International Labour Organization

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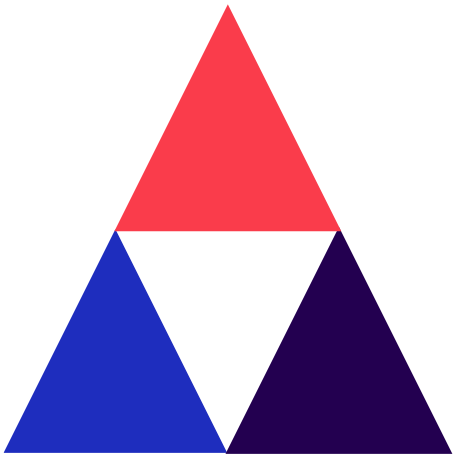
Towards a Green, Sustainable and Inclusive Recovery for the Civil Aviation Sector

Report for the Technical Meeting on a Green, Sustainable and Inclusive Economic Recovery for the Civil Aviation Sector
(Geneva, 24–28 April 2023)



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▶ Acronyms and abbreviations

ASA	air service agreement
ASEAN	Association of Southeast Asian Nations
ATAG	Air Transport Action Group
ATCO	air traffic controller
CANSO	Civil Air Navigation Services Organisation
Chicago Convention	Convention on International Civil Aviation
IAG	International Airlines Group
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IFALPA	International Federation of Air Line Pilots' Associations
IFATCA	International Federation of Air Traffic Controllers' Associations
ITF	International Transport Workers' Federation
MLC, 2006	Maritime Labour Convention, 2006, as amended
OECD	Organisation for Economic Co-operation and Development

▶ Introduction

Mandate and purpose of the meeting

At its 341st Session (March 2021), the Governing Body of the International Labour Office decided to endorse the proposed programme of global sectoral meetings for 2022–23 recommended by the sectoral advisory bodies, including a technical meeting in the civil aviation sector. At its 344th Session (March 2022), the Governing Body endorsed the proposed purpose of the meeting, namely, "to discuss opportunities and challenges relating to best practices in occupational safety and health and the promotion of decent work and productive employment to shape the recovery of the aviation industry beyond the COVID-19 pandemic, with the aim of adopting conclusions, including recommendations for future action". It further endorsed the proposed composition of the meeting, to include all Governments; eight Employer representatives and eight Worker representatives appointed on the basis of nominations made by their respective Governing Body groups; advisers; observers; and official international organizations and non-governmental international organizations as observers.

Report

This report is published under the authority of the International Labour Office. It has been prepared as the basis for discussions at the Technical meeting on a green, sustainable and inclusive economic recovery for the civil aviation sector to be held from 24 to 28 April 2023 in Geneva. This report focuses, in particular, on those occupations contributing to the provision of civil aviation services in respect of passengers and cargo. As per the International Labour Organization's grouping of sectors, it excludes the study of working conditions in occupations related to aviation manufacturing. Part 1 reviews trends and developments in the civil aviation sector. It highlights relevant international issues and governance frameworks, and includes sections on industry composition, structure, employment and travel trends. Part 2 includes information relevant to shaping the recovery of the aviation sector beyond the COVID-19 pandemic. Understanding the cyclicality of the sector, coupled with the aspirational goals in terms of climate change, constitutes an important step towards building resilience and identifying the opportunities to shape recovery. Parts 1 and 2 provide the background and context for Part 3, which discusses labour aspects and practices that need to be adopted (or tackled) when considering the medium- and long-term social and economic sustainability of the sector. The report is structured around the four pillars of the Decent Work Agenda, employment creation, social protection, international labour standards and fundamental principles and rights at work, and social dialogue.

Collaboration with the International Civil Aviation Organization

Reference is frequently made to the work and the standards of the International Civil Aviation Organization (ICAO) that govern the technical aspects of aviation. The spirit of cooperation which pervades the organizations within the United Nations system has been demonstrated by the fruitful collaboration between the ILO and ICAO at previous civil aviation meetings organized by the ILO, and more recently with the signing on 15 March 2022 of the Agreement between the ILO and ICAO (Appendix I). This report takes into account comments received from ICAO.

▶ Part 1. Trends and developments

1. Civil aviation became a major industry after the Second World War. The ICAO was founded by the Convention on International Civil Aviation (Chicago Convention) in 1944. Aviation has a significant economic impact and is estimated to represent 4 per cent of global gross domestic product. [1]

2. Half of all international tourists travel by air, and air transport is vital for time-sensitive and high-value goods, the pharmaceutical industry and perishable products. [2] Although only 1 per cent of world trade by volume is transported by air, this 1 per cent represents 35 per cent of the value of global trade. [3] In geographically isolated countries, landlocked developing countries, least developed countries and small island States, air travel-related tourism represents an essential lifeline. [4]

1. The civil aviation industry

3. For decades, air transport was mainly offered as a public service, with detailed bilateral air service agreements (ASAs) and set fares that were calculated to cover costs. Since the 1970s, deregulation and privatization have fundamentally changed the industry. [5] A unique feature of the aviation industry is the amount of regulatory and operational control. This is imperative as safety and security measures are at the centre of air transport policies and regulations. These policies and regulations concern such areas as airport ownership, the control of aircraft in the air and the certification of aircraft production. [6] It is costly to ensure safety and security; it is estimated that security accounts for 35 per cent of the operating costs of an average airport. [7]

International regimes and aviation law

4. Aviation has direct implications for other sectors, including commerce, tourism and health, and therefore has an impact on and intersects with international governance frameworks, including in respect of trade, environmental protection, security, health and labour issues. [8] A number of stakeholders are involved in the aviation ecosystem (figure 1).

[1] Air Transport Action Group (ATAG), *Aviation: Benefits Beyond Borders*, 2020.

[2] ATAG, *Aviation: Benefits Beyond Borders,* 2012.

[3] ATAG, *Aviation: Benefits Beyond Borders,* 2020.

[4] See ICAO Assembly Resolution A41-24: "The Assembly recognized that air transport is a catalyst for sustainable development and that it represents an essential lifeline for Least Developed Countries (LDCs), and especially for Landlocked Developing Countries (LLDCs) and Small Island Developing States (SIDS) to connect to the world."

[5] Christoph Brützel and Arne Schulke, "A Look at Airline Management as Event Management: About the Challenging Task of Trying to Run a Profitable Airline", *IUBH Discussion Papers – Transport & Logistik*, No. 1, 2019.

[6] Bijan Vasigh, Ken Fleming and Tom Tacker, *Introduction to Air Transport Economics: From Theory to Applications*, second ed. (Ashgate, 2013).

[7] ATAG, *Aviation: Benefits Beyond Borders*, 2012.

[8] Mette Eilstrup-Sangiovanni, "Ordering Global Governance Complexes: The Evolution of the Governance Complex for International Civil Aviation", *The Review of International Organizations* 17, No. 2, 2022, 293–322.

▶ Figure 1. Aviation ecosystem

Source: Malaysian Aviation Commission, "Economic Master Plan".
Note: Sections in blue are the occupations most prominently covered by the present report.

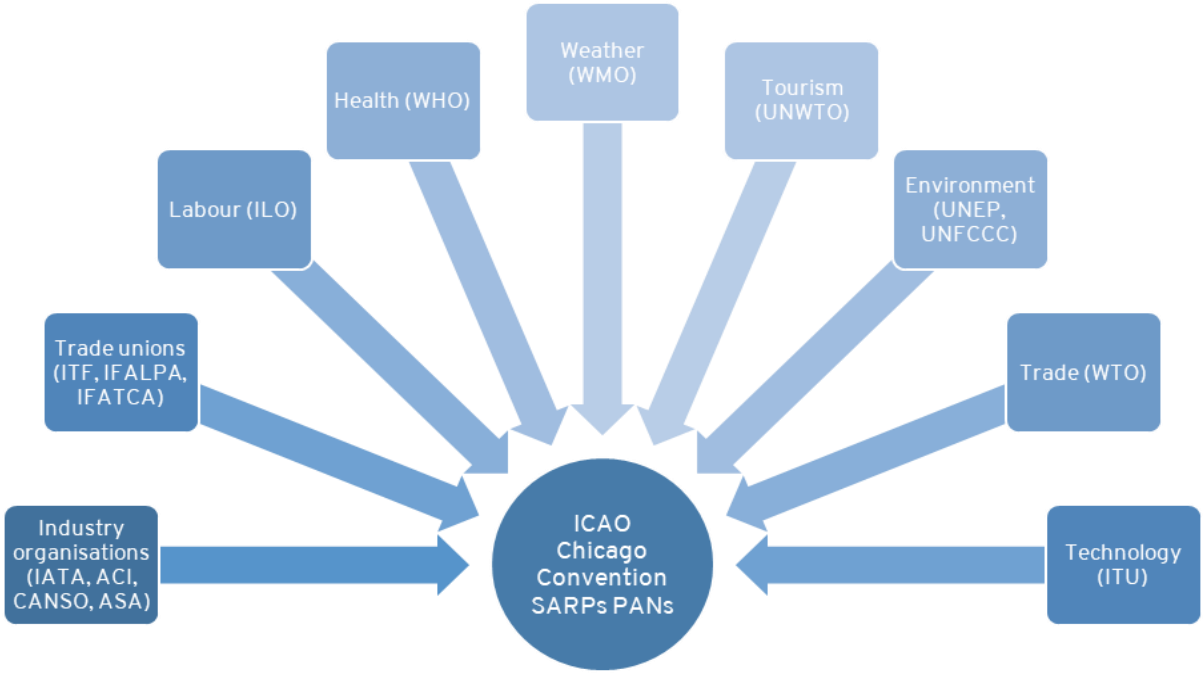
5. The Chicago Convention is the most relevant treaty for this sector, which has been ratified by 193 States. It has been amended on a number of occasions and constitutes the most important legal instrument in terms of international law in the area of civil aviation. [9] Other conventions have also been prepared under the aegis of ICAO, and other international bodies complement aviation law with various legal regimes (figure 2).

6. Part III of the General Agreement on Trade in Services of the World Trade Organization (WTO) contains general obligations that may be relevant to airport ownership and management and ground handling. [10] Some have interpreted that the coverage or scope of the Annex on air transport services could apply to measures affecting aircraft repair and maintenance services, the selling and marketing of air transport services, and computer reservation system services, as well as provisions applicable to national markets, fair international competition and foreign capital flows.

[9] Jacomo Restellini, *Labour Relations in Aviation*, Aerospace Law and Policy Series 23 (Kluwer Law International, 2022).

[10] A broad interpretation of the annex has been seen in recent years with regard to airport ownership, management and ground handling, yet the scope of application of the provisions of the General Agreement on Trade in Services still remains unclear and has not been determined by the formal World Trade Organization dispute settlement mechanism. See Steer Davies Gleave, *Study on Airport Ownership and Management and the Ground Handling Market in Selected Non-EU countries*, European Commission, Directorate-General for Mobility and Transport (DG Move), 2016.

▶ **Figure 2. Complementary regulation and soft regimes to aviation law**



Acronyms and abbreviations (specific to this figure): Airports Council International (**ACI**), Airport Services Association (**ASA**), Civil Air Navigation Services Organisation (**CANSO**), International Air Transport Association (**IATA**), international Federation of Air Line Pilots' Associations (**IFALPA**), International Federation of Air Traffic Controllers' Associations (**IFATCA**), International Transport Workers' Federation (**ITF**),International Telecommunication Union (**ITU**), Procedures for Air Navigation Services (**PANS**), Standards And Recommended Practices (**SARPs**), United Nations Environment Programme (**UNEP**), United Nations Framework Convention on Climate Change (**UNFCCC**), World Tourism Organization (**UNWTO**), World Health Organization (**WHO**), World Meteorological Organization (**WMO**), World Trade Organization (**WTO**).

Source: Adapted from Cecilia Decurtins, "The Air Transport Review at the WTO" (PhD thesis, Université de Genève, 2007).

7. Compared to the maritime sector with its four pillars, [11] there is no similar international regime governing civil aviation (figure 3). In addition to ICAO's and the World Trade Organization's trade-in-services frameworks, commercial aviation has produced an array of multilateral and bilateral agreements, often mixed with private commercial agreements. [12] Labour and social matters fall outside ICAO's mandate and are therefore absent from the purview of the Chicago Convention. No multilateral treaties or international regimes specifically address aviation labour standards. [13] Aircrew (pilots and cabin crew) are not governed by globally harmonized rules, and labour issues are primarily dealt with by way of national laws. [14] One important reason for this is that ICAO States maintain their sovereignty. In addition, ICAO States have different capabilities, capacities, resources and priorities. ICAO Annexes and Manuals provide some guidance on technical standards related to personnel (for example, flight and duty times, fatigue, health promotion), yet, not on social and labour matters, including terms and conditions of employment.

[11] The four maritime sector pillars are SOLAS, STCW, MARPOL and MLC, 2006. See abbreviations in figure 3.

[12] In some cases, references to crew are also made in bilateral ASAs. See: " ICAO Template Air Services Agreements", in ICAO, *Policy and Guidance Material on the Economic Regulation of International Air Transport*, Doc 9587 (Fourth ed., 2017).

[13] Andrea Trimarchi, *International Aviation Labour Law* (London: Routledge, 2022).

[14] Restellini.

▶ Figure 3. Broad comparison of international regulatory sectoral regimes between transport modes

Type of personnel	Onboard (seafarers, aircrew)	Ground (dockers, ground personnel)	Traffic control (marine traffic controllers, air traffic controllers)
Shipping 	**Technical aspects** SOLAS STCW MARPOL Port State control MOUs (regional) Guidelines or codes of practice	**Technical aspects** Convention and Statute on the International Regime of Maritime Ports UNCLOS IMO FAL Convention	**Technical aspects** COLREGs
	Labour and social aspects MLC, 2006 Port State control MOUs ILO guidelines FPRW	**Labour and social aspects** C137 and R145 C152 and R160 ILO guidelines FPRW	**Labour and social aspects** FPRW
Aviation 	**Technical aspects** Chicago Convention and its Annexes (including SARPs) Tokyo Convention, 1963 Hague Convention, 1970 Montréal Convention, 1971 Airports Protocol, 1988 Beijing Convention, 2010 Beijing Protocol, 2010 Montréal Protocol, 2014	**Technical aspects** Chicago Convention and its Annexes (including SARPs) Montréal Convention, 1971 Beijing Convention, 2010 Beijing Protocol, 2010 Montréal Protocol, 2014	**Technical aspects** Chicago Convention and its Annexes (including SARPs) Montréal Convention, 1971 Beijing Convention, 2010 Beijing Protocol, 2010 Montréal Protocol, 2014 ICAO PANS
	Labour and social aspects FPRW	**Labour and social aspects** FPRW	**Labour and social aspects** FPRW

Acronyms and abbreviations (specific to this figure): Convention on the Suppression of Unlawful Acts Relating to International Civil Aviation (**Beijing Convention, 2010**), Protocol Supplementary to the Convention for the Suppression of Unlawful Seizure of Aircraft (**Beijing Protocol, 2010**), Dock Work Convention, 1973 (No. 137) and Recommendation (No. 145) (**C137 and R145**), Occupational Safety and Health (Dock Work) Convention, 1979 (No. 152) and Recommendation (No. 160) (**C152 and R160**); IMO Convention on the International Regulations for Preventing Collisions at Sea (**COLREGs**), Fundamental principles and rights at work (**FPRW**), Convention for the Suppression of Unlawful Seizure of Aircraft (**Hague Convention, 1970**), International Maritime Organization (**IMO**), IMO Convention on Facilitation of International Maritime Traffic and its Annex (**IMO FAL Convention**), International Convention for the Prevention of Pollution from Ships (**MARPOL**), Maritime Labour Convention, 2006, as amended (MLC, 2006), Convention for the Suppression of Unlawful Acts against the Safety of Civil Aviation (**Montréal Convention, 1971**), Protocol to Amend the Convention on Offences and Certain Other Acts Committed on Board Aircraft (**Montréal Protocol, 2014**), memorandums of understanding (**MOUs**), Procedures for Air Navigation Services (**PANS**), Protocol for the Suppression of Unlawful Acts of Violence at Airports Serving International Civil Aviation, Supplementary to the Convention for the Suppression of unlawful acts against the safety of civil aviation (**Airports Protocol, 1988**), Standards And Recommended Practices (**SARPs**), International Convention for the Safety of Life at Sea (**SOLAS**), International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (**STCW**); Convention on Offences and Certain Other Acts Committed On Board Aircraft (**Tokyo Convention, 1963**), United Nations Convention on the Law of the Sea, 1982 (**UNCLOS**).

Sources: Mis Marine, "The Four Pillars of International Maritime Law", 12 June 2020; ILO, *General Survey of the reports concerning the Dock Work Convention (No.137) and Recommendation (No.145), 1973*, ILC.90/III(1B), 2002; ICAO, "ANC Technical Panels"; Jon Whitlow and Ruwan Subasinghe, "The Maritime Labour Convention, 2006: A Model for Other Industries?", *International Journal of*

Labour Research 7, Nos 1–2 (2015): 117–132; Restellini, *Labour Relations in Aviation*; and Trimarchi, *International Aviation Labour Law*.

Images: by micro vector by Freepik: Shipping – premium vector; aviation image – premium vector.

8. In 2019, the European Economic and Social Committee expressed regret that there had been no consensus over the years on drawing up an international instrument on the rights of workers in the civil aviation sector, despite the fact that a similar convention had been successful for seafarers. [15] In its review, it found that the lack of harmonized social standards at the international level undermined European Union labour standards, and it recommended that the European Union include labour clauses in ASAs. [16] The most recent European Union agreements include social clauses, like for example, the European Union–Ukraine and the European Union–Qatar agreements. [17] Consultation, social dialogue and consideration of the legitimate concerns of aviation workers are crucial to ensure that these labour clauses reflect a balanced approach in ASAs, avoiding possible deterioration and job losses for those workers covered under these ASAs. [18]

Single markets and open skies operations

9. Market access authorization for scheduled air services is generally granted bilaterally through ASAs that can be found in ICAO's World Air Services Agreements Database (commonly referred to as the "WASA database"), [19] where more than 5,000 ASAs have been registered. [20] Between 1987 and 1993 a single European market for aviation was created by three successive liberalization packages. The first open skies agreement [21] was concluded between the United States of America and the Netherlands in 1992. More recent regional open skies agreements have followed, although with mixed results: the Andean Open Skies Pact, the Sub-regional Air Services Agreement (Fortaleza Agreement) in Mercosur, the Yamoussoukro Decision in Africa – followed by the Single African Air Transport Market in January 2018 – and Southeast Asia's Association of Southeast Asian Nations (ASEAN) Single Aviation Market. [22] The ASA concluded between ASEAN and China in 2010 was the first one that ASEAN concluded as a bloc. [23] More recently, an ASEAN–European Union comprehensive air transport agreement was concluded in October 2022, the first bloc-to-bloc liberalization arrangement. [24]

[15] Restellini. Also see European Economic and Social Committee, "Social dimension of aviation (report)", 2019, para. 1.9.

[16] European Economic and Social Committee.

[17] Andrea Trimarchi, "EU Social Regulations in Relation to Third States", in *Labour Relations in Aviation,* edited by Restellini, 67–83.

[18] European Transport Workers' Federation, "External Aviation".

[19] Market access authorization for scheduled air services is generally granted bilaterally through ASAs. Pursuant to Article 83 of the Chicago Convention, any arrangements entered into by contracting States shall be registered with the Council of ICAO. The ICAO World Air Services Agreements (WASA) database contains texts of bilateral ASAs and amendments in PDF format.

[20] Restellini.

[21] An open skies agreement is an ASA of larger scope providing rights for airlines to offer international passenger and cargo services in certain jurisdictions.

[22] James Patrick Baldwin, *Evolution of the Airline Industry: Regulation, Events and Influencing Factors* (Cambridge: JPB Publishing, 2020).

[23] International Transport Forum (OECD-ITF), *Liberalisation of Air Transport*, ITF Research Reports (Paris: OECD Publishing, 2019).

[24] European Commission, DG MOVE, "Aviation: EU and ASEAN sign landmark region-to-region agreement connecting 1.1 billion people", 17 October 2022.

