



EUROCONTROL - Fundamental Review of EUROCONTROL Agency's Activities & Strategic Plan 2021-2030

27 January 2021 – Final Report

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Executive summary

While EUROCONTROL’s activities have largely been unchanged for many years, the ecosystem surrounding EUROCONTROL has evolved over time and continues to do so. A fundamental external review of EUROCONTROL’s business activities has never been conducted since the establishment of the Agency in 1960. Different – sometimes disruptive – developments in the sector have been impacting the Agency, such as the rise of new technologies, the COVID-19 crisis, the European Regulations related to the Single European Sky, the increased public focus on sustainability, etc.

It is clear that EUROCONTROL needs to consciously address these major trends, and adapt its ways of working and organisational set-up accordingly, so as to be ready to thrive in the future.

For that reason, the EUROCONTROL Agency commissioned an external fundamental review of its business activities, in order to be able to develop a fit-for-purpose Strategic Plan 2021-2030.

The document at hand results from over 120 C-level stakeholder consultations with Member States, industry groups, ANSPs, airports, airlines, key experts from the sector and EUROCONTROL’s senior leadership and staff.

The following key conclusions, strengths and weaknesses could be derived from these consultations and thorough analysis of the Agency’s documentation:

Figure 1 - Key conclusions, strengths and weaknesses



These key findings have been described in greater detail in Chapter 2 of this report.

Subsequently, the study team has applied the Deloitte “Play to Win” methodology to develop a consistent and coherent strategy that is easy to communicate to all stakeholders.

The following **goals and aspirations** i.e., what EUROCONTROL should become, were defined for the Agency, in line with the stakeholder needs and the challenges the sector is facing today:

- EUROCONTROL is a **leader in supporting the pan-European** aviation ecosystem to ensure a safe, seamless, scalable and resilient aviation network that addresses environmental concerns, and delivers digital air traffic management services, safety and security for all airspace users, while ensuring national military requirement facilitation.
- The Agency is dedicated to **improving the performance of its wider European network as well as to deliver value to its stakeholders**, which it puts at the heart of everything.
- EUROCONTROL will continue to **provide state-of-the art technical operational expertise**, enhance knowledge and capabilities, support and accelerate the **development of innovative solutions, technologies and operational procedures**, and act as a **bridge between civil and military airspace users**.
- EUROCONTROL is committed to preserve its neutrality to ensure the aviation community is brought together for the benefit of the entire European aviation. In that perspective, EUROCONTROL is offering its services in a **neutral manner, as an honest broker**.
- EUROCONTROL is a **future proof organisation** that offers its services in a cost efficient and effective manner. It invests in deploying new solutions across the network. It contributes actively to the future of aviation by leveraging its experience and assets to **make advanced innovation capabilities available to the entire ecosystem**.
- EUROCONTROL is a modern organisation that invests in **positive and sustainable experiences** for all its employees, embracing an all-inclusive organisational culture. Its brand stands for the highest level of expertise in terms of aviation operations. EUROCONTROL is the **number one destination for talent** with a passion for aviation.

As a **pan-European organisation**, EUROCONTROL should focus on the following areas to achieve these aspirations:

- **Network functions & data services;**
- **Collection of route, terminal and air navigation charges** as the **pan-European ANS central banker;**
- **Enhanced aviation stakeholder relations;**
- Continuing to play a key role as a facilitator of the **coordination of civil-military and military-military ATM matters** across the Member States;
- **Aviation Intelligence:** acting as the central repository for aviation data in Europe and becoming the **pan-European Aviation Intelligence Centre of Excellence**, leveraging on key expertise and tools in performance review and operational, economic, financial and environmental domains (and allowing for the continuation of services required by non-EU States);
- **R&D in support of pan-European network deployment projects;**
- Setting up a **pan-European Innovation Lab** for the digital transformation of ATM;
- Strengthening **Aviation Sustainability** by further building its expertise in this area, and **enabling partnerships** across all stakeholders involved;
- Supporting other **emerging domains** such as cyber security, drones and high-altitude airspace as well as new technologies that fundamentally impact aviation (e.g., artificial intelligence);
- Investigating **growth opportunities** which may lead to UPP revenue.

In order to thrive in the playing field of its choice, EUROCONTROL should act according to six principles:

	<p>Customer-centric and neutrality</p> <ul style="list-style-type: none"> • The Agency serves a wide range of stakeholders from ANSPs, airlines, airports to institutional entities. EUROCONTROL embraces the ecosystem and behaves as a modern “social enterprise”. • EUROCONTROL should remain a neutral, transparent independent organisation to support the broad pan-European aviation stakeholder community. • EUROCONTROL delivers its services in a customer-centric manner and invests in maintaining excellent stakeholder relations within the pan-European and global aviation ecosystem. • Capturing stakeholder needs and feedback mechanisms are central to EUROCONTROL’s way of providing services. • EUROCONTROL HQ – and its conference centre in particular - symbolises its central position in the aviation cluster. EUROCONTROL’s Innovation facilities are another illustration of the Agency facilitating the construction of the future of aviation in close collaboration with all stakeholders. • In its communications, EUROCONTROL acts as a positive ambassador and influencer defending the aviation ecosystem at large.
	<p>Network-centric</p> <ul style="list-style-type: none"> • EUROCONTROL further invests in strengthening network functions to excel in them and be recognised as a pan-European and global leader for the network functions. • EUROCONTROL aims at establishing itself as the permanent provider of network management services to the benefit of the entire network even going beyond the European geographical borders. • Key capabilities are embedded in the Network Management expert pool as much as possible in order to fully leverage the operational expertise. • New EUROCONTROL services will primarily be derived from NM expertise, systems and infrastructure. • The proposed separation of MUAC from the Agency is consistent with a network-centric approach.
	<p>Future-proof workforce</p> <ul style="list-style-type: none"> • Strengthen purpose, values and social connection at the Agency to ensure EUROCONTROL’s workforce and the ecosystem are unified around a common vision. • Each EUROCONTROL staff member needs to have a clear connection to the realisation of EUROCONTROL’s overall objectives. There is no room for redundancy. • Talent development is a top priority, including both technical and managerial skills development as well as flexible career tracks. • In order to foster innovation, EUROCONTROL’s workforce is dynamic, it is rejuvenated on a frequent basis by means of a broader range of different types of employment (contracts of limited duration, internships, secondments, etc.). EUROCONTROL is co-driving and actively tapping into an open “aviation marketplace” in which it shares vacancies (and profiles) openly with its stakeholders. • EUROCONTROL honours diversity and inclusion and ensures that every employee feels valued and accepted at the Agency. This commitment encompasses all dimensions of diversity: gender, nationality, language, age.
	<p>Agility and change capability</p> <ul style="list-style-type: none"> • EUROCONTROL’s talent programmes contribute to a culture that recognises and rewards innovation and continuous improvement. • Rules, regulations and procedures should be applied or redesigned in such a way as to allow for the Agency to make the necessary organisational changes in a flexible and cost effective manner. • Whereas good social dialogue between the Senior Management and staff is a critical component to support the success of any organisation, the Agency’s current practices will be reshaped in order to make them fit for purpose. • EUROCONTROL invests in an Agency-wide transformation capability that reinforces the current HR function with organisational change expertise.
	<p>Lean Thinking and Operational Excellence</p> <ul style="list-style-type: none"> • EUROCONTROL establishes Lean Thinking and Operational Excellence as guiding principles for its functioning. It implies to integrate Lean Thinking composed of methods, tools and principles in the Agency to accelerate Operational Excellence. • The Agency has full visibility on its “baseline”, i.e., the cost of doing business and sets clear (“SMART”) efficiency improvement objectives which are monitored. • Process Excellence concerning the ability of EUROCONTROL to well-design and define efficient, effective management, value chain and support processes to deliver high-quality services. Each process – horizontal processes in particular – has a process owner responsible for continuous improvement.
	<p>Financial sustainability</p> <ul style="list-style-type: none"> • EUROCONTROL invests in establishing cost effectiveness and efficiency as key principles for EUROCONTROL’s activities, in terms of financial resources, personnel resources and in the organisation of activities within the Agency. • UPP is explored for services delivered beyond the 41 Member States and beyond the Agency’s formal mandate. All services are adjacent to or leveraging the existing core expertise and assets of EUROCONTROL.

To be successful in the future, this study proposes a comprehensive set of **recommendations and required set of capabilities and configuration for the Agency**, that have been detailed throughout the report (see Chapter 3). The most important and impactful recommendations that are key for the further development of the Agency have been listed here below.

Recommendations :

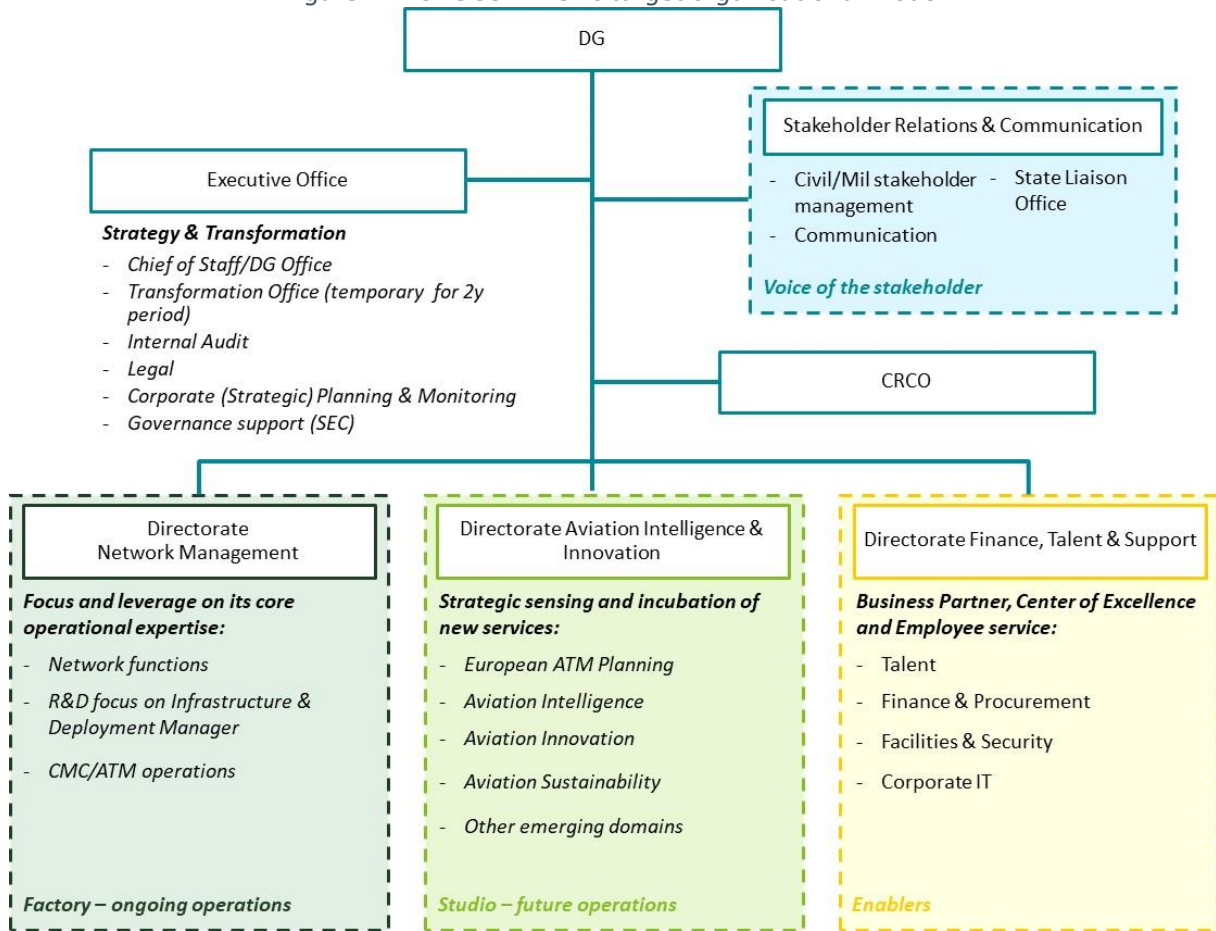
Table 1 - Recommendations

#	Recommendation	More details
1	Ensure the new Strategic Plan, as laid out in this study, is integrated in the next Agency Business Plan and its work programmes for 2022 – 2026.	/
2	Network Management activities: <ul style="list-style-type: none"> • Seek to become the permanent provider of network management services for the EU; • Excel in executing the enhanced NM role as foreseen in the SES reform programme; • Function as an Air Traffic Data Service Provider (ADSP) where a pan-European need exists; • Evolve the SESAR Deployment Manager to the future Infrastructure Manager. 	Where to Play - Network functions (p.31)
3	Work towards a permanent separation of MUAC from EUROCONTROL . MUAC should remain intact managing the upper airspace of the four States. Consideration should also be given to securing the inclusion of Karlsruhe upper airspace as part of its airspace jurisdiction. The organization should be structured as a normal ANSP, as a four state-owned business entity, with safety oversight being carried out by EASA. It will no longer be an international organisation.	How to Configure – Service delivery locations (p.40)
4	Continue to act as a central banker of pan-European ANS (CRCO) while exploring a more strategic role including for example a system stabilization fund, with permanent access to the banking system and to funding.	Where to Play - CRCO (p.32)
5	Leverage its position as the central repository for aviation data in Europe to build a pan- European Aviation Intelligence Centre of Excellence . Data and intelligence refer to operational, performance, environmental, financial and economic data related to aviation.	Where to Play – Aviation Intelligence (p.32)
6	SESAR 3 should be the only research activity within EUROCONTROL , and with a focus on activities designed to close the V4 gap (i.e., reach the deployment phase). Any other research activity will need to have a demonstrated added value, i.e. address customer needs.	Where to Play – R&D for deployment (p.33)
7	Create a pan-European Network of Innovation Labs for the digital transformation of aviation. Brétigny could potentially be positioned as the European Innovation Hub in aviation. If Brétigny was to serve as this Innovation hub, there is an opportunity to rationalise the staff by approx. 20%. However, if these services (incl. simulator tools) are to be delivered in Brussels, this would necessitate the closure of the Brétigny facility and would potentially lead to higher rationalisation.	Where to Play – Aviation Innovation Capabilities (p.34)
8	Expand its expertise and services in the area of sustainability leadership , building on its operational expertise (to develop aviation sustainability solutions) and its wealth of environmental data.	Where to Play – Aviation sustainability (p.34)
9	Limit training services to end-user training on network solutions and systems , which would be carried out from EUROCONTROL HQ, leaving all other training activities for the industry to explore. Close the decentralised training facilities in Luxembourg (IANS).	Where to Play - Network functions (p.31)
10	Secure visibility on the “cost of doing business” (service cost, project cost, process cost, system cost, etc.), i.e. establish a baseline and implement performance monitoring.	Weaknesses to be addressed (p.21)
11	Set an ambitious 30% cost efficiency improvement target and roll-out a process efficiency improvement programme , with the automation of support processes and systematic spending reviews as two of its key priorities over the lifetime of this plan.	How to Configure – Efficiency improvement (p.40)
12	Implement Strategic Workforce planning (incorporating both staffing levels and competences) that includes a bold and focused redundancy plan , the implementation of which should start as early as possible and once the major recommendations are agreed.	Weaknesses to be addressed (p.22)
13	Implement and activate, in close collaboration with stakeholders, an open aviation talent marketplace , enabling the development of a diverse, dynamic workforce that is continuously rejuvenated.	How to Configure – Future proof talent model (p.52)
14	Implement a new organisation structure that reflects the strategic priorities: Network Management (“NM” Directorate), Aviation Intelligence and Innovation (“AI” Directorate), professional support functions (“Finance, Talent & Support” Directorate), Stakeholder Relations	How to Configure – Revised

#	Recommendation	More details
	& Communication (“SRC” Division) and consistency from strategy to execution (“Executive Office”).	organisation model (p.46)
15	Conduct a fundamental review of the current Staff Regulation (and Social Dialogue) and establish a new Staff Regulation (and Social Dialogue) that allows for flexibility, proper performance management and for the implementation of fit-for-purpose Talent Management programmes.	How to Configure – A future proof talent model for EUROCONTROL (p.52)
16	Review the current Pension Scheme and liabilities and bring them in line with normal aviation industry models with a view to significantly reducing the pension liability of EUROCONTROL.	How to Configure – A future proof talent model for EUROCONTROL (p.52)
17	Create a (temporary) Transformation Office reporting directly to the Director General to plan, steer, manage and monitor the implementation of the transformation journey and all of the above recommendations.	How to Configure – Revised organisation model (p.46)

Configuration of the Agency

Figure 2 - EUROCONTROL's target organisational model

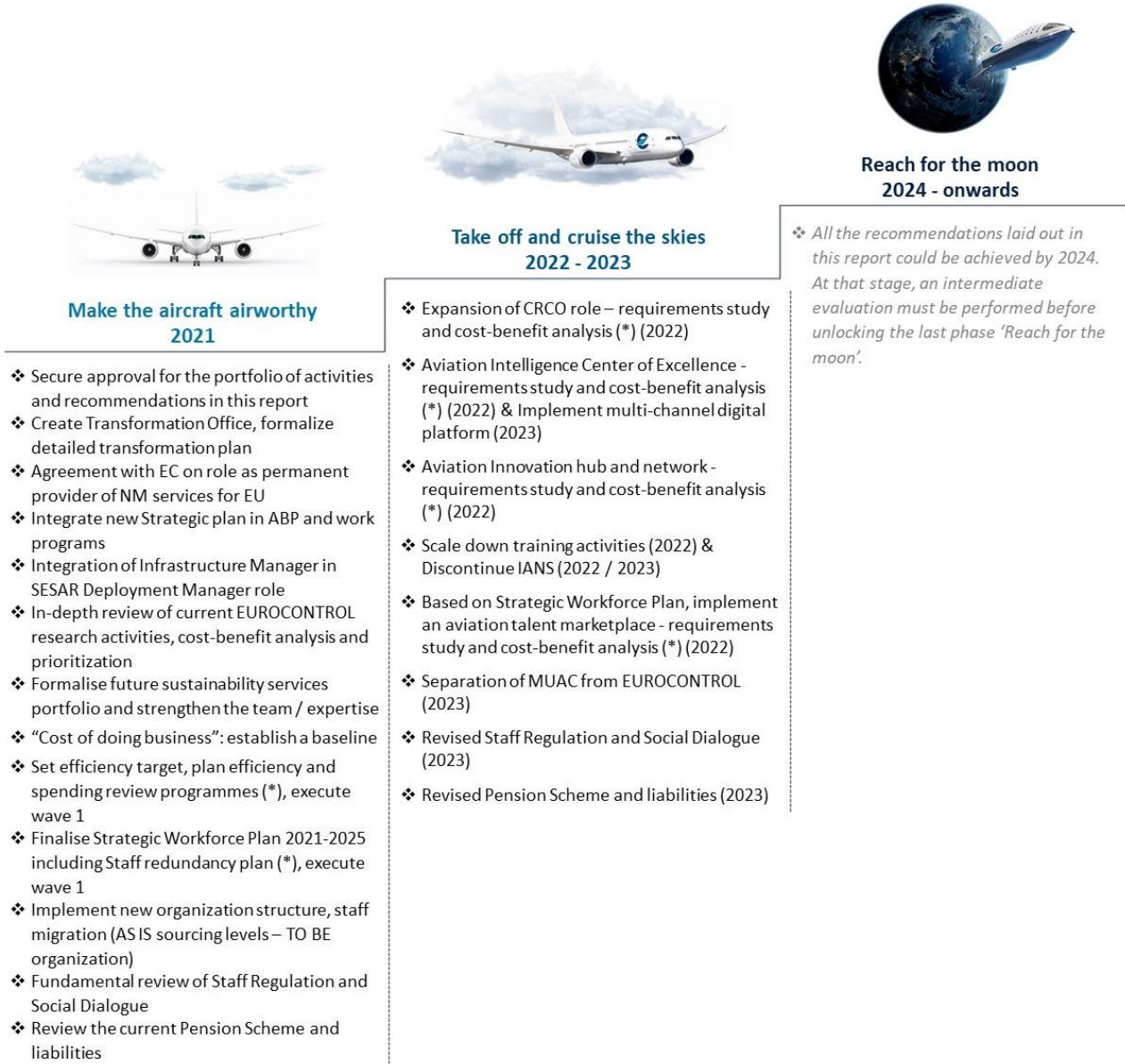


The **implementation of a new delivery model (“Factory – Studio”)** will enable EUROCONTROL to **realise its strategic ambitions**. This Factory-Studio delivery model is mainly composed of two arms. The innovative arm, called the **Studio**, will imagine new operations and business driven concepts, transform them into prototypes and deliver Minimum Viable Products.¹ The operational arm, called the **Factory**, is the place that will deliver solutions or services based on the prototypes, roll them out, and support and operate these solutions or services.

¹ Minimum Viable Product is defined as a product that offers enough value to satisfy early adopters.

Finally, the implementation of these key recommendations will require a phased approach. Whereas the (to be created) Transformation Office will need to develop a detailed implementation plan and certain recommendations will be subject to a more in-depth feasibility / cost-benefit analysis, we can already define a number of (indicative) key milestones for the period 2021-2023.

Figure 3 - Roadmap 2021 - 2030



(*) A more detailed implementation planning is to be developed based upon the results of the study

In conclusion, the independent review that has been carried out, has identified major weaknesses that need to be dealt with and key strengths to can be further developed. This will require the strong support from Member States and a strong leadership within EUROCONTROL, else EUROCONTROL will struggle to support the aviation sector in the years ahead.

Chapter 1: A Fundamental Review of EUROCONTROL

I. Introduction

EUROCONTROL is a unique international aviation organisation, that carries out essential aviation technical functions on behalf of 41 Member States, and with enhanced cooperation with two Comprehensive Agreement States. Through its legal framework, EUROCONTROL offers these services on a neutral and pan-European basis, irrespective of political developments in the European landscape, or changes in the membership of the European Union.

While the Agency’s activities have largely been unchanged for many years, the ecosystem surrounding EUROCONTROL has evolved and continues to do so. A fundamental review of EUROCONTROL’s business activities has not been conducted since the establishment of the Agency in 1960.

Developments in aviation are fast paced and disruptive²:

Figure 4 - Major shift and trends



² Please find more details in Annex 3 (p.66)

In this context, EUROCONTROL considered it necessary to conduct a fundamental review of the Agency’s activities and develop a revised strategic plan 2021-2030. EUROCONTROL decided to appoint an external consultant to conduct this Fundamental Review in July 2020. After a public tender procedure, Deloitte Consulting & Advisory CVBA was awarded the contract.

II. Scope and objectives

As stated in the Terms of Reference / Specification³ :

“The overall objective of the assignment is to conduct a fundamental review of the Agency’s business activities and produce an implementable step-by-step proposed Strategic Plan 2021-2030 for the Agency with realistic costings, timings and rationale for consideration by the Agency and Member States.”

Where necessary, recommendations from the report may potentially be developed by the Director General into proposals for the consideration of the Provisional Council.

Out of scope: “As this is a study concerning the business activities of the Agency, the consultant will not be required to examine governance arrangements of the EUROCONTROL organisation or its legal framework. However, matters of concern in relation to that are identified by the consultant as a result of their investigations, may potentially be referenced in the report.”

III. Methodology and approach

An agile approach was used in order to deliver an evidence-based review, underpinned by extensive stakeholder consultations as well as solid methodological frameworks. The approach was two-fold:

- **Stakeholder engagement:** Over 120 stakeholder interviews were conducted in order to capture stakeholder views and concerns. These stakeholders included institutional partners, EUROCONTROL key experts and staff, ANSPs, NSAs, military airspace users, airports, airlines, industry associations, etc.⁴ Individual interviews, group interviews, focus groups and leadership workshops were organised. The stakeholders were represented by senior / executive level; in many cases, CEOs, Director-Generals and Executive Directors were interviewed.

