European Economic and Social Committee

OPINION

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Challenges and Industrial Change in the EU Aerospace Sector

Rapporteur: **Thomas KROPP**
Co-rapporteur: **Enrico GIBELLIERI**

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                                   Union

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(for/against/abstentions)   184/1/3

1.   **Conclusions and recommendations**

1.1.   The need to develop an **EU industrial policy for the aeronautical sector** to allow the EU aeronautical industry to compete on a level playing-field in the context of strong competition from established players (the USA in particular) as well as growing competition from emerging players (China in particular). In this context, the need to establish an **aeronautics watchtower** at EU level and to make aeronautics a key element of EU economic diplomacy and trade policy.

1.2.   The challenges in relation to **skills**, including ensuring that a highly specialised ageing workforce has the opportunity to share their expertise and skills with younger employees, the need to attract more young employees to the sector with increasingly sought-after skills in both engineering and ICT, and the urgent need for existing workers to be upskilled in the field of **digitalisation**.

1.3.   The need for **civil aviation research** to remain a top priority in Horizon Europe with an increased budget compared to Horizon 2020. In this context, to ensure the continuation of the successful technology initiatives to reduce the environmental impact of emissions through the launch of Clean Sky 3 and SESAR 3.

1.4.   The urgent need to deploy SESAR solutions and establish the **Single European Sky (SES) after decades of discussions**. The need to invest in efficient capacity in the air and on the ground in order to facilitate aviation growth while reducing its environmental impact and increasing safety levels.

1.5.   The need to strengthen the international role of the **European Aviation Safety Agency (EASA)** and the need for more performance-based EASA rules to enable more efficient deployment of new technology in a safe manner and a level playing field for EU exporters.

1.6.   The need to find solutions for an **efficient post-Brexit agreement** covering: customs arrangements, regulatory frameworks, cooperation in research and deployment and labour mobility. Technical discussions covering regulations need to begin as a matter of priority, to ensure that mitigation measures are in place.

1.7.   The need to progress on **EU Foreign Direct Investment** (FDI) **screening**, with the aim of protecting critical technologies for EU aeronautical manufacturing and MRO industries.

1.8.   The need to ensure continued social dialogue between employers, employees and civil society. Furthermore, the need to **launch a sector-specific social dialogue** for the aeronautical industry under Council Decision 98/500/EC.

2.   **General comments**

The aeronautical industry is one of the **EU's key high-tech sectors in the global market.** The industry directly employs **500 000 people in high quality jobs**[1] (1 million adding indirect jobs) and consists of an ecosystem of large and small companies covering the entire spectrum of aeronautics.

The EU aeronautical industry is a technological leader in its field and currently has a market share of about one third of the global market. The industry provides a positive contribution to the EU trade balance (**EUR 46 billion in EU exports**)[2].

Remit of the opinion

Defence and space are not specifically addressed in this opinion. However, it is important to note the role that the civil aeronautical industry contributes to these sectors. This includes the strategic autonomy of Europe through synergies in technologies and common decision centres with defence activities.

The strength and global leadership of the EU aeronautical industry is the result of robust strategies and productive activities. This leadership should not be taken for granted since the industry faces many challenges:

1. The **fierce competition** from established and emerging players who receive substantial backing from their respective governments;
2. The **shift in economic growth and power** towards the East, which is both an opportunity and a threat;
3. The near-term **operational challenges** such as Brexit, EU budgetary constraints and protectionist measures in third countries;
4. The need for the EU aeronautical industry to **maintain its technological leadership,** especially in lowering the environmental impact of emissions;
5. The lack of a coherent **EU industrial policy**;
6. The need for a coherent EU strategy on **Foreign Direct Investment Screening**;
7. The need for an increased international presence for the **European Aviation Safety Agency** (EASA);
8. The necessity of **boosting the competitiveness of the EU MRO sector**;
9. The importance of ensuring that a future workforce has the **specialist skills** needed for the sector, especially in the field of digitalisation.

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[1]   Source: ASD Facts and Figures.

[2]   Source: ASD Facts and Figures.

Specific comments

3. *Global market and challenges*

3.1 The current leading position of EU industry should not be taken for granted. EU GDP as part of global GDP will see a reduction by 30% from today's 17% to 12%[3].