2. Industry composition and structure

2.1. Airlines

10. The airline industry is characterized by an oligopolistic market structure. While some countries may have relatively high barriers of entry, [25] in others, airlines tend to be some of the most competitive industries. The barriers of entry can be endogenous, such as strategies by dominant airlines to deter competitors from entering the market, and exogenous, such as airport congestion and restrictions in ASAs. [26] In 1945, the International Air Transport Association (IATA) was established by a number of airlines to represent them within the newly established ICAO, and, among other functions, to operate as a clearing house for the international sale of air tickets. [27]

11. Fuel and labour constitute the two most significant expenses, and airlines have repeatedly complained that they receive a disproportionally small part of the value generated in the industry. According to IATA, the return on invested capital for airlines in 2019 was 5.8 per cent, [28] whereas for global distribution systems, manufacturers and caterers the return on invested capital was 20 per cent or more. [29]

Ownership

12. For a long time, airline ownership was strictly regulated. Prior to the 1990s, States, individually or collectively, generally either did not apply national competition laws to international air transport, or exempted it from the scope of such laws. [30] Although these restrictions have gradually been liberalized, foreign ownership is limited in most countries, and is for example 25 per cent in the United States and 49 per cent in the European Union. [31]

13. ICAO's Air Transport Regulation Panel (ATRP) has been tasked to promote and oversee, among other tasks, market access with regard to air cargo, and air carrier ownership and control. At the ATRP Working Group meeting held in Montego Bay, Jamaica, in April 2018, a draft multilateral convention on foreign investment in airlines and a draft proposal to facilitate further liberalization of air cargo services were proposed. [32] The two documents were further examined and developed by the Working Group during subsequent meetings, but a range of issues remained to be examined, including social and labour concerns (see Part 2, section 3.1).

Concentration and consolidation

14. Deregulation has resulted in consolidation and alliances to maximize efficiencies. It has generally been carried out through bilateral ASAs and, in some cases, through multilateral arrangements at regional level (for example, the European Union, ASEAN and the Single African Air Transport Market). The proliferation of new business models and conventional carriers has also exploited

[25] John G. Wensveen, *Air Transportation: A Management Perspective*, Sixth ed. (Ashgate, 2007).

[26] OECD-ITF, *Liberalisation of Air Transport*.

[27] Note that IATA does not represent all existing airlines; IATA currently has 300 airline members. See IATA, "Current Airline Members".

[28] And, respectively, -19.3 per cent for 2020, -8.0 per cent for 2021, and forecast to be -2.5 per cent for 2022. See IATA, "Global Outlook for Air Transport: Times of Turbulence" (June 2022).

[29] Brian Pearce, "Airline Industry Outlook 2020", IATA (2019).

[30] ICAO, *Competition in International Air Transport*, Air Transport Regulation Panel (ATRP), ATRP/13-IP/3 (September 2015).

[31] It should be noted here that these nationality requirements are not common for other parts of the aviation value chain.

[32] ICAO, "Policy and Regulation".

their geographical location and at times benefited from government policies to develop large aviation hubs, for example in Singapore, Qatar and the United Arab Emirates. [33] Yet, in some cases, new business models with lower costs could drive a network or conventional carrier out of business. [34]

15. Although some mergers have been carried out in the last few decades, industry consolidation has occurred more through the formation of airline groups, such as the Lufthansa Group, the AirAsia Group and the International Airlines Group (IAG). [35] The groups allow the optimization of fleet and operational procedures, taking into account regulatory and commercial considerations. [36] Airlines have formed three global alliances, Star Alliance (1997), Oneworld (1999) and SkyTeam (2000). [37] The largest airlines based in the United States have been at odds with the Gulf carriers for years, claiming that they were unfairly subsidized. United Airlines and Emirates entered into a partnership in 2022. [38]

Business models

16. Full-service carriers (or "legacy" airlines) operate a hub-and-spoke model, where they have a very small number of hubs (for example, Lufthansa has Frankfurt and Munich, Air France-KLM has Paris and Amsterdam) serving all other destinations. In contrast, low-cost carriers (LCCs) operate from point to point. This makes their operations less complex and may improve working conditions if the aircrew mostly live close to their home base. On short-haul routes LCCs enjoy a cost advantage of 25–50 per cent. [39]

17. It was the liberalization of air traffic that gave rise to LCCs, pioneered in the United States by Southwest Airlines and copied there by many other airlines. In Europe, the creation of the Single European Aviation Market in the 1980s and 1990s opened up the market for LCCs. [40] Between 1992 and 2012, 43 LCCs entered the market in Europe, and 33 left. [41] Key characteristics include: (a) simple service, no frills; (b) short-haul, point-to-point service; (c) use of secondary airports; (d) high aircraft utilization; (e) fleet commonality and high-density one-class configuration; (f) online ticket sales; and (g) intensive utilization of labour. [42] In-flight sales of food and drinks can account for up to 20 per cent of revenue. [43] The emergence of LCCs put competitive pressure on legacy airlines, with some gradually adopting many of the same characteristics. [44] LCCs have changed the industry by contracting out the various parts of their operations as much as possible and

[33] OECD-ITF, *Liberalisation of Air Transport*.

[34] Eric Pels, "Airline Network Competition: Full-service Airlines, Low-cost Airlines and Long-haul Markets", *Research in Transportation Economics* 24, No. 1 (2008), 68–74.

[35] Qatar Airways owns more than a quarter of the IAG. See Ben Schlappig, "Qatar Airways Increases IAG Stake To 25.1%", *One Mile at a Time*, 19 February 2020.

[36] Baldwin.

[37] James Pearson, "25 Years On: Inside The Three Global Airline Alliances", *Simple Flying,* 3 March 2022.

[38] Mary Schlangenstein and Annmarie Hordern, "United Air, Emirates End Years of Rancor With Unlikely Pact", *Bloomberg*, 14 September 2022.

[39] Brützel and Schulke.

[40] Brützel and Schulke.

[41] OECD-ITF, *Liberalisation of Air Transport*.

[42] Charles E. Schlumberger and Nora Weisskopf, *Ready for Takeoff?: The Potential for Low-Cost Carriers in Developing Countries* (The World Bank Group, 2014).

[43] Stefan Gössling and Paul Upham, eds., *Climate Change and Aviation: Issues, Challenges and Solutions* (London: Earthscan, 2009).

[44] Rosário Macário, José M. Viegas and Vasco Reis, "Impact of Low-Cost Operation in the Development of Airports and Local Economies", 2008.

moving towards becoming a "virtual airline", focused on scheduling, sales and overall responsibility for operations. [45]

Size

18. Table 1 shows the world's largest airlines by revenue passenger kilometres and cargo tonne-kilometres. In 2019, the ten largest listed airlines by market capitalization were Southwest Airlines, Delta Air Lines, Ryanair, Air China, United Airlines, China Southern Airlines, China Eastern Airlines, American Airlines, Singapore Airlines and InterGlobe Aviation (IndiGo). [46]

▶ Table 1. World's largest airlines by revenue passenger kilometres (2021) and cargo tonne-kilometres (2021)

Rank	Name	RPK (millions)
1	American Airlines	219,663
2	Delta Air Lines	194,849
3	United Airlines	178,084
4	Southwest Airlines	166,669
5	China Southern Airlines	110,644
6	China Eastern Airlines	88,545
7	Ryanair	86,138
8	Turkish Airlines	84,857
9	Qatar Airways	72,293
10	Emirates	69,384

Rank	Name	CTK (millions)
1	Federal Express	20,660
2	Qatar Airways	16,102
3	United Parcel Service	15,530
4	Emirates	11,842
5	Korean Air	10,430
6	Turkish Airlines	9,223
7	Cargolux	8,588
8	Atlas Air	8,442
9	Cathay Pacific Airways	8,215
10	China Southern Airlines	8,078

Source: IATA, "Global Outlook for Air Transport: Times of Turbulence", June 2022.

Particularities of cargo transport

19. Cargo transport differs from passenger transport in many ways. Air freight is mostly a one-way proposition, meaning that the loads transported in one direction of the segment can greatly differ from loads transported in the other direction. Freight traffic is determined by the location of producers and consumers and these are often different from the preferred destinations of passenger traffic. [47] Air cargo is handled by three types of companies: integrated door-to-door service providers (FedEx, UPS and others), all-cargo airlines and passenger airlines taking belly cargo and often operating freighter aircraft. [48] Whereas revenue from cargo has historically

[45] OECD-ITF, *Liberalisation of Air Transport*.

[46] Organisation for Economic Co-operation and Development (OECD), *State Support to the Air Transport Sector: Monitoring Developments related to the Covid-19 Crisis* (Paris: OECD Publications, 2021).

[47] OECD-ITF, *Liberalisation of Air Transport*.

[48] Wensveen.

represented 10 to 15 per cent of airline revenue, during the pandemic the share surged to 36 per cent in 2020 and 40 per cent in 2021. This was partly due to the steep decline in passenger numbers and partly to the significant price advantage air cargo achieved during the pandemic over maritime cargo. [49] Some passenger airlines were also converted to cargo services to meet increased demand. The surge in e-commerce is a further contributory factor to increased revenue in the air freight sector.

2.2. Airports

20. For decades airports were public utilities. They were seen as capital input in airlines' production function and their revenue came from the airlines. [50] Since the process of deregulating the aviation industry began, most airports have become modern businesses, fulfilling their purpose of delivering airside services and also offering passenger and other ancillary services. This means that airport revenues come from both the airlines and from the passengers. Currently 44 per cent of airport revenues come from non-aviation sources. [51] Airports add value to both airlines and passengers: carriers are better off with more passengers and passengers are better off with more flights. [52] Many airports have become business districts in their own right, as companies in diverse industries have located near airports due to better connectivity. Typical examples of these aerotropolises are Schiphol near Amsterdam, and Incheon near Seoul. [53]

Ownership and operations

21. There are several possible governance and ownership structures for airports (figure 4): government-owned; government-owned but privately operated; public–private partnerships; independent not-for-profit corporations; private for-profit with stock widely held; private for-profit with share ownership tightly held; partially private for-profit with private controlling interest; and partially private for-profit with government controlling interest. [54]

22. Private-sector involvement in airport ownership is fairly common in Europe (43 per cent of airports), Asia and the Pacific (26 per cent), and Latin America and the Caribbean (25 per cent). On the contrary, private ownership is rare in Africa (3 per cent), North America (2 per cent) and the Middle East (1 per cent). On the whole, there is no conclusive evidence of differences in service quality, operating efficiency or commercial revenues between public and privatized airports. [55] In terms of airport management, there is no clear consensus on the best model for airport operations. [56]

[49] IATA, "Global Outlook for Air Transport"

[50] David Gillen, "The Evolution of Airport Ownership and Governance," *Journal of Air Transport Management* 17, No. 1, 3–13.

[51] Airports Council International (ACI), "Policy Brief: Path to the Airport Industry Recovery – Restoring a Sustainable Economic Equilibrium", March 2020.

[52] Gillen.

[53] Maya G. Ivanova, *Air Transport – Tourism Nexus: A Destination Management Perspective* (Zangador, 2017).

[54] Gillen.

[55] Anne Graham, "Airport Privatisation: A Successful Journey?", *Journal of Air Transport Management* 89, October 2020.

[56] Eduardo de la Peña, "A tale of Two Airports: Public vs. Private", *World Bank Blogs*, 25 October 2018.

▶ Figure 4. Public and private roles in airport management

Notes: Ground handling is defined by ICAO as "Services necessary for an aircraft's arrival at, and departure from, an airport, other than air traffic services". [1]

Sources: Adapted from Jean-Paul Rodrigue, *The Geography of Transport Systems*, Fifth ed., 2020; [2] World Bank, "Port Reform Toolkit" (2007); T.E. Raja Simhan and Ayan Pramanik, "Concern on creation of 'landlord airports'", *The Hindu Businessline*, 10 March 2018.

Image: microvector by Freepik.

[1] ICAO, Chicago Convention, Annex 6, Part I, Definitions. [2] See definitions by Jean-Paul Rodrigue, *The Geography of Transport Systems*, Fifth ed., 2020, who defines a "tool port" and a "landlord port" in his 2020 study, and an analogy was drawn from these definitions to airports.

Size

23. Table 2 shows the world's busiest airports in 2021 by passengers (enplaned, deplaned and in transit – counted once) and by cargo (loaded and unloaded, freight and mail). The ten biggest airport operating companies by market capitalization in 2019 were Airports of Thailand, Aena (Spain), Shanghai International Airport, Sydney Airport Holdings, Aéroports de Paris, Copenhagen Airports, Grupo Aeroportuario del Pacífico (Mexico), Fraport (Germany), Flughafen Zürich and Guangzhou Baiyun International Airport. [57] The impact of the pandemic on traffic significantly changed the landscape – for example, London Heathrow Airport would have typically been on this list.

[57] OECD, *State Support to the Air Transport Sector*.

▶ **Table 2 World's busiest airports by passengers and cargo**

Rank	Name	Passengers	Rank	Name	Cargo *(metric tons)*
1	Atlanta, USA	75,704,760	1	Hong Kong, China	5,025,495
2	Dallas/Fort Worth, USA	62,465,756	2	Memphis, USA	4,480,465
3	Denver, USA	58,828,552	3	Shanghai, China	3,982,616
4	Chicago, USA	54,020,399	4	Anchorage, USA	3,555,160
5	Los Angeles, USA	48,007,284	5	Incheon, Rep. of Korea	3,329,292
6	Charlotte, USA	43,302,230	6	Louisville, USA	3,052,269
7	Orlando, USA	40,351,068	7	Taipei, Taiwan, China	2,812,065
8	Guangzhou, China	40,259,401	8	Los Angeles, USA	2,691,830
9	Chengdu, China	40,117,496	9	Tokyo, Japan	2,644,074
10	Las Vegas, USA	39,754,366	10	Doha, Qatar	2,620,095

Source: Airports Council International (ACI), "The top 10 busiest airports in the world revealed", Press release, 11 April 2022.

2.3. Aviation activities taking place at airports

Air navigation services

24. Air navigation services may be provided by government agencies, state-owned companies or the private sector. New technologies may soon make it possible to control air traffic from remote towers. This could help seasonal and remote airports to remain open. Remote towers are cheaper to establish and run. Yet the concept of remote operations remains the subject of debates, working groups, studies and, above all, professional assessments as to whether there is [58] or is not [59] a reduction in safety.

25. The European Commission initiative Single European Sky has been in preparation for years. The goal is to convert European airspace into functional airspace blocs to improve capacity, efficiency and safety and to protect the environment. [60] The intention is for the European Organisation for the Safety of Air Navigation (EUROCONTROL) to manage all air traffic in the European Union. [61] The United States is spending US$1 billion annually on NextGen, a programme to modernize the national airspace system, primarily by migrating to satellite-based navigation. [62] While technology has made it possible to provide aerodrome control service from a location other than the

[58] IFATCA, "Remote Towers: An Overview".

[59] ATAG, *Aviation: Benefits Beyond Borders*, 2018.

[60] IATA, *Annual Review 2016*.

[61] Ivanova.

[62] Bart Elias and Rachel Y. Tang, "Federal Civil Aviation Programs: In Brief" (Washington, DC, Congressional Research Service, 22 July 2020).

aerodrome itself, the protocols and manuals of the International Federation of Air Traffic Controllers' Associations (IFATCA) raise areas of concern. [63]

Ground handling

26. Independent ground and cargo handlers currently command around 59 per cent of the market, up from 24 per cent just two decades ago. Over the same period, the share of airlines in this market has decreased from 59 to 36 per cent and the share of airports in it from 17 to just 5 per cent. [64] It has been estimated that the world's four leading ground handling service providers – Swissport, Dnata, Menzies, and Worldwide Flight Services – together employ 162,000 staff. [65] However, it is suspected that there are further subcontracted workers who are not part of this official number.

27. Ground handling is increasingly being outsourced by airports to independent service providers. As a whole, the industry is striving to harmonize ground handling procedures in order to improve operational efficiencies, reduce complexity and mitigate consequent hazards. It has been estimated that ground damage currently costs airlines nearly $4 billion per year [66] and IATA has forecast that this figure could reach $10 billion annually by 2035. [67] Digitization and automation of airport processes have the potential to make airport operations more flexible, responsive and proactive. [68] With digitization, the role of airport staff can evolve from technical assistance to passenger assistance. [69] These new roles require interpersonal skills and collaboration. [70]

28. Granting concessions and subcontracting has led in some cases to lower wages, fewer benefits and higher worker turnover, with a tendency to disrupt passenger services and at times also compromise worker and airport safety and security. [71] A large, subcontracted workforce working for several employers may also hamper a unified emergency response at airports. [72] Airlines have strong market power, in particular at secondary airports, vis-à-vis ground service providers, for whom labour can account for up to 80 per cent of total operating costs. [73] Airports Council International and the Airport Services Association have together produced a template for an agreement between the airport operator and the ground handling service providers. The template agreement is focused on technical and legal issues and includes a brief recognition of the principle of freedom of association. [74]

[63] IFATCA, *Technical and Professional Manual* (version 63.0, December 2018).

[64] International Transport Workers' Federation (ITF), *Record Profits for Airlines; Airport Workers under Pressure* (London, 2016).

[65] ATAG, *Aviation: Benefits Beyond Borders,* 2018.

[66] IATA, *Annual Review 2016*.

[67] IATA, "IATA Calls for Transition to Enhanced Ground Support Equipment" Press release, 6 December 2022.

[68] ACI, "The Evolution of the Airport Workforce: Turning Challenges into Opportunities", White Paper, 2022.

[69] Thomas Romig, "The 'Great Resignation' and How it Affects the Aviation Ecosystem", *International Airport Review*, 22 July 2022.

[70] ACI, "The Evolution of the Airport Workforce".

[71] ICAO, "Global Initiative to Strengthen the Regulation of Ground Handling", High-Level Conference on COVID-19, HLCC 2021-WP/4 (2021).

[72] IATA, *Annual Review 2022*.

[73] Geraint Harvey, Peter Turnbull, and Daniel Wintersberger, "Speaking of Contradiction", *Work, Employment and Society* 33, No. 4 (August 2019), 719–730.

[74] ACI, "ACI-ASA Ground Handling Service Provider and Airport Operator Agreement Template – Version 2.0".

Maintenance, repair and overhaul

29. In 2012, the global market for maintenance, repair and overhaul was estimated at $50 billion and the sector represented around 10 per cent of the operating costs of airlines based in the United States. Maintenance, in particular labour-intensive heavy checks, has been increasingly outsourced to third parties and often offshored, to the Asia and the Pacific region in particular. In 2012, original equipment manufacturers commanded a 42 per cent market share in maintenance, repair and overhaul, and many of them have global networks. [75]

30. Poor aircraft maintenance is a major cause of accidents, with estimations ranging from 12 to 16 per cent. Maintenance issues also often cause flight delays: according to one estimate, 50 per cent of engine-related flight delays are due to improper maintenance. [76] Maintenance, repair and overhaul are subject to oversight by aviation authorities, and regulations require a certain level of worker certification at maintenance, repair and overhaul centres. [77]

3. Employment and travel trends

Employment

31. Aviation generates economic growth, creates employment, and facilitates international trade and tourism. [78] According to the Air Transport Action Group (ATAG), 11.3 million jobs are generated directly by the industry itself, including at airports, and overall commercial aviation supports 87.7 million jobs worldwide. [79] The airport sector accounts for 6.17 million jobs (55 per cent of the total). This includes on-site employment (for example at retail outlets, restaurants, hotels and government agencies), accounting for 5.5 million jobs, or 49 per cent of the total, and 648,000 positions with airport operators (such as airport management, maintenance and operations). A total of 3.6 million people (32 per cent of the total) are directly employed by airlines and 237,000 jobs are generated by air navigation service providers (2 per cent).

32. In addition to the trend seen over those years in direct jobs in the aviation industry (figure 5), over 18 million indirect jobs were supported through the purchase of goods and services by companies in the air transport industry. Those directly or indirectly employed in the air transport industry supported an additional 13.5 million jobs in other industries and services. In addition, air transport was estimated to support 44.8 million jobs in the tourism sector. [80]

33. Jobs in civil aviation are often characterized by the intrinsic regulatory and practical features of the industry. Employees may be based in one country and have their employment contract concluded in another, often leading to legal uncertainty (see Part 3, section 2).