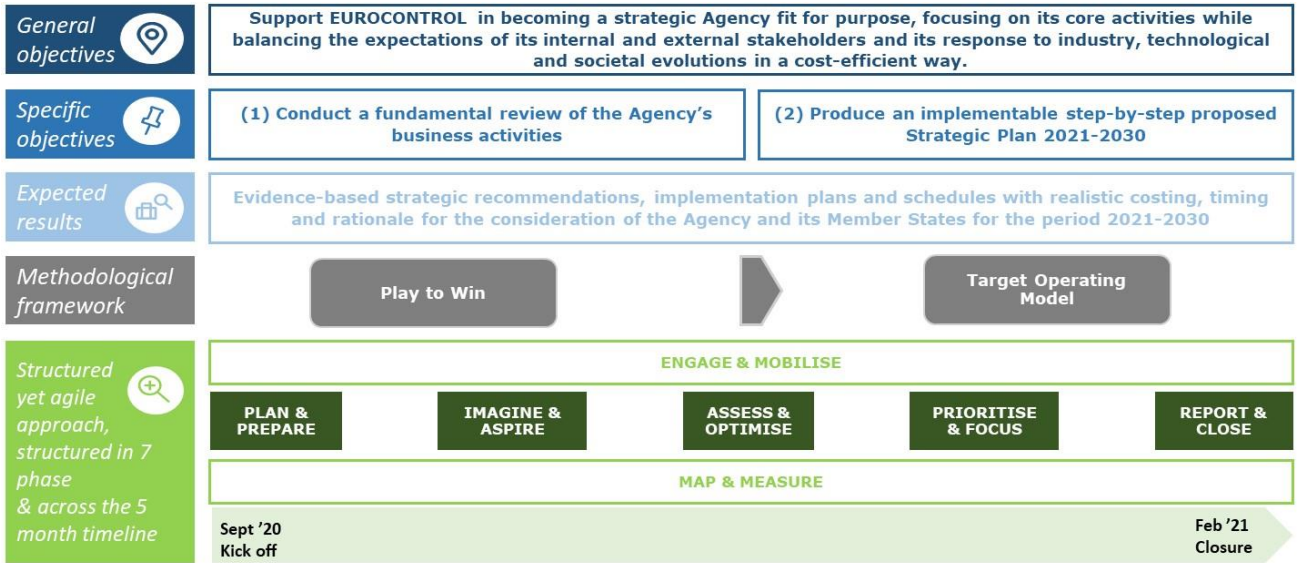
Next to external stakeholders, a significant number of internal interviews were organised with EUROCONTROL’s leadership and key experts as well. These internal interviews allowed to capture ongoing developments and to strengthen leadership engagement for this assignment. In this context, a High-Level Agency Interface group was created, bringing together key EUROCONTROL experts and leadership to contribute insights and views during the course of the Review, and to follow up on the progress of the Review.

- **Strategy development:** Next to the input captured via stakeholder interactions, the project team used a tried-and-true methodology for strategic cascading, Deloitte Monitor’s Play to Win© framework. Via this methodology, the full view of EUROCONTROL’s current state and its current ecosystem were taken into account to distil future-proof and evidence-based recommendations. These recommendations started out as hypotheses, which were further fine-tuned by using data analytics and scenario development methodologies.

³ TERMS OF REFERENCE/SPECIFICATION No. 20-110338-A: Fundamental Review of the EUROCONTROL Agency’s Activities & Strategic Plan 2021-2030 – Optimisation, see more details in the ToR Annex 2 (p.65).

⁴ A full list of interviewees can be found in Annex 1 (p. 60).

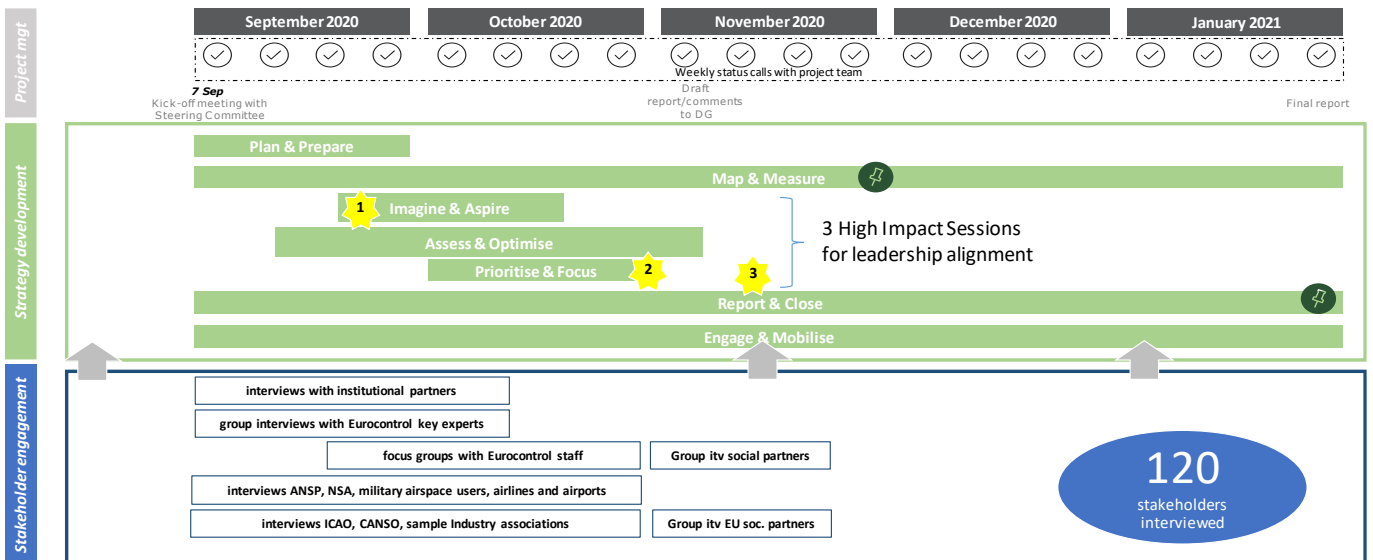
Figure 5 - Project approach



IV. Timeline and deliverables

The below visual provides a more detailed overview of the timeline of the work conducted to produce this Fundamental Review:

Figure 6 - Timeline and deliverables



This document is the result of the above process. It offers an overview of the key diagnostics conducted, which identify EUROCONTROL's strengths to build on as well as its weaknesses to address (Chapter 2). Building on the diagnostics, a vision for a fit-for-purpose future EUROCONTROL is described, including goals and aspirations, focus areas, value propositions, required capabilities and configurations, and concrete actions to implement this future vision (Chapter 3).

Chapter 2: Overall diagnostic of EUROCONTROL

This chapter summarises and consolidates insights stemming from **different sources**:

1. Opinions and perceptions gathered during 120+ stakeholder consultations involving institutional stakeholders, ANSPs, airports, airlines, Member States, civil and military aviation representatives, social partners and industry at large⁵
2. The point of view of EUROCONTROL’s management and key experts across the different parts of the Agency
3. Expert views from the Deloitte network, industry best practices and methodological frameworks

The diagnostic on EUROCONTROL today results in the following **key conclusions**, **strengths** to build on and **key weaknesses** to be addressed:

Figure 7 - Key conclusions, strengths and weaknesses



⁵ More details on the approach used for the stakeholder consultations can be found in Annex 1 (p.60).

I. Key conclusions

1. There is an undisputed essential need for EUROCONTROL

There is an undisputed essential need for EUROCONTROL. Stakeholders emphasize its **unique** nature, i.e. its **pan-European** and **neutral** character and the **strong operational expertise** the Agency contributes to aviation at large.

The reappointment of EUROCONTROL as the Network Manager within the **SES II legal framework** has confirmed the Agency's crucial and unique role within the European ATM. Also, under the SES reform programme EUROCONTROL's **Network Manager role is expected to be enhanced** for the benefit of the overall network, especially in relation to airspace, capacity and infrastructure management. In that perspective, consideration could be given by States (via the EU) to the idea of establishing EUROCONTROL as the **permanent provider of network management systems**, to fully leverage on the expertise present in the Agency, to the benefit of the network.



What our research shows

- **Almost nine out of ten stakeholders emphasise there is an essential need for EUROCONTROL.**
 - *Stakeholders unanimously agree that EUROCONTROL is essential and, if EUROCONTROL ceased to exist, no other entity could replace EUROCONTROL;*
 - *The Network functions are considered unique at a pan-European level;*
 - *The European continent's cultural diversity is considered as a driver for the need to have a pan-European organisation ensuring alignment between the different players in the ecosystem.*

2. EUROCONTROL needs to further enhance its reliability with all stakeholders

EUROCONTROL is **appreciated** for its technical **expertise**. Moreover, the renewed vision as implemented by the current Director General as well as clarity and transparency introduced by the Agency's top leadership has greatly added to its **credibility**. However:

- That renewed **vision is not (yet) internalised** by all management and staff and as a consequence, the **reliability of the Agency** is questioned.
- Part of EUROCONTROL management and staff seem to be **disconnected** from **stakeholders'** actual needs. We observe a perception gap between the assessment made by EUROCONTROL's internal stakeholders and the opinions and perceptions of external stakeholders.
- A significant part of EUROCONTROL is perceived to behave out of **self-interest** rather than for the benefit of stakeholders. There is a certain degree of **self-tasking**.

The need to restore trust in the aviation ecosystem is the result of a legacy of growing the portfolio of EUROCONTROL's activities organically and somewhat uncoordinated. It should be acknowledged that in some cases the assessment of stakeholders is probably based on perception rather than on reality. Nevertheless, perception is a reality that needs to be addressed. Naturally, this process will take time and requires efforts from EUROCONTROL in order to shift mindsets within the Agency as well as across the ecosystem.

The ability to earn the trust and confidence within the Agency and among its stakeholders is key to success and it starts from the top. In that perspective, EUROCONTROL is already moving forward into the right direction.⁶

⁶ See p.15 for further research evidence.

3. EUROCONTROL's portfolio of activities lacks coherence and focus

The organic growth of EUROCONTROL's portfolio of activities has generated complexity. Stakeholders either do not see value in some of the activities performed and/or are unable to clearly understand the scope of the activities performed by the Agency. EUROCONTROL should redefine its service portfolio.

The crucial importance of EUROCONTROL continuing to deliver upon its Network Functions and as CRCO is widely acknowledged. EUROCONTROL's ability to generate valuable insights from a broad range of data (related to flights, airports, ANSPs, performance, user charges, CO2 emissions, etc.) is highly appreciated. Data services are to be considered as an area to be further explored and potentially expanded. The consistent and high-quality data insights during the COVID-19 crisis are an excellent example of EUROCONTROL demonstrating its unique added value within the aviation ecosystem.

Opinions diverge on the relevance and scope of other specific roles, but fundamental questions are raised on EUROCONTROL's activities as an ANSP, in R&D, training and safety activities.⁷

4. EUROCONTROL is not customer-centric even though connectedness with stakeholders has improved

EUROCONTROL's renewed vision as well as the improved clarity and transparency brought by the current Director General are having a positive impact on EUROCONTROL's brand. **Stakeholders noticed significant improvements in the way the Agency is communicating and interacting with the external world.** These improvements contribute to the process of restoring trust.

However, there is evidence that the renewed vision is **not yet fully internalised** in all parts of the Agency. Parts of the Agency engage in **self-tasking** in an uncoordinated manner, leading on some occasions to situations where EUROCONTROL representatives are not speaking with one voice. A significant number of stakeholders considers that there is room to further include their interests and points of view in EUROCONTROL's work.

Stakeholder relations could be organised in a more coordinated way from within the Agency.



What our research shows

- In the interviews, many stakeholders explicitly confirm trust in EUROCONTROL's leadership and acknowledge that the current Director General has brought more transparency and clarity on what EUROCONTROL intended role is and should be.
 - Stakeholders show appreciation for the elaborate consultation process launched as part of the Fundamental Review and, the continuous provision of data by the DG and the EUROCONTROL Aviation StraightTalk Live Series, saying that these initiatives showcased EUROCONTROL's positive efforts towards becoming a more open organisation.
- Stakeholders mention illustrations of EUROCONTROL representatives not speaking with one voice.
 - Stakeholders mention that there are different visions and needs between EUROCONTROL as a whole and MUAC. They also state that there are silos within the Network Management Directorate where some people are reluctant to change. Lastly, stakeholders state that leadership is trying to reduce bureaucracy in the Agency but not everyone embraces this vision.
- Half of stakeholders perceive that the interests and points of view of some stakeholder groups are still not sufficiently taken into account in EUROCONTROL's decisions and activities.
 - The military, airports and airlines are considered by some stakeholders to be insufficiently included in the Agency's decision-making. Additionally, some Member States identify a need to have greater direct participation in decision-making and state that EUROCONTROL needs to pay closer attention to their needs and behave less out of self-interest.

⁷ See p.20 and p.21 for further research evidence.

5. The Agency should reinvent itself and transform into a modern, agile and cost-efficient organisation

Stakeholders expect EUROCONTROL to become a modern, agile and cost-efficient organisation. Today, it is perceived as a **bureaucratic, rigid, and costly** administration. Independent process and organisational analysis confirms an overall low maturity, duplication of efforts, a complex organisation structure, and untapped potential in using automation as a lever to increase process efficiency.

The **support organisation** – HR, finance, procurement, corporate IT, legal, etc. – is not performing as a business partner or enabler for the rest of the organisation. Administrative support, control and compliance are today the main focus areas of the support functions. Consequently, core departments develop their own support capabilities (e.g., the duplication of HR and finance activities by business partners within Directorates). This leads to a higher fragmentation of expertise, more duplication of efforts and ultimately a higher cost. **This should stop.**

Finally, **talent** will be the number one challenge for the Agency to address. Whereas redundancy of staff will need to be tackled in different parts of the Agency, attraction and development of adequate, **future-proof skills and expertise** is equally, if not even more crucial.



What our research shows

- Almost all internal stakeholders mention that internal processes need improvement; similarly, they have indicated the need to leverage technology to improve said processes and the interaction with external stakeholders;
 - Efforts towards digitalisation have not resulted in sufficient efficiency gains because the processes were not adapted (e.g., using digital forms instead of PDF forms but not changing the process itself).
- A vast majority of internal stakeholders mention that the administrative burden is heavy.
 - Some projects are developed with the goal to digitalise some processes. However, the approval processes surrounding those projects are still paper-based processes (e.g., eVisa);
 - HR, Finance, Procurement, Legal service tend to focus primarily on control and compliance instead of providing guidance, support and advice on business needs.
 - Duplication between Directorates should be eliminated.

6. Rigid legal and institutional frameworks impede EUROCONTROL's change capability

A complex set of rules, regulations and procedures are established at EUROCONTROL, and need to be taken into account in the daily functioning of the Agency. The Staff Regulation in particular has led to a certain degree of paralysis in EUROCONTROL's organisational change process. Social dialogue procedures for example make agile staff adaptations a cumbersome process. A review of the Staff Regulation should be envisaged as the current Staff Regulation makes change very expensive. More in general, corporate support functions today focus mainly on control and compliance of legal frameworks at the detriment of operational excellence. Finally, the institutional set-up of EUROCONTROL has resulted in a highly complex and costly governance.



What our research shows

- Staff regulations are cumbersome and limit the organisational agility the Agency needs. In addition, social dialogue is perceived as unbalanced and not fit for purpose. It is deemed to create a culture that does not allow for proper performance management.
 - *(Quote) "It currently takes at least 5 years to dismiss an employee for incompetence. Moreover, bad performance appraisals significantly increase the manager's workloads and can result in unjustified harassment cases against those managers"; The vast majority of harassment cases are driven by employees receiving a negative performance appraisal.*
 - *According to the most recent numbers, out of approximately 1.500 Performance Appraisals, there are only 0,6% (or 10) cases of unsatisfactory performance.*
 - *Compulsory resignation under Article 41 of the Staff Regulation and Leave in the interest of service are the only feasible means to dismiss workers whose skills are no longer needed by the Agency, but both options have high costs associated with them.*

II. Strengths to build on

1. High appreciation for renewed vision and stakeholder management

According to stakeholders the Agency is nowadays putting greater emphasis on its core functions, on becoming leaner and on prioritising more the needs of its customers. **There is a broad support for EUROCONTROL's emerging vision** as well as a strong belief that the leadership of the Director General will put in place appropriate actions towards a (needed) reform of the Agency.

Stakeholders noticed significant improvements in the way the Agency is communicating and interacting with the external world. These improvements help build a stronger relationship with stakeholders.

This new approach to stakeholder management has contributed to aligning stakeholders around the vision. This approach should be maintained and reinforced as stakeholder alignment will be critical in order to implement disruptive change in the Agency in the upcoming years.



What our research shows

- Most stakeholders emphasise EUROCONTROL's improvements made in communication and interacting with the external world thanks to its new leadership:
 - *By making its premises accessible to the outside world EUROCONTROL turns its facilities into a knowledge hub where connections are made that can help foster interactions between EUROCONTROL and its stakeholders, and between stakeholders. This creates pockets of expertise and accelerates information sharing between the different actors, which can result in greater cohesion in the network.*
- It has also been noted several times that the highly conversational style of EUROCONTROL's current Director General has been crucial in improving relationships with external actors in recent years. Examples are:
 - *Tailored letters from the DG to the C-Suite of European aviation;*
 - *Think Papers;*
 - *Top States;*
 - *Aviation StraightTalk sessions;*
 - *Covid-19 Weekly Comprehensive assessment;*
 - *DG Key Note Speeches;*
 - *Etc.*

2. Network functions rooted in deep operational expertise as well as the collection and billing of charges

EUROCONTROL is **recognised for the management of the pan-European ATM network**, a role it has taken up the past decades. EUROCONTROL is **seen as a leader** that delivers value through its **Network functions** and the **collection and billing of charges** (route charges, terminal charges, air navigation charges and communication charges).

The Agency's work as **Network Manager** has been acknowledged for its contribution to the reduction of flight delays in the network. Some stakeholders have mentioned that there is no other public organisation or private enterprise with the same level of expertise in managing the network that EUROCONTROL has today. Some stakeholders therefore mention that the Agency's Network Manager role should be strengthened, given the Agency's ability to adequately perform it.

The work performed by the **CRCO** is seen as a very efficient and effective service. Most stakeholders put forward that this role should be kept largely as is today, which is effectively as the central banker of the pan-European ecosystem for ANS. An expansion of CRCO's role could however be explored, particularly in facilitating access to banking systems, funding as well as rate stabilisation systems. This broader scope builds on the loan facility that was secured during the COVID-19 crisis to help protect the critical ATM infrastructure and hence business continuity.



What our research shows

- Nearly all stakeholders interviewed state that EUROCONTROL should maintain focus on its role as Network Manager and continue the work developed by the CRCO.

3. High quality data provision

Stakeholders have highlighted that EUROCONTROL currently has large amounts of valuable data stemming from the **network activities as well as experience built up from economic, environmental and military activities**. Moreover, the interviewees have stated that the Agency has **strong data analysis and distribution capabilities** in-house. Data services that build on Network functions are therefore valued by most stakeholders, with some suggesting that these services represent a growth opportunity for EUROCONTROL.

EUROCONTROL should continue to strengthen and further enhance its position in the centralisation and management of aviation data within the pan-European network. Specifically, EUROCONTROL can improve the way in which these services are made available to stakeholders (e.g., more seamless digital interactions, greater pre-processing of the data, investing Artificial Intelligence, etc.).

The Agency has all the key skills, independence, funding, access to data (operational, economic, performance measurement and environmental), and stakeholders support to potentially take on the role of the ATM performance regulator for Europe. This could potentially be done via designation by the EU (similar to the current NM designation model). This should be explored with EU Member States. If EASA assumes this role, they should be supported by EUROCONTROL in order to reduce European aviation cost and leverage their expertise – this potentially could be facilitated by the pre-existing EUROCONTROL/EASA Technical Coordination Office.

The iNM target architecture is considered offering a powerful platform to plug-in innovative and high value adding data services.



What our research shows

- Nine out of ten interviewees support EUROCONTROL taking the role of data services provider, particularly by providing aviation related data. Stakeholders in particular appreciate:
 - *Data management services on the network, on operational performance, on financials and on sustainability;*
 - *EUROCONTROL's ability to produce and share meaningful reports and analysis;*
 - *Particularly in the context of the COVID-19 crisis, stakeholders highlight EUROCONTROL's proactive role in providing relevant aviation data and de facto create a "single source of truth".*
- Stakeholders mention opportunities for EUROCONTROL to enhance its data services:
 - *Creating a digital platform where data is shared anonymously and made available to all;*
 - *Taking advantage of its neutral position to act as a central intelligence unit on topics where impartiality is required (e.g., sustainability);*
 - *Considerable support for EUROCONTROL performance measurement services.*

III. Weaknesses to be addressed

1. Inclusion of an ANSP (MUAC) in an international organisation is not deemed appropriate

MUAC is a highly performing and efficient ANSP. Its professionalism is widely acknowledged. The synergies between the operational ANSP expertise of MUAC and the NM role have been many over the last years.

However, the inclusion of an ANSP within a large multi-state international organisation brings about significant challenges and administrative difficulties, which are incompatible with the needs of the wider mission of the Agency. Moreover, it prevents the Agency to roll out a fit-for-purpose Talent Management Strategy. For example, air traffic controllers having the status and the privileges of international civil servants is not consistent with normal ANSP market conditions.

As ANSPs across Europe continue to adapt and digitize, the likelihood for “incompatibility” will increase and potentially limit the ability of MUAC to evolve. Already today, an important part of EUROCONTROL stakeholders perceives a conflict of interest between NM as an “honest broker” and MUAC as an ANSP. The enhanced role of the Network Manager – as foreseen in the new SES legislative proposal – and the new paradigm (from capacity to flow management) will only strengthen this perception.

Finally, the organizational dynamic of MUAC (ATC) and the rest of the Agency is different, each presenting their own challenges and needs. “MUAC autonomy”, as it has evolved over the last two years, is a sub-optimal framework for both EUROCONTROL and MUAC. The previous arrangements seemed to be clearer.

The future vision for EUROCONTROL in this report therefore envisages a permanent separation of MUAC from EUROCONTROL. MUAC centre should remain intact managing the upper airspace of the four States. Consideration should also be given to securing the inclusion of Karlsruhe upper airspace as part of its airspace jurisdiction. The organization should be structured as a normal ANSP, as a four state-owned business entity, with safety oversight being carried out by EASA.



What our research shows

- Less than one third of the stakeholders put forward that the ANSP role for the Maastricht Upper Area Control Centre (MUAC) should remain in EUROCONTROL's portfolio of activities.

2. Involvement in R&D is not sufficiently oriented towards deployable solutions and its customers

R&D is considered by stakeholders to have outgrown its ideal scope. Stakeholders have mentioned multiple times that EUROCONTROL engages in R&D activities that do not require its expertise nor address customer priorities. On the other hand, stakeholders are supportive towards EUROCONTROL engaging on R&D where its operational and technical expertise is required. In that sense, the Agency should focus on supplying R&D services that are rooted in operations and oriented towards deployable solutions. In addition, EUROCONTROL needs to use its assets to build and host an innovation capability open to the ecosystem.



What our research shows

- Half of stakeholders consulted mention that EUROCONTROL should refocus its R&D. In particular, it should focus on bringing lessons learned from its operations and on the deployment of network-wide solutions. The proportion of stakeholders agreeing with the statement increases among those that are directly involved in the R&D processes.

