



*A FABEC Briefing Paper from FABEC States*

## **The achievements of FABEC and its importance to Europe's aviation recovery – and beyond**

The COVID-19 crisis has once again shown that the aviation industry is a complex eco-system. Stakeholders – manufacturers, airlines, airports, air navigation service providers (ANSPs) – understand that it is only by working together that the industry will be able to create a safe, scalable pan-European aviation network in which passengers will have the confidence to return once again to the skies.

FABEC States are convinced that Functional Airspace Blocks (FABs), which provide critical infrastructure to enable safe and environmentally responsible flights, have a pivotal role in this European ATM network. FABs are crossroads, where high-level European Union ATM policies are translated into national and regional daily operations for all airspace users – commercial, business and military. FABEC has become – due to its geographical location in the heart of Europe – a catalyst for strong and sustainable operational cooperation across national borders guided by common performance targets compiled in one common FABEC Performance Plan.

Since its establishment in 2012, FABEC has relied on strong and effective governance and working structures at the levels of States, ANSPs and together. Its work platform has proved its effectiveness in times of volatile and unexpected traffic growth and steep traffic decline, following crises such as the COVID 19 pandemic and the 2010 volcanic ash crisis. Hence, FABEC has become a highly respected and recognized partner – both at a European level (Network Manager, interFAB cooperation, social dialogue etc.) and worldwide (winning the ATCA David J. Hurley Award, CANSO Safety Award, ATM Award on environment).

The FABEC partners believe now, more than ever, that the importance of FABs within the European aviation network, especially in the core area, needs to be recognised and supported – especially as aviation's successful recovery from the COVID-19 pandemic is critical to the economic and social wellbeing of the continent's citizens. FABEC is a tried and tested regional collaboration platform which will enable the recovery in a safe, environmentally-responsible and cost-effective way. By fostering regional cross border cooperation, it is a pivotal layer to ensuring the successful recovery within the framework and principles of the Single European Sky and the European Commission's Green Deal.

In Single European Sky regulations, the opportunity for States to present a single performance plan for a FAB – at the same time incorporating specific national targets for economic performance – is strategically important. A FAB-level plan requires a





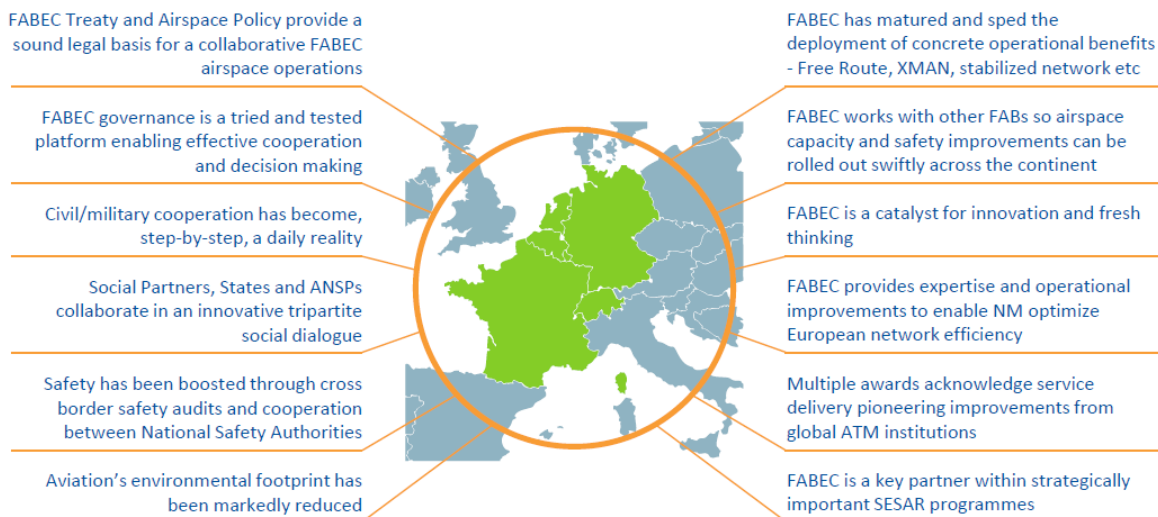
joint, operational performance approach towards optimising airspace management operations which goes beyond any individual national performance. Any update of the existing SES regulations should preserve this and maintain the possibility of FAB agreements as today.