[75] Bart Elias and Rachel Y. Tang, *Offshoring of Airline Maintenance: Implications for Domestic Jobs and Aviation Safety* (Washington, DC, Congressional Research Service, 21 December 2012).

[76] Ian Hampson, Anne Junor and Sarah Gregson, "Missing in Action: Aircraft Maintenance and the Recent 'HRM in the Airlines' Literature", *The International Journal of Human Resource Management*23, No. 12 (June 2012), 2561–2575.

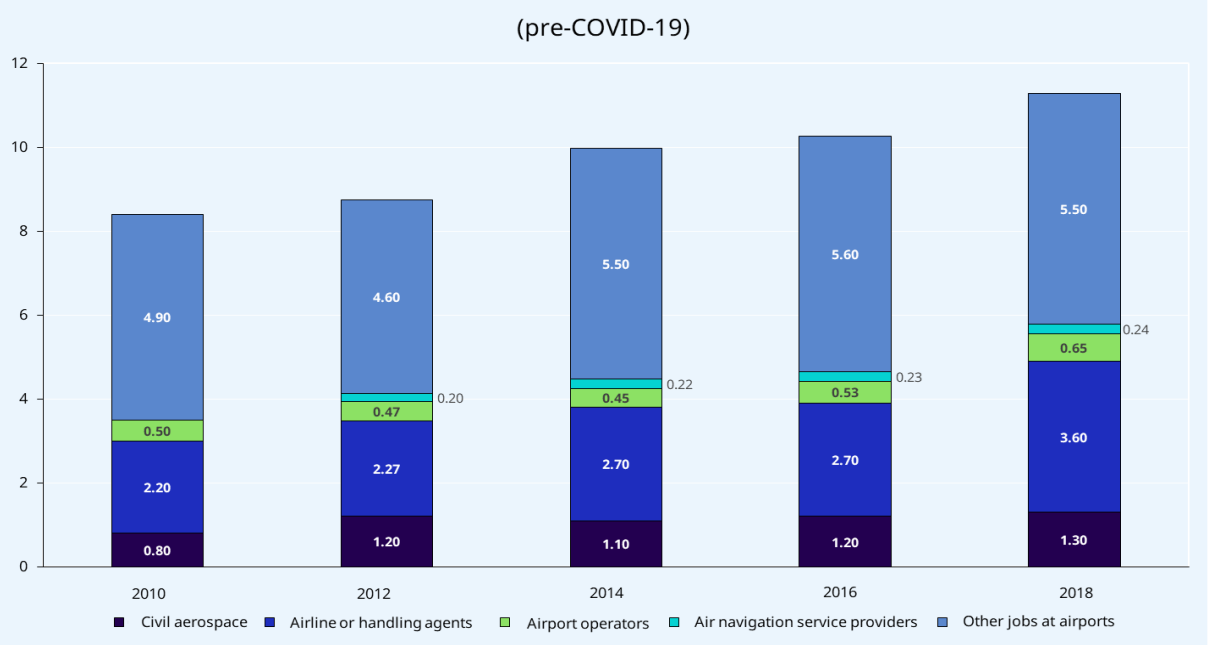
[77] Elias and Tang, "Offshoring of Airline Maintenance".

[78] ICAO, "Aviation Benefits: Contributing to Global Economic Prosperity", *Uniting Aviation*, 28 February 2018.

[79] ATAG, "Social and Economic Benefits of Aviation".

[80] ATAG, *Aviation: Benefits Beyond Borders,* 2020.

▶ **Figure 5. Direct employment (in millions) in civil aviation: 2010–18**



Sources: ATAG, *Aviation: Benefits Beyond Borders*, 2012, 2014, 2016, 2018 and 2020.

Travel

34. Around half of international tourists reach their destination by air. Tourists travelling internationally by air spent around $855 billion in the countries they visited in 2019 and this figure had been growing around 5 per cent annually since 2000. In 2020 this figure fell to $340 billion. [81] Low-cost carriers can benefit tourism in many ways. They use mainly secondary airports and can bring tourists from big cities to more remote areas.

▶ Part 2. Shaping the recovery of aviation: Resilience and just transition

35. The sector anticipates the disruptions, both technological and political, likely to affect the aviation industry in the near and mid-term future. These include environmental issues, such as physical impacts (including extreme weather events), the impacts of the industry on the environment and regulatory efforts to reduce emissions or to decarbonize (for example, stricter requirements for short-haul flights); political issues, such as geopolitical instability and terrorism; health issues, such as epidemics or pandemics; and economic issues, such as new modes of consumption and levels of integration in the aviation supply chain. Demographic changes, in particular the ageing population in many developed countries, may call for increased turnaround times for aircraft at airports to support those travellers. [82] Furthermore, and as discussed in Part 3, labour supply will also represent a challenge for professional occupations, and for maintenance and ground workers.

[81] IATA, "World Air Transport Statistics" (unpublished, 2021), courtesy of IATA.

[82] IATA, *Future of the Airline Industry 2035*, 2018.

36. The importance of resilience was highlighted during the COVID-19 pandemic as travel restrictions were put in place all around the world. The sector is one that has been, and remains, significantly vulnerable to external shocks, both natural and man-made.

37. Sectoral policies for a just transition can advance decent work in the sector. While the aviation sector is a contributor to greenhouse gas emissions and climate change, it cannot be compared to a large manufacturing sector, such as textiles, which exceeds emissions associated with the aviation and maritime sectors combined. [83] Some of the elements that will be shaping the recovery in the medium- and long-term include the cyclicality of the industry, innovation and climate-related commitments. Yet it remains important to draw attention to other significant effects that may result in structural changes in the future, including improving collaboration and policy coherence at the international level, and enabling sustainable enterprises to support the growth and changes in the labour force that are expected in years to come.

1. The cyclicality of aviation

1.1. Past turbulence

38. Aviation is a procyclical industry that has been impacted in the past two decades by a number of events, including:

- the terrorist attacks of 11 September 2001;
- the severe acute respiratory syndrome (SARS) pandemic in 2002-03;
- the global economic crisis of 2008-09;
- the eruption of Eyjafjallajökull, a volcano in Iceland, in 2010. [84]

39. In general terms, conflict zones often affect aviation routes and overflight on a global level. Recently, the Russian Federation's aggression against Ukraine has resulted in the closing of Ukrainian airspace and increased jet fuel prices. [85]

1.2. The COVID-19 pandemic

40. The pandemic has represented the biggest and longest shock ever to hit aviation (figure 6), and its impact on travel restrictions, the establishment of quarantine requirements, repatriations, traffic and load factors, as well as its financial consequences, have been discussed at length in numerous studies. [86] And while the number of passengers during the pandemic was a fraction of that seen before the pandemic, airport staffing had to be maintained, in part because of paper-based health documentation checks. The checks also considerably increased processing and waiting times at airports. [87]

[83] ILO, *Sectoral policies for a Just Transition Towards Environmentally Sustainable Economies and Societies for All*, ILO Policy Brief, Sectoral Policies Department and Green Jobs Programme Policy Brief, August 2022. Maritime and aviation emissions combined represent approximately 29 per cent of overall transport emissions, as inland transport represents 71 per cent. See: United Nations Economic Commission for Europe, "85th Annual session of the Inland Transport Committee".

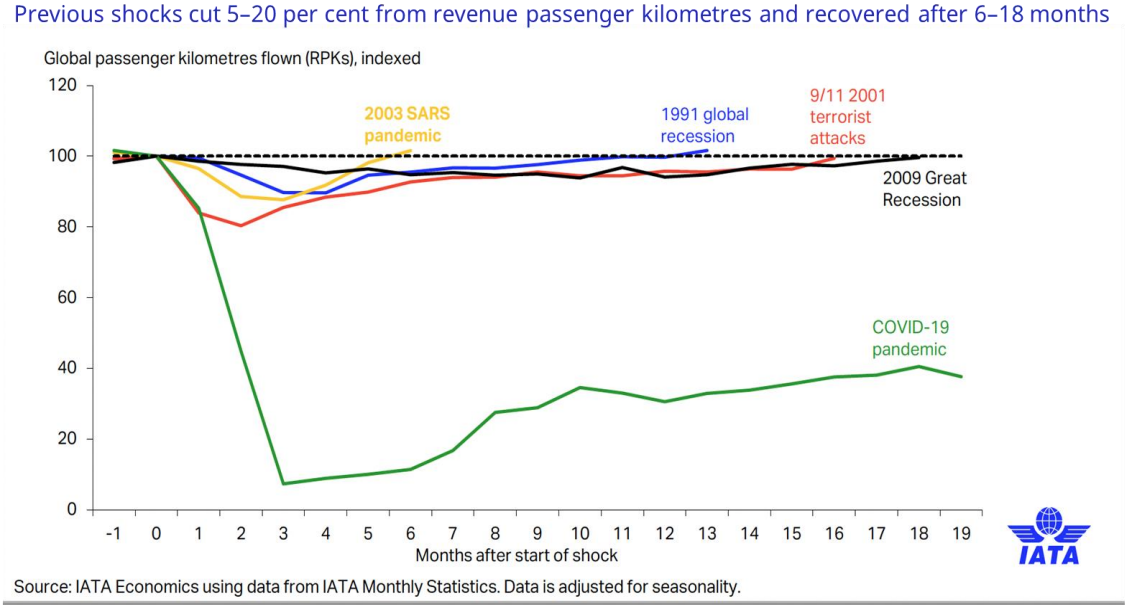
[84] ILO, *Civil Aviation and its Changing World of Work*, GDFCAI/2013 (2013).

[85] IATA, "The Impact of the War in Ukraine on the Aviation Industry", IATA Factsheet, 25 March 2022.

[86] IATA, *Annual Review 2022;* ITF, "ITF Aviation Demands Action to Address the Impact of COVID-19"; IATA, *Annual Review 2020*; ATAG, *Aviation: Benefits Beyond Borders,* 2020; and ITF, "Civil Aviation: Employer Responses to COVID-19 in the Aviation Industry", 2022

[87] IATA, *Annual Review 2021*.

▶ **Figure 6. The COVID-19 pandemic: The biggest and longest shock ever to hit aviation**



Source: Ezgi Gulbas, "COVID-19 Airline Industry Outlook" (IATA Economics, 2021).

41. The industry was severely impacted during the second and third years of the pandemic, with international travel being considerably below 2019 levels. [88] By December 2022, and as the world and the air transport industry began to recover from the crisis, a normalization in aviation activity was under way. Passenger markets started recovering strongly as more routes were opened. Cargo volumes began to ease from their recent highs, amid weaker global economic growth and geopolitical tensions. Total airline revenue is expected to reach around 87 per cent of the 2019 level, up from 60 per cent in 2021. Cargo revenue is likely to remain unchanged, as its share of total revenue will slip back to around 28 per cent. [89]

International actions addressing the effects pandemic

42. ICAO, the ILO, the United Nations and sectoral employers' and workers' associations all played an active role through task forces, high-level conferences, resolutions, declarations, joint statements, recommendations and publications to address the effects of the pandemic in the aviation sector.

Employment impacts

43. In September 2021, ATAG calculated that the pandemic had resulted in 2.3 million fewer jobs in aviation (a 21 per cent reduction compared to pre-COVID-19 levels). [90] By May 2022, IATA's air connectivity index had recovered to 88 per cent of pre-pandemic levels for domestic connectivity and 62 per cent for international connectivity. [91] But the effects of the pandemic are expected to

[88] IATA, *Annual Review 2021*.

[89] IATA, "2023 to bring further pax recovery but softer cargo", IATA Economics' Chart of the Week, 16 December 2022.

[90] ATAG, "Aviation: Benefits Beyond Borders: COVID-19 Analysis Fact Sheet" (updated in September 2021).

[91] IATA, *Quarterly Air Transport Chartbook* (IATA Economics, Q2 2022). The index weighs scheduled passenger capacity by the relative economic scale of destinations served.

last for decades. IATA has predicted that traffic in 2040 will still be 6 per cent below its pre-pandemic forecast. [92]

44. The COVID-19 pandemic had an unprecedented impact on the aviation sector by exacerbating challenges to its ecosystem's workforce, including:

(a) The creation of a gap in knowledge through the loss of experienced personnel, as large numbers of personnel were made redundant, put on long-term furlough or asked to take early retirement. [93]

(b) A phenomenon called the "Great Resignation", as many workers reconsidered their priorities and decided to change career path or employer. This has resulted in a leakage of labour to other industry segments and, most recently, a significant challenge in the recruitment and retention of staff as air travel demand returns. [94]

2. Just transition and innovation

2.1. Climate action policies

45. Climate change affects the aviation sector not only in the context of physical risks and the need to adapt to climate change and its impacts, but also in terms of policies and measures to reduce, avoid, capture and store emissions, and to mitigate climate change. [95] This also includes contractual, regulatory and legal compliance risks, as well as risks due to the scarcity of critical resources. In addition to its impact on the sector, climate change also needs to be considered from the perspective of the aviation sector's contribution to decarbonization. [96] Discussing the specifics of the impact of aviation on climate action falls outside the scope of this report.

46. Measures to encourage climate action should take into account the three dimensions of sustainable development – economic, social and environmental. The path towards an environmentally sustainable economy should pay special attention to the nine key policy areas of the 2015 ILO *Guidelines for a just transition towards environmentally sustainable economies and societies for all*, which serve as a valuable resource. [97]

47. The international nature of aviation has traditionally made it difficult to reach alignment on regulatory measures, especially since its long-distance nature reduces the low-carbon options. [98] ICAO agreed to aim for carbon-neutral growth from 2020, and in October 2016 adopted the Carbon Offsetting and Reduction Scheme for International Aviation in support of this target. At its 41st Session in September–October 2022, the ICAO Assembly adopted Resolution A41-21, Consolidated Statement of Continuing ICAO Policies and Practices Related to Environmental Protection – Climate Change, on a long-term global aspirational goal for international aviation of achieving net-zero carbon emissions by 2050. Achieving that goal would cost aircraft operators from $130 billion (ICAO estimate) to $170 billion (ATAG estimate) annually from 2020 to 2050. [99]

[92] Marie Owens Thomsen, "Economic Outlook: Air Transport in Times of Turbulence", IATA Annual General Meeting.

[93] Romig.

[94] Romig.

[95] ICAO, "Effects of Climate Change on Aviation Business and Economics" (ICAO Factsheet, 2020).

[96] ICAO, "Effects of Climate Change on Aviation Business and Economics".

[97] ILO, *Guidelines for a Just Transition towards Environmentally Sustainable Economies and Societies for All* (2015).

[98] International Energy Agency, *World Energy Outlook 2018*.

[99] Note that ICAO numbers are for international aviation, whereas ATAG numbers are for both international and domestic aviation.

The annual costs for suppliers are estimated at $50 billion (ATAG) to $120 billion (ICAO). [100] The aviation industry estimates that these costs would not radically increase ticket prices. [101]

2.2. Technological innovation supporting just transition

48. There are many ways to improve energy efficiency in aviation. It should be noted, however, that due to the so-called rebound effect, where lower costs enabled by increased efficiency stimulate increased demand, an estimated 19 per cent of efficiency improvements in aviation cannot be exploited. [102] The most significant green technological measures and actions currently under consideration include:

(a) Reducing airport emissions, as airports were estimated to account for about 5 per cent of total CO_2 emissions from aviation before the COVID-19 pandemic. [103] Airports can be ideal locations for solar panels and offer an opportunity to introduce electric ground vehicles. [104]

(b) Increasing the use of sustainable aviation fuel, [105] which is expected to account for 65 per cent of carbon emission mitigations by 2050. Examples of industry contributions and good practices include the Sustainable Aviation Fuel Users Group, formed by the airlines to promote the use of sustainable aviation fuels, and the Airport Carbon Accreditation programme run by Airports Council International. [106]

(c) Eliminating fuel tankering, as excess fuel loaded onto aircraft increases their weight, resulting in excess CO_2 emissions.

(d) Improving efficiency by adding winglets to the tips of an aircraft's wings. Thousands of aircraft have been retrofitted since the 1980s. [107]

(e) The generation and use of renewable energy sources, [108] such as solar energy, which has proved to be successful for airports [109] and is now being explored as a source to power aircraft. [110]

3. Opportunities to shape recovery

3.1. Cooperation with ICAO

49. The United Nations Sustainable Development Goals have been widely endorsed by the aviation community, and the role of aviation in support of the achievement of the Goals has been

[100] The ICAO number in this instance includes aviation manufacturing and sustainable aviation fuel, whereas ATAG numbers take into account only sustainable aviation fuel production.

[101] ATAG, "What Will It Cost to Get to Net-Zero Carbon for Global Aviation?" (Fact sheet No. 15, June 2022).

[102] OECD-ITF, *Decarbonising Air Transport: Acting Now for the Future* (Paris: OECD Publishing, 2021).

[103] OECD-ITF, *Decarbonising Air Transport: Acting Now for the Future*.

[104] Romig.

[105] Sustainable aviation fuels are produced using various plants, such as Jatropha, saltwater-tolerant marsh grasses and algae. See: ATAG, *Aviation: Benefits Beyond Borders,* 2012.

[106] ATAG, "Flying in Formation"; ICAO, "ICAO and Partners Deliver Strong Advocacy for Aviation's Contributions to Sustainability at World Bank", *Newsroom*, 12 January 2018.

[107] ATAG, *Aviation: Benefits Beyond Borders,* 2012.

[108] ICAO, United Nations Development Programme and Global Environmental Facility, *Renewable Energy for Aviation: Practical Applications to Achieve Carbon Reductions and Cost Savings*, 2017.

[109] ATAG, "The first solar-powered airport", in *Aviation: Benefits Beyond Borders*, August 2015.

[110] Airbus, "Solar Flight".

recognized through ICAO Assembly Resolution A41-24, Aviation's contribution towards the United Nations 2030 Agenda for Sustainable Development.

50. In March 2022, the ILO and ICAO concluded an agreement (Appendix I) that built upon a 1953 memorandum of understanding between the Director-General of the ILO and the President of the Council of ICAO. The ILO and ICAO agree to closer collaboration in areas of common interest, namely, women in aviation, data collection and the future of decent and sustainable work in aviation.

51. To kick-start the operationalization of the agreement, the ILO participated in the 41st Session of the ICAO Assembly, where it supported and/or influenced the adoption of ICAO mandates with regard to:

(a) The ongoing tasks of the Air Transport Regulation Panel, including, "1) addressing the outstanding areas of concern (such as **labour and social considerations**, fair competition and associated issues, and regulatory oversight) in developing a Convention on Foreign Investment in Airlines". [111]

(b) Workforce ecosystems, co-sponsoring a working paper that had broad support [112] and was coordinated by Airports Council International. Among its operative paragraphs, the paper invited the Assembly to request ICAO to "Work with States, International Organizations and Industry to combat the effects of the pandemic and cooperate through joint activities, including research, technical meetings, training, **and advisory services, to build a socially sustainable recovery and decent work** in the sector." [113]

3.2. Growth for a job-rich and socially sustainable recovery

52. The forecast annual growth of revenue passenger kilometres up to 2050 is 3.6 per cent, whereas the projection made before the COVID-19 pandemic was 4.2 per cent. [114] It is projected that up to 8 billion passengers will be transported by air in 2040. [115] This will require significant investment of around $2.4 trillion in airport infrastructure. [116] The current forecast for air traffic in 2050 is 8 per cent lower than the forecast made prior to the pandemic. [117] Various reasons explain this: traffic is recovering slowly and is not expected to reach its 2019 levels before 2024; overall gross domestic product growth has slowed; people are less willing to travel due to health and environmental concerns, and as a result of ageing populations; and there has been a reduction in business travel.

[111] ICAO, "Report of the Economic Commission on the General Section and Agenda Items 34 and 35", A41-WP/670, 2022, para. 35.19. Emphasis in bold added.

[112] "The Committee noted the overwhelming support for this working paper and **encouraged ICAO to identify and address human resource challenges**. The Committee noted the need to develop a diverse and skilled workforce to support the sector of the future, attracting more young people into aviation, promoting diversity and decarbonisation goals". See ICAO, "Draft Text for the Report on Agenda Item 26", ICAO A41-WP/644, para. 26.7. Emphasis in bold added.

[113] ICAO, "Attracting and developing the aviation ecosystem's workforce to ensure the industry's long-term sustainability and resilience", A41-WP/354. Emphasis in bold added.