3. Training services portfolio

EUROCONTROL's portfolio of training services⁸ is perceived by stakeholders as encompassing too many activities. Stakeholders believe that trainings provided by the Agency are ranging beyond its original scope. In that sense, stakeholders emphasise that training offered by EUROCONTROL should be limited to EUROCONTROL's Network functions, leaving all other training activities for the industry to explore, such as the provision of training related to regulatory (i.e., EU Legislation for the Single European Sky) activities, Human Performance in ATM, Communication, etc. The efforts EUROCONTROL is undertaking to refocus its training portfolio should be continued and accelerated. Alternatively, the training activities should be discontinued.

Maintaining the current decentralised training facilities at Luxembourg (IANS) shows little synergy and is therefore not cost effective. The facility should be closed and any remaining services be relocated to Brussels HQ.

4. Insufficient transparency on the cost of doing business

The "cost of doing business" is insufficiently known. Integrated planning, budgeting and monitoring is lacking. HR & Finance work in isolation, particularly in workforce planning activities. This leads to limited visibility on workload, cost of services, cost of projects, etc. Additionally, there is no culture of measuring performance.

The **Agency Business Plan** has been improved recently in order to better reflect the Agency's overall objectives and expected outcomes. However, the allocation of resources is today not based on a bottom-up estimation of workload. It primarily starts from available resources (input from the Directorates) and top-down guidance on the overall evolution of the workforce.



What our research shows

- Examples of analyses that are currently not or only partially available within the Agency (nor could they be extracted from existing systems): actual time spent on the delivery of the Agency's deliverables, workload assessment, bottom-up estimation of cost per service, consolidated view on UPP incomes, etc.

5. Low organisational and process maturity

The overall maturity of the organisation and its processes is low:

- **Agency-wide processes are not documented** nor is there a vision on the overall Agency process model. There is **no process in place for the systematic review and improvement** of processes.
- The **overall operational excellence of Agency processes is under par** compared to industry benchmarks and best practice models. Processes are mainly paper based, involve cumbersome validation cycles and lack standardization.
- EUROCONTROL **lacks an organisation-wide change capability** able to drive fundamental reform. The HR function is evolving positively but it is today not equipped to take up this role. An **overall transformation agenda is missing**. It will need to be developed following this Fundamental Review.

⁸ To identify the entire scope of this weakness further analysis is required.

- EUROCONTROL **lacks the strategic Chief Financial Officer, Chief Human Resource Officer and Chief Information Officer, Chief Economist functions**. Overall, the support functions are focused on day-to-day administrative support, control and compliance rather than on enabling the Agency's overall performance.

In order to thrive in the future, EUROCONTROL needs to significantly increase the overall maturity of the organization. This requires focus on and investment in both the core business and the support functions. Given current low maturity, a **temporary change capability driven from the top (e.g., transformation office)** should be considered.

6. Talent challenge: redundancy, lack of futureproof workforce and limited change capability

As a provider of services, EUROCONTROL's human capital is one of its most valued assets. In line with EUROCONTROL's ambition of being the technical centre of expertise for aviation in Europe, it requires to have a futureproof workforce that has the right size.

Redundancy

A significant part of the workforce has disconnected from the purpose of their jobs and lacks awareness of the impact of their work on EUROCONTROL's goals and on the ecosystem. This part of the workforce does not realise how its efforts contribute to the overall purpose and the goals of EUROCONTROL. This leads to a suboptimal use of work time and might lead to missed opportunities to further enhance EUROCONTROL's services, as opportunities are missed by a lack of interaction and view on the overall results among the workforce. This impedes the Agency to attain its full potential and it has led to EUROCONTROL's likelihood to engage in duplication of efforts causing inefficiencies as well as staff redundancy in certain parts of the organisation. With staff related costs (salaries, pensions and other benefits) accounting for approximately 70% of the Agency's expenditure, the impact of staff redundancy is significant.

There are several root causes that have led to staff redundancy:

- **Lack of detailed insights** in workload and resource allocation lead to limited visibility on where staff is spending time;
- As **processes are not managed**, there is limited insight in their degree of efficiency nor in improvement opportunities;
- EUROCONTROL engages in **self-tasking**. This characteristic of the Agency is currently insufficiently known and acknowledged by its management and staff;
- **Performance management is time consuming and ineffective in tackling poor performance cases**. Over the last three years, only eight negative performance appraisals were filled for the entire Agency and only this year, for the first time, two people were dismissed. Since the start of a stricter approach regarding negative performance appraisals, almost 100% of staff with a negative performance appraisal have filed a harassment complaint. This illustrates the case for change with regards to the performance management approach and mind-set in the Agency;
- The **Staff Regulation**, combined with **cumbersome Social Dialogue**, seriously hinders the Agency to take agile decisions to right-size the workforce (cf. infra);
- **Long career tracks (embedded in the Staff Regulation)** cause significant **impediments to workforce renewal**.

Addressing the rightsizing of the workforce will require a **focused redundancy plan, the implementation of which should start as early as possible**. EUROCONTROL already started to implement the partial replacement measure of those leaving on pension (2 out of 3 non-OPS), and is prioritising the use of contract agents (AC staff) which are at lower cost, do not increase pension liabilities and allow for periodical workforce renewal.

With around **1/3 of the workforce reaching their retirement age by 2030**, the current EUROCONTROL workforce will evolve in a “natural” way towards lower staffing levels. This level of departure presents a unique opportunity to any business or organisation to rejuvenate its staff composition. The key challenge will however be in retaining and developing the skillset of the future. Table 2 presents key figures on people who will probably retire in the upcoming 10 years; i.e., people who are over 55 today (a retirement age of 65 is considered).

Table 2 - Key figures on EURCONTROL's employees expected to retire in the upcoming 10 years

Directorate	% of people over 55	Top 3 units/services with highest % of people over 55	% of people over 55 in unit/service	Top 3 units/services with highest number of people over 55	Number of people over 55 in unit/service
CRCO and Finance	43%	Pension Fund Executive officer	67%	Collection, Accounting and Treasury	18
		Collection, Accounting and Treasury (CRCO)	58%	Procurement and Agreements	13
		Accounting and Treasury (Finance)	50%	Accounting and Treasury (Finance)	8
Network Management	43%	Network strategy	71%	Network Operations	78
		Operations Analysis	67%	Integrated CNS	28
		Training, Development & Delivery	65%	Systems Testing & Operations	17
European Civil-Military Aviation	42%	Architecture, Innovation and Deployment	70%	Advanced Traffic Services	18
		Advanced Traffic Services	64%	Network Management	16
		Drones	56%	Standards, Cooperation and Support	13
Human Resources and Agency Services	35%	Agency Infrastructure and Facilities	61%	Agency Infrastructure and Facilities	20
		Health & Wellbeing	50%	Compensation & Benefits	7
		Rules, Regulations and Social Dialogue	43%	Health & Wellbeing	3
DG Office	23%	Language Service	42%	Language Service	5
		Central Secretariat	38%	Corporate Communications	4
		Corporate Communications	18%	Central Secretariat	3
Maastricht Upper Area Control Centre	19%	Health and Safety Officer	100%	Current Operations	36
		MUAC Secretary Pool	67%	Technical systems	28
		ATM Strategy & ATM Knowledge Centre	50%	MUAC Secretary pool	4

CRCO and Finance, Network Management and DECMA are the Directorates where retirement will have the most significant impact, with over 40% of the employees retiring in the upcoming years. The situation raises concerns particularly for the Network Management and DECMA Directorates, as **the units/services where there are more potential retirees in the upcoming decade are units/services that require high levels of technical expertise**, which is more challenging to find in the job market.


The development of the **Strategic Workforce Plan** (stopped due to the COVID-19 crisis) showcases the Agency’s efforts towards achieving a workforce fit for purpose. It needs to be ensured that the process is resumed and that its implementation is properly managed.

Lack of managerial skills

The technical expertise of EUROCONTROL’s staff has been widely acknowledged by the ecosystem. One of the Agency’s strengths lies within its ability to provide technical and operational expertise to its stakeholders. A **skills gap in terms of managerial skills** is however present and continues to grow.

The design of the rewards and validation process may be one of the root causes for this development, as the career track urges high performing technical experts to promote to managerial roles, regardless of their capabilities and interest in a managerial career. This means that people who are assigned to managerial roles today in some cases do not have the required capabilities for the job. In addition, EUROCONTROL has a legacy of underinvestment in people development for non-technical skills. Recently, the Agency has revived its talent development programmes.

To ensure that managers have the right set of capabilities; EUROCONTROL must fundamentally rethink its career progression model considering offering dedicated career tracks for specialist (technical) profiles and more generalist (managerial) profiles.

 **What our research shows**

- Half of internal stakeholders mention that managerial capabilities are insufficient today;
- EUROCONTROL HR has already undertaken some efforts:
 - Personalised Development Centre initiative;
 - Re-inventing Performance Management;
 - Management Skills Development;
 - Etc.
- Within the NM Directorate “Talent Development” has been identified as the top priority for 2021.

Lack of futureproof technical skills

Even though the technical expertise of EUROCONTROL’s staff has been widely acknowledged by the ecosystem, EUROCONTROL is facing a shortage of futureproof technical skills related to the industry (e.g., airlines, airports, ANSPs expertise, etc.) as well as in emerging areas (e.g., cyber, sustainability, cloud engineering, data-as-a-service, data science, etc.).

The challenge is even more important given the mass retirement EUROCONTROL is facing. This wave causes a risk of expertise loss if effective knowledge transfer mechanisms fail to be put into place urgently.

Limited investment in talent development, a lack of staff rotation as well as the limited internal mobility has hindered the Agency’s ability to innovate and acquire new capabilities from outside.

 **What our research shows**

- The vast majority of stakeholders mention that EUROCONTROL’s current workforce is not sufficiently skilled and futureproof to enable the Agency to thrive in the future.
 - The iNM programme is an ambitious programme that requires in-house skills which are missing today such as data architect, cloud engineers, etc.;
- EUROCONTROL is already developing initiatives to fill in the incoming gaps: Stakeholder Technical Exchange Scheme; Innovation & Research Resourcing Scheme.

Lack of diversity in the workforce

EUROCONTROL is confronted with a resistance to change within the workforce. The lack of diversity in terms of age, gender and nationality contributes significantly to the keeping in place of the status quo. A change in terms of this mindset and this lack of diversity is needed if EUROCONTROL wants to be ready to thrive in the future. Although certain efforts have already been taken to improve diversity and inclusion in the Agency, there is **no sustainable improvement**.

In terms of gender, EUROCONTROL is to a large extent a **male-oriented workplace**. Further efforts are needed to attract and retain a more diverse workforce across all positions and grades in the organisation. In terms of age, the **average age of a EUROCONTROL employee today is 56**. Lowering that average age could improve the Agency's ability to balance experience and expertise with disruption and out-of-the-box thinking. It can also improve the ability to implement change. Diversity in terms of **nationality** could be further improved for the workforce to be a more adequate representation of EUROCONTROL's Member States. The language requirement (both English and French) is a limitation factor in attracting talent. In this regard, as English is the global language of aviation, fluency in English should be the sole requirement along with any other language.

Adapting the **career path options and employment policies** at EUROCONTROL could help to attract and retain a more diverse workforce. Simultaneously, improving EUROCONTROL's visibility in the labour market toward a more diverse target group could also be beneficial for diversity in different respects.



What our research shows

- The average age of EUROCONTROL's workforce is 56;
- Of the 42 existing nationalities at EUROCONTROL, the 8 most common account for 80% of the workforce;
- Less than 30% of EUROCONTROL's workforce is female, and there are almost no women in leadership positions;
- EUROCONTROL is already undertaking actions related to diversity and inclusion of the workforce:
 - Diversity and Inclusion Policy publication;
 - International Women Day 2019 Campaign;
 - 1st ever Girls in Aviation Day organised at EUROCONTROL;
 - Unconscious Bias Training for Management.

Limited visibility on strategic workforce needs⁹

The process for **staff allocation** used in recent years has been done **without the benefit of competency analysis and business development studies**. The annual allocation of staff to activities is largely based on the FTEs present in the previous year. Changes in work-programmes or in the workforce are negotiated between the managers concerned, otherwise allocations tend to carry over from year to year. While this ensures continuity when changes are minor, this **approach does not support organisational agility**, i.e., the ability to move resources easily to where they are most needed. Furthermore, it provides no incentive for mobility; indeed, the reliance on FTE envelopes is often an obstacle to mobility.

In order to be effective, Strategic Workforce Planning (SWP) needs to be able to control the allocation of effort to the activities of the work programmes based on the staff skills. Vacancies should only be available to accommodate staff departure (retirement or leaving) or changing business needs. Furthermore, there should be no automatic right to promotion to higher grades. This requires that HR assesses the activities in terms of the **competencies** required, in order to make the best allocation of staff with the required competencies. In parallel, there must be regular coordination between HR and

⁹ Based on the analysis document produced by the EUROCONTROL HR Service: "Effort allocation and the workforce plan".

the core business to be able to respond to evolving business priorities through the allocation of staff skills.

The development of an Agency-wide Recruitment Plan and Staff Development plan were stopped due to the COVID-19 crisis. Therefore, today, EUROCONTROL does not have a clear view on the link between the work programme and the workforce in terms of **competencies**.

With the recent push given for outbound secondment and increased internal mobility, this staff **competency analysis has now started**, with the assessment of activities and related staff requirements. It should be **fully supported and accelerated**, involving – where necessary – monthly adjustments to the staff allocation.

Limited change capability

The **Staff Regulation** limits the Agency's change capability. The current Staff Regulation has evolved over many years, mirroring to a great extent the EU Staff Regulation, which is expensive and rigid compared to normal market conditions in aviation. It is therefore **no longer a suitable staff framework for a modern international aviation organisation**.

It is a major burden and a constraint on the Agency's ability to be more agile and cost-efficient. A new Staff Regulation should be established. Also, the current requirement to secure unanimity of Member States regarding changes to the Staff Regulation is a significant constraint; 'unanimity' should be changed to 'majority' voting. Why should a single Member State have the ability to veto decisions related to terms and conditions of EUROCONTROL's staff?

EUROCONTROL has a problematic change history and has traditionally **underestimated the importance of people change management**. As an illustration, a people change survey conducted in the context of the implementation of the multi-sourcing governance model revealed that staff was barely engaged or even informed about the impact of the change on their work nor did they clearly see the benefits of the change. This assessment is acknowledged by several internal stakeholders.

Whereas there are indications that the overall compelling future vision on EUROCONTROL towards 2030 as communicated by leadership appeals to (important parts of) the staff, there is at the same time a feeling of **change fatigue** as well as **pockets of resistance** to be anticipated during the execution of some of the "bolder moves" (e.g., reorganisation, reduction of staff levels, reskilling, etc.).

Several key capabilities are missing to navigate the challenging transformation journey ahead, such as the capability – typically situated within HR - to work with the business to enable the alignment of the culture with the Agency strategy. Most transformations that fail in organisations are due to a failure to align the culture to their business objectives and to engage the people.

In addition, there is today **no single point managing the overall transformational agenda for the Agency at a strategic level**. This can be a temporary capability that is eventually – in a second phase – embedded in the Talent team. The next coming years it is however recommended to foresee strong overall Programme Leadership to support the transformation journey of the Agency.

7. Institutional governance

Although not directly within the scope of the study, feedback from many stakeholders was raised in relation to EUROCONTROL's current Member States governance structure. It is perceived as inefficient, complex, and ineffective. It would be prudent to explore all opportunities that could deliver efficiency gains including the governance of EUROCONTROL by its Member States. The final ratification of the Revised Convention could be deemed beneficial.

8. Organisational complexity

EUROCONTROL's current organisation design is complex, resulting in a lack of transparency and clarity towards the ecosystem.

The current organisational structure does not provide a clear rationale, nor does it reflect the strategy of the Agency. The organigram of the Agency is not clear, coherent and does not allow an easy understanding of EUROCONTROL's set of activities.

Next to that the Agency's way of working is experienced as siloed; there is insufficient connection between the different teams, Units, Divisions and Directorates, leading to inefficiencies and unrealised internal synergies (e.g., fragmentation of the work, duplication of efforts). As a matter of fact, similar competencies are not grouped together. Furthermore, multiple units have similar or almost identical names highlighting the lack of coherence, transparency and efficiency of the organisational structure.



What our research shows

- One out of three internal stakeholders say work in the Agency is often performed in silos rather than in a coordinated and integrated manner.
 - As an example (across the NM Directorate and DECMA): four different units contain planning activities; three different units refer to Performance activities; two different units are related to CNS activities;
 - Potential consolidation of work between
 - CMC/ATM activities (ATM security and ATM Operations) and AC Division;
 - Simulation & Validation infrastructure and Infrastructure division;
 - Duplication of IT capabilities in CRCO;
 - Duplication of Finance capabilities in NM.

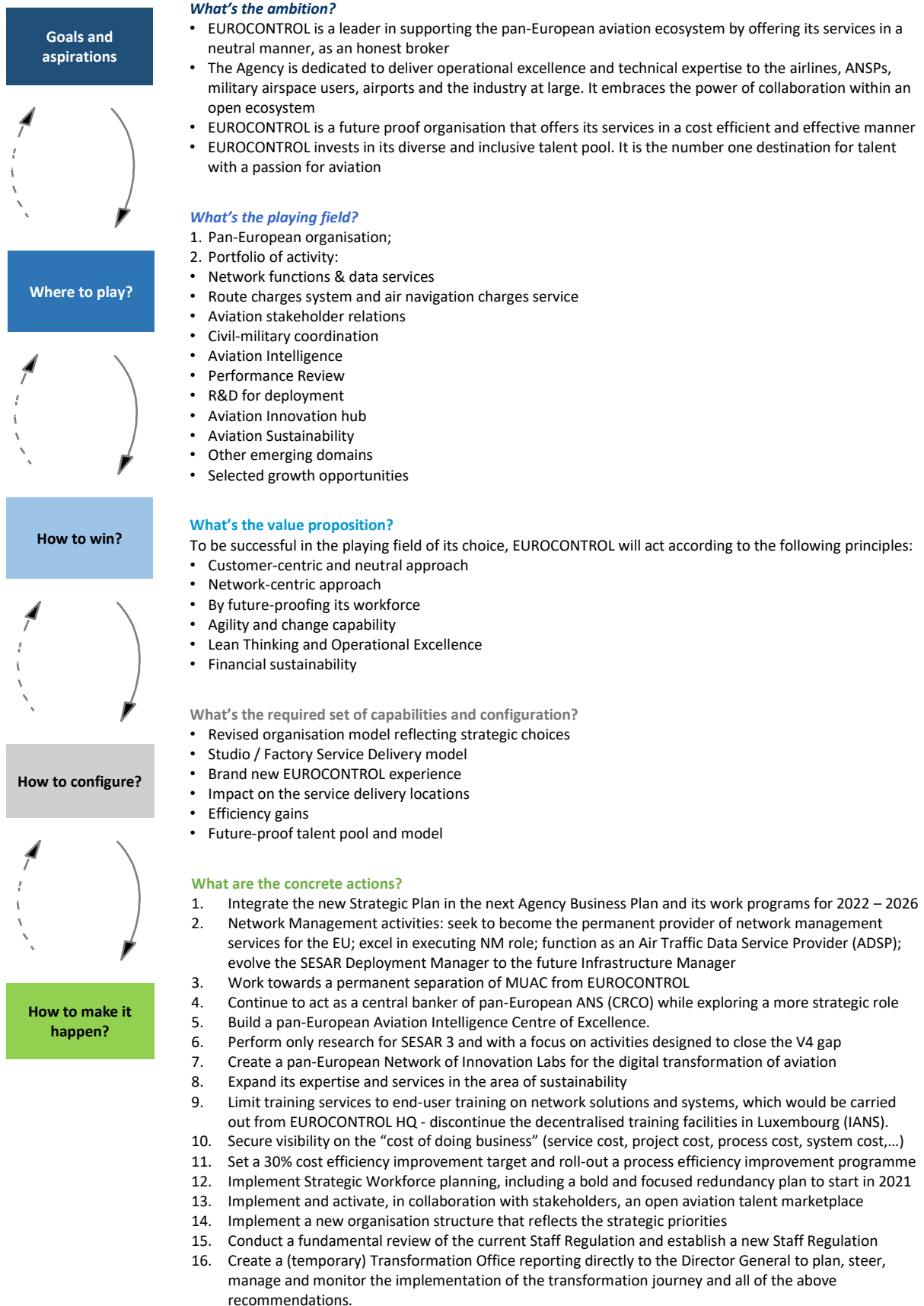
Chapter 3: Towards an organisation that is fit-for-purpose

Based on EUROCONTROL's strengths and weaknesses as well as methodological framework, the vision for a fit-for-purpose Agency is described in the following chapter. The methodology, hereby called the "Play to Win" framework (as utilised by Deloitte with large international organisations similar to EUROCONTROL), ensures a consistent and coherent strategy. It is about guiding everyday actions by strategic choices, to effectively lead the organisation. To be effective, choices must be both integrated and iterative, each reinforcing and challenging the other.

EUROCONTROL's vision for the future has been articulated around a set of key strategic questions:

- **What are the goals and aspirations?** What is the ambition? What does EUROCONTROL stand for?
- **Where to play?** What does EUROCONTROL want to focus on? What are its priority areas in terms of customers, stakeholders, portfolio of activity, etc.?
- **How to win?** What is EUROCONTROL's value proposition? What principles will guide its course of action?
- **How to configure?** How should EUROCONTROL organise? How can it maximise efficiency?
- **How to make it happen?** What actions are required to realise the strategy?

Figure 8 – Play to Win Framework - A vision for a fit-for-purpose EUROCONTROL



In the following sections, each step of the strategic cascade of choices, as presented in figure 8, is further detailed.

I. Goals and aspirations

- EUROCONTROL is a **leader in supporting the pan-European** aviation ecosystem to ensure a safe, seamless, scalable and resilient aviation network that addresses environmental concerns, and delivers digital air traffic management services, safety and security for all airspace users, while ensuring national military requirement facilitation.
- In that perspective, the Agency is dedicated to **improving the performance of its wider European network as well as to deliver value to its stakeholders**, which it puts at the heart of everything.
- Consequently, EUROCONTROL will continue to **provide state-of-the art technical operational expertise**, enhance knowledge and capabilities, support and accelerate the **development of innovative solutions, technologies and operational procedures**, and act as a **bridge between civil and military airspace users**.
- Moreover, EUROCONTROL is committed to preserve its neutrality to ensure the aviation community is brought together for the benefit of the entire European aviation. In that perspective, EUROCONTROL is offering its services in a **neutral manner, as an honest broker**.
- EUROCONTROL is a **future proof organisation** that offers its services in a cost efficient and effective manner. It invests in deploying new solutions across the network. It contributes actively to the future of aviation by leveraging its experience and assets to **make advanced innovation capabilities available to the entire ecosystem**.
- EUROCONTROL is a modern organisation that invests in **positive and sustainable experiences** for all its employees, embracing an all-inclusive organisational culture. Its brand stands for the highest level of expertise in terms of aviation operations. EUROCONTROL is the **number one destination for talent** with a passion for aviation.

II. Where to Play

1. Stakeholder scope

EUROCONTROL is unique due to its **pan-European dimension**. The Agency has seen its stakeholder base growing throughout the years with the ambition to not only serve Member States but to provide support to all actors in the aviation ecosystem (including airlines, ANSPs, airports, military airspace users, European and international institutional stakeholders, aircraft manufacturing and other industries related to aviation). In that context, EUROCONTROL today encompasses **41 Member States and two Comprehensive Agreement States** going beyond the European geographical borders. The Agency keeps on seeking new agreements and collaborations to further strengthen its broad footprint in aviation.

