



REPORT ON THE 11TH ANNUAL CONFERENCE ON EUROPEAN SPACE POLICY*

22 & 23 January 2019
Egmont Palace, Brussels

This summary intends to provide a global overview of the issues tackled during the various panels. However, it does not intend to be exhaustive.

The two-day conference was organized in 5 sessions addressing the following issues:

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WELCOME MESSAGE - SPACE FOR A EUROPEAN UNION THAT PROTECTS, EMPOWERS AND DEFENDS

Elzbieta Bienkowska ([speech available here](#)), European Commissioner for Internal Market, Industry, Entrepreneurship and SMEs started by describing 2019 as a good and special year for space because it will be about concrete proposal for European space programs but she also mentioned the European elections. Expressing the European Commission objectives of continuity and adaptation she then stated on the strategic dimension:

- The autonomous access to space: it is the first time that EU put legal provision for access to space. Reach our objectives with the triad by end of February,
- It is important to support our space innovation,
- The mindset of public authorities and space sector needs to change to take higher risks,
- Key infrastructures must be European,
- Start thinking about a “European space force”,
- EU needs a clear European preference approach (referring to critical components) and develop a true single market for space.

Didier Reynders, Deputy Prime Minister and Minister of Foreign Affairs and European Affairs of the Kingdom of Belgium started by talking about the revolution in space with new players bringing new opportunities and also new threats in terms of quantity and diversity. Regarding the European space strategy, he stressed that it needs credible resources. On national and European contribution, he underlined:

- The significant contribution of Belgium to the European space strategy,
- That national ambition can only lead to real success when it is collectively engaged in our global way to govern space,
- That Member States need to promote new space economy and support it,
- It is important to use tools to strengthen access to global market and promote regulatory convergence,
- Investment from the private sector needs to be supported,
- That enabling the use of space for peaceful purposes is needed.

Massimiliano Salini, MEP & rapporteur on the space programme regulation pointed out some areas which need improvement:

- The reinforcement of the programs like SSA and govstcom,
- The protection of critical infrastructures,
- The investment in space as an institutional priority to preserve European leadership, competitiveness, and autonomy,
- Europe has to maintain an autonomous access to space, with:
 - An aggregation of launchers,
 - The development of new alternative technologies and investment for ground technologies.

Jean-Loïc Galle, President of Eurospace, was globally satisfied by the propositions of the European Commission regarding the funding, but after mentioning that the discussion for the budget will be key he expressed some concerns:

- There is no dedicated budget for Research and Development,
- The European Strategy supporting industry needs coherence,
- The budget for security programs such as Govsatcom is a concern,
- He mentioned 4 areas of strategic issues:
 - Defence and security,
 - Protection of our planet
 - Connectivity
 - Science and exploration

Manuel Heitor, Minister for Science, Technology and Higher Education of Portugal spoke about Portugal taking several measures in close cooperation with Member States to contribute to new European understanding of space:

- A space law, formally published in their official journal,
- The launch of the Atlantic satellite,
- Develop a national space agency, to provoke new landscape for entrepreneurial activities,
- Launch new platform for Earth Observation,
- Regarding launch program, there is a strategic partnership with the US and China but under an European segment.

Pierre Delsaux, Deputy Director-General, DG Grow started with a few remarks on some points in the context of the ongoing dialogues on the space programme regulation:

- Europe needs to publicly advertise the achievements and use external sources:
 - For example, Copernicus, the best statement was from the US state department. And for Galileo, apple stating that it is the best system of the world.
- Secondly on the negotiations themselves he believes an agreement can be achieved at the end of February,

- 3rd point: the funding is key and need to convince especially politicians on the importance of space for every citizen,
- Last point: on horizon Europe, there is not one cluster for space but it could be a way for space sector to be more competitive, more efficient.

Johann Dietrich Wörner, ESA DG, presented Space 19+ and the 4 pillars of ESA (Science and exploration, safety and security, applications, enabling and support) and mentioned 3 important domains important for the future strategy:

- A full integration of space into European economy and society,
- A globally competitive European space sector,
- A European autonomy in selected strategic domains.

SESSION 1-EUROPEAN DIGITAL AUTONOMY AS A STRATEGIC GOAL: THE KEY ROLE OF CONNECTIVITY, INCLUDING SATCOM, DIGITALISATION AND A.I IN DELIVERING SPACE SERVICES

Mariya Gabriel ([speech available here](#)), Commissioner for Digital Economy and Society and guest speaker stated that Europe:

- Must reinforce its digital autonomy as well as sovereignty,
- Must take measures to protect its infrastructure,
- Needs synergies between research, space and defence.