[114] ICAO, *Innovation for a Green Transition: 2022 Environmental Report* (2022).

[115] IATA, "Global Outlook for Air Transport".

[116] ACI, "The Evolution of the Airport Workforce".

[117] ATAG, *Waypoint 2050* (2020).

Airlines

53. Depending on their circumstances and domestic markets, airlines may seek either asset-based growth (markets with room for connectivity expansion, such as Africa) or non-asset-based growth (further consolidation, code sharing, efficiency measures with the same assets/aircraft) representing company benefit growth without further investment in assets. According to some estimates, reducing supply, for example by cutting the amount of CO_2 emissions the sector is allowed to emit, could lead to higher ticket prices and profit margins. [118]

▶ Box 1. The huge potential of African aviation

Africa represents only 2.5 per cent of global air passenger traffic. In 2018, the heads of State of the African Union countries launched the Single African Air Transport Market, with the aim of accelerating aviation growth across the continent, and 34 countries have joined the initiative. In 2021, after the COVID-19 pandemic, business travel in Africa increased 36 per cent, second only to growth in the Middle East. While many countries are looking for ways to develop their aviation sector, the African aviation sector is rather small and underdeveloped for the size of the continent and the number of inhabitants. In 2017, it was estimated that although Africans made up 12 per cent of the world's population, and in terms of infrastructure the continent was estimated to have 731 airports and 419 airlines, they represented fewer than 3 per cent of the world's passengers, with only about ten companies carrying more than one million passengers per year.

A number of challenges will need to be overcome. Connectivity within Africa is limited, and in many cases, passengers need to transit through a second country or even a third. And the safety record of a number of airlines needs to improve. The potential benefits of airspace liberalization could be significant. The direct and indirect influence of aviation on other labour-intensive sectors can play an important role in meeting Africa's employment challenges. The declining rate of conflicts, the upsurge in democratic transitions, increased urbanization and the growth of the middle classes are all factors that will speed up the realization of the continent's potential.

Sources: ATAG, *Aviation: Benefits Beyond Borders*, 2018 and 2020; Eric Kacou and Hassan El-Houry, *Fly Africa, How aviation can generate prosperity across the continent* (Lioncrest, 2017); Hassan El-Houry, "Boosting Africa's Commercial Aviation Sector, a Sure Route to Recovery" (World Economic Forum, 20 July 2022).

54. Air transport doubled in Latin America and the Caribbean between 2006 and 2016, and in some countries tripled. However, countries in the region are not very competitive in terms of air transport: when 140 countries were ranked by their competitiveness, while Panama ranked 16th and Trinidad and Tobago 29th, Colombia ranked only 60th and Argentina 66th. Compared to Member countries of the Organisation for Economic Co-operation and Development (OECD), the region ranked poorly in connectivity, airport infrastructure, ticket prices and taxes.

Airports

55. Airports increasingly see passengers as their own customers and investments in airports can increase passenger numbers. This has been the case for Peru (by 44 per cent) and Colombia (by 39 per cent), showing that Latin America could benefit from integrating air transport policies into national and regional transport policies and seeking synergies with other modes of transport. [119]

[118] Stefan Gössling, "Risks, Resilience, and Pathways to Sustainable Aviation: A COVID-19 Perspective", *Journal of Air Transport Management* 89 (October 2020).

[119] James Wiltshire and Azhar Jaimurzina, "Transporte Aéreo como Motor del Desarrollo Sostenible en América Latina y El Caribe: Retos y Propuestas de Política", *Boletin FAL* 359 (Comisión Económica para América Latina y el Caribe (CEPAL), 2017).

Ground handling

56. IATA has suggested that accommodating increasing passenger numbers and cargo volumes will require operators to reinforce the industry's talent pool and that ground operations constitute one of the key sectors where demand is anticipated to be highest in the coming years. [120] Prior to 2020, the perception of the aviation industry as a stable employment avenue had in some cases been deteriorating, and it was then severely hit by the COVID-19 pandemic, [121] resulting in front-line staff and lower-skilled workers turning to other jobs. Among many suggestions to encourage workers back to airports, Airports Council International has developed a set of recommendations, [122] including a key recommendation that "Airports should promote value-based procurement practices to focus not just on cost but also on added value of contracted activities." The ILO's Labour Clauses (Public Contracts) Convention (No. 94) and Recommendation (No. 84), 1949, can provide guidance as to how to remove wages and working conditions from the price competition necessarily involved in public tendering.

3.3. Enabling environments for socially sustainable growth

57. The Conclusions concerning the promotion of sustainable enterprises adopted at the 96th Session (2007) of the International Labour Conference list a number of basic conditions [123] and provide "detailed guidance on what constitutes a conducive environment for sustainable enterprises, noting that such an environment combines the legitimate quest for profit with the need for development which respects human dignity, environmental sustainability and decent work". In addition, the Tripartite Declaration of Principles concerning Multinational Enterprises and Social Policy (MNE Declaration) is the only ILO instrument that provides direct guidance to enterprises (multinational and national) on social policy and inclusive, responsible and sustainable workplace practices.

58. Some of the considerations that could be taken into account when establishing frameworks for enabling environments include:

(a) For airlines and airports: Stock buybacks and stock-based compensation for chief executive officers may lower the earnings before interest, taxes, depreciation and amortization of airlines and airports. Changes in owners, combinations of ownership and frequent changes in ownership could also render the aviation sector unstable. While restructuring and varying degrees of privatization are in place, it has been argued that airlines should be treated in the same way as banks or electric power plants, that is, they should not be allowed to fail and should be regulated as public utilities. [124]

(b) For ground handling service providers: Ground handling service providers may operate in semi-open markets, where only a limited number of licence-holders are allowed to work at

[120] IATA, "Aviation Ground Handling Report" (2019).

[121] ACI, "The Evolution of the Airport Workforce".

[122] ACI, "The Evolution of the Airport Workforce".

[123] Peace and political stability; Good governance; Social dialogue; Respect for universal human rights and international labour standards; Entrepreneurial culture; Sound and stable macroeconomic policy and good management of the economy; Trade and sustainable economic integration; Enabling legal and regulatory environment; Rule of law and secure property rights; Fair competition; Access to financial services; Physical infrastructure; Information and communications technology; Education, training and lifelong learning; Social justice and social inclusion; Adequate social protection; Responsible stewardship of the environment.

[124] OECD, *State Support to the Air Transport Sector*; Michelle Dy, "Removing Air Transportation from the Scope of 'Public Utility' in the Philippine Constitution: A Panacea for Liberalisation?", in *Aviation Law and Policy in Asia* (Leiden, Koninklijke Brill NV, 2021), 171–197.

an airport. In some cases, it may be challenging for them to thrive and provide good training opportunities between airports competing to become the take-off and landing hub of choice and airlines striving to cut costs and increase revenues. [125]

3.4. Equality and inclusivity

59. In 2019, the ILO published a working paper to contribute to the discussion on promoting women in the aviation sector. It includes an analysis of the main opportunities and challenges, taking the Decent Work Agenda into consideration. [126]

60. Making the aviation industry more gender balanced was recognized as a pressing need to improve the efficiency and effectiveness of the sector by ICAO Assembly Resolution A39-30, ICAO Gender Equality Programme promoting the participation of women in the global aviation sector, in line with Goal 5 of the 2030 Agenda for Sustainable Development. In this resolution, States, regional and international aviation organizations as well as the international aviation industry were urged to demonstrate strong, determined leadership and commitment to advance women's rights and to take the necessary measures to strengthen gender equality.

61. Considering persistent challenges of achieving gender equality in aviation, the 41st Session of the ICAO Assembly adopted a revised resolution to encourage greater commitment to gender equality at all levels. ICAO Assembly Resolution A41-26, ICAO Gender Equality Programme promoting the participation of women in the global aviation sector, which superseded Resolution A39-30 and had the unequivocal support of the Assembly, includes a number of new actions for the Member States, the Council and the ICAO Secretariat. One important development in Resolution A41-26 was the inclusion [127] of the concepts of "decent work" and further cooperation with "international organizations". [128]

62. In 2018, ICAO and the South African Civil Aviation Authority organized the inaugural Global Aviation Gender Summit with the objective of discussing the challenges faced by women in aviation, and the barriers to attracting, retaining and promoting women within the aviation workforce. Summit participants adopted a communiqué that, among other issues: highlighted the need for gender-disaggregated data to drive gender-related policies and programmes in aviation; underscored the need to eliminate or mitigate the impact of culture, stereotypes and biases on decisions related to gender; identified the need to better use measures such as internships, fellowships and mentoring programmes to develop women's skills in aviation.

63. Building on the outcomes of the South Africa Summit, and in line with Resolution A41-26, ICAO and the Civil Aviation Authority of Spain will organize the Second Global Aviation Gender Summit in Madrid, Spain, from 5 to 7 July 2023. The Second Global Summit aims to bring together governments, private stakeholders, academia and influencers of change from around the world to catalyse progress, advocate for change and promote bold actions to achieve gender equality and women's empowerment in aviation.

[125] Jon Conway, "A race to the bottom serves no one", 25 February 2019.

[126] David Seligson, "Women and Aviation: Quality Jobs, Attraction and Retention", Working Paper No. 331 (ILO, 2019).

[127] The Governments of France and Mexico formally introduced these amendments to the Executive Committee.

[128] Resolution superseding A39-30 on ICAO Gender Equality Programme promoting the participation of women in the global aviation sector. See: ICAO, *Draft Text for the Report on Agenda Item 27*, A41-WP/611, 2022, para. 27.6.

Tackling occupational segregation

64. Occupational segregation has a clear impact on the gender pay gap in civil aviation, as pilots are overwhelmingly men and cabin crew are overwhelmingly women. However, women are now increasingly being trained as pilots: in countries such as the United States, India, Japan, Spain and Indonesia, female students make up more than 10 per cent of classes; in Singapore, one in four student pilots is a woman; [129] and women constitute 12 per cent of Indian airline pilots. [130]

▶ Box 2. Entrepreneur Susan Mashibe

Susan Mashibe became the first female Federal Aviation Administration-certified commercial pilot and aircraft maintenance engineer in the United Republic of Tanzania. She is also the founder, owner and executive director of VIA Aviation, formerly known as Tanzanite Jet Centre (TanJet). Although VIA was founded in the United Republic of Tanzania, it has grown to include other African countries. An avid aviator and entrepreneur, she has won a range of prizes and recognitions, including the Africa Regional Lead for the National Business Aviation Association.

Source: World Economic Forum, "Susan Mashibe".

Quotas

65. In 2019, IATA launched a global initiative – 25by2025 – with the goal of increasing the number of women in senior positions and under-represented jobs (for example, pilots and operations) by 25 per cent or a minimum representation of 25 per cent by 2025. IATA sought voluntary participation by its member airlines and, by March 2022, 100 airlines had committed to these goals. [131] The reason for the initiative was primarily to address labour shortages. [132]

Age

66. In November 2014, Amendment No. 172 to Annex 1: Personnel Licensing of the Chicago Convention became applicable, concerning the upper age limit for pilots engaged in international commercial air transport operations. This amendment includes a limitation of privileges of pilots who have attained their 60th birthday and the curtailment of privileges of pilots who have attained their 65th birthday, as follows: "A Contracting State, having issued pilot licences, shall not permit the holders thereof to act as pilot of an aircraft engaged in international commercial air transport operations if the licence holders have attained their 60th birthday or, in the case of operations with more than one pilot, their 65th birthday." [133] While in some cases controversial, and in others perhaps driven by commercial considerations or shortages, [134] higher life expectancy has led to many governments considering increasing the upper age limit for pilots. [135]

[129] ATAG, *Aviation: Benefits Beyond Borders*, 2016.

[130] ATAG, *Aviation: Benefits Beyond Borders,* 2016.

[131] IATA, *Annual Review 2020*; IATA, "Women are still under-represented in leading positions at airlines", IATA Economics' Chart of the Week, 4 March 2022.

[132] IATA, *Annual Review 2022.*

[133] See "Age limit for flight crew" in ICAO, "Frequently Asked Questions (FAQs)".

[134] Air Line Pilot Association, International, "ALPA Opposes Attempts to Increase Retirement Age for Professional Airline Pilots" (News Room, 19 May 2022).

[135] Trimarchi, *International Aviation Labour Law*.

Disability inclusion

67. IATA has continued to disseminate the message that accessibility for all makes business sense, including in terms of training of aircrew, and consequently continues to encourage airlines to become more inclusive, in particular of disabled passengers. [136]

68. An example of the employment of disabled workers is the security service provider G4S, which has, together with a disability organization, set up a programme at Brussels Airport to recruit security agents with autism spectrum disorder. The programme uses the strengths of the recruits in X-ray screening in a remote location without passengers. The programme has delivered strong performance and high job satisfaction. [137]

▶ Part 3. Building resilience: Decent work and productive employment

69. The ILO Declaration on Social Justice for a Fair Globalization promotes decent work through a coordinated approach to achieving four strategic objectives, namely, employment, social protection, social dialogue, and international labour standards and fundamental principles and rights at work, with gender equality and non-discrimination as cross-cutting policy drivers. The following sections also address sectoral priorities in the context of recovery and greening and link to many of the issues brought up in the previous chapter on crises.

70. Labour and fuel remain the two variables that directly and heavily impact profitability in this sector. In recent years, between open skies agreements and competition prompted by various business models, and in order to keep up with vertiginous pressure, carriers and airports have adopted human resource management strategies and procurement practices that aim to reduce costs relating to personnel. [138]

71. In terms of achieving and maintaining a high degree of safety, ICAO has established guidance and recommendations on technical aspects of employment. These include minimum crew on aircraft, crew complement, essential qualifications, and training of flight and ground personnel, as well as the technical regulation of administrative and technical personnel necessary for the operation of airports and other flight facilities. [139] The social aspects of the terms and conditions of employment in civil aviation are the responsibility of the ILO. [140]

1. Employment

Workforce composition

72. Civil aviation employs people in a range of very diverse jobs: building and maintaining aircraft, ground staff, flight personnel (operational and non-operational), planning airspace and air traffic control, working in information and communications technology, catering for airlines, serving

[136] Linda Ristagno, "#FlyInclusive: Taking Accessibility to the Next Level" (IATA, 2022).

[137] ACI, "The Evolution of the Airport Workforce".

[138] Trimarchi, *International Aviation Labour Law*.

[139] ILO, *Report I – Review of Conditions of Employment in Civil Aviation*, ICA/1956, Ad Hoc Meeting on Civil Aviation (1956).

[140] ILO, *Memorandum (No. 40) to the Governing Body of the International Labour Office on Conditions of Employment in Civil Aviation*, Inland Transport Committee, Fourth Session, 1951.

customers at airports and onboard aircraft, working on airfields, managing air traffic, piloting aircraft and managing aviation businesses. [141] Some of these occupations require specialized training and the use of sophisticated machinery technology, whereas others require little training.

Staffing levels and shortages

73. According to a survey conducted in 2022 by IATA, [142] staffing levels [143] ranged from 72 per cent (pilots) to 61 per cent (cabin crew) of the required levels over 18 months. A shortage of captain pilots was identified, and there were regional variations in terms of the severity of the shortage. Costs related to self-funded pilot training and type rating were significant barriers to employment, as pilots must complete expensive education and comply with demanding training standards. [144] Staffing levels for ground operations were a pressing concern. With regard to training, the respondents were aiming to train staff to be able to perform a wide range of tasks through job-sharing, multi-skilling and cross-training.

74. During the pandemic, the aviation industry lost a large share of its (skilled and unskilled) workforce through lay-offs and retirements. Aircrews flying reduced schedules may have had their proficiency adversely affected. The situation was even worse for those having been furloughed, as they required retraining. Returning thousands of parked aircraft to service was difficult due to lay-offs in the maintenance, repair and overhaul sector, and to the difficulty in acquiring spare parts. [145] Transporting parked aircraft to gates, ramps or maintenance facilities is complex and requires close cooperation between the airport, airlines and air navigation service providers. [146] Social distancing at airports has continued and this is reducing the capacity of airports to process passengers during peak hours. [147]

75. As travel bans were gradually lifted towards the end of the pandemic, the aviation industry encountered severe problems in satisfying the surge in demand. Staff shortages, in particular among ground handlers, security and cabin crew, impacted how fast operations could be ramped up at certain locations. Rehiring workers was in some cases more complicated than anticipated, due to the time involved in conducting security training and background checks. [148] Redundancies, early retirement programmes and freezes in training threaten to cause a worker shortage in air traffic control. [149] Labour shortages caused by the lay-offs during the pandemic led to the cancellation of over 59,000 flights between 24 December 2021 and 3 January 2022. [150]

[141] ATAG, *Aviation: Benefits Beyond Borders,* 2018.

[142] Stuart Fox, "IATA Global Skills Survey" (IATA archives, 2022).

[143] Percentage of staff currently in place to meet needs of a certain occupation.

[144] Trimarchi, *International Aviation Labour Law*.

[145] IATA, *Annual Review 2021*.

[146] CANSO, "COVID-19 Restart and Recovery Guide".

[147] Francisco Serrano and Antonín Kazda, "The Future of Airports Post COVID-19", *Journal of Air Transport Management* 89 (October 2020).

[148] ITF, "Civil Aviation: Employer Responses to COVID-19 in the Aviation Industry".

[149] ITF, "A New Deal for Aviation" (ITF Global, 2022).

[150] KPMG, *The Aviation Industry Leaders Report 2022: Recovery through Resilience* (Airline Economics, 2022).

Industry image and social sustainability

76. The aviation industry may have lost some of its attractiveness as a career path due to industry unpredictability and debate about environmental sustainability. [151] Characteristics of aviation employment, including the effects of external events on the industry, the ability to move bases, and continuous efforts to reduce costs, contribute to this unpredictability. [152] All this underlines the importance of long-term employment policies in order to avoid losses of critical expertise. [153]

Training and skills

77. Annex 1 of the Chicago Convention regulates personnel licencing (including for pilots, remote pilots, flight crew members and other personnel). The annex also includes medical provisions for licencing. Overall, training will prove essential for aviation recovery. New areas for training have emerged: aviation is committed to net-zero emissions by 2050, hence training with a sustainability focus will be needed in the future. Two other important areas are cybersecurity and competency-based training in specific areas, such as handling dangerous goods. [154]

▶ Box 3. Examples of best practices for apprenticeships, retraining and transferable skills during crisis

- British Airways manages an extensive apprenticeship programme. The apprentices work in various business areas gaining nationally recognized qualifications and workplace training, while being paid.
- Malaysian Airlines introduced a programme during the pandemic open to over 2,000 employees. The voluntary participants were offered training and temporary reassignment in other departments in the company.
- AirAsia set up a tech training centre to reskill the grounded staff and help their transition to digital roles.
- Scandinavian Airlines temporarily laid off 90 per cent of its flight attendants. At the same time, there was a shortage of healthcare staff to battle the pandemic. Together with other private and public sectors, Scandinavian Airlines reskilled its flight attendants into healthcare. The success of the programme was attributed to the way it was introduced: it started as a pilot and progressed in incremental steps.
- Qantas put dozens of its staff through a training and certification programme in cloud skills.
- Keolis Downer, an Australian public transport operator, recruited pilots, cabin crew and other staff from airlines to work in public transport as drivers, officers and in customer service.

Sources: ATAG, *Aviation: Benefits Beyond Borders*, 2014; Sumit Singh, "Malaysia Airlines Offers Reskill Program For Employees", *Simple Flying*, 10 October 2020; Tan Zhai Yun, "Cover Story: The Upskilling and Reskilling Revolution", *The Edge Markets*, 24 May 2021; Marti Fischer, "Reskilling Staff In Response To COVID: What Scandinavian Airlines Did", *Forbes*, 19 June 2020; Justin Hendry , "Qantas Runs 'Crew in the Cloud' Program to Train Staff in AWS Skills", *iTnews*, 1 June 2021; and Keolis Downer, "From the Skies to the Ground" (Latest News, undated).

Airport services employment

78. Airports generate direct employment in the surrounding areas. It is estimated that, for airports with fewer than 1 million passengers, each increase of 1,000 passenger movements increases

[151] ICAO, "Attracting and developing the aviation ecosystem's workforce to ensure the industry's long-term sustainability and resilience".

[152] Harvey, Turnbull and Wintersberger.