2. Future activity portfolio

EUROCONTROL wants to excel in everything it undertakes. It therefore **leverages its core strengths** and **focuses** on a specific set of services, each one selected to **maximise the Agency's impact on aviation**. Towards the future, the Agency will further evolve its service portfolio and "transform from the core"¹⁰.

All the services and activities described in this section are permitted under the **Revised Convention** of 1997, which allows EUROCONTROL to deliver and evolve its aviation services in a flexible manner if those services contribute to the principles and objectives of the Convention (Article 2).

Network functions and data services

EUROCONTROL's core services revolve around its role as **Network Manager**. In that perspective, the Agency delivers the mandate to perform Network functions, as established in EU Regulation 2019/123¹¹, to further enhance the operational performance of the European air traffic management network.

Under the proposed SES reform programme, the role of the EUROCONTROL Network Manager is expected to be **enhanced** for the benefit of the overall network, especially in relation to airspace, capacity and infrastructure management. This should be actively supported by the Agency and its Member States.

Network Management is and will remain central to the Agency and to European aviation. In order to provide certainty and business continuity, the European Commission should envisage to make EUROCONTROL the **permanent provider of network management services for the EU**, i.e., beyond specific EU reference periods. A significant investment programme is underway (iNM), which will ensure that EUROCONTROL can provide the best services possible for the industry. It will also provide sufficient guarantees that EUROCONTROL is best placed to carry out these functions long into the future.

The ongoing **SES reform programme** provides an opportunity for negotiating a new agreement between EUROCONTROL and the EU reflecting this long-term commitment. The underlying benefits of such a new agreement are twofold. On one hand, the Agency owns all the required capabilities, capacities and skills (i.e., building, systems, expertise) to permanently provide network management services. On the other hand, a long-term view on the evolution of Network Management operations, technologies, infrastructure and innovative solutions is facilitated. A permanent mandate would in other words bring more certainty and hence clarity for all stakeholders for the future.

¹⁰ In line with the analysis presented in Chapter 2, the ANSP role is not retained in the future vision.

¹¹ COMMISSION IMPLEMENTING REGULATION (EU) 2019/123 of 24 January 2019 laying down detailed rules for the implementation of air traffic management (ATM) network functions and repealing, Commission Regulation (EU) No 677/2011.

In order to avoid duplication and create efficiencies as far as Infrastructure Management is concerned, EUROCONTROL should function as an Air Traffic Data Service Provider (ADSP) (New PENS, ARTAS, EAD) where a **pan-European need** exists. Furthermore, the evolution of the current **SESAR Deployment Manager** to the future Infrastructure Manager within NM should be actively pursued.

NM maintains a Safety Management System (SMS), like any other ANSP. No other safety related services should be provided by NM.

In line with the same principle, training services delivered by **EUROCONTROL should be end-user trainings on NM systems, infrastructure and solutions only.**

Route charges system and air navigation charges service

EUROCONTROL offers a highly appreciated pan-European route charges system to ensure a stable funding of the pan-European ATM network.¹² Moreover, EUROCONTROL also collects terminal charges for Member States and air navigation charges for non-Member States. EUROCONTROL needs to continue to offer these services as the **central banker of pan-European ANS**, in support of a successful network.

Looking forward, a more strategic role for the CRCO could be considered. This could include for example the establishment of a system stabilization fund, with permanent access to the banking system and to funding, to help protect critical ATM infrastructure and thus business continuity. This could be investigated based on the lessons learned from the ad hoc efforts undertaken in the spring of 2020 in the context of the COVID-19 crisis.

Military coordination

EUROCONTROL continues to play a key role as a facilitator of the **coordination of civil-military and military-military ATM matters across its Member States**. Its unique position as a neutral and impartial entity offers a clear added value in this respect.

- In its civil-military and military-military coordination activities, EUROCONTROL should leverage further on the in-house Network functions expertise. The **coordination between NM and military aviation actors** should be further enhanced.
- The MAB remains the central point of contact for all civil-military coordination matters.
- EUROCONTROL should continue to manage its relationships with EDA and NATO as they are of key importance.

Aviation stakeholder relations

As a customer-centric organisation, EUROCONTROL puts its **stakeholder needs at the heart** of everything it undertakes. Stakeholders are an integral part of EUROCONTROL's governance and collaboration mechanisms; stakeholder feedback mechanisms are embedded in EUROCONTROL's processes. As such, EUROCONTROL embraces the concept of a modern, **open social enterprise**.

EUROCONTROL **prioritises** its efforts to meet the changing needs of its **Member States, airlines, ANSPs, airport and military stakeholders**.

The **European Commission** (DG MOVE and DG CLIMA in particular) constitutes one of the most critical relationships for the Agency which it continues to foster and deepen. The contributions of EUROCONTROL to the new SES legislative package are an illustration of the added value EUROCONTROL can contribute to the development of the technical aspects of fundamental **legislative reforms**. The Agency will continue this type of intensive collaboration and extend it to maximise supporting the Green Deal and aviation sustainability.

¹² COMMISSION IMPLEMENTING REGULATION (EU) 2019/317 of 11 February 2019 laying down a performance and charging scheme in the Single European sky and repealing Implementing Regulations (EU) No 390/2013 and (EU) No 391/2013.

Furthermore, the **provision of technical expertise to European institutions** is strategically beneficial for both EUROCONTROL and the EC. It should be supported and expanded in the context of the SES II reform (e.g., PRU staff can support the new PRB).

The recent launch of the **TeCo (Technical Coordination Office)** between EASA and EUROCONTROL illustrates how synergies can be maximised across the network. The concept will be **replicated** in other domains and with other stakeholders. Similarly, **public-private partnerships with industry** (traditional and new players) will be intensified. Such practical, operational collaboration initiatives are to be explored for **“novel” domains** such as drones, sustainability, artificial intelligence, new technologies in general.

In order to take stakeholder relations to the next level, EUROCONTROL will invest in several state-of-the-art facilities such as a digital stakeholder engagement platform, a multi-media room to support virtual collaboration (to be situated in the old Operations room) as well as cutting-edge innovation facilities in Brétigny.

Finally, EUROCONTROL maximises its support to European aviation at large by positioning itself prominently as a leading organisation at **global level**, engaging with important “peers” such as the FAA.

Aviation intelligence

EUROCONTROL is positioned as the **central repository for aviation data in Europe**. EUROCONTROL is uniquely placed to take up this role due to its access to vast volumes of aviation data. The Agency develops state-of-the-art aviation intelligence solutions for the benefit of its stakeholders, leveraging on its key expertise, assets and tools in performance review and operational (i.e., iNM digital platform), economic, financial and environmental domains. The current PRISME data warehouse, currently hosted within NM, is one of the building blocks of EUROCONTROL’s Aviation Intelligence capability and will be fully integrated. Traffic forecasting remains a central function.

EUROCONTROL strives to become **the pan-European Aviation Intelligence Centre of Excellence**. In order to achieve this ambition, new technological capabilities will need to be embraced including cloud transformation, artificial intelligence and augmented reality.

EUROCONTROL’s **future data service catalogue** entails customised on demand data intelligence, “self-service” functionalities such as access to data, open data concepts stimulating joint data analysis with stakeholders, etc. These services **build on operational systems such as iNM** and are supported by further enhancing the Agency’s **aviation intelligence portal**. These services could be offered to a variety of stakeholders (airlines, airports, environmental stakeholders, OEM, etc.) following Data-as-a-Service, Software-as-a-Service and Platform-as-a-Service models. To do so, global collaboration with the ecosystem is required. In that perspective and as an international organisation, EUROCONTROL aims at embracing and widening its stakeholder base.

Performance Review

Its support to the EU Performance Scheme has contributed to EUROCONTROL’s extensive experience in relation to performance monitoring and benchmarking. Performance review is carried out by the Performance Review Unit (PRU) within the Aviation Intelligence Unit. Furthermore, the Performance Review Commission (PRC) provides an important function on behalf of all EUROCONTROL Member States. The activities of the PRU and PRC are provided on a pan-European basis, beyond the limitations of the EU Performance Scheme and activities of the EU Performance Review Body (PRB). In that regard, **performance benchmarking should continue as part of the PRU, as a pan-European service**.

In the context of the proposed SES reform package, the Agency has all the key skills, independence, funding, access to data (operational, economic, performance measurement and environmental), and stakeholders support to potentially take on the **role of the ATM performance regulator for Europe**.

Some **PRU capacity should be made available on a full-time basis** to support the work of the new PRB. This could potentially be done via designation by the EU (similar to the current NM designation model). This should be explored with EU Member States. If EASA assumes this role, they should be supported by EUROCONTROL in order to reduce European aviation cost and leverage their expertise – this potentially could be facilitated by the pre-existing EUROCONTROL/EASA Technical Coordination Office.

Ideally, the PRB and PRC should merge in the short-term with special provisions and safeguards provided to allow for the **continuation of services required by non-EU States**. This joint body can then provide services and evolve to EASA if that's the approved approach.

R&D for deployment

As founding member of the SESAR Joint Undertaking, EUROCONTROL will maintain its position as key provider of operational and technical expertise to the SJU programme by supporting pan-European network deployment projects. SESAR has clear benefits, as it coordinates European research well, and as it enables several non-EU States to participate by means of Comprehensive Agreements with the EU.

The Agency has indicated that, for the next funding programme (SESAR 3), it will meet its previous commitments in the region of **500 million euro** (in kind) over a five-year period. This is a significant investment. Already today, a substantial proportion of the Agency's budget is expended on staff involved in SESAR (either with the SJU or via DECMA).

Going forward, **SESAR 3 will be the only research activity within EUROCONTROL**, and with a focus on activities designed to **close the V4 gap** (i.e., reach the deployment phase). EUROCONTROL will not engage in research activities if they are not clearly part of SESAR 3. When individual SESAR research programmes or activities are finalised, EUROCONTROL will not engage in any follow-up independent research unless it is financed directly by a customer.

In order to maximise its impact, EUROCONTROL will **more deeply root its R&D activities into its operations**, i.e., NM. Expertise will be drawn from the NM pools of experts, rather than be isolated in separate organisational entities. A **strong follow-up of the outcome of EUROCONTROL's contributions** to the SJU will be supported by clear (transversal) process ownership and fully integrated in one overarching Single Planning (and Monitoring) process.

Aviation Innovation capabilities

EUROCONTROL will reinforce its efforts towards setting up a **pan-European Network of Innovation Labs** for the digital transformation of ATM. The Agency will act as an **enabler for innovation in the ecosystem**, by creating a platform for collaboration on ecosystem challenges, based on partnerships with operational stakeholders (such as airlines, airports, ANSPs, manufacturers, etc.).

The Agency will develop an **Innovation-as-a-Service** approach and provide its stakeholders with the necessary capabilities (assets, tools and infrastructure) that help spark and catalyse innovation.

Initiatives could include, for example, ideation and acceleration programs, providing networking opportunities with key industry stakeholders, start-ups and universities, organising hackathons and innovation sprints, etc. the hub is "open" per definition, fully embracing the power of the ecosystem. Amongst the facilities it makes available are "sandbox" environments to support simulation and advanced data analytics as well as cutting edge multimedia / studio facilities to foster virtual collaboration.

The Innovation hub would comprise of "innovators" and programme coordinators rather than researchers recruited on short-term contracts with specific deliverables for customers. The Hub will also work as the **coordinator and the facilitator of the pan-European Network of Innovation Labs** and

ensure cooperation with other Innovation Hubs, such as IATA's Innovation Hub and the European Digital Innovation Hubs. Moreover, EUROCONTROL will play a role with regards to the **operational aspects of emerging domains** (e.g., drones / UAVs, high altitude airspace), for example concerning the integration thereof in the network. The Agency will contribute to the improvement of European operational coordination by leveraging on relevant Network functions expertise. The Agency will however limit its involvement in emerging domains to those activities that support the operational aspects and clearly contribute to the success of the network.

Brétigny could potentially be positioned as the **European Innovation Hub in aviation**. If Brétigny was to serve as this Innovation hub, there is an opportunity to rationalise the staff by at least 20%. However, if these services (Innovation hub including simulator) are to be delivered in EUROCONTROL HQ, this would necessitate the closure of the Brétigny facility and would deliver more savings¹³.

Aviation Sustainability

The increased attention for the impact of aviation on the environment is both a **challenge and an opportunity for EUROCONTROL**.¹⁴

In December 2019, the European Commission presented the **European Green Deal**¹⁵ - an action plan to transform the European Union into the first climate neutral, circular and material efficient continent by 2050. Due to its environmental (CO2 emission, local air quality, noise) impact, the aviation sector will have to contribute to the reduction. In fact, the European Green Deal sets out the need to **reduce transport emissions by 90% by 2050** (compared to 1990-levels).

Due to its real-flight data and its proficiency in building and managing IT systems, the Agency has been supporting the EU Climate change policy **for over 15 years**. In this role, EUROCONTROL **is a key enabler by providing** to its Member States, the European Union, ICAO and the wider aviation community **tools and data to ensure that the measurement and monitoring is based on accurate and reliable emissions data**. For example:

- In regard with the European Union Emissions Trading System (EU ETS) for aviation, the Agency works with the European Commission, States and aircraft operators (more than 500) to support them in the implementation and operation of the EU ETS, reducing compliance costs;
- In the context of the **Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)**, EUROCONTROL's technical skill, data collection and analysis are playing a major role in supporting this initiative. The Agency has developed the **CORSIA Reporting Tool (CRT)** in collaboration with the European Commission, and is advising the EU and its Member States on the development of the CORSIA MRV system and the CORSIA Central Registry;
- In addition, the **European CCO/CDO task force** set up under the aegis of EUROCONTROL in 2015 produced in collaboration with a large number of stakeholders (incl. airlines, airports and air navigation service providers) the European CCO/CDO (continuous climb (CCO) and continuous descent (CDO) operations) Action Plan¹⁶ laying down practical advice on how to burn less fuel and generate less emissions. Next to that the task force aims at developing a tool kit which consists of the Action Plan as well as Monthly CCO/CDO performance tables for all airports / airlines in Europe, and a set of resources to support CCO/CDO implementation and optimisation to be available on the task force's web pages.

¹³ For more details, please see section *How to Configure – Service delivery locations*, p.38.

¹⁴ Skyway Magazine – Supporting European Aviation, Environment : Rethinking European Aviation, Europe's tough but achievable environmental challenges - EAMONN BRENNAN, Director General EUROCONTROL (Spring/Summer 2020), p.5.

¹⁵ COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS The European Green Deal - COM/2019/640 final.

¹⁶ European Continuous Climb and Descent Operations Action Plan, the European CCO/CDO Task Force, published on the 6th of November 2020

From its central data repository, EUROCONTROL generates valuable **insights** on the evolution of and the drivers behind the aviation's ecological footprint. As network manager, the Agency plays a central role in the design and coordination of **flow management** such as to minimise emissions. It brings together key actors (industry, governments, academia, etc.) to reflect on **new solutions** to decarbonise aviation. In these reflections, it **contributes its operational NM expertise**. As an integrator in the broader aviation ecosystem and strong communicator, it **influences positively the public opinion** on aviation's efforts to contribute to the Green Deal.

Aviation Sustainability is therefore an important capability within EUROCONTROL, which must be strengthened. Whereas EUROCONTROL needs to invest in further building its expertise in this area, the full potential of this capability will be unlocked by **enabling partnerships** across all stakeholders involved. By leading a coalition of these actors, EUROCONTROL will enable the development of knowledge regarding sustainability.

Other emerging domains

A similar reasoning is to be followed for other **emerging domains such as cyber security, drones and high-altitude airspace** as well as **new technologies** that fundamentally impact aviation (e.g., artificial intelligence). EUROCONTROL will **"incubate" these services** in order to build up its capabilities in the area. Ultimately, once the capabilities reach an acceptable maturity level, they will be **"mainstreamed"** and fully embedded in operations.

Growth opportunities

EUROCONTROL possesses unique capabilities and expertise that have the potential to greatly contribute to the overall performance of European aviation and beyond. Its primary focus is to excel in its **core functions**, as described here above. Delivering, developing and innovating services that **leverage the core operational (NM) expertise** is the Agency's first and most important priority.


Opportunities to raise revenue via UPP should be pursued and the ability to provide services globally (without interfering with industry) should be permitted and / or expanded. The future iNM digital platform with its open architecture as well as the EUROCONTROL central European data repository generate a range of opportunities that could be eligible for UPP (always beyond the 41 Member States).

A number of examples are already identified for further exploration:

- Data analytics services and related consultancy tailored to a specific client organisation;
- Plug-in of client organisation system into the iNM platform;
- EUROCONTROL could potentially become a central part of a worldwide flow management link-up (capitalising on its Aireon satellite-based surveillance data). In line with on-going discussions with FAA, opportunities should be pursued on a UPP basis to provide flow management services outside Europe;
- As the Support to States programme will be drastically scaled back or dismantled, some of the services to States could be envisaged for UPP;
- Investigate commercial opportunities to provide CRCO services beyond ECAC states;
- Translation and Interpretation services costs;
- Training other than NM related end-user training will only be provided on a UPP basis.

III. How to Win

In order to thrive in the playing field of its choice, EUROCONTROL will act according to six principles:

	<p>Customer-centric and neutrality</p> <ul style="list-style-type: none"> • The Agency serves a wide range of stakeholders from ANSPs, airlines, airports to institutional entities. EUROCONTROL embraces the ecosystem and behaves as a modern “social enterprise”. • EUROCONTROL should remain a neutral, transparent independent organisation to support the broad pan-European aviation stakeholder community. • EUROCONTROL delivers its services in a customer-centric manner and invests in maintaining excellent stakeholder relations within the pan-European and global aviation ecosystem. • Capturing stakeholder needs and feedback mechanisms are central to EUROCONTROL’s way of providing services. • EUROCONTROL HQ – and its conference centre in particular - symbolises its central position in the aviation cluster. EUROCONTROL’s Innovation facilities are another illustration of the Agency facilitating the construction of the future of aviation in close collaboration with all stakeholders. • In its communications, EUROCONTROL acts as a positive ambassador and influencer defending the aviation ecosystem at large.
	<p>Network-centric</p> <ul style="list-style-type: none"> • EUROCONTROL further invests in strengthening network functions to excel in them and be recognised as a pan-European and global leader for the network functions. • EUROCONTROL aims at establishing itself as the permanent provider of network management services to the benefit of the entire network even going beyond the European geographical borders. • Key capabilities are embedded in the Network Management expert pool as much as possible in order to fully leverage the operational expertise. • New EUROCONTROL services will primarily be derived from NM expertise, systems and infrastructure. • The proposed separation of MUAC from the Agency is consistent with a network-centric approach.
	<p>Future-proof workforce</p> <ul style="list-style-type: none"> • Strengthen purpose, values and social connection at the Agency to ensure EUROCONTROL’s workforce and the ecosystem are unified around a common vision. • Each EUROCONTROL staff member needs to have a clear connection to the realisation of EUROCONTROL’s overall objectives. There is no room for redundancy. • Talent development is a top priority, including both technical and managerial skills development as well as flexible career tracks. • In order to foster innovation, EUROCONTROL’s workforce is dynamic, it is rejuvenated on a frequent basis by means of a broader range of different types of employment (contracts of limited duration, internships, secondments, etc.). EUROCONTROL is co-driving and actively tapping into an open “aviation marketplace” in which it shares vacancies (and profiles) openly with its stakeholders. • EUROCONTROL honours diversity and inclusion and ensures that every employee feels valued and accepted at the Agency. This commitment encompasses all dimensions of diversity: gender, nationality, language, age.
	<p>Agility and change capability</p> <ul style="list-style-type: none"> • EUROCONTROL’s talent programmes contribute to a culture that recognises and rewards innovation and continuous improvement. • Rules, regulations and procedures should be applied or redesigned in such a way as to allow for the Agency to make the necessary organisational changes in a flexible and cost effective manner. • Whereas good social dialogue between the Senior Management and staff is a critical component to support the success of any organisation, the Agency’s current practices will be reshaped in order to make them fit for purpose. • EUROCONTROL invests in an Agency-wide transformation capability that reinforces the current HR function with organisational change expertise.
	<p>Lean Thinking and Operational Excellence</p> <ul style="list-style-type: none"> • EUROCONTROL establishes Lean Thinking and Operational Excellence as guiding principles for its functioning. It implies to integrate Lean Thinking composed of methods, tools and principles in the Agency to accelerate Operational Excellence. • The Agency has full visibility on its “baseline”, i.e., the cost of doing business and sets clear (“SMART”) efficiency improvement objectives which are monitored. • Process Excellence concerning the ability of EUROCONTROL to well-design and define efficient, effective management, value chain and support processes to deliver high-quality services. Each process – horizontal processes in particular – has a process owner responsible for continuous improvement.
	<p>Financial sustainability</p> <ul style="list-style-type: none"> • EUROCONTROL invests in establishing cost effectiveness and efficiency as key principles for EUROCONTROL’s activities, in terms of financial resources, personnel resources and in the organisation of activities within the Agency. • UPP is explored for services delivered beyond the 41 Member States and beyond the Agency’s formal mandate. All services are adjacent to or leveraging the existing core expertise and assets of EUROCONTROL.

IV. How to Configure

The current chapter focuses on a **potential future organisational model** for EUROCONTROL. Additional concrete recommendations related to the optimisation of processes are consolidated within the next section that contains a long list of proposals for improvement.

1. Service delivery locations

Today, EUROCONTROL has operations in Brussels (978 staff), in Maastricht (759 staff, ANSP role MUAC), in Brétigny (241 staff, Experimental Centre and Research) and in Luxembourg (48 staff, Institute of Air Navigation Services).

The **future vision** and the **changed activity portfolio** of the Agency have important consequences for the service delivery locations.

The role of EUROCONTROL's locations will evolve as follows:

Brussels Headquarters

Lighthouse of European Aviation, the HQ is a place where the strategic vision of EUROCONTROL as a **social enterprise** comes to life, a **hub** where stakeholders are actively invited to team up with the Agency's team. Dedicated office spaces and a professional conference centre reinforce EUROCONTROL's stakeholder centric and collaborative approach.

Regarding the repurposing of the **old OPS room**, the facility could house the simulator function if a decision is made to relocate this service to Brussels HQ.

At the same time, given the current set-up and equipment of the room (i.e., screens and monitors), there is an opportunity to refurbish the room into a combination of a **TV / radio station and a management cockpit**:

- To support the (digital) stakeholder interactions of the Agency, the old OPS room could function in the future as a state-of-the art TV / radio station, with professional audio-visual tools and equipment. This will allow the leadership of the Agency to package their messages in a novel, more professional and appealing way. These messages can then feed into the diverse (social) media channels EUROCONTROL is using for disseminating its messages. The look and feel of such communications will be much more appealing to the audience than the standard approach that is currently being followed (e.g., for the StraightTalks that are being organised currently). All this could be implemented with low investment cost;
- For its own staff, EUROCONTROL fully embraces **New Ways of Working** ("New Space" initiative for example) whereby the use of workspace is more and more **activity-based** with more flexibility and more possibilities to foster collaboration between teams. For HQ visitors, EUROCONTROL will explore innovative solutions to enhance the visitor experience supported by new technologies.

Brétigny

As outlined in section II of this chapter, EUROCONTROL should set up an Innovation hub that would simultaneously act as the facilitator of the pan-European Network of Innovation Labs. There are two options for the location of the Innovation hub:

- Option 1 – Brétigny facilities;
- Option 2 – Brussels headquarters.

Option 1

Brétigny could potentially be positioned as the **European Innovation Hub in aviation**. If Brétigny was to serve as this Innovation hub, there is an opportunity to rationalise the staff by approximately 20%.

