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## *Editorial*

Dear Colleagues,

The second half of 2017 has been a very rewarding period for ESPI, as it brought to maturation a multitude of projects. Over the past few months, the Institute has published four new books in the “Studies in Space Policy” series, the 10<sup>th</sup> Volume of the “Yearbook on Space Policy”, the Space Policies, Issues and Trends in 2016-17 Report as well as three proceedings for recently held conferences. In addition, five new ESPI Executive Briefs and three new issues in the “Voices from the Space Community” series were released. Moreover, ESPI staff also published a number of articles and analyses within conference proceedings and the specialised press.

Along with this plethora of publications, the period was productive also in terms of events, organised both in and outside of ESPI. In September, the Institute conducted its 11<sup>th</sup> annual Autumn Conference, which brought together space policy experts and renowned academics to discuss the theme of “Innovation in the New Space Economy”. In parallel to this, ESPI staff organised and took part in a number of other activities and events, including the 19<sup>th</sup> European Inter-parliamentary Space Conference, the 68<sup>th</sup> International Astronautical Congress, the Second UN/UAE High Level Forum in Dubai or the 3<sup>rd</sup> UNOOSA/IACO Aerospace Symposium and gave several presentations and lectures to various institutions. An overview of all these recent activities is provided in this Newsletter.

Within the next few months ESPI will be publishing four new projects on the topics of the rise of the private actor, business and policy perspectives on micro-launchers, Russia’s space programme and active debris removal. Similarly, the institute will organise and take part in space-related events in and outside Europe. A description of the ongoing and upcoming activities and events planned by ESPI as part of its Workplan 2018 is also provided in this Newsletter.

Finally, the Newsletter provides a list of upcoming events and opportunities at ESPI.

We wish you nice reading!

The ESPI Team

## Recent ESPI Publications

### ESPI Reports

**November 2017**

#### **Report 63: Space Policies, Issues and Trends in 2016-2017**

by Cenani Al-Ekabi, ESPI Resident Fellow

ESPI Report 61, the Space Policies, Issues and Trends in 2016-2017, provides a broad overview of the state of the space economy and of global space policies. This year's edition of the Space Policies, Issues and Trends report covers the period of mid-2016 to mid-2017. This flagship ESPI report seeks to put the space endeavour into a general context by providing an overview of space policy developments worldwide, while also looking at the economics and at how the policies in different fields and countries and regions are developing.



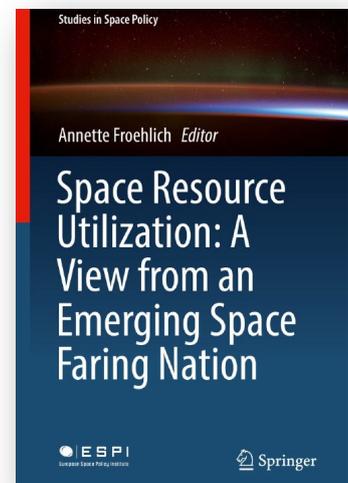
### ESPI Books

**December 2017**

#### **Space Resource Utilization: A View from an Emerging Space Faring Nation**

by Annette Froehlich (Editor)

The book speaks to the need for a regulatory framework with regards to space resource utilization. In doing so, significant elements of the subject matter have been explored, taking into account the different phases of a space mission and the perspectives of the various actors and participants in the space arena. The book tackles the subject matter from a number of angles. An analysis of the current national and international governance frameworks is performed, with regards to resource extraction and utilization in space. The view of established and emerging space nations is analyzed next, specifically with extraction and utilization in mind, and in light of the new United State (US) Commercial Space Launch Competitiveness Act (CSLCA) of 2015. A brief analysis of the various budgets allocated to space exploration is given.

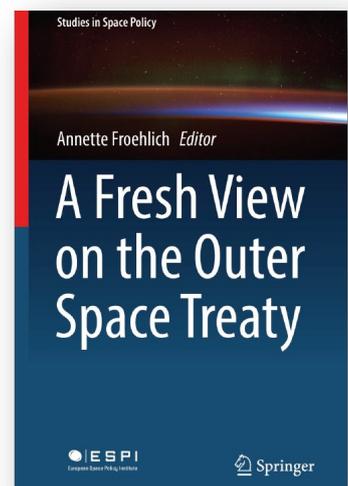


**December 2017**

#### **A Fresh View on the Outer Space Treaty**

by Annette Froehlich (Editor)

On the occasion of the 50th anniversary of the Outer Space Treaty this book gives a first insight into where the next generation considers room for further improvement of the Outer Space Treaty in order to cope with upcoming aspects such as providing solutions for the emerging commercial, economic, environmental and social questions. At the time of the adoption of the Outer Space Treaty in 1967 the purpose of this treaty was to avoid conflicting military situations in space. However, 50 years later the Outer Space Treaty is in demand to meet the ever increasing space activities and the different actors involved such as the rise of the private sector players.

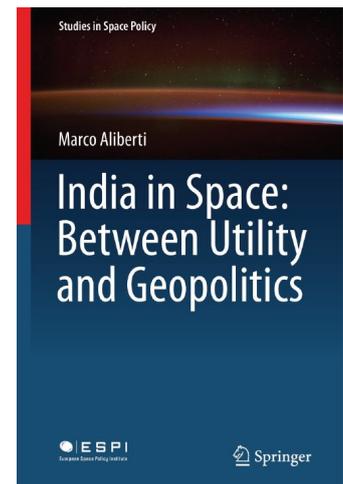


## January 2017

### ***India in Space Between Utility and Geopolitics***

by Marco Aliberti (Author)

This book presents the renewing strategic vision and progressive diversification of the Indian space programme at the nexus socio-economic development, commerce and geopolitics. It disentangles India's evolving rationales for engaging in space from a wide range of perspectives and provides novel and in-depth assessment of the domestic, regional and international factors influencing the pace and directions of the country's space programme. The study hence includes an extensive analysis of India's path forward, including a reflection on the long-term evolution of its civil, military and commercial space efforts. A central part of this final analysis is more specifically devoted to elaborating on the prospects and opportunities for European stakeholders, with the goal of identifying possible domains of closer and mutually beneficial Europe-India space cooperation.

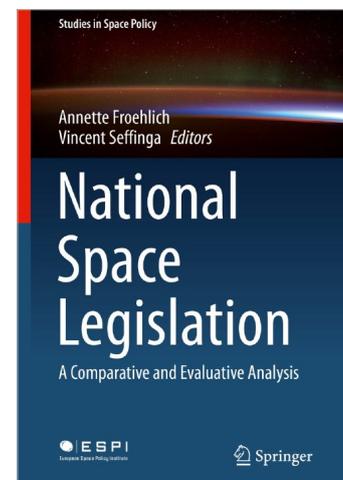


## January 2018

### ***National Space Legislation***

by Annette Froehlich and Vincent Seffinga (Editor)

The book speaks to the need for a regulatory framework with regards to space resource utilization. In doing so, significant elements of the subject matter have been explored, taking into account the different phases of a space mission and the perspectives of the various actors and participants in the space arena. The book tackles the subject matter from a number of angles. An analysis of the current national and international governance frameworks is performed, with regards to resource extraction and utilization in space. The view of established and emerging space nations is analyzed next, specifically with extraction and utilization in mind, and in light of the new United State (US) Commercial Space Launch Competitiveness Act (CSLCA) of 2015. A brief analysis of the various budgets allocated to space exploration is given.

