



SPACE PLATFORM PROJECT NEWSLETTER

Issued: December 2, 2020

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HIGHLIGHTS OF THE MONTH

- The **Chinese Chang'e-5 lunar sample return mission has successfully landed on the surface of the Moon and may collect samples and deliver them to Earth before end of the year.**
- The **Dragon capsule with three Americans and one Japanese astronaut arrived safely at the International Space Station (ISS).**
- **Elon Musk is now the second-richest person on the planet.** This may be relevant for the space ecosystem for the following reasons: (i) he is working to revolutionize transportation in space, via SpaceX; (ii) his place in the small circle of the richest in the world is a relatively new development; (iii) he is widely regarded as a successful entrepreneur, received numerous awards and serves as a role model; this may encourage young entrepreneurs and other stakeholders to pursue similar initiatives and build the necessary infrastructure to access space.

GLOBAL/TRANSATLANTIC



- The International Space Station (ISS) celebrates an important milestone: during two decades, it has continuously hosted humans in space; it would be possible to prolong the operations of the ISS beyond 2024, possibly up to 2028 or 2030.
- ESA and NASA have signed a MoU to enable ESA countries to contribute a number of essential elements to the first human outpost in lunar orbit.
- An independent review board has given **support** to the Mars Sample Return mission, which foresees NASA and ESA launching multiple missions to the Red Planet and made 44 recommendations regarding the program.
- The Sentinel-6 satellite from NASA and ESA has launched and will make sea level observations for at least the next decade.
- During the Portuguese presidency of the EU Council, starting January 1, 2021, there will likely be discussions to explore synergies with incoming president Joe Biden in terms of new research agenda and policy priorities.
- The United Nations Office for Outer Space Affairs and the United Arab Emirates Space Agency are organizing the World Space Forum on December 9-10, 2020.

EUROPE



EU BUDGET AND RECOVERY PLANS

- On November 10, 2020, **an agreement was reached** between the European Parliament and EU countries on the next long-term EU budget of €1.074 trillion, combined with the temporary recovery instrument, **NextGenerationEU**, of €750 billion.
- With a total of **€1.8 trillion** to rebuild and ensure a greener, more digital and more resilient Europe, this is **by far the largest stimulus package ever agreed upon.**
- The **key aspects** of the agreement are as follows:
 - > 50% of the amount will support modernization through policies that include (i) research and innovation; (ii) fair climate and digital transitions; and (iii) preparedness, recovery and resilience;
 - 30% will be spent to fight climate change, but other issues such as biodiversity protection and gender mainstreaming also need to be addressed;
 - certain programs, including Erasmus+, Horizon Europe and InvestEU, will be reinforced (see also below); and

- repayment of the borrowing will be made via the carbon border adjustment mechanism and the digital levy (to be proposed by June 2021 and introduced in January 2023).
- There are however still certain **necessary next steps**, including
 - formal adoption by the European Parliament and the Council
(there are currently difficulties due to the opposition by Poland and Hungary to a mechanism that would link budget payments to rule-of-law criteria).
 - final adoption of all elements of the package;
 - completion of the negotiations on the annual budget for 2021; and
 - ratification by all EU Member States to enable the EC to borrow up to €750 million.
- Also, there is **some reluctance to make firm commitments** whilst the overall negative impact of the COVID-19 crisis remains uncertain.

EU GREEN DEAL

- The EC is **consulting** until December 18, 2020 on the issue of **green investments and the definition of environmentally sustainable economic activities**.
- The European Commission (EC) has asked the EU Aviation Safety Agency (EASA) to update its analysis of the **main climate impacts associated with air traffic beyond CO2 emissions**.
- The EC is **launching the European Climate Pact** on December 16, 2020 and attendance to the event is free (upon **registration**).

EU SPACE POLICY

- The Council approved **key principles for the global space economy**, including to:
 - promote access to finance for all actors and especially start-ups
 - strengthen the share of SME in public procurement
 - facilitate cooperation between space and non-space sectors
 - promote intellectual property rights policies favoring industrial investment.
- The Council invited the **EC's services to draw up a corresponding new space innovation strategy**, with a focus on increased competition and efficiency. It also asked the European Defense Agency (EDA) to

further contribute to the defense aspects of wider EU policies, in a number of areas including space.

- During the last Space Council, Ministers **agreed on the need to improve the competitiveness of the European space industry** in global markets, stressed the need to ensure that EU's strategic space autonomy is put into practice, highlighted the need to develop further the Copernicus and Galileo programs and emphasized the enabling role played by the space sector, including for the green and digital transition.
- The Council continues to review the **EU Space Programme Regulation**. There is consensus on most provisions of the draft Regulation, including on the following budget during 2021-2027: (i) Galileo and EGNOS €9,017 billion; (ii) Copernicus: €5,421 billion; and (iii) SSA and GOVSATCOM €0,442 billion). A number of issues are still under discussion such as eligibility and participation of third countries to the space program. There is hope that the Regulation could be adopted before end of this year.