She mentioned 3 important areas for a key role for space in digital:

- Connectivity:
 - space will contribute to the 30mb/s policy by 2020,
 - The next generation of satellites would offer global European coverage,
 - Space is already involved in 5G deployment,
 - Satellite can make the difference in areas not covered by Terrestrial means.
- Artificial intelligence: Processing of colossal data volume from Earth Observation will require new solutions. Europe needs a new generation of application based on AI,
- Cybersecurity: protecting critical infrastructure and ecosystem is key to become autonomous and she also mentioned quantum communication as an important technology to develop.

Carlos Zorrinho, MEP stated that the majority of the MEPs are completely aware that any political vision or scientific ambition is impossible without a strong infrastructure. She stressed that the leadership needs to be political, but the infrastructure is key. The goal is to have high quality access to internet. It is important to show the citizens the concrete impact of investment in daily lives.

Roberto Viola, Director-General, DG CNECT at the European Commission chose to focus on:

- cybersecurity and stated that Europe has to have a cybersecurity shield,
- The importance of going to the next step which is technology:
 - There are investments in quantum, and he mentioned that his DG is investing more than US and China and they are thinking about deploying quantum technology,
 - They have started a dialogue with ESA,
 - Objective: making sure that every citizen in Europe is connected.

Magali Vaissière, Director of “Telecom and Integrated Applications” at the European Space Agency stressed that they have a program supporting competitiveness. For the next council at ministerial level, ESA is

proposing strategic themes which respond to the need of digitalization and security:

- satellite for 5G: can provide crucial additional resilience and secure communication in the context of global attacks:
 - Propose to support the development of satellite solutions, implementation of project integrating 5g systems.
- Optical satcom quantum communication: establish a dedicated R&D program.

Carlos des Dorides, Executive Director of the European GNSS Agency stated that:

- There is a silent revolution going on before mentioning that there will be new way to connect,
- The distance between the physical world and the digital world is decreasing. Regarding the introduction of double frequency, Galileo was the first to propose this technology,
- The future of connectivity is going hand to hand with the future of GNSS.

Evert Dudok, President of ESOA focused on satellites and stressed that:

- security and defence relies on satellites,
- Satellites operators as enabler of global connectivity,
- Looking at 5G, the mobile phone operators have their own interest,
- He expressed his concern about frequencies,
- He expressed 3 wishes:
 - Strive to be the number ones in secure and high-speed communications,
 - protect our data, how we can have them secure and go for independence,
 - and regarding finances, it is not understandable that GAFAs are not paying any taxes in Europe.

Rodolphe Belmer, CEO of Eutelsat underlined the fact that in space telecom sector, the importance of commercial business is crucial, and that Eutelsat is the best support to European industry. In the commercial space there was 8 geostationary satellites ordered this year. Secondly, he mentioned his conviction in the fact that connectivity is the future of satellite communication industry before calling for more coherence, stressing that public policy in Europe is totally focusing on fiber deployment and there is no room left to satellite connectivity.

Christophe de Hauwer, Chief Strategy and Development Officer, SES also focused on the importance of satellites, pointing out the fact that satellite is the irreplaceable enabler to the 4G and technologies, and that cloud computing only works when there is a good connectivity and satellite has to play a role there.

Luigi Pasquali, CEO of Telespazio talked mainly about Artificial Intelligence on space-based services:

- AI is changing significantly as geo information is pushed by the AI technics, and customer asks for information responding to specific needs,
- There is a need of generating new algorithm to manage, process and extract the right information from data,
- Another important segment is the integration of earth observation data and non EO data,
- Also, on satcom, AI is giving capability to integrating,
- On ground segmented operation, there is massive use of AI and it gives new possibilities to share ground resources and go in the direction of efficiency.

Jurry de la Mar, Head of International Sales, T-Systems started by stressing that users, citizens and organizations are now verifying how data are used and that everyone has become dependent on the internet. But Europe should not copy and has the competence to do things differently. He suggested focusing on how using IT as an enabler and to do more in European science cloud initiative, pushed by the European Commission. Seeing the value of sharing data will make it better understandable.