[153] ITF, *A Zero-Carbon Future for the Aviation Sector* (ITF Global, 2022).

[154] IATA, "Training Is the Key to Industry Recovery", *Airlines*, 1 April 2022.

direct employment by 1.2 jobs in surrounding areas. [155] Airports themselves are large workplaces: for example, in 2013, 76,500 people were directly employed at Heathrow Airport and around 114,000 jobs – or one in five – in the local area were supported by the operations of Heathrow. Since 2007, the airport has organized job and career fairs linking young people, mainly from the surrounding communities, with companies working at the airport. [156]

▶ Box 4. Best practices for quality standards at airports

Some airport authorities have implemented local standards for hiring, training and compensation. San Francisco International Airport established minimum compensation and training standards for all workers whose jobs impact safety and security. The San Francisco International Airport Quality Standards Program was first established in 1999 to enhance security and safety. The Airport Commission established a direct relationship between the airport and the airline contractors through a certification process. The programme was followed by a minimum compensation ordinance, worker retention policy and labour peace rules. The minimum hourly wage was set to be $0.50 above the San Francisco Minimum Compensation Ordinance. Workers were to be given 12 paid and 10 unpaid days off per year. The impact of these laws has been significant. The wages for over 10,000 low-wage workers increased and turnover decreased substantially. At the same time, customer service improved. Even without taking into account savings from lower turnover and higher productivity, the costs of wage increases were calculated as $1.42 per passenger or one third of the Passenger Facility Charge levied on each passenger.

Such policies were considered to bring many advantages: higher wages reduced turnover and training improved efficiency. Health benefits keep employees from coming to work when unwell and labour peace agreements assure uninterrupted operations. Higher wages and better working conditions would also ensure that the surrounding communities would benefit from the creation of quality jobs and avoid the fiscal and social costs associated with low-wage work.

Sources: Miranda Dietz, Peter Hall and Ken Jacobs, *Course Correction: Reversing Wage Erosion to Restore Good Jobs at American Airports* (Berkeley, 2013); Garrett Strain, *Poverty Doesn't Fly* (June 2016).

79. In October 2022, Amsterdam Airport Schiphol agreed with trade unions to raise the salaries of security staff by up to 40 per cent as part of a broader social package, aiming at attracting more security staff. [157] In the case of Zürich Airport, ground handlers reached a post-pandemic agreement with Swissport to receive a pay rise, a one-off payment and the inclusion of automatic inflation compensation in their collective labour agreement. [158] Geneva Airport ground handlers attempted to reach a similar agreement to no avail. [159]

Employment security

80. Ensuring employment security in the civil aviation industry depends in large measure on ensuring the economic health and viability of the industry. [160] Employment security in civil aviation is subject to a number of different factors, including economic factors such as restructuring, cyclical variation and seasonal, cost, capacity and regulatory variations, among others. The civil aviation industry has a relatively good record of providing employment security to its personnel.

[155] ATAG, *Aviation: Benefits Beyond Borders,* 2016.

[156] ATAG, *Aviation: Benefits Beyond Borders,* 2014.

[157] Schengenvisa News, "Amsterdam's Schiphol Airport Agrees to Raise Wages for Security Staff", 7 October 2022.

[158] Keystone-SDA/ac, "Zurich airport ground staff negotiate pay rise", *Swissinfo*, 11 October 2022.

[159] David Ramseyer, "Accord trouvé dans le conflit au sein de Swissport", *20 Minutes*, 25 February 2022.

[160] ILO, *Tripartite Technical Meeting for Civil Aviation: Note on the Proceedings*, ICA/1977/16, 1977, Conclusions (No. 2) concerning Employment Security in Civil Aviation.

Regarding the initial effects of the sector's cyclicality, in 1977 the ILO adopted the Conclusions (No. 2) concerning employment security in civil aviation (Appendix III).

2. International labour standards and fundamental principles and rights at work

International labour standards

81. The development of international labour standards at the ILO is a unique legislative process involving representatives of governments, workers and employers from all over the world. ILO instruments comprise a robust body of international labour standards that is backed by a supervisory system that is unique at the international level and that helps to ensure that countries implement the Conventions and Protocols they have ratified. The ILO regularly examines the application of standards by its Member States and points out areas where they could be better applied. The Committee of Experts on the Application of Conventions and Recommendations (CEACR) and the special procedures for the Committee on Freedom of Association (CFA) have made observations and issued recommendations to Member States in cases related to the civil aviation sector (Appendix II).

Fundamental principles and rights at work

82. The ILO Declaration on Fundamental Principles and Rights at Work and its Follow-up (1998), recognized four fundamental principles and rights at work and called on all ILO Member States to commit to respect, promote and realize these principles and rights, whether or not they had ratified the relevant Conventions. They were: (i) freedom of association and the effective right to collective bargaining; (ii) the elimination of all forms of forced and compulsory labour; (iii) the effective abolition of child labour; and (iv) the elimination of discrimination in respect of employment and occupation. The relevance of the right to a healthy workplace was underlined by the 110th Session (2022) of the International Labour Conference, when it adopted the resolution on the inclusion of a safe and healthy working environment in the ILO's framework of fundamental principles and rights at work, amending the 1998 Declaration. [161] At present, 11 ILO instruments have been recognized as fundamental. It is too soon to know the implications of the adoption of a safe and healthy working environment as a fundamental principle and right for the national regulatory regimes and the aviation industry as a whole.

Industrial scope

83. While there are specific sectoral standards, it should be borne in mind that a number of Conventions and Recommendations adopted by the International Labour Conference apply to workers in general, and therefore in some cases include air transport personnel. Other standards apply to industry in general, to industrial undertakings or to undertakings engaged in the transport of passengers or goods by air, including the handling of goods at airports.

Labour standards and aircraft registration

84. Aircraft registration can be processed in the country of ownership (flag carrier) or in the register of a country other than that of the place of business of the airline ownership. Rapidly changing

[161] ILO, Resolution on the inclusion of a safe and healthy working environment in the ILO's framework of fundamental principles and rights at work, ILC.110/Resolution I (2022). ILO Declaration on Fundamental Principles and Rights at Work (1998), as amended in 2022.

business models may have an impact on flight safety, fair competition and workers' rights. [162] Bilateral ASAs act as a deterrent, [163] as a carrier could lose its traffic rights if its aircraft is registered in another country. [164] A key point in legacy airline strategies is an increased appetite for contracting flight and cabin crews. And while, in some cases, a high percentage of aircraft fleet is leased (up to 50 per cent), this may act as a deterrent to register in other countries, as insurers and lessors generally avoid having their assets registered in jurisdictions where there is a lack of safety oversight.

85. In civil aviation, ICAO considers the expression "flag of convenience" an appropriate term only when a plane is flagged out to take advantage of minimal or no economic or technical oversight. [165] Ensuring proper oversight can be coupled with appropriate legal recourse and the removal of geographic barriers to support redress mechanisms from multinational companies. [166]

Gender equality

86. For a long time, women were not considered suitable to work as pilots and even today are heavily under-represented among airline pilots. In 2018 the highest percentage of women pilots at a major airline was only 7.4 per cent. [167] Only 3 per cent of airline chief executive officers are women. [168] Men are clearly over-represented in technical roles (pilots and engineers) and women in service roles (cabin and ground crew). Flight attendants were long required to have a nursing degree. In addition, some airlines applied criteria relating to physical appearance and age. While these requirements are no longer applied by some airlines, the gendered performance of the role remains. [169] In 2019, the ILO published *Women and aviation: Quality jobs, attraction and retention*.

87. In 2019, the 108th Session of the International Labour Conference adopted, by an overwhelming majority, the Violence and Harassment Convention, 2019 (No. 190). For the first time, violence and harassment in the world of work are covered by a specific ILO Convention. The Conference also adopted the accompanying Violence and Harassment Recommendation, 2019 (No. 206). These two instruments contain the first internationally recognized definitions of violence and harassment in the world of work.

Working time and rest periods

88. Working time and rest periods ensure the protection and safety of workers. [170] There is currently no international standard in place with regard to working times and rest periods for aviation workers. Working time in this sector can be understood as the sum of flight service and ground

[162] Yves Jorens et al., *Atypical Employment in Aviation: Final Report* (European Social Dialogue, European Commission, 2015).

[163] The carrier may cease to be designated by a party to an ASA should the airline fail to comply with designation criteria as stipulated in the ASA. This may include an aspect of ownership and (regulatory) control of the airline.

[164] Alain Lumbroso, "Aviation liberalisation: What headwinds do we still face?", *Journal of Air Transport Management* 74 (2019), 22–29.

[165] ICAO, *ICAO Secretariat Study on the Safety and Security Aspects of Economic Liberalization* (ICAO Council, 1 June 2005).

[166] For example, see Norway Borgarting Court of Appeals, *Choice of law in disputes concerning employment relationships and staffing companies entering contracts with citizens of different nationalities*, Judgment LB-2015-51137; and Spain Justice Administration Tribunal, *Alfred Giro v. Ryanair,* Judgment number 008/0000003/2020.

[167] Rebecca K. Lutte, *Women in Aviation: A Workforce Report* (Omaha, Aviation Institute Faculty Publications, 2019), 1–21.

[168] IATA, *Annual Review 2021*.

[169] Whitney E. Smith et al., "Reshaping Gender in Airline Employment", *Annals of Tourism Research* 89, (July 2021).

[170] Restellini.

duty. [171] Aviation workers generally find themselves excluded from working time regulations, and the ILO pointed out as long ago as 1938 that challenges remained as to the scope of the personnel and services to be covered by specific regulations. [172]

89. Challenges regarding the regulation of hours of work centre around flight time limitations. Currently, flight time, duty time period, duty period limitations and rest requirements are established for the sole purpose of ensuring that the flight crew and cabin crew are performing at an adequate level of alertness for safe flight operations. Thus, the flight and duty times are not designed for the protection of workers but for the protection of air safety. Annex 6 of the Chicago Convention requires States to put in place rules specifying limitations applicable to flight duty times, flight duty periods and rest periods. Yet the convention's proposed model template leaves it to national authorities to determine individual values. Consequently, each country has issued its own regulations and there are considerable distinctions among countries between the basis and methods used for regulating flight time limitations and their scope.

▶ Box 5. Practices regarding working times, flight times, duty times and rest periods

Since 1960, the ILO has recommended that "there should be limitations on the flight time and the duty time of crew members engaged in commercial air transport" and that such "[l]imitations on hours of flight and hours of duty and provisions for rest periods should be determined between employers' and workers' organisations."

Between 2021 and 2022, the ILO commissioned a comparison of prescriptive flight time limitations (FTL) scheme in a variety of jurisdictions. There is a significant lack of uniformity at the global level. Such fragmentation could have a significant impact on overall uniformity in terms of safety of air travel. The comparison, which takes into consideration the FTL prescriptive regimes in force in 29 countries from all geographic regions, highlights discrepancies relating to fundamental elements of aircrew work, such as the maximum flight time or maximum duty period aircrew members may be allowed to fly, or minimum rest periods aircrew members are entitled to have before duty.

With respect to the maximum flight duty period allowed, most FTL schemes foresee a maximum flight duty period set at either 13 or 14 hours, with this parameter ranging from 11 hours to a maximum of 15 hours. Among all Middle Eastern and Asian countries examined, the maximum flight duty period is set at 13 hours, with some at 12 and some at 14 hours. The African region shows some consistency, with most countries imposing a maximum flight duty period of 14 hours, with one exception (15 hours).

When examining the maximum flight time allowed in a calendar year or a 365 consecutive day period, the vast majority of jurisdictions have opted for a standard parameter of a maximum of 1,000 hours. Some national FTL schemes, however, reduce hours to 900, and the lowest requirement found was set at 800 hours.

Fragmentation is evident when comparing requirements relating to minimum rest periods for aircrew. In this context, it is not possible to identify common regional trends. The comparison shows that this parameter is applied variously and heterogeneously across the world, ranging from a minimum of 8 hours in some countries to a maximum of 12 hours in others.

The lack of uniformity is even greater when considering other aspects of FTL regulations. For example, among the countries examined, only three provide for a requirement relating to a minimum coverage period for rostering. Similarly, few jurisdictions include a formal requirement concerning meal opportunities for aircrew. Significant differences also emerge when comparing requirements relating to the maximum length of standby allowed by national FTL schemes, whereby, even though many countries adopted a standard of 12 hours, parameters range from 12 to 24 hours.

[171] See Section C (Air Transport) of ILO, *Generalisation of the Reduction of Hours of Work*, Report V, ILC.24/V/II/II (1938).

[172] ILO, *Generalisation of the Reduction of Hours of Work*.

A similar trend can also be observed with respect to the requirement relating to the amount of time for which reports concerning FTL should be kept. It is almost impossible to identify a common approach on this point as some countries opted for as low as 6 months and others as high as 24 months, with one jurisdiction going even further at 60 months. Remarkably, many countries do not even foresee such a requirement in their FTL regulations.

Sources: ILO, *Ad Hoc Civil Aviation Meeting: Note on the Proceedings of the meeting*, ICA/1960/16(Revised), 1960, Conclusions (No. 1) concerning hours of duty and rest periods of crew members in civil aviation, paras 2 and 7; Andrea Trimarchi, *Comparative overview* (ILO Archives, 2022), based on Paul Cullen, *Flight times, duty times and rest periods in the aviation sector* (ILO Archives, 2021).

Work intensification

90. Work intensification can be caused by pressure to increase labour productivity, or as part of company restructuring. Lean production and flexibility in tasks (filling all available time with active work) may lead to safety not being respected due to time pressure (adding to pressure on workers).

Cyclicality and dismissal: Termination of employment

91. The protection laid down in the Termination of Employment Convention, 1982 (No. 158) and Recommendation (No. 166), 1982 applies to all workers in civil aviation. "Termination of employment of workers employed in civil aviation should not take place unless there is a valid reason for such termination connected with the capacity or conduct of the worker or based on the operational requirements of the undertaking, establishment or service." [173]

Contracting models

92. Airlines use many types of employment arrangements, including the use of intermediary organizations. In a 2015 study concerning the European Union, 79 per cent of respondents said they had a direct employment contract. The figure was considerably lower for low-cost carriers, where just over 52 per cent said they were directly employed by the airline. Of those working for a low-cost carrier, 16.7 per cent said they worked via a temporary work agency; for network and regional airlines this figure was below 2 per cent. [174]

93. Around 9 per cent of the pilots surveyed considered themselves to be self-employed. However, 90 per cent of respondents said that they were not free to work for more than one air carrier and 93 per cent said that they could not decide when and how many hours they flew. [175]

Posting of workers

94. Third country nationals have historically been employed for language or cultural reasons. However, it has been claimed that in some regions airlines are increasingly employing third country nationals because of the less demanding employment and social security legislation in the third country in question. [176]

[173] ILO, Conclusions (No. 2) concerning Employment Security in Civil Aviation.

[174] Jorens et al.

[175] DG Move and Ricardo, *Study on Employment and Working Conditions of Aircrews in the EU Internal Aviation Market* (European Commission, 2019).

[176] DG MOVE and Ricardo.

Wet leases

95. Airlines are increasingly resorting to wet leases as they strive to respond to peak traffic demands, both in case their own aircraft are undergoing heavy maintenance or for economic or political reasons. A wet lease is a leasing arrangement whereby one airline (the lessor) provides an aircraft, complete crew, maintenance and insurance to another airline. The increased use of wet leases may lead to situations where the holder of the Air Operator Certificate is nothing more than a brand. Provisions on wet leasing are available in the ICAO Template Air Services Agreement (ICAO Doc 9587) for adoption by States in their bilateral/multilateral arrangements.

96. The use of wet leases may encounter some challenges from the point of view of posting of workers and compliance with the appropriate labour and social security legislation. Wet leases should be monitored by authorities to ensure that obligations and responsibilities concerning safety and employees are clear and adhered to. [177] The nature of these leases may contribute to the opacity of employment standards, confusion about who is the operator and/or employer and other legal concerns. [178]

Two-tiered contracting models

97. The creation of two-tier workforces implies that aircrew may be servicing the same aircraft and conducting the same tasks, but one benefits from an older contract with better terms and conditions of employment, and the other may have different terms and conditions in a newer contract, or in a contract with a subsidiary. This has worsened terms and conditions, as employees with higher wages and benefits retire and are replaced by new employees with lower remuneration, which is then further compounded by people taking early retirement and voluntary severance. [179] The complexity of all these different employment arrangements often makes it difficult for workers to know who the actual employer is and to determine the rights and obligations arising from an employment relationship. The asymmetry of information may create a situation where individual workers may not know whether they are being hired through an intermediary and may be uncertain as to whether training or other costs will be paid for by the airline. [180]

Pay-to-fly schemes

98. Pilots need flight experience through line training before being permitted to fly as a captain. In pay-to-fly schemes, pilots have to pay the airlines instead of airlines paying them. [181] Responses to a European Union survey indicated that between 2.2 and 6.1 per cent of pilots had been involved in pay-to-fly schemes. However, other information provided by stakeholders suggests that this figure could be as high as 10 per cent. Remuneration is generally considered an essential part of an employment relationship and the question arises as to whether pilots on pay-to-fly schemes can be considered to be employees. [182] Some airlines may hire very inexperienced pilots,

[177] European Cockpit Association, *Manual on the Legal Principles of Industrial Relations in the European Union*, Position Paper, 7 September 2022.

[178] European Transport Workers' Federation, *Fair aviation for all: A discussion on some legal issues*, 2019.

[179] ITF, "Civil Aviation: Employer Responses to COVID-19 in the Aviation Industry".

[180] Geraint Harvey and Peter Turnbull, "Ricardo Flies Ryanair: Strategic Human Resource Management and Competitive Advantage in a Single European Aviation Market", *Human Resource Management Journal* 30, No. 4 (November 2020), 553–565.

[181] Delphine Defossez, "The Uberisation of Aircrew Through the Use of Bogus Self-Employment Contracts", *Air and Space Law* 46, No. 6 (2021), 665–686.

[182] DG Move and Ricardo.

with just 200 hours of experience, and are able to use their services for one to two years before the pilots accumulate enough flying hours to be able to seek employment elsewhere. [183] Pay-to-fly schemes may have negative impacts on the safety culture of operators, due to irregularities in reporting occurrences of fatigue or illness. [184]

Subcontracting of ground handling activities

99. Airlines have increasingly subcontracted ground handling activities to agencies or new subsidiaries. Independent ground and cargo handlers have around 60 per cent of the world handling market, compared to just 24 per cent in 2000. Employees of these agencies or subsidiaries typically have terms and conditions inferior to those formerly employed directly by the airlines. In the United States, wages for airport workers fell 19 per cent in real terms between 1991 and 2001. From 2001 to 2011, the number of workers in airports fell 19 per cent, while the number of passengers increased. In Germany, subcontracted ground handlers were paid 30 per cent less than those in equivalent in-house jobs. [185]

Workers' and trade union rights

100. In aviation, trade unions are typically craft unions. This fact, combined with prevalent company-level collective bargaining may produce tensions within the industry. It also opens up opportunities for legacy airlines to compete in the low-cost sector by establishing subsidiaries with lower labour costs. [186]Air transport is vulnerable to labour conflicts. Before deregulation, airfares were regulated and mostly based on actual costs. This meant that airlines could compensate increases in labour costs by raising fares and were therefore able to avoid strikes. [187]

Essential services

101. The ILO supervisory bodies have defined essential services as "services whose interruption would endanger the life, personal safety or health of the whole or part of the population". [188] However, a number of countries have interpreted "essential services" as having a broader scope, effectively restricting freedom of association and the right to strike in a number of aviation-related occupations. This has affected air crew and air traffic controllers (ATCOs) over the years, who have found themselves excluded from union membership.

▶ Box 6. Best practices for reporting – A "Just Culture"

Aviation, and in particular air traffic control, is a complex industry where workers are working as an integral part of the system, interacting in teams with systems and procedures. A "Just Culture" is one where aviation professionals, including pilots and ATCOs, are encouraged to report issues relevant to safety without undue fear of punishment.

Source: European Cockpit Association (ECA), *Two Air Traffic Controllers in Switzerland Convicted*, Press release, 17 December 2018.

[183] Harvey and Turnbull.

[184] Trimarchi, *International Aviation Labour Law*.

[185] ITF, *Record Profits for Airlines; Airport Workers under Pressure* (ITF Global, 2016).

