



Brussels, 8.6.2017
SWD(2017) 207 final

COMMISSION STAFF WORKING DOCUMENT

Practices favouring Air Traffic Management Service Continuity

Accompanying the document

**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

Aviation: Open and Connected Europe

{COM(2017) 286 final}

Table of Content

1.	Introduction	3
2.	Disruptions to aviation caused by strikes	5
	2.1 Shortage of staff and capacity matters	5
	2.2 Impact of strikes on the EU network	6
	2.3 Impact on passengers and the single market	9
	2.4 Impact on the performance of air navigation services	10
3.	Role of air traffic controllers, occurrence and origin of strikes	10
	3.1 Role of the air traffic controllers	10
	3.2 Occurrence of ATM strikes across Member States	12
	3.3 Causes of strikes	13
4.	Importance of social dialogue in air navigation service undertakings	14
	4.1 Social dialogue as a key enabler for strike avoidance	14
	4.2 Room for more efficient social dialogue	16
5.	Overview of the legal position	16
	5.1 The right to strike: a fundamental right primarily regulated at national level	16
	5.2 A diversity of Member States' legal frameworks on strikes	17
	5.3 Relevant EU and international framework	19
6.	Practices favouring ATM service continuity, observed in Member States	20
	6.1 Improvement of social dialogue in Air Traffic Management	20
	6.2 Early notification of strikes by the unions (for better predictability of strikes)	21
	6.4 Protection of 100 percent of overflights	23
	6.5 Protection of air traffic peak periods	23
7.	Other EU level actions favouring ATM service continuity	23
	7.1 Operational cooperation in the event of strikes	23
	7.2. European Upper Information Region	24
	7.3 Single European Sky performance framework	24

1. Introduction

Aviation is a strong driver of mobility and provides connectivity within the EU and with the rest of the world. The value of air transport is widely recognised. It contributes EUR 300 billion, or 2.1% to EU GDP and can act as an 'economic enabler', facilitate and generate wider economic activity. It also has a spill over effect on other sectors, such as trade and tourism. Overall, the aviation sector employs 5.5 million people. Reliable connectivity is, therefore, both a social and economic good.¹ In 2015, the four major airports of Paris, Frankfurt, London and Amsterdam² provided more than 158 million seats to passengers.³

Because the aviation industry is so important to the European economy, the Aviation Strategy adopted by the Commission in December 2015⁴ identified that action needed to be taken to ensure that the European aviation sector would remain competitive and reap the benefits of a fast-changing and developing global economy⁵. The competitiveness of aviation also depends on other essential elements of the air transport chain, including air navigation services.

Air navigation services account for about EUR 7.5 billion of revenue per year. Though relatively small compared to other actors in that chain, air navigation services have a crucial role in ensuring reliable connectivity. They guarantee the safe and expeditious performance of air traffic flows. Air traffic and aviation services cannot be provided without their operation. Air traffic is subject to various levels of traffic seasonality. In the busiest periods of the year such as the peak summer periods, air navigation services must manage a volume of traffic of over 30,000 flights per day⁶, which means providing services to around 3.4 million passengers⁷. Therefore the costs and operational environment of air navigation services have an impact on the value created by the air transport industry as a whole.

Manpower has an essential role in delivering air navigation services. Two-thirds of the costs of air navigation services relate to staff. In Europe at large 56,300 employees, 17,370 controllers and 38,930 other staff work in the area of air navigation services⁸. While stakeholders in the air transport chain have been operating - over the last decades - in an increasingly competitive environment, air navigation services continue to be state-owned and provided under monopoly conditions.

Since the Single European Sky (SES) initiative was launched in 2004, the European air traffic management (ATM) system has experienced significant pressure to improve its performance.

¹ https://ec.europa.eu/transport/modes/air_en

² Airports concerned are Roissy-Charles-de-Gaulle, London Heathrow, Flughafen Frankfurt am Main and Amsterdam-Schiphol.

³ Atlas of the Sky.

⁴ Communication from the Commission "An Aviation Strategy for Europe", COM(2015)598, 7.12.2015.

⁵ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, An Aviation Strategy for Europe, COM(2015) 598 final.

⁶ Eurocontrol – 2015 traffic: a summer surge then slower, steadier growth (2016).

⁷ Eurocontrol - Standard Inputs for EUROCONTROL Cost-Benefit Analyses (2015). The data used is "Average number of passengers per departing flight, EU28" according to Eurostat (page 10). It is combined with the average number of flights per day (30,700), see footnote 5.

⁸ 2015 data.

Since 2012 ATM performance is monitored and steered at the European level in the areas of capacity, environment, cost-efficiency and safety. This development has been supported at operational level by the establishment of the network manager for the ATM network functions⁹ and regional cooperative mechanisms known as functional airspace blocks (FABs), at the infrastructure level through the launch of the SESAR project.

Overall the efficiency and resilience of the European ATM system has improved thanks to the combined efforts of the air navigation service providers (ANSPs) and the network manager that jointly cooperate to carry out air traffic flow and capacity management in a consistent manner. The European ATM system was able to absorb a traffic increase of 68% in 20 years, from 5.8 million flights in 1995 to 9.74 million in 2014. Over that period there was an 81% reduction in the average (en-route) delay per flight from 3.23 minutes to 0.61 minutes that corresponds to a saving of EUR 80 billion. In this regard traffic disruptions related to adverse or extreme weather conditions, technological upgrades, exceptional events, crisis situations as well as industrial action in the form of strikes may impact on the efficiency and continuity of air navigation services and therefore air traffic. These occurrences are today subject to a close monitoring from operators and coordinated management in order to mitigate their impact. Nevertheless, they cannot be addressed in the same way, as their level of predictability, their impact and their nature are different. In 2016, air traffic flow management suffered en-route delays¹⁰ due to the following causes in the following proportions: air traffic control capacity/staffing (57%), weather conditions (19%), ATM strikes (14%) and events¹¹ (9%).

The cause of traffic disruption for which the SES is the least equipped to react is industrial action in the form of strikes. This disruption is largely due to the uneven level of social dialogue in the Member States, the monopoly situation and network dimension of the ATM industry. The impact of these strikes on aviation and the economy as a whole may be considerable even though they occur in only a few Member States.

This staff working document, the first document of the Commission services dealing more systematically with the issue, reports about the impact of strikes in ATM and describes measures taken to mitigate the disruption caused. As announced in its Aviation Strategy, the exchange of good practices related to national experiences in maintaining ATM service continuity could help the Member States concerned, their ANSPs and their staff to identify options for improvements. In this regard the Commission's services commissioned a study¹² in 2016. The results of that study have informed this staff working document. The Commission invited aviation stakeholders to contribute to the study, i.e. airlines, ANSPs, the network manager, professional staff organisations and trade unions. The professional staff organisations and trade unions chose not to contribute, however.

This staff working document provides a description of the impact of strikes in ATM and their origin, points out the importance of social dialogue, provides an overview of the legal position and identifies existing practices favouring ATM service continuity, observed in the Member

⁹ The network manager is a body nominated by the European Commission; it was established in 2011.

¹⁰ Network Functions – Update by the network manager – Paper presented at the Single Sky Committee 17/64 – February 2017

¹¹ "Events" corresponds to projects involving the implementation of ATM infrastructure, which generates delays due to transition periods. E.g. ERATO in Bordeaux ACC in 2016.

¹² Study on Options for ATM Service Continuity in the Event of Strikes – Ricardo & York Aviation – 2016. <https://ec.europa.eu/transport/sites/transport/files/2017-03-06-study-on-options-to-improve-atm-service-continuity-in-the-event-of-strikes.pdf>

States so as to illustrate the factual background against which the Communication "Aviation: an open and connected Europe"¹³ can be seen. Being purely descriptive, it goes without saying that this staff working document is in no way intended to question the legitimacy of the right to strike; it rather describes the disruption and costs caused by ATM strikes and describes practices implemented by Member States today to minimise the disruption and maximise the continuity of service to the extent possible. The European Pillar of Social Rights¹⁴ commits to "supporting social dialogue in the EU" and recalls the principle that the social partners shall be consulted on the design and implementation of economic, employment and social policies according to national practices¹⁵. "

2. Disruptions to aviation caused by strikes

Strikes in ATM are an issue not only for the aviation sector but also European citizens and the single market as a whole. Before analysing the impact of strikes, it is important to indicate that air traffic controllers have specific working conditions. Their work is organised in shifts, which include work on days or nights, during weekends and bank holidays. Given the high level of safety required in performing air navigation services, air traffic controllers have high responsibilities and work under significant pressure. The role of air traffic controllers is further elaborated under section 3.1.