SESSION 2. PATHS FOR EUROPEAN SPACE NON-DEPENDENCE IN THE TRADE, COMPETITION AND INTERNATIONAL CONTEXTS

Marian-Jean Marinescu, MEP, stressed that Europe has a lot to work in order to become a space power:

- Spend the money efficiently and put the money on private,
- Space needs a lot of innovation in order to upgrade and face the challenges like cybersecurity.
- To reach autonomy:
 - Europe needs independence regarding launching,
 - A European center for launching,
 - The implication of the EU is important.
- Develop research for the space activities and applications on the ground. Satellites need to be used by citizens and industry.
- Further details on MEP Marinescu's positions regarding space research and a space JTI, [here](#)

Matthias Petschke, Director at DG GROW in charge of EU Satellite Navigation Programmes stated that:

- Money is key to be autonomous,
- Europe's strategic autonomy is the objective,
- The European Commission wants European industry to be competitive on the international scene and make a major contribution,
- Cooperation agreements have been established with key actors like Brazil and India,
- The EC will also continue to work on Africa, closely work with African stakeholders on navigation.

Carine Claeys, special envoy for space at the EEAS stressed that space is a potential war fighting domain and that on the economical ground there is a fierce competition on launchers but also on satellite operators. She mentioned as an example China and its race to the moon. She then expressed what Europe needs to do:

- Support the European industry as she described it as the breathing ground of EU autonomy,
- Pursue multilateral path on EU space surveillance capability as EU cannot only rely on one source of information and needs to show global support to safe space.

Jean Max Puech, Director of "Internal Services" at the European Space Agency highlighted the benefits of the industry policy implemented by ESA:

- It responds to the need of EU space program,
- It improves worldwide competitiveness,
- It ensures the fair distribution of activities among Member States,
- It gives preference to Member States industry.

Jean Loïc Galle, President and CEO of Thales Alenia Space stressed that facts and figures show that Europe is at the forefront of new space revolution. He mentioned:

- First evolution, the digitalization of space assets: more and more functions and applications and performance coming from software,
- Second evolution is the fact that the hardware of spacecraft is becoming simpler and easier to miniaturize. Examples:
 - Iridium, constellation of 80 satellites. System of satellite which communicate each to the other,
 - Black sky constellation, 60 small satellites, optical satellites in orbit in 2021,
 - Other initiative in France called Kineis.

André-Hubert Roussel, CEO of ArianeGroup described Ariane 6 and Vega C as the two exciting industrial programs currently in Europe. He added that Ariane 6 will be two times less expensive to launch than Ariane 5 and that since the very beginning, Ariane has been for the European, the opportunity to enter the commercial market. He however expressed that remaining competitive is also remaining united and that in the future duplications will have to be kept being avoided and minimized.

Johannes Von Thadden, Senior Vice-President and Head of Space and EU institutions at Airbus Defence and Space started by reminding the audience that regarding space dominance, China and, especially the US, have a clear objective. Therefore, Europe needs to take it very seriously and it starts by:

- Realizing that Europe has the means to develop and use technology, its GDP being more important than other superpowers, but Europe has to:
 - Run missions continuously
 - Put in place and use technology quickly.
- Cooperation, because no Member States can achieve it alone.
- A good research budget and therefore, a quick decision on Horizon Europe.
- Fighting against unbalanced treatment from other superpowers.

SESSION 3. EUROPEAN UNION STRATEGIC AUTONOMY SPACE, DEFENCE, AND SECURITY POLICIES

Special address

Maroš Šefčovič ([speech available here](#)), Vice-President of the European Commission underlined some of the very important accomplishment such as Galileo and Copernicus and made some recommendations:

- On Copernicus and Galileo
 - Copernicus benefits millions of farmers using application,
 - Galileo is the most precise geolocation navigational system in the world,
 - Europe needs to ensure continuity of flagship programs.
- Europe needs to act very decisively and keep our leadership in the global market.
- Europe needs to be very vocal about access to space to decision makers, law makers.
- Need to promote a European approach to the new space:
 - He advocates for creating a European way to support space entrepreneurship and startups,

- Create financial conditions to keep the talent in Europe with more dynamic financing,
- Europe needs to progress on innovative procurement because it is better than grants as it provides substance for a business case which supports the financial growth of a company.
- On energy and climate: space technology is important for both areas. There is a need for more data and precise information, so new technology will help measure more precisely.