The following table provides a brief overview of what FABEC has achieved over the last years. It shows a transformation of ATM service delivery has taken place and that FABEC is a vital strategic resource on which the entire industry can rely for recovery planning and future growth. The transformation has involved FABEC - internally and with external partners - developing new working practices to respond to increasingly unpredictable fluctuations in demand while ensuring the high-level targets of safety and environmental performance are met or exceeded. Over the last decade the world has entered a new era of volatility. FABEC States and ANSPs are ready to accept this challenge.

## Annex 1

### The benefits of FABEC

*Close cooperation between FABEC ANSPs is a key enabler to the resilience of the entire European aviation network. Despite unpredicted short-term extreme fluctuations in demand, safety standards have remained at the target performance level – or increased. Delays and costs to airlines are reducing. All airspace users can now choose the most fuel-efficient and environmentally responsible routes across even the most congested airspace areas of the continent. A new culture of collaboration has been established within and among FABs which is transforming the performance of Europe’s ATM system.*



### ATM performance improvements by FABEC – the facts

**Safety:** Traffic is handled with an extremely high level of safety and all safety targets were met during the first and the second reference periods. In 2019, the last full year where records are available, there were with no reported ATM attributed accidents and separation minima infringements and runway incursion incidents were within the target levels.

**Punctuality:** In 2019 airlines reported that 78.6 percent of aircraft arrived at their destination on time, with less than 15 minutes delay, or in some case ahead of schedule - a 1.6 percent improvement over 2018. Since 2014 more than 95 percent of all flights have operated with 15 minutes or less air traffic flow management (ATFM) delay.

**Environmental improvements:** Thanks to the free route programme (see below), all airspace users can now fly the most fuel-efficient routes across Europe’s busiest upper airspace. To reduce the impact of noise, chemical emissions (CO<sub>2</sub>, NO<sub>x</sub> etc.)



and fine dust particles close to airports, FABEC has improved the transition from airport to en-route flight operations and is implementing extended Arrival Management on a regional level to sequence aircraft in the approach phase in a seamless, environmentally-responsible way by avoiding holding patterns.

**Flight efficiency:** FABs have been the vital enabler to transforming upper airspace operations throughout Europe, accelerating the introduction of free route airspace which when fully implemented will reduce flight lengths by 500,000 nautical miles/day, reduce fuel burn by 3,000 tonnes of fuel/day, emit 10,000 fewer CO<sub>2</sub> tonnes/day and save airlines EUR3 million in costs.<sup>1</sup> FABs have already delivered the technically challenging goal of optimal horizontal trajectories.

**Productivity:** Since its launch in 2013 FABEC has handled increasing traffic demand with greater levels of efficiency and productivity. ATCO hour productivity has increased by 11.5%,

**Cost efficiency:** Between 2013 and peak levels of demand in 2019 traffic grew at 13% but costs have increased just 7.3%. The average cost per passenger has dropped by 10.1% over the same period.

**Civil-military cooperation:** Both civil and military organisations are equivalent partners in the FABEC programme. In Belgium, France and the Netherlands civil and military air traffic controllers share the same workspace while in Germany and Switzerland civil and military en route control has been integrated. Belgium and the Netherlands intend to integrate their civil military operations in the coming years. To avoid deviations around not-in-use military training areas, civil and military partners have developed a network of direct routes which can be used by civil airspace users on a conditional basis. In addition, civil and military partners both from the States and ANSPs launched on their own initiative a joint task force on flexible use of airspace (FUA).

*In 2018 a study on the added value of FABs to the aviation network and Europe's economy - conducted by Baltic FAB, BLUE MED FAB, Danube FAB, FABCE and FABEC - calculated the Net Present Value of FABs between 2014 and 2029 will be EUR1,604 million while the annual cost to manage FABs will be just EUR5 million.*

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<sup>1</sup> <https://www.eurocontrol.int/concept/free-route-airspace#:~:text=Benefits,design%20and%20ATM%20operational%20concepts.>



# The achievements of FABEC and its importance to Europe's aviation recovery – and beyond



# Two fundamental messages...

## Message one: *FABs work!*



The value and importance of FABs are often not properly understood.