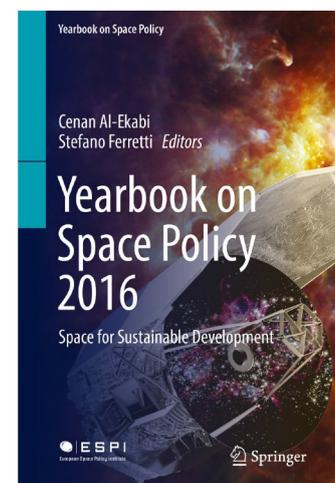


## January 2018

### ***ESPI Yearbook on Space Policy 2016: Space for Sustainable Development***

by Cenan Al-Ekabi and Stefano Ferretti (Editors)

The 10th volume of the "Yearbook on Space Policy" series edited by ESPI and published by Springer covers global space related developments in the Year 2015. The thematic focus of ESPI's Yearbook on Space Policy 2016, is on Access to Space and the evolution of space activities. The threefold structure of the yearbook remains the same as for earlier years. The first part deals sets out a comprehensive overview of the economic, political, technological, and institutional trends that affect space activities in Europe and throughout the world in the period. The second part approaches the overall theme from a more analytical perspective, covering a wide range of topics revolving around Access to Space. The third part carries forward the character of the Yearbook as an archive of space activities prepared in-house by ESPI, providing a comprehensive bibliography, chronology and data on ESA member states and relevant space nations. In its entirety, ESPI's Yearbook on Space Policy fills a niche in communicating space policy and space related issues to decision makers and to the broader public.

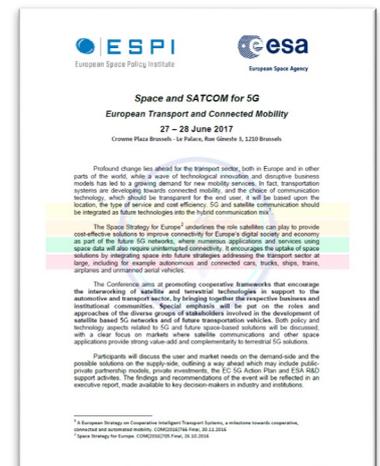


## ESPI Conferences – Outcome Reports

**July 2017**

### ESPI-ESA Conference on Space and SATCOM for 5G

On 27-28 June 2017, ESPI and ESA jointly organized in Brussels the conference “Space and SATCOM for 5G - European Transport and Connected Mobility”, where both policy and technology aspects related to 5G and future space-based solutions were discussed. The Conference was very well attended by distinguished representatives from the European Parliament, European Commission (DG-CONNECT, DG-MOVE and DG-GROW), space agencies, industry and operators and by representatives of the transport sector at large. The outcome of this joint conference have been made available on the ESPI and ESA websites as well as within the Proceedings of the 2017 International Astronautical Congress (IAC).



**July 2017**

### ESPI-ESA Workshop on Space Data and Cloud Computing Infrastructure

On 7 July 2017, ESA and ESPI jointly organised in ESRIN a one-day Workshop around the topic of policies and regulations for Space Data in cloud computing infrastructures. The Workshop gathered more than 70 participants, from European Institutions and Organisations, to the European Space Agency and other space agencies, major aerospace companies, cloud services providers as well as start-ups working with space data, space science researchers and legal experts on data policies.

The outcome report summarising the insights and findings of the Workshop has been made available on the ESPI website.



**September 2017**

### ESPI 11th Autumn Conference “Innovation in the New Space Economy”

The Autumn Conference is an annual ESPI event where space policy, agency and industry stakeholders come together to discuss issues that affect Europe and the rest of the world. In 2017 ESPI and the Organisation for Economic Co-operation and Development (OECD) have collaborated in the organisation of the Conference to discuss the evolution of the sector in light of the new roles adopted by governments, space agencies, and the space industry. Special emphasis was placed on the process of innovation and its drivers in the New Space ecosystem, and on long-term perspectives for the space economy leading into 2050

The Outcome Report of the 11th Autumn Conference titled “Innovation in the New Space Economy” provides a summary of the discussions and findings of the conference. It can be downloaded on the ESPI website.



## ESPI Briefs

### Brief 16 - October 2017

Spacetugs: Towards New Solutions for Satcom Operators

### Brief 17 - November 2017

Next Steps to the Moon: What Role for Europe?

### Brief 18 - December 2017

Brief 18: Super Heavy Lift Launch Vehicles: Global Status and European Perspectives

### Brief 19 - January 2018

Reigniting Europe's Leadership in Debris Mitigation Efforts

## Voices from the Space Community

### Voices No 79 - October 2017

“ESA Engagement with PNT Sectors: The NAVISP Programme” by Pierluigi Mancini

### Voices No 80 - November 2017

“Space 4.0 A guiding Vision for ESA” by Isabelle Duvaux-Béchon & Ulrike Bohlmann

### Voices No 81 - November 2017

“Could the next long term economic cycle be that of space?” by Nicolas Bouzou

## Other Publications by ESPI Staff

Al-Ekabi, Cenani; M. Aliberti; A. Vernile. “Outcome of ESPI’s 11th Autumn Conference on Innovation in the New Space Economy”. European Centre for Space Law. December 2017.

Aliberti, Marco; D. Nader and A. Vernile. “Understanding India’s New Space Potential: Implications and Prospects for Europe”. Proceedings of the 68th IAC. Adelaide: 2017.

Ferretti, Stefano; J.J. Tortora; H. L. Moeller; M. Vaissiere. “Space and SATCOM for 5G European Transport and Connected Mobility”. Proceedings of the 68th IAC. Adelaide: 2017.

Ferretti, Stefano; M. Tugnoli; A. Vernile. “Exploring Governance Frameworks for an Earthquake Early-Warning Future Space-Based System”. Proceedings of the 68th IAC. Adelaide: 2017.

Ferretti, Stefano “Science, technology and applications for global health”. UN / WHO / Switzerland Conference on “Strengthening Space Cooperation for Global Health”. Geneva: 2017.

Ferretti, Stefano “Are we on the verge of suborbital flights ?”. UN/ICAO 3rd Aerospace Symposium. Vienna: 2017

Ferretti, Stefano “New Visions, Methods and Tools for Capacity-Building in the 21st Century”, UN/Austria Symposium on "Access to Space: Holistic Capacity-Building for the 21st Century". Graz: 2017.

Froehlich, Annette; R. Maharaj. “Interregional cooperation on the margin of UNCOPUOS: GRULAC, African - European space activities”. Proceedings of the 68th IAC. Adelaide: 2017.

Froehlich, Annette; P. Khwambalab. “Space education for diplomatic circles”. Proceedings of the 68th IAC. Adelaide: 2017.

Moranta, Sebastien; M. Cappella. “The Digital Transformation of the Satcom Sector: Between Opportunities and Challenges”. In: Nardon, Laurence. European Space Programs and the Digital Challenge. IFRI. November 2017.

Moranta, Sebastien. “Space: An essential sector for Europe at a time of digital revolution”. Open Access Government. February 2018.

Plattard, Serge; A. Sitruk, “Looking at the future governance of Galileo”. Proceedings of the 68th IAC. Adelaide: 2017.

Vernile, Alessandra. “The rise of the private actor”. Proceedings of the 68th IAC. Adelaide: 2017.