Special address

Elżbieta Bieńkowska, Commissioner for Internal Market, Industry, Entrepreneurship and SMEs talked about the link and synergies between space and defence, about Europe becoming a security provider after recalling that all space applications can have a strategic component.:

- Flagship program will have a security and defence dimension,
- Europe needs new programs to enhance security of the EU,
- EU fund should go to EU based companies,
- On Copernicus: optimizing the services offered by frontex for example. Looking how to extend security service to new applications,
- On Galileo: Europe needs autonomy capacity on technologies. Provides an encrypted signal and offers necessary redundancy to GPS,
- Govsatcom is at cross road of space security and defence. Need to ensure secure access to communication,
- On Quantum communication technology: propose to use it and implement it in EU programs. Innovation in space technologies will be partly driven by military needs to support disruptive innovation,
- EU cooperation on space and defence needs to become more operational. Also the idea of space forces needs to be thought at an eu level.

Opening speech

Eric Trappier, Chairman and CEO, Dassault Aviation, President of ASD on space becoming a potential theater for rivalries:

- Europe should protect geostationary satellites,
- Increasing debris is another important challenge as they are likely to cause damages to satellites,
- Economic balance is built in response to institutional market,
- Military space strategy cannot be separated from an overall strategy for space,
- Data processing, exchanges and networks are very important,
- 3 conditions to face new challenges:
 - voluntary strategy based on ambitious objectives,
 - need the launch of new demonstrators and development of new programs,
 - significant increase of the budget.

Jean Arthuis, MEP, Chairman of the BUDG Committee stressed that:

- China has strong ambitions for economic growth in and through Space and it has shown its capacities

- recently with the landing of a probe on the lunar far side,
- Strategic autonomy in defence is a crucial objective for the future:
 - it is underway and It is embedded in programmes such as govstcom and SSA,
 - We will soon be free from the dependency we have on NORAD.
- A European preference is needed for launchers and the aggregation of European launch demand at institutional level,
- Europe needs to be an ambitious and a reliable partner for other countries,
- It is important to further improve cooperation between national agencies of Member States and ESA.

Françoise Grossetête, MEP stated that :

- Space policy and defence policy are tightly linked and there are synergies,
- The technological revolution shakes the traditional vision we could have on space and defence policy.
- There cannot be ambitions in Europe without the relevant efforts in budget terms,
- Satellites and data need protection,
- Space must be addressed with two dimensions: competitiveness and sovereignty of space assets.
 - Competitiveness is not about supporting all new space startups in space, but rather a global strategic approach for what we expect for our sector efficiency and operational capabilities.

Nicolas Chamussy, Executive Vice-President “Space Systems” at Airbus Defence and Space stressed first that space is part of the military missions, that each and every space system has a security and defence dimension before adding that Europe must focus on increasing its own strategic autonomy. He mentioned that the EU space regulation will equally allow space-based system to support decision making in security and defence but that the level of resources planned so far for space is a concern. He made 3 suggestions:

- A proper governance will allow a good implementation:
 - There are more stakeholders in Europe than any country in the world,
 - Need to draw the lessons learned from the programs,
 - Ensure timely execution of the programs.
- Leverage and scale up the European industrial capabilities,
- Engage in future capabilities.

Tomasz Husak, Head of Cabinet of Commissioner Bieńkowska stated that:

- Europe is becoming more and more autonomous,
- Regarding SST, cooperation between Member States is increasing, as well as Member States interest in it,
- We need to elaborate on how to sue the SST elements for space traffic management, and also, why not, the missile defence strategy.

Lutz Berling, OHB stressed first that as long as industry has engaged partners in institutions, industry is looking into future with confidence because industry is as engaged as institutions. Then he expressed

Europe's need to reinforce its autonomy and go far beyond SST. On satellite communications, in order to satisfy future connectivity, terrestrial assets and satellites are needed. OHB operate SAR-Lupe since 2008. The successor is SARA to be launched in 2019. These are tactical systems, that rely also on an agreement between France and Germany to share satellite images for defence forces.

Kai-Uwe Schrogl, Chief Strategy Officer at the European Space Agency mentioned that ESA has been working on strategic autonomy and talked about:

- Access to space and operation in space without interference,
- Space traffic management as an issue of strategic relevance:
 - Not very different from air traffic management but has a larger strategic component;
 - Questions of the rules for space users and who will set them up;
 - US is already going full speed in preparing rules and Europe should prepare an European position.

Pascal Legai, Director of EU Satellite Centre on intelligence:

- Recalled that EU satellite center in Torrejon is 100% civilian, but it serves the PESC,
- The Centre provides good services at best cost possible,
- Intelligence is important if Europe wants to create an Army,
- The Centre uses mainly data from satellites,
- 98% of images comes from commercial sector, and very few from governments,
- The Centre is currently working on next generation of systems.