2.1 Shortage of staff and capacity matters

ATM strikes result in a reduction in staff resources to control air traffic in the European ATM network. At national level, air traffic control is organised into area control centres (ACC), each one responsible for a block of airspace that is further divided into control sectors to enable the monitoring and guidance of flights by a team of (two or three) air traffic controllers.¹⁶ In each Member State there are at least one or more ACCs depending on the size of their airspace. The shortage of staff in the event of a strike results in a reduced capacity in certain ACCs and forced closure of certain sectors. For reasons of safety and capacity constraints, the traffic cannot be fully reallocated through the functioning sectors. The capacity constraint on multiple sectors, added to their geographical situation, make the planning of traffic increasingly difficult for the ANSPs. To ensure safety as a matter of priority, ATM strikes inevitably result in a reduction of capacity in the airspace of the ACC/State concerned and also in congestion in the airspace of neighbouring States/ACCs.

The current limitations to ensuring air navigation services in the event of an ATM strike are due to operational constraints. But there are also other issues that come into play. ANSPs and Member States affected by ATM strikes are very reluctant to allow other Member States' ANSPs to control their airspace. Although in some regions these practices exist at certain

¹³ Communication from the Commission 'Aviation: Open and Connected Europe' COM(2017) 286

¹⁴ (COM 2017 250 final)

¹⁵ They shall be encouraged to negotiate and conclude collective agreements in matters relevant to them, while respecting their autonomy and the right to collective action. Where appropriate, agreements concluded between the social partners shall be implemented at the level of the Union and its Member States. Workers or their representatives have the right to be informed and consulted in good time on matters relevant to them, in particular on the transfer, restructuring and merger of undertakings and on collective redundancies. Support for increased capacity of social partners to promote social dialogue shall be encouraged.

¹⁶ Depending on the size of a State, there might be one or more ACCs.

times (for example, during the night) with the ‘cross-border sectorisation’, they still remain very limited.

ATM preparation for a strike day involves the ANSP affected by the strike sending information to the airlines so that they can cancel flights at specific airports. Because airlines are aware that strikes can potentially be called off shortly before they start, they do not necessarily cancel all flights several days before the beginning of the strike. All in all, the uncertainty regarding the number of ANSP staff on strike, results in even more uncertainty for the network and the passengers when airlines cancel flights at the last minute.

2.2 Impact of strikes on the EU network

Strikes cause disruptions not only in the State where they occur, but also in neighbouring States and have a knock-on effect on the overall EU network. Delays and cancellations have a multiplier effect: they force flights to take alternative routes avoiding the affected airspace but also result in flight cancellations and delays in the affected airspace and the adjacent airspaces affecting passengers and businesses all over the European network. Significant financial losses and inconveniences for airlines, ANSPs, employees and passengers can occur as a result.

Delays and flight cancellations

From 2004 to 2016, a total of 375 days of strikes have been recorded in the EU¹⁷ (see Table 1). Over a 13 year aggregate period, this means that the European airspace has suffered from disruptions for over a full year.

Over that period, strikes have generated more than 9.2 million minutes of delays.¹⁸ The impact of strikes in terms of delays has been very burdensome especially in 2010 but also more recently in 2013, 2014 and 2016. In 2016 in the EU, ATM strikes caused 1,06 million minutes of delay, corresponding to around 14% of all en-route delays for 2016. By way of comparison, weather conditions caused 19% of all en-route delays, whereas other causes such as capacity/staffing of air traffic controllers generated 57% and implementation of ATM infrastructure caused 9% of such delays.

Table 2-1 - Overall numbers of strikes in the EU and total delay in years from 2004 to 2016

<i>Year</i>	<i>Number of strikes</i>	<i>Total delay (minutes)</i>	<i>Total cost of delay (€)¹⁹</i>
2004	12	74 289	€ 8,208,935
2005	21	437 272	€ 48,318,556
2006	30	522 226	€ 57,705,973
2007	19	246 602	€ 27,249,521
2008	36	398 239	€ 44,005,410
2009	22	197 514	€ 21,825,297
2010	80	3 440 728	€ 380,200,444

¹⁷ Study on Options for ATM Service Continuity in the Event of Strikes – Ricardo & York Aviation – 2016.

¹⁸ Minutes are the unit used for delay monitoring in aviation.

¹⁹ Total costs of delays are calculated using the reference cost of 110.5EUR per minute of delay (Eurocontrol recommended value). This cost is the "tactical cost" with network effect (including reactionary delay). Reactionary delay is the delay caused by the late arrival of aircraft or crew from previous journey, impacting the wider network.

2011	21	108 217	€	11,957,979
2012	35	633 964	€	70,053,022
2013	30	815 721	€	90,137,171
2014	18	737 003	€	81,438,832
2015	23	569 648	€	62,946,104
2016	32	1 068 346	€	118,052,233
Total (2004 to 2016)	375	9 249 769	€	1,022,099,475

Source: Study on Options for ATM Service Continuity in the Event of Strikes – Ricardo & York Aviation – 2016

Strikes have also provoked significant flight cancellations, as indicated in Table 2. Although there are variations particularly related to the severity of the strike, the undertaking affected, the size of the airspace concerned and the cause of the strike, the impact of a one day strike in terms of flight cancellations can be estimated to be approximately 300-1000 flights per day of strike.

Table 2-2 - Calculated numbers of flight cancellations for period 2005 to 2016 for Member States with highest numbers of strikes

Member State	Number of Strikes	Total number of cancellations in period	Average number of cancellations per strike day	Total cost of cancellations in period (million€)
France	249	162 392	652	€ 2 858
Greece	44	29 799	677	€ 524
Italy	34	35 460	1 043	€ 624
Portugal	10	5 234	523	€ 92
Spain	6	5 209	868	€ 92
Belgium	5	1 398	280	€ 25
Cyprus	5	1 527	305	€ 27
Germany	4	2 641	660	€ 46
TOTAL	357	243 660	626	€ 4 288

Source: Study on Options for ATM Service Continuity in the Event of Strikes – Ricardo & York Aviation – 2016

Impact on the air navigation service provision

ATM strikes impact flights controlled by the ANSP directly affected by the strike but also those controlled by neighbouring ANSPs. When a strike occurs, the network disruption is therefore felt by the majority of ANSPs in the network.

In the ANSP directly affected by the strike, air traffic is reduced due to a shortage of air traffic controllers and therefore airspace capacity is decreased. The ensuing delays are significant and often result in knock-on delays for the wider network or cancellations due to missing connections. More importantly, the consequence for the ANSP is the appearance of unusual traffic flows across its airspace. The traffic disruption caused by the delays and the capacity shortages are a major source of uncertainty for air traffic controllers. Whereas air traffic controllers are usually very familiar with the traffic flows patterns in their respective ACC sectors, the disrupted airspace caused by strikes brings additional complexity for them to

anticipate changing traffic flows. The uncertainty created results in a reduced functioning of ATM with possible increased work pressure for air traffic controllers, and possible risks for safety. Indeed, the closing of certain ACC sectors because of capacity shortage due to strikes modifies the usual traffic flows that air traffic controllers are used to deal with in their own ACC sector. When trained on a specific sector, an air traffic controller is acquainted with certain patterns of traffic coming in and out. When the traffic is disrupted, air traffic controllers have to adapt quickly to the changes, while maintaining high performance to reach the targets. This can possibly generate stressful situations, which in turn can possibly be a risk for safety.

