

MITIGATING THE IMPACT OF THE PANDEMIC ON THE EUROPEAN SPACE INDUSTRY

BACKGROUND:

The European space manufacturing industry, a strategic sector embedded in the larger aerospace and defence industry, designs, develops and builds space systems (launchers, spacecraft and the related professional ground segment) for public and private customers in Europe and across the world.

The space industry is at the highest end of an important value-added stream of commercial and public/strategic services. Space-based services (e.g. broadcast and broadband services, earth observation, climate change monitoring, geo-information...) **generate relevant socio-economic benefits¹ and support the development of Europe** in a number of policy fields (transport, environment, security, agriculture...). **European launchers are enabling an independent access to space** to allow all these services to be implemented under European control.

Furthermore, **space data and services are also contributing to crisis management.** For example, Copernicus, the European operational Earth observation programme, is enabling our environmental and economic situation to be monitored in real time while planning for the future reboot of our economy. On the other hand, Galileo, the global satellite navigation system, is useful to map contagion areas, manage the flux of people to shops in quarantined areas, alert authorities in case of major gatherings and reduce response times for emergency services.

In comparison to other space powers, the European space industry is structurally exposed to permanent competitiveness threats, and in particular due to the absence of a level playing field with global main competitors (price distortions, closed markets, level of public investments...), the **over-exposure to commercial and export markets, and dependence situations associated to low security of supply.**

It is particularly true on the institutional market, where the European demand in a nominal situation is already very limited compared to other space nations (2 institutional launches in Europe in 2019, 34 in China, 21 in Russia and 15 in the US). This unbalanced situation is **expected to worsen further as some countries such as the USA are taking unprecedented economic measures** to ensure the continued availability of critical aerospace infrastructure, capability, personnel, and mission readiness to maintain guaranteed access to space for national objectives: i.e. security, civil, and commercial space missions.

The Covid-19 crisis, leading to a sharp economic slowdown and the dramatic reduction of international trade will have a heavy toll on the European space sector², and may lead to rapid **capability and capacity loss (including skills) that will take years to rebuild** if they are not promptly mitigated.

It is therefore of primary importance that the European Union and its Members States take all necessary actions to preserve the sector workload, order book and continuity of operations, in order to maintain and increase the European space manufacturing industry ability to serve the well-being of European citizens, to support the successful implementation of European public policies and to contribute to economic growth beyond these challenging times.

¹ It is today estimated that 10% of the EU's GDP "depends" on the use of space services (Socio economic impacts from space activities in the EU in 2015 and beyond, PWC report, 2016)

² This effect will accumulate, at corporate levels, with the heavy impact the Covid-19 crisis has on air traffic, and the global aerospace supply chain.

Immediate Measures:

- **Ensure continuity of business by preserving ongoing bidding processes** for EU Flagship Programmes (Copernicus, Galileo, EGNOS) and by **avoiding activity shortage** within the industry's supply chain:
 - While the commercial and export market, on which the European space manufacturing industry is highly reliant, will most likely suffer from the crisis, the **importance of the institutional programmes is key to compensate the adverse effect on businesses**.
 - There is a need for **short-term measures regarding production**, because such measures have a direct positive impact on the supply chain, and in particular Mid-Caps and SMEs, which may be the most fragilized part of the industry (whereas studies and development programmes are in short term more benefitting to the Primes). That is why, whatever can be done to **accelerate phases C/D contracts** is the most beneficial short-term measure which can be implemented to have the best post-crisis exit.
 - Several companies involved in space activities are embedded in large aerospace and defence conglomerates where space business represents a very small fraction of the total, it is thus a sector at risk, that may not benefit from priority support measures internally. This is the reason why **the EU Flagship Programmes and new procurements should target the initial agreed schedule and not be delayed**.
- Mandate the European Space Agency (ESA) to **implement its mitigations measures to the EU Flagship Programmes delegated to ESA:**
 - At the very beginning of the crisis, the European space manufacturing space industry has been able to count on the support of the ESA to implement mitigations measures to ensure a continuous support to industry during the Covid-19 crisis. Targeted to ESA Mandatory and Optional Programmes, these mitigation measures (i.e. related to procurement approval process, tendering process, time-to-contract, time-to-payment, contract execution) have been warmly welcomed by the European space Industry.
 - **Those measures should also be applicable, as quickly as possible, to the EU Programmes that are delegated to ESA** (i.e. Galileo, Copernicus, EGNOS).
 - The EU should also reflect on similar measures for research and innovation projects implemented through Horizon2020.
- **GSA should immediately implement an electronic tendering system.**

Short to Mid-Term Measures:

- Confirm the European Commission's level of ambition in space by **safeguarding an ambitious MFF**
 - In an increasingly uncertain geopolitical environment, **investing in space, and securing independent access to space, must remain one of the major institutional priorities** to preserve Europe's leadership, competitiveness, sustainability and autonomy; in particular knowing that the European workforce in space is not only limited in size (approximately 45,000 persons) but also highly specialised and, therefore, easily destroyed and very hard to rebuild³.
 - A **significant and dedicated budget for space research and innovation via the Horizon Europe Programme**, and an efficient implementation focused in priority on the support to (European) competitiveness and on the improvement of the level of non-dependence of Europe for critical services and technologies), will support the sustainability of an efficient

³ The Russian industry, which took two decades to recover after it had lost a generation when the Soviet Union collapsed, is a good example of the possible consequences that the European industry might face in the future.

technology base for European space systems as well the necessary technological leadership to be able to compete on open markets⁴.

