

Brexit Briefing Note

UP IN THE AIR?

UK AEROSPACE, CIVIL AVIATION AND THE SPACE INDUSTRY AFTER THE BREXIT TRANSITION PERIOD

3 APRIL 2020

Overview

This briefing note provides an updated assessment of the implications of the United Kingdom's exit from the European Union on the aerospace, civil aviation and space industries, focusing on the period after the end of the Transition Period, currently scheduled on 31 December 2020.

At the time of drafting, the aviation, aerospace and space industries are some of the sectors being most significantly impacted by the COVID-19 pandemic. This is already exacting a huge economic and operational toll on operators worldwide, and on society at large. Inevitably, there will be an impact to the UK's negotiations on a future relationship with the European Union. However, this briefing document explores what the positions taken so far mean for the UK.

Contents

1. Executive summary: the end of the beginning?	2
2. Barriers to trade	5
3. Leaving EASA	7
4. People, skills and research	16
5. Air transport and ATM	20
6. Climate change	25

1. Executive summary: the end of the beginning

1.1 Where are we now?

- Although the UK has now left the political institutions of the European Union, the two parties **have yet to agree the terms of their future relationship**.
- Under the terms of the Withdrawal Agreement, the UK has entered the Transition Period, and **continues to be bound by most EU legislation**, including on trade, until 31 December 2020, and thereafter until retained EU law is repealed.
- The Withdrawal Agreement provides for the Transition Period to be extended, before 1 July 2020, for a period of either 1 or 2 years, subject to the agreement of the Joint Committee, a group jointly chaired by the UK and EU and which oversees its implementation.
- In its published negotiating mandate, the UK has committed to securing a **comprehensive, 'zero tariffs, zero quotas' Free Trade Agreement** with the EU. In its own, the EU has committed to as **'close as possible a partnership'**, covering trade and economic co-operation, as well as security, defence and foreign policy.^{1, 2}

¹ General Secretariat of the European Council. *Annex to Council Decision authorising the opening of negotiations with the United Kingdom of Great Britain and Northern Ireland for a new partnership agreement*. February 2020. p 6.
<https://www.consilium.europa.eu/media/42736/st05870-ad01re03-en20.pdf>

² HM Government. *The Future Relationship with the EU*. February 2020. [Accessed 2 March 2020].
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/868874/The_Future_Relationship_with_the_EU.pdf

Figure 1.1: **UK/EU future relationship negotiation timeline**^{3, 4}



- However, the EU (Withdrawal Agreement) Act 2020 **explicitly forbids ministers from agreeing to an extension** in the Joint Committee. Under the principle that no parliament can bind its successor, the **government could get around this** by:⁵
 - Amending the existing law, which would be likely to be politically unpopular
 - Creating a new legal arrangement to extend present arrangements under a different name *de jure*
- The establishment of the European Aviation Safety Agency (EASA) in 2002 created a **Europe-wide regulatory authority**, which absorbed most functions of its antecedent, the Joint Aviation Authorities (JAA). It became fully functional from 2008 and, among other areas, took responsibility for:

³ European Commission. *Revised Political Declaration*. [Accessed 2 March 2020].

https://ec.europa.eu/commission/sites/beta-political/files/revised_political_declaration.pdf

⁴ FT. *Brexit timeline*. [Accessed 4 March 2020].

<https://www.ft.com/content/64e7f218-4ad4-11e7-919a-1e14ce4af89b>

⁵ Dicey, AV, ed. Allison, JWF. *An Introduction to the Study of the Law of the Constitution* (12th ed.) Oxford. Oxford University Press: 2013.

- Providing expert advice to the EU on the **drafting of new legislation**.
- **Developing, implementing and monitoring safety rules**, including inspections in Member States.
- **Type certification** of aircraft and components, and approval of organisations involved in the design, manufacture and maintenance of aeronautical products.
- **Certification of personnel and organisations** involved in the operation of aircraft, and the provision of pan-European air traffic and air navigation services.
- **Authorisation of third country (non-EU) operators**.
- For the duration of the Transition Period, the UK remains a member of EASA, but it **no longer plays any formal role in rule-making**. On 6 March 2020, the Secretary of State for Transport announced that the UK would **leave EASA after the end of the Transition Period**. The nature of the future relationship between the UK and the EU's aviation regulators is subject to negotiation.
- An **extension** to the Transition Period is **now considered to be increasingly likely** due to the significant disruption that COVID-19 has brought to bear on public life.

1.2 Why does the outcome matter and what do the UK and the EU stand to gain or lose?

- Aerospace and aviation are now global, inter-connected industries, through international supply chains and a globally mobile workforce. The UK itself has a vibrant and successful aerospace sector, the **second largest in the world** after the US, **exporting over 90% of its production**, earning the UK £35 billion in 2019. Of the 120,000 skilled jobs in aerospace, **92% are outside London** and South East England.⁶ Airbus's operations in the UK alone have a turnover of £6 billion.⁷
- The UK also has the **largest aviation industry in Europe**.
- UK aerospace has **benefited significantly from free trade** with and easy access to customers and suppliers across Europe, and a common regulatory regime, supporting productivity and global competitiveness.
- Pan-European supply chains and co-operation with fellow Member States within the EU have helped the sector to **maximise its national, and regional, socio-economic contribution**, such as in:
 - job creation
 - revenue generation
 - export value
 - cheaper travel
 - large numbers of international connections
 - a safer air travel environment
 - faster flight times

⁶ ADS. *Industry Facts & Figures*. 2019. [Accessed 6 March 2020]. <https://www.adsgroup.org.uk/wp-content/uploads/sites/21/2019/05/ADS-Industry-Facts-and-Figures-2019.pdf>

⁷ Airbus in the United Kingdom. *Worldwide Presence – UK*. [Accessed 11 March 2020]. <https://www.airbus.com/company/worldwide-presence/uk.html>

- improved environmental performance, with CO₂ per seat decreased by more than 50% since 1990⁸
- Relevant EU initiatives include:
 - European Aviation Safety Agency (EASA)
 - Single Aviation Market
 - EU-US Open Skies
 - Single European Sky
 - Horizon 2020 and Horizon Europe
 - European Geostationary Navigation Overlay Service (EGNOS)
 - EU Space Surveillance and Tracking (EUSST)
 - Galileo
 - Copernicus

1.3 Key policy implications arising from this paper

✓ The UK and the EU **must agree** both a comprehensive Bilateral Air Safety Agreement (BASA) and a Comprehensive Air Transport Agreement (CATA) with the European Union **prior to the UK leaving EASA** if the UK is to maintain the size, scope and success of its aerospace and aviation industries.

✓ The Civil Aviation Authority will need to **significantly and quickly increase resource** such that it can command the confidence of EASA in discharging its re-shored responsibilities, including in the issue of type, component and personnel certification and licensing and of Design Organisation Approvals (DOAs), in order to **enable the mutual recognition of certificates that a BASA facilitates**.

✓ After the UK leaves EASA, the CAA, manufacturers and trade bodies must **maintain close working relationships with EASA**, through formal and informal channels, in order to ensure that the UK maintains a degree of involvement in policy-making, and that **regulatory divergence is minimised** to that strictly in the interests of the UK aerospace and aviation industries as a whole.