In the neighbouring ANSPs, the effects of strikes are almost similar to that affecting the ANSP where the strike is taking place. However, as a consequence of the strikes, neighbouring ANSPs receive high volumes of traffic flows that are being re-routed around the strike affected area. Operationally, this phenomenon results in an overload of traffic, generating further delays and potential risks for safety.

Under these circumstances the operational coordination mechanism set up at the European level has a positive impact. Under this operational coordination mechanism, it is the responsibility of the network manager to mitigate the impact of strikes on the European airspace²⁰. In the event of traffic disruption due to ATM strikes, mitigation actions taken by the network manager very often includes rerouting proposals to airspace users (RRPs), suggestions for flight plans, and the possible postponement of scheduled military activities (including in the neighbouring States). Without this coordination, the continuity of ATM services would be more severely affected.

Financial losses for airlines

ATM strikes reduce predictability and consequently create uncertainty in the airlines planning process. In addition to the impact on ticket sales, airlines suffer greatly from the loss of revenue incurred by the increasing likelihood of strikes at certain periods of the year in some Member States and cancelled flights prior to and during strikes.

The estimated cost for airlines:

- 1 minute of delay is EUR 110.50 (includes reactionary delay²¹ and passenger value of time cost);
- the cost of a cancelled flight is estimated at EUR 17,600; and
- the cost of an additional nautical mile flown is EUR 10.60.

Overall between 2004 and 2016, a total cost of more than EUR 5.3 billion²² was incurred by airlines due to strikes in the EU.²³

Airlines incur certain costs as a result of their obligations under the Air Passengers Rights Regulation (No 261/2004)²⁴ (for details, cf. Section 5.3 below). These obligations create a

²⁰ The network manager for the SES is the body nominated by the Commission to promote the network dimension in the management of the European airspace.

²¹ Delay caused by the late arrival of aircraft or crew from a previous journey, impacting the wider network.

²² This cost was calculated by summing the total costs incurred by delays due to strikes from 2004 to 2016 and the total costs incurred by flight cancellations due to strikes from 2005 to 2016.

²³ Study on Options for ATM Service Continuity in the Event of Strikes – Ricardo & York Aviation – 2016.

financial burden for the airlines that is not recovered through the performance management arrangements. Moreover, airlines incur significant costs arising from a loss in productivity due to ATM strikes. This loss in productivity impacts air services, as well other sectors of the economy that rely on air services for their business activities. Cancellations, delays, increased waiting times, longer flights all contribute to a slowdown of the economy and to a loss of opportunity on days of strike.

The cumulative economic impact incurred by the decrease in productivity between 2010 and 2015 is estimated to be EUR 4 billion, i.e. EUR 670 million per year on that period.

The environmental impact resulting from ATM strikes is also significant. Unlike in the case of other aviation strikes (e.g. aircraft pilots, on-board personnel), the absence of or partial coverage of air navigation services over certain airspace sectors prevents flights from operating optimal routes and generates considerable re-routing of aircrafts. The consequences are longer flight distances and journey times, potential increase in air navigation charges, but more notably, a considerable rise in fuel consumption, which produces higher rates of CO₂ and NO_x emissions and a considerable increase of the aviation industry's impact on the environment. From January 2014 to December 2015, the additional distance flown in the European airspace due to strike amounted to 2.2 million kilometres²⁵.

2.3 Impact on passengers and the single market

For passengers, the practical consequences of ATM strikes are a loss of connectivity and therefore a limitation of their freedom of movement as European citizens. ATM strikes not only decrease the reliability of air transport for European citizens, but also financially penalise passengers as they are required to spend more money to change their travel and accommodations arrangements, very often at the last minute. Given that there were a total of 243,660 cancelled flights from 2005 to 2016, and taking into account the average number of passengers per flight²⁶, it can be estimated that the number of passengers affected by flight cancellations due to ATM strike in that period is over 27 million. The costs incurred by these passengers based on the number of delays due to ATM strikes from 2004 to 2016 can also be estimated. For that purpose, the value of air passenger waiting time can be used. The opportunity cost incurred by passengers while waiting at the departure gate area was estimated in 2014 to amount to 20 and 18 US dollars respectively for leisure air travellers (corresponding respectively to EUR 15.2 and EUR 13.7²⁷). The rough estimate of the cost incurred by passengers for all delays in 2014 due to ATM strikes (737,000 minutes) was therefore around EUR 10 million.

ATM strikes have a detrimental impact on the EU economy, and especially on its tourism. Although related data is missing, it is obvious that the cancellation of flights, especially when strikes occur in the summer time, oblige travellers to shorten (if not cancel) their holidays,

²⁴ Regulation (EC) No 261/2004 of the European Parliament and of the Council establishing common rules on compensation and assistance to passengers in the event of denied boarding and of cancellation or long delay of flights and on Council Regulation (EC) No 2027/97 on air carrier liability in the event of accidents as amended by Regulation (EC) No 889/2002 of the European Parliament and of the Council.

²⁵ Study on Options for ATM Service Continuity in the Event of Strikes – Ricardo & York Aviation – 2016.

²⁶ In 2014, the average number of passengers per departing flight is 114 according to Eurostat database: <http://ec.europa.eu/eurostat/web/transport/data/database>

²⁷ The exchange rate Euro/US Dollar in 2014 varied from 0.7231EUR/\$ (March) to 0.8123EUR/\$ (December) with an average around 0.7557EUR/\$, used for the present calculation.

which has an impact on tourism. Some Member States affected by ATM strikes (such as France, Greece, Italy and Portugal) rely on tourism as an important contributor of their GDP. The failure to ensure ATM service continuity and connectivity have a major detrimental impact on tourism, as passengers are often required to cancel their travel plans in the event of ATM strike. Other Member States where tourism is a major source of revenue, such as Ireland, also suffer from indirect consequences of ATM strikes in the EU. Given its geographical location, ATM strikes in France and consequential partial closure or the reduction of capacity in French airspace considerably decreases the potential for overflight in the French airspace, and decreases the connectivity of and with other Member States. This affects the European economy as a whole. The impact of a French strike is greater as it also has negative knock-on effects on other neighbouring Member States.

2.4 Impact on the performance of air navigation services

The performance of air navigation services and ATM network functions²⁸ is constantly monitored and steered in four key performance areas: 1) safety, 2) environment, 3) capacity and 4) cost-efficiency. By bringing improvements in all four areas, air navigation services should contribute to the sustainable development of the air transport system.

Performance in all four areas is monitored through specific performance indicators. For example, the lack of capacity is measured as the average minutes of en-route air traffic flow management (ATFM) delay per flight attributable to air navigation services. The efficiency of a flight path is measured by comparing the actual trajectory of a flight to the more direct route.

Network disruptions caused by ATM strikes are detrimental to the performance of air navigation services. For example, in the area of capacity, the average delay per flight due to strike²⁹ was 1.59 minutes in 2010 and 1.77 minutes in 2014³⁰. With 680,000 minutes of delays in 2014, strikes contributed to 13.4% of total en-route delays that year.³¹

Similarly, as stated under section 2.1, the additional distance flown in the European airspace due to strikes between January 2014 and December 2015 amounted to 2.2 million kilometres.

ATM is a crucial link in the aviation value chain. It is a major enabler for a functioning air network, not only from a safety standpoint, but also because of its reliability and performance. The aviation value chain is so tight, that each minute of delay incurred at one stage of the chain creates disproportioned delays all along the value chain. On days of traffic disruption due to strikes, decreased capacity and higher environmental impact affects its overall

²⁸ Commission Implementing Regulation (EU) No 390/2013 of 3 May 2013 laying down a performance scheme for air navigation services and network functions.

²⁹ This is calculated as the total delay due to strikes during the year divided by the total number of flights (across the full network) on days in which strikes occurred in the same period. The average delay on particular flights which are delayed because of the effects of the strike would be expected to be significantly higher. In these calculations, the ‘total delay’ includes both the delays recorded in the country in which the strike took place (directly attributed to the strike) and delays imposed in other countries (recorded as ‘Other delays (with industrial action referred to in the regulation remark)’ in the data provided by network manager).

³⁰ Study on Options for ATM Service Continuity in the Event of Strikes – Ricardo & York Aviation – 2016.