Jorge Domecq, Chief Executive at European Defence Agency wanted first to highlight the fact the achievement a EU global strategy which has started only 2 and half year ago. Then he gave his vision of what should be improved:

- Europe needs to look into critical space technologies required,
- Europe needs strong European competitive industry and it is important to identify key strategic activities with industry,
- It is important to start planning the strategic autonomy,
- It is important that Member States start implementing the vision put on the table.

TOPIC A. SPACE TOOLS, GUARDIAN ANGELS OF CLIMATE ENVIRONMENT

Gesine Meissner, guest speaker, Special Envoy of the President of the European Parliament on Maritime Policy mentioned her cooperation with DLR before mentioning also her work for Horizon Europe with the president of the space intergroup in the European Parliament. Then she focused on the role of policy makers:

- Ensuring independent and competitive space sector,
- Keeping space data open and accessible to all,
- Highlighting the need to invest in space research in programs like Horizon Europe and Invest Eu,

- Finding synergies between space and other sectors,
- Starting to raise awareness on how space is important for our economy, competitiveness and the ocean (eg fight against marine litter).

Daniel Calleja Crespo, Director-General of DG ENVI at the European Commission stressed the need to have more budget and make program better, as well as working in close cooperation with industry, ESA etc... But she put an emphasis on the benefits of Copernicus:

- The program enables the EU to be a leader on Earth Observation and to be at the forefront of innovation,
- It gives valuable information for the environment and a sustainable environment,
- It enables to take decisions,
- Farmers can work more sustainably,
- It gives information on the quality of the air of illegal dumping of waste for example,
- On monitoring, Copernicus enables to be more effective,
- It is also an instrument of enforcement.

Mauro Fachini, Head of Copernicus Unit at DG GROW started by describing how Copernicus benefits everyone:

- The open data policy is one of the key success and stressing that the objective is to provide continuity,
- In atmosphere or marine, it supports many environmental policies and it supports climate change policies at EU level as well,
- Beyond that, some land services are promising to be used for environmental and agricultural policies and data are very promising to be used for sustainable development goals,
- Mostly two main issues:
 - the technological acceptance of measurement tools,
 - Bringing all the countries together to have globally accepted solution.

Arthur Runge Metzger, Director in DG CLIMA, European Commission, started by pointing out the fact that all countries can report on carbon emission now, before expressing the possibility to refine the system in the future which has already showed its limit in some areas. Therefore, he suggested:

- Seeing how to simplify monitoring and make it cheaper for Member States,
- Using space data to monitor oceans and improve the use of data in general
- Improving satellites,
- Showing thanks to Copernicus to skeptical citizens that Europe is a good and very achievement and no Member States could have achieved that on its own.

Joseph Aschbacher, Director of "Earth Observation" at the European Space Agency stressed that:

- Copernicus is the main monitoring program and the world best EO program from space,
- There are also other programs, like the satellites answering burning questions of science:
 - Meteorology is one of the series of satellite in the world top class missions.
- It is Important to constantly innovate and push the envelope of technology because innovation is the

- key in order to stay on top of it.
- Guaranteeing the continuity of first set of satellites is needed as well as looking into new missions.

Alain Ratier, Director General of Eumetsat started by recalling that Eumetsat included climate and has invested as they have to respond to challenges. He added that Eumetsat has specific output for climate monitoring. Also, in terms of international cooperation, he clearly expressed that for cooperation, competition is needed. Cooperation is possible only when being excellent. In order to be excellent, everyone's contribution is important. He added that science is also competition, but it has to be transparent results.

Pierre Bahurel, Director General of Mercator Ocean described the work of its center:

- Contributing to healthy ocean and healthy ocean economy,
- Making the best of Copernicus constellations,
- Using these data and transform these data into information which can be used by the users,
- Partnership with marine ocean Europe to increase the productivity of marine energy which could create 400 thousand jobs in this sector,
- It is important to support the global leadership of Europe, be ambitious and proud,
- The center will deliver the Copernicus information of ocean acidity to Eurostat. We are opening the route,
- For the artic for example the center can provide the science-based information for politicians, policy makers to take good decisions.

Alexandre Tisserant, Director General of Kinéis explained that Kineis is a new satellite operator which was built on institutional cooperation, for the space segment but this is not the case anymore. He talked about what the industry needs:

- Much more simple and affordable solution because the performance needs to be increased, they have to go on mass volume and have to offer simple connectivity,
- A transformation of the full private sector,
- It is still difficult to access private funding as space is still considered as risky,
- Develop the ecosystem of private investment.