**FAB agreements provide a unique template for a single binding legal, technical, institutional and operational basis for neighbouring States to undertake cross-border operations.**

They are the only vehicles that allow States, ANSPs, military and civil aircraft operators and staff to work together to transform the European Union's Single European Sky vision into a daily operational reality. Without them, to optimise cross-border operations, someone would have to create a new legal identity which would look remarkably similar to a FAB.



## Message two: *We need FABs now more than ever!*



FABs provide a catalyst for technical and operational ATM performance optimisation. They are key components in Europe's critical aviation safety infrastructure.

FABEC is a tried and tested collaboration platform – allowing all operational partners to work together in a harmonious way to reduce delays during periods of growth and align recovery measures during times of crisis.



# The achievements of FABEC and its importance to Europe's aviation recovery – and beyond



FABEC Treaty and Airspace Policy provide a sound legal basis for a collaborative FABEC airspace operations

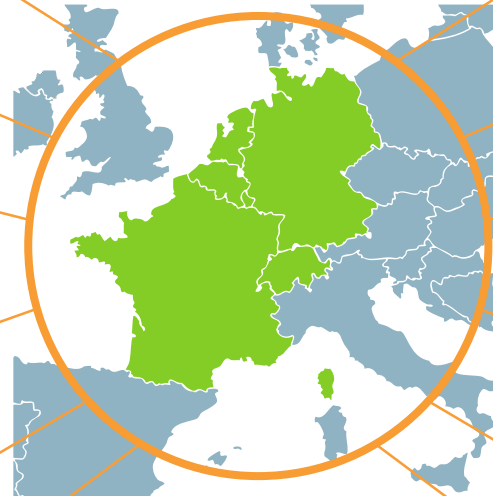
FABEC governance is a tried and tested platform enabling effective cooperation and decision making

Civil/military cooperation has become, step-by-step, a daily reality

Social Partners, States and ANSPs collaborate in an innovative tripartite social dialogue

Safety has been boosted through cross border safety audits and cooperation between National Safety Authorities

Aviation's environmental footprint has been markedly reduced



FABEC has matured and sped the deployment of concrete operational benefits - Free Route, XMAN, stabilized network etc

FABEC works with other FABs so airspace capacity and safety improvements can be rolled out swiftly across the continent

FABEC is a catalyst for innovation and fresh thinking

FABEC provides expertise and operational improvements to enable NM optimize European network efficiency

Multiple awards acknowledge service delivery pioneering improvements from global ATM institutions