³¹ Network Manager Annual Report 2014.

performance, and negatively impacts all aviation stakeholders, from the European citizens to airlines or ANSPs.

3. Role of air traffic controllers, occurrence and origin of strikes

ATM strikes are primarily strikes by air traffic controllers, although other categories of staff, such as technicians, could also lead to an inability of the air traffic control centre to perform its function and cause disruption to the ATM network.

3.1 Role of the air traffic controllers

Air traffic controllers are responsible for the safety of air traffic flows 24 hours a day and 7 days a week. They are essential to the smooth and safe running of the aviation industry. They direct aircraft to avoid collision, manage the traffic flows into and out of the airport airspace, guide pilots during take-off and landing, and monitor aircraft as they travel through the skies. In Europe, air traffic controllers help to keep up with one of the world’s busiest airspaces. Subject to a specific licensing³², including linguistic requirements, they are highly-trained professionals. Because of the demanding tasks they perform, the necessary level of concentration and the high responsibilities exercised by them - especially to provide the required level of safety, air traffic controllers have specific professional and personal skills.

Today there are approximately 14,000 air traffic controllers working in 50 ACCs in operation in the Member States, while a further 1,800 are employed to perform other duties.³³

Overall there seems to be a shortage of air traffic controllers to meet the capacity and flight efficiency objectives of the performance schemes, which adds to the stressful conditions of the air traffic controllers' daily work. The training of new air traffic controllers may solve this problem as well as other practices requiring the support of staff, such as the mobility of the existing staff, more flexibility in the provision of air traffic control within each individual ANSP and between adjacent ANSPs or within a FAB through the cross-border sectorisation.

The status of the ANSP, and hence that of the air traffic controllers working for it, varies between different countries. In most of the Member States, the ANSP is a private sector company and its employees are not public servants. In a few countries (e.g. France, Greece), the ANSP is part of the administration and its employees are civil servants.

Table 3-1 – Breakdown of ANSPs, ACCs and air traffic controllers per Member State

Member States	ANSPs	Number of ACCs	Number of air traffic controllers ³⁴
Austria	Austro Control	1	291
Belgium	Belgocontrol	1	232

³² Commission Regulation (EU) 2015/340 laying down technical requirements and administrative procedures relating to air traffic controllers' licence and certificate pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council, amending Commission Implementing Regulation (EU) No 923/2012 and repealing Commission Regulation (EU) No 805/2011.

³³ Study on Options for ATM Service Continuity in the Event of Strikes – Ricardo & York Aviation – 2016.

³⁴ Number of air traffic controllers in OPS. Cost-Effectiveness (ACE) 2014 Benchmarking Report with 2015-2019 outlook – Performance Review Unit (PRU) with the ACE Working Group – May 2016.

Member States	ANSPs	Number of ACCs	Number of air traffic controllers ³⁴
Bulgaria	BULATSA	1	248
Croatia	Croatia Control	1	234
Cyprus	DCAC Cyprus	1	86
Czech Republic	ANS CR	1	192
Denmark	NAVIAIR	1	208
Estonia	EANS	1	52
Finland	Finavia	1	183
France	DSNA	5	2782
Germany	DFS	4	1777
Greece	HCAA	1	496
Hungary	HungaroControl	1	173
Ireland	IAA	2	204
Italy	ENAV	4	1414
Latvia	LGS	1	93
Lithuania	Oro Navigacija	1	87
Luxembourg	ANA	1	48
Malta	MATS	1	54
Netherlands	LVNL	1	178
Poland	PANSA	1	479
Portugal	NAV Portugal (Continental)	2	220
Romania	ROMATSA	1	548
Slovakia	LPS	1	82
Slovenia	Slovenia Control	1	91
Spain	ENAIRE	5	1779
Sweden	LFV	2	470
United Kingdom	NATS (Continental)	5	1415
	MUAC	1	268
TOTAL		50	14 384

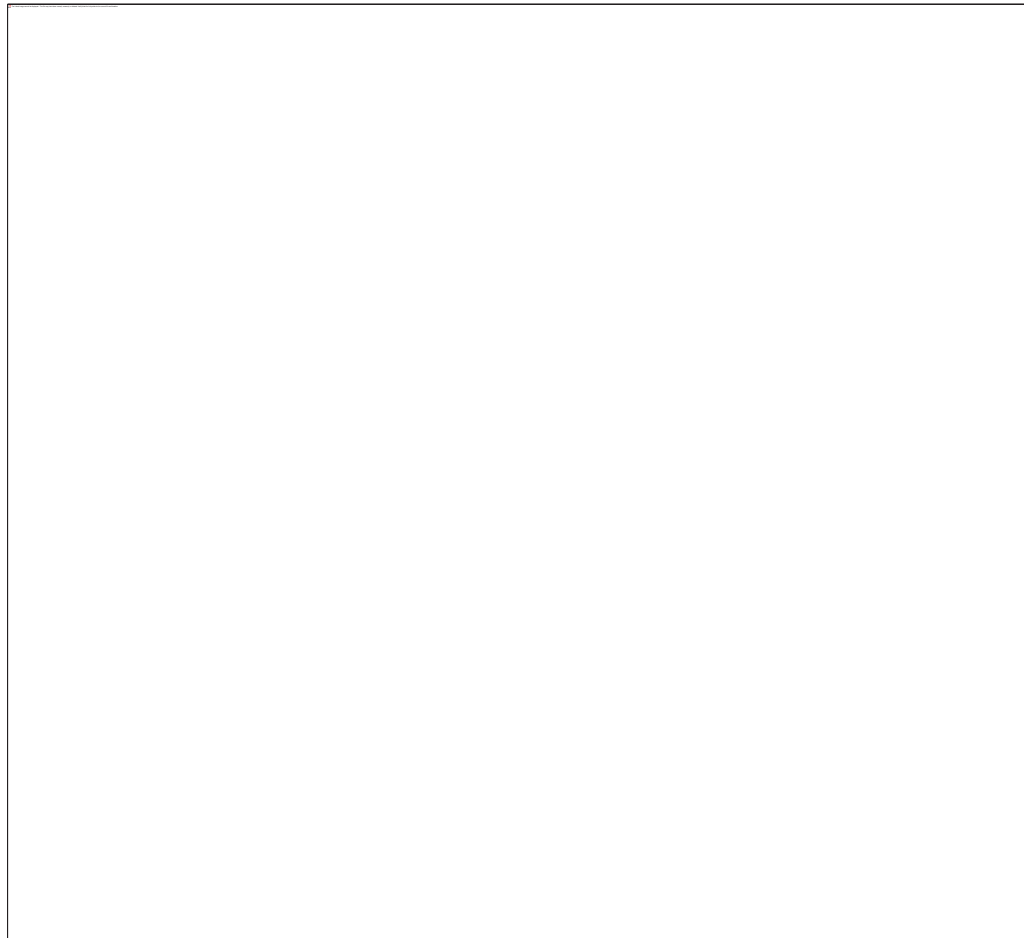
3.2 Occurrence of ATM strikes across Member States

Air traffic controller strikes are not an issue in every Member State as shown in the map below.

- Over the period 2004-2016, there have been no strikes in the following 15 Member States: Bulgaria, Czech Republic, Denmark, Estonia, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Slovenia, Sweden, and the United Kingdom.
- 13 out of the EU-28 have been directly affected by at least one strike action since 2004. Days of strikes varied from 1 to 10 in the following Member States: Austria, Belgium, Cyprus, Croatia, Finland, Germany, Portugal, Romania, Slovakia and Spain. Notably, there were 37 strike days in Italy, 46 in Greece and 254 in France. 67% of the total strike days in that period took place in France.³⁵

Map 3 Overall number of ATM strike days from 2004 to 2016

³⁵ There have also been instances of strikes just in individual ACCs. E.g. a strike in Reims ACC (France) in November 2015 generated 65,000 minutes of ATFM delay.