## Recent Events

### 3-4 July 2017. **ESPI participates at ESA B2B Event in ESTEC**

On 3-4 July 2017 ESA organised a B2B event in ESTEC, Noordwijk. The event embraced ESA's Space Exploration 4.0 vision of spin-out, spin-in and spin together and aims to foster new (commercial) partnerships for space exploration in low Earth orbit and beyond. It was an unique opportunity to discuss what ESA and international partners have on the drawing board: commercial opportunities in Earth's orbit, lunar exploration services, international missions to the vicinity of the Moon, and the first exciting steps for the return of humans to the lunar surface.

ESPI Resident Fellow Dr. Stefano Ferretti joined the event in ESTEC, participating to the Panel 2 "The market for exploration services", discussing with Stefaan De Mey, Lina De Parolis and Mathias Link how past experience may help industry and agencies to enable the success of the future.



### 29-31 August 2017. **ESPI at the 3rd ICAO/UNOOSA Aerospace Symposium in Vienna**

ESPI participated to the third ICAO/UNOOSA Aerospace Symposium which provided participants with perspectives on latest trends in aviation, space activities, commercial space transportation and suborbital operations and also sustainability of aerospace activities, including regulatory and practical perspectives for aerospace operations and cooperation with aerospace stakeholders, and air traffic management and future space traffic management.

The ESPI Director chaired the Theme 4 Panel on the "Perspectives on Air Traffic Management and Future Potential Space Traffic Management" while ESPI Resident Fellow Dr. Stefano Ferretti presented the study "Are We on the Verge of Suborbital Flights?" in the Theme 2 Panel on the "Practices in Aerospace Activities and Cooperation with Stakeholders".



### 23-25 August 2017. **ESPI Presents at the UN/WHO/Switzerland Conference on Space for Global Health**



The Conference had the UNISPACE+50 Thematic Priority nr. 5 - "Strengthened Space Cooperation for Global Health" - as the central theme while also considering the relevant Sustainable Development Goals (SDGs), and aimed at fostering dialogue on how to create and reinforce relevant partnerships for better utilization of space-based assets, data and technologies in addressing global health. It covered a number of essential aspects such as showcasing global health initiatives and their use of space technologies, data access, data provision services and information sharing. The outcomes and recommendations identified will provide inputs for UNISPACE+50.

ESPI Resident Fellow Dr. Stefano Ferretti presented the study "Science, technology and applications for global health" in the thematic session 5: Looking Forward.

### 3-7 September 2017. **ESPI at the UN/Austria Symposium on Access to Space in Graz**

This symposium was the flagship event towards UNISPACE+50 Thematic Priority 7 (TP7), opening a dialogue on innovative approaches to capacity-building in the space domain, particularly in the areas of policy, applications and technology, including ways to measure progress and development, identification of partners, tools for capacity building and funding opportunities, while providing recommendations to COPUOS for UNISPACE+50.

ESPI Resident Fellow Dr. Stefano Ferretti presented the study "New Visions, Methods and Tools for Capacity-Building in the 21st Century", in Session 1: Tools and technologies for capacity-building in the 21st Century, while ESPI Director Jean Jacques Tortora participated in the High Level Discussion Panel.



12-13 September 2017.  
**ESPI Autumn Conference**  
**Innovation in the New Space Economy**

On 12 and 13 September 2017, ESPI conducted its 11<sup>th</sup> Autumn Conference addressing the topic of “Innovation in the New Space Economy”. ESPI and the OECD have collaborated in the production of the Conference of 2017 to discuss the evolution of the sector in light of the new roles adopted by governments, space agencies, and the space industry. Special emphasis was placed on the process of innovation and its drivers in the space ecosystem, and on long-term perspectives for the space economy leading into 2050.

On the first day of the Conference, ESPI’s Director Jean-Jacques Tortora gave the welcoming address, which was enriched by a speech of Pierre Delaux, (DG GROW) presenting the views of the European Commissions on the topic. Two key note speeches by Luca del Monte (ESA) and Claire Jolly (OECD) completed the opening session.



The First Session on “The State of the Art of the Space Economy”, moderated by Klaus Pseiner (FFG), provided the backdrop to the Conference. The first speaker, Pierre Lionnet, (Eurosace), offered an overview of the space economy today, underlining the criticalities in the provision of accurate economic data and analyses. Following this, Henry Hertzfeld (George Washington University) elucidated on the existing connections between law and economics in the space sector and highlighted the need to have more balanced views on the actual weight of the New Space economy. Alessandra Vernile (ESPI), presented the outcome of her research on “The Rise of the Private Actors in the Space Sector”, shedding a light on the factors that characterise the new trends in space. Following this, Isabelle Dubeaux-Béchon (ESA), presented the new ESA strategy “Space 4.0”. Finally, Joerg Kreisel (JKIC), exposed on the existing opportunities and challenges for investment and “astropreneurship” in Europe.

The second day was opened by a key note speech from Gerd Gruppe (DLR), who discussed the need of transforming space technology into space business in order to enable societal advancement. The Second Session on “Space and Innovation” was moderated by Geneviève Fioraso (ESPI Advisory Council) and included seven speakers. The first speaker, François Alter (CNES), explained how space innovation is changing from a sustaining approach to a disruptive approach that trades-off performance with cost, large with smaller sized spacecraft, and centralized systems with distributed systems. Next, Rainer Horn (SpaceTec Partners), presented a study on new business models emerging in the space industry and digital economy. Gary Martin (NASA), then described how NASA, and its progenitor NACA, has sought to develop technologies to the state where they are effective, economical and safe to enable private enterprise to create new commercial opportunities. Maria Guta (ESA), gave a presentation on how ESA engages with private actors in the telecom business through the ARTES programme and the ESA Satellite for 5G initiative. Pierluigi Mancini (ESA), gave a presentation on ESA Engagement with PNT sectors, highlighting the challenges that GNSS needs to meet in the 21<sup>st</sup> century. Then Giovanni Pandolfi (LeafSpace) provided an account of the challenges faced by European space start-ups. Finally, Rick Tumlinson (Deep Space Industries) sought to redefine the way the space community looks at space resources.

The Third Session, titled “Long-Term Perspectives for the Space Economy”, was opened by a key note speech from ASI’s President Roberto Battiston and moderated by Eric Morel De Westgaver (ESA). The first speaker, Carissa Christensen (Bryce Space & Technology) focused technology forecasting methods for assessing the future space economy. After her, Mark Boggett (Seraphim Space Fund) provided new data showing the increasing role of venture funded start-ups in leading disruption in the space sector. Then Gunnar Muent (EIB) discussed the involvement of the European Investment Bank, contrasting debt from equity financing in the support of technology start-ups/SMEs. Next, Nicolas Bouzou (Asteres), spoke about the role that space will have in the next years and the impacts on the economy using Schumpeter’s Economic Cycles. The last speaker, Guoyu Wang (Beijing Institute of Technology), highlighted how China’s rapidly growing space sector is opening to private actors and identified the segments in which Chinese private actors will find a role. Finally, Geneviève Fioraso concluded the Conference, addressing the presentations and remarking how the New Space economy represents both opportunities and a challenges for Europe. She also encouraged ESPI to further to pursue its research effort in the field of space economy and New Space.

The Outcome Report and presentations of the Autumn Conference can be downloaded on the ESPI website.