FABEC is a key partner within strategically important SESAR programmes





# Performance improvements, the big picture



Improved safety



Reduced environmental impact



Increased punctuality



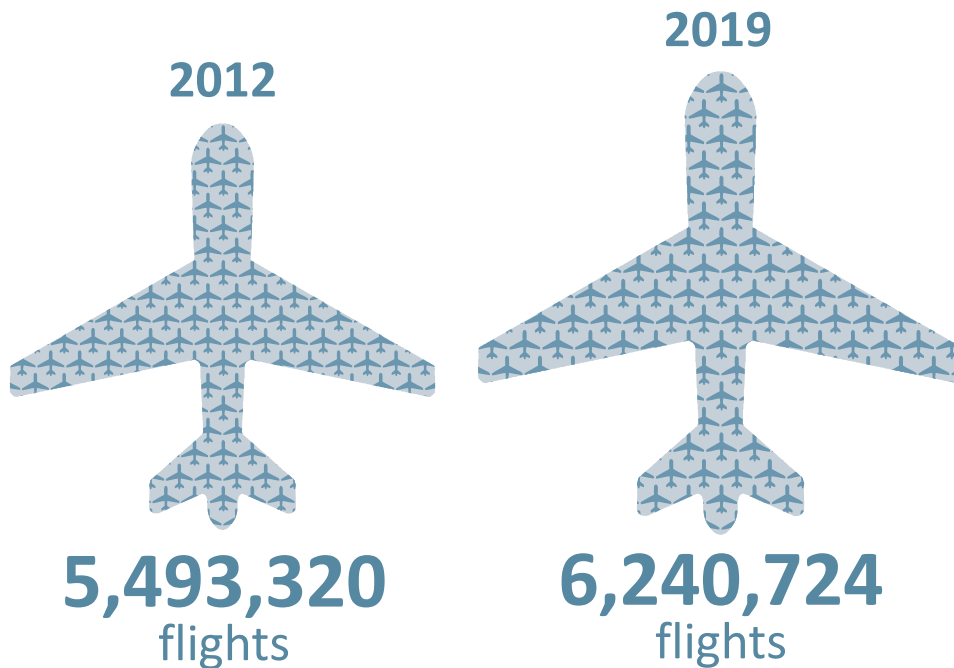
Improved productivity



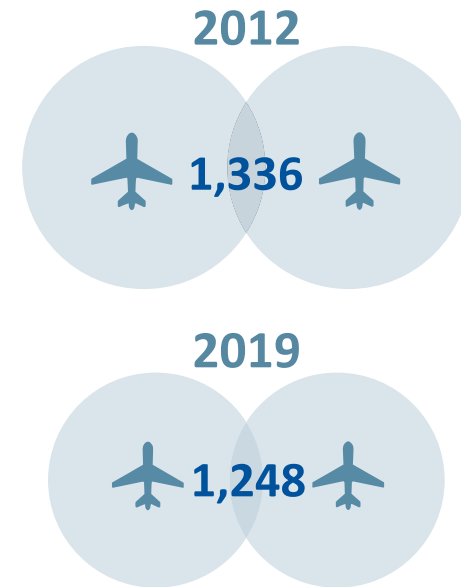
Improved military mission effectiveness



# Traffic and safety evolution: Flying is becoming safer



## Separation minima infringements reported

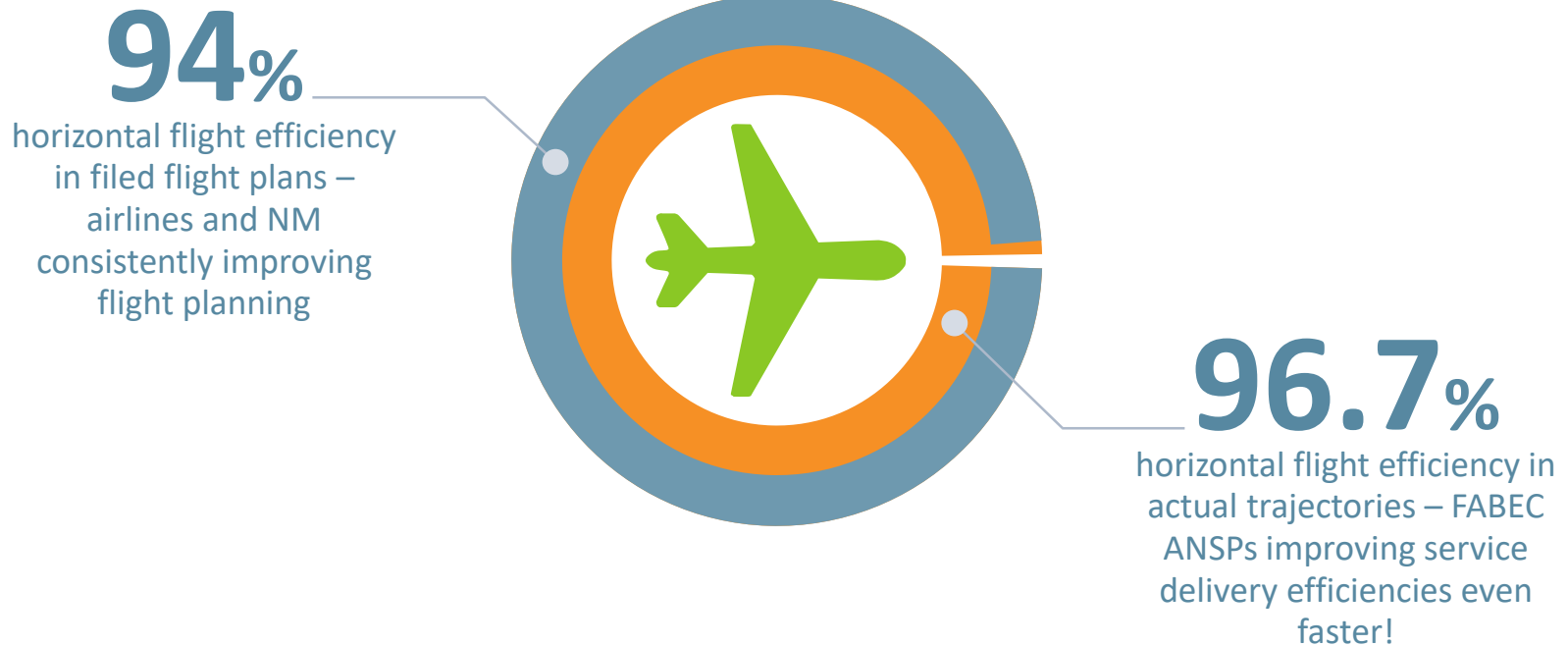


Traffic began to decline in Europe before the COVID 19 pandemic. But year on year, FABEC ANSPs handled 6.24 million flights in 2019, 1% more than the previous year but well above the STATFOR base forecast of 5.61 million flights predicted by the European performance scheme. These high level figures tell only a small part of the story – FABEC area control centres have been handling traffic loads at levels 17% at variance from the high level forecasts.