TOPIC B - THE 2019 WORLD RADIOCOMMUNICATION CONFERENCE: WHAT IS AT STAKE FOR EUROPE ?

Not attended by Eurospace

TOPIC C - AFTER EDIDP, EUROPEAN DEFENCE FUND: NEW OPPORTUNITIES FOR EUROPEAN COMPANIES POST 2021 ?

Not attended by Eurospace

DAY 2 – 23 January 2019

SESSION 4 - FINANCING THE AMBITION OF EUROPEAN SPACE

Etienne Schneider, Deputy Prime Minister and Minister of the Economy and Health of Luxembourg explained how Luxembourg took the risk in investing in a company for satellites and that the space sector takes 2% of their GDP nowadays, noting that their investment is paying:

- Luxembourg looked at the US newspace sector in order to develop their own newspace,
- Luxembourg put a legal framework in place, but it needed also R&D grants,
- The government decided to invest directly in companies,
- This should be also developed at an EU level.

Pedro Duque, Minister for Science, Innovation and Universities of Spain and President of ESA Ministerial Council stressed that there is still a huge gap between Member States investment and what China and US are doing. Citizens also believe that the amount of investment in space is higher than what is actually invested in the sector. He added that there is an opportunity to work on programs which will make people understand better the work currently done in space. He stressed that ministers for science and technology will be working in their country to reach the gap better.

Ambroise Fayolle, Vice-President for Financing Innovation, Science, Education, Digital, and Technology at the European Investment Bank highlighted first the benefits of the Juncker Plan:

- EIB takes more risks with projects for Research and Development which they will keep doing, that we would not have done before, and we will continue to do it with the Juncker plan,
- EIB has also continued to finance projects related to space, but also developed cooperation with ESA,
- EIB tried to help companies which want to be competitive in particular in Africa,
- EIB Released a study with the EC on the future of the European space sector and how to boost it. Developing finance space forum and bring people from academia, investors etc... to find solutions to develop space sector in Europe is one of the recommendations which came out.

Gert Jan Koopman, Director-General of DG BUDG at the European Commission stressed that:

- The negotiations on the space programs are advanced. It is important that the actual regulation will be in place soon,
- Space is more advanced than some other programs,
- The budget has been increased by 40% but the EC is aware that more is needed. Invest EU and others will have windows to continue the work,
- Also, the Horizon Europe program has a dedicated research window and noted that from users, revenues are very important.

Johann-Dietrich Wörner, Director General of the European Space Agency underlined the importance of space as an infrastructure which needs innovation, installation, continuity, maintenance, protection etc... He then expressed that ESA:

- Wants to communicate about these infrastructures as part of our day to day life,
- Is exploring the possibility to have financial instruments,
- Should not only be an agency but also a partner of industry and institutions, a facilitator and enabler:
 - ESA is trying to enable commercial with challenging innovative projects, partnership instruments etc...

Guillaume De Dinechin, Deputy CEO, International Space Brokers, Aon, stressed that proper risk management program is needed, as well as a budget insurance. He underlined the importance of insurance in the space sectors:

- For public sectors programs, like Galileo, Copernicus, if the satellite fails, public sector will have a choice between replacing satellite and find necessary funds or abandoning the program,
- Insurance can help fostering emergence of new space ventures,
- It would help financing new ventures,
- The European Commission can think about including more expensive insurances.

SESSION 5 – “NEW FRONTIERS” FOR THE EUROPEAN SPACE INDUSTRY

First round: Future developments in the European Space Industry

Daniel Neuenschwander, Director of "Space Transportation" at the European Space Agency talked about ESA contribution in the future adaptation of the sector:

- There is a need for independent and guaranteed access to space,
- Harmonize mechanism for procurement, ensure that EU, ESA and governments pool their efforts together and bring reliability and affordability,
- Industry has to develop activities with concrete day to day progress,
- Reinforce the competitive advantage,
- Think of long-term investment,

- Open to space transportation services, new services, commercial services.

Andreas Veispak, Head of Space Data for Societal Challenges and Growth Unit at the European Commission stressed that:

- The digital revolution will increase and change the sector the most with a mixing of data sources,
- There is a number of new actors both governmental and non-governmental,
- The democratization of space is increasing because venture capital,
- The construction of satellite, reduction of costs, will lead to further democratization of space,
- The role of public sector will be to provide money and financing; be more of an enabler; be a regulator role; a service provider; act on climate change and provide contracts.