3.2 Numerous countries have developed and implemented far-reaching strategies on how to position their countries, how to deploy their people, and how to secure a top position in the global value chain in the context of automatization and a shift of economic power towards the East.

3.3 Europe will face a totally different competitive situation that is full of opportunities if we succeed in maximising all our efforts and in taking bold decisions. However, it will be full of threats if we simply take our leading position for granted.

4. *Support to non-EU industry by foreign governments*

4.1 **US industry** (EU industry's main competitors) continues to benefit from strong public support from the US government including 34 different agencies/departments. The set of regulations, policies and tools put in place over the years by US administrations to support its civil aeronautics industry is extensive and leverages the defence sector very effectively, especially for research, technology and development (including federal budget allocations for research programmes). Other established players (Canada and Brazil) also continue to receive significant backing from their respective governments through an overall industrial strategy.

4.2 In addition to well-established players in civil aeronautics, several emerging countries (China, Indonesia, India, South Korea, the Philippines and others) are also strengthening their commitment to support the development of **national competitive aeronautics industries** in the coming years.

4.3 Among these, China has the most comprehensive strategy that includes a mix of centralised planning and state-owned enterprises. The Chinese government has identified the development of a national civil aeronautics industry as a key priority in several official (top level) documents including the Made in China 2025' initiative. The current Five-Year Plan of China calls for "breakthroughs in civilian aviation engine technology" and the "acceleration of research in large-body aircraft, helicopters, regional jets and general aviation". It is also important to note that the Chinese airline industry is state-owned and that the Chinese National Development and Reform Commission has the ability to approve all purchases of aircraft by Chinese airlines, which is used to encourage the purchase of domestically produced jetliners such as the COMAC C919[4]. Last but not least the "Internet Plus" plan also establishes a partnership between Chinese tech giants and traditional industries including aeronautics.

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[3]   Source: PWC.

[4]   Source: RAND, "Chinese Investment in U.S. Aviation", 2017.

5. *EU industrial strategy*

5.1 The **lack of an EU industrial policy** to support the aeronautical industry, combined with a fragmented approach between EU institutions and national governments, is a key challenge in the context of the changing competitive landscape. There is a need to develop an EU industrial strategy for the EU aeronautical industry to ensure its competitiveness and continued leadership in the global civil aviation market.

5.2 This requires a **strategy and commitment at EU level** where all relevant actors at EU, national and inter-governmental levels (including the EU Commission, the EU External Action Service as well as relevant agencies such as EASA and Eurocontrol and Joint Technology Initiatives such as SESAR and Clean Sky) work together towards a common goal to support the competitiveness of the EU industry in the global civil aviation market.

5.3 A commitment at EU level is required to provide **continuous public funding support** for this crucial sector, in particular in the field of research and innovation based on a long-term roadmap.

5.4 An **"aeronautics" watchtower** should be built at Commission level to monitor non-tariff barriers in key aeronautical regions and assess the relative competiveness of the EU aeronautical industry.

5.5 Aeronautics should also become a key sector for **EU economic diplomacy and EU trade policy**, and the EU's voice should be strengthened at international level, for example within the International Civil Aviation Organization.

6. *R&D to improve efficiency and reduce emissions*

6.1 The two major European Aviation Research Programmes, **Clean Sky** (greener and more efficient aviation technologies) and **SESAR** (Air Traffic Management R&I and deployment), act as catalysts for the whole innovation chain in Europe.

6.2 Thanks to their long-term technology roadmap and financial commitment, they have proven their **efficiency** and their **added value** for both public authorities and innovation chain, mostly in (1) designing, developing, manufacturing and operating more competitive, safe and environmentally sustainable aircraft and Air Traffic Management Systems; (2) creating a large and efficient science and technology community of academic research professionals and industries, from large companies to SMEs, through all EU-28 countries and (3) delivering outstanding demonstrators with a real impact on the aircraft programmes and market.

6.3 Success stories of **Clean Sky** include, *inter alia*, the flight tests of the BLADE laminar wing (boasting a 50% wing friction reduction and up to 5% less CO_2 emissions) and Contra-Rotating Open Rotor (reducing fuel consumption and CO_2 emission by about 30%).