⁸ IATA. *Carbon Emissions Per Passenger Decrease More Than 50% Since 1990*. 12 December 2019. [Accessed 6 March 2020]. <https://www.iata.org/en/pressroom/pr/2019-12-12-01/>

2. Barriers to trade?

2.1 Will there be tariffs or quotas imposed on aerospace products after the end of the Transition Period?

- The UK and the EU have committed to striking a **'comprehensive and balanced Free Trade Agreement (FTA)'** as the core of their future relationship.
- To agree such **an FTA in seven months is without precedent**; a non-comprehensive deal between the EU and Canada, covering a considerably smaller volume of trade, took eight years to negotiate.
- With regard to aerospace, the EU's negotiating mandate, published on 25 February 2020, includes a commitment that:

The envisaged partnership should **facilitate trade and investment in aeronautical products**, parts and appliances through co-operation in areas such as **certification** and monitoring, the **production oversight** and **environmental approval** and **testing**. Negotiations should be based on both Parties being satisfied with the other Party's requirements, regulatory processes and capacity to implement them.⁹ [RAeSemphasis]
- Should an agreement not emerge by 31 December 2020, there will be **no tariffs on trade in civil aircraft or components**, as the UK and the EU are both signatories to the GATT Agreement on Trade in Civil Aircraft

⁹ General Secretariat of the Council. *Annex to Council Decision authorising the opening of negotiations with the United Kingdom of Great Britain and Northern Ireland for a new partnership agreement*. February 2020. p 19.
<https://www.consilium.europa.eu/media/42736/st05870-ad01re03-en20.pdf>

¹⁰ Email from UK Trade Policy Observatory. 4 February 2020.

(1980).¹⁰ However, **additional customs checks are likely to have a disruptive effect** on the aerospace industry, which is heavily integrated and depends on just-in-time supply chains.¹¹

- ADS Group estimates that these 'soft' barriers to trade would be up to 38% of the sale value of some goods, and that the **overall cost to the industry would be around £1.5 billion per year**.¹²

2.2 How could differences in regulation (sometimes called 'regulatory divergence') prove a barrier to trade?

- There is value in applying common standards to manufacturers and operators working in an international market and global industry, like aerospace, as it helps to reduce costs through **lower transaction costs, time savings** and **economies of scale**. Common standards also **facilitate the free flow of goods** and services.
- Common EU standards for aircraft parts and safety have been beneficial to the UK and European aerospace sector. Since 2003, EASA has had responsibility for type certifying aircraft and parts, previously a national competence. This intervention has **strengthened the Single Market in aerospace products**, easing the burden on manufacturers, such as Airbus, **enabling**

¹¹ Deloitte. *Brexit Industry Insights: Aerospace and Defence*. September 2019. [Accessed 28 February 2020].
<https://www2.deloitte.com/content/dam/Deloitte/uk/Documents/international-markets/deloitte-uk-brexit-flyers-brexit-insights-aerospace-and-defence.pdf>

¹² Jolly, J. UK aerospace industry steps up no-deal Brexit plan to switch regulator. *The Guardian*. 28 July 2019.
<https://www.theguardian.com/business/2019/jul/28/uk-aerospace-industry-steps-up-no-deal-brexit-plan-to-leave-regulator>

them to sell their products worldwide, thus maximising their regional and national economic contributions.

- The harmonisation of safety standards has ensured that all EU-registered aircraft, from commercial aircraft through to general aviation (GA), are **built, operated and maintained to the same set of rules**, enhancing protection for UK customers, airline operators and other users.
- Having EU-wide standards, regulation and legislation means that it is practical for firms in the aerospace sector to treat the EU as one, single market. Aerospace production has become **more distributed across European supply chains**, with many manufactured goods made up of inputs from multiple sources, and **increasingly with services bundled into the final product**.

3. Leaving EASA

- After the 2019 general election, the UK government **hardened its position against regulatory alignment**, and on 6 March 2020 the Secretary of State for Transport announced that the UK would be leaving EASA.
 - It should be noted that the announcement was not legally binding and could represent the ‘opening gambit’ in a negotiating position in terms of the UK’s future relationship with the EU.
 - The position could change given successful industry engagement, a change in the political or economic situation, or a change in the nature of the negotiations.
- However, the aerospace and aviation industries had **already been preparing** for this outcome in previous no-deal planning.
- The EU’s negotiating mandate, published on 25 February 2020, is based around the premise that a non-member of the EU, which does not have the same obligations as a member, cannot enjoy the same rights and same benefits as would a member.¹³
- The approach taken in the mandate document to aviation safety flows from this. However, it is **notably open-ended**:

Nothing in the envisaged partnership should entail reciprocal acceptance of the standards and technical regulations of the

Parties. Rather, it should **limit duplication of assessments to significant regulatory differences** and **allow, to the extent possible, reliance on the certification system of the other Party**. [RAeS emphasis]

- This represents an adept, if not particularly subtle, nuance; the second sentence leaves open the **possibility of de facto ‘reciprocal acceptance’** underpinned by *de jure* divergence – while also permitting the EU side the maximum room to negotiate.
- Such an agreement, and the extent of mutual recognition, is contingent upon the framing principles of trust and mutual co-operation:
 - Section 10 of the mandate document proposes a system of the mutual acceptance of ‘findings or certificates’ based on trust in the other party’s systems and standards.
- The document also envisages ‘appropriate co-operation mechanisms’ for EASA and the CAA to verify on a reciprocal basis each other’s continued ‘fitness and ability’ to undertake regulatory functions; this is addressed in more detail below.
- The legal position is that, in the absence of an agreement:
 - Design Organisation Approval and Production Organisation Approval holders, where issued by the UK, **lose the ability to certify designs, approve modifications**, or to **certify new production parts** for installation on

¹³ General Secretariat of the Council. *Annex to Council Decision authorising the opening of negotiations with the United Kingdom of Great Britain and Northern Ireland for a new partnership agreement*. February 2020, p 20.
<https://www.consilium.europa.eu/media/42736/st05870-ad01re03-en20.pdf>

aircraft registered in EU27 countries (or indeed other EASA participants). Each will have to apply for third country approvals.

- o UK-licensed Part 145 organisations will no longer be able to **certify repairs or overhauls** for release to service on EU-registered aircraft.
- o UK licence holders (whether pilots or engineers) will no longer be able to operate or work on EU-registered aircraft.
- All of these issues could be resolved, or the problems reduced, with a Bilateral Aviation Safety Agreement (BASA).

3.1 What are the alternatives to EASA membership?

- The RAeS considers that **full UK participation in EASA is firmly in the interests of both parties**. Should that prove impossible, a truly **comprehensive Bilateral Aviation Safety Agreement (BASA)** is essential if the size and scope of the UK's aerospace industry – and the jobs, skills and communities it underpins – are to be maintained, although even a BASA carries considerable risks.
- There are several means by which differing levels of co-operation with EASA can be maintained. The UK's baseline position is that it will establish a comprehensive Bilateral Aviation Safety Agreement between the UK and the EU. A BASA is an agreement which facilitates the **mutual acceptance of**

certificates for aircraft, components, maintenance facilities and environmental testing.