[186] Michael Barry and Werner Nienhueser, "Coordinated Market Economy/Liberal Employment Relations: Low-Cost Competition in the German Aviation Industry", *The International Journal of Human Resource Management* 21, No. 2 (February 2010), 214–229.

[187] Wensveen.

[188] See "Right to Strike", para. 838, in ILO, "Compilation of decisions of the Committee on Freedom of Association".

3. Social protection

102. Short-term social protection benefits, such as medical care, cash sickness benefits, and maternity and unemployment benefits, are important as they provide a lifeline, as long as they can be accessed easily, being the only source of income support during periods of inability to work (or to find work), especially when workers are stranded in a country that is not their own. In practice, the country in which the employment contract is concluded may also differ from the country in which the employee has his or her ordinary residence or the country of the airline. As a consequence, in the absence of bilateral social security agreements between the country of the airline and the country of residence, employees may be subject to either several different legal regimes or find themselves in a legal vacuum and not be covered by the social protection systems of the country of residence, the country where the employment contract was concluded or the country of the airline.

103. Those working onboard aircraft have often encountered specific problems concerning their rights to healthcare, pensions and other forms of social protection. These may be linked to disparities due to gender, age, and geographic base or origin, as well as to different employment arrangements. The COVID-19 pandemic highlighted this issue, as migrant workers were often directly or indirectly excluded from COVID-19 social protection packages made available to national workers, such as basic healthcare and income security measures against sudden job and wage losses. [189] In the absence of clear rules governing the subject matter, there is a risk of privileging the legal frameworks that have the most advantageous hiring conditions and lax labour law provisions and social security rules. [190]

Home base rule and operational base

104. The contribution to social security becomes even more complicated if the home base of aviation workers and the operational base are located outside the territory of the licencing State. In order to solve this problem, certain regional integration organizations, such as the European Union, have established special rules applicable to aircrew, which derogate to those applicable to other migrant workers. Since 2012, the new social security rules for aircrew clarify that they are due to pay social security contributions and are eligible to receive benefits in the country where they start and end their shifts, in other words their “home base”, instead of in the country where the airline is based. The situation is, however, more complicated if the home base is located outside the European Union. In that case, the rules governing work in a different European Union State would apply and the legislation of the State where the airline is established would be applied by derogation to the home base rule, which implies that often they need to deal with the social security system of a country in which they are not in fact based.

105. It seems that legislation has not kept up with the rapidly changing civil aviation industry and its different contracting forms manifesting in elaborate social security and tax schemes. A parallel could be drawn here with the situation of seafarers, for which the MLC, 2006, has established the principle that the applicable social protection legislation is that of the country in which the seafarers have their ordinary residence. [191]

[189] Katharine Jones, Sanushka Mudaliar and Nicola Piper, *Locked Down and in Limbo: The Global Impact of COVID-19 on Migrant Worker Rights and Recruitment* (ILO, 2021).

[190] Trimarchi, *International Aviation Labour Law*.

[191] MLC, 2006, Standard A4.5, paragraph 3.

Sick leave and absences

106. Workers in occupations in the services sector may be prone to exposure during the spread of contagious diseases, such as the flu or COVID-19. Worker access to paid sick leave and healthcare reduces "presenteeism", that is, workers going to work despite being unwell. This can contribute to the spread of disease, as well as increase the risk of injury at work. [192] Furthermore, aircrew cannot work in a pressurized cabin environment while suffering from colds or other ear, nose and throat ailments. Any affliction that could impair their physical ability to deal with an in-flight emergency, such as opening heavy emergency exits, also suspends cabin crew licencing privileges. Pilots are subject to more rigorous medical testing to maintain their licences.

4. Social dialogue

107. Social dialogue at the workplace, enterprise, national, regional and international levels should be encouraged in order to contribute to the development of a resilient aviation industry. Changes in the aviation industry, where necessary – stability, restructuring, security and safety – need to be discussed through meaningful, transparent, results-oriented and productive social dialogue, reflecting existing and anticipated conditions. [193] In the past, social dialogue has helped to find innovative and socially responsible solutions to crises. [194] For example, in 2000 the European Union established a social dialogue committee for civil aviation. Social dialogue in the sector covers activities involving passenger and freight air transport (both scheduled and non-scheduled) and civil aviation (aircrew, ground handling, air traffic management). [195] But different circumstances may require different approaches.

108. In 2013, the Global Dialogue Forum on the Effects of the Global Economic Crisis on the Civil Aviation Industry agreed that "Social dialogue is an essential element to improve sustainability, and decent and productive work in civil aviation and may contribute to greater industrial harmony and therefore to stability in the industry. In some countries, social dialogue in civil aviation has been linked to better economic results. Restructuring is common in the industry and is more successful when conducted through social dialogue. Some countries, often with the encouragement of the government, have a long tradition of social dialogue in civil aviation, while in some other countries there is an absence of the basic rights at work as stipulated in the ILO Declaration on Fundamental Principles and Rights at Work and its Follow-up and therefore social dialogue is non-existent. In other countries, social dialogue needs to improve, creating benefits for all stakeholders." [196] It has previously been recommended that tripartite aviation consultation forums should be established or strengthened at national and regional levels to ensure the involvement of the social partners in the development of national aviation policy. [197]

[192] Dietz, Hall and Jacobs.

[193] ILO, Final Report, *Tripartite Meeting on Civil Aviation: Social and Safety Consequences of the Crisis Subsequent to 11 September 2001*, TMICA/2002/11, 2002, Appendix, para. 23.

[194] ILO, *Final Report*, Appendix, para. 33.

[195] European Commission, "Sectoral Social Dialogue – Civil Aviation"; Seligson.

[196] ILO, *Points of Consensus*, GDFCAI/2013/8 (2013).

[197] ILO, *Final Report*, Appendix, para. 35.

▶ Box 7. Best practice on engagement and collective bargaining

The International Airlines Group (IAG) employs around 55,000 workers across its portfolio of airlines and platform businesses. The majority of its staff directly support customers – cabin crews and pilots make up 46 per cent of the workforce, and airport and maintenance teams represent a further 35 per cent.

Each company in the IAG has its own communication channels adapted to its culture and profile. Communication with employees can be through the use of both formal and informal channels, which include performance reviews, specific consultations, employee forums, internal social networks, local cascade meetings, newsletters, workshops, engagement surveys and confidential and independent Speak Up channels. Collective bargaining arrangements are in place for 89 per cent of the IAG's workforce. The IAG has a European Works Council, which brings together representatives from the different European Economic Area countries in which the Group operates. Its representatives are informed about and, where appropriate, consulted on transnational matters which may impact employees in two or more of these countries.

Source: IAG, *Connecting People, Businesses and Countries: Annual Report and Accounts 2021* (2021).

Actors and dialogue at the international level

109. In terms of international organizations, the Civil Aviation Section of the International Transport Workers' Federation (ITF) and the International Federation of Air Line Pilots' Associations (IFALPA) Professional and Government Affairs Committee were the first two international bodies to organize workers' federations and associations. Later came IFATCA, representing ATCOs and the International Federation of Air Traffic Safety Electronics Associations, representing air traffic safety electronics personnel. On the operators' side, reference should be made to the IATA grouping airlines. Airports Council International is an international body representing airport operations, with direct involvement in international political activities. [198] Founded in 1996, the Civil Air Navigation Services Organization (CANSO) is the global voice of the companies that provide air traffic control. As mentioned in paragraph 28, the Airport Services Association represents ground handling interests.

Negotiating procedures at the national level

110. In most countries, a pattern of negotiating procedures has developed whereby terms and conditions of employment are mainly determined by collective bargaining, supplemented, in some cases, by laws and regulations. [199]Yet, as occurred for example during the COVID-19 pandemic, while in some cases changes were negotiated through collective bargaining structures, in other cases some airlines bypassed collective agreements, imposing major restructuring efforts. [200]

Dialogue by sub-sector

111. The social partners also discuss issues in specific sub-sectors. In 2018, the social partners welcomed the inclusion of ground handling into the remit of the European Union Aviation Safety Agency and emphasized the need for a level playing field. [201] In air traffic management, the social

[198] ICAO, "The Postal History of ICAO: ACI – Airports Council International".

[199] ILO, *Report I – Review of Conditions of Employment in Civil Aviation*.

[200] ITF, "Civil Aviation: Employer Responses to COVID-19 in the Aviation Industry".

[201] ACI Europe and ASA, "Statement from Europe's Airports and Ground Handlers on Current Operational Disruptions & Staffing Challenges", Press release, 6 May 2022; and Airports Council International, Airport Services Association and European Transport Workers' Federation, "Conclusions of the Joint Ground Handling Social Partners' Project" (European Commission, 28 April 2017).

partners developed a toolbox to support and facilitate social dialogue at the local level and in different regulatory environments. [202]

Company agreements

112. Many companies have signed transnational company agreements, usually with a global union federation. There are currently three such agreements: Air France-KLM, British Airways and Czech Airlines. [203]

5. Focus: A safe and healthy working environment

113. Occupational safety and health measures seek to ensure that all workers enjoy safe and healthy working conditions and to preserve human resources. The ILO has recently upgraded a safe and healthy working environment to a fundamental principle and right at work. It aims to create worldwide awareness of the dimensions and consequences of work-related accidents, injuries and diseases, to place the health and safety of all workers on the international agenda, and to stimulate and support practical action at all levels.

114. The ILO has adopted a number of Conventions, Recommendations and Protocols on occupational safety and health that are relevant for the civil aviation sector. They apply to all branches of economic activity, including transport, and stipulate the formulation, implementation and periodic review of national occupational safety and health policies aimed at the prevention of occupational accidents. The last time the ILO examined the particular issues related to occupational safety and health in the civil aviation sector was in 1977, with the adoption of the Conclusions (No. 1) concerning occupational health and safety in civil aviation.

115. Aviation is a highly regulated industry, and assuring the safety of the plane, aircrew and passengers is of the utmost importance. Numerous aviation medical resources have studied and provided updated information and references on aviation-related medical concerns, including fatigue, radiation, cabin air quality, vibration, thermal stress, and other safety concerns. [204]

116. Flying is the safest way to travel: in 2019 there were 13 accidents involving loss of life, and in total 268 casualties (figure 7). Half a century ago, in 1972, when there were far fewer flights, 2,365 passengers lost their lives in aeroplane accidents. [205] Furthermore, runway or taxiway excursion accidents have become rare, and for the first time in at least 15 years there were no such accidents in 2021. [206] The total accident rate (accidents per million departures) fell to 1.93 in 2021 from 2.14 in 2020 and 2.94 in 2019. [207]

[202] Air Traffic Controllers European Unions Coordination (ATCEUC), CANSO and European Transport Workers' Federation, *Change Management in the ATM Industry: Principles and Process*, 2018.

[203] ILO and European Commission, "Database on transnational company agreements".

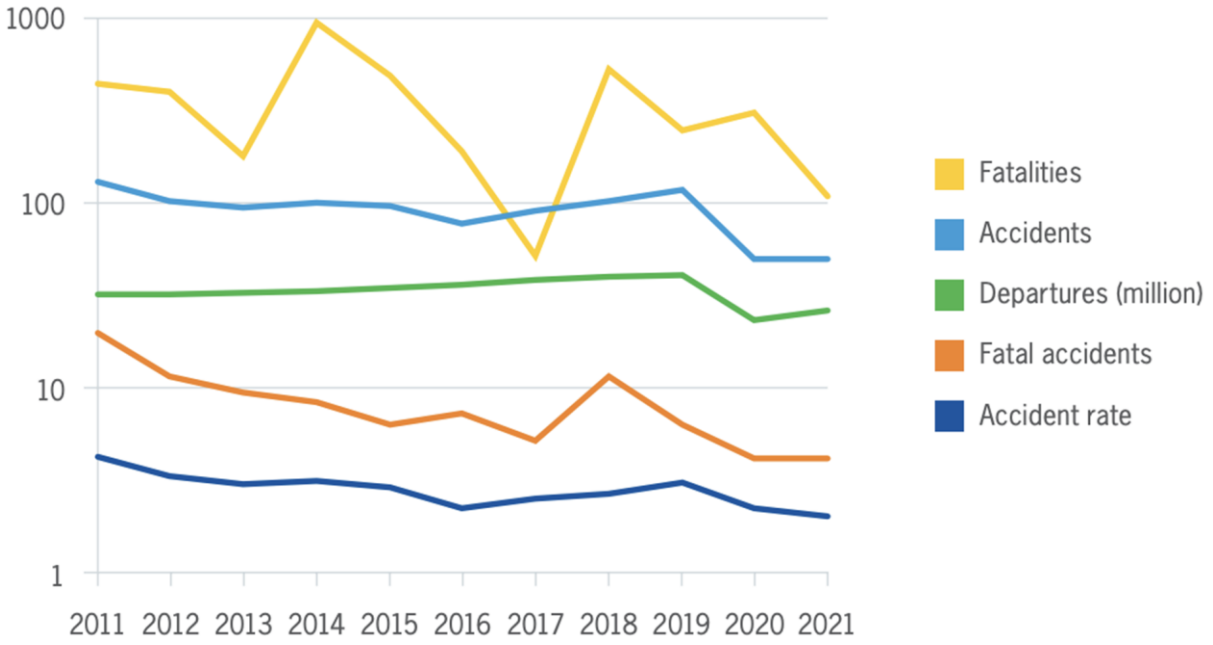
[204] See, for example, Jeffrey Davis et al., *Fundamentals of Aerospace Medicine*, Fifth ed. (Wolters Kluwer, 2021); and David Gradwell and David Rainford (eds), *Ernsting's Aviation and Space Medicine*, Fifth ed. (London, CRC Press, 2016).

[205] Paul Cullen, *Occupational Safety & Health in Civil Aviation: OSH Concerns, Preventive Measures and the Organisation of OSH* (ILO Archives, 2021).

[206] IATA, *Annual Review 2022.*

[207] ICAO, *Safety Report: 2022 edition*, 2022.

▶ **Figure 7: Historical trends for scheduled commercial operations**



Source: ICAO, *Safety Report: 2022 edition*.

117. Safety in air transport requires the health and safety of those working to get the plane flying. However, work in civil aviation is often hazardous. In the United States, the incidence rate [208] for workers in scheduled air transportation in 2020 was 4.5, higher than in manufacturing or construction. [209]

118. Aviation regulation has had a wide focus, including technical aspects impacting aviation personnel and ATCOs. While physical health and the protection of workers against injuries and accidents have been at the forefront, lately more attention has been paid to workers' mental health [210] and to addressing psychosocial hazards. [211] Mental health has been part of medical assessments and there has recently been a greater focus on health promotion, including healthy lifestyles. [212] This might include peer support programmes and employee assistance programmes, which have also been in place for a number of years.

119. Technological innovations and automation have spurred a discussion about whether single pilot operations would be feasible. The 41st Session of the ICAO Assembly discussed this matter in September–October 2022 and referred the matter back to the ICAO Council, emphasizing that

[208] The incidence rates represent the number of injuries and illnesses per 100 full-time workers and were calculated as: (N/EH) x 200,000, where N = number of injuries and illnesses.

[209] United States Bureau of Labor Statistics, "Survey of Occupational Injuries and Illnesses Data", 2022.

[210] Joan Cahill, *Occupational Safety & Health in Civil Aviation: Understanding the Problem: Space, Trends Pre & Post COVID-19 Pandemic & Solutions* (ILO Archives, 2021).

[211] Psychosocial factors (hazards) were defined by the ILO and the WHO in 1984 as the "interactions between and among work environment, job content, organisational conditions and workers' capacities, needs, culture, personal extra-job considerations that may, through perceptions and experience, influence health, work performance and job satisfaction", in ILO, *Psychosocial Factors at Work: Recognition and Control, Report of the Joint ILO/WHO Committee on Occupational Health*, Occupational Safety and Health Series No. 56 (1986).

[212] ICAO has a Medical Provisions Study Group and a Mental Health Working Group that address mental health issues.

extended minimum crew operations, including single pilot operations, should achieve at least an equivalent level of safety compared to current operations. [213]

Fatigue

120. There are three types of fatigue: transient, cumulative and circadian. Transient fatigue is caused by extreme sleep restriction; cumulative fatigue is brought on by repeated milder sleep restrictions over a series of days; and circadian fatigue refers to reduced performance during night hours. [214] Long and odd hours, lack of rest and physical work can contribute to fatigue. Excessive travel time from the airport to the hotel – sometimes four hours – greatly reduces the time cabin crew has to rest and sleep between flights. Among air traffic service workers, mental work was mentioned as the most significant cause of fatigue. [215]

121. Fatigue management refers to the methods by which aviation service providers and operational personnel address the safety implications of fatigue. ICAO has a number of publications and works to provide States and industry with provisions that will help them to better manage fatigue-related risks (Doc. 9966). [216] Civil aviation authorities require airlines to put in place a fatigue risk management system, yet generally neither ICAO nor authorities establish the necessary grievance mechanisms. [217] It is difficult to effectively monitor and enforce regulations on flight time limits as many pilots have additional activities and changes in home bases. This means that it is not always clear which is the competent authority, [218] and furthermore there is no global monitoring of pilots' flying hours. [219]

122. A major premise behind the risk management approach is the "just reporting culture", whereby aircrew are encouraged to report any safety issues, including those related to fatigue. Yet, the practical application of this premise in some cases leads to retaliation. The combination of "just/positive safety culture" and non-punitive reporting systems constitutes a solid foundation for the constructs of a properly constituted safety management system. This is highlighted by Annex 19 of the ICAO Chicago Convention, which establishes the principle of positive safety culture. Fatigue risk management systems differ from prescriptive limits: they focus on managing the actual risk, whereas prescriptive limits address fatigue risk in general. [220] Sound rostering practices and collective labour agreements can also be important tools in mitigating the risk of fatigue. [221]

Fatigue and stress: The special case of ATCOs

123. The work of ATCOs requires constant vigilance. A break is necessary for every two hours of continuous work. A break should be long enough to recover energy, in particular during night

[213] ICAO, *Report of the Technical Commission on Agenda Item 31*, ICAO Assembly, 41st Session.

[214] Cullen, *Occupational Safety & Health in Civil Aviation*.

[215] ITF, *Stressed and Fatigued on the Ground and in the Sky* (ITF Global, 2009).

[216] See ICAO, "Fatigue Management Guidance Material: Resources".

[217] Different stakeholders have different roles and responsibilities, according to their mandates.

[218] Jorens et al.

[219] OECD-ITF, *Liberalisation of Air Transport*.

[220] CANSO, ICAO and IFATCA, *Fatigue Management Guide for Air Traffic Service Providers*, First ed. (2016).

[221] Cullen, *Flight Times, Duty Times and Rest Periods in the Aviation Sector*.

hours. A short sleep has been recommended during a break. Research suggests that after night shifts rest periods should be more extended and more frequent. [222]

124. In addition, ATCOs are generally considered to be one of the working groups that has to deal with a highly demanding job with many sources of stress. It entails a complex set of tasks requiring very high levels of knowledge and expertise, as well as the practical application of specific skills pertaining to cognitive domains (for example, spatial perception, information processing, logic reasoning, decision-making), communication and human relations. [223] In 1979, the ILO convened a meeting of experts that adopted Conclusions related to the problems concerning air traffic controllers: identification and possible solutions (Appendix III).

Radiation

125. Exposure to ionizing occupational radiation affects over 24 million workers globally. [224] In June 1960, the International Labour Conference adopted the Radiation Protection Convention (No. 115) and Recommendation (No. 114), 1960. The Convention applies to all activities involving exposure of workers to ionizing radiations in the course of their work and provides that each Member of the ILO which ratifies it shall give effect to its provisions by means of laws or regulations, codes of practice or other appropriate means. It is the only international legal instrument that addresses the protection of workers against radiation. The Convention has been ratified by 50 countries.