**25 September 2017. ESPI participates at the Conference on the Future of EU Finances**

On 25 September, ESPI Director Jean Jacques Tortora participated in a High Level Conference on "The Future of EU Finances" organised by DG BUDG in Brussels. The conference brought together a great variety of stakeholders from Member States, think tanks and EU institutions, in order to discuss the challenges ahead for the EU budget, and the ways to address them.

The ESPI Director was invited to highlight the achievements of Europe in Space, the challenges ahead for the European Space sector and the perspectives to be considered for the preparation of the next Multi-annual Financial Framework.


**19-20 October 2017. ESPI presents at the New Generation Space Policy Conference**

On 19-20 October 2017, ESPI Director was invited to participate in a conference organised in Bratislava, Slovakia, on "New Generation Space Policy" (NGSP). The NGSP space conference was an exclusive strategic gathering of leading representatives of global space industry as well as a relevant platform to support the global industry and bring together key public and private stakeholders to evaluate the various opportunities in space sector.

Mr Tortora's presentation was entitled "How can European Strategy for Space cope with Newspace challenges". His presentation can be downloaded on the ESPI website.

**25-29 September 2017. ESPI at the 67th International Astronautical Congress in Adelaide, Australia**

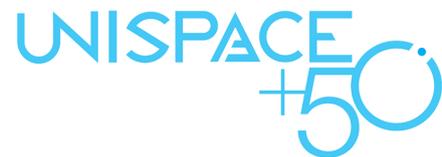

During the 2017 International Astronautical Congress held in Adelaide from 25 to 29 September 2017, Dr. Serge Plattard, chair the IAF Committee on Space Security, and former ESPI Resident Fellow Alessandra Vernile participated in various technical sessions where the outcomes of ESPI studies were presented. This year ESPI significantly

contributed to IAC with a number of papers in various areas. These include: 1. "Looking at the future governance of Galileo" co-authored by Dr. Serge Plattard and Amiel Sitruk, Institut d'Etudes Politiques de Paris; 2. "Space and SATCOM for 5G European Transport and Connected Mobility" co-authored by Dr. Stefano Ferretti, Jean-Jacques Tortora and Hermann Ludwig Moeller and Magali Vaissiere, European Space Agency; 3. "Space education for diplomatic circles" co-authored by Dr. Annette Froehlich and Patricia KHWAMBALA, Cape Peninsula University of Technology, South Africa; 4. "Interregional cooperation on the margin of UNCOPUOS: GRULAC-European space activities" co-authored by Dr. Annette Froehlich and Ms. Riddhi Maharaj, University of Cape Town, South Africa; 5. "The rise of the private actor" authored by Alessandra Vernile; 6. "Understanding India's New Space Potential: Implications and Prospects for Europe" co-authored by Marco Aliberti, David Nader and Alessandra Vernile; 7. "Exploring Governance Frameworks for an Earthquake Early-Warning Future Space-Based System, co-authored by Dr. Stefano Ferretti, Matteo Tugnoli and Alessandra Vernile; 8. "A sustainable elaboration of the 1967 Outer Space Treaty" authored by Giulia Pavesi

**6-9 November 2017. ESPI presents at the 2nd UN / UAE High Level Forum in Dubai**

The Second High Level Forum jointly organised by the United Nations Office for Outer Space Affairs and the United Arab Emirates took place in Dubai on 6-9 November 2017. The Forum serves

as a driver for exchange to promote dialogue between governments, international organizations, industry, the private sector, academia and civil society, to connect the four pillars of UNISPACE+50 and Space2030 (space economy, space society, space accessibility and space diplomacy) and to facilitate partnerships with the Office for Outer Space Affairs. This second forum was entitled "Space as a Driver for Socio-Economic Sustainable Development".



ESPI Director Jean Jacques Tortora participated in the concluding High-Level Panel addressing "Space as an Arena for Innovation, Integration and Investment". The slides of his presentation have been made available on the ESPI website.

### 30-31 October 2017. **ESPI Presents at the NEREUS-IEST Conference**

On 30-31 October, ESPI Resident Fellow Dr. Stefano Ferretti chaired the concluding round table of a two-day conference, entitled "Space uses for the benefits of humanity: the wealth of space based data for manifold purposes". Organized by NEREUS and IEST, and hosted by the Veneto Region and the University of Padova, the event, was attended by representatives of the EU, ESA, ASI, industry, academia and by the regional and local actors. It aimed to increase the awareness and stimulate an open exchange on the potential uses and applications of the Copernicus and Galileo programs.



The conference identified some recommendations for the key stakeholders that can now be considered by the relevant decision-makers at regional, national and European level. In particular, the relation between future space activities of the EU and their societal implications was explored from different perspectives, identifying the roles of the participating institutions, the priorities that could be envisaged within the current and future EU Space strategy and policies, and their impact on future programmes planning. The conference also initiated a fruitful exchange on the changing needs of our societies and how they can best be addressed by regions, provinces and town halls through the exploitation of Copernicus and Galileo based services.

### 9 November 2017. **ESPI at the Council of the European Union**

On 9 November 2017 ESPI's Coordinator of Studies Sebastien Moranta was invited by the High Level Working Group on Competitiveness and Growth of the Council of the European Union to provide a keynote presentation about the place of Europe in the global space economy. The presentation of Mr. Moranta can be downloaded on the ESPI website.



**Council of the  
European Union**

### 5-7 November 2017. **ESPI supports the European Inter-Parliamentary Space Conference**



From 5 to 7 November 2017, ESPI Resident Fellow Matteo Tugnoli participated in the XIX European Interparliamentary Space Conference (EISC), held in Tallinn, Estonia. Since 2009, ESPI supports the rotating Presidency of the EISC in organising the spring Workshop and the autumn Plenary Session. This year's highly successful Plenary Conference revolved around the theme "Space and Entrepreneurship". The conference, which took place in conjunction with the European Space Week organised under the

auspices of the Estonian Presidency of the Council of the European Union, attracted over 100 participants including speakers, and a high-level representation of the European space sector.

During the first day, the EISC Plenary conference was introduced by speeches from Mr Eiki Nestor, Speaker of the Parliament of Estonia, and Ms Liisa Oviir, EISC 2017 Chairwoman, Member of Parliament of Estonia, as well as Ms Katrin Nyman Metcalf, EISC 2017 Programme Coordinator. The keynote speech was then given by the ESA Director General, Dr Johann-Dietrich Wörner. Following brief statements from the EISC Delegations, the conference continued with the First Session, with presentations around the topic "Opportunities and Obstacles for Entrepreneurs in Space". Two more sessions, "Outer Space and Cyber Space" and "The Changing Legal Framework for Space" took place in the afternoon.

On the second day, the EISC Members Delegations met to discuss and adopt the XIX EISC Resolution, following which the Belgian Delegation presented the 2018 EISC Belgian Presidency's conference themes and programme. The participants to the EISC then enjoyed the opportunity to participate to the concurring events of the European Space Week, in particular the Awards Ceremony of the Copernicus Masters & European Satellite Navigation Competition 2017.

Further information and documentation on the XIX EISC Plenary can be found at: [www.eisc-europa.eu](http://www.eisc-europa.eu)

**20-22 November 2017. ESPI at the Open Universe Workshop**

ESPI recently contributed to the Open Universe initiative, organized by the UN Office for Outer Space Affairs and ASI with the support of ESA. The ESPI Director co-chaired session 2 “International cooperation, policy and legal aspects”, while ESPI Resident Fellow Dr. Stefano Ferretti co-chaired session 3 “Educational, social and economic benefits of open data”.