- The UK's future relationship white paper has set the following objectives for the BASA:¹⁴
 - a) **Minimising regulatory barriers:** the BASA should allow for the mutual acceptance of certification processes where possible and limit the duplication of recertification or retesting assessments.
 - b) **Scope:** both sides should seek to agree a broad range of technical annexes to the BASA, including but not limited to:
 - design certification
 - product organisation approvals
 - maintenance organisation approvals
 - flight simulator qualification
 - personnel licensing and training
 - c) **Regulatory cooperation:** the BASA should establish measures to facilitate regulatory co-operation, including the provision of information on any significant revisions proposed to aviation safety regulations. The BASA should also provide for the exchange of relevant safety information and data.
 - d) **Appropriate governance arrangements:** the document does not elaborate, but the UK could be expected to press for a joint committee, with regulatory representatives from each side, to provide oversight of the agreement and its implementation. EASA's BASA with the FAA provides for a Bilateral Oversight Board, a Certification

¹⁴ HM Government. *The Future Relationship with the EU*. February 2020. p 21. [Accessed 2 March 2020]. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/868874/The_Future_Relationship_with_the_EU.pdf

Oversight Board and a Joint Maintenance Coordination Board on a similar basis.

3.1.1 The US model – a BASA

- EASA's relationship with the Federal Aviation Administration (FAA), the US aviation regulator, is underpinned by a BASA and provides a **reasonable model for the future relationship between the CAA and EASA**, should the UK ultimately leave it. EASA maintains a representative office in Washington DC. The relationship is comprised of Working Arrangements, covering a number of technical areas, and a BASA, which includes provision for:
 - reciprocal acceptance of approvals in terms of airworthiness, parts and maintenance facilities
 - personnel licensing and training
 - operations
 - air traffic services and management
 - the sharing of safety data
 - a joint oversight board to oversee the implementation of the agreement

3.1.2 The China model – technical co-operation

- EASA's relationship with the Civil Aviation Administration of China (CAAC) provides another potential model but is **considerably less comprehensive**. It maintains a representative office in Beijing, and a Working Agreement (WA) covers a significant number of technical areas relating to regulatory matters of joint interest, and in particular to parts produced in China and intended for use in aircraft produced in EASA member states, and operated by EASA carriers. There is also

further technical co-operation. See overleaf for a table summarising the constituent parts of EASA's relationship with a selection of third countries.¹⁵

- There are several distinctions between a Working Arrangement and a Bilateral Agreement, while Technical Cooperation Activities are considerably less ambitious in scope:
 - A Bilateral Agreement (referring to a Bilateral Aviation Safety Agreement, or a BASA) is used principally to facilitate the **mutual acceptance of certificates** of aircraft, components, maintenance facilities and personnel. EASA supports the European Commission during the negotiation and implementation of such agreements. So far, the EU has concluded a BASA and associated agreements /procedures with the **US, Canada and Brazil**.
 - Working Arrangements (WA) are usually signed between EASA and the authority of a non-EU country, or a regional or international organisation. They cover **technical matters** and are typically used to facilitate EASA's certification tasks or the validation by a foreign authority of EASA certificates. Unlike BASAs, **WAs do not allow for the mutual recognition of certificates**. EASA (rather than the European Commission) directly negotiates and concludes WAs.
 - A useful example of a WA can be seen in the US. The EU and the US have a BASA, which facilitates

¹⁵ European Aviation Safety Agency. *Working Arrangement – China*. [Accessed 12 March 2020]. <https://www.easa.europa.eu/document-library/working-arrangements/working-arrangement-china>

common standards and mutual recognition of certificates. Notwithstanding that, the FAA and EASA have a WA facilitating technical co-operation regarding the Airbus A320 Family Final Assembly Line and Delivery Centre in Alabama.

- **Technical co-operation activities** are specific projects which aim to improve global aviation safety, lasting up to **three** years and mostly funded by the EU. This kind of relationship is most common with states developing their regulatory and oversight capabilities to meet more basic standards and is unlikely to be relevant to the UK after the end of the Transition Period.

Figure 3.1: **EASA relationships with third countries**¹⁶

Country	BA	WA	TC	Rep
Brazil				
Canada				
China				
Singapore				
US				

BA = Bilateral Agreement. WA = Working Arrangement. TC = Technical Cooperation Activity. Rep = EASA Representative Office.

3.2 Is a comprehensive BASA achievable by the end of the Transition Period?

- Should the UK leave EASA, the CAA would need to take back responsibility for various aspects of safety regulation, including the certification of products designed in the UK

under a new Design Organisation Approvals (DOAs) system. This would also entail the CAA **providing regulatory oversight** of approved companies.

- This would be an involved and detailed process, and 're-shoring' of such responsibilities would **require a significant increase in resource at the CAA** over a very short space of time.
 - ADS Group has estimated that it could take between **five and ten years**, an **extra 200 staff**, and between **£30 million and £40 million**, to equip the CAA to take over EASA's responsibilities, and to re-skill the necessary staff. The current UK contribution to EASA is between £1 million and £4 million annually.
 - There is no guarantee that EASA staff would be **able or willing to return to the CAA** or that the numbers of experts are available and could be deployed in the current timeframe of eight months, when the UK is expected to cease participation in EASA. Furthermore, the CAA lost around 200 staff during the transition to EASA from 2002; however, only a small proportion went to work at EASA HQ in Cologne. Many left the CAA voluntarily or retired and were not replaced, making it **difficult to recruit sufficiently qualified and available regulatory specialists**.

- As set out in 2.4, the UK government has announced that it intends to seek a BASA with the EU. This would **mitigate some, but not all, of the additional work required to**

¹⁶ European Aviation Safety Agency. EASA – by country. [Accessed 11 March 2020]. <https://www.easa.europa.eu/easa-and-you/international-cooperation/easa-by-country>

certify products in the UK and then cross-validate the products with EASA to get an EASA certificate, with a BASA.

- However, this will **take time to develop** and would be **dependent on EASA having confidence in the competence of recently recruited CAA staff**.

3.3 What would the implications be for UK aerospace and aviation of failing to secure a BASA?

3.3.1 Regulatory divergence and resource

- The problems and increased costs posed by regulatory divergence would be magnified – and not mitigated – in a non-BASA scenario, due to less co-ordination between regulators, and fewer legal and practical reasons to ensure that regulations aligned. More detail and elaboration are contained elsewhere in this section.

3.3.2 Mutual recognition

- There would be **no mutual recognition** between the UK and EU for aviation licences, approvals and certificates.
- UK-issued licences and approvals issued when the UK was an EASA member would **continue to have validity**. All licences issued by the CAA under EU legislation, and all type approval certificates and third country approvals issued by EASA under EU legislation, would continue to have validity under UK law, provided they were effective at the point where the Transition Period ended.

3.3.3 Flight safety

- Without a truly comprehensive BASA, the **UK would be outside EASA initiatives** aimed at enhancing aviation safety.

- EASA is focused directly on improving aviation safety, through the **analysis of 'big data'**, as well as through sponsoring safety-directed research. Use of big data to understand safety events and trends, and then to put solutions in place to prevent events and reverse adverse trends, is in its early stages, but is among EASA's top safety priorities.

- This is assisted **greatly by access to European data repositories** and will be supplemented by **further 'data lakes' over time** – for example using operational data – as some EASA projects reach completion.