3.3 Causes of strikes

There are multiple causes of strikes in ATM. However, two principal causes of strikes affecting ATM can be identified - ATM-related, and non-ATM related:

- ATM-related strikes can occur for various reasons. As explained under section 2, air traffic controllers have specific working conditions that can oblige them to work during the day or night, weekend and bank holidays. Their work is performed under pressure because of the responsibilities they carry, and because of the performance objectives that they have to compose with. Also, social dialogue across the Member States is unevenly implemented. Strikes in ATM may therefore be linked to the employment conditions (e.g. salaries or retirement conditions), to more operational/managerial reasons (e.g. rosters and shifts), to structural changes in the organisation of the ANSPs (e.g. as a result of the SES policy), or finally to the technological evolution of the sector (e.g. towards more automation).³⁶
- Non-ATM related strikes can be solidarity strikes relating to wider national themes concerning workers in the public sector (e.g. terms and conditions of employment). In

³⁶ To be noted that currently, there is little data supporting this point. See Study on Options for ATM Service Continuity in the Event of Strikes – Ricardo & York Aviation – 2016.

these cases, the ANSP has much less influence over the conduct and timing of the strikes and limited, if any, control on the process by which such issues are resolved.

4. Importance of social dialogue in air navigation service undertakings

4.1 Social dialogue as a key enabler for strike avoidance

The Aviation Strategy identifies the need for reinforcing the social agenda and creating high quality jobs in aviation. To this end, an active and comprehensive social dialogue in industrial relations is essential.

Directive 2002/14/EC of the European Parliament and of the Council of 11 March 2002 provides a general framework for informing and consulting employees in the EU. It lays down the nature of and the conditions under which information and activities must be shared between the employers and the employees of the undertakings³⁷.

Additionally, Article 10 of EU Regulation (EC) No 549/2004 provides that Member States are required to establish consultation mechanisms for the appropriate involvement of stakeholders (including professional staff representative bodies) in the implementation of the SES³⁸.

However, while establishing social dialogue is an obligation, there are various degrees of application across the EU. As a result of a good social dialogue certain Member States, service providers and staff have concluded local agreements. This means that staff (air traffic controllers) and employers (ANSPs) have co-defined their own principles and conditions for a successful social dialogue.

This is the case in Denmark, Ireland or in MUAC³⁹. The ANSP staff and management have agreed to proceed with mediation and conciliation, followed if necessary by arbitration, in order to solve any issue before a strike is called. Social partners place a strong emphasis on the maintenance of a high level of social dialogue in order to avoid disputes escalating to the point of a strike being called.

These local agreements complement national legislation on the right to strike for air traffic controllers. In Ireland, compulsory arbitration processes are not required before a strike can be called in ATM. However, the Irish ANSP⁴⁰ has a local agreement in place since 2015 with its staff, which requires mediation and conciliation followed by binding arbitration to resolve any issue before a strike can be called. The agreement states that both sides will respect the outcome of the arbitration.

In the case of Maastricht Upper Area Control Centre (MUAC), local agreements between management and staff are also in place. In this regard, the local agreements concluded at

³⁷ Directive 2002/14/EC of 11 March 2002, OJ L 80, 23 March 2002, p. 29-34.

³⁸ Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European Sky (the framework regulation), OJ L 96, 31.3.2004, p. 1-9.

³⁹ Maastricht Upper Area Control (MUAC – organisation managing the upper airspace over Belgium, the Netherlands, Luxemburg and part of Germany).

⁴⁰ The Irish Aviation Authority acts both as Civil Aviation Authority and ANSP, but these are functionally separate within the organisation.

MUAC between the staff and the management prevail despite differing national legislation of the States for which it provides air navigation services. Besides, the single ACC is seen as being a major contributor to the lack of strikes at MUAC. This allows for a focus on the local issues, which improves social dialogue and reduces the risk of social conflict.

In Denmark, there is no legislation on the right to strike for air traffic controllers. However, the Danish ANSP was privatised in 2007, leading to a change in the terms and conditions of Danish air traffic controllers. Before 2007, as civil servants, air traffic controllers were not allowed to strike. As a consequence of the privatisation, air traffic controllers have acquired the right to strike. Also, air traffic controllers formerly civil servants are gradually acquiring the right to strike. There has never been any strike in Denmark since the establishment of the Single European Sky, because the relationship between staff and management is based on continuous social dialogue at many levels within the structure of the organisation.

These local agreements, complementing national legislation on the right of strike, have proven to be very effective. All potential social conflicts in ATM in Denmark, Ireland and MUAC have been solved in the frame of these local agreements, and no strikes have been recorded in the past years. Additionally, other Member States have not been subject to strike action for a considerable number of years, which is an indication of an effective social dialogue in place between the ANSPs and the unions.

While Spain has achieved a generally good relation between the ANSP and the unions, there has been only one single strike over last few years. Italy and Greece have both experienced a number of strikes in ATM in recent years. Although there have been negotiations to avert strikes, the level of social dialogue has been insufficient to avoid them occurring. The recent changes in the organisational set up of the ANSPs in these two countries are expected to bring benefits to the social dialogue. Efforts were made in France to foster a good social dialogue, and there is evidence of progress in that direction. Most of the recent strikes have been solidarity strikes in support of national labour disputes. As a result, the efforts made to improve social dialogue do not appear to have been very effective in reducing the impact of strikes on the ATM network.

There are many trade unions, with different approaches in the handling of industrial relations; certain unions call for strikes while others prefer to resort to a more dialogue oriented approach.

At EU level the European Social Dialogue Committee for civil aviation is established since 2000 with the aim to notably assist the Commission in the formulation and implementation of Common Air Transport policies which on the one hand have a social effect or employment implications in the European Civil Aviation sector and on the other hand aim at strengthening the economic and competitive position of the Community's civil aviation both within the Community and in the wider international context.

In that context, the social partners active in the field of Air Traffic Management⁴¹ have in March 2016 promoted a joint initiative: the "Toolbox for Successful Social Dialogue in Air Traffic Management". The purpose of this toolbox is to increase the quality of social dialogue

⁴¹ European Transport Worker's Federation (ETF), the Air Traffic Controllers European Union Coordination (ATCEUC) and the Civil Air Navigation Services Organisation (CANSO), representing the air navigation service providers.

and reduce the risk of conflicts. This social partners' joint initiative promotes a series of best practice in order to enable an effective social dialogue.⁴²

4.2 Room for more efficient social dialogue

The Aviation Strategy recognises the important role of social dialogue⁴³. It is clear that the quality of the mechanisms in place for social dialogue, and the quality of the national or local agreements between ATM staff and employers is a determining factor to avoid social conflict and consequently the impact of strikes on ATM. Analysis has shown that the effective implementation of social dialogue at Member States and FAB⁴⁴ level is very uneven⁴⁵. There is still room for more efficient social dialogue in certain Member States.

It is clear that national characteristics may influence the success of improved social dialogue as a means to reduce the likelihood of strikes in ATM. Nonetheless, it appears that there are opportunities to obtain reductions in the number of strikes through better relations between management and unions.

The majority of FABs have created a formal set up for FAB level social dialogue to address FAB related issues. However, in many FABs social dialogue has been less developed in practice, as the mechanisms that have been set up are dormant. A recent study⁴⁶ has shown that over half of the FABs are inactive when it comes to the implementation of the social dialogue. FABs which have effectively implemented social dialogue mechanisms have ensured that staff opinion is being heard at the management level, by ensuring their presence on the consultation forums/meetings. Even though there are formalised FAB social dialogue mechanisms established in some of the FABs, the national social dialogue is still regarded by all parties involved as being much more significant. FAB social dialogue is always complementary to the national processes⁴⁷.

5. Overview of the legal position

5.1 The right to strike: a fundamental right primarily regulated at national level

The right to strike is a fundamental right of workers⁴⁸. Article 28 of the Charter of Fundamental Rights states that *'Workers and employers, or their respective organisations, have, in accordance with Community law and national laws and practices, the right to negotiate and conclude collective agreements at the appropriate levels and, in case of conflicts of interest, to take collective action to defend their interests, including strike action'*.

⁴² Toolbox for Successful Social Dialogue in Air Traffic Management – ATCEUC, CANSO, ETF – 2016.

⁴³ Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, An Aviation Strategy for Europe, COM(2015) 598 final.