The Open Universe initiative aims to promote transparency in astronomy and space science data sharing, and broadening the user-base. All these aspects were addressed in the dedicated sessions, which were complemented by innovative and high impact citizen-science related activities, including an exceptional evening show at the Vienna Planetarium

**30 November 2017. ESPI Contributes to IFRI Space Study**

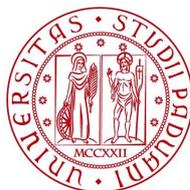
ESPI contributed to a report of the *institut français des relations internationales* (ifri) on the place of space programs in the digital revolution and the impact of New Space on various industrial sectors. The paper written by Sebastien Moranta with the support of Matteo Cappella focuses on the impact of the digital transformation on the satcom sector and examines the challenges and opportunities ahead of operators in the age of the digital economy and society. The complete report is available on the ifri website.



**23-24 November 2017. ESPI at ESA Space History Conference**

On 23-24 November, ESPI Director participated in the ESA Space History conference in Padova, Italy. The Conference was organised by ESA in cooperation with the University of Padua to mark the launch of the latest phase of the ESA History Project. Building on the success of the previous phases, this new endeavour is marked by an opening to other domains in the humanities, while continuing to take a historical perspective and write the history of space activities, with a view to supporting present and future decision-making.

ESPI Director contributed to a round table addressing the question: "Space History: A tool to support Decision-Making?"



**UNIVERSITÀ  
DEGLI STUDI  
DI PADOVA**

**1 December 2017. ESPI Contributes to ESA 4.0 Mega Trends Initiatives**

ESPI Resident Fellow Dr. Stefano Ferretti contributed to the initiative organized by ESA 'Exploring Threats and Opportunities through Mega Trends in the Space 4.0 Era', which explored the upcoming changes to the way we live and work on Earth, potentially influencing the future of space as well.

In the era of Space 4.0 we have to be adaptive to change, looking at the future as an ever-changing environment, while anticipating solutions that can benefit our society at large in the coming years.

Mega trends are defined as the large-scale, sustained forces of development – such as urbanisation, connectivity and convergence – set to change that future world. Each mega trend is made up of numerous sub-trends that, in turn, are likely to affect particular economic and social sectors, including space. Market research has been carried out with the support of Frost & Sullivan, market leaders in monitoring the trends affecting our societies, economies, organisations and private lives.

**27 November 2017. ESPI Gives Lecture at the American Centre in Prague**

On 27 November, ESPI Resident Fellow Cenani Al-Ekabi gave an evening lecture at the American Center in Prague, Czech Republic. The event was part of a series of three public guest lectures organized by the Institute of Political Studies at the Charles University, the Prague Security Studies Institute (PSSI) and the American Center for the Master's Degree course on "Space Security in the 21st Century".



He gave a broad overview of Europe's activities in space with a focus on the security dimensions, from its initial drivers to the current main efforts, and highlighted the European space sector's investment in space and recent developments in global space community.



## Ongoing and Upcoming ESPI Activities

### ESPI Studies Under Finalisation and Publication

#### **The Rise of the Private Actor in the Space Sector**

Project led by ESPI Resident Fellow Alessandra Vernile

A much discussed phenomenon in recent times has been the rise of the private actor in a domain historically dominated by state activity, at least outside telecommunication. Entrepreneurs like Elon Musk have shaken up views on how and who to do things. Although the private actor in the US is not as independently and extensively involved as the public debate would have it, an asymmetry is evolving with more and more prominence given to the private actor in the United States, with Europe in a middle position, and many emerging space-faring nations (and Russia) being firmly in the traditional 'state activity' camp.

This project aims to offer a thorough understanding of the current state of play by searching and collecting relevant information and data available publicly on the topic of the "rise of private actors in space"; organizing and consolidating this information into homogeneous and coherent themes; identifying the main stakes and challenges for space policy actor; and formulating recommendations for future space policy research. The scope of this study is intentionally kept broad to encompass all trends, including political, financial, legal and technological trends, driving or resulting from the rise of private actors in the space sector. Given the nature of the new dynamic, the study focuses predominantly on emerging private actors in the upstream part of the space value chain. Finally, and from a geographical perspective, the study covers essentially the situation in the US and in Europe where the rise of private actors is principally taking place.

#### **European Access to Space: Business and Policy Perspectives on Micro Launchers**

Project led by ESPI Resident Fellow Matteo Tugnoli

This research responds to the ever-apparent need of providing a comprehensive assessment of the commercial and institutional landscape surrounding micro launchers initiatives within the European context. In order to fulfil this overarching purpose, the primary objective of the report is to offer an analysis of the dynamics of the global launch service market associated with small satellites, by placing a particular focus on its unfolding trends and future outlook. From an economic perspective, the emergence of numerous micro launcher initiatives on top of already existing launch solutions for small satellites raises questions about the specific nature and size of the smallsat market that will - or could - be addressed by these emerging launch services offerings. Identifying the specific features of such market by characterising customers' expectations and providing a competitive analysis of the different launch solutions for small satellites is the second objective of this report. Finally, and from a policy perspective, the report intends to reflect on whether such market could and should be handled on a purely private basis in the European context, or on the contrary generates relevant stakes that compels European institutional actors to become more actively involved in this domain.

#### **Legal Implications of Active Debris Removal**

Project led by ESPI Resident Fellow Annette Froehlich

The Space Debris Mitigation guidelines were elaborated at various levels to avoid space debris or to reduce potential space debris in the course of future space missions. Even if this is a good initiative for a long sustainable use of outer space, it is vital to resolve the problem of the existing space debris in outer space as well. From a scientific and technical point of view various studies are ongoing to analyse the feasibility of active debris removal. Nevertheless it has to be highlighted that outer space is an international area where various actors with different legal and political concepts are operating, a situation that leads to different approaches concerning such activities.

The project will therefore analyse the various legal and political concepts to ensure a peaceful use of outer space, which is of utmost importance to ensure a pragmatic approach to the resolution of this issue. This might also lead to a better understanding and acceptance of the European initiative of the International Code of Conduct of Outer Space Activities.

## **ESPI Studies Under Finalisation and Publication**

### **Russia's Evolving Posture in Space: Prospects for Europe**

Project led by ESPI Resident Fellow Marco Aliberti

Russia has traditionally been one of the two main strategic partners for Europe in its space endeavor. Hitherto, long-standing cooperation has been nurtured between the two actors in various areas, from scientific research to space transportation and human spaceflight. In recent years, however, a number of endogenous and exogenous developments has triggered significant changes in Russia's space posture. These changes are evident in the adjustment of Russia's space policies and programmatic goals, in the restructuring of the domestic space industry as well as in the attitude towards international space partnerships. This study sheds new lights on the evolution Russian space activities with a focus on their strategy of international cooperation. This analysis is carried out in relation to the evolution of the domestic and international dynamics that have been impacting the country's direction in space, with the ultimate goal of providing an assessment on their impact for current and foreseeable Europe-Russia space relations.

The underlying research questions driving the reflections of this study include: What are the most relevant evolutions the Russian space sector has undergone over the past 10 years? What are the major changes in its international posture, and what factors have been triggering such changes? How are these internal and external evolutions impacting Europe-Russia (space) cooperation? How strong is the need and will for Europe to continue cooperating with Russia? And in which fields?