6.4 Success stories of **SESAR** are best evidenced by its impactful results: when deployed, the 63 delivered SESAR solutions should offer a 34% increase in airspace capacity and a 30% decrease in flight time variance, meaning reduced delays on all EU flights and 95% of flights staying within their time plan, as well as a decrease of 2.3% in fuel burn and emissions per flight.

6.5 In the context of **Horizon Europe**, civil aviation should remain a top priority, with an increased budget compared to current funding under Horizon 2020. Research and Innovation is the lifeblood of the EU aeronautical industry and the long research cycles of the aeronautical industry require risk-sharing between the public and private sector through grant-based financing based on a long-term commitment to developing research roadmaps. This is essential for the competitiveness of the EU aeronautical industry. The two joint technology initiatives (Clean Sky and SESAR) should therefore be maintained. In the context of the Connecting Europe Facility (CEF) funding should remain a top priority to accelerate and encourage the deployment of the technologies, developed under Clean Sky and SESAR R&I.

6.6 Civil aviation has shown a track record of **reducing its environmental impact**. A new generation of aircraft typically reduces emissions by 15-20%. The global civil aviation industry became the first in the world to agree a comprehensive approach for reducing its emissions. It is based on the "four pillar strategy" of technology, operations, infrastructure and a global market-based measure.

6.7 Continued **EU support for research and innovation** is crucial to ensure further progress on reducing the environmental footprint of civil aviation (technological pillar) since over 70% of all research activities are linked to environmental goals.

6.8 The **Advisory Council for Aviation Research in Europe** Flightpath 2050 has set a 2050 goal for technologies and procedures to allow a 75% reduction in CO_2 emissions per passenger kilometre, a 90% reduction in NOx emissions and a 65% reduction in the perceived noise emission of flying aircraft (these are relative to the capabilities of typical new aircraft in 2000).

6.9 Moreover, **aircraft movements should become emission-free when taxiing** and air vehicles designed and manufactured to be recyclable. Europe should also be established as a centre of excellence on sustainable alternative fuels, including those for aviation, based on a strong European energy policy.

6.10 Europe should be at the forefront of **atmospheric research** and takes the lead in the formulation of a prioritised environmental action plan and establishment of global environmental standards. While significant progress has been made under Horizon 2020, the pace of research and innovation should be increased under Horizon Europe, including electrification and hybridisation of aircraft.

7. *Digitalisation*

7.1 Digitalisation (including the digital infrastructure required to accommodate new automated flying platforms), automation, virtual and augmented reality technologies will also be a key priority for aeronautics research. Together with the need to continue improving the aviation safety level and the need to continue working on reducing the environmental footprint of aviation, they will set the research and innovation roadmap for SESAR3 and Clean Sky 3.

7.2 The deployment of **SESAR solutions** should be stepped up and it is crucial to establish the **SES**, in order to ensure efficient deployment within the EU.

8. *European Aviation Safety Agency (EASA)*

8.1 A **stronger international role for the EASA** is key for the EU aeronautical industry (including maintenance, repair and overhaul (MRO) industry) in order to match the continued strong international role played by the US Federal Aviation Administration in promoting the US aviation industry in third country markets.

8.2 EASA should be allowed to open **more offices in third countries** with a key role in promoting European safety regulations, certification standards and policies, and in ensuring that European industry can compete on a level playing-field in key export markets through day-to-day contact with third country Civil Aviation Authorities and avoiding technical barriers to validating European products in those exports markets.

8.3 **EU Bilateral Aviation Safety Agreements** with third countries should be expanded to reduce duplicated safety oversight for both type certification/initial airworthiness as well as continued airworthiness/maintenance.

8.4 Last but not least, EASA's detailed **rules should become more performance-based** relying on industry standards in order to enable safe deployment of new technology in a more efficient and faster manner. In this context, the recently agreed revision of the EASA basic regulation (Revision of Regulation 216/2008) should be welcomed.

9. *Infrastructure*

9.1 The EU aeronautical industry is also benefiting from the health of the **wider EU civil aviation industry** (i.e. airlines, helicopter operators, business jet operators and other airspace users) since additional growth for airspace users results in the need for more aircraft and corresponding technology.

9.2 In this context, it is therefore essential to continue **investing in safe and cost-efficient infrastructure** on the ground as well as in the air while avoiding excessive aviation taxes.