⁴⁴ FABs are multi-State arrangements based on operational requirements and established regardless of State boundaries. FABs aim to reduce the fragmentation of the European ATM network and thus to improve performance.

⁴⁵ Study on Function Airspace Blocks– Integra – 2017.

⁴⁶ Study on functional airspace blocks by Integra, Ecorys, Winsland and Combitech (January 2017)

⁴⁷ Study on Function Airspace Blocks– Integra – 2017.

⁴⁸ Article 28 of the Charter of Fundamental Rights, ECJ rulling (Viking and Laval).

This right also falls outside the scope of EU social policy⁴⁹. At this stage, the arrangements and limits to exercise the right to strike generally fall under national laws and practices. The right of employees to take industrial action, including strikes, is explicitly recognised and extends to employees in ATM in all Member States. Moreover, the majority of the Member States have specific laws or regulations defining the conditions for exercising the right to strike in ATM.

The right to strike as a fundamental right must not be challenged. Nevertheless a balance needs to be found so that its exercise does not jeopardize the attainment of other EU fundamental principles and fundamental freedoms.

5.2 A diversity of Member States' legal frameworks on strikes

The analysis of the current legal framework clearly shows the diversity and complexity of Member States legal norms regarding strikes. In most cases, these conditions cover advance strike notice, conciliation and arbitration rules, and negotiation and mediations requirements. Member States frequently affected by strikes (e.g. France, Greece, Italy, Spain, Cyprus) have minimum service levels in place, as part of their regulatory means to manage ATM strikes (see Table 5-2). Although in place, these mechanisms have so far not been able to mitigate the impact of strike.

Minimum notification period

A minimum notification period is mandated in the majority of Member States (24)⁵⁰. However, it differs greatly, ranging from 24 hours in Germany to 1 month in Denmark. In Malta, within the minimum notification period of 7 days, there are 2 days in which parties are bound to meet to try to resolve the dispute. Moreover, a few Member States apply different requirements on the minimum notification for strikes that are solidarity strikes than if they are primary strikes. Hungary, for example, through a collective agreement requires a minimum notification period of 24 hours if there is an upcoming solidarity strike, while in Croatia the minimum notification period for solidarity strikes is 2 days. In addition to specifying a minimum period for the notification of a strike by the union, Croatia also includes a requirement for individuals to provide at least 72 hours' notice if they intend to participate in the strike. A similar law applies to the transport sector in France; however it does not apply to ATM.

Table 5-1 Minimum notification periods defined for Member States (in ascending order of the value)

Member States	Period of notification
Germany	24 hours
Romania	2 working days
Hungary	72 hours
Greece	4 days
Croatia	5 days

⁴⁹ Article 153(5) of the Treaty on the Functioning of the European Union.

⁵⁰ Austria, Cyprus and Czech Republic do not have a defined minimum notification period.

Member States	Period of notification
France	5 days
Netherlands	5 – 7 days
Bulgaria	7 days
Ireland	7 days
Latvia	7 days
Malta	7 days
Sweden	7 days
United Kingdom	7 days
Luxembourg	10 days
Spain	10 days
Portugal	10 working days
Italy	12 days
Estonia	14 days
Finland	14 days
Lithuania	14 days
Poland	14 days
Belgium	15 days
Slovenia	15 days
Denmark	1 month
MUAC	5 days

Source: Study on Options for ATM Service Continuity in the Event of Strikes – Ricardo & York Aviation – 2016

Minimum levels of services

Fewer Member States (9) have provisions for minimum levels of service than for minimum notification periods. Analysis also shows that not only is there a wide variation between Member States in legal measures requiring a level of service which must be provided but also in the manner of defining the service level to be provided. In France, for example, the minimum level of service is decided on a case-by-case basis. Spain and Portugal define a minimum service including flights to islands, which is generally in response to a requirement that the inhabitants of the islands should not be 'cut off' in the event of strike. Other Member States (e.g. Italy and Greece) protect 100 percent overflights.

Table 5-2 Minimum service levels defined by Member States

Member States	Overflights	Departing and Arriving Flights
Croatia	Minimum of three sectors served (two in winter) to give a minimum of 75 % of the flights prescribed by network manager	Maximum duration of strike two hours; no more than eight flights affected

Cyprus	40 % normal capacity	50 % normal capacity
France	50 % normal capacity	Limited number of (defined) airports open Capacity decided on a case-by-case basis (usually about 80 % capacity)
Greece	100 % (through agreement with unions rather than legislation)	Emergency, SAR, state flights only
Hungary	46 flights per hour	50 % normal capacity
Italy	100 %	All intercontinental; all departures 07:00-10:00 and 18:00-21:00; flights to islands
Portugal	3 contingency routes served; to give about 33 % of normal capacity (by agreement rather than legislation)	Public service flights (to islands), emergency flights
Romania	33 % normal capacity	33 % normal capacity
Spain	100 % served (with delays)	On case-by-case basis, flights to islands

Source: Study on Options for ATM Service Continuity in the Event of Strikes – Ricardo & York Aviation – 2016

Other mitigation measures

Some Member States have adopted measures to mitigate the impact of strikes on the network. For example, in Italy, strikes cannot take place during day time peak traffic periods and during seasonal peak traffic periods. They are also limited in their duration to 4 hours for the first strike, and then 8 hours for the second. Two strikes must not take place between 14 to 21 days of each other.

5.3 Relevant EU and international framework

As already addressed in section 5.1, the right to strike is a fundamental right and is governed in essence by national law. The Aviation Strategy for Europe, published in 2015, envisages action intended to promote best practices in order to ensure a minimum level of service in managing the European network and airspace, in particular for overflights.

In the international legal context, Annex 11 (Air Traffic Services) to the Chicago Convention includes (within Chapter 2.3) the requirement for ANSPs to ensure contingency planning for disruption to ATM services⁵¹. However there are no standards or recommended practices on the subject.

There are no applicable EU regulations dealing with guaranteed service provision specifically during strikes. The common requirements for the provision of air navigation services (Commission Regulation (EU) No 1035/2011) only require ANSPs to have in place contingency plans for all air navigation services they provide in the case of events which result in significant degradation or interruption of their operations without requiring a level of minimum service or specifically addressing strike⁵². However, the main aim of the SES legislation, as stated in Article 1 of the Framework Regulation 549/2004, is to *‘enhance current safety standards and overall efficiency for general air traffic in Europe, to optimise*

⁵¹ ICAO, Air Traffic Services, Annex 11 to the Convention on International Civil Aviation.

⁵² Commission Implementing Regulation (EU) No 1035/2011 of 17 October 2011 laying down common requirements for the provision of air navigation services amending regulations (EC) No 482/2008 and (EU) No 691/2010, OJ L 271, 18.10.2011, p. 23-41.

*capacity meeting the requirements of all airspace users and to minimise delays*⁵³. The service continuity is an underlying objective of the SES, even if it is not explicitly mentioned.

As such, the performance driven ATM system established in EU through the implementation of the SES regulation and its performance targets have been heavily affected by strikes.

In addition, Regulation (EC) No 261/2004⁵⁴ on air passengers' rights is a European legislation aiming to ensure rights of compensation and assistance to passengers under certain conditions, in the event of cancellation or long delay of flights. It obliges airlines in the case of flights cancelled less than 14 days before departure and in the case of flights delayed more than three hours on intra-Community flights to pay compensation. An operating air carrier is exempted from paying compensation in the event of cancellation or delay of a flight when the cancellation or delay is caused by extraordinary circumstances such as strikes that affect the air carrier⁵⁵. Nevertheless, air carriers must fulfil their obligations of 'care and assistance' to the passengers, even though the cancellation or delay was caused by extraordinary circumstances and even if the announced strike was finally called off, as it could still have led to traffic disruptions⁵⁶. Depending on the circumstances, the notion of care and assistance includes: the right to reimbursement, re-routing, meals and refreshments and hotel accommodation, for as long as is necessary. This also includes cases of 'extraordinary circumstances' entitling the air carrier to refuse the granting of compensation.⁵⁷

All in all, there are both global and European requirements on ANSPs to ensure contingency planning for disruption to ATM services, including continuity of services and mitigating the impact in the event of strikes.