### **Potential Contributions of Commercial Actors to Space Exploration**

Project led by ESPI Resident Fellow Clelia Iacomino

This study investigates the current and foreseen space exploration geopolitical, commercial and programmatic environment to identify elements that would drive, or prevent, potential contributions of private actors to space exploration and to analyse the conditions, mechanisms and expected impacts/benefits of such contributions. The general objective of the research is to analyse in depth the specific trends driving the increasing investment and involvement of private actors in the field of space exploration and characterize how this dynamic can create new opportunities for Agencies. Eventually the study aims to provide European institutions involved in space exploration programmes with key takeaways on the evolving commercial ecosystem and insights on potential mechanisms to foster and implement successful contributions of commercial actors to achieve European strategic space exploration objectives.

More specifically, the study aims to providing elements of answer to the following questions: How can commercial activity create new opportunities for Agencies? What is the current state of play of commercial endeavours in the field of space exploration? What are the drivers and barriers to contributions of commercial actors to space exploration? What are the requirements and conditions to be met to achieve successful partnerships? What would be the most appropriate mechanisms to successfully leverage a contribution of commercial actors to achieve strategic space exploration objectives?

### **Looking for an Enhanced Role of Europe in Space Security**

Project led by ESPI Resident Fellow Martin Sarret

The project will embrace the various current concerns regarding security of access and security of operations in space, their treatment within the established venues, and offer possible lines along which Europe could be key to unlock the standstill situation on the matter. After analysing recent reports dealing with this topic and going through a number of interviews, the study will come up with a set of concrete recommendations and propose initiatives regarding short and medium term European space policy evolution in these matters in terms of debris mitigation, in-orbit avoidance and space weather forecasting.

The report will particularly highlight the necessary continuity from Space Surveillance and Tracking (SST) to Space Situational Awareness (SSA) and ultimately to Space Traffic Management (STM), and will reflect on the institutional as well as technical means necessary to ensure a consistent implementation of the required regulations. The dual nature of the threats currently dealt with separately by the Conference on Disarmament and the COPUOS will be analysed in detail. Indeed this institutional allocation is a major stumbling block preventing real progress towards tangible solutions enhancing space security.

The study plans also to include a discussion with COPUOS scientific and technical sub-committee representatives via a workshop focusing on NEOs detection and avoidance schemes.

## **Workplan 2018 - Recurrent Activities**

### **Yearbook on Space Policy 2018**

Also this year, ESPI intends to continue the production of the book series “Yearbook on Space Policy” The series, edited by ESPI and published by Springer, will cover global space related developments in the Year 2017. In 2018, the structure of the yearbook will undergo an overhaul process. The first part, however, will set out a comprehensive overview of the economic, political, technological, and institutional trends that affect space activities in Europe and throughout the world in the period. The third part will continue to carry forward the character of the Yearbook as an archive of space activities prepared in-house by ESPI, providing a comprehensive bibliography, chronology and data on ESA member states and relevant space nations.

### **Space Policies, Issues and Trends (SPIT) Report 2018**

ESPI will continue the production of the “Space Policies, Issues and Trends in 2017-2018” to provide a broad overview of the state of the space economy and of global space policies. This year’s edition will cover the period of mid-2017 to mid-2018. This flagship ESPI report will continue to put the space endeavour into a general context by providing an overview of space policy developments worldwide, while also looking at the economics and at how the policies in different fields and countries and regions are developing.

### **ESPI Autumn Conference 2018**

Also this year, ESPI will prepare its annual Autumn Conference, the institute’s flagship event where space policy, agency and industry stakeholders come together to discuss issues that affect Europe and the rest of the world. The event will be organised in September following the same approach adopted during previous years. The selected overarching theme for the 12th Autumn Conference will be “Space Security”

### **Secretariat to the European Interparliamentary Space Conference (EISC)**

In 2018, ESPI will continue providing support to the EISC Presidency. Established in 1999 as a permanent forum for inter-parliamentary co-operation in space between the European national parliaments interested in space policy, EISC aims to facilitate the exchange of information on space activities and to promote mutual understanding of national policies through a forum for analysing the major issues at stake in the European space sector. The EISC Presidency has been supported, at its discretion, by ESPI, for secretariat related activities since 2009. ESPI support activities to the EISC Presidency include: maintenance and update of the EISC website; liaison with EISC National Parliaments secretariats on behalf of the acting Presidency; attendance to Workshop and Plenary sessions, providing in-situ support to organisers and participants.

### **Monitoring of ESA Member States**

In 2017, on behalf of the ESA Strategy Department, ESPI has conducted a research project related to the gathering, compilation and structuring of information and data on ESA Member States space governance and strategies. The project in question consists of an update of the “Countries Overview – Info Notes on Member States of ESA” (also called “MS brochure”) used internally by ESA. This product consists in a concise description of each ESA MS’s space tradition and governance, strategy, budget and main capabilities. As a result of this activity ESPI produced a complete update of this brochure with latest available data, establishing in the process efficient processes and tools to retrieve the required set of information. An update will be performed annually.

### **Other Recurrent Activities**

Also this year, ESPI plans to continue the periodical publication of ESPI Executive Briefs, the tradition of having events linked with the meetings of the committee and sub-committees of UN COPUOS, as well as the production and distribution of its newsletter to the members of the European Space Policy and Academic Network (ESPRAN).

## **ESPI Workplan 2018 - New Activities**

### **Support to the Austrian Presidency of the EU**

Project led by ESPI Director Jean-Jacques Tortora

The Austrian Presidency of the EU will be the next milestone to bring space matters to the agenda of the European Union. It is the intention of the Austrian government and of the European Commission to seize this timely opportunity to further elaborate on the Communication recently issued by the EC regarding European Strategy for Space, make the status of its implementation and consolidate the necessary consensus among members States on critical issues addressed in this document.

The Austrian government delegated to ESPI the role to jointly preparing, together with EC and ESA, the programme and the organisation of a high-level conference to be held in Graz in October-November timeframe under the auspices of the Austrian presidency. The following topics will be considered for the agenda:

- **New Space challenges to be taken up by Europe:** The multiple New Space initiatives taking place in the US are fueled by strong political commitments. They will have, without any doubt, a major impact on the global competitive landscape in the space sector from space transportation and operations in orbit to upstream and downstream industries. This brings forward unprecedented challenges and opportunities to the European space industrial sector that need to be tackled through the adaptation of the European legal, regulatory and programmatic framework.
- **Security challenges to space infrastructures:** In the wake of the full deployment of Galileo and Copernicus and in light of various upcoming new potential threat to safety of operations in space an array of unprecedented challenges need to be addressed by the Commission as owner of the systems. Based on the findings provided by ESPI studies on space security, the conference will gather international stakeholders and owners of space infrastructures to discuss major concerns and devise potential coordinated actions.

### **ESPI - UNISPACE+50**

Project led by ESPI Resident Fellow Stefano Ferretti

In the frame of its relation with UNOOSA and of its involvement in UN COPUOS activities, ESPI will take an active part in the UNISPACE+50 roadmap through various contributions in 2017/2018 (papers, presentations, events...). The final UNISPACE+50 event will take place in Vienna on 21 and 22 June 2018.