126. Flight personnel are exposed to ionizing radiation. Radiation increases the risk of cancer and other adverse health effects, and pregnant women are particularly vulnerable to radiation. Exposure depends on time in the air, latitude, altitude and solar activity, and is much higher during the summer than during the winter. [225] In the United States, flight personnel can use web-based applications to calculate the dose of cosmic radiation that they are exposed to. [226] An alert system has been developed to reduce the risk of exposure following a severe solar disturbance. [227]

127. IFALPA has demanded that flight personnel should be recognized as "Category A occupationally exposed workers". In some countries, radiation hazard pay may be of up to 20 per cent the amount of the salary. IFALPA suggests that new recruits should be informed about radiation exposure and emphasizes that aircrew should be made aware of the hazards of radiation through educational programmes and that planes should be equipped with dose measuring devices. [228]

Noise and cabin fumes

128. Cockpits can at times be very noisy and IFALPA has called for international standards for the maximum acceptable level of noise and for measures to mitigate its effects. [229] Air contamination

[222] Michela Terenzi, Orlando Ricciardi, and Francesco Di Nocera, "Rostering in Air Traffic Control: A Narrative Review", *International Journal of Environmental Research and Public Health* 19, No. 8 (12 April 2022) 4625.

[223] Giovanna Costa, *Occupational Stress and Stress Prevention in Air Traffic Control*, Working paper CONDI/T/WP.6/1995 (ILO, 1996).

[224] ILO, "Exposure to Ionizing Occupational Radiation Affects Over 24 Million Workers Globally", Third International Conference on Occupational Radiation Protection, Press release, 5 September 2022.

[225] Uwe Oeh, *Occupational Radiation Exposure in Germany: A Report of the German National Dose Register (SSR)*, Third International Conference on Occupational Radiation Protection (Geneva, 5–9 September 2022).

[226] US Department of Transportation Federal Aviation Administration, *Advisory Circular: In-Flight Radiation Exposure* (21 November 2014).

[227] Wallace Friedberg and Kyle Copeland, *What Aircrews Should Know About Their Occupational Exposure to Ionizing Radiation* (US Department of Transportation Federal Aviation Administration, Office of Aerospace Medicine, 2003).

[228] IFALPA, "Protection from Ionizing Radiation", Position paper, 31 January 2018.

[229] IFALPA, "Cockpit Noise Level", Position paper, 16 February 2017.

of so-called bleed air in the plane can compromise flight safety and a need to fit planes with air contamination warning systems has been identified. [230]

Work on the ground

129. In 2007, it was estimated that 27,000 ramp accidents and incidents occurred every year, injuring 243,000 people and costing airlines at least $10 billion annually. [231] Common accidents for tarmac workers include tarmac vehicle collisions, forklift accidents, ramp workers and wing walkers being injured by aircraft pushback, baggage cart accidents and workers being injured by moving vehicles. [232] Electrification at airports introduced a new kind of risk. [233] Workers at airports are also exposed to ultrafine particles emitted by aeroplanes and diesel-powered handling equipment. [234]

130. Ground handling is largely unregulated, and workers may be exposed to these hazards with only minimum training [235] and find themselves unable to access social protection. The ICAO High-Level Conference on COVID-19 issued a call to strengthen the regulation of ground handling on a global basis. [236]

131. Physical damage to the aircraft can happen by accidental ramp and tunnel "bumps" to the hull when loading and unloading passengers and cargo. These incidents go largely unreported as workers may fear retaliation and the physical damage to the hull only becomes visible after some time has elapsed. Yet, this has a significant impact on safety and generally results in costly repairs to airlines and lessors. In this particular situation, there are currently no internationally established reporting procedures protecting workers and liability limits applicable to ground handling service providers. [237]

132. The increasing outsourcing of aircraft maintenance has raised concerns whether the work quality can uphold safety standards. The Transport Workers Union of America has reported incorrectly installed doors, aircraft covered with flammable paint and drug smuggling aboard the aircraft after maintenance. [238] The United States Department of Transportation Federal Aviation Administration (FAA) requires at least annual inspection of foreign repair stations. [239]

133. The COVID-19 pandemic highlighted the importance of measures taken at airports to deal with travellers' health-related issues. The ITF has proposed global health and safety standards and strategies and a tripartite airport-wide health and safety regime, with tripartite committees ensuring that health and safety standards are understood, monitored and enforced. [240]

[230] IFALPA, "Cabin Fumes", Position paper, 5 December 2018; and Cahill.

[231] Mark Lacagnina, "Defusing the Ramp: Progress Report on FSF Efforts to Stem the Toll of Ground Accidents", *AeroSafety World* (Flight Safety Foundation, 2007).

[232] Katz et al., "Working on an Airport Tarmac Can Be Fatal", *Chicago Injury Attorneys Blog*, 13 May 2015.

[233] ITF, "A Zero-Carbon Future for the Aviation Sector" (ITF Global, 2022).

[234] ITF, "Campaigning Against Air Pollution in Airports Fact Sheet" (ITF Global, 2016).

[235] Cullen, *Occupational Safety & Health in Civil Aviation*.

[236] ICAO, "Ground Handling as a Key Component of the Long-Term Resilience and Sustainability of the Aviation System", High-Level Conference on COVID-19, HLCC 2021-WP/90; and ICAO, "Draft Report of the Safety Stream on Agenda Item 3 (Sub-Items 3.1, 3.2, 3.3)", HLCC 2021-WP/243.

[237] Mario Pierobon, "The Need For Comprehensive Safety Risk Management", AviationPros, 20 February 2014.

[238] Transport Workers Union of America, "Foreign Aircraft Maintenance Fact Sheet" (undated).

[239] Bart Elias and Rachel Y. Tang, *Federal Civil Aviation Programs: In Brief* (Congressional Research Service, 2018).

[240] ITF, "ITF Aviation Demands Action to Address the Impact of COVID-19".

Psychosocial risks

134. Several conditions can contribute to increased psychosocial risk: excessive workloads, conflicting demands, lack of influence over the way the job is done, job insecurity, poorly managed organizational change, ineffective communication and lack of support from management or from colleagues. [241]

135. IFALPA has established Pilot Assistance Programs to promote the health, well-being and professional performance of pilots. It provides trained peer support for pilots and is carried out in strict confidentiality. [242] Since February 2021, peer support programmes for pilots have been mandatory in the European Union. [243] In the United States, the Association of Flight Attendants-CWA provides peer support through its Employee Assistance Program. In Europe, the European Organisation for the Safety of Air Navigation (EUROCONTROL) provides peer support for ATCOs that includes Critical Incident Stress Management. [244]

136. It is important to note that COVID-19 did not just cause physical symptoms, but also caused considerable damage to the mental health of the general population, with aviation workers being particularly exposed to the psychological distress of the pandemic. [245]

Enhanced security measures

137. Security measures at the airports and on the planes have considerably been strengthened over the years, in particular after the 9/11 attacks. At the airports several measures were developed over time and they include, but are not limited to, employee security screenings, passenger and baggage screening and security at the airport and its perimeter. To mitigate specific security risks, some preventive security measures were successively implemented which have added to the operational duty time of the flight crew, or forced new teamwork arrangements, as there is a compulsory locking of the cockpit door. [246] All these measures, taken to ensure the security of passengers, employees and crew, are always taking into consideration the possible operational impacts.

Violence and harassment: Unruly passengers

138. The Protocol to Amend the Convention on Offences and Certain Other Acts Committed on Board Aircraft (Montréal Protocol, 2014) was adopted to strengthen the capacity of States to curb the escalation of the severity and frequency of incidents of unruly and disruptive behaviour occurring on board aircraft. The Protocol, which gives countries additional legal tools to deal with unruly passengers [247] entered into force in 2020, and, as of February 2023, has 41 States parties. [248] ICAO Manual on the Legal Aspects of Unruly and Disruptive Passengers (Doc 10117) provides guidance, including model legislation, to assist States in implementing the appropriate legal measures to prevent and deal with unruly and disruptive passenger incidents. The ITF considers cabin crew as

[241] Cullen, *Occupational Safety & Health in Civil Aviation*.

[242] IFALPA, "Mental Health Requirements for Active Pilots", Position paper, 5 August 2015.

[243] IFALPA, *Pilot Assistance Manual*, Second ed., 2022.

[244] Cahill.

[245] Cullen, *Occupational Safety & Health in Civil Aviation*.

[246] Cahill.

[247] IATA, *Annual Review 2016*.

[248] ICAO, Protocol to amend the Convention on offences and certain other acts committed on board aircraft done at Montréal on 4 April 2014.

safety professionals and emphasizes the need for safety training for the cabin crew. [249] Unruly passengers may also pose a safety concern for non in-flight operations, including ground personnel such as check-in and boarding staff.

139. Sexual harassment constitutes a concern for aircrew. In some cases, passengers may behave inappropriately, and the most common complaints from cabin crew relate to "physical contact and inappropriate advances." [250]

Occupational safety and health issues during the COVID-19 pandemic

140. Workers in the aviation industry faced major operational risks related to the pandemic. Occupational safety and health risks included excessive quarantining, mental health risks, virus exposure, and increased third party violence as a result of disruptive passengers. ICAO developed information on risks and mitigation measures, included in the ICAO Manual on COVID-19 Cross-border Risk Management (ICAO Doc 10152). In some cases, these risks were mitigated by:

- wearing masks and physical distancing;
- exit and entry screening/temperature checks;
- testing processes before flights and at airports;
- tracking of passengers post flight;
- installation of protective screens for airport check-in staff, providing protection to the staff member from the respiratory droplets of passengers, and vice versa;
- cleaning and disinfection in accordance with established guidance. [251]

Healthy worker effect

141. The requirement for more regular licencing and medical assessments of aviation personnel may contribute to the "healthy worker effect". [252] Aviation personnel should also take responsibility for their own health, which is considered a responsibility of both employers and workers, as it could have a safety impact on operations.

Roles and responsibilities

142. The sovereignty of States and their national health and safety regulations play an important role. There should be a clear demarcation between individual, collective and sectoral health and safety standards, policies and requirements, and the corresponding levels of responsibility. The aviation medical examination addresses some aspects of health and safety, yet cannot address responsibility at all levels.

Improving the health and safety culture

143. Occupational safety and health issues in aviation are complex and require a multidisciplinary approach, integrating the perspectives of medicine (with specific attention to aviation medicine

[249] ITF, "Unruly Passengers".

[250] Natasha Wynarczyk, "'It Was Really Disgusting': What Sexual Harassment Looks Like at 30,000 Feet", *ITF Aviation Blog,* 6 June 2016.

[251] Cahill.

[252] For example, pilots may usually exhibit lower overall death rates than the general population because the severely ill and chronically disabled are usually excluded from employment. IFALPA, "Aircrews and Ionizing Radiation", Briefing Leaflet, 2019.

and occupational medicine), public health, psychology, human factors, technology and law. Occupational safety and health needs to be embedded into organizational processes in aviation, [253] with clear roles and responsibilities.

144. In 2013, the Global Dialogue Forum on the Effects of the Global Economic Crisis on the Civil Aviation Industry agreed that "[r]isks/hazards should be identified, controlled and reported within jointly established occupational safety and health management systems that are developed in the context of 'just culture'." It was decided that "[t]he ILO should promote within the ICAO, and other safety regulators, a 'human factors approach' in the security domain, which maximizes the quality of human resources, in terms of elements that impact on the performance of security and safety functions." [254]

145. Annex 19 of the Chicago Convention deals specifically with aviation safety management. A Manual on Human Performance (HP) for Regulators (ICAO Doc 10151) was published in 2021. The ICAO's Integrated Risk Management Strategy and the development of related guidance material is currently under way.

[253] Cahill.

[254] ILO, *Points of Consensus*.

▶ Appendix I

Agreement between the International Labour Organization and the International Civil Aviation Organization

The International Labour Organization (ILO), represented by the International Labour Office, and the International Civil Aviation Organization (ICAO) (the "Parties"),

Cognizant that the best way to bring value to their respective constituencies is by maximizing their complementarities to ensure policy coherence, and Deliver as One the 2030 Agenda for Sustainable Development;

Taking into account that both organizations are United Nations specialized agencies responsible for developing and adopting international standards and regulations within their own mandates;

Recalling the 1953 Memorandum of Understanding between the Director-General of the International Labour Organization and the President of the Council of the International Civil Aviation Organization, concerning, inter alia, representation and participation in working groups and meetings, consultations and the provision of technical advice and guidance;

Having regard that the ILO Declaration on Social Justice for a Fair Globalization, 2008, recognizes that other international and regional organizations can have an important contribution, within their respective mandates, to the implementation of the integrated approach to Decent Work for all women and men based on the four ILO strategic objectives relating to employment, social protection, social dialogue and fundamental principles and rights at work, with gender equality and non-discrimination, as cross-cutting issues;

Highlighting that the ILO Centenary Declaration for the Future of Work, 2019, emphasizes that the ILO must take an important role in the multilateral system, by reinforcing its cooperation and developing institutional arrangements with other organizations to promote policy coherence in pursuit of its human-centred approach to the future of work;

Mindful of the ILO's convening power, tripartite legitimacy and long-standing experience in discussing, and identifying means to address, socio-economic issues in the sector of civil aviation, and that its Members have provided a mandate to its Director-General to further cooperate with the ICAO;

Having regard that the ICAO has established five comprehensive Strategic Objectives in view of the clear need to anticipate and manage the projected doubling of global air transport capacity by 2030 without unnecessary adverse impacts on system safety, efficiency, convenience or environmental performance;

Having regard to ICAO Assembly Resolution A40-21: *Aviation's contribution towards the United Nations 2030 Agenda for Sustainable Development*, in particular its resolving clause 9 that "requests the Secretary General to enhance existing and establish new partnerships with … the United Nations system, international and regional organizations … and other actors to assist Member States in enhancing their air transport systems" with a view to contributing, consequently, to the attainment of the Sustainable Development Goals;

Having regard to ICAO Assembly Resolution A39-30: Gender *Equality Programme promoting the participation of women in the global aviation sector*, in particular its resolving clause 2 that "urges States, regional and international aviation organizations and the international aviation industry to demonstrate

strong, determined leadership and commitment to advance women's rights and take the necessary measures to strengthen gender equality" including within the global aviation sector;

Having regard that the ICAO's Programme on Aviation Data and Analysis included, in its Business Plan 2020–2022, calls for the delivery and promotion of results of economic analyses on emerging issues of global importance and various aspects of air transport in cooperation with other international organizations, including the ILO;

Acknowledging that aviation safety remains of paramount importance in the operation and development of international air transport and should at no time be compromised by commercial considerations;

Recognizing that in principle, in relation to the terms and conditions of employment of aviation personnel, the ICAO deals with issues affecting the safety, efficiency and reliability of civil aviation, and the ILO with social issues, but the practical application of this principle calls for the strengthening of the cooperation between the Parties, including through consultations and exchange of information and views on matters of common concern and interest;

Now therefore, the Parties being desirous of cooperating with each other within the framework of their respective mandates, have agreed as follows:

Article 1

Purpose

1.1. The Parties agree to formalize closer collaboration in particular on areas of common concern and interest set out in article 2 in fulfilling their respective mandates covering:

1.1.1. For the ILO: the Decent Work Agenda which comprises four inseparable, interrelated and mutually supportive strategic objectives: employment, social protection, social dialogue, and fundamental principles and rights at work, with gender equality and non-discrimination, as cross-cutting issues, and

1.1.2. For ICAO: five Strategic Objectives, which comprise: safety, air navigation capacity and efficiency, security and facilitation, economic development of air transport and environmental protection.

1.2. The Parties will agree in writing and in accordance with their respective mandate, rules and regulations the conditions under which they will carry out specific activities in the areas of common concern and interest.

1.3. The Parties will review past activities and coordinate future activities and collaboration, as appropriate, in particular with a view to update, if necessary, the content of article 2.1 and for the purpose of considering the renewal of the agreement pursuant to article 6.2.

Article 2

Areas of common concern and interest and means of cooperation

2.1. Areas of common concern and interest will include, but will not be limited to:

— women and aviation;

— future of decent and sustainable work in aviation;

— data collection;

The Parties may update in writing the areas of common concern and interest pursuant to article 1.3.

2.2. Subject to article 1.2, the modalities of such cooperation activities include, but are not restricted to, joint research, joint technical meetings, joint technical advisory services, joint training, and collaboration on the development of appropriate guidelines, tools and methodologies, as each Party within the scope of its respective mandate deems appropriate.

2.3. The Parties will consult with each other on a regular basis in order to exchange views on matters of common concern and interest. The date and form of such joint consultations will be agreed between the Parties.

Article 3

Exchange of information and mutual representation

3.1. The Parties will exchange reports and other published documents, in which a specific concern or interest has been expressed.

3.2. Each Party will invite representatives of the other to participate in its meetings, in accordance with their respective applicable rules.

3.3. This exchange of information and mutual participation may include areas other than those falling under the scope of article 2.1.

Article 4

Liaison and costs

4.1. For matters related to the working of this agreement, the designated liaison will be:

4.1.1. For the ILO: the Multilateral Cooperation Department (MULTILATERALS)

Tel: +41 22 799 7370

Fax: +41 22 799 8044

4 route des Morillons

CH-1211 Genève 22

Switzerland

email: multilaterals@ilo.org;

4.1.2. For ICAO: Strategic Planning, Coordination and Partnerships Office (SPCP)

Tel: +1 514-954-8219

Fax: +1 514-954-6077

999 Robert-Bourassa Boulevard,

Montréal, Québec H3C 5H7

Canada

email: icaohq@icao.int

4.2. In order to achieve effective cooperation, each Party will designate and communicate to the other Party details concerning the contact point, or changes of the contact point, entrusted with the overall coordination relating to the agreement.

4.3. Except as may be otherwise agreed in writing, each Party will bear its own costs arising out of the implementation of this agreement.

Article 5

Intellectual property and use of name, media or emblem

5.1. This agreement does not grant the right to use materials belonging to or created by either Party. Each Party will retain intellectual property rights over all materials developed and produced by itself, its staff or consultants, for activities within the framework of this agreement.

5.2. The Parties will agree, in writing, on the ownership of any intellectual property rights that may arise out of the specific activities that may be undertaken in accordance with articles 1 and 2, above.

5.3. The emblem of either Party may only be used by the other Party in connection with the activities that may be undertaken in accordance with article 1.2 consistent with the rules and regulations and with the prior written approval of the first Party.

5.4. Neither Party has the authority, express or implied, to make any public statement on behalf of the other Party. The Parties will consult with each other in relation to any action concerning the promotion and the visibility of this agreement that each Party may decide upon, including the issuance of press releases.

Article 6

Effective date and duration

6.1. The Parties' undertakings pursuant to this agreement will commence on the date of last signature, by the duly authorized representatives of the Parties following approval by their respective competent bodies, as may be required.

6.2. This agreement will remain in effect for five years. The Parties may renew this agreement for up to an additional five years through an exchange of letters prior to the end of its original five-year term.

6.3. Once in effect, the Parties may make this agreement publicly available, subject to their own regulations, policies, practices and procedures relating to information.

6.4. The Parties agree to work in a spirit of cooperation in furtherance of the objectives of this agreement, though the Parties understand and agree that it is not intended to constitute, nor does it create a partnership, joint venture, or any other organization or entity, and nothing in this agreement will constitute or be construed as granting either Party the right or authorization to act as agent for the other for any purpose, or to otherwise make commitments of any kind for or on behalf of the other.

Article 7

Amendments

This agreement may be modified or amended only by written agreement between the Parties, in accordance with their respective rules and regulations. Upon signature, such amendments will have immediate effect, unless otherwise indicated by the Parties.

Article 8

Termination

8.1. The Parties will have the right to terminate this agreement with six months' written notice to the other Party to this effect.

8.2. Upon receipt of a notice of termination, the Parties will take steps to terminate their joint activities and consultations in a prompt and orderly manner so as to minimize any losses and further commitments.

8.3. Any issues arising out of the termination of this agreement, including the right to and transfer of any materials and products in progress, will be negotiated and agreed upon in writing.

Article 9

Settlement of disputes

9.1. The terms of this agreement will be interpreted and applied without application of any system of national or subnational law.

9.2. The Parties will resolve any disagreement regarding the interpretation or application of this agreement through consultation. Any disagreements that cannot be resolved this way will be referred to the chief executives of the ILO and the ICAO, together, for a final decision. If any such disagreement cannot be resolved within 90 days, the Parties may terminate this agreement either by mutual consent or individually in accordance with article 8 above.

9.3. The remedies provided in this article are the sole and exclusive legal remedies of the Parties for disputes concerning the interpretation, application, or termination of this agreement, which disputes are not referable by either Party to any tribunal or third party for adjudication or settlement.

