

## SPACE PLATFORM NEWSLETTER

Issued: February 15, 2022

[www.spacepp.com](http://www.spacepp.com)

[admin@spacepp.com](mailto:admin@spacepp.com)

### HIGHLIGHTS

- The **James Webb Space Telescope** launched on Christmas Day from the *Centre Spatial Guyanais* and has been successful deployed.
- 25% of European surveyed under **research project** on misinformation answered that the moon landing never happened and was a TV studio hoax!
- **Space is increasingly considered as having “survival” value** in terms of enabling to protect Earth citizens, the environment and achieving the 17 UN Sustainable Development Goals (SDGs).
- **Space is increasingly a contested domain** from a geopolitical and military point of view.
- Space is **considered** as the number 2 area (AI is no 1) where international **risk mitigation efforts**, in particular to address the issue of space debris, **fall short of the challenge**.
- **Safety and security are at the base of the hierarchy of needs’ pyramid**. Despite progress, still a **growing sense of unease** had taken root and is flourishing. **6/7 people all over the world are experiencing high levels of insecurity** and there is a growing distrust in each other and in the institutions. It is necessary to build a **greater sense of global solidarity** based on the idea of common security. The focus on the SDGs may help in this respect.
- Whilst **space-based applications repeatedly demonstrate that they provide unique solutions to respond to a variety of security challenges**, there are unserved needs, barriers to the uptake of space applications in the security domain, but also potential solutions for lowering such barriers.

### UNITED NATIONS / GLOBAL



The UN General Assembly First Committee, which deals with disarmament and international security threats, has agreed to create a **working group to consider threats to space systems** and report to the General Assembly in the fall of 2023.

### TRANSATLANTIC DIALOGUE



- Leaders on both sides of the Atlantic are planning **meeting before summer to discuss greater R&D cooperation** in various fields, including space within the frame of the 1998 US-EU agreement for cooperation.

- The EC proposes **extending the agreement on the Galileo and GPS satellite-based navigation systems** and related applications between the European Community and its Member States and the USA for 5 years.
- ESA shared European plans and expertise on **measuring carbon dioxide and methane from space** with the When Joe Biden’s Council of Advisors on Science and Technology, which is the sole body of advisors from outside the federal government charged with making related policy recommendations to the President and the White House.

### EUROPE AND EU



- Following the signature of the **CASSINI - Space Entrepreneurship Initiative** during the 14<sup>th</sup> European Space Conference on 25 January

2022, the **€1 financing instrument to boost space investments**, a series of **initiatives** are stating or continuing, including:

- access to finance
- mentoring
- continuation of the Hackathons, the next one organised by EUSPA taking place on sustainable tourism and space infrastructure on May 12-14, 2022 (registration as applicant are open)
- matchmaking, with a series of events for start-ups and SMEs opening in March 2022
- in-orbit demonstration, with an open call for expression of interest expected to be published by ESA early in 2022
- business accelerator to be launched in Q3 2022 (more information to follow).
- The EC presented an initiative to promote a **cleaner, healthier and safer ocean**, as part of the EU's contribution to the One Ocean Summit hosted by France in Brest. Space-related activities can support such initiative, including fighting marine pollution and ensuring zero-tolerance towards illegal, unreported and unregulated fishing. As part of such initiative, the EIB will help to **raise €4 billion of financing** by the end of 2025.
- **The conference on the Future of Europe**, enabling European citizens to debate on Europe's challenges and priorities, is expected to reach conclusions and provide guidance by spring 2022.
- As part of the **European Chips Act**, which notably aims at **reinforcing Europe's leadership capacities and tackling delays in delivery of semiconductors and supply disruptions in strategic sectors** such as defence, security and aerospace (which are unlikely to phase out before 2023 or even 2024), a €11B joint undertaking on advanced semiconductors has been launched to boost R&D and manufacturing of microprocessors. The Act is expected to mobilize more than €43 billion of public and private investments.
- The EC is consulting on a revision of the **REACH Regulation** to help achieve a toxic-free environment, which applies to certain

chemicals used in the space sector. The revision proposal will be presented by the end of 2022.