- Moreover, any activity that puts extra work into the aviation system, or disrupts the system, requiring industry to duplicate effort or to complete bureaucratic tasks, will **divert resource from assuring designs, products and their operation are as safe as they can be**.

3.4 What are the disadvantages of a BASA compared to EASA membership or a bespoke deal?

3.4.1 Regulatory divergence

- Regulatory divergence, even if superficially minor, would **cause an increase in the cost base of the UK aerospace industry**, harming its competitiveness and bringing disadvantages compared to EASA membership:
 - The need for additional certification activity with the UK CAA as well as with EASA, the FAA and other NAAs that require specific cross-validation activity.
 - Other **duplication of effort** for products and services managed from the UK and operated or exported elsewhere.

- o The risk that regulations in the UK will diverge from those of Europe and the USA meaning that **industry would have to comply with additional regulations.**
- o The risk that requirements in the UK would be **more stringent than elsewhere, or be more stringently applied**, leading to businesses choosing to move out of the UK.
- o Subject to the comprehensiveness of any such BASA, UK- and EU-based airlines could find it **more difficult and costlier to move their fleets around the continent.** This would be the case particularly if it proves impossible to negotiate rights beyond the fifth freedom of the Chicago Convention, and the easy use of modern commercial practices including codeshares and wet-leases. This could **add complexity and costs** to their businesses, potentially making it more expensive to fly. More detail on this area can be found in section 4.
- Moreover, the existence of a BASA **does not, per se, guarantee full regulatory reciprocity and mutual acceptance** of certificates, and **individual BASAs differ.** For example, through bilateral agreements, EU-registered aircraft are eligible to use components that meet European regulations (using an EASA Form One), or Canadian or Brazilian regulations. The same level of reciprocity is not in place for US components. US Certification (through FAA Form 8130-1) is accepted in the EU only for new parts, and not repaired ones.

3.4.2 Loss of existing bilateral agreements

- Leaving EASA, even with a BASA, would mean that the UK was unable to benefit from EU/third country bilaterals. Although the CAA has concluded a replacement bilateral, involving Implementation Procedures for Airworthiness (IPAs), Maintenance Implementation Procedures (MIPs) and Maintenance Agreement Guidance, it has so far only concluded Working Arrangements with Canada and Japan.
- No agreement has so far been struck with Brazil, a country with which the UK currently has a BASA through its EASA participation.¹⁷

3.4.3 Impact of global influence?

- EASA is a **globally recognised centre of aerospace regulation excellence**, which both benefits the UK and gains from the UK's active participation. The UK, through the Department for Transport (DfT) and CAA involvement, has had a **major influence on EU and EASA rulemaking** through its participation on the Management Committee and other specialist committees; indeed, many regulatory practices have been developed in the UK and then adopted by aviation authorities in other European Member States with the support of EASA.
- EASA rulemaking will remain important when the UK leaves the EU so UK **industry would lose the ability to significantly influence through EASA rules** should the UK leave

¹⁷ Civil Aviation Authority. *What is a bilateral agreement?* [Accessed 11 March 2020]. <https://www.caa.co.uk/Commercial-industry/Aircraft/Airworthiness/Organisation-and-maintenance-programme-approvals/Bilateral-agreements/What-is-a-bilateral-agreement/>

EASA. EASA would not be able to call upon the level of support and expertise of UK industry that it has hitherto enjoyed, and as of 31 January 2020 the CAA has played no formal role in rule-making within EASA.

- As well as developing regulations, often at the same time as the FAA is developing rules in the same area, EASA **also helps EU industry by supporting product certification with other authorities**, developing BASAs with third countries (as support to the European Commission), discussing threats to safety with relevant authorities, and where appropriate providing **training and guidance to other authorities**.
- The industry would look to the UK CAA to take on some of this activity, including support to product certification and supporting bilateral arrangements, but this would be difficult until **mutual trust was developed between the UK and other NAAs that the UK CAA had the relevant competence**.
- There is nothing in the EASA Basic Regulation – which expressly provides for participation by non-EU member states in EASA – that limits the net benefit or level of participation by the UK to anything less than that of an EU member state, other than the fact that a non-EU member state does not sit on the EASA membership board. However, **some regulation must go through a further political process outside EASA**; for example, in terms of approval by the Commission, Council or European Parliament, in which the UK will have no formal influence. So, regardless of the conditions of any BASA, the fact that the UK no longer has this influence means automatically that it **will not enjoy the same benefits as under the status quo**.

3.4.4 Resource

- The ‘re-shoring’ of such responsibilities will be an involved and detailed process and will **require a significant increase in resource at the CAA** over a very short space of time.
 - During the transition from JAA to EASA from 2002 onwards, a considerable number of staff left the CAA. Only a small proportion went to work at EASA HQ in Cologne. Many left the CAA voluntarily or retired and were not replaced, making it **difficult to recruit sufficiently qualified and available regulatory specialists**.
 - ADS Group has estimated that it could take between **five and ten years**, an **extra 200 staff**, and between **£30 million and £40 million**, to equip the CAA to take over EASA’s responsibilities, and to re-skill the necessary staff. The current UK contribution to EASA is between £1 million and £4 million annually.

3.5 General aviation (GA) in the UK already operates under two different rule-sets. How would the various scenarios affect it?

- Currently, GA in the UK is subject to **two, distinct sets of regulation**. Although the maintenance and operation certification of most aircraft in the UK is regulated by EASA, some aircraft (known as ‘non-EASA’ or ‘Annex

ll' aircraft) are under national regulation. These include:¹⁸

- Microlights and light gyroplanes
 - Homebuilt aircraft
 - Foot-launched aircraft
 - Ex-military aircraft
 - Vintage aircraft meeting specific criteria for dates of design and manufacture
 - Aircraft built or modified for scientific or novel purposes
- Non-EASA aircraft are typically operated under National Certificates of Airworthiness and UK Permits to Fly.
 - This represents a notably different regime to EASA regulation. For a UK Permit, all that is required is for a person of recognised competence to assess the aircraft as airworthy, and the CAA allows organisations such as the Light Aircraft Association (LAA) to **make a pragmatic assessment**, which considers the way in which the aircraft will be operated.
 - This represents an example of where **proportionate regulatory divergence** – and the existence of **dual certification regimes** – has **enriched rather than hindered** general aviation in the UK.
 - The GA community is a **self-motivated, entrepreneurial sector** and, by its nature, requires proportionate regulation to thrive; however, EASA's interpretation of its own scope has been perceived by some as being over-ambitious in relation to GA.¹⁹
- EASA has regulated in unjustified areas of light and sport aviation applying rules drawn from full commercial activity. Activities in the GA sectors are **more appropriately nationally regulated**, or even self-regulated, as has already been accomplished in the UK and other nations, increasingly facilitated by EASA.
 - However, EASA's common design, production, certification and airworthiness rules have energised a pan-European GA market, **catalysing worldwide trade**. The economy, effectiveness and competitiveness of all involved organisations have been **harmonised and improved by the adoption of common standards**.
 - The overhead and costs of putting these regulations in place are **now stabilising under lighter regulation**. For the GA sector, the value of EASA has been mixed, but the overall **balance has been more positive** particularly in terms of trade, entrepreneurship and safety.²⁰
 - The UK's GA sector often provides a first, inspirational experience of aviation for young people. But it has been **subject to almost continuous regulatory change** over the past decade. A new era of dramatic regulatory divergence would be likely to cause further depletion of active participants, enthusiasts and entrepreneurs, who are currently making a valuable contribution to innovation, technology and skills.