The ESPI UNISPACE+50 project will have the main objective of identifying innovative and effective approaches to overall capacity-building for the XXI century by discussing infrastructure for cross-sectorial and integrated applications, while enhancing partnerships for capacity-building with institutional, development and (new) space actors, finally providing recommendations on the future evolution of the UN COPUOS, UNOOSA and the UN regional centres. The ESPI UNISPACE+50 project will be conducted in close collaboration with ESA and UNOOSA to maximize synergies and engage with the optimal stakeholders platform, in order to ensure a significant end-to-end contribution to the UNISPACE+50 process. In this respect, the ESA/UNOOSA collaboration on the Space Solutions Compendium will be the basis for analysing the contributions of Space to the achievement of the UN Agenda 2030 and its associated Sustainable Development Goals. The project will be the occasion to discuss at high political level on a global scale the UNISPACE+50 thematic priorities, in order to identify potential ways forward towards innovative global programmatic frameworks and space governance models.

In the frame of this project ESPI will organize, with the support of ESA, a one-day conference and a dedicated evening event during the Scientific and Technical Subcommittee session timeframe (end of January/beginning of February) to discuss, with international stakeholders, a selection of topics in line with UNISPACE+50 Thematic Priorities. As a result ESPI will produce a report addressing the different thematic areas covered during the project.

## ESPI Workplan 2018

### Means and Stakes of a Space Power

Project led by ESPI Resident Fellow Marco Aliberti

This research will investigate the strategic, geopolitical, diplomatic, programmatic and budgetary stakes at play in reaching and maintaining a position of fully-fledged Space Power. The research will aim more specifically at examining and putting in perspective European strategic objectives and ambitions with the necessary means and resources required to meet Europe's goals. The topic arises from discussions and concerns regarding Europe's position on the international space scene and the apparent discrepancies between European ambitions and current means. On a global scene where other space powers (USA, Russia, China, India, Japan) tend to put space at the top level of their strategic agenda and to mobilise an increasing level of resources accordingly, Europe appears to be losing ground or, at least, to not be occupying the expected position on several strategic space-related domains.

From this standpoint the concept of non-dependence is quite central. The current dependency situation in Europe asks the question whether Europe should ambition to set itself as a fully-fledged space power - meaning giving itself the means to access and operate in Space without having to rely on any kind of non-European source of supply - or should rather limit its ambitions to be a space-faring "nation", although among the most powerful, and adapt its strategy accordingly.

### Evolution of the Role of Space Agencies in the NewSpace Ecosystem

Project led by ESPI Resident Fellow Matteo Tugnoli

ESPI research work on "The rise of private actors in the space sector" conducted in 2016/17 provided evidence that the space sector is currently undergoing a change in its structure and that the historical *status quo* of space activities conduct is increasingly being challenged by new private and business-driven endeavours. In this new context, most agencies started or continue to adapt their strategy and industrial policy to foster the emergence of private endeavours, build partnerships and readjust their role and procurement model. Today, it can be foreseen that the future of the NewSpace dynamic, although commercially driven, will also be highly dependent on the success of new public strategies implementation. Embracing the opportunity of a more leading private sector calls for a revaluation and adaptation, at least partially, of the public intervention model in the space sector. NASA, but also ESA and other space agencies, already made significant steps in this direction. This transformation encompasses operational aspects such as programme management or procurement mechanisms as well as more strategic considerations such as industrial policy and governance.

This forward-thinking research activity aims to investigate the potential future space agency roles and operational models in a foreseen future where private and commercially-led space activities would have become predominant. As a result of such long-term-looking research, a study report on this topic would provide an overview and a better understanding of the different considerations and implications of such evolution for space agencies and provide an outlook of the successive steps of a transformation of space agencies model.

### Way Forward for Space Services of the Future: Climate Change and Space Weather Services

Project led by ESPI Resident Fellow Marco Aliberti

One of the most challenging tasks associated with the development of space systems is represented by the transition from demonstration to provision of operational, value-adding services. While sustainable services have been successfully established in fields such as telecoms, meteorology and, more recently, navigation, challenges remain with respect to new emerging areas. This report specifically aims to elaborate on Europe's possible role and actions towards the prospected creation of operational climate and space weather services for the future. To this end, the study will reflect on different models for ensuring a smooth provision of value-adding services, including those centred on public institutions, private actors and international cooperation formats. More broadly, this ESPI study will provide elements of answer to the questions: How can Europe move from the provision of space weather and climate-related data to the provision of fully fledged services? What are the current gaps in the current European and international architecture for space weather/climate services? Who should fill these gaps? And how can they be filled?

## **ESPI Workplan 2018 - New Activities**

### **Assessment of Astropreneurship and private investment in Europe**

Project led by ESPI Resident Fellow Cenan Al-Ekabi

As part of its 2016/17 research work on “The rise of private actors in the space sector”, ESPI highlighted that the current new wave of entrepreneurship in the space sector, popularly branded as “astropreneurship”, is a central component of the NewSpace dynamic and is actually both a consequence and a driver of the different NewSpace trends identified in the study by ESPI. While this sectorial dynamic has been thoroughly investigated in the US, research on the situation in Europe has been, so far, limited. Yet, in order to support future European space policies in this field it is essential to provide decision-makers with thorough insights on the emergence of NewSpace in Europe and, in particular, latest data and information on astropreneurship and private investment in the European space sector. The research activity proposed by ESPI aims at filling this gap by providing a comprehensive outlook of astropreneurship and investment in Europe and at investigating key components of the business environment affecting these NewSpace trends in Europe. More specifically the study will have the following objectives:

- Evaluate and characterize investments in European commercial space ventures with a special focus on European start-up companies and funding sources;
- Identify and examine existing drivers and barriers to astropreneurship in Europe;
- Provide a benchmark of astropreneurship and business environment in Europe and in the US;
- Elaborate recommendations for potential public supportive actions aiming to foster astropreneurship and private investment in Europe.

The research team will also complement this work with a review of emerging “disruptive” concepts in the space sector with a focus on concepts proposed by European companies and in particular start-ups. In this part, the report will first discuss the notion of “disruption” and attempt to provide a definition of what this means exactly in the space sector. Special attention will be paid to the meaning of “disruption” for the New Space sectorial dynamic. These reflections will be illustrated and supported by a selection of case studies allowing the research team to provide concrete examples of disruption, or expected disruption, in the space sector.

### **Legal and Policy Implementation of Space in Latin American Countries**

Project led by ESPI Resident Fellow Annette Froehlich

This report aims at analysing the development in the space sector in Latin American countries from a legal and policy perspective. Besides national activities, various initiatives were also already undertaken at regional level. Moreover, these countries are searching for their appropriate space activities taking into account the needs and economic circumstances of their own country. This report will thus provide an overview of the activities of the main actors from Mexico to Argentina.

### **Legal and Policy Implementation of Space in African Countries**

Project led by ESPI Resident Fellow Annette Froehlich

This report intends to give an overview of the space sector in African countries from a legal and policy point of view, analysing in particular how the African Union’s Space Policy and Strategy (ASPS) is implemented in each country and highlighting the various existing space activities per country. Against this backdrop the ASPS will be interrogated, its policy goals identified and its strategy discussed. Moreover, on-going regional cooperation programs, continent’s leading space actors and their roles, the existing space related regional fora and organisations will be looked into. Reflections will be made on some of the initiatives undertaken in Africa, including the African Leadership Conference on Space Science and Technology for Sustainable Development (ALC), the Regional African Satellite Communications Organisation (RASCOM), and the African Resource Management Satellite Constellation (ARMS-C). The report aims to provide substantial information on space capacities in African countries to European space actors.