### EUROPEAN PARLIAMENT (EP)

The EP ITRE committee commissioned an **analysis of the European space market**, which recommends to (i) develop a comprehensive **strategy** and a conceptual framework for supporting the uptake and estimating the benefits of space-related activities (including quantifying the costs/benefits and improve performance measurement), (ii) conduct an analysis of where legislation could better **promote the use of space data** such as to encourage to use of space data via regulations (iv) assess the extent of SME targeting in the new EU Space Programme 2021-2027 and (iv) **improve EU-wide communication about the benefits of space services** and (v) **show case examples** of successful venture capital investments. The Council drafted conclusions in relation to such initiative.

### HORIZON EUROPE

- **New calls** have been launched under the 2021-2022 Work Programme (WP), including a total funding of € 1.21 billion now available for "climate, energy and mobility" topics.
- The European Commission (EC) is currently preparing **the WP for the period 2023-2024**, including for Cluster 4 -Digital, industry and space.
- There are **still roadblocks to UK and Switzerland been able to participate to Horizon Europe** and bringing an additional €15 billion to the €95 billion budget.
- For more information about Horizon Europe, please refer to the **Guide**.

### EUROPEAN DEFENSE AGENCY

- EDA has accomplished a **study** on how **AI applications can be used** to improve the automatic detection, recognition, identification and tracking of small, fast-moving targets in a complex battlefield environment.

- EDA launched an **forum for circular economy in European defence** and issued a **factsheet** to help applying the EU Green Deal's Circular Economy approach to the European defence sector.

### EUROPEAN INNOVATION COUNCIL (EIC)

- A deal has been reached on the **2022 work Program and €1.7 billion** will likely be made available by the EIC in 2022 for start-ups and breakthrough research.
- **99 start-ups and SMEs were selected** under a very competitive process to receive € 627 million from the EIC Accelerator to help them bring their promising technologies to the market.
- The adopted **2022 EIC work program**, worth over €1.7 billion in 2022, includes several space-related activities such as:
  - technology breakthroughs that form the basis for future information processing, communication, and sensing technologies in space;
  - new applications of quantum technologies in space
  - innovative applications making use of data and signals from EU space infrastructures
- The recently appointed EIC Board asks to **fast track the funding** (grants and investments) to companies whose very survival (in Europe) is at stake and make decisions by a team independent of sectoral or political interests, with clear responsibilities and a mandate for high-risk investments. For more information about the EIC, please refer to the **Guide**.

### EUROPEAN INSTITUTE OF INNOVATION AND TECHNOLOGY (EIT)

- The Knowledge and Innovation Communities (KICs) of the European Institute of Innovation and Technology (EIT) could now **assess the start-ups and fast track them** directly to the full application stage of the EIC Accelerator. This speed up the process and reduce administrative burden for applicants wishing to apply to the

Accelerator. For more information about the EIT, please refer to the **Guide**.

- EIT Climate-KIC has published a **strategy** document to support **skills development for EO**.

### OTHER EUROPEAN PUBLIC FUNDING PROGRAMS

- **27 grants** have been awarded under the **Innovation Fund** for small-scale projects to bring low-carbon technologies to the market, with a next call to open on March 31, 2022; **seven large-scale innovative projects** will receive over €1.1 billion under the Innovation Fund.
- The EC has approved an investment package of **€290 million** for **132 new projects** under the **LIFE programme** for the Environment and Climate Action; certain projects rely on Earth observation for monitoring habitats and ecosystems.
- **€ 627 million has been awarded to 99 innovative companies by the European Innovation Council (EIC) Accelerator**, including several space-related startups and startups using space-related technologies.
- The **EIC** issued its **report** about the results and impact of the EIC pilot phase up to 2020, during which **5500 start-ups and SMEs were supported**.
- The **European Investment Bank (EIB) supported via venture debt a nanosatellite SME**.
- European Defence Industry submitted in December **2021 140 joint defence R&D proposals** under first European Defense Fund (EDF)'s calls. The EDF allocated in June 2020 €158.3 million to 26 projects as results of the 12 calls released in 202, with 420 entities having been selected for funding in a number of areas, including space-related activities such as (i) multifunctional capabilities to enhance the maritime awareness, including space based surveillance and tracking and (ii) Space Situational Awareness (SSA) and early warning capabilities.