9.3 The **EU aviation strategy** is therefore welcomed since it includes a set of tools to improve the competitiveness of the wider EU civil aviation industry including a revision of the Basic EASA Regulation, a strategy for ensuring EU leadership in the emerging market of civil Remotely

Piloted Aircraft Systems and Unmanned Traffic Management Systems, as well as other proposals affecting the competitiveness of the airline industry (revision of Regulation No 868/2004 and possible revision of the EU Airport Charges Directive).

9.4   The revision of **Regulation No 1008/2008** (Common Rules for Operation of Air Services in the Community) should also be seen in this context and should ensure that the Single Market remains fit for future developments. In addition, given the recognised need for further consolidation in the EU airline industry, a balance must be found between a more consolidated airline industry and the benefits for EU consumers of a choice of airlines and effective competition.

10.   *Maintenance, Repair and Overhaul Services (MROs)*

10.1   MROs are also an important segment of the EU aeronautical industry, contributing both to EU job creation and to exports for MRO services. Boosting the **competitiveness of the EU MRO industry** (airline MROs, independent MROs and original equipment manufacturer MROs) is therefore also crucial to enable the industry to continue to create jobs and capture new markets.

10.2   The use of **big data** and **new technologies** for MROs will also be an important element to be addressed in Research and Innovation Programmes.

11.   *Foreign Direct Investments (FDIs)*

11.1   The **EU Commission proposal for FDI screening** (COM(2017) 487), will improve the exchange of information and impact assessment and increase transnational transparency but will leave the final decision at national level. The proposal also includes EU Commission screening on grounds of security or public order for cases that may affect projects or programmes of EU interest.

11.2   This Commission proposal should be **welcomed as a first step** since it is of the utmost importance not only in relation to foreign direct investment in the EU aeronautical industry and its supply chain but also in relation to critical technologies for EU manufacturing (automation, virtual intelligence, big data and cyber).

12.   *Brexit*

The European aeronautics sector is **fully integrated** with many components crossing national borders several times before final assembly. The supply chain consists of many large, medium- and small-sized companies operating just-in-time principles.

The **Single Market** and **Customs Union** are critically important since they reduce administrative burden and red tape for industry, thus minimising costs.

The EU-27 and the European Parliament have clearly stated that they will **protect the integrity of the Single Market**, including the four freedoms, and the jurisdiction of the European Court of Justice and there will be no "cherry picking" for any industry.

The UK Government has made it clear that it will be a third country as of **29 March 2019**.

12.1 A no-deal Brexit scenario must be avoided as it would be especially detrimental for the European aeronautical industry's competitiveness on a global scale and would put thousands of jobs at risk on both sides of the Channel. There is a need to find solutions for a post-Brexit agreement covering:

- Frictionless customs arrangements including export control for dual use goods
- Continued membership of EASA and EChA (REACH)
- Civil aeronautics research: continued cooperation in joint technology initiatives
- The ability to move highly-skilled employees across borders.

Technical discussions on the regulatory environment covering EASA and EChA need to begin, as a matter of priority, to ensure that mitigation measures are in place to minimise potential disruptions.

National governments must provide clear guidance to help their businesses prepare for all potential changes caused by Brexit, to minimise disruptions.

13. *Skills*

13.1 The continued success of the EU aeronautical industry is also highly dependent on its ability to **attract skilled labour**. In the context of an **ageing workforce** and **new technological challenges** (digitalisation, automation, cybersecurity, industry 4.0), this requires an overall EU strategy to develop EU education and training programmes with life-long learning and high-quality training provisions at its core.

13.2 At a national level, Member States are encouraged to promote the uptake of **STEM subjects**, particularly to girls from an early age, as well as participation in **ERASMUS**+ programmes**.**

13.3 **Flexible pathways** need to be developed between the world of work and the world of education (work-based learning, quality apprenticeships, and sector-specific training initiatives) and SMEs should receive extra support if required.

13.4   Considering these substantial specific social challenges, the EU aeronautical industry would benefit from **sectorial social dialogue at EU level** (Council Decision 98/500/EC) to allow the social partners to discuss specific issues.

Brussels, 17 October 2018.

Luca Jahier
The President of the European Economic and Social Committee

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