# Flight efficiency: FABEC is doing better



## 2019 Environment Performance



FABs have been the vital enabler to transforming upper airspace operations throughout Europe, accelerating the introduction of free route airspace which when fully implemented will reduce flight lengths by 500,000 nautical miles/day, reduce fuel burn by 3,000 tonnes of fuel/day, emit 10,000 fewer CO2 tonnes/day and save airlines EUR3 million in costs. FABs have already delivered the goal of optimal horizontal trajectories.



# Punctuality: In 2019 traffic increased but delays reduced



**78.6%**

arrivals on time or  
with less than 15  
minutes delay



**27%**

of all delays as a  
result of en route  
ATM responsibility

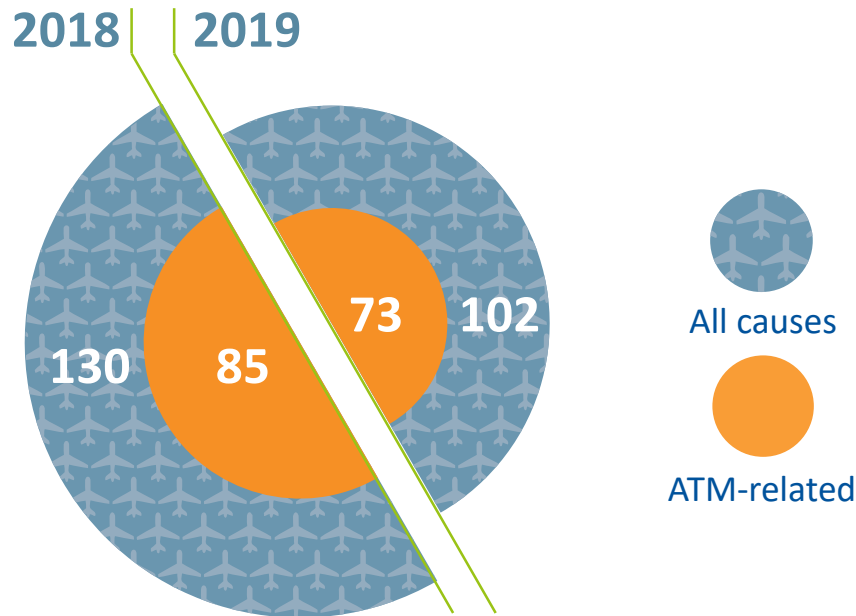


ATM is responsible for around 27 per cent of en-route delays (source: Eurocontrol/CODA). In 2019 airlines reported that 78.6 percent of aircraft arrived at their destination on time, with less than 15 minutes delay, or in some case ahead of schedule - a 1.6 percent improvement over 2018, even though traffic increased. Since 2014 more than 95 percent of all flights have operated with 15 minutes or less air traffic flow management (ATFM) delay. Source: PRU