In this scenario, Brétigny should host the Aviation Innovation hub, according to the “Studio” concept. Studio brings a new way of working, and a distinctive identity and motivating culture that sparks innovation and positive collaboration. The Studio has a **specific visual and cultural identity** towards the Agency and its stakeholders within the ecosystem.

In order to promote the Brétigny Innovation facility as a state-of-the-art studio it requires **cutting-edge** data analytics facilities, virtual collaboration tools, stimulating brainstorm rooms, etc. The **Simulator** is a key asset that offers a lot of potential in this context, but other sandbox environments can be explored. In any event, the studio concept can be implemented at any location. The facility and staffing costs of Brétigny are higher than in Brussels HQ.

Option 2

However, if these services (Innovation hub including simulator) are to be delivered in EUROCONTROL HQ, this would necessitate the closure of the Brétigny facility, leading to additional rationalisation.

In order to close the facilities, EUROCONTROL is legally obliged to dismantle the building and return the physical land to the state of France. However the buildings present redevelopment potential, meaning it could be further investigated whether it would be possible to reach an agreement with the state of France to transfer the ownership of the building and the lease on the land to another entity, thereby avoiding the dismantling costs associated.

The buildings have a fair value (as recorded in the end of 2019), of € 14.0 million. However, this value can be significantly different from the market value of the assets. In the case there is a possibility not to dismantle the building but rather transfer its ownership to another entity, an in-depth study of the redevelopment potential should be undertaken in order to provide an accurate valuation of the building.

Abandoning Brétigny would also result in a yearly reduction of approximately € 1.6 million in Security, Utilities and Cleaning expenses. Moreover, there will be additional efficiency gains resulting from centralizing all the FTEs in Brussels, as well as efficiency gains from reducing the scope of work in the Agency Infrastructure and Facilities Management service.

Luxembourg

Remaining training activities will be hosted in the Headquarters in Brussels, meaning that the facilities in Luxembourg shall be closed.

In order to close the facilities, EUROCONTROL is legally obliged to dismantle the building and return the physical land to the state of Luxembourg. However, given that the building is relatively recent and has redevelopment potential, it should be further investigated whether there is a possibility of negotiating an agreement with the state of Luxembourg to transfer the ownership of the building and the lease on the land to another entity and avoid the dismantling costs associated.

The building has a fair value (as recorded in the end of 2019), of € 5.8 million. However, this value can be significantly different from the market value of the assets. In the case there is a possibility not to dismantle the building but rather transfer its ownership to another entity, an in-depth study of the redevelopment potential should be undertaken in order to provide an accurate valuation of the building.

Abandoning Luxembourg would also result in a yearly reduction of approximately € 0.5 million in Security, Utilities and Cleaning expenses. Moreover, there will be additional efficiency gains resulting from centralizing all the FTEs in Brussels, as well as efficiency gains from reducing the scope of work in the Agency Infrastructure and Facilities Management service.

Maastricht

As stated in this report, it is proposed that the MUAC centre is permanently separated from EUROCONTROL as the ANSP role will no longer be part of the future Agency. MUAC should however remain intact, managing the upper airspace of the four States. Consideration should also be given to securing the inclusion of the Karlsruhe upper airspace as part of its airspace jurisdiction. The organisation should be structured as a normal ANSP, as a four state-owned business entity, with safety oversight being carried out by EASA. It will no longer be an international organisation.

As is the case with Brétigny and Luxembourg, in order to close the facilities, EUROCONTROL is legally obliged to dismantle the building and return the physical land to the state of Maastricht. However, in this particular case, it is necessary to ensure continuity of the ANSP's operations and, thereby, there should be no dismantling. There will be a transfer of responsibilities of managing MUAC from EUROCONTROL to a new entity. It is critical that day-to-day operations are not impacted or disrupted when transferring the responsibility from one provider to the other. In this regard, MUAC will continue to receive support services from EUROCONTROL during the transitional period.

MUAC has a total fair value (as recorded in the end of 2019), of approximately € 55.3 million, composed by buildings (€ 32.8 million), equipment (€ 16.0 million) and software (€ 6.6 million).

However, these values can be significantly different from the market value of the assets. Moreover, these assets belong to all 41 Member States. Further analysis, negotiation and agreements need to be made in order to determine the conditions under which those assets should be transferred to the 4 Member States who use the ANSP's services.

Leaving MUAC would lead directly to a 26% reduction in the total Agency budget due to elimination of MUAC's specific budget, plus a 2.5%¹⁷ reduction in the total Agency budget due to the elimination of indirect costs charged by other Directorates, although this reduction has no impact on the contributions of the Member States that do not use MUAC's services. However, EUROCONTROL could identify new savings opportunities across the other Agency's Directorates if it is able to isolate and eliminate additional activities performed specifically for MUAC.

2. Efficiency improvement

The estimated potential efficiency gains give a first high-level indication of the order of magnitude of savings EUROCONTROL could realise and can be useful in identifying key opportunities. However, the analysis is performed top down and is to be interpreted as a **rough estimate**. An in-depth workload assessment study and a detailed analysis of the impacts of the identified initiatives would be required to refine these estimates, but also to identify new initiatives, particularly by including contractors in the analysis. Nevertheless, the orientations and estimates can be considered as a basis for decision making by the senior management on the way forward.

Direct cost reduction following adjusted portfolio of activities

The adjustments to EUROCONTROL's portfolio of activities will result in workforce downsize as some activities are either eliminated or have their scope reduced which will cause part of the workforce to become redundant. Regarding the specific impact on the number of FTE of both the activities removed/reduced and the corresponding indirect reduction of support costs, please find below the estimated results:

¹⁷ MUAC has most of the support services they need in-house (for example HR, secretaries, legal service, stakeholders relations, etc.). The support provided by HQ is accounted for in the budget of each Directorate as "Indirect costs charged to MUAC". This 2,5% reduction reflects those indirect costs.

Table 3 - Initiatives for the rationalisation of the activity portfolio

List of rationalisation initiatives:	Estimated gains (FTE)
<ul style="list-style-type: none"> - Separate MUAC (direct impact) - Stop IANS in Luxembourg (direct impact) - Scale back or stop Brétigny (direct impact) - Reduce the scope of work developed in the Standards, Cooperation and Stakeholder support unit - Reduce involvement in safety related activities (including but not limited to the Safety Forum) - Reduce the scope of trainings - Reduce the scope of the Language service - Reduce support services costs (indirect impact of MUAC, Brétigny and IANS decisions) 	<p>785/825 (depending if the facilities in Brétigny are kept or if the activities are centralised in Brussels) of which 715 would come via the separation of MUAC)</p>

Adapting the way of working

EUROCONTROL has the ambition to significantly improve its cost efficiency. With 2020 as a baseline, it aims for a **minimum 30% cost efficiency gain on EUROCONTROL's resources required to perform the revised portfolio activities** by 2030 or sooner. With staff related costs (salaries, pensions and other benefits) accounting for approximately 70% of the Agency's expenditure, right-sizing of the workforce will have to be a major contributor to this 30% target. A high-level analysis has resulted in an – **indicative – list of initiatives that can be implemented to contribute to the realisation of the target.** Some initiatives are already planned or on-going and could be accelerated. Other initiatives are new (indicated with an *asterisk).

Table 4 - Efficiency initiatives for the rationalisation of processes

Cluster	Initiatives that can contribute to realising a 30% efficiency gain	Estimated gains (FTE)
Rationalisation of core processes	<ul style="list-style-type: none"> - iNM - Centralisation of R&D focus on Deployment and Infrastructure* - Integration of all operational ATM-related activities - Single Planning & Monitoring Process (ACD, ID & PCSS) - CEFA Platform implementation - CRCO Financial Management System (CFMS) implementation - Optimisation of the CRCO billing process - Standardisation and automation of program and project management in NM* 	175
Rationalisation of transversal and support processes	<ul style="list-style-type: none"> - Align IT capabilities with benchmark <ul style="list-style-type: none"> o Centralize all IT capabilities in Corporate IT o Increase IT Costing transparency* o Architecture function / standards* o Rationalise the applications and IT project portfolio* - Align HR capabilities with benchmark <ul style="list-style-type: none"> o Automation of HR processes o Outsource payroll to the European Commission* 	100/105 (depending if the facilities in Brétigny are kept or if the activities are centralised in Brussels)

Cluster	Initiatives that can contribute to realising a 30% efficiency gain	Estimated gains (FTE)
	<ul style="list-style-type: none"> ○ Centralization and automation of resource planning activities (integrate FTE and euro) - Pooling of administrative resources across the Agency, including the pooling of secretaries at (minimum) Directorate level* - Align “span of control” with benchmark (simplify managerial layers)* - Consolidate stakeholder management on Agency level - Align finance & procurement capabilities with benchmark <ul style="list-style-type: none"> ○ Rationalise fragmented finance & procurement capabilities ○ Remove duplication between Technical Peer Review Committee / CCMAV, the latter to only focus on administrative aspects ○ Simplify the budgetary consultation process (Single Financial Interface - SCF/ANSB whilst ensuring industry views to be sufficiently heard) ○ ERP implementation (Oracle Finance) ○ Outsource simple accounting tasks ○ Implement a risk-based approach in procurement ○ Centralisation and automation of resource planning activities (integrate FTE and euro) - Employee self-service (including all support functions)* - Maximise the use of eVisa - Pooling of legal capabilities within the Legal Service* 	

Note on the iNM project: the project aims at solving the problems with heterogeneity and (in some cases) obsolescence of software languages, data models, interfaces, duplicated applications, etc. existing today within the technology and processes supporting the Network functions. The program is expected to replace the heterogeneous solutions for data storage with a common data-lake solution, create an ATM Digital Platform that can be considered as the ATM System of Systems in Europe and accelerate the Digital Transformation by using web technologies, Big Data, improved levels of automation, Artificial Intelligence, and Machine Learning, among other initiatives. These structural technological advancements will have significant impact in the ways of working within the NM Directorate (particularly in the Operations and Technology Divisions), but also across several other parts of the Agency. Greater integration and automation could generate significant efficiency improvement opportunities. It is **recommended that a detailed cost-benefit analysis of the project is undertaken**, including an estimation of the project’s impact on the Agency’s future resource needs. **Given the complexity of the iNM project and the absence of a detailed cost-benefit analysis, the estimated efficiency gains considered in the current report are most likely to be underestimated.**

Note on eVisa: maximising the application of eVisa has the potential to improve efficiencies across all processes that involve validation steps. Today however, and in the absence of a baseline measurement, its impact cannot be quantified. The initiative is, thereby, not considered in the quantification exercise presented below. The real potential for FTE reduction is therefore greater than the 24%/25% indicated below.

Note on the benchmark used for the support functions: a specific benchmark - EU Agencies - is used as a guideline for ensuring a balanced sizing of FTEs in support functions. The benchmark is indicative,

as EUROCONTROL is of course not comparable to EU Agencies. Even though we recommend to use the results with caution, some insights can be derived.

The analysis suggests that today EUROCONTROL's support functions¹⁸ are overstaffed. This supports the conclusion that overall, the maturity of the support functions is low and the use of resources is inefficient.

The Agency is particularly overstaffed in HR, whereas the current HR service portfolio compared to organisations in the benchmark sample is much more restricted. The analysis confirms the inefficiency of the underlying HR processes, which are mostly paper-based, the absence of employee self-service and a cumbersome social dialogue.

Although our analysis indicates that Finance is slightly understaffed compared to the benchmark, this is most likely due to some finance capabilities being decentralised (e.g., in NM) and which, for this report, could not be quantified in more detail. The result is also due to the fact that Finance is mainly focused on administrative support and compliance rather than on strategic financial management.

For all support functions, EUROCONTROL will need to attract specific expertise to significantly increase the maturity of these functions.

After realising efficiency gains from adjusting the portfolio of activities, rationalising core processes and other transversal support processes, EUROCONTROL will have opportunities to right-size support functions. This will become possible in particular after the automation of a number of support processes has materialised. The percentage of support FTEs to the total FTEs in European Union's Agencies is, on average, 30% for small Agencies and 25% for large Agencies. EUROCONTROL's current percentage of support FTEs is 29%¹⁹. As EUROCONTROL can be compared to a large EU Agency, it should decrease this percentage by 4 p.p., which corresponds approximately to a reduction of 100/105 FTEs (depending on the decision on Brétigny).

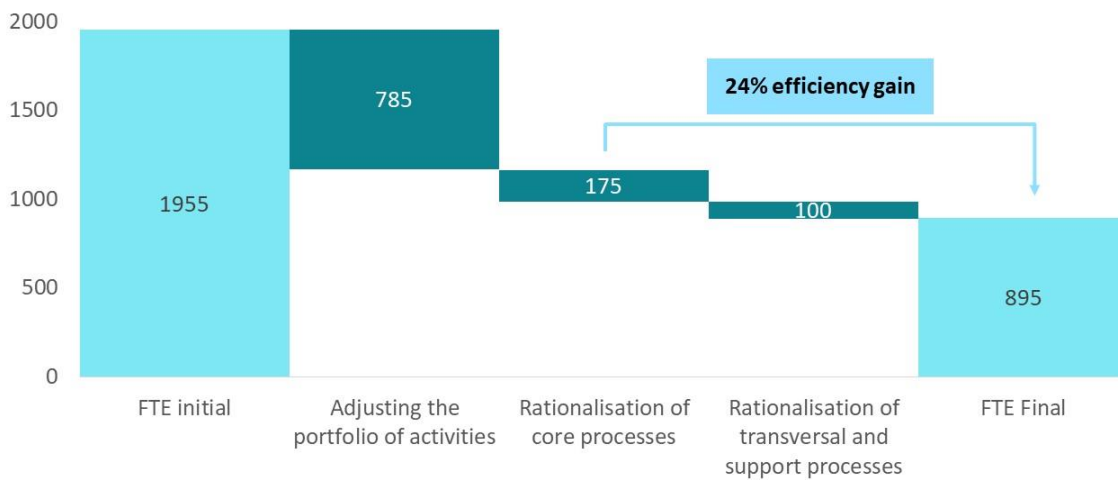
Figure 9 shows the estimated FTE reductions in the Agency's workforce (permanent staff and contract agents), resulting both from the adjustments in the Agency's portfolio of activities and the implementation of the above-mentioned initiatives²⁰, considering that the facilities in Brétigny are kept to function as the Innovation Hub.

¹⁸FTE in support functions = FTEs in the DG Office, HRS, Finance and IT, plus FTEs in other Units from NM and DECMA classified by Deloitte as mainly support Units.

¹⁹ MUAC excluded from the analysis.

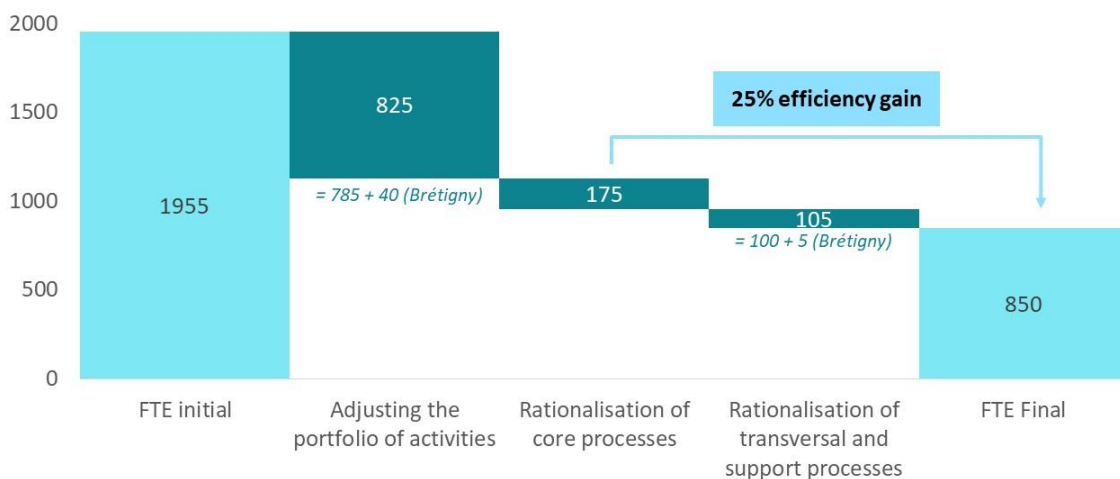
²⁰ Please note that neither a workload analysis nor a detailed activity analysis have been conducted for this report.

Figure 9 - Estimated impact in the Agency's workforce (option 1 - Brétigny facilities kept)



On the other hand, if it is decided that the facilities in Brétigny should be abandoned, there are additional gains to consider. The impact of this scenario would lead to an **additional 45 FTE reduction** as depicted in Figure 10 below:

Figure 10 - Estimated impact in the Agency's workforce (option 2 - Brétigny facilities abandoned)



According to the benchmarks used, the proposed initiatives should lead to between 24% and 25% efficiency gains (depending on the decision of keeping / not keeping the facilities in Brétigny). However, EUROCONTROL presents an overall lower organisational maturity than the EU Agencies included in the benchmark and thereby the improvement potential is probably larger than the results obtained. Additionally, as mentioned above, the analysis probably underestimates the impact of iNM and ignores the maximisation of the use of eVisa. Considering this, it can be concluded that the 30% target can be achieved.

Other cost containment and cost reduction initiatives

Within 2020 EUROCONTROL has already taken the initiative to implement a series of cost containment and reduction measures. These efforts should be continued and embedded in the post-COVID era. Measures include:²¹

²¹ Note: non-exhaustive list.

- Related to current NM:
 - Delay Infrastructure projects;
 - Reduce software development costs;
 - Reduce technical advisory support;
 - Reduce programme management support;
 - Slow down the evolution of Infrastructure Monitoring.
- Related to corporate cost:
 - Reduce technical contracts;
 - Reduce Utilities costs;
 - Reduce Security costs;
 - Reduce Catering & Transport contracts;
 - Tighten Staff Travel restrictions;
 - Reduce in in-bound secondments.

We recommend a **systematic spending review** programme focusing on the relevance and proportionality of the costs.

3. Revised organisation model

Rationale for a revised organisational model

The strategic priorities take their foundation in a best practice organisation model as described below.

Figure 11 - Strategic priorities

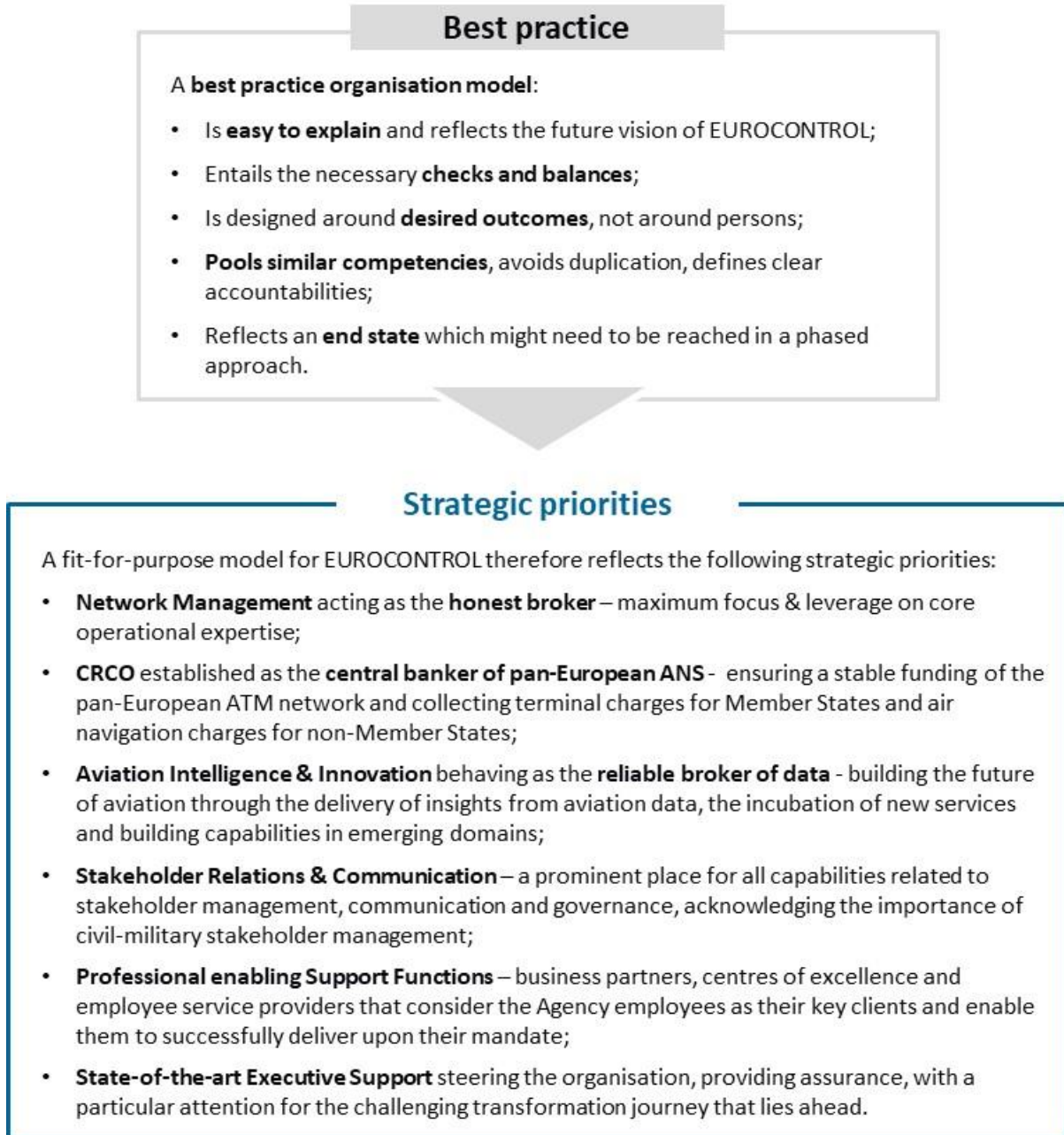
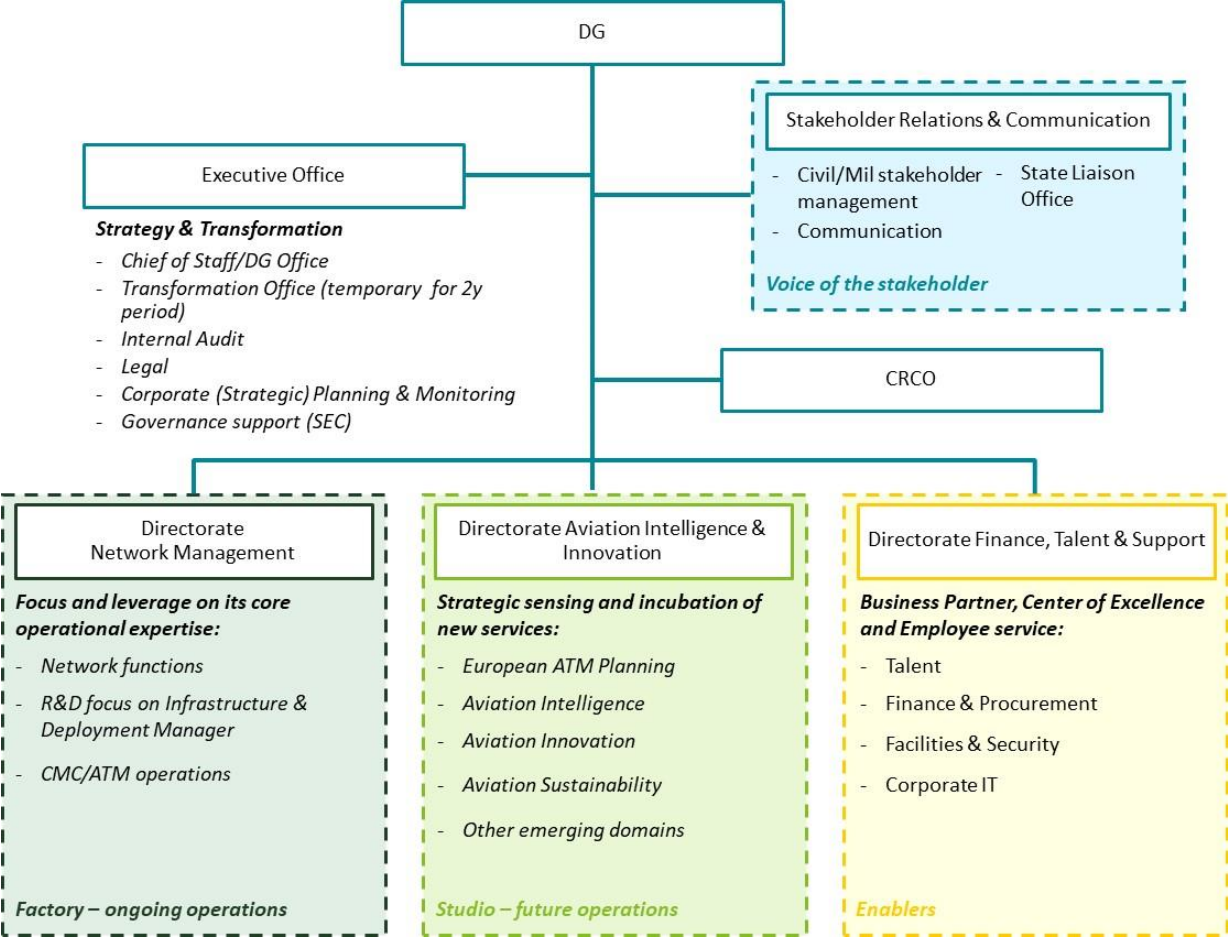


Figure 12 - EUROCONTROL's target organisational model



The implementation of a new delivery model (“Factory – Studio”) will enable EUROCONTROL to realise its strategic ambitions. This Factory-Studio delivery model is mainly composed of two arms. The innovative arm, called the **Studio**, will imagine new operations and business driven concepts, transform them into prototypes and deliver Minimum Viable Products.²² The operational arm, called the **Factory**, is the place that will deliver solutions or services based on the prototypes, roll them out, and support and operate these solutions or services.