## Workplan 2018 - Recurrent Activities

### Security Challenges for the Space Infrastructures

Project led by ESPI Resident Fellow Martin Sarret

The topic of space security is becoming central, both on the international and European space scene, as a corollary of the growing importance of space-based services for economy, society, defence and environment. In Europe, the topic is also gaining more traction in light of EU flagship programmes progress, Galileo and Copernicus, which are now both into their exploitation phase. In this context, securing its space infrastructure will be an essential challenge for the EU to ensure an effective and resilient delivery of operational services. Major efforts were made to properly address this issue in the frame of ESPI study related to the governance of European GNSS programmes and a dedicated research on “Looking for an enhanced role of Europe in space security”. ESPI intends to continue its effort to contribute to space security related debates and decisions by becoming a reference organisation on the subject.

The topic also provides an excellent opportunity to address and develop transatlantic relations in space. From this perspective, ESPI has initiated discussions with the Space Policy Institute of George Washington University (SPI) and reached an agreement to conduct a joint research in 2018 on the topic of “Security challenges for space infrastructures—Transatlantic perspectives”. In the frame of this research activity ESPI will characterize and investigate approaches to space infrastructure security challenges in Europe and the United States and discuss potential transatlantic cooperation in the field of space security. This research activity will also support the preparation space security-related contents of ESPI Autumn Conference 2018.

### Cybersecurity in space: threats and challenges

Project led by ESPI Resident Fellow Matteo Tugnoli

In recent years, an increasing number of voices has been pointing to the need for a radical review of cybersecurity in space. Indeed, Information and Communication Technologies (ICT), on which space infrastructures are based, are the target of increasingly sophisticated cyberattacks from a growing number of cyber-capable entities. This creates an unprecedented level of risk considering the mounting dependence of economy and society on space-based services. In this context, ESPI intends to promote a common understanding and appraisal of cybersecurity threats for space infrastructures among European stakeholders and a shared vision of the challenges that Europe is called to face. With this objective, ESPI proposes to gather key European space stakeholders, in particular public and private space systems operators and cybersecurity experts, during a workshop to discuss their views on short and medium-term threats and issues to be tackled in this matter.

In the frame of this activity and to support fruitful discussions, ESPI will conduct preparatory research on space cybersecurity threats to identify key topics for discussion. Pursuant the workshop, ESPI will consolidate the research with the reflections and results of the meeting in an executive report.

### Historical Perspectives on Collaboration between COPUOS and the CoD

Project led by ESPI Resident Fellow Annette Froehlich

Within the United Nations framework space-related matters are addressed through two different forums, the Committee on the Peaceful Uses of Outer Space (COPUOS) which focuses exclusively on non-military uses of space and which reports to the 4<sup>th</sup> Committee of the General Assembly (Special Political and Decolonization Committee) and the Conference on Disarmament which addresses military uses of space through initiatives like the Treaty on Prevention of the Placement of Weapons in Outer Space (PPWT) or the Prevention of an Arms Race in Outer Space (PAROS) and which reports to the 1<sup>st</sup> Committee of the General Assembly (Disarmament and International Security).

Issues addressed within these two forums are increasingly related. This is in particular the case of discussions regarding long-term sustainability of outer space activities that address common future threats like space debris. Yet, coordination and collaboration between these two forums have been, so far, limited to not say non-existent. In line with growing concerns from both communities regarding the security of access and operations in space, the need to address these increasingly imperative matters jointly is becoming more important. In this context ESPI will undertake an activity to discuss the collaboration between these groups from a historical perspective and stimulate discussions on this essential matter within UN forums.

## News and Opportunities at ESPI

### Other News

#### Arrival of Coordinator of Studies

Sebastien Moranta recently joined the ESPI as Coordinator of Studies. In the frame of this new position within the Institute, Mr. Moranta will be in charge of planning and supervising research activities of the Institute. Prior to joining ESPI, Sebastien Moranta was a Senior Associate at PricewaterhouseCoopers Advisory where he managed space strategy studies for the European Commission, ESA and other space sector stakeholders. Former analyst at Eurospace, the association of the European space industry, he has worked on a variety of space policy topics ranging from programme management to space security, but he specialized more particularly in space markets and economics.

#### Arrival of New ESPI Visiting Fellow

Nina Wijtes recently joined the ESPI as a part-time Visiting Fellow. Within the Institute, Mrs. Wijtes will conduct research activities on "The Role of Asian Space Programmes for shifting Regional Constellations: India, Japan and South Korea". Mrs. Wijtes is also a Postdoctoral Researcher in the Research Group "Innovation, Society and Public Policy" at the Munich Center for Technology in Society (MCTS), Technical University Munich. Mrs. Wijtes has relevant experiences and numerous academic publications. Her research priorities include: the global politics of science and technology; techno-politics of space programs; satellite technologies and visualization of security; sensors, sensing and security infrastructures; STS and critical security studies; the co-production of European research infrastructures and European Integration processes.

### Vacancies

#### Research Intern

ESPI is looking to employ a Research Intern for six months at the premises of the Institute in Vienna, starting from March 2018, to support a research activity on the topic of Challenges to the Security of Space Infrastructure: Transatlantic Perspectives. The closing date for applications is 14 February 2018.

To review the details of the vacancy, please visit ESPI website or send an e-mail to [office@espi.or.at](mailto:office@espi.or.at)

### Voices from the Space Community: Publish With Us!

In its "Voices for the Space Community" series ESPI welcomes the submission of short papers, from both experts as well as young professionals and the general public, presenting a concise analysis on innovative ideas in the field of space policy. Topics can also cover the space economy, the societal impacts of space technology, outstanding issues in space law as well as space security, and more. To ensure a smooth review and editing process, which will be conducted on a joint basis with the author, we highly recommend not to exceed four pages in length, and to provide exhaustive references. We further invite authors to submit their paper using the template available at the ESPI website.

For further information, and to submit your "Voice", please write to: [matteo.tugnoli@espi.or.at](mailto:matteo.tugnoli@espi.or.at)

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## ESPI Upcoming Events

ESPI Evening Event and Reception during UNCOPUOS LSC

**ESPI, Vienna, Austria**

**18 April 2018**

ESPI Evening Event and Reception during UNCOPUOS Plenary

**ESPI, Vienna, Austria**

**27 June 2018**

## Other Upcoming Events

### February 2018

7-8 February  
FAA Commercial Space Transportation Conference  
Washington D.C., United States

15 – 17 February  
4th ORF Kalpana Chawla Space Policy Dialogue  
New Delhi, India

20-22 February  
Additive Manufacturing for Aerospace and Space  
Munich, Germany

### April 2017

9-20 April  
UN COPUOS Legal Subcommittee  
UN, Vienna, Austria

16 April  
34<sup>th</sup> Space Symposium  
Colorado Springs, CO, United States

25-29 April  
ILA Berlin Air Show  
Berlin, Germany

### March 2018

11 March  
MIT New Space Age Conference  
Cambridge, MA, United States

22-23 March  
PocketQube Workshop 2018  
Delft, The Netherlands

23 March  
ECSL Practitioners Forum: Cyber Issues in Space  
Paris, France

### May 2017

14 May  
MilSatCom Asia-Pacific 2018  
Singapore, Singapore

14-15 May  
EISC Workshop  
Brussels, Belgium

29 May  
7<sup>th</sup> Interplanetary Cubesat Workshop  
Paris, France

**Conferences, Symposia and Workshops organised by ESA**

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