Stéphane Israël, CEO of Arianespace talked about satellites and the future challenges industry will have to face:

- More diverse satellites in terms of mass and volume will have to be launched,
- Vega C and Ariane 6 must be introduced in the market:
 - They are fully adapted to public and private customers for next decade,
- In the long-term geo return, agility, reliability and innovation will have to be better matched:
 - For Ariane, the building block for innovation has been identified,
 - Need to address technologies already mastered and those we need to master in the future.
- Industry needs the EU, ESA and Member States in order to be successful in the future.

Giulio Ranzo, CEO of Avio identified disruptive trends and gave some recommendations on how to address them:

- An increase of volume and expectation for cost reduction has been observed,
- There is a shift in application done in space. The competition is not a trend but a consequence of the trend by more activity going. There is also a shift in application, there is less mass being sent to GTO.
- Avio is adapting by reducing the cost of launch by KG by 50% and with alternative approach to reutilization:
 - Also working on liquid oxygen and innovative technology.
- The EU institutions are working successfully on small satellite but also in support of their projects.
- Some requests:
 - Accelerate the decision making, because space sector is moving faster;
 - Advertise more about the current work and achievements.

Riadh Cammoun, Vice President Public and regulatory affairs of Thales Alenia Space started by explaining that new trends have led to a global transformation of their way of manufacturing and providing system to their customer. He then talked the very fast cycle of innovation before mentioning the 3 important mindset of his company which are important in order to adapt:

- The pioneer mindset: Thales is a pioneer in private constellation, as well as in introducing Artificial Intelligence in their product and in investing in companies in this domain,

- The innovation mindset: Thales Alenia Space is investing for setting up fab lab in their sectors.
- And the risk-taking mindset: TAS built a huge constellation of 60 small satellites and is thinking about new data processing platforms.

Jana Rosenmann, Head of Unmanned Aerial Systems at Airbus Defence & Space stressed that the cost of access to space is starting to go down before mentioning the new opportunities, which are digitalization and advanced technology. She added about these disruptive technologies that it will be changing the business model and it will allow them to increase coverage and will change the own costing model. She gave the example of Airbus where it is allowing them to deliver financially viable solutions.

Philippe Dewost, Director of Innovation and Foresight Platform Leonard at Vinci stated first that in his opinion, Europe needs to be able to tell stories which all citizens are proud of and which will make kids dream again. Then moving to the running of infrastructure, he talked about concessions which will become the new business model. He also expressed his hope that space will need Vinci in the future.

Hubert Tardieu, CEO Advisor of Atos explained that their mission is to deliver the data which are generated by Copernicus, but they also have the responsibility to figure out the services which could be associated to these data. He then explained that this can only be obtained with a mix of data from Copernicus and data coming from other partners. Therefore, the two sidedness of the market need to be brought into the world of the B2B platform. He gave the example of Airbus and the launch of a sky wise platform for which provide data from production and also from companies like easy jet.

Second round: Facilitating access to “New Frontiers” for European Industry

Special address

Graham Turnock, Chief Executive of the UK Space Agency explained that the UK space agency was established to support space sector before focusing on 3 areas in his speech:

- The upstream:
 - Businesses in the UK are supported by a great environment and a number of grants from the government,
 - Regarding launch: there is an exciting market developing in the UK and some companies, not benefiting from UK grants are based in the UK and launch satellites.
- The downstream:
 - Offers the greatest potential for market,
 - There are interesting projects in which they are involved,
 - There are international partnership programs.
- The institutional area:
 - There are great assets in ESA,
 - Institutional processes need reforms and modernization to take decision in the same time scale

of commercial sector.

Pascale Ehrenfreund, Chief Executive Officer at DLR stated that the Space research and technology have an important role in the space sector and that DLR is the largest for space and aeronautics with 8000 employees (700 involved in space) before mentioning that they are converging all segments, from test facilities to develop future launchers, to satellite operations, space exploration. She then made some recommendations:

- Large Research organizations must adapt and find new models of cooperation with public and private entities,
- It is important to stay up to date and contribute with new trend and key technologies,
- Organizations need to include the non-space sector,
- It is important to work with industry to launch implementation,
- Important to work on space education and build up new generation and workforce,
- Artificial Intelligence, and quantum technology support space sector of tomorrow.