## EUROPEAN SPACE-RELATED AGENCIES NEWS

- The next stage of ESA's **astronaut selection** is underway, with around 1391 applicants invited to a full day of testing at a facility in Europe.
- ESA is preparing its **future activities** in the frame of the **SciHab** (Science and Habitation) concept, an orbital human-tended platform and full responses to the request for information should be submitted by March 31, 2022.
- European leaders will reaffirm plans to **launch Europe on a world-leading trajectory** during a high-level space summit to be held on 16 February in Toulouse, France.
- A new **website** to provide technical, industrial and scientific audiences with information about the services, capabilities and support to industry has been created.
- Agreements have been signed to **monitor frequency spectrum** in the context of the developments of the 5G and 6G communication networks, including via innovative space-ground integrated solutions.
- The Agency is helping to develop the **end-to-end protection of government data** exchanged via commercial satellites.
- ESA and private companies are cooperating to develop and deploy a **European spectrum monitoring system**, including **in-orbit demonstration of space spectrum management solutions**.
- ESA is joining forces with Eureka to seek to ensure that **5G and 6G connectivity becomes ubiquitous** through the integration of space and ground-based systems.
- ESA is investigating the development of a **European human space transportation solution** and requesting full information until March 31, 2022.
- ESA and the Public Safety Communication Europe (PSCE) are working together to support the emergence of **space-based applications in the domain of public safety**.
- EUSPA launched the **EUSPA Network of pilot projects** to facilitate the implementation of EGNOS-based procedures to **non-instrument**

**runways for general aviation** and calls for expression of interest by February 18, 2022.

- EUSPA 216 pages market **report** has been issued, examining **17 market segments**. It is expected that by 2031 there may be more GNSS devices than humans on Earth (>10 billion). Global GNSS downstream market revenues are expected to grow at a CAGR of 9.2% over the next decade, reaching a total of €492 billion by 2031 (the strongest growth is expected to come from the insurance and finance segments). From a supply perspective, Europe is at parity with the USA in terms of market shares (42% and 41% respectively).
- EUSPA is looking for a **partner to provide services and supplies to support the Agency in shaping the future versions of the European GNSS Service Centre (E-GSC)** Infrastructure to better link Galileo and its users and organizing a related industry day on February 15, 2022.
- EUSPA launched the "**EUSPA Network of pilot projects**" to facilitate the implementation of EGNOS-based procedures to non-instrument runways for general aviation.



- France holds the reins of the EU Council Presidency since January 1, 2022 and its **priorities include European sovereignty, a new European model of growth, and a more human Europe**. Space including New Space plays an important role to support the priorities. For more information, refer to the Blog.
- The Minister of Economy, Finance and Recovery Bruno Le Maire asked several companies, including 3 New Space companies, to **consult, represent and structure the French startup and new actor space-related ecosystem**.
- A seminar on the **use of space-based data for cities and urbanization** is organized via a series of actors on March 24, 2022.

## SWITZERLAND



- The Space Center (eSpace), located at the École polytechnique fédérale de Lausanne has been selected to host the **Space Sustainability Rating initiative**, that seeks to foster voluntary action by satellite operators to reduce the risk of space debris.

## UK AND CANADA



The UK Space Agency and the Canadian Space Agency have signed a **MoU on joint activities** and the **sharing of data on space**.

## USA



### WHITE HOUSE

- The US president indicated that parts of the currently stalled \$ 1.75 trillion draft **Build Back Better Act** could still pass Congress, in particular those relating to climate policy. The draft Act asks several Federal agencies, including NASA, to carry out several climate-related actions (see previous newsletters)
- As part of its **Indo-Pacific Strategy**, the United States intends to innovate to operate in rapidly evolving threat environments, including space, cyberspace, and critical- and emerging-technology areas.

### CONGRESS

- The U.S. House of Representatives passed the **America Creating Opportunities for Manufacturing Pre-Eminence in Technology and Economic Strength (America COMPETES) Act**. This bipartisan legislation will increase U.S. production of semiconductor chips, strengthen the supply chain to make more goods in

America, and invest in scientific research and new technologies. It requires NASA to conduct and support research in certain areas, including in engineering biology and synthetic biology.

- A draft Bill would direct the Cybersecurity and Infrastructure Security Agency and Government Accountability Office to **provide commercial satellite owners and operators with new information and resources to protect their complex systems from digital attacks**.
- A draft Bill to ensure continued **United States leadership in space** and low-Earth orbit was introduced.