- The need to **ensure the sustainability and evolution of current EU Flagship Programmes** EGNOS, Galileo and Copernicus, while at the same time **support the implementation of new operational programmes** such as GOVSATCOM for secured communications or Space Surveillance and Tracking (SST) is key for the European space manufacturing industry to sustain a minimal level of activity it will lack on the commercial and export market.
- The autonomous access to space needs to rely on the actual implementation of the **aggregation of European institutional launch services** and the **support to European launch-related infrastructure and facilities**.
 - Besides the measures foreseen in the EU space programme regulation, all European institutional customers must also consider as a high priority the **use of launchers developed in Europe**, as already agreed at Member States level. These policies are the backbone of a forward-looking European space policy, and should be further enhanced and developed, also through MS commitments⁵
- Allow for **market uptake and possible access to additional sources of financing**
 - While nearly 50% of the world population is currently enjoined to stay in quarantine during the Covid-19 crisis, European infrastructures for telecommunication (including space ones) are heavily solicited to sustain economic but also social activities in Europe. More than ever, a solid, non-discriminating access to a broadband communication infrastructure is a strategic need for European populations and economies.
 - Besides, Europe can legitimately strive to be the leading global actor for the development and use of space applications and services, notably through its world-class public and private space operational infrastructures (Galileo, Copernicus, the meteorological satellites and the telecommunication satellites owned and operated by the European operators)
 - Now, after years of political declarations, **a pragmatic and ambitious roadmap (to be elaborated between industrial and institutional stakeholders) is needed to boost the development of European space applications and services** at the service of public policies, citizens' well-being and economic growth. Objectives:
 - aggregation of demand of space services and applications at EU, national and regional level to implement the objectives of the digital transformation and the Green deal;
 - identification of regulatory and technological barriers, identification of possible regulatory levers;
 - awareness raising about the possibilities given by space technologies and
 - identification of priority vertical domains in terms of public interest or overall economic benefits.
 - On its side, the EU could rapidly start to increase the recourse to space-based applications by playing a role as early **adopter and anchor customer of innovative solutions** (i.e. long-term commitment of innovative procurement forms).
- **Systematically integrate a section – and a budget – dedicated to space in upcoming programmes supporting the EU's rising capability needs in security and defence:**

⁴ a Strategic Research and innovation Agenda for Space, with clear development goals and associated budgets, has been prepared and is supported by Industry; it must serve as the basis for the elaboration of the future work programmes.

⁵ Particular attention should be given to the situation of the commercial market, where the Covid-19 crisis will strongly amplify the depreciation already on-going which will significantly impact European access to space model, historically very much depending on the commercial market

- Use the **European Defence Fund (EDF) as a new opportunity** to boost institutional investment in strategic and military applications of space.
- Address the **missing capabilities Europe needs to be equipped with** to ensure its awareness, autonomy and freedom of action in accessing and using space in a secure and safe environment.
- Address the **current capability gap** with the USA, China and Russia, and take proactive mitigation measures.
- Ensure the **continuity of critical infrastructures and activities**, for instance at the Guyana Space Centre, in order to reinforce Europe's resilience and autonomy and mitigate crisis impact on launch campaigns.

Mid- to Long-Term Measures:

- Implement, at the level of the EU and Member States, a **new ambitious "joint" space industrial policy**. This policy shall aim at safeguarding the **European capability** to conceive, develop, launch, operate and exploit space systems; strengthening **the resilience, competitiveness and reliability** of the European space industry; and enhancing European technological non-dependence. This industrial policy shall be based on:
 - A **tailor-made procurement policy**:
 - **Europe's dependence on the supply of a number of imported components/equipment is detrimental to the competitiveness of the European space manufacturing industry**. The phenomenon is increased in these times of crisis where markets have tendencies to support national efforts, or when borders are shut to enforce travel restrictions.
 - The need to **replace or update existing technologies and products**, the challenge to **develop new ones** and the **difficulty to maintain critical skills** on a market with long programme cycles and highly fluctuating orders are one of the many challenges highlighted by the crisis and that have to be dealt with in the short/medium term.
 - It is therefore of prime necessity that the EU Space Programme is being used to **implement a European public space procurement policy that takes into account the space strategies of our direct competitors** (aiming at complete independence, and even "dominance"), the capability and technology gap between Europe and its direct competitors on the commercial and export market, and the guarantee of continuity and quality of the services.
 - A space technology strategy and **more ambitious support to R&D and innovation**, with an efficient coordination mechanism between the Member states, the EU and Industry, aiming at competitiveness, readiness and non-dependence.
 - A continued and reinforced support to the "demand" for space-based services (see above)
 - A continued and reinforced integration of space into European defence capabilities development (see above)
 - An efficient support **to facilitate the access of the European space industry to the export markets**
 - The European satellite industry is overall well performing and **is a net positive contributor to the EU global trade surplus**, with European satellites contributing to an estimated 500M\$/year to the EU's positive trade balance for goods in the past decade (i.e. 2% of 2018 EU's net trade surplus).
 - EU institutions should work together to **facilitate access to new markets** by the active promotion of European capabilities. This could be done via:

- A deepened dialogue with the European space industry to identify priority targets.
- The development of a **strong European economic diplomacy**, supported by well identified strategic sectors, including space.
- The cooperation between different EU institutions and DG services around **export opportunities for the space manufacturing industry**.

Other measures to be further explored:

- Support a **specific IPCEI** (Important Project of Common European interest) in the space sector which could gather financial support through state aids from various Member States and European companies
- Promote **common European approach to address the challenges linked to the need of Space Traffic Management regulations**. The US purposefully decided to create STM regulatory environments to enhance their industry's commercial competitiveness, Europe cannot stay unresponsive.

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