²² Minimum Viable Product is defined as a product that offers enough value to satisfy early adopters.

Brief description of the key building blocks of the target organisational model²³:

1. **Network Management Directorate (the “factory”)** focuses on EUROCONTROL’s deep operational expertise and combines capabilities related to its current operations and technologies:

- Operations:
 - NM operations and infrastructure;
 - Coordination of stakeholders’ operations;
 - Network operations improvements;
 - Technologies: Technology Evolution and Digitalisation (iNM);
 - Network Operations Technology Implementation (SDM);
 - Testing & Validation Role;
 - Monitoring;
- Research & Development:
 - Delivery of expertise to ensure SESAR 3 contributions, focusing on deployment of network-broad solutions;
 - Delivery of expertise that contributes to innovation activities;

In the area of R&D, EUROCONTROL will **solely engage in SESAR 3 activities** by bringing deep **operational expertise focused on closing the V4 Gap**. Expertise will be sourced from within the organisation as well as from the broad aviation ecosystem (open talent pool). Rather than isolating SJU contributions in a separate entity the model **fully embeds them in the operations** as to leverage fully the day-to-day experience of NM experts and ensure swift testing, validation and deployment of new solutions.

2. The **Aviation Intelligence and Innovation Directorate** reflects the Agency’s ambition to become the reliable **central broker of aviation data** in Europe, generating **forward-looking insights** that inform decision making as well as identify **emerging trends** (strategic sensing) and **spark innovation**. The Directorate integrates:

- European ATM Planning process that integrates the Master Planning, R&D planning and programme management, Infrastructure Planning & Support. The monitoring of progress against SESAR 3 contributions is ensured here.
- Aviation Intelligence, single point of contact for all data-related services (including the PRISME data warehouse) and Performance Review activities.²⁴
- Aviation Innovation, a “studio” / sandbox environment where EUROCONTROL brings together key players from the broad aviation ecosystem to facilitate innovation.
- Aviation Sustainability is a domain that is key to the future of aviation, and an area in which EUROCONTROL continues to enhance its capabilities. The proximity of the Sustainability team to the Aviation Intelligence Unit will allow EUROCONTROL to fully leverage its unique position to deliver insights and recommendations on the progress of aviation towards the EU’s sustainability goals. If EUROCONTROL manages to successfully embed those insights into its operations, it has the potential to develop into a leader in aviation sustainability services in the broad sense.
- Other emerging domains, capability building in other novel areas such as AI, cyber, drones and higher altitude airspace.

²³ The next section will further elaborate on the collaboration model between Network Management and Aviation Intelligence & Innovation (see section “Zoom on the Factory-Studio delivery model for NM and Aviation Intelligence & Innovation”).

²⁴ According to the reduced scope of activities as described in Chapter 2.

3. **Finance, Talent & Support Directorate** is not only the **guardian of EUROCONTROL's assurance framework** and policies, it also combines all the **enabling functions** necessary for the Agency to deliver upon its remit. Strong support functions play a triple role: 1) they are strategic business partners to the whole Agency, able to anticipate the needs; 2) they offer specific highly relevant expertise in their respective domains; 3) they are fundamentally customer-centric and offer a unique experience to all EUROCONTROL staff. From a governance point of view, a strong Corporate Support Director is a constructive challenger to both Director General and peer Directors. In the proposed model, the Directorate integrates:
- Talent (the revised name reflecting the need to move from HR to Talent management);
 - Finance and Procurement (including the corporate CFO function);
 - Facilities & Security;
 - Corporate IT, including business continuity management (including the corporate CIO function).

The corporate IT function is today included in the NM Directorate (for historical reasons). In a target organisational model, an independent IT unit working with an overarching Enterprise Architecture framework is essential to support the transformation of an Agency of the size and complexity of EUROCONTROL.

4. An **Executive Office** to support the DG. It includes the corporate functions to steer the organization and monitor its performance, with a particular attention for the challenging transformation journey that lies ahead. Capabilities include:
- Chief of Staff / DG support office
 - Legal service, where ALL legal capabilities are centralised;
 - Governance support (SEC), a unit dedicated to prepare the Provisional Council meetings as well as all key stakeholder consultative and decision bodies;
 - Transformation Office managing the overall transformational agenda for the Agency. This can be a **temporary capability** that is eventually embedded in the Talent team. The next coming years it is however recommended to foresee strong overall Programme Leadership and transformation expertise to support the transformation journey of the Agency. Typically, a Transformation Office manages a series of highly strategic corporate programmes sponsored directly by the Director General.
 - Corporate (Strategic) Planning & Monitoring supports the definition and monitoring of organizational KPIs at strategic level, is the process owner of the Agency's Business Plan and oversees the development of a coherent, consistent and integrated plan that is fully in line with the DG's vision. A centralization of the strategic planning and monitoring capability can enhance the collaboration between Directorates and ensure consistency from strategy to execution. Typically, the Strategic Planning & Monitoring function supports the meetings of the Agency Management Board.
 - Internal Audit, supporting the implementation of "assurance by design" practices across the Agency. The Unit provides assurance and advisory on assurance capabilities, controls design, risk management and anticipation of upcoming and potential risks. The team leverages a good understanding of EUROCONTROL business and technology. The team delivers Internal Audit projects that generate implementable recommendations for the Directorates. In line with best practice, staffing follows a co-sourcing model, where EUROCONTROL internal audit sources external expertise on specific topics as required.

5. **The CRCO** establishing the Agency as the central banker of pan-European ANS. It ensures a stable funding of the pan-European ATM network as well as encompasses the services of collecting terminal charges for Member States and air navigation charges for non-Member States.

An expansion of CRCO's role could however be explored, particularly in facilitating access to banking systems, funding as well as rate stabilisation systems. This broader scope builds on the loan facility that was secured during the COVID-19 crisis to help protect the critical ATM infrastructure and hence business continuity.

6. **Stakeholder Relations & Communication** reflects EUROCONTROL's radically customer-centric approach. Within this Directorate all capabilities that support and enhance stakeholder relations are integrated. The importance of stakeholder relations is reflected by its position in the overall structure, i.e., reporting directly to the Director General. The integration of all stakeholder related activities will create synergies and will make sure EUROCONTROL's messaging at strategic level is consistent and coherent. Capabilities include:

- Civil-military stakeholder management (at strategic level), focal point for maintaining and improving efficient civil-military collaboration between States and all relevant aviation/ATM stakeholders;
- Stakeholder Engagement & Cooperation (incl. State Liaison Office) takes up a central role in EUROCONTROL's obligatory tasks in terms of support to states. The Stakeholder Engagement & Cooperation unit functions as a SPOC for Member State requests and liaises within the Agency with the experts necessary to respond to the Member States' requests. This unit closely collaborates with the Corporate Communications unit to safeguard consistency in EUROCONTROL's messaging towards the Member States.
- State Liaison Office is included in the Stakeholder Engagement & Cooperation unit, and continues to achieve its mission to foster closer relationships between the Agency and Member States, ECAC States that are not EUROCONTROL Member States, and neighbouring states or Comprehensive Agreement States. This Office provides a two-way feedback channel and facilitates multilateral cooperation. State Liaison Officers are mandated in time and their activities are defined by a pre-agreed work programme and focusing on capability building in their respective states;
- The Corporate Communications unit is a strategic unit. It safeguards the EUROCONTROL brand, and makes sure that communications are fit-for-purpose for their target audience. To do so, the Communications unit needs a particular set of skills:
 - Editorial expertise, to oversee and develop the content;
 - Channels expertise, to identify which channels to use to target which audiences;
 - Conference Centre management;
 - Management of the multimedia room (TV/radio station & management cockpit);
 - Marketing and events expertise, to develop and deliver event concepts.

The development of communication content is a collaborative process between the central Communications unit and the rest of the Agency. The Communications unit contributes strong editorial expertise and supports a network of decentralised communication SPOCs who are embedded in the Directorates. Channel specialists determine which (mix of) channel(s) maximizes the intended impact. Expertise will be required in social media, video, as well as press relations. Finally, Marketing & Events experts develop powerful concepts for events and campaigns that strengthen the EUROCONTROL brand.

It is essential that EUROCONTROL has one brand for the whole Agency, and no separate brands for parts of the Agency. The visual identity of the Studio in Brétigny or Brussels HQ can be distinctly different but needs to remain coherent with the EUROCONTROL brand.

We recommend the implementation of a professional CRM solution to support EUROCONTROL’s ambitions in the area of stakeholder relations and communications.

4. Brand new EUROCONTROL experience

In order to become a radically customer-centric organisation and a modern, open social enterprise, even more than it is today, EUROCONTROL should invest in the **digital customer experience** it is providing to its stakeholders.

A **multi-channel communication with its stakeholders**, with dedicated and targeted communication channels, geared towards the different personas of stakeholders present in the aviation landscape, should therefore be pursued. The implementation of a EUROCONTROL digital stakeholder platform can support that ambition. The platform can be envisaged as a state-of-the-art gateway to EUROCONTROL services as well as a gateway to insights on aviation at large. The list of relevant use cases is long. We focus below on just a few:

- EUROCONTROL should consider building a digital “data services” platform to facilitate interactions between users/stakeholders and EUROCONTROL, with data as a cornerstone. Accessible from any device, professionals as well as European citizens could explore data in a 'freemium' mode whilst having a positive and meaningful experience. More detailed data sets could be explored by EUROCONTROL clients & stakeholders following the user pays principle (UPP) in a fee per download or API call, or in a subscription model.
- EUROCONTROL daily alerts on traffic.
- A virtual knowledge community of aviation experts, the broader aviation talent marketplace (cf. infra).
- A new experience for EUROCONTROL’s suppliers.

The platform should nurture the interactions between citizens, stakeholders and the Agency, fully focused on elevating the interactions. This platform should be based on the following key functionalities and principles:

- Intelligent data services based on Artificial Intelligence (AI);
- 24/7 data services platform;
- Nurturing interactions between citizens, stakeholders & EUROCONTROL;
- Omnichannel strategy – web, mobile, chatbot, interactive kiosks / mediawalls in airports;
- 'Freemium' and UPP model.



Figure 13 - EUROCONTROL Digital Experience

EUROCONTROL could develop this platform in an agile way, whereby new digital products are defined and designed in a short timeframe (approx. 6 weeks), following a ‘capture-concept-prototype-MVP’ development track. This approach will allow EUROCONTROL to focus completely on the expectations of the end user: its clients / stakeholders and the citizens.

5. A future-proof talent model for EUROCONTROL

Future-proofing EUROCONTROL's workforce and skillset is probably one of the major challenges in the years to come. Today's talent pool lacks gender diversity (<30% female staff, significant underrepresentation of women in leadership positions), shows a problematic age pyramid (1/3 reaching retirement age by 2030) as a result of the lack of rejuvenation (average age of 56) and does not represent the cultural diversity of EUROCONTROL's Member States with a concentration of staff originating from a limited set of countries. In addition, competencies that are critical to deliver upon EUROCONTROL's renewed vision are missing in the technical as well as managerial areas. Finally, EUROCONTROL will need to strengthen its change capability in order to be able to reinvent itself.

Going forward, EUROCONTROL's talent pool will need to be more **open, diverse and agile** enough to slide effortlessly into new roles if needed.

Fit-for-purpose skills and capabilities

EUROCONTROL needs a **strategic workforce plan** in line with the revised strategy. This implies insights in the current skillset and in the "gap" between available and future needs, a view that today is only partially available.

It is however clear that **important white spots** exist with respect to **technical, functional and managerial capabilities**. Below is a non-exhaustive overview of required skills to ensure that the Agency can successfully act upon its mission.

Table 5- Required skills for the Agency

Required skills	Examples
Technical skills related to the day-to-day operations	<ul style="list-style-type: none"> • Airspace design expertise • Capacity planning expertise • Operational concepts and ATS procedure expertise • Airport expertise • Business economy expertise • Surveillance expertise • Information service expertise
'New' skills related to new technologies	<ul style="list-style-type: none"> • Cloud engineering • AI • Big Data • Robotics • Augmented reality
Skills related to emerging domains	<ul style="list-style-type: none"> • Sustainability and SAF • High altitude airspace • Drones • Data intelligence • Data Privacy
Skills related to support areas	<ul style="list-style-type: none"> • Strategic sourcing • Strategic finance • Strategic talent management • Enterprise architecture • New communication / media channels • Event design, branding & marketing
Skills related to change capability	<ul style="list-style-type: none"> • Innovation methodologies • (People) Change management • Organizational transformation

Besides having a strong technical and functional team, EUROCONTROL will also have to **ensure that managers have the right set of capabilities**. The current career progression model has urged high

performing technical experts to be promoted to managerial roles, regardless of their capabilities and interest in a managerial career. This has led to a lack of managerial skills across the Agency.

It is essential for EUROCONTROL to rethink its **Talent Development Programme**. Within its current Strategic Workforce Plan, EUROCONTROL already developed a Staff Development Plan focusing on people review (performance management), staff development (70-20-10 model) and High Potential development. EUROCONTROL should fully implement this plan as well as expand its scope. It implies that a fourth dimension should be integrated, a **career progression model**, where different career paths are possible depending on the profile of the staff.

In order to build its future workforce, EUROCONTROL should activate a combination of sourcing options as well as targeted reskilling and talent development programs.

Diverse and inclusive workforce

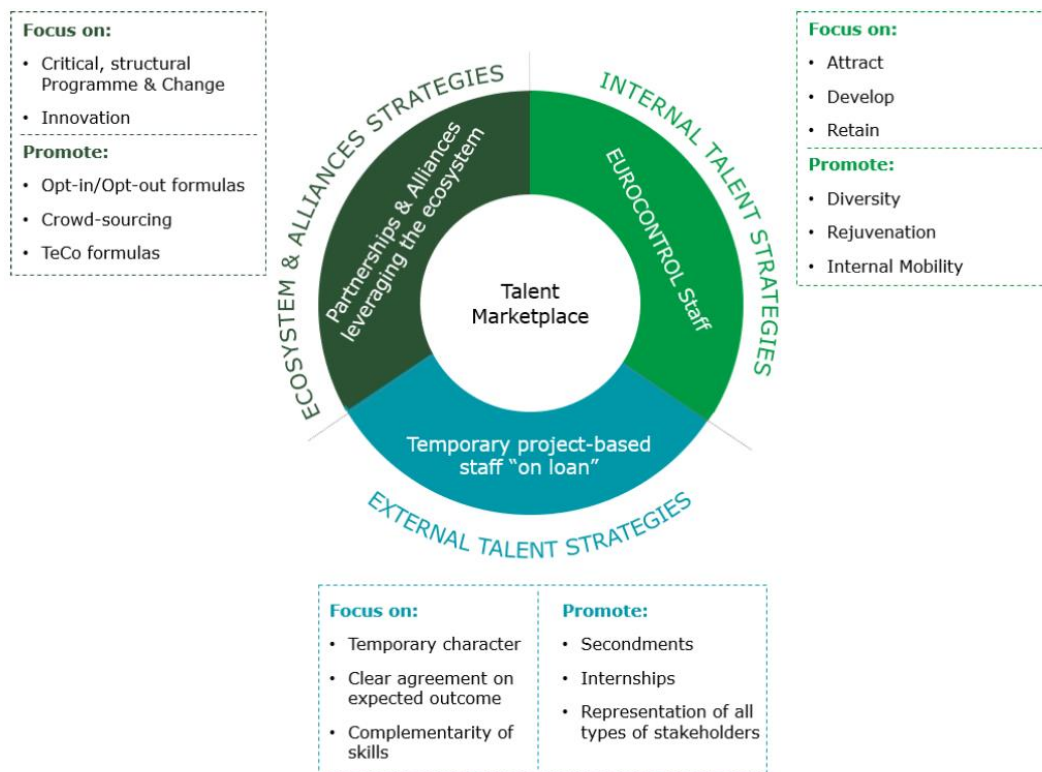
Embedding diversity and inclusion (D&I) in EUROCONTROL's culture is key to creating an organisation in which people can be themselves, be able to thrive and perform at their best. Despite several D&I initiatives put in place by EUROCONTROL in recent years, the Agency is still facing clear diversity gaps, including gender imbalance in technical and managerial roles.

EUROCONTROL will have to continue and strengthen its D&I agenda to make sure it is reconfirmed as a priority for the future. EUROCONTROL's commitment to increase female representation should be translated into a **target with intermediary milestones (towards 2025 and 2030)**. Based on several studies and benchmarks, the **overall target for diverse leaders in an organisation should be around 30%**. Setting a target does not necessarily lead to implementing quota. They do however express an explicit commitment to undertake all possible and reasonable efforts to move the needle. The Agency should fully embrace the governance established in the D&I Policy (beyond the network of Diversity Focal Points). Each manager should receive performance goals related to D&I.

Implement and activate a talent marketplace

EUROCONTROL's future talent pool shall be hybrid and agile. The Agency should change its perspective: from "workforce" to "talent pool", from "recruitment" to "sourcing", from "internal focus" to "open talent marketplace". EUROCONTROL should focus on elaborating a talent strategy that offers an innovative and flexible approach to talent acquisition, mobility, and management. It will enable efficient staff recruitment and optimise active sourcing and targeted HR development. This shift in the talent strategy ensures that next to the organisation's own staff, a pool of talent is available including profiles from a variety of different sources.

Figure 14 - EUROCONTROL's future talent marketplace



The concept of aviation “talent marketplace” refers to the fact that EUROCONTROL needs to widen the pool from which to source talent. Next to the “regular” labour market, the Agency considers a diverse mix of strategies to source its required competencies and skills.

Three strategies will need to be put in place. They vary in function of the required competencies, the potential talent pool and the nature of the activities to be performed.

- **Internal talent strategies** will focus on attracting, developing and retaining EUROCONTROL staff with critical core capabilities. Key programmes will be set up around diversity, internal mobility and rejuvenation of the workforce. The latter can be achieved through default contracts of a determined duration that are renewed only upon exception.
- **External talent strategies** will focus on sourcing individual talent that works under a pre-defined, temporary work programme. Staff can be “on loan”, seconded from any of the aviation stakeholders. Internships can be agreed with universities or research institutions. In the future, EUROCONTROL can even envisage a mandatory secondment of its own staff with one of the key aviation players, prior to key promotion decisions. The emphasis of the external talent strategies is on strengthening the aviation community and fully leveraging the complementarity of skills.
- **Ecosystem & alliance strategies** take collaboration one step further. These strategies focus on more fundamental transformational programmes and/or innovation initiatives. Whereas external talent strategies relate to individual talent, here we are considering organisational partnerships, alliances, agreements. These can be unilateral or multilateral, they can involve public as well as private players. A TeCo formula, a Joint Undertaking, PPP constructions are all examples. Within the context of innovation, EUROCONTROL should envisage crowdsourcing initiatives targeting the general public or specific communities. This can be implemented through hackathons, prizes, contests, or online challenges of different natures.

The above strategies are all designed to help EUROCONTROL to leverage optimally on the experience and expertise present in the aviation ecosystem whilst containing its own HR costs.

Finally, **automation, AI, robotics and other new technologies will fundamentally change the “future of work”** for EUROCONTROL. Machines need not to be considered a threat but rather embraced as a new type of resource that contributes a wealth of new opportunities. EUROCONTROL has not sufficiently anticipated this evolution. For example, for an important programme such as iNM the impact on required resource levels has not been estimated. We recommend EUROCONTROL to conduct – as a priority – such an **Agency-wide impact assessment**, the results of which to be integrated in the Agency’s strategic workforce plan for the next coming years.

Regulatory framework allowing for a modern Talent management

Given the proposed refocus of the activities of the Agency, it is likely that the **outflow of staff following retirement will be insufficient to accommodate the staff reduction plans**. Thus, the Agency will need to look for alternative ways to implement the redundancy plan.

In terms of **measures** to be taken to further reduce staff, the following options can be considered and need to be carefully compared in order to find the most economical advantages measures:

- **Already being implemented (and to be continued):**
 - **‘2 out of 3’:** EUROCONTROL is already implementing the partial replacement measure of those leaving on pension (2 replacements out of 3 leavers for non-ops staff);
 - **Revised hiring policy:** EUROCONTROL is prioritising the use of contract agents (AC staff) which are at lower cost, do not increase pension liabilities and allow for periodical workforce renewal.
- **To be considered:**
 - **Termination of temporary contracts;**
 - Elevate the uptake of the **Early Retirement Scheme;**
 - **Voluntary resignation:** award a lump sum payment for cases of voluntary resignation (Annex 18);
 - **Leave in the Interest of Service (LIS):** organise an internal ‘call for interest’ for LIS;
 - **Compulsory resignation based on Article 41** (Section 4 – Non-active status): elevate the number of non-active civil servants with reduced salary costs.

All these measures can be instrumental in deploying the redundancy plan of the Agency. However, some of these measures will be more favourable in terms of cost, feasibility, consequences, etc. Therefore, it is **recommended to carefully investigate all the potential measures by implementing a thorough cost/benefit analysis through the activities of the future transformation office**.

Most likely, a combination of a number of these measures will then need to be implemented to achieve the set goals in terms of staff reduction.

The **current Staff Regulation is not a suitable framework for a modern international organisation, along with cumbersome and rigid Social Dialogue procedures**. This is a major burden and a constraint on the Agency’s ability to be more agile and cost-efficient. A fundamental review of the current Staff Regulation is therefore needed, and a new Staff Regulation should be established.