6. Practices favouring ATM service continuity, observed in Member States

Some Member States have already implemented at national level a number of practices that aim to avoid ATM strikes, limit or remove their negative impacts on the air traffic, the EU citizens and the economy as a whole. A number of practices that are in place in at least one of the Member States are particularly relevant, and bring significant improvements to the whole network in the event of strikes. Section 6 gives a detailed explanation of those practices. It should be noted that one practice being successful in one Member State does not systematically mean that it would be successful in another Member State.

⁵³ Regulation (EC) No 549/2004 of the European Parliament and of the Council of 10 March 2004 laying down the framework for the creation of the single European Sky (the framework regulation), OJ L 96, 31.3.2004, p. 1-9.

⁵⁴ Regulation (EC) No 261/2004 of the European Parliament and of the Council establishing common rules on compensation and assistance to passengers in the event of denied boarding and of cancellation or long delay of flights and on Council Regulation (EC) No 2027/97 on air carrier liability in the event of accidents as amended by Regulation (EC) No 889/2002 of the European Parliament and of the Council.

⁵⁵ Recital 14 of Regulation (EC) No 261/2004.

⁵⁶ Articles 8 and 9 of Regulation (EC) No 261/2004.

⁵⁷ Commission Notice — Interpretative Guidelines on Regulation (EC) No 261/2004 of the European Parliament and of the Council establishing common rules on compensation and assistance to passengers in the event of denied boarding and of cancellation or long delay of flights and on Council Regulation (EC) No 2027/97 on air carrier liability in the event of accidents as amended by Regulation (EC) No 889/2002 of the European Parliament and of the Council, OJ C 214, 15.6.2016, (Sub-paragraph 4.3.3.Care in extraordinary circumstances or exceptional events), [http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016XC0615\(01\)](http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52016XC0615(01))

Social dimension

6.1 Improvement of social dialogue in Air Traffic Management

It is clear that reducing the impact of strikes in ATM on the functioning of the network starts by reducing the probability of strikes occurring and then by mitigating their impact through social dialogue. Measures in place in Member States such as Denmark, Ireland and the UK show that this can be achieved with procedures enabling a sound and efficient social dialogue.

Efficient procedures for social dialogue in ATM have been put in place in various countries and especially in Denmark, Ireland and the UK thanks to local agreements concluded between the ANSP management and the staff. These local agreements determine the conditions in which social dialogue is to be organised. As explained under section 4.1, examples of local agreements in place within ANSPs show that their effectiveness is improved when agreements are concluded at ACC level. Notably in Member States with several ACCs, ANSP staff and management working together at ACC level establish ACC level local agreements, which enables to encompass better the local needs and specificities of the staff and the management.

A number of practices for social dialogue have been proposed by the social partners, as mentioned in section 4.1. The Toolbox for Successful Social Dialogue in the Air Traffic Management industry contains the following practices:

- Any arrangements or procedures agreed between undertaking management and workers' representatives should be formalised in writing and signed by both parties;
- Behaviour should be recognised as key for good communication and dialogue;
- There should be mutual recognition of the rights and responsibilities of unions and the management;
- There should be open meetings to improve communication;
- Early information and consultation of unions should be encouraged;
- Use of internal committee for dispute settlement process should be promoted;
- When employer and employees representatives reach an impasse in negotiations that cannot be resolved between them, they should use an external mediation tool⁵⁸.

6.2 Early notification of strikes by the unions (for better predictability of strikes)

The provision of early notification in advance of strike plays a positive role in reducing the occurrence of strikes. Indeed, possible strikes notified with a sufficiently lengthy period of time in advance, allow for three important steps to take place. Namely, (i) the unfolding of an open, transparent and sound social dialogue, including the dispute resolution mechanism in force in that country or through the local agreement at ANSP level; (ii) the notification of passengers by the airlines of the confirmation or cancellation of their flight; and (iii) the set up and coordination of all operational measures aiming to organise the network so as to limit as much as possible the negative effects of the strike.

The latter involves all operational stakeholders to be coordinated across the network, and therefore takes time. For example, it includes the assessment of the workforce available on the different shifts during the strike in the strike affected ANSP, the establishment of the shifts and rosters, the establishment of opened sectors, the communication of the available airspace

⁵⁸ Toolbox for Successful Social Dialogue in Air Traffic Management – ATCEUC, CANSO, ETF – 2016.

to all aviation actors including all concerned airlines and all European and some extra-EU ANSPs, the filing of flight plans by airlines, and the cancellation of certain flights by airlines. It should be noted that the above list of actions is not exhaustive. The network manager is involved and in charge of the EU wide coordination for several of the above mentioned actions.

As indicated in Table 5-1, the Member States have adopted different time frames for advance notification periods. These rank from 24 hours to 1 month.

Depending on the length of the notification period in force in the Member States, very different results have been observed in the occurrence of strikes. Indeed, the Member States with a notification period inferior to 14 days cumulate from 2004 to 2016 a total of 359 strike days. On the other hand, Member States with a notification period equal to or higher than 14 days (Estonia, Finland, Lithuania, Poland, Belgium, Slovenia, and Denmark) cumulate only 7 days of strike on the same period.

During stakeholders' consultation in the context of the Commission study⁵⁹, the network manager, airlines and ANSPs have identified as "Best Practice"⁶⁰ a notification period of at least 14 days.

The benefit of a sufficiently advanced notification, i.e. 14 days at least before a strike, lies in its interdependence with the need for better social dialogue in ATM.

6.3 Individual notification of staff members (for better visibility shortly before strikes)

Because of safety requirements relating to minimum staffing, the unexpected absence of even one controller can require the ATM service to be completely shut down at a given location, even if other controllers are at work. And because of the way ATM service is organised, a shutdown at one location has a ripple effect throughout the system, effectively closing off specific traffic routes. Low visibility as regards the staff availability during the consecutive shifts on the day of strike in the ANSP thus makes it difficult for the ATM service provider to plan ahead the level of ATM service that will effectively be available during a strike. France adopted in 2012 a specific legislation⁶¹, transposing to passenger air transport companies the legislative scheme that was already applicable since 2007 to its rail sector. It requires all workers in the aviation sector intending to take part in a strike, to individually notify the management at least 48 hours in advance. This law does not apply to air traffic management. In another Member State (Croatia), a similar scheme is applied with a 72 hours notice period.

Where implemented, the individual notification of staff members brings benefits on two very important aspects.

1. It improves the situation for all employees, whether they wish to work or to strike. Indeed, thanks to good visibility provided by the individual notification, the ANSP management can prepare shifts knowing exactly how many employees will work. Therefore, there is no need for the management to "guess" this number. In Member

⁵⁹ Study on Options for ATM Service Continuity in the Event of Strikes – Ricardo & York Aviation – 2016.

⁶⁰ The complete list of "Best Practices" identified is available in the study referred to in footnote 61.

⁶¹ Loi n° 2012-375 du 19 mars 2012 relative à l'organisation du service et à l'information des passagers dans les entreprises de transport aérien de passagers et à diverses dispositions dans le domaine des transports. - JORF n°0068 du 20 mars 2012 page 5026, known as 'Loi Diard'

States where a minimum service level is applicable, "guessing" usually leads to overstaffing on the day of strike. Some employees are asked to come to work although they intended to strike, but their workforce is not needed after all if the number of employees choosing to work is higher than expected. With individual notification of strike, this scenario does not happen. It also benefits the employees who choose to work, as they can operate on shifts prepared well in advance by their management. A more relaxed working environment also contributes to greater safety for the operations.

2. From an operational point of view, better visibility enables ANSP to provide the NM and all other ANSPs and aviation stakeholders with a clear picture of which ATM sectors will be operational. Airlines can file their flight plans accordingly, anticipate possible delays and inform passengers. Better operational visibility also makes the work of air traffic controllers easier and less stressful, and thus safer.

Operational dimension

6.4 Protection of 100 percent of overflights

The impact of ATM strikes on neighbouring ANSPs is significant, notably because of the reduction in airspace capacity over the strike affected area. As a consequence, aircraft that would normally overfly the affected area need to take alternative routes at the last minute, causing major delays and cancellations.