¹⁸ Civil Aviation Authority. *What is a non-EASA aircraft?* [Accessed 10 March 2020]. <https://www.caa.co.uk/General-aviation/Pilot-licences/Introduction-to-licensing/What-is-a-non-EASA-aircraft/>

¹⁹ Royal Aeronautical Society. *Civil Aviation Regulation: What Future After Brexit?* September 2017. https://www.aerosociety.com/media/6797/raes_civil_aviation_regulation_-_what_future_after_brexit.pdf

²⁰ Ibid.

- At its best, the current regime, of proportionate national regulation set against a standardised European-level rule-set where appropriate and backed by a proactive and engaged regulator in the CAA, is one which has suited the sector well.
 - Therefore, a **truly comprehensive BASA** allowing for a flexible and proportionate regulatory regime to persist for GA represents the best way forward in guaranteeing the sector's continued success.

3.6 What would the implications be for Maintenance, Repair and Overhaul (MRO) companies under the various scenarios?

- If the UK leaves EASA and a comprehensive BASA proves impossible to agree by the end of the Transition Period, in order to retain their ability to carry out work on EU-registered aircraft, UK-based MRO (Part 145 and Part M) and MRO training (Part 147) companies will need to **apply for various EASA third country approvals**.²¹
 - There are presently 346 companies in third countries across the world holding Part 145 approvals
 - EASA has already opened an Early Applications process in preparation for various no-deal UK exit scenarios in 2018-19²²
 - All non-BASA scenarios would add extra costs, significantly diminishing the competitiveness of UK MRO

organisations already operating in a crowded market

- The implications for individuals holding Part 66 licences are addressed in part 3 of this document.

3.7 Summary

- **A truly comprehensive BASA, or continued UK EASA participation, will be required to avoid delays and extra costs.** These would undermine UK competitiveness, create barriers to trade and investment, and compromise the achievement of continued safety improvement.

²¹ Civil Aviation Authority. Brexit micro-site. [Accessed 6 March 2020].
<https://info.caa.co.uk/brexit/aerospace-maintenance-organisations-part-145/>

²² European Aviation Safety Agency. *Early applications*. [Accessed 6 March 2020].
<https://www.easa.europa.eu/brexit-early-applications>

4. People, skills and research

4.1 Will the UK continue to have access to EU research funding?

- UK scientists, researchers and businesses can **continue to participate in Horizon 2020**, the EU's research funding programme, including calls that extend into 2021.
- After 2020, the Horizon 2020 programme will be replaced by Horizon Europe. The EU recognises that international co-operation in research & innovation helps **achieve greater impact in solving global challenges** by aligning actions with other nations and regions of the world, and by inviting partners from across the world to join EU action.
- UK ministers have expressed an interest in participation in Horizon Europe as an Associated or Third Country, and the UK's future relationship white paper confirmed its interest formally.²³ However, this is **likely to be contingent upon the conditions set out in the UK's relationship with the EU** by the end of the Transition Period.
 - Access to Horizon, along with many EU programmes, is typically contingent upon some degree of *quid pro quo*. For instance, in December 2016, the EU only reinstated Swiss participation after the country reciprocally reinstated the working rights of EU nationals.

- Associated Countries can **participate on the same terms as Member States**, and include Israel, Norway and Switzerland.²⁴
- Current Third Countries with jointly agreed co-funding mechanisms include Australia, China, Korea, Brazil and Russia.²⁵ However, research conducted solely in these countries (and not in collaboration with an EU or Associated Country partner or partners) is **not eligible for Horizon 2020 funding**, other than in some exceptional circumstances.²⁶

4.2 Will the UK continue to participate in EU space programmes?

- The EU's role in space differs from that in aviation and defence aerospace in that the EU is a research funder and customer of space systems and services programmes, as well as being a regulator and legislator. The UK has **won leading roles in these programmes**, and has been among the **largest recipients of research funding from the EU**.
- The UK's membership of the European Space Agency (ESA) is unaffected by Brexit, as ESA is not an EU body.
- Current EU space initiatives include:
 - European Geostationary Navigation Overlay Service (EGNOS)
 - EU Space Surveillance and Tracking (EUSST)
 - Galileo
 - Copernicus

²³ HM Government. *The Future Relationship with the EU*. February 2020. p 23. [Accessed 2 March 2020]. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/868874/The_Future_Relationship_with_the_EU.pdf

²⁴ European Commission. *Horizon Europe – Associated Countries*. [Accessed 6 March 2020]. <https://ec.europa.eu/research/iscpl/index.cfm?pg=associated>

²⁵ European Commission. *Horizon Europe – Participate*. [Accessed 6 March 2020]. <https://ec.europa.eu/research/iscpl/index.cfm?pg=participate>

²⁶ European Commission. *Guidance note—Funding of applicants from non-EU countries & international organisations*. p 2. [Accessed 10 March 2020]. https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/3cpart/h2020-hi-3cpart_en.pdf

- Both sides have expressed willingness to continue co-operation on certain space projects. However, should an agreement as to the UK's future relationship with the EU prove impossible to agree by the end of the Transition Period, the UK will **lose most access** to all EU space initiatives.

EGNOS and EUSST

- The UK's future relationship white paper states that the government will seek **continued access to EGNOS and EUSST**. However, the EU negotiating mandate document does not refer specifically to the programmes.
- Without an agreement, after the Transition Period, the UK would **no longer have access to data from the programmes beyond that publicly or commercially accessible**. In its no-deal guidance issued in March 2019, the UK government said that it would continue to receive space, surveillance and tracking data from the US.

Galileo

- The UK's future relationship white paper states that the government will seek **continued access to the encrypted Galileo PRS**, which is expected to be available in the mid-2020s. The EU's mandate document also includes provision for the UK to have '**secure access to the most resilient service of Galileo for sensitive applications** in the context of Union operations or ad hoc operations involving its Member States'.²⁷

²⁷ European Commission. *Recommendation for a Council decision authorising the opening of negotiations for a new partnership with the United Kingdom of Great Britain and Northern Ireland*. 3) f). 3 February 2020. [Accessed 4 March 2020]. <https://ec.europa.eu/info/sites/info/files/communication-annex-negotiating-directives.pdf>

- The EU's position is that such **access is conditional** on it not 'contravening the essential security interests of the Union and its Member States', and the UK participating in the non-security related activities of the EU Space Programme, unless it grants the EU access to its proposed United Kingdom Global Navigation Satellite System.

- In a scenario in which the UK is granted continued secure access to Galileo, it is likely that the UK GNSS project, which has so far cost at least £92 million in research and is projected to cost £3 billion or more to bring to fruition, would not proceed.²⁸
- Regardless of any agreement, for the public and most satellite navigation users, there should be no noticeable impact after the Transition Period.
 - For example, devices that currently use Galileo and EGNOS, such as smart phones, will continue to be able to do so.²⁹

Copernicus

- The UK's future relationship white paper states that the government will seek **continued access to Copernicus in full**. However, the EU negotiating mandate document does not refer specifically to the programme.

