space-traffic-management-stm-an-opportunity-to-seize-for-the-european-space-sector/>

¹¹ <https://eurospace.org/eurospace-position-paper-manifesto-for-a-new-esa-profitability-policy-for-space-procurement-activities/>

¹² <https://eurospace.org/accelerating-the-use-of-space-in-europe-portfolio-of-industry-proposals/>

¹³ <https://eurospace.org/eurospace-position-paper-global-space-exploration-is-at-a-turning-point-support-the-further-definition-of-esa-exploration-strategy-2030/>

Information notes and briefings produced

- Briefing “EU-UK Trade and Cooperation Agreement / Space”
- Briefing “Overview National Recovery and Resilience Plans”
- Briefing “European Space Alliance”
- Conference Report of the 13th European Space Policy Conference
- Briefing “Preliminary info about the “Action plan on synergies between civil, defence and space industries”
- Presentation Eurospace Webinar “ESA 2021 Budget: Highlights and 15-year historical perspective”
- Presentation “Space industry workforce 2021” to ESA Administration and Finance Committee
- Opinion Paper “From ‘Newspace’ to ‘new space policy’”
- Debunking Paper “CASSINI Space Entrepreneurship Initiative 2021 2027”
- Briefing “European launcher sector overview”
- Briefing “Copernicus space component evolutions”
- Briefing “REACH and the Space Sector”
- Briefing “2030 Digital Compass: the European way for the Digital Decade”
- Background Paper “European Launcher Sector Overview”
- Unofficial Report “Hearing in preparation of the European STM Conference”
- Unofficial Report “European Parliament's Sky & Space Intergroup Event on STM”
- Briefing “FFPA: a first glimpse into the distribution of responsibilities”
- Briefing “Overview of EU MS National Recovery and Resilience Plans”
- Briefing “ECA Report on Galileo and Copernicus service uptake”
- Briefing “Update of the EU 2020 Industrial Strategy”
- Briefing “CETA a situation at risk for the EU Space industry?”
- Briefing “Recent developments at EU level regarding Space Traffic Management”
- Eurospace submitted response to “Revision of EU legislation on registration, evaluation, authorisation and restriction of chemicals IIA”
- Eurospace submitted response to “Sustainable Products Initiative”
- Speech O. Lemaitre (Eurospace SG) at the occasion of the “4th New Space Atlantic Summit – New Space for people” on 08/06
- Eurospace Conference Report- “Launch event of the European Union Space Programme”
- Eurospace Unofficial Report - "Space launchers in Europe & future trends: Exchange of views with EU industry”
- Eurospace Press Release - "Facts & Figures 2021 Public Presentation”
- Briefing - “Overview of EU MS National Recovery and Resilience Plans (July update)”
- Briefing - “ESA NESTS studies outcome”
- Briefing – “ESA C-STS status update”
- Eurospace Workshop Report - "ESA Future of the Work”
- Eurospace Research Paper – “SpaceX Launch services economics”
- Briefing – “Soft review of ISO NWIP for "Space Traffic Coordination“
- Briefing – “Synergies between the EDF and the EU Space programme”
- Meeting Report “ESA HME bilateral meeting with Eurospace”
- Briefing - "Space Summit 2022: New Space Accelerators“
- Briefing – “Morgan Stanley's Financial analysis of SpaceX”
- Unofficial Report - “European Parliament's Sky & Space Intergroup Event on Secure connectivity constellation”
- Briefing – “Reform of the REACH Authorisation and Restriction System“

- Briefing – “Strategic Compass for Security & Defence - relevance for the space sector”
- Unofficial Conference Report – “ESA High-Level Forum (04/11/2021)”
- Unofficial Conference Report – “European Space Forum 2021 (08 & 09/11/2021)”
- Unofficial Conference Report – “EU Space Conference on Secure Connectivity (10/11/2021)”
- Briefing - “The economics of mega-constellations”
- Briefing - “Small satellites launch cost trends”
- Briefing - “Current status on Starlink”
- Briefing - “SpaceX falcon 9 economic model – uncovering SpaceX financials”
- Briefing - “SpaceX valued at 100B\$ by Morgan Stanley – analysis of baseline assumptions”
- Briefing - “Space Economy Fundamentals – what is the size of the Space Economy?”.
- Briefing – “Space priorities in the new German coalition deal”
- Briefing – “Competitiveness Council (Space) – 26/11/2021”
- Briefing – “United States Space Policy Framework”
- Briefing – “The Digital Europe Programme: Destination Earth Initiative”