EUROPEAN COMMISSION (EC)

- The EC adopted a **draft Regulation on data governance** that aims to boost data sharing and support European data spaces, whilst following EU values and principles such as data and consumer protection and competition rules. The EC is **consulting** on this initiative until January 26, 2021.
- The EC considers that **EU greenhouse gas emissions fell in 2019** to the lowest level in three decades and have been reduced by 24% compared to 1990 levels.
- The EC is consulting until February 19, 2021 on **ocean observation** and the need to adopt a coherent approach for ocean observation, possibly by adopting a Directive or a Regulation.
- The EC will evaluate the relevance and effectiveness of the **INSPIRE Directive**, which sets up an **EU wide digital space for sharing spatial data for protecting the environment**.

EUROPEAN PARLIAMENT (EP)

- The EP highlighted in its **resolution on a New Industrial Strategy for Europe** the importance of Union space policy, especially in terms of improving European industrial space capacities and unlocking the potential of synergies with other key sectors and policies.

- The EP Subcommittee on Security and Defence (SEDE) examined the **EU space defence sector** and how to strengthen and support related industries. Since the space sector is viewed as offering numerous operational and tactical benefits, there is a need to secure an autonomous access to space, paying particular attention to managing space traffic and space cybersecurity.
- The SEDE proposed **amendments to Directive 2009/81/EC** concerning **procurement in the fields of defence and security**.
- In a **resolution**, the EP asked the EC to revise its proposal on the **EU's new industrial strategy to focus first on helping businesses survive the Covid-19 crisis** before addressing reconstruction and transformation. It also asked to ensure that the recovery money will be distributed according to the level of damage suffered, challenges faced and amount of financial support already received, whilst giving preference to firms oriented towards the digital and environmental transformation.

HORIZON EUROPE (2021-2027) PROGRAM

- The program received an additional € 4 billion (compared to the European Council agreement from 21 July 2020) and now may have a financial envelope for 2021-2027 of >€80 billion.
- Whilst progress has been made on the program, due to start in January 2021, more time is needed to finalize, notably due to the links with the ongoing overall budgetary discussions and uncertainties about the overall negative impact of the COVID-19 crisis on national economies (see also above).
- Plans for setting up a pan European cybersecurity center, which will coordinate cybersecurity research in Horizon Europe and manage an EU-wide network of those involved in the field, are closed to finalization.

INVESTEU PROGRAMME (2021-2027)

The InvestEU programme, that will bring together, under one roof, the European Fund for Strategic Investments and 13 EU financial instruments currently available, has received an additional €1 billion financial envelope under the November 10, 2020 agreement.

LIFE PROGRAMME

- A **package of €280 million** in EU funding for environment, nature and climate action projects (120 new LIFE programme projects) has been approved (37% rise compared to last year).
- More than **1500 concept notes for new environmental projects** were submitted in July and have been evaluated by the EC; pre-selected projects will need to submit full project proposals in February 2021.

INNOVATION FUND

The Fund has received 311 applications for large-scale innovative clean tech projects (€1 billion EU). The results of the evaluation will be announced in the first quarter of 2021.

COPERNICUS ACCELERATOR

The accelerator is organizing a virtual bootcamp on December 10-11, 2020.

EUROPEAN DEFENSE AGENCY (EDA)



The Agency published the results of its (first) **annual review on defence**. Whilst it considers that Europe's security environment is increasingly dynamic, it is often difficult to anticipate and identify opportunities for European cooperation. The Agency has nevertheless identified >50 collaborative opportunities, including in terms of access to space services and the protection of space-based assets. This is also reflected in the **CARD report**, which recommends to develop a European approach to defence in space to improve access to space services and the protection of space-based assets.

EUROPEAN INNOVATION COUNCIL (EIC)

- The EIC is in a phase of transition and some of the 13 selected projects are on their way to genuine technological and societal innovations, funded via a new scheme under Horizon 2020, the **EIC Transition to Innovation Activities**. The rest of the selected projects that will start later this year or in January 2021.
- 58 technologies have been selected in the last round of investment from the **EIC Pathfinder Open Pilot**

(€191 million budget), ranging from mass spectrometry, novel wireless communication, neuroscience, bionics, Artificial Intelligence, capacitors, synthetic biology, 3D printing and photonics.

- A group of experts issued a report proposing **guiding principles** for the successful implementation of the EIC. The group recommends to change from a traditional grant-giving model and to adopt a “hands-on” approach to project management, using the **ARPA model for breakthrough innovation** as a source of inspiration.

EUROPEAN INVESTMENT BANK (EIB) AND FUND (EIF)

- EIB survey reveals that **COVID-19 is abruptly hitting the economy**. 45% of EU firms say that the virus has negatively affected their investment plans, leading them to delay or abandon future plans. Uncertainty about the future is cited as the main long-term barrier to investment (81%), followed by the availability of skilled staff (73%). At the same time, 50% of EU firms say that more investment in digitalization will be needed because of the pandemic.
- Due to the impact of the COVID-19 crisis, the European Investment Fund (EIF) considers that there is a need to **increase its capital by € 2.7 billion**. The EC, which currently holds 29,7 % of the EIF shares, favors such an increase, but is consulting on this issue until January 21, 2021.
- The EIF supports 6 with venture capital funds to support businesses across Europe under the EU’s InnovFin Artificial Intelligence/Blockchain pilot, which are expected to bring € 700m to tech companies across Europe.