²⁸ O'Callaghan, J. *Here's What Each Brexit Scenario Could Mean For The U.K. Space Industry*. Forbes. 21 January 2019. <https://www.forbes.com/sites/jonathanocallaghan/2019/01/21/heres-what-each-brexit-scenario-could-mean-for-the-uk-space-industry/>

²⁹ HM Government. *Satellites and space programmes from 1 January 2021*. [Accessed 9 March 2020]. <https://www.gov.uk/guidance/satellites-and-space-programmes-from-1-january-2021>

- Without an agreement, after the Transition Period, the UK would not be able to participate in the parts of the programme that are open only to EU Member States. UK businesses, academics and **researchers would not be able to bid for future Copernicus contracts tendered through the EU**, or through any other process using EU procurement rules.
- In a no-agreement scenario, the UK government expects that UK entities holding Copernicus contracts with delivery dates that run past the end of the Transition Period **would continue to be able to participate**, but it encourages them to confirm arrangements with the relevant authority.³⁰
- As a member of ESA, the UK would continue participation in the Copernicus Space Component (CSC4) of the Copernicus programme. Regardless of any agreement, UK entities will be able to **continue to bid for contracts within CSC4**, its predecessor the Global Monitoring for Environment and Security (GMES) programme, or under other programmes such as the Earth Observation Envelope Programme 5 (EOEP5) and Future EO-1.³¹

4.3 Will the UK space industry lose contracts after the end of the Transition Period?

- The loss of industry and academia contracts previously associated with the EU Space Programme, valued at between **€250m and €300m per annum**, has potential negative consequences for the UK Space Industry.

- The creation of the UK National Space Council is seen as the **first step towards the realisation of the ambition** for the UK to become a major space player.
- However, for this to come to fruition, the RAeS believes that a **significant increase in the national space budget will be necessary** to bring the UK closer to the top three space nations in Europe (France, Germany and Italy).
- Such an increase should not only allow the implementation of a future National Space Programme, but should also serve to **compensate for the loss of EU Space Programme contracts**, and being of the **same order of magnitude as the annual value of UK contracts awarded by ESA**.

4.4 Will UK companies and subsidiaries still be able to employ the people they need?

- After the Transition Period, EU freedom of movement rules will cease to apply. The UK has signalled its intention to replace its current EU immigration regime with one which makes it **more difficult for workers it classifies as 'low-skilled'** to obtain visas.³²
- As most workers in the aerospace industry have higher education or earn more than £25,000, this is unlikely to have significant immediate impacts for aerospace.
 - Apprentices represent an important exception to this, but government-funded apprenticeships will not be

³⁰ HM Government. *Satellites and space programmes from 1 January 2021*. [Accessed 9 March 2020]. <https://www.gov.uk/guidance/satellites-and-space-programmes-from-1-january-2021>

³¹ Ibid.

³² HM Government. *The UK's points-based immigration system: policy statement*. 19 February 2020. [Accessed 9 March 2020]. <https://www.gov.uk/government/publications/the-uks-points-based-immigration-system-policy-statement/the-uks-points-based-immigration-system-policy-statement#fn:1>

available to EU citizens after the end of the Transition Period.

- There is insufficient data to evaluate the extent of employment of EU nationals by the UK aviation industry. However, if the industry relies to a greater extent on EU nationals who may not qualify for work visas under the new regime, it could leave the industry vulnerable to a labour shortage.
- Special dispensation has been made for PhD-level researchers. Holders of a PhD relevant to the job for which they have been recruited will score an additional ten points; where that PhD is in a STEM subject, they will score 20.

4.5 Will UK pilots' and engineers' licences continue to be recognised?

4.5.1 Engineers (holding UK CAA-issued Part-66 Maintenance Licences)

- If the UK leaves EASA without a BASA, there will be **no mutual recognition of certificates**. Although engineers holding UK CAA-issued licences will continue to be able to licence UK-registered aircraft and their licences will remain valid, those working on EU-registered aircraft **would not be able to continue to release them to service**.
 - Engineers holding UK CAA-issued licences wishing to continue to work on EU-registered aircraft would need to transfer their licences to the National Aviation Authority of another EASA member state before the end of the Transition Period.
 - The CAA advises that licensed engineers should 'have a discussion with the relevant NAA as soon as possible about their process and timetable for transfers'.

- **A truly comprehensive BASA**, or continued UK EASA participation, is the only way to avoid MROs and their employees incurring unnecessary costs and delays as a result of having to obtain certification in other EASA Member States.

4.5.2 Pilots (holding UK-issued Part-FCL licences)

- If the UK leaves EASA without a BASA, there will be **no mutual recognition of certificates**. UK pilots flying on UK-issued licences will continue to be able to fly UK-registered aircraft after the end of the Transition Period, because those licences are ICAO-compliant. However, a UK-issued Part-FCL licence **will no longer be valid to operate an EU-registered aircraft**.
 - As an example, to transfer an ATPL from the CAA to the Irish regulator, the IAA, a fee of £150 is payable to the CAA for a State of Licence transfer. An additional fee of €600 is payable to the IAA, along with copies of up to nine documents.
 - For an international UK airline with 3,900 pilots, this process would cost £2.6 million, at exchange rates at the time of writing. Assuming three person-hours per application, it would take 11,700 person-hours.
- **A truly comprehensive BASA**, or continued UK EASA participation, is the only way to avoid airlines and pilots incurring unnecessary costs and delays as a result of having to obtain pilot certification in other EASA Member States.

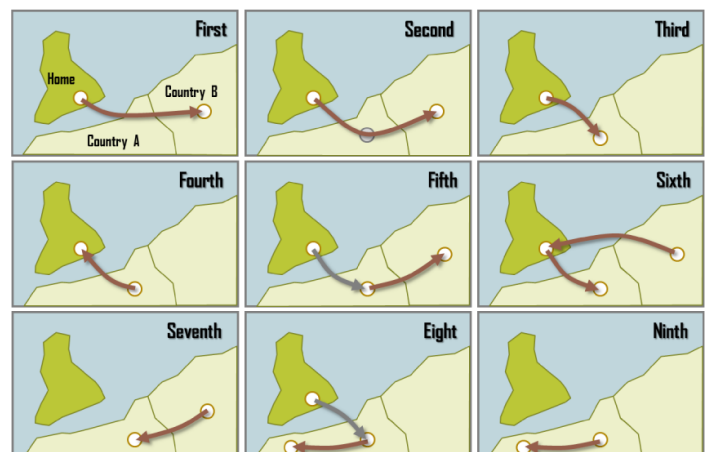
5. Air transport and ATM

5.1 Why is commercial air transport affected by the UK's withdrawal from the EU?

- As a member of the EU, UK airlines had access to the world's most liberalised aviation market – the European Common Aviation Area (ECAA). **Access to the ECAA continues throughout the Transition Period.**
- The ECAA was created in 2006 as an extension of the Single Aviation Market and is overseen by the European Aviation Safety Agency (EASA), with its legislation enforced by the European Court of Justice (ECJ), although **in practice this has never occurred in EASA's history**.³³
- The ECAA has allowed EU airlines to operate under **all nine 'freedoms of the air'**. The success of the ECAA is shown in the number of intra-EU routes available to consumers, which increased by 303% between 1992 and 2015.³⁴
- The UK government has made clear that it will not enter into any agreement with the EU – for instance in maintaining ECAA membership or a Swiss-style bilateral – which entails ECJ jurisdiction. It could fall back on the 'freedoms of the air', but this would **constrain operations compared to the status quo**.