Article 10

Privileges and immunities

10.1. Nothing contained in or relating to the present agreement constitutes a waiver, express or implied, of any of the privileges and immunities of either of the Parties.

10.2. In no event will a Party be liable to the other for any direct, indirect, incidental, special, or consequential damages of any kind whatsoever whether or not foreseeable, resulting from, or arising in connection with the activities that are the subject of this agreement.

* * *

In witness whereof, the undersigned being duly authorized representatives of the ILO and of the ICAO, respectively, have signed, this ..... day of ....., in two originals, each in the English language.

For the International Labour Organization	For the International Civil Aviation Organization
Guy Ryder Director-General, International Labour Office	Salvatore Sciacchitano President, ICAO Council
Date Place	Date Place

▶ Appendix II

International Labour Organization

Committee on Freedom of Association Recommendations and Committee of Experts on the Application of Conventions and Recommendations observations
Case compilation for the civil aviation sector (1980–2022)

Committee on Freedom of Association Recommendations (by complaint date)

Note: allegations are shown when available in NORMLEX.
Source: NORMLEX.

Case No. 3398 (Netherlands) – Complaint date 22-DEC-2020 (closed)

Trade Union Federation for Professionals (VCP), Dutch Airline Pilots Association (VNV) and Dutch Society of Aviation Technicians (NVLT)

The complainant organizations allege that the Government interfered with the collective bargaining process between a national airline and workers' organizations by obliging the parties to modify freely concluded collective agreements and agree to coerced employment conditions for an extensive period of time.

Case No. 3316 (Colombia) – Complaint date 02-APR-2018 (follow-up)

Single Confederation of Workers of Colombia (CUT) and the Colombian Association of Civil Aviators (ACDAC)

The complainant organizations allege violations of the right to collective bargaining in Avianca S.A. through the use of collective accords, the denial of the right of the enterprise's pilots to go on strike, as well as a series of anti-union acts following the ruling that the strike held by the Colombian Association of Civil Aviators was illegal.

Case No. 3319 (Panama) – Complaint date 03-JAN-2018 (follow-up)

National Confederation of United Independent Unions (CONUSI)

The complainant organization denounce the anti-union dismissal of workers from an airline company owing to their participation in a strike.

Case No. 3297 (Dominican Republic) – Complaint date 5-JUN-2017 (follow-up)

National Confederation of Dominican Workers (CNTD)

The complainant alleges anti-union acts in an airport sector company, including anti-union dismissals, ineffective national procedures to guarantee the protection of the right to organize and reprisals by the State against the founders and officials of the company trade union.

Case No. 3244 (Nepal) – Complaint date 17-NOV-2016 (follow-up)

Joint Trade Union Coordination Centre (JTUCC)

The complainant organization denounces the adoption in 2016, without consultation of the workers' organizations, of the Industrial Enterprises Act and the Special Economic Zone Act, which deny the right to strike to workers in industrial enterprises and in the special economic zone, as well as the publication of the 2016 notification under the Essential Services Act prohibiting the exercise of the right to strike in 17 sectors.

Case No. 3180 (Thailand) – Complaint date 15-JAN-2016 (follow-up)

International Transport Workers' Federation (ITF), the Thai Airways International Union (TG Union), State Enterprise Workers Relations Confederation (SERC)

The complainant organizations allege judicial and disciplinary harassment of four leaders of the TG Union. They further allege that the conduct of the company in the dispute that prompted the complaint, exposes a number of failures in Thai law to protect workers' and trade union rights, as well as that the disputed ruling highlights a number of inconsistencies between the law and the principles of freedom of association and the right to collective bargaining.

Case No. 3097 (Dominican Republic) – Complaint date 28-MAY-2014 (closed)

National Confederation of Dominican Workers (CNTD) and the Dominican Association of Air Traffic Controllers Inc (ADCA)

Case No. 3064 (Cambodia) – Complaint date 30-MAY-2013 (closed)

International Trade Union Confederation (ITUC)

The complainant organization alleges that the Government makes no effort to ensure the adoption of the new draft trade union law, thus excluding civil servants, judges, air and maritime transport workers, police and domestic workers from the right to freedom of association and denounces the increase in the use of fixed duration contracts in the garment industry, creating employment insecurity and undermining freedom of association and collective bargaining.

Case No. 3011 (Türkiye) – Complaint date 04-MAR-2013 (follow-up)

Turkish Civil Aviation Union (Hava-İş) and International Transport Workers' Federation (ITF)

The complainant organizations allege the dismissal by Turkish Airlines of 316 workers for taking part in a protest strike on 29 May 2012, measures impeding on the right to strike taken during the industrial action called on 15 May 2013, as well as shortcomings in national legislation in the field of industrial action.

Case No. 2983 (Canada) – Complaint date 27-AUG-2012 (closed)

International Association of Machinists and Aerospace Workers (IAM) supported by the Canadian Labour Congress (CLC)

The complainant alleges that the Protecting Air Service Act violates air transport workers' freedom of association and collective bargaining rights by mandatorily extending the duration of a collective bargaining agreement, prohibiting strikes, mandating compulsory final offer selection arbitration, ordering that the arbitration must be based on predetermined legislative criteria, forcing the unions to pay for the costs for the compulsory arbitration, and providing punitive sanctions on the IAM (and the Air Canada Pilots Association) and their representatives for non-compliance with the Act.

Case No. 2972 (Poland) – Complaint date 10-JUL-2012 (closed)

National Commission of NSZZ 'Solidarnosc' and All-Polish Alliance of Trade Unions (OPZZ)

The complainant organizations denounce a civil court decision made in closed session without the presence of the parties, which declared illegal the strike action conducted at LOT Aircraft Maintenance Services (LOT AMS) and led to the dismissal of ten trade union activists.

Case No. 2994 (Tunisia) – Complaint date 04-JUN-2012 (closed)

Tunisia General Confederation of Labour (CGTT)

The complainant organization denounces acts of interference in its internal affairs, the withholding of the dues paid by its members and its exclusion from tripartite consultations held with a view to drawing up a national social contract. Furthermore, it denounces acts of anti-union discrimination carried out against its members by the airline TUNIS AIR.

Case No. 2931 (France) – Complaint date 02-FEB-2012 (closed)

French Union of Transport and Airport Activities at Paris Airports (STAAAP)

The complainant organization denounces the judicial invalidation of the appointment of its union delegate further to its disaffiliation from a federation.

Case No. 2863 (Chile) – Complaint date 09-MAY-2011 (closed)

National Association of Officials of the Directorate General of Civil Aviations (ANFDGAC)

The complainant organization alleges that the Directorate General of Civil Aviation instituted administrative proceedings against four of the organization's officials as a result of the use of union leave and undermining the right to freedom of expression by prohibiting ANFDGAC from posting notices, banners and other similar signs.

Case No. 2844 (Japan) – Complaint date 23-MAR-2011 (closed)

Japan Airlines Flight Crew Union (JFU) and Japan Airlines Cabin Crew Union (CCU) supported by the National Confederation of Trade Unions (ZENROREN), the National Trade Union Council (ZENROKYO), the International Federation of Airline Pilots' Associations (IFALPA) and the International Transport Workers' Federation (ITF)

The complainant organizations allege that the dismissal of workers by Japan Airlines International was carried out in such a way as to discriminate against workers who are members of certain trade unions. They further allege that the Enterprise Turnaround Initiative Corporation intervened in the strike voting procedures

Case No. 2785 (Spain) – Complaint date 03-JUN-2010 (closed)

Trade Union of Air Traffic Controllers (USCA)

Alteration by the authorities of certain clauses of a collective agreement freely concluded between the complainant organization and the employer (AENA).

Case No. 2780 (Ireland) – Complaint date 04-MAY-2010 (closed)

Irish Congress of Trade Unions (ICTU) on behalf of the Irish Airline Pilots Association (IALPA) and the Irish Municipal Public and Civil Trade Union (IMPACT) with the support of the International Trade Union Confederation (ITUC) and the International Transport Worker's Federation (ITF)

The complainant alleges acts of anti-union discrimination and the refusal to engage in good faith collective bargaining on the part of the enterprise Ryanair, as well as the failure of the labour legislation to provide adequate protection against acts of anti-union discrimination and promote collective bargaining.

Case No. 2775 (Hungary) – Complaint date 03-MAR-2010 (closed)

Democratic League of Independent Trade Unions (LIGA)

The complainant organization alleges that members of its affiliate, the Allied Trade Union of Air Transport (LESZ) have been subject to acts of anti-union discrimination, including harassment, intimidation and dismissal on grounds of trade union membership and participation in strikes. The complainant also alleges that the legislation does not adequately protect against acts of anti-union discrimination.

Case No. 2744 (Russian Federation) – Complaint date 10-NOV-2009 (closed)

Federation of Trade Unions of Russia (FTU/R)

The complainant alleges that officers of the Federal Air Traffic Controllers' Union of Russia (FPAD) are denied access to the workplace of their members at the State Corporation of Russia for the Organization of Air Traffic and that in violation of the existing agreement, the employer ordered for the office of the FPAD of Russia and its primary trade union to be moved to another, smaller place.

Case No. 2683 (United States of America) – Complaint date 04-DEC-2008 (closed)

Association of Flight Attendants – Communications Workers of America (AFA-CWA) and American Federation of Labour and Congress of Industrial Organizations (AFL-CIO)

Acts of anti-union discrimination against flight attendants at Delta Air Lines and insufficient protection of their rights to organize.

Case No. 2599 (Colombia) – Complaint date 03-SEP-2007 (closed)

Single Confederation of Workers (CUT)

The Single Confederation of Workers, representing the National Union of Civil Aviation Workers, alleges unjustified transfers of several members of the trade union and the opening of disciplinary proceedings against members; breach of resolution No. 01139 of 2005 regulating trade union guarantees, and the repeal of that resolution-by-resolution No. 00387 of 1 February 2007, which meant the removal of numerous advantages enjoyed by the trade union.

Case No. 2458 (Argentina) – Complaint date 30-NOV-2005 (closed)

Aeronautical Technical Workers' Association (APTA) and Association of Airline Pilots (APLA)

The complainant organizations allege that during a collective dispute with the enterprises Aerolíneas Argentinas SA and Austral Líneas Aéreas Cielos del Sur SA, during the course of which a strike was called in July 2005, the labour administration authority on two occasions invoked the Mandatory Conciliation Act, suspending all direct action and ultimately the right to strike, unilaterally fixed a minimum level of service on the grounds that it regarded air transport as an essential service, and initiated summary proceedings with a view to fining the trade union organizations. The complainant organizations allege that the companies concerned took advantage of the measures adopted by the labour administration to dismiss or otherwise discipline workers for exercising their legitimate right to strike.

Case No. 2455 (Morocco) – Complaint date 29-OCT-2005 (closed)

Aircraft Engineers International (AEI)

The complainant organization alleges that the Royal Air Maroc (RAM) company refuses to recognize the Moroccan Union of Aviation Technicians (STAM) and to negotiate with it, preferring to deal with staff representatives. It also claims that the company committed several acts of anti-union harassment against the officials and members of STAM, including: unwarranted transfers of union leaders to other facilities; dismissal of eight technicians; threats of suspension without wages and dismissal of strikers (on legal strike since June 2005); withdrawal of medical cover for strikers and their families during the period of the strike.

Case No. 2415 (Serbia) – Complaint date 01-APR-2005 (closed)

The Aircraft Engineers International (AEI) and the SSVMS Trade Union of Aircraft Engineers of Serbia

The complainant alleges that the Government, considering aviation as an essential industry, has used, as the owner of JAT Airways, threats of dismissal or suspension without pay, in order to prevent the employees from taking industrial action.

Case No. 2362 (Colombia) – Complaint date 03-JUN-2004 (follow-up)

The National Union of Employees of AVIANCA (SINTRAVA), the Single Confederation of Workers of Colombia (CUT), the Colombian Association of Civil Aviators (ACDAC), the Colombian Association of Aviation Mechanics (ACMA) and Colombian Association of Flight Attendants (ACAV)

Anti-union dismissals in the context of restructuring beginning in March 2004 within the AVIANCA-SAM-HELICOL group of companies; rehiring of dismissed workers through work cooperatives, depriving them of coverage under the collective agreement with the group; threats against trade union officials, failure to comply with the collective agreement, pressure on individuals to sign a (non-union) collective accord and dismissals of trade union officials; non-compliance with a collective agreement and signing of a (non-union) collective accord.

Case No. 2339 (Guatemala) – Complaint date 01-APR-2004 (closed)

The Trade Union of Workers in Civil Aviation (USTAC) and the Union of Workers in the Ministry of Agriculture, Cattle-raising and Food (SITRAMAGA)

The complainant alleges: (1) the dismissal of Ms. Mari Cruz Herrera, a member of the USTAC trade union, in violation of the collective agreement in force and the possibility of dismissals of workers hired on the basis of 'line 029' (of the state budget) in violation of Conventions Nos 87 and 98; (2) the possibility that 40 workers, most of them members of USTAC, would be left without employment as a result of privatization through the contracting out of several of the services of the Directorate General of Civil Aviation; (3) the dismissal of union members Emilio Francisco Merck Cos and Gregorio Ayala Sandoval for participating as observers in the negotiation of the draft collective agreement with the Ministry of Agriculture, Cattle-raising and Food.

Case No. 2312 (Argentina) – Complaint date 11-NOV-2003 (closed)

The Lockheed Aircraft Argentina S.A. Workers' Trade Union (SITLA) supported by the Congress of Argentinian Workers (CTA)

The complainant challenges the decision of the administrative authority to refuse to grant it official trade union status despite the fact that it is the most representative trade union in the enterprise.

Case No. 2242 (Pakistan) – Complaint date 28-NOV-2002 (closed)

The International Transport Workers' Federation (ITF)

The complainant alleges the suppression of trade union rights of the workers in Pakistan International Airlines (PIA) and failure of the legal system to restore these rights.

Case No. 2195 (Philippines) – Complaint date 15-APR-2002 (closed)

The Association of Airline Pilots of the Philippines (ALPAP)

The complainant alleges that after staging a strike against the management of Philippine Airlines Inc. for unfair labour practices, a return-to-work order was issued and the strike was declared illegal, with the result of the striking workers losing their jobs and the union being left practically busted.

Case No. 2186 (China-Hong Kong Special Administrative Region) – Complaint date 14-MAR-2002 (closed)

The International Federation of Air Line Pilots' Associations (IFALPA)

The complainant alleges that Cathay Pacific Airways dismissed 50 HKAOA members and officers by reason of their trade union activities, refused to enter into meaningful negotiations, tried to break up the union and committed other acts of intimidation and harassment. It has also been alleged that the Government has left these practices unchecked.

Case No. 2172 (Chile) – Complaint date 29-JAN-2002 (closed)

The Trade Union of Pilots and Technicians of LAN Chile (SPTLC)

The complainant organization alleges that Lan Chile S.A. conducted a campaign to break up its organization that began in 2001 and took the form of a series of illegal practices of anti-union discrimination, above all in connection with negotiations aimed at concluding a new collective agreement. According to the complainant, these practices included the following: a publicity campaign against the trade union; the mass dismissal of unionized pilots; threats of dismissal; pressure exerted on pilots and their family members so that the former withdrew trade union membership; discrimination against trade union members with regard to training; the reemployment of dismissed pilots (or their recruitment in subsidiary enterprises) under anti-union conditions (the acceptance of individual responsibility for the industrial action entitled 'work-to-rule', a written statement that the trade union ordered them to participate in this action and acceptance to be covered by individual employment contracts rather than the collective agreement); and harassment of trade union officials.

Case No. 2136 (Mexico) – Complaint date 14-JUN-2001 (closed)

The Trade Union Association of Airline Pilots of Mexico (ASPA)

Denial of collective bargaining rights and anti-union dismissals.

Case No. 2095 (Argentina) – Complaint date 16-AUG-2000 (closed)

The General Confederation of Labour (CGT), the National Civil Servants' Union (UPCN) and the Aviation Technicians' Association of the Argentine Republic (APTA)

Breach of a collective agreement; obligation to renegotiate collective agreements.

Case No. 2090 (Belarus) – Complaint date 16-JUN-2000 (closed)

The Belarus Automobile and Agricultural Machinery Workers' Union (AAMWU), the Agricultural Sector Workers' Union (ASWU), the Radio and Electronics Workers' Union (REWU), the Congress of Democratic Trade Unions (CDTU), the Federation of Trade Unions of Belarus (FPB), the Belarusian Free Trade Union (BFTU), the Belarusian Trade Union of Air Traffic Controllers (BPAD), the International Confederation of Free Trade Unions (ICFTU) and the International Union of Food, Agricultural, Hotel, Restaurant, Catering, Tobacco and Allied Workers' Associations (IUF)

The complainants' pending allegations concern: interference by government authorities with trade union activities and elections, in particular as concerns the presidency of the trade union federation and subsequent favouritism; continuing government interference in the internal affairs of the REWU, AAMWU, CDTU, and the Minsk Regional Trade Union Organization of Employees in the Cultural Sphere (MRTUECS) and the ultimate dissolution of the BPAD by order of the Supreme Court; detention of the CDTU Chairperson for the exercise of his freedom of expression in relation to the defence of trade union rights; administrative detentions of the CDTU lawyer and of the AAMWU president; dismissals and further blacklisting for employment of trade union leaders Evgenov, Evmenov and Bourgov; obstacles to registration in Presidential Decree No. 2 and the non-registration of primary-level organizations of the BFTU; interference in internal trade union activities by virtue of Presidential Decrees Nos 8 and 11.

Case No. 2066 (Malta) – Complaint date 21-JAN-2000 (closed)

The International Confederation of Free Trade Unions (ICFTU), the International Transport Workers' Federation (ITF) and the International Metalworkers' Federation (IMF)

Violations of the right to strike and detention of trade unionists.

Case No. 1997 (Brazil) – Complaint date 16-OCT-1998 (closed)

The National Confederation of Workers in Water and Air Transport, Fisheries and Ports (CONTTMAF)

Interference by the authorities in the application of a collective agreement.

Case No. 1947 (Argentina) – Complaint date 21-NOV-1997 (closed)

The Association of Aeronautical Personnel (APA)

Obstruction of collective bargaining, anti-union discrimination.

Case No. 1887 (Argentina) – Complaint date 05-JUN-1996 (closed)

The Tram-drivers' Union (UTA), the Argentine Air Crew Association (AAA), the National Truckers' Federation (FNTOCTAC), the Union of Dredging and Marking Staff (SPEDB), the Argentine Union of Private Teachers (SADOP), the Argentine Federation of Pharmacy Workers (FATF), the Argentine Federation of Printing Workers (FATI), the Union of Employees of Courts of Law (UEJN), the Centre of Overseas Captains and Merchant Navy Officers (CCUOMM), the Argentine Union of Mill Workers (UOMA), the Association of Medical Advertising Agents of the Argentine Republic (AAPMRA), the Single Union of Workers in Advertising (SUP), the Centre of Naval Radio Communications Chiefs and Officers (CJONR), the Association of Underground Supervisory Staff (APSESBA) and the Argentine Television Union (SAT)

Restrictions on the right to collective bargaining.

Case No. 1828 (Venezuela (Bolivarian Republic of)) – Complaint date 05-APR-1995 (closed)

The Federation of Professional Pilots Trade Unions of Venezuela (FESPAVEN)

Use of subcontracting for anti-union purposes.

Case No. 1827 (Venezuela (Bolivarian Republic of)) – Complaint date 04-APR-1995 (closed)

The Federation of Aeronautical Trade Unions of Venezuela (FGAV)

Anti-union reprisals following a labour dispute, including a change in labour status and limitations on basic trade union rights.

Case No. 1679 (Argentina) – Complaint date 06-NOV-1992 (closed)

The General Confederation of Labour (CGT), the Urban Transport Workers' Trade Union (UTA), the International Transport Workers' Federation (ITF), the Aeronautic Workers' Association (APA), the Commercial Airline Administrative Workers' Trade Union (UUPSA), the Aeronautic Technical Workers' Association (APTA) and the Commercial Airline Flight Technicians' Association (ATVLA)

Case No. 1672 (Venezuela (Bolivarian Republic of)) – Complaint date 06-OCT-1992 (closed)

The Venezuelan Federation of Professional Airline Pilots' Trade Unions (FESPAVEN)