# Punctuality: Traffic rose and ATM delays reduced

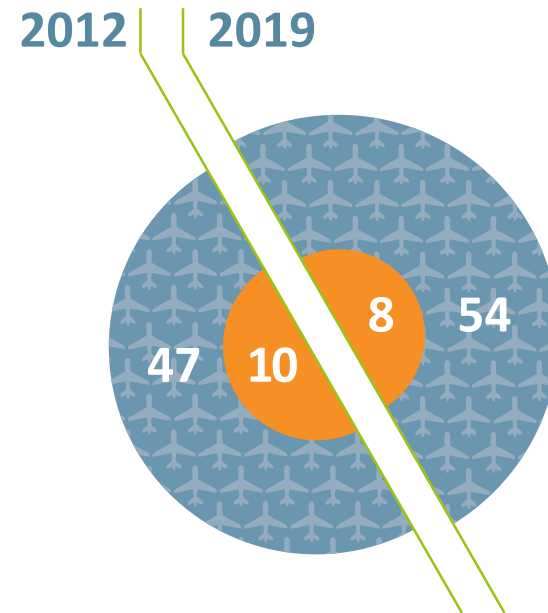


Average **en-route** ATFM delay per flight (*in seconds*)



Despite traffic increasing in 2019 over 2018, the number of en-route ATFM delays were down.

Average **arrival** ATFM delay per flight (*in seconds*)



...and when measured since the start of the performance reporting regime, ATM-related ATFM delays have also shown a downward trend.

# Productivity: FABEC controllers are handling more flights an hour



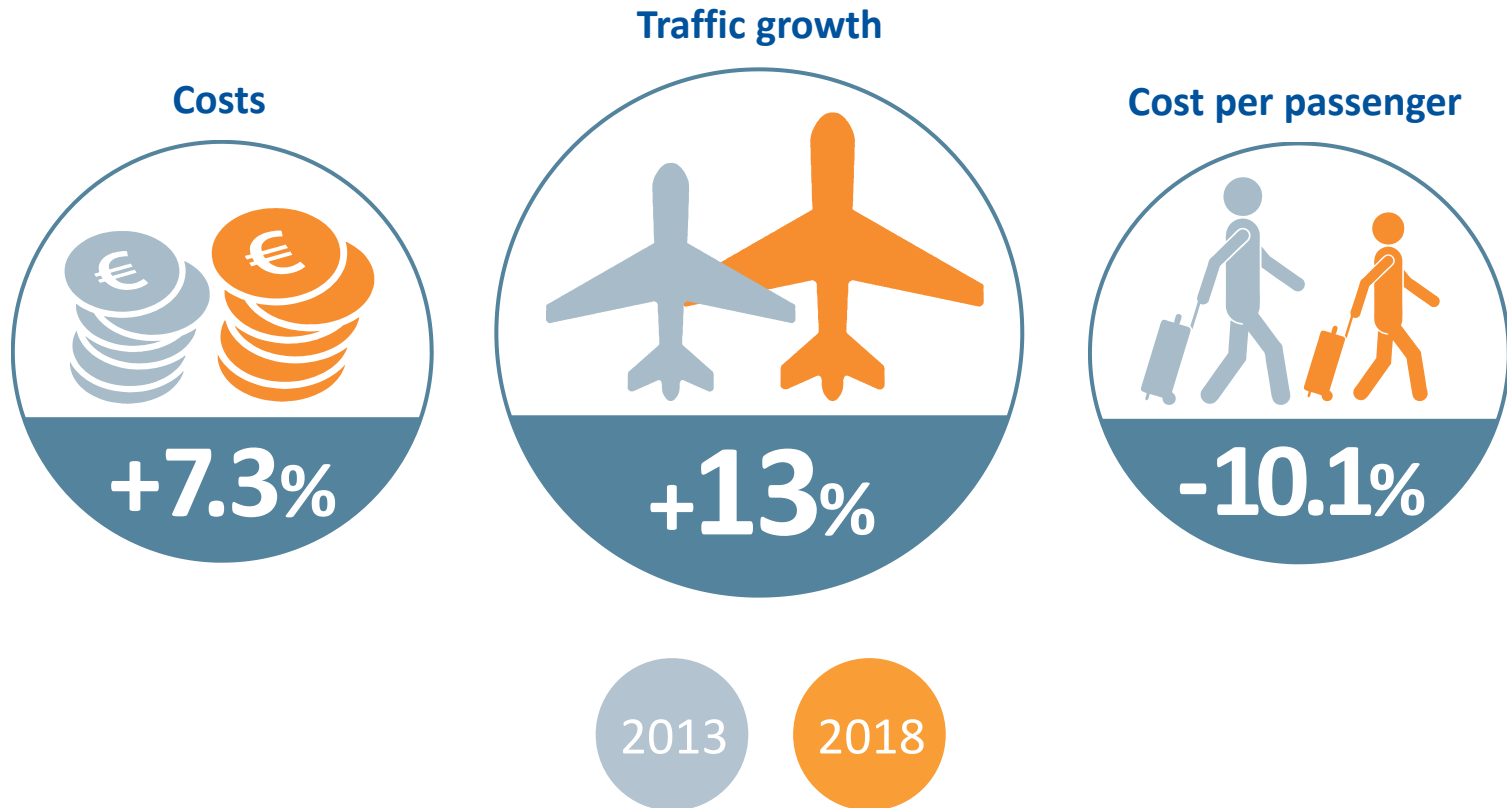
**11.5%**  
increase  
in ATCO hourly  
productivity