ITALY

As per an initiative sponsored by the Italian Ministry for Technological Innovation and Digitalisation, the Italian Space Agency and ESA, around **24 innovative ideas to use space to improve life on Earth** during the coronavirus pandemic are being transformed into reality.

LUXEMBOURG

The **European Space Resources Innovation Centre**, called ESRIC, located in Luxembourg, will lay the foundations for exploiting extra-terrestrial resources,

such as water on the moon, and metals and minerals in asteroids, as the basis of an in-space economy.

BREXIT

Whilst there has been progress in a number of areas, the EC indicated that there are **no signs that a final agreement could be reached before year end**. Also, even in the event of a final agreement been reached, it seems unlikely that it will enter into force on January 1, 2021 following a proper ratification process.

UK

The UK government has announced its intention to **increase spending for the defense sector** (£6.5 billion higher in real terms by 2024), above the NATO target of 2%. This represent the highest spending increase since the Cold War.

EUROPEAN SPACE AGENCY

- The ESA and the CNES decided that Europe’s Spaceport in Kourou, French Guiana, will partly be powered by renewable energy sources.
- The ESA has signed the first contracts with operators for space transportation services using small launch vehicles to serve the growing small satellite market.
- ESA-sponsored space projects in Sub-Saharan Africa have impact on more than a dozen US Sustainable Development Goals.
- The ESA calls for space solutions helping the UK to deal with the COVID-19 outbreak remain open until 15/01/2021.
- The possibility to apply for internship opportunities at ESA remain open.

USA

WHITE HOUSE

U.S. President-elect Joe Biden nominated his longtime aide, **Antony Blinken**, as **Secretary of State**. He is reported to be a firm believer in the transatlantic alliance and in the need to work with its allies and within international treaties and organization. **Jake Sullivan**, **will be National Security Adviser**, a job that does not require Senate confirmation.

US SPACE POLICY

- It is **too early to know whether U.S. President-elect Joe Biden and/or the Congress will change US space policies and programs**. Since space is often bipartisan policy area and given its importance to national security, immediate abrupt changes are unlikely, including to December 2019 to establish the U.S. Space Force. Given the importance of Earth observation programs to meet sustainable development goals, it is possible that such programs will be reinforced during the Biden-Harris administration.
- The Senate committee approved a **bill that gives the Commerce Department authority for civil space traffic management (STM)**, but it still faces significant obstacles to win passage in Congress this year.

SPACE & DEFENSE BUDGETS

- President Trump's final budget proposal — which is still before Congress — seeks more than **\$15 billion for the U.S. Space Force**, with about \$12 billion of that amount set aside for research, development and procurement of new systems.
- **Space has been identified by U.S. President-elect Joe Biden as one category of military spending that will be emphasized**. They may be however political pressure to cut military spending to pay for domestic priorities.
- Whether there will be **changes to the budget and/or deadlines for the Artemis program**, aiming at landing the first woman and next man on the Moon by 2024, is also dependent upon ongoing discussions in the Congress on the fiscal year 2021 budget.

NASA

- The **person who will lead NASA has not yet been appointed**. The current administrator has indicated that he *"would not be the right person"* to lead the agency in a Biden-Harris administration. Such an appointment may take time.
- U.S. President-elect Joe Biden is nevertheless **working on the transition for NASA** and an announcement of a **"transition team"** was made, led by Ellen Stofan, responsible for making

recommendations going forward and possibly starting to work.

- With the Arecibo radio telescope to be decommissioned, NASA is beginning to consider **options for future planetary radar capabilities**, including potential cooperation with the U.S. Space Force.
- NASA has selected 19 proposals from 17 U.S. small businesses for a total of more than \$14 million in follow-on funding through the agency's Small **Business Technology Transfer (STTR) program**.
- NASA has selected five 3D model submissions to the **Advanced Lightweight Lunar Gantry for Operations (ALLGO)** challenge.

FEDERAL AVIATION ADMINISTRATION (FAA)

The FAA, which has licensed this year 31 commercial launches (versus just one launch in 2011), has **streamlined** the launch and reentry licensing requirements, to allow operators to use a single license for multiple launches from multiple launch sites, and will deploy next year a system to integrate launch operations more efficiently with real-time aviation operations in the National Airspace System.

FEDERAL COMMUNICATIONS COMMISSION (FCC)

The FCC seeks comment on enabling FM booster geo-targeting capabilities.

NATO

NATO Secretary General Jens Stoltenberg announced NATO defence ministers plan to create a new space centre at the alliance's Air Command in Ramstein, Germany, in response to growing concerns over protecting satellite and navigation assets from enemy interference.

CHINA

According to China National Space Administration, China's Chang'e 5 robotic lunar probe has started gathering lunar rocks and soil after landing on the moon.

- 5 -