³³ "However, in practice the ECJ has played no role in the work of EASA. The Government has identified only one infringement case involving aerospace that has been brought against the UK in 38 years, and the ECJ has never issued a ruling on an EASA decision." Business, Energy & Industrial Strategy Select Committee. *The impact of Brexit on the aerospace sector*. 19 March 2018. [Accessed 10 March 2020]. <https://publications.parliament.uk/pa/cm201719/cmselect/cmbeis/380/38006.htm>

Figure 5.1: **Freedoms of the air**



5.2 What kind of agreement is the UK government looking to negotiate?³⁵

- In its future relationship white paper, the UK government committed to negotiating a Comprehensive Air Transport Agreement (CATA) with the EU, including but not limited to:³⁶
 - Traffic rights:** including fifth freedom rights as a minimum, allowing UK and EU airlines to operate passenger, freight and charter services between points in the UK and points in the EU without restrictions on frequency or capacity
 - Ownership and control:** **no unnecessary restrictions** on the nationality of who can own or effectively control a UK or EU airline making use of the traffic rights in the CATA

³⁴ Institute for Government. *Explainers: UK-EU future relationship – aviation*. [Accessed 10 March 2020]. <https://www.instituteforgovernment.org.uk/explainers/future-relationship-aviation>

³⁵ Graphic produced by My Tourism Magazine

³⁶ HM Government. *The Future Relationship with the EU*. February 2020. p 20-21. [Accessed 2 March 2020]. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/868874/The_Future_Relationship_with_the_EU.pdf

- o **‘Modern commercial practices’, including code-sharing and wet-leasing:** any UK or EU airline should be able to enter into code-sharing arrangements, without restriction, with any airline of the parties, or any airline of a third country, so long as the operating carrier has the necessary traffic rights.
 - The CATA should also provide for UK and EU airlines to **wet-lease from each other, without restriction or time limits**, and with minimal administrative burden
- o **Aviation security:** various measures, including co-operative arrangements between technical experts on the development of aviation security standards, and the **right to attend airport inspections**. However, the white paper envisages that such arrangements should not limit the ability of either party to ‘apply more strict aviation security measures than the baseline where deemed necessary and proportionate’.
- o **Air traffic management:** providing for mutual recognition of certificates for air navigation service providers (ANSPs), continued co-operation on the European Geostationary Navigation Overlay Service (EGNOS). In this area, there is also a commitment to facilitating co-operation between the UK and EU on the research, development and deployment of new ATM technologies and regulations.
- o **Avoiding trade distortions:** the suggestion that both sides should agree to **eliminate discrimination and unfair practices** which would adversely affect the fair and equal opportunity of UK and EU airlines to compete in providing air services, including subsidies. The CATA should also **commit the UK and EU to build on current levels of environmental protection** to ensure the sustainable development of aviation. The document notes that such clauses would be conditional on their provisions not restricting the regulatory autonomy of either side.
- o **Appropriate governance arrangements:** the white paper does not elaborate, but this would most likely take the form of a biannual joint committee, similar to that which would oversee the proposed BATA (see section 2).

5.3 Will UK airlines’ operating licences be valid after the Transition Period without a CATA?

- UK airlines’ Operating Licences will remain valid after the end of the Transition Period, notwithstanding any UK/EU agreement or BASA.
- Likewise, any Air Operator Certificates (AOCs) issued to airlines by the UK CAA will remain valid for air services from the UK. The CAA does not anticipate any additional action required for UK airlines operating in and out of the UK with a UK CAA-issued AOC.³⁷

³⁷ Civil Aviation Authority. *Airlines and AOC holders*. Brexit micro-site. [Accessed 12 March 2020]. <https://info.caa.co.uk/brexit/airlines-and-aoc-holders/>

5.4 Will UK airlines be able to operate to/from the EU without restriction without a CATA?

- No, for two reasons. Firstly, if the UK leaves EASA at the end of the Transition Period and a comprehensive BASA does not emerge, UK operators flying into the EU will be considered Third Country Operators (TCOs) by EASA. TCOs require a safety authorisation from EASA in accordance with the requirements of Commission Regulation (EU) 452/2014 to operate within the European Common Aviation Area.³⁸
 - EASA has previously announced that it will accept TCO applications from UK AOC holders in advance of a possible UK departure from EASA. It has adopted a streamlined process for UK carriers.
- Secondly, the UK will have left the ECAA, which will remove the present legal basis for its traffic rights. The UK has instead committed to negotiating a comprehensive Air Transport Agreement, separate to the overall trade agreement.

5.5 Will EU27/EFTA operators become Third Country Operators after the Transition Period?

- If UK membership of EASA ceases, an airline based in an EU or EFTA member state would require a Third Country Operator (TCO) certificate from the CAA before operating any commercial flight to or within UK territory.
 - The CAA has stated that it will aim to impose the minimum possible regulatory burden on air carriers in bringing in this requirement. In principle, it is prepared to grant a UK TCO to any EU27/EFTA carrier that holds a valid EASA AOC for

all aircraft that it intends to operate in the UK.

5.6 Will arrangements for wet-leasing EU aircraft, and for EU operators wet-leasing UK aircraft, remain the same?

- The rules around wet-leasing EU aircraft will not change by default after the end of the Transition Period. The legislation translating EU law into UK law under the EU (Withdrawal) Act 2018 provides continuity for approving wet-leases of aircraft from the EU and from the rest of the world.
- Regulation (EC) No 1008/2008 on air services concerning the use of third country registered aircraft means EU aircraft operators intending to wet-lease aircraft registered in the United Kingdom would be bound by the rules relating to such aircraft. These are **considerably more onerous than rules relating to leasing from other EU carriers**, because of the presumption that non-EU carriers are regulated to lower safety standards. Existing BASAs between the EU and other countries have not streamlined this process.

5.7 Will the ownership and control rules of UK airlines change?

- The requirement to be majority-owned and effectively controlled by EU nationals will no longer apply after the end of the Transition Period will change, because that definition would no longer apply to UK nationals. The CAA states that after that time, nationality restrictions would no longer be part of the Operating Licence, but would be governed through a Route Licence.

³⁸ Ibid.

- UK carriers which currently undertake air services between the UK and third countries outside the EEA already hold such a licence. For others this would be a new mandatory requirement. The CAA has written to all UK Operating Licence holders to explain this, and the process for obtaining one if not currently held.
- Should carriers not meet the UK nationality test, then the Secretary of State has the power to grant (or approve the retention of) such a licence.

5.8 The Republic of Ireland is an EU27 Member State, but it is also in the Common Travel Area (CTA). Will air services between the UK and the Republic of Ireland be part of an Air Services Agreement?