Some Member States, among which Italy, Greece and Spain have adopted measures intended to preserve continuity of service for 100 percent of overflights (flights crossing the airspace of an affected area). Although in certain cases, an amount of delay cannot be avoided, this practice allows overall for a decrease of the traffic disruption and limits the negative consequences of the strike on the overall network.

6.5 Protection of air traffic peak periods

The impact of ATM strikes on the entire EU air network is considerable when the traffic is disrupted during a period of normal traffic. In Member States affected by strikes, it is generally recognised that there may be a risk that strikes would coincide with air traffic peak periods of the day or of the year. Indeed, given the large volumes of passengers travelling during those peak periods, the potential for damage caused to the EU economy could be used as bargaining power by the ATM staff in their negotiations with the management or national authorities.

Disruptions during traffic peak periods generate additional pressure on neighbouring ANSPs from a safety, capacity and flight-efficiency standpoint.

In Italy, certain traffic peak periods of the day and certain traffic peak times of year are protected. That means no ATM strikes can take place during determined periods. The rationale behind this practice is to protect the movements of passengers during the busiest air traffic period of the day and of the year, as well as to protect the national economy of Italy during those periods.

7. Other EU level actions favouring ATM service continuity

7.1 Operational cooperation in the event of strikes

This operational cooperation takes place under the auspices of the network manager, which increasingly plays a role to mitigate the impact of strikes in terms of traffic delays and flight cancellations.

Where necessary, SES rules allow ANSPs to enter into cooperative agreements, on bilateral or multilateral bases, to improve the flexibility of the airspace in crisis situations, as contingency measures. This may be done on the basis of cross-border sectorisation, as it is already the case for certain cross-border sectors between Member States at night-time. Under such ANSPs cooperative agreements, ANSPs may determine on a case-by-case basis the rules and procedures allowing other ANSPs to take partial control of their airspace in order to relieve the capacity disruptions.

The monitoring of origins and operational effects of network disruptions is of great importance in the efforts to understand how they can be avoided in the first place and mitigated when they occur. In this regard, accurate tools developed by the network manager help for the calculation of delays attributable to ATM strike, the monitoring of the total volumes of flight cancellations as well the identification of all the measures taken to mitigate the impact for the European citizens. The collection and analysis by the network manager of all strike relevant metrics in a ‘strike registry’ may allow for data of higher quality, a consistent understanding of the strikes phenomenon and ways to mitigate it. Gathering and monitoring of information on strikes is necessary to better understand their origin and impact, as well as to properly apply the SES performance scheme.

7.2. European Upper Information Region

This strengthened cooperation in the event of strikes could be enhanced and enabled by the creation of a specific airspace zone where the same procedures and operational concept applies, including for ensuring the continuity of air navigation services. The concept of European Upper Information Region is already provided for in the existing legislation under the name of European Upper Information Region (EUIR) (Article 3 of Regulation (EC) No 551/2004).

The European airspace is today divided into national flight information regions (FIR), that is specified regions of airspace in which flight information services are provided. The concept of EUIR as enshrined in the SES legislation allows moving to a unified flight information region over Europe by grouping existing national FIR. Grouping FIRs into a unified EUIR does not affect sovereignty of Member States over their airspace. It materialises the concept of a block of airspace where the same rules and procedures apply, including for addressing contingency aspects and ensuring the continuity of air traffic services. The EUIR would result in operational benefits, such as better use of available capacity, environment benefits, cost-effectiveness and fully harmonised operation.

Following the request of the European Parliament, the Commission will launch a pilot project to investigate the feasibility of a strengthened architecture of the European airspace. The practical steps to establish the EUIR will be assessed in the context of that project.

7.3 Single European Sky performance framework

According to the SES performance scheme, as set out in Implementing Regulation (EU) No 390/2013⁶², Member States must ensure that the contribution to the performance target of each ANSP is identified in the performance plan⁶³.

For the performance scheme to be effective, delays are to be properly attributed to the ANSPs that generate them. The performance and charging scheme is to provide the relevant incentives, so that ANSPs are encouraged to put all necessary measures in place for the avoidance of ATM strikes.

The performance framework contains a traffic risk sharing mechanism, whose application may be distorted by the occurrence of strikes. The SES charging scheme⁶⁴ provides a specific support from the airspace users to the ANSPs in the event of traffic volumes variations. When a strike of staff in a given ANSP has resulted in a major decrease of traffic, the airlines may be subject to an increase of their costs for the following years.

A traffic risk sharing mechanism that is adapted to the event of strikes can help avoid aviation stakeholders to be subject to additional costs in the context of the charging scheme, as a result of strikes for which they are not responsible.

⁶² Commission Implementing Regulation (EU) No 390/2013 of 3 May 2013 laying down a performance scheme for air navigation services and network functions. OJ L 128, 9.5.2013, p. 1.

⁶³ These objectives are expressed in terms of ATFM delays

⁶⁴ Commission Implementing Regulation (EU) No 391/2013 of 3 May 2013 laying down a common charging scheme for air navigation services, OJ L 128, 9.5.2013, p. 31.

8. Glossary/Definitions⁶⁵

ACC	Area Control Centre is a unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction (ICAO official definition).
ANS	Air Navigations Services means air traffic services, communication, navigation and surveillance services, meteorological services for air navigation, and aeronautical information services.
ANSP	Air Navigation Service Provider means any public or private entity providing air navigation services for general air traffic.
ATCEUC	Air Traffic Controllers European Union Coordination
ATCO	Air Traffic Controller is a person authorised to provide air traffic control services.
ATFM	Air Traffic Flow Management means a function established with the objective of contributing to a safe, orderly and expeditious flow of air traffic by ensuring that ATC capacity is utilised to the maximum extent possible, and that the traffic volume is compatible with the capacities declared by the appropriate air traffic service providers.
ATM	Air Traffic Management means the aggregation of the airborne and ground-based services (air traffic services, airspace management and air traffic flow management) required to ensure the safe and efficient movement of aircraft during all phases of operations.
CANSO	Civil Air Navigation Services Organisation
ETF	European Transport Workers' Federation
FAB	Functional Airspace Block is an airspace block based on operational requirements and established regardless of State boundaries, where the provision of air navigation services and related functions are performance-driven and optimised with a view to introducing, in each functional airspace block, enhanced cooperation among ANSPs or, where appropriate, an integrated provider.
ICAO	International Civil Aviation Organization as established by the 1944 Chicago Convention on International Civil Aviation.
MUAC	Maastricht Upper Area Control manages the upper airspace over Belgium, Netherlands, Luxembourg and parts of Germany. It operates as single ACC.
NM	Network Manager is a body nominated by the European Commission. It was established in 2011 with as primary objective to reinforce the European ATM network and improve its performance. The NM is in charge of the Central ATFM function.
	Performance and Charging Schemes are the instruments of economic regulation of ANSPs. The performance scheme sets targets in the key performance areas of safety, environment, airspace capacity and cost efficiency through the adoption of EU-wide performance targets and approval of consistent national or FAB performance plan. The targets in the key performance area of cost efficiency are the basis for the calculation of user en route and terminal charges under the charging scheme.
SES	Single European Sky is a European Union initiative by which the design, management and regulation of airspace is coordinated through the EU. The main objective is to reform ATM in Europe in order to cope with sustained air traffic growth and operations under the safest, most cost-and flight-efficient and environmentally friendly conditions. The SES legislative framework consists of four Basic Regulations (No 549/2004, 550/2004, 551/2004 and 552/2004). These Regulations adopted in 2004 were revised and extended in 2009 with Regulation (EC) No 1070/2009.
SESAR	Single European Sky ATM Research is a technological pillar of the Single European Sky. It aims to improve ATM performance by modernising and harmonising ATM

⁶⁵ Definitions of ANS, ANSP, ATM, ATFM, FAB are definitions from the Framework Regulation on the Single European Sky.

	systems through the definition, development, validation and deployment of innovative technological and operational ATM solutions.
--	---