Marc Serres, CEO of the Luxembourg Space Agency:

- Expressed Luxembourg objective to create a complete ecosystem by investing in education, in research, in technologies and in companies,
- Underlined the extreme importance of the support of policy and political willingness,
- Mentioned companies which have decided to work and create new branches of their activities in Luxembourg,
- Spoke about Luxembourg involving their universities and creating new mass for research,
- Underlined the need to address the money issue.

Eric Morel de Westgaver, Director of Industry, Procurement and Legal Services at the European Space Agency described the industrial policy as a pillar of ESA. He spoke about the evolution of the satcom business model, the Earth Observation market model and the export control issues. Then he suggested to make ESA industrial procurement policy more agile and flexible to support evolution and ensure unrestricted access to technology and services. On the actions of ESA:

- ESA is preparing the procurement of 6 sentinels and will propose an ambitious program to fund the models,
- ESA has issued an information request for asking industry to come with ideas for debris removal,
- ESA wants to become an SME friendly organization integrating them more in the supply chain and is discussing with EIB to support SMEs and is also providing training for SMEs.

Fabrice Comptour, Member of Elżbieta Bieńkowska's Cabinet started with the major achievements of European Commission to support industry:

- The launched of integrated space programs generated a lot of work from industry. All the systems are operational on time and on budget,
- The European Commission also offered a perspective of the vision of where it wants to go, and this

gives a direction to the industry.

- It is the first time at the EU level that there is one single program which has horizontal provisions,
- On the space ecosystem: space industry is probably the most competitive one and most efficient one and there is a need for a European approach for new space (“nextspace”),
- EU needs to guarantee 3 accesses:
 - access to finance,
 - access to procurement,
 - access to space for startups.

Shiva Dustdar, Head of Division, Innovation Finance Advisory at the European Investment Bank:

- On EIB advisory role: EIB advises individual companies in having better access to various financing tools which helps them to prepare and ensure that they know what to expect,
- On studies: there are twenty studies showing that:
 - There are procurement issues,
 - Also, when it comes to financing the common themes like knowledge gap the ecosystem is fragmented,
 - There is a need to simplify the access the various tools and make it easier to understand.

Hélène Huby, Co-Founder of Global Space Ventures:

- On European assets:
 - There are very good and well-trained engineers,
 - Europe has a worldwide industry champion.
- On the weaknesses:
 - There is a difficulty to build a shared and precise ambition,
 - Europe is slow,
 - Regarding the ecosystem: the US invest into European startups.

Dominique Rora, Senior Space Underwriter at Axa XL on the place of insurance in space sector:

- Space is generally under insured, mainly the big companies are buying insurance and small companies will need more equity,
- Insurance will be there to help companies manage the risks,
- It is important to push forward in working with institutions, to be involved right from the start,
- Their job is to be the partners of the industry, institutions, and work with startups to find best solutions,
- They are looking at adapting the business model of insurance.

Grazia Vittadini, CTO at Airbus:

- On Airbus actions:
 - Airbus is pushing the boundaries on interplanetary space transportation and on quantum technologies,
 - Airbus has launched an international challenge called the moon race.

- On the challenges:
 - Industry needs the right set of regulatory matters and coherent European governance,
 - On budget, the industry needs alignment and convergence on the next research program in Horizon Europe,
 - Europe needs to use European launchers.

Closing address:

Geneviève Fioraso, President of the Advisory Board of the European Space Policy Institute started her speech by highlighting the contribution of this conference in making space a political topic and reminding the audience that space is a global sector. Then more specifically, she stated:

- That some paradigms are now shared by the space community such as creativity, disruption, risk-taking, digital, Artificial Intelligence, connectivity, pride for our European assets, innovative ecosystem, competitiveness in a global world,
- Communication with the European citizens has to be improved and a shared culture has to be promoted,
- On international competition, Europe has to reaffirm its ambitions in space,
- On challenges:
 - The delivery of services needs to be ensured and the space programs need to be reboost,
 - On the long-term stability and predictability of public investment needs also to be ensured,
 - As well as the security of European space infrastructures.

Monika Hohlmeier, MEP and Chair of the Sky & Space intergroup: Discussing the MFF for the next seven years started by highlighting some achievements of the European Parliament and the European Commission before underlying the future efforts Europe will have to make:

- Building a strategy,
- Keeping European competitiveness,
- Working on a European independence in order to be able to negotiate with others,
- Allowing enough financial means,
- In the context of a growing nationalism, showing to Member States, the benefits of space,
- In the military sector, finding common Europe could work on.
- Further details on MEP Hohlmeier's ambitions for the space policy: [here](#)