- The Common Travel Area (CTA) has existed since 1923 and provides for minimal controls, if any, on the borders between the UK, the Republic of Ireland, Isle of Man and the Channel Islands.
- A 2019 agreement maintains this after Brexit, but traffic rights on air services are not covered by it. In regard to traffic rights, the Irish authorities will issue permits for *ad hoc* and other flights as would any other member state.

5.9 What are the implications of leaving EASA for air traffic management (ATM)?

- Today the entire UK air traffic management (ATM) structure is subject to the EASA regulatory regime. EASA **covers the full spectrum of ATM activity** from Air Traffic Control Officer (ATCO) licensing to equipment provision, and from operational procedures and requirements to Regulatory Authority requirements.

- The UK has made **substantial investment over the past 15 years in adopting EASA standards and requirements**.
- In the same way that common standards benefit aviation safety and industrial performance and competitiveness, **common ATM standards under the auspices of EASA have enabled the UK and the UK CAA to reduce their size and fees**, and costs for the industry.
- EASA has adopted ICAO Standards and Recommended Practices (SARPs) and has aligned its requirements accordingly. Consequently, the number of national differences from ICAO SARPs has been significantly reduced. The EASA regime also provides a **strong and effective counter-balance to the FAA and other ATM regulatory players**.
- EASA membership **benefits the competitive ATM market that the UK supports** (for example, NATS participation in the Spanish control tower market and European operator service provision at UK airports).
- If membership of EASA is relinquished, even under a best-case BASA scenario, the UK will have **less influence on European ATM regulatory matters** after the UK has made significant investment in terms of time and intellectual effort.
- It would be a disappointing outcome if the UK was **no longer able to benefit from the intellectual property it has created**.
- Outside EASA, the UK would have to re-create its own rules and regulations. This would be sub-optimal for the same reasons listed above:

- The UK does not currently have the expertise in some areas.
- It would be extremely expensive to recruit and train human resource to provide this expertise.
- This would be likely to lead to an increase in UK regulatory costs, which would have to be borne by industry, thus making the UK less competitive.
- A separate regulatory regime would **add to the complexity of ATM operations across Europe** and be expected to cost more than the slow but steady progress towards rationalisation fostered by the EASA system.
- Such an approach would create risk of **diverging standards that would make the very necessary task of harmonising the broader European airspace** – as well as making the UK's ability to inter-operate with European neighbours to improve ATM efficiency (for instance through the Single European Sky programmes) – **harder to achieve**.
- From an operational and safety perspective, **retaining the opportunity to help shape and influence EASA makes practical sense**. Without this, the UK **would have to invest significant amounts of resources domestically**, as well as through Eurocontrol (an intergovernmental ATM body) and ICAO in order to have our point of view heard. The UK would be required to honour ICAO obligations and follow SARPs.
- Dealing with ATM and air navigation services (ANS), EASA has found a constructive way to co-operate with Eurocontrol, which will persist, and even deepen, as an important and extremely knowledgeable intergovernmental organisation within the ANS domain.

Consequently, the UK **cannot rely on Eurocontrol as a means of preserving influence** on European ATM matters with aspirations of even closer Eurocontrol/EASA co-operation.

6. Climate change

6.1 How will carbon pricing for the aviation industry change after the end of the Transition Period?

- In its future relationship white paper, the UK has committed to negotiating an agreement on energy, including the **use of 'carbon pricing as a decarbonisation tool'**. The UK's commitment to reaching net zero carbon emissions by 2050, enacted in law by an amendment to the Climate Change Act 2008, is unaffected by withdrawal from the EU.
- The white paper also notes that the UK is 'open to considering' a linkage between 'any future' **UK Emissions Trading System (ETS) with the existing European Union Emissions Trading System (ETS)**. EU ETS is the EU's 'cap and trade' carbon pricing mechanism, and is its key tool for cost-effective reduction of emissions of greenhouse gases (GHG) in the power, aviation and industrial sectors.
 - The white paper suggests that the UK would only consider such a linkage 'if it suited both sides' interests' and 'recognised both parties as sovereign equals with our own domestic laws'. It suggests that the system should:
 - provide for **mutual recognition of** (and therefore fully transferable) **allowances**, enabling use in either system
 - establish the relevant processes for sharing information

- set out essential criteria to ensure the trading systems are compatible with each other

- On 11 March 2020, HM Revenue & Customs published a policy paper on legislation for a UK ETS, which set out the means by which a **carbon price will continue to apply whatever happens at the end of the Transition Period**.³⁹
 - In the event of an agreement emerging as to the future relationship, it would be reasonable to expect a UK ETS with a linkage to the EU ETS, with mutually recognised and transferable allowances
 - In the event that an agreement does not emerge, there will either be a stand-alone UK ETS or a Carbon Emissions Tax
 - Airlines can therefore expect **continuity in the level of cost imposed by carbon pricing** on their businesses, notwithstanding the impact of CORSIA.

6.2 How could a UK ETS interact with CORSIA?

- CORSIA is the International Civil Aviation Organisation (ICAO)'s CORSIA, Carbon Offsetting and Reduction Scheme for International Aviation. It is designed to address the increase in total CO₂ emissions from international aviation above 2020 levels. It is forecast that CORSIA will **mitigate around 2.5 billion tonnes of CO₂** and generate over \$40 billion in climate finance between 2021 and 2035.⁴⁰

³⁹ HM Revenue & Customs. *Legislation for a UK ETS*. [Accessed 13 March 2020]. <https://www.gov.uk/government/publications/legislation-for-a-uk-emissions-trading-system/legislation-for-a-uk-emissions-trading-system>

⁴⁰ ICAO. *Carbon Offsetting Scheme for International Aviation (CORSIA)*. [Accessed 13 March 2020]. <https://www.iata.org/en/policy/environment/corsia/>

- In the joint consultation paper on carbon pricing published by the UK, Scottish and Welsh Governments and DEFRA, the parties suggested that ‘if linking a UK ETS to the EU ETS, alignment with CORSIA will be informed by discussions with the EU and the outcome of the EU future review’ [which is seeking to establish how EU ETS will interact with CORSIA].⁴¹
 - It was also proposed that whether linked to EU ETS or not, under a UK ETS, airlines would not be subject to ‘double-counting’ in having to submit two sets of allowances, or offsetting credits for the same tonne of CO₂ emissions.
- Further consideration is ongoing as to whether there are opportunities for greater alignment between UK ETS and CORSIA, whether or not the former is linked to EU ETS.
 - The basis on which the government will decide that a CORSIA-eligible offset can be used to meet an airline’s UK ETS obligations will be the nature of the list of programmes that ICAO decides will be compliant for use under CORSIA.⁴²

⁴¹ HM Government et al. *The Future of UK Carbon Pricing*. May 2019. p 83-84. [Accessed 13 March 2020].
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/815011/THE_FUTURE_OF_UK_CARBON_PRICING_-_04072019.pdf

⁴² Ibid.

About the Royal Aeronautical Society (RAeS)

The Royal Aeronautical Society is the world's only professional body and learned society dedicated to the entire aerospace community. Established in 1866 to further the art, science and engineering of aeronautics, the Society has been at the forefront of developments in aerospace ever since. The Society seeks to (i) promote the highest possible standards in aerospace disciplines; (ii) provide specialist information and act as a central forum for the exchange of ideas; and (iii) play a leading role in influencing opinion on aerospace matters.

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