## NASA



- A dozen countries have signed the **Artemis Accords**, the latest being Israel on January 26, 2022, which sets out a (i) non-legally binding political understanding regarding mutually beneficial practices for the future exploration and use of outer space, with a focus on the **Artemis Program** and (ii) that the extraction of space resources does not *“inherently constitute national appropriation under Article II of the Outer Space Treaty”*.
- Agreements have been concluded for a total of \$ 415 million with 3 companies in anticipation of the future **retirement of the International Space Station (ISS)**. The Biden-Harris Administration’s commitment to extend space station operations until 2030.
- NASA has selected **12 companies to provide commercial launch services** capable of delivering payloads ranging from cubeSats to Class D missions to a variety of orbits for a total contracts value of \$300 million.
- NASA published a **highlight** of its recent efforts, including to address the issue of climate change. It reiterated its commitment to land the first woman and person of color on the Moon as part of the Artemis program, without specifying a date.
- NASA has selected **8 early stage technological inventions** from US Universities to receive up to \$650,000 in grants from NASA's Each **Space**

**Technology Research Grants** program over up to three years.

- NASA offers **\$1 million for innovative systems** to feed tomorrow's astronauts (registration due by February 28, 2022).
- NASA has selected **nine space technologies** for testing aboard parabolic aircraft, high-altitude balloons, and suborbital rocket-powered systems, with a \$5.5 million investment in technology demonstration activities.

#### DEPARTMENT OF DEFENSE (DOD)

- The new DOD report on **safeguarding our national security** by promoting competition in the defense industrial base observes that extreme consolidation in the defense sector has reduced competition and heightened national security risks (the number of prime contractors has shrunk from 51 in the 1990s to just 5 to 2021).
- The DOD hosted the **Combined Space Operations initiative** with counterparts to **steer national security space cooperation**.

#### NATIONAL TRANSPORTATION SAFETY BOARD (NTSB)

The NTSB has issued a **notice of proposed rulemaking** regarding commercial space investigations to codify the role that the board plays in investigating accidents involving commercial launches and reentries, including possibly to give to the NTSB a role in investigating accidents (in addition to FAA role).

#### FEDERAL COMMUNICATIONS COMMISSION (FCC)

In light of the projected increases in the number of future satellites launches in non-GEO, it is proposed to **revise Federal Communications Commission (FCC) rules governing how fixed-satellite service operators in NGSO share congested spectrum to avoid interference**, including possibly imposing an obligation to protect services of constellations included in earlier FCC processing rounds. The FCC is inviting comments on this proposal, which may have

bipartisan support at the level of the US Congress (**draft bills** have been issued).

#### RUSSIA AND CHINA



Representatives from the 2 countries have signed a **package of documents**, including a joint Russian-Chinese statement on international relations, adopted during Russian President Vladimir Putin's visit to China and cooperation to ensure the complementarity of the GLONASS and Beidou global navigation satellite systems. The countries stressed that they support the formation of a new type of relationship between world powers based on mutual respect, peaceful coexistence and mutually beneficial cooperation.

#### RUSSIA AND KAZAKHSTAN



Representatives from the 2 countries have signed a **MoU** to create a legal framework for cooperation on the data exchange from EO satellites for peaceful purposes.

#### CHINA



The State Council Information Office of the People's Republic of China published a **white paper** in January 2022 entitled **China's Space Program: A 2021 Perspective**, which reviews achievements since the liberalization of the Chinese' space industry in 2016 and sets out the mission, vision and key principles for the future, including that "*China's space industry is subject to and serves the overall national strategy*". The white paper calls for the first time for the building of a community with a shared future for mankind in outer space and conducting extensive international exchanges and cooperation in a more active and open manner.

#### JAPAN



Certain results of the **analysis of the sample returned by Hayabusa2** from asteroid Ryugu have

been published, showing that the asteroid is rich in organic matter.

## RUSSIA

Roscosmos created **infrastructure for private cosmonautics** development in Russia by notably taking steps to enable the use of the testing infrastructure by private companies such as startups.

## RUSSIA AND HUNGARY

Representatives from the 2 countries have signed a **Statement of Intent** on further cooperation in space research for peaceful purposes.