The following **measures** could be taken to improve the regulatory framework and the current remuneration practices:

- The current requirement to secure unanimity of Member States regarding changes to the Staff Regulation is a significant constraint. ‘Unanimity’ should be changed to ‘majority’ voting. Why should a single Member State have the ability to veto decisions related to terms and conditions of EUROCONTROL’s staff?;

- Amend the rules regarding the dismissal for incompetence that currently only allow a dismissal after 5 years of consecutive unsatisfactory annual reports. I.e., after two negative appraisals, dismissal should be an option;
- The current Staff Regulation is mirroring to a great extent the EU Staff Regulation, which is expensive and rigid compared to normal market conditions in aviation. Therefore, carry out a compensation & benefits benchmarking exercise to make sure the compensation package is aligned with (i) the function and the related competencies and responsibilities as well as (ii) the aviation “market rate”;
- Vacancies should only be available to accommodate staff departure (retirement or leaving) or changing business needs. Furthermore, there should be no automatic right to promotion to higher grades;
- Enable supervision of EUROCONTROL staff by contract staff;
- The myriad/complexity of staff allowances should be reviewed, simplified and be more cost effective;
- Staff should not be entitled to ex-pat allowance after five years;
- Administrative staff should be appointed locally under local market conditions;
- The myriad/complexity of staff committees should be reviewed and simplified;
Social Dialogue procedures are not fit-for-purpose for a modern international organisation and need to be reviewed;

Pension Scheme

The current Pension Scheme is financially not sustainable, highly expensive (i.e., can be up to 70% of exit payroll per month) and significantly more advantageous than private and public sector Pension Schemes. There should be a review of the current pension scheme and liabilities to bring them in line with normal aviation industry models with a view to significantly reducing the pension liability of EUROCONTROL.

V. How to make it happen

In order to realise the future vision described in this report, EUROCONTROL needs to embark on an ambitious, multi-annual transformation journey.

1. Recommendations

We recommend EUROCONTROL to focus its efforts in the years to come on the implementation of the following key recommendations:

Table 6 – Recommendations

#	Recommendation	More details
1	Ensure the new Strategic Plan, as laid out in this study, is integrated in the next Agency Business Plan and its work programmes for 2022 – 2026.	/
2	Network Management activities: <ul style="list-style-type: none"> • Seek to become the permanent provider of network management services for the EU; • Excel in executing the enhanced NM role as foreseen in the SES reform programme; • Function as an Air Traffic Data Service Provider (ADSP) where a pan-European need exists; • Evolve the SESAR Deployment Manager to the future Infrastructure Manager. 	Where to Play - Network functions (p.31)
3	Work towards a permanent separation of MUAC from EUROCONTROL . MUAC should remain intact managing the upper airspace of the four States. Consideration should also be given to securing the inclusion of Karlsruhe upper airspace as part of its airspace jurisdiction. The organization should be structured as a normal ANSP, as a four state-owned business entity, with safety oversight being carried out by EASA. It will no longer be an international organisation.	How to Configure – Service delivery locations (p.40)
4	Continue to act as a central banker of pan-European ANS (CRCO) while exploring a more strategic role including for example a system stabilization fund, with permanent access to the banking system and to funding.	Where to Play - CRCO (p.32)
5	Leverage its position as the central repository for aviation data in Europe to build a pan-European Aviation Intelligence Centre of Excellence. Data and intelligence refer to operational, performance, environmental, financial and economic data related to aviation.	Where to Play – Aviation Intelligence (p.32)
6	SESAR 3 should be the only research activity within EUROCONTROL , and with a focus on activities designed to close the V4 gap (i.e., reach the deployment phase). Any other research activity will need to have a demonstrated added value, i.e. address customer needs.	Where to Play – R&D for deployment (p.33)
7	Create a pan-European Network of Innovation Labs for the digital transformation of aviation. Brétigny could potentially be positioned as the European Innovation Hub in aviation. If Brétigny was to serve as this Innovation hub, there is an opportunity to rationalise the staff by approx. 20%. However, if these services (incl. simulator tools) are to be delivered in Brussels, this would necessitate the closure of the Brétigny facility and would potentially lead to higher rationalisation.	Where to Play – Aviation Innovation Capabilities (p.34)
8	Expand its expertise and services in the area of sustainability leadership , building on its operational expertise (to develop aviation sustainability solutions) and its wealth of environmental data.	Where to Play – Aviation sustainability (p.34)
9	Limit training services to end-user training on network solutions and systems , which would be carried out from EUROCONTROL HQ, leaving all other training activities for the industry to explore. Close the decentralised training facilities in Luxembourg (IANS).	Where to Play - Network functions (p.31)
10	Secure visibility on the “cost of doing business” (service cost, project cost, process cost, system cost, etc.), i.e. establish a baseline and implement performance monitoring.	Weaknesses to be addressed (p.21)
11	Set an ambitious 30% cost efficiency improvement target and roll-out a process efficiency improvement programme , with the automation of support processes and systematic spending reviews as two of its key priorities over the lifetime of this plan.	How to Configure – Efficiency improvement (p.40)
12	Implement Strategic Workforce planning (incorporating both staffing levels and competences) that includes a bold and focused redundancy plan , the implementation of which should start as early as possible and once the major recommendations are agreed.	Weaknesses to be addressed (p.22)
13	Implement and activate, in close collaboration with stakeholders, an open aviation talent marketplace , enabling the development of a diverse, dynamic workforce that is continuously rejuvenated.	How to Configure – Future proof

#	Recommendation	More details
		talent model (p.52)
14	Implement a new organisation structure that reflects the strategic priorities: Network Management (“NM” Directorate), Aviation Intelligence and Innovation (“AI” Directorate), professional support functions (“Finance, Talent & Support” Directorate), Stakeholder Relations & Communication (“SRC” Division) and consistency from strategy to execution (“Executive Office”).	How to Configure – Revised organisation model (p.46)
15	Conduct a fundamental review of the current Staff Regulation & Social Dialogue and establish a new Staff Regulation & Social Dialogue that allows for flexibility, proper performance management and for the implementation of fit-for-purpose Talent Management programmes.	How to Configure – A future proof talent model for EUROCONTROL (p.52)
16	Review the current pension scheme and liabilities and bring them in line with normal aviation industry models with a view to significantly reducing the pension liability of EUROCONTROL.	How to Configure – A future proof talent model for EUROCONTROL (p.52)
17	Create a (temporary) Transformation Office reporting directly to the Director General to plan, steer, manage and monitor the implementation of the transformation journey and all of the above recommendations.	How to Configure – Revised organisation model (p.46)

Based on the 2021-2030 horizon, we recommend to implement the hereabove recommendations according to the following high-level roadmap.

2. Roadmap – Key milestones

The implementation of the key recommendations will require a phased approach. Whereas the (to be created) Transformation Office will need to develop a detailed implementation plan and certain recommendations will be subject to a more in-depth feasibility / cost-benefit analysis, we can already define a number of (indicative) key milestones for the period 2021-2023.

2021 – “Make the aircraft airworthy”: getting the basics right

Table 7 - Key milestones 2021

Milestones	Recommendation #
Secure approval for the portfolio of activities and recommendations in this report	1 - 17
Create Transformation Office, formalize detailed transformation plan	17
Agreement with EC on role as permanent provider of NM services for EU	2
Integrate new Strategic plan in ABP and work programs	1
Integration of Infrastructure Manager in SESAR Deployment Manager role	6
In-depth review of current EUROCONTROL research activities, cost-benefit analysis and prioritization	6
Formalise future sustainability services portfolio and strengthen the team / expertise	8
“Cost of doing business”: establish a baseline	10
Set efficiency target, plan efficiency and spending review programmes (*), execute wave 1	11
Finalise Strategic Workforce Plan 2021-2025 including Staff redundancy plan (*), execute wave 1	12
Implement new organization structure, staff migration (AS IS sourcing levels – TO BE organization)	14
Fundamental review of Staff regulation and Social Dialogue	15
Review the current Pension Scheme and liabilities	16

2022-2023 – “Cruise the skies”

Table 8 - Key milestones 2022-2023

Milestones	Recommendation #
Expansion of CRCO role – requirements study and cost-benefit analysis (*) (2022)	4
Aviation Intelligence Centre of Excellence - requirements study and cost-benefit analysis (*) (2022) & Implement multi-channel digital platform (2023)	5

Aviation Innovation hub and network - requirements study and cost-benefit analysis (*) (2022)	7
Scale down training activities (2022) & Discontinue IANS (2022 / 2023)	9
Based on Strategic Workforce Plan, implement aviation talent marketplace - requirements study and cost-benefit analysis (*) (2022)	13
Separation of MUAC from EUROCONTROL (2023)	3
Revised Staff Regulation and Social Dialogue (2023)	15
Revised Pension Scheme and liabilities (2023)	16

(*) A more detailed implementation planning is to be developed based upon the results of the aforementioned studies

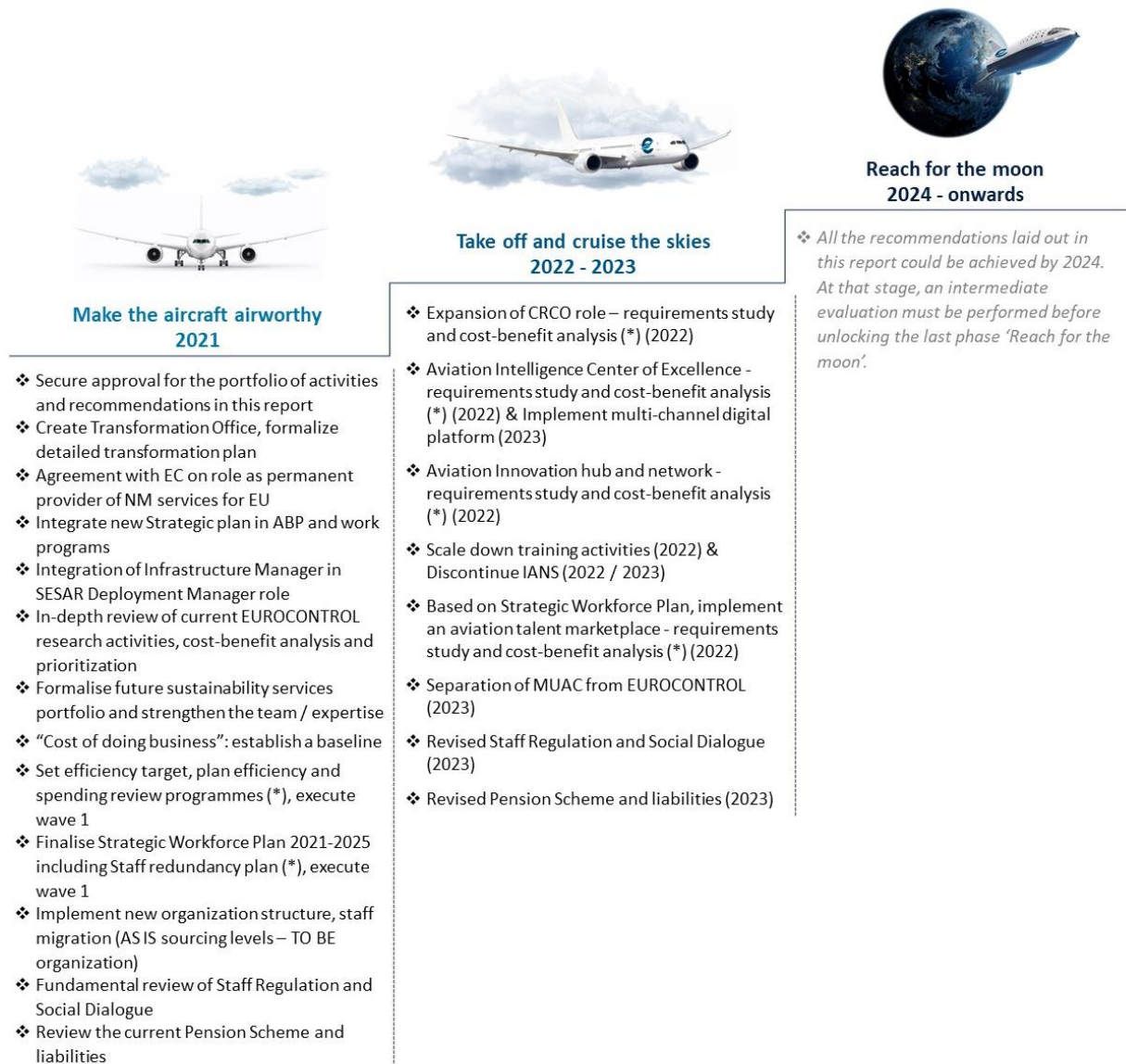
Beyond 2023 – “Reach for the moon”

All the recommendations laid out in this report could be achieved by 2024. At that stage, an intermediate evaluation must be performed before unlocking the last phase ‘Reach for the moon’.

The ‘reach for the moon’ stage implies that EUROCONTROL is efficiently delivering its core services and start leveraging and transforming from it. The Agency will look at opportunities to grow and become a modern, agile and diverse pan-European Agency - a role model within the ecosystem.

3. Roadmap – Overview

Figure 15 - Roadmap



(*) A more detailed implementation planning is to be developed based upon the results of the study

Annex

I. Annex 1 – Stakeholder consultations

In the preparation of this Strategic Plan, **over 120 stakeholder consultations** have taken place among industry groups, ANSPs, airports, airlines, Member States and key experts from the sector. The stakeholders consultations process encompasses in-depth interviews with different groups of stakeholders, working session around specific topics (Focus groups) and High Impact Sessions with EUROCONTROL’s senior leadership.

The stakeholder consultation is composed, on one hand, of **124 in-depth interviews** with different groups of key stakeholders to collect specific qualitative and quantitative information on EUROCONTROL’s current activities and the future of the Agency. The interviews were intended to provide additional insights into the documentary and data evidence that was available for synthesis. On the other hand, a **significant amount (50+) of internal interviews** were organised with EUROCONTROL’s leadership and key experts as well. These internal interviews allowed to capture ongoing developments and to strengthen leadership engagement for this assignment.

1. In-depth interviews

In the table below, we provide the number of interviews per type of stakeholders. All interviews were based on semi-structured discussion guides tailored to each stakeholder group.

Table 9 – In-depth interviews

Type of stakeholders consulted	Number of interviews
External stakeholders	69
Member States	20
<ul style="list-style-type: none">• Goda Bražytė-Balčiūnė, Lithuania<ul style="list-style-type: none">○ Director Transport Competence Agency, Lithuania• Raúl MEDINA CABALLERO, Spain<ul style="list-style-type: none">○ Director General Civil Aviation at Ministry of Transport, Mobility and the Urban Agenda, Spain○ President EUROCONTROL○ Board member ENAIRE○ Board member SENASA○ Board member INTA○ Board member AESA• Miryana CIZMAROV, Serbia<ul style="list-style-type: none">○ Director General Civil Aviation Directorate of the Republic of Serbia• Johann Friedrich COLSMAN, Germany<ul style="list-style-type: none">○ Director General for Civil Aviation Federal Ministry of Transport and Digital Infrastructure, Germany○ Vice Chair of the Management Board EASA• Georgios I. DRITSAKOS, Greece<ul style="list-style-type: none">○ Governor Hellenic Civil Aviation Authority, Greece• Panayiota GEURGIU-DEMETRIOU, Cyprus<ul style="list-style-type: none">○ Director General Department of Civil Aviation / Ministry of Communications and Works, Cyprus○ Management Board Member EASA• Stephen HAND, United Kingdom<ul style="list-style-type: none">○ Civil Aviation Authority, Head of European Airspace Branch• Levan KARANADZE, Georgia<ul style="list-style-type: none">○ Director General Georgian Civil Aviation Agency○ Vice-President of the Provisional Council EUROCONTROL• Bahri KESICI, Turkey	

- Director General of Civil Aviation | Ministry of Transport and Infrastructure, Turkey (Interviewed in Q4 2020 – Retired in Q1 2021)
- Elisabeth LANDRICHTER, Austria
 - Director General of Civil Aviation | Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology
 - Management Board Member | EASA
- Gunnar LJUNGBERG, Sweden
 - Director General of Civil Aviation | Swedish Transport Agency, Civil Aviation and Maritime Department
- Gilles MANTOUX, France
 - Head Single European Sky, Direction du Transport Aérien | Direction Générale de l'Aviation Civile, France
- Koen MILIS, Belgium
 - Director General | Belgian Civil Aviation Authority
- Mário NEMÉTH, Slovak Republic
 - Director General | Ministry of Transport and Construction, Slovak Republic
- Charles PACE, Malta
 - Director General for Civil Aviation | Transport Malta Civil Aviation Directorate
- Alessio QUARANTA, Italy
 - Director General | Italian Civil Aviation Authority (ENAC)
 - President | EATEO
 - Vice-President and Focal Point for Facilitation and Security | ECAC
 - President | JAA TO
 - Member of the Provisional Council, Provisional Council Coordinating Committee and Permanent Commission | EUROCONTROL
 - Member of the Management Board | EASA
- Tatevik REVAZYAN, Armenia
 - Chair of Civil Aviation Committee | Government of the Republic of Armenia
 - Co-founder | airesvalley
- Luís Miguel RIBEIRO, Portugal
 - Chairman of the Board – Portuguese Civil Aviation Authority (ANAC), Portugal
- Piotr SAMSON, Poland
 - President / Director General Civil Aviation | Aviation Authority of the Republic of Poland
 - Vice-President Provisional Council | EUROCONTROL
 - Chairman of the Programming and Resources Advisory Group | EASA
- Jaco STREMLER, The Netherlands
 - Director of Civil Aviation at Ministry of Infrastructure and Water Management

Senior representatives of institutions and associations

14

Institutions :

- Ingrid CHERFILS
 - President | ECAC
 - Director Strategic Development and Management | Transportstyrelsen – Swedish Transport Agency
- Regula DETTLING-OTT
 - Chairperson | Performance Review Body PRB of the Single European Sky
 - Attorney and Aviation Policy Advisor | Dettling-Ott
- Florian GUILLERMET
 - SESAR JU Executive Director
- Henrik HOLOLEI
 - Director-General for Mobility and Transport | European Commission
 - Chairman of the Supervisory Board | Estonian School of Diplomacy
 - Board Member | Hermes – Air Transport Organisation
- Patrick KY
 - EASA Executive Director
- Emilio FAJARDO
 - EDA Director Industry, Synergies & Enables (ISE), European Defence Agency

Associations :

- Montserrat BARRIGA
-

<ul style="list-style-type: none"> ○ ERA Director General • Alexandre DE JUNIAC <ul style="list-style-type: none"> ○ IATA Director General and CEO • Vincent DE VROEY <ul style="list-style-type: none"> ○ ASD Director of Civil Aviation ○ Equipment Manufacturer Representative to the Administrative Board SESAR Joint Undertaking ○ ASD Observer to the Provisional Council EUROCONTROL • Tanja GROBOTEK <ul style="list-style-type: none"> ○ CANSO Director Europe Affairs • Olivier JANKOVEC <ul style="list-style-type: none"> ○ ACI Director General • Athar Husain KHAN <ul style="list-style-type: none"> ○ Secretary-General EBAA ○ Founder and CEO The Puresst Advice • Sylviane LUST <ul style="list-style-type: none"> ○ AIRE Director General • Thomas REYNAERT <ul style="list-style-type: none"> ○ A4E Managing Director 	
Airlines	4
<ul style="list-style-type: none"> • Pieter ELBERS, KLM <ul style="list-style-type: none"> ○ President and CEO • Johan LUNDGREN, Easyjet <ul style="list-style-type: none"> ○ CEO • Michael O'LEARY, Ryanair Group <ul style="list-style-type: none"> ○ CEO • Jozsef VARADI, Wizz Air <ul style="list-style-type: none"> ○ CEO & Co-founder 	
ANSPS	5
<ul style="list-style-type: none"> • Alex BRISTOL (Skyguide) <ul style="list-style-type: none"> ○ CEO Skyguide • Jan KLAS (ANS CZ REP) <ul style="list-style-type: none"> ○ General Director Air Navigation Services of the Czech Republic • Angel LUIS ARIAS (ENAIRES) <ul style="list-style-type: none"> ○ Director General ENAIRES • Raine LUOJUS – ANS Finland <ul style="list-style-type: none"> ○ CEO ANS Finland • Michiel VAN DORST (LVNL) <ul style="list-style-type: none"> ○ CEO LVNL ○ Vice-Chair European CANSO CEO Committee CANSO ○ Vice-Chair Supervisory Board Het Oogziekenhuis Rotterdam 	
Airport	1
CEOs :	
<ul style="list-style-type: none"> • Kadri SAMSUNLU (IGA) <ul style="list-style-type: none"> ○ CEO İGA İstanbul Airport 	
Military ATM	4
<ul style="list-style-type: none"> • Giorgio CIONI (NATO) - Director of Armament and Aerospace Capabilities of the Defence Investment Division • Group session : <ul style="list-style-type: none"> ○ Major General Eric LABOURDETTE, MAB Chair ○ Lieutenant General Dr. Ansgar Rieks ○ Group Captain Nick Robson Head of DAATM 	
Chairs of the key Member State, Agency and other groups	10
<ul style="list-style-type: none"> • Chair PRC: Marc BAUMGARTNER <ul style="list-style-type: none"> ○ SESAR / EASA Coordinator IFATCA • Chair NDOP: Xavier BENAVENT <ul style="list-style-type: none"> ○ Operations Director ENAIRES • Chair AB: Mr Shane CARTON <ul style="list-style-type: none"> ○ Deputy Director of Audit 	

<ul style="list-style-type: none"> ○ Office of the Comptroller and Auditor General • Chair CMSC: Morten DAMBÆK <ul style="list-style-type: none"> ○ Former CEO Naviair • Chair PFSB: Francesco DEL DONNO <ul style="list-style-type: none"> ○ Italian Delegate to the High-Level Maastricht Cost Allocation Task Force (MCA-TF) EUROCONTROL • Chair NMB: Simon HOCQUARD <ul style="list-style-type: none"> ○ Director General CANSO • Chair SCF: Katarzyna METRAK WACIEGA <ul style="list-style-type: none"> ○ Board Representative for Performance Area Polish Air Navigation Services Agency • Chair ANSB: Martin ROLFE <ul style="list-style-type: none"> ○ CEO NATS • Chair NDTECH: Ulf THIBBLIN <ul style="list-style-type: none"> ○ Chief Technical Director LFV (Sweden) • Chair MCG: Ender ÜLCÜN <ul style="list-style-type: none"> ○ Advisor Ministry of Sustainable Development and Infrastructure, Luxembourg 	3
Social Partners in Europe	3
<ul style="list-style-type: none"> • ATCEUC: Volker DICK <ul style="list-style-type: none"> ○ President ATCEUC • IFATCA: Frédéric Deleau <ul style="list-style-type: none"> ○ Executive Vice-President Europe IFATCA • ECA: Philip VON SCHÖPPENTHAU, Secretary General <ul style="list-style-type: none"> ○ Secretary General ECA 	8
Industry and Research institutions and Others	8
<p>Industry and Research institutions :</p> <ul style="list-style-type: none"> • Jean FERRÉ <ul style="list-style-type: none"> ○ Vice President Air Traffic Management Thales • Marc HAMY <ul style="list-style-type: none"> ○ Vice President Corporate Affairs, Sustainability and Environment Airbus • Andrew MURPHY <ul style="list-style-type: none"> ○ Manager, Aviation T&E • Jürgen VERSTAEN <ul style="list-style-type: none"> ○ Founder and Chief Business Development Officer Unifly ○ Managing Director River Consult • Jonathan WOOD <ul style="list-style-type: none"> ○ Vice President Renewable Aviation (SAF) Neste <p>Others</p> <ul style="list-style-type: none"> • Marian-Jean MARINESCU <ul style="list-style-type: none"> ○ Member European Parliament • David MCMILLAN <ul style="list-style-type: none"> ○ Chairman The ATM Policy Institute ○ Non-Executive Director – Chair of the Safety Committee Gatwick Airport, London ○ Former DG EUROCONTROL • Gerry O’CONNELL <ul style="list-style-type: none"> ○ Chairman Industry Consultation Body (ICB) for the Single European Sky (SES) 	
Internal stakeholders	55
TOTAL	125

2. Focus group

In addition, internal working sessions were organised, called **Focus groups**, with targeted audience : Diversity group, State Liaison’s Officers and current and former outbound secondees. The aim of the focus groups was to collect information through a structured question-and-discussion sessions. Participants were recruited within the Agency’s staff. In that perspective, the table below provide an overview for these focus groups.