FABEC constantly monitors its productivity performance by measuring the costs per-composite-flight-hour of providing ATM services in terms of staffing, equipment and other infrastructure. Since its launch in 2013 FABEC has handled increasing traffic demand with greater levels of efficiency and productivity. ATCO hour productivity has increased by 11.5% since 2013.



# Cost efficiency: FABEC is reducing its costs and increasing its productivity



Between 2013 and peak levels of demand in 2018 traffic grew by 13% but costs have increased just 7.3%. The average cost per passenger has dropped by 10.1% over the same period.

# Civil-military cooperation: Military and civil partners work together in FABEC



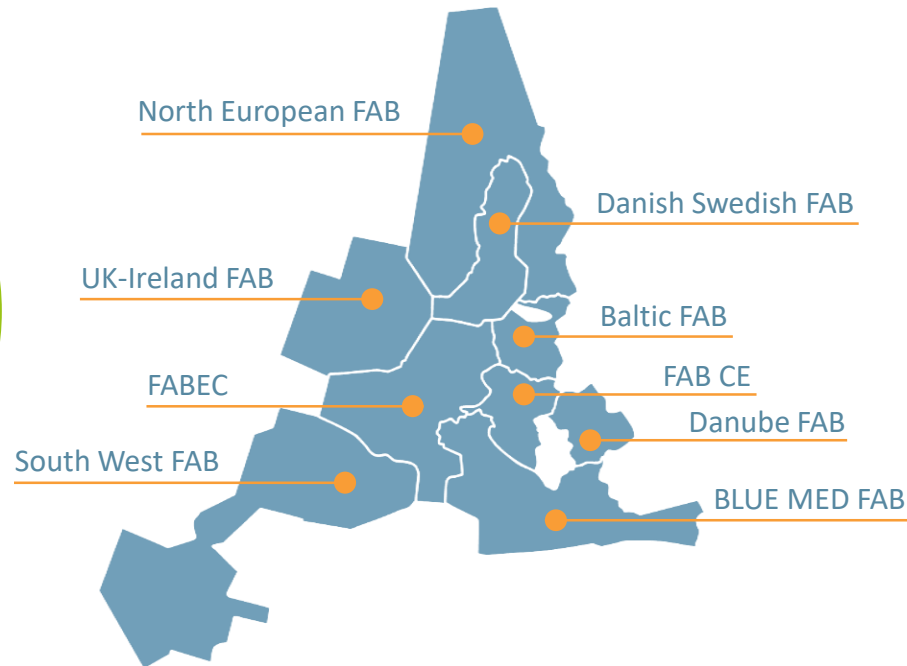
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# Overall value: FABs provide clear added value benefits to Europe's ATM system



**1.604m**  
Euros  
Net Present Value  
of FABs  
2014-2019



**5m**  
Euros  
Annual cost to  
manage  
FABs

In 2018 a study on the added value of FABs to the aviation network and Europe's economy - conducted by Baltic FAB, BLUE MED FAB, Danube FAB, FABCE and FABEC - calculated the Net Present Value of FABs between 2014 and 2029 will be EUR1,604 million while the annual cost to manage FABs will be just EUR5 million.



making the difference

**FABEC: “Transforming the basis of improving ATM service provision and laying the foundation to a sustainable aviation recovery in Europe – to the benefit of all European citizens”**