Table

10 - Focus groups participants

Focus groups	Number of participants (Internal)
Diversity group	10
Outbound Secondees	4
State Liaison’s Officers	14
<ul style="list-style-type: none"> • Mónica Patrícia Baião Lopes, Portugal • Liene Boutens, Latvia • Aleodor Frâncu, Romania • Aleksandra Hopkins, Montenegro • Mariya Kantareva, Bulgaria • Agnė Katkutė, Lithuania • Evgheni Kostetki, Moldova • David Lloyd, UK • Davit Lomadze, Georgia • Itziar López, Spain • Adam Manor, Israel • Ladislav Mika, Czech Republic • Hristina Naskovska, North Macedonia • Kostiantyn Shvets, Ukraine 	

Next to those Focus group, the stakeholder consultation included meetings with the Central Staff committee, social partners as well as key EUROCONTROL experts.

3. Leadership engagement

A **High-Level Agency Interface (HLAI)** was created, bringing together key EUROCONTROL experts and senior leadership (Management Board). The role of the HLAI was 1) to provide additional insights and views during the course of the study, and 2) to follow up on the progress of the development of this Review.

Finally, multiple interactions were conducted with EUROCONTROL senior leadership. In that context, **two High Impact Sessions** around the future role as well as the efficiency of the Agency. The set-up of the High Impact Session was based on brainstorming session with the aim of reflecting on the major trends identified by the stakeholder consultation and the analysis of best practices.

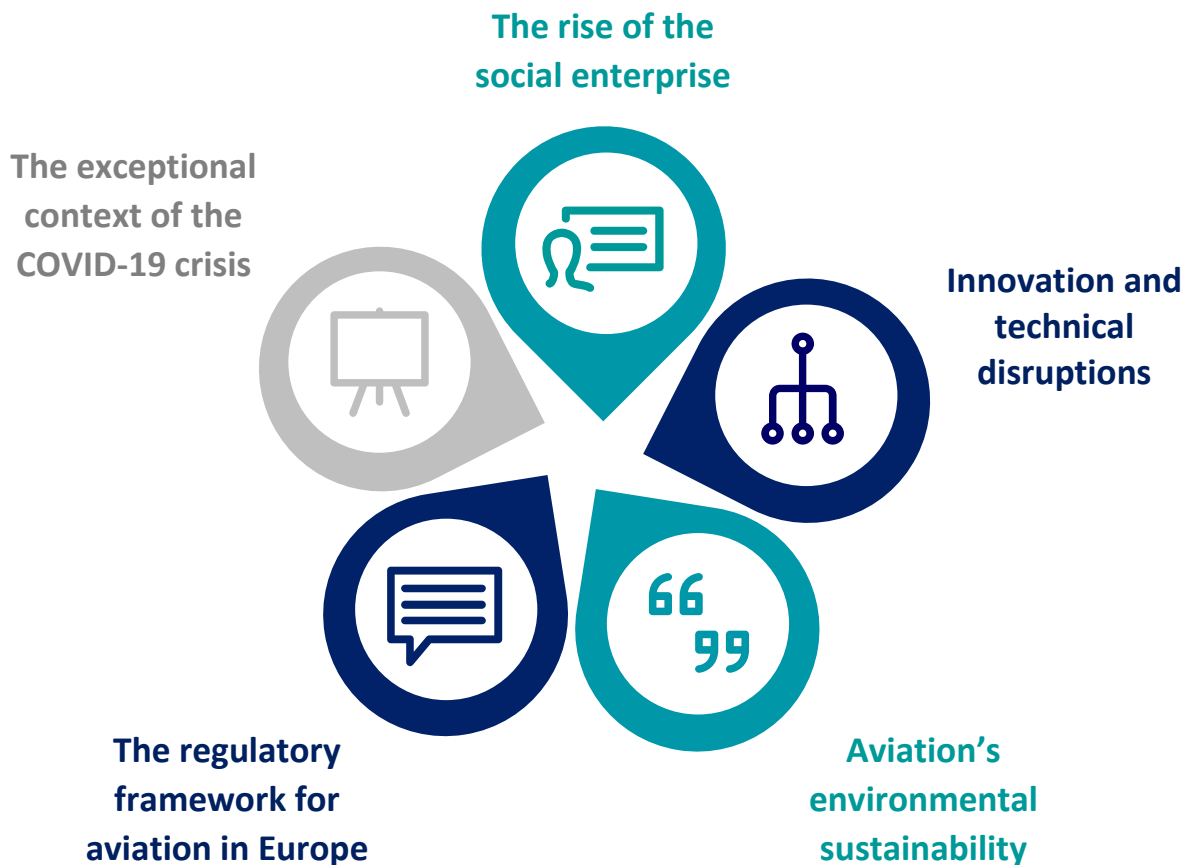
II. [Annex 2 - Terms of Reference/Specification No. 20-110338](#)

The full TERMS OF REFERENCE/SPECIFICATION No. 20-110338-A: Fundamental Review of the EUROCONTROL Agency's Activities & Strategic Plan 2021-2030 – Optimisation is available in the attached pdf of this report.

III. Annex 3 - Major shifts and trends in EUROCONTROL's context

While the **Agency activities** have largely been **unchanged** for many years, the **ecosystem surrounding EUROCONTROL has evolved and is still evolving**. EUROCONTROL does not exist in a vacuum: The Agency faces major trends in its context that need to be addressed to allow EUROCONTROL to thrive in the future. Different developments in the sector have been impacting the Agency such as the rise of the social enterprise, its legal framework, the increased focus on sustainability and new technologies.

Figure 16 - Major shift and trends



1. The rise of the social enterprise

The concept of the social enterprise—an organisation whose mission combines growth with the need to respect and support its environment and stakeholder network—has grown steadily from an intriguing new idea into a concrete business reality.²⁵ This new reality was generated by an increasing focus on technology as a key driver for organisational growth, combined with mounting societal expectations with regards to employment. Although these two domains sometimes are considered wholly separate or even at odds with each other, greater value tends to come from a combination of both. More importantly for EUROCONTROL, the **social enterprise embeds itself radically in the broader ecosystem of stakeholders**. It is per definition “open” and looks beyond the boundaries of the own organisation, leveraging the power of collaboration as part of its DNA.

²⁵ <https://www2.deloitte.com/us/en/insights/focus/human-capital-trends/2020/technology-and-the-social-enterprise.html>

In this context, three shifts characterise what it means to truly become a social enterprise.

- First, **purpose**, which an organisation needs to embed into every aspect of the work every day. EUROCONTROL's relentless support to pan-European aviation, to make it safer, more efficient, more cost-effective and with minimal environmental impact as well as its commitment to the European Union's vision for a Single European Sky²⁶ is a **powerful purpose**. Efforts that help **strengthening employees' connections** with their teams and fostering their sense of contribution to meaningful shared goals are key success factors for organisations that are thriving in the 'new normal'.
- Second, **potential**, which an organisation needs to help their workforce to deploy, to maximise what they are capable of thinking, creating and doing. By supporting reinvention, an organisation can help people feel secure and embrace productive change at the same time. **EUROCONTROL's transformation journey** is a challenging one. Therefore, the **talent development** and **change capability** of its workforce will be crucial.
- Third, **perspective**, as an organisation needs to think about how to create value in the future whilst optimising today's ways of working. Uncertainty creates possibilities for organisations to thrive in the future.

EUROCONTROL has the potential to develop as a social enterprise ready to thrive in the future, if the Agency **reunites its workforce and the ecosystem it is part of around a unified** vision and puts in place all necessary instruments to allow the Agency's workforce to thrive in and to contribute to EUROCONTROL's future role.

2. The regulatory framework for aviation in Europe

Apart from EUROCONTROL's own legal framework, other regulatory documents continue to shape the aviation ecosystem EUROCONTROL is a part of. A key element in this respect is the **Single European Sky (SES)**. SES aims at reducing the fragmentation of European airspace (between Member States, civil and military usage, and technologies), triple airspace capacity, halve the costs of ATM, improve safety tenfold and reduce the environmental impact of aviation by 10%²⁷.

The SES legislative framework consists of four Basic Regulations included the service provision Regulation²⁸, the organisation and use of airspace Regulation²⁹ and the interoperability Regulation³⁰. The four Regulations adopted in 2004 (the SES I Package) were revised and extended in 2009 with Regulation (EC) n° 1070/2009 aimed at increasing the overall performance of the air traffic management system in Europe (the SES II Package).

SES II (2009) shifted the focus of the Single European Sky **from capacity to performance** in general.³¹ SES II introduced a comprehensive **EU-wide Performance Scheme**, a refocus of the Functional Airspace Blocks to towards **service provision**, and a **Network Manager** to co-ordinate certain actions at network level.³² In that perspective, SES II opens the door for EUROCONTROL to **focus on operational topics**,

²⁶ The SES does not stop at the border of the European Union. Its extension to third 'neighbouring' countries primarily relies on the EU's policy in the field of international relations. This policy, which gives priority to the association and/or integration of third countries into the EU legal framework, also considers the added value of regional cooperation activities carried out at the level of international organisations, such as the ICAO and Eurocontrol.

²⁷ European Parliament Official website, Fact Sheets on the European Union, Air transport : Single European Sky, Legal basis : Article 100(2) of the Treaty on the Functioning of the European Union

²⁸ Regulation (EC) No 550/2004 of the European Parliament and of the Council of 10 March 2004 on the provision of air navigation services in the Single European sky (the service provision Regulation) (Text with EEA relevance)

²⁹ Regulation (EC) No 551/2004 of the European Parliament and of the Council of 10 March 2004 on the organisation and use of the airspace in the Single European sky (the airspace Regulation) (Text with EEA relevance) - Commission statement

³⁰ Regulation (EC) No 552/2004 of the European Parliament and of the Council of 10 March 2004 on the interoperability of the European Air Traffic Management network (the interoperability Regulation) (Text with EEA relevance)

³¹ Official website of the European Union – European commission, Mobility and Transport, Transport modes, Air, Single European Sky II

³² Official website of the European Union – European commission, Mobility and Transport, Transport modes, Air, Single European Sky II

EASA on technical rule drafting and oversight authority tasks, and the European Commission on economic regulation (performance, charging, institutional issues, etc).³³

The SES reform has multiple impacts and opportunities such as:

- It integrated an approach towards safety by the extension of the competencies of the EASA in the field of aerodromes, air traffic management and air navigation services;
- It established a joint undertaking (JU) on research & development, the SESAR JU (SESAR standing for the Single European Sky ATM Research) and of a SESAR Deployment Manager;
- It created of a Network Manager for the European ATM network;
- It defined an independent Performance Review Body (PRB) to support the Commission in the development and management of the SES performance scheme in which Functional Airspace Blocks (FABs)
- It established a common charging scheme for air navigation services expected to be consistent with EUROCONTROL Route Charges System;
- Etc.

In that context, EUROCONTROL was appointed as the **Network Manager** for the Single European Sky in 2011³⁴ until end of 2019, and was recently re-appointed for the period from January 1st 2020 to December 31st 2029.³⁵ Moreover, under the proposed SES reform programme, the role of the EUROCONTROL Network Manager, is expected to be **enhanced** for the benefit of the overall network, especially in relation to airspace, capacity and infrastructure management. Next to that, EUROCONTROL has been supporting the SES performance scheme through the provision and dissemination of performance related data to the European Commission as well as European agencies and advisory bodies.

3. Aviation's environmental sustainability

The increased attention for the impact of aviation on the environment is both a challenge and an opportunity for EUROCONTROL.³⁶

In December 2019, the European Commission presented the **European Green Deal**³⁷ - an action plan to transform the European Union into the first climate neutral, circular and material efficient continent by 2050. Due to its environmental (CO₂ emission, local air quality, noise) impact, the aviation sector will have to contribute to the reduction. In fact, the European Green Deal sets out the need to **reduce transport emissions by 90% by 2050** (compared to 1990 levels). The European Commission started initiating proposals relevant to the aviation sector. A comprehensive plan has been put in motion to **increase the EU's greenhouse gas emission reductions target for 2030 to at least 50% and towards 55%** compared to 1990 levels. In parallel, proposals to revise, where necessary, the **Emissions Trading System (ETS)** have been initiated with a particular focus into increasing the level of auctioning of allowances to aircraft operators.³⁸ Under this European Directive **all airlines operating in Europe are required to monitor, report and verify their emissions**, and to surrender emission allowances against those emissions. Due to (a) the real-time flight data it gathers and processes, and (b) its proficiency in

³³ European Union – Air, Single European Sky II

³⁴ COMMISSION DECISION of 7.7.2011 on the nomination of the Network Manager for the air traffic management (ATM) network functions of the Single European sky (Text with EEA relevance)

³⁵ COMMISSION IMPLEMENTING DECISION (EU) 2019/709 of 6 May 2019 on the appointment of the network manager for air traffic management (ATM) network functions of the Single European sky (notified under document C(2019) 3228)

³⁶ Skyway Magazine – Supporting European Aviation, Environment : Rethinking European Aviation, Europe's tough but achievable environmental challenges - EAMONN BRENNAN, Director General EUROCONTROL (Spring/Summer 2020), p.5

³⁷ COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE EUROPEAN COUNCIL, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS The European Green Deal - COM/2019/640 final

³⁸ Skyway Magazine – Supporting European Aviation, Environment : Rethinking European Aviation, Europe's tough but achievable environmental challenges - EAMONN BRENNAN, Director General EUROCONTROL (Spring/Summer 2020), p.10

building and managing IT systems, EUROCONTROL is key to provide the aviation ecosystem with the tools to ensure that the monitoring is based on accurate and reliable emissions data.

Next to that, a global action has been launched through the **International Civil Aviation Organisation (ICAO)** with the adaptation in 2016 of the ICAO Resolution on the **Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)** aiming at stabilising CO2 emissions at 2020 levels by requiring airlines to offset the growth of their emissions after 2020. In that context, the European Union has agreed to implement CORSIA through the EU ETS. Once again, EUROCONTROL's technical skill, data collection and analysis are playing a major role in supporting this initiative by developing the **CORSIA Reporting Tool (CRT)** in collaboration with the European Commission, by advising the EU and its Member States on the development of the CORSIA MRV system, the CORSIA Central Registry, as well as relevant IT infrastructure and tools, most notably ICAO's CORSIA Emissions Reporting Tool (CERT).

In that context, all stakeholders within the aviation ecosystem have reached a consensus to enhance collaboration and collective efforts to ensure the targets the global community has set are met. EUROCONTROL has a key role in supporting the ecosystem. Therefore, despite the unprecedented global crisis, environmental issues should remain at the top of the agenda for players in the aviation ecosystem including EUROCONTROL.

4. Innovation and technical disruptions

In a world of constant change, organisations need to be more intuitive to sense and respond to new technology opportunities and social challenges as they emerge. In that perspective, some transformative trends will (re)shape public organisations including EUROCONTROL.

The first trend concerns the **foundation for employing emerging technologies as well as emerging domains in almost every industry**. The expansion of technology-driven innovation has tested organisations' ability to exploit technology to its advantage and in some cases to its survival. In that context, the rise of digitalisation and automation has offered to the aviation sector multiples possibilities for future innovation. New technologies such as **Cloud computing, machine learning, AI, Distributed Ledger Technologies (DLT)**, provide an enormous leapfrog opportunity in connecting technology developers and users and its role as a foundation for innovation is becoming more important. As example, around 87% of companies using AI do so in the cloud and almost 50% of new software today is developed only in the cloud.

In that context, EUROCONTROL could foster the use of **new emerging technology as well as emerging domains** to lead innovation and efficiency gains of the Air Traffic Management in the long-term. One of the most successful examples of technological breakthrough in aviation industry concerns HungaroControl. In fact, in 2017 the Hungarian air navigation service provider fully digitalised its tower services and launched remote tower operations at Budapest Ferenc Liszt International Airport enabling the ANSP to control the airport from a remote location³⁹.

In that context, EUROCONTROL faces various technological opportunities. In fact, to name a few: The agency could **leverage Cloud** to develop new ways of delivering value to its stakeholder, namely Platform as a Service (PaaS), Software as a Service (SaaS) and Data as a Service (DaaS). Or, EUROCONTROL could use **Distributed Ledger Technologies such as blockchain** to improve performance and security in the ATM system as no central authority can hijack the whole system nor be targeted as the high-value asset it represents⁴⁰. Also, by distributing the data storage and

³⁹ HungaroControl, Hungarian Air Navigation Services, Digitalising tower operations at scale – Delivering the largest fully-capable remote tower in the world

⁴⁰ Dehez Clementi *et al.*, "When Air Traffic Management Meets Blockchain Technology: a Blockchain-based concept for securing the sharing of Flight Data", September 2019

computations, risks related to the Single point of failure are removed, such as the unavailability of services and data, the alteration of flight plans or the compromising/leakage of recorded information. AI has the potential to help air traffic controllers cope with the expected increases in demand and complexity of air traffic, by complementing and enhancing these workers' capabilities.

In addition to new technological opportunities, **new emerging domains such as drones/UAVs, high altitude airspace, etc. are reshaping the aviation industry.** With the development of U-space there is a need to closely look at the integration of this air traffic within the overall ATM system. In fact, the overall ATM system will need to handle low-level urban drone operations, high-flying military remotely piloted aircraft systems and the traditional mix of airlines, military, business and private jets.

The second trend that is shaping organisations (private and public) is related to **managing the (ethical and technical) complexity of the age of big data**⁴¹ brought by disruptive technologies. During this pandemic crisis, the agency has shown its resilience and aptitude to support its partners. One of EUROCONTROL's strengths lies with the **large amount of data the agency has at its disposal.** EUROCONTROL's capability of collecting, analysing and providing the right information to Member States, airlines, airports, ANSPs and to many other stakeholders fostered its importance towards the ecosystem. Among the various initiatives undertaken, the development of the **2020 Network Recovery Plan** covering a rolling six-week period and consolidating data from 350 airlines, 68 area control centres (ACCs), 55 airports and 43 States⁴² unveiled the quantity and quality of data EUROCONTROL possesses. While there is some potential technology-based issues such as security hacks, inappropriate or illegal surveillance, misuse of personal data, spread of misinformation, algorithmic bias, and lack of transparency these same disruptive technologies can be used to increase transparency, harden security, boost data privacy, and ultimately bolster an EUROCONTROL's position of trust.

The third key transformational trend that may influence EUROCONTROL's environment refers to the concept of **customer centricity.** What most successful companies have in common is their way of providing exceptional customers experience (Cx) where customers are at the heart of everything. Transposing this trend to EUROCONTROL's context means that more than ever stakeholders (Private and public entities) are seeking for a similar approach. Understanding the stakeholders' needs and providing **customer-centric services** has become inevitable for EUROCONTROL. In addition, technology and innovation are enablers to embrace this new era of customer centricity. New technology such as AI can help personalised customer experience and make the interaction between an organisation and its stakeholders more convenient.

5. The exceptional context of the COVID-19 crisis

The year 2020 has seen its fair share of major historic events, amongst them the coronavirus pandemic has left all nations struggling to respond to the rapidly spreading virus. Since March 2020, governments across the globe have established containment measures to limit the spread of the virus. As a consequence, economies have been brought to their knees by COVID-19 with a global public debt stocks projecting to jump by 13 percentage points of gross world product in just one year, from 83 to 96 per cent (IMF Fiscal Monitor, 2020). The IMF expects fiscal balances to turn sharply negative in developing countries, to -9.1 and -5.7 per cent of GDP in middle-income and low-income countries, respectively⁴³.

Amidst the containment measures taken by governments, **closing borders and widening travel restrictions** has led to the cancellation of almost all flights resulting in a significant impact on the entire

⁴¹ Government Trends 2020, "What are the most transformational trends in government today?", Report from Deloitte Center for Government Insights, June 2019

⁴² Eurocontrol.int – 2020 Network Recovery Plan <https://www.eurocontrol.int/news/eurocontrol-nm-publishes-network-recovery-plan>

⁴³ <https://www.un.org/development/desa/dpad/publication/un-desapolicy-brief-72-covid-19-and-sovereign-debt/>

aviation industry. In fact, the crisis is affecting passenger traffic, air cargo demand, airport workforce and incoming revenues. The latest estimates indicate that the possible COVID-19 impact on world scheduled passenger traffic compared to Baseline (business as usual, originally planned) would be a potential loss of gross passenger operating revenues of airlines of approximately USD 387 to 391 billion⁴⁴.

In its **last Five-Year Forecast 2020-2024**⁴⁵ report, EUROCONTROL presented **three scenarios reflecting the possible evolution of air traffic in Europe over the five coming years**. In the first scenario (optimistic) scenario, traffic is forecast to return to 2019 levels by 2024 whereas in the second scenario, which is most likely to happen according to the Agency, 2024 traffic would only be at 92% of the 2019 traffic levels. In the last scenario (more pessimistic), air traffic will return to 2019 levels only in 2029. Nevertheless, **the future is still blurred** which generates some uncertainties for the aviation industry. In fact, the shape of the recovery for commercial flights is still unknown. International travel restrictions, the contraction of economic activity and changes in transport behaviour by cautious consumers may prevent a return to pre-crisis demand levels, even as lockdowns and domestic travel restrictions measures are loosened in many countries.⁴⁶

The combination of negative demand and the uncertainty around the medium-run outlook create an uncertain perspective for the industry that may be threatening the existence of some players in the ecosystem, as production and revenues are likely to remain inferior to pre-crisis levels for some time. For EUROCONTROL this context will probably affect its financial landscape as fees and charges collected may be significantly inferior in the coming years as the industry will be slowly recovering. Therefore, there is a real prospect that global air travel may recover from COVID-19 slower than the economy. In addition, the uncoordinated national measures over the last months have had significant negative effects for the travel and tourism sector. In that perspective, it is more essential than ever to achieve a coordinated restart of air travel allowing EUROCONTROL to step up and foster its role as the central, neutral and pan-European organisation. The crisis may offer an opportunity to enhance the cohesion of the industry. In fact, EUROCONTROL has been working hard to support its stakeholders during the COVID-19 pandemic. The agency has shown to be a great ally to the industry by providing tremendous up-to-date information and available resources to help guide stakeholders and passengers in their decisions through this crisis.

⁴⁴ ICAO - Effects of Novel Coronavirus (COVID-19) on Civil Aviation: Economic Impact Analysis, Montréal, Canada, "Estimated results in brief : World total passenger traffic", 4 November 2020

⁴⁵ EUROCONTROL Five-Year Forecast 2020-2024, European Flight Movements and Service Units - Three Scenarios for Recovery from COVID-19

⁴⁶ OECD Policy Responses to Coronavirus (COVID-19), COVID-19 and the aviation industry: Impact and policy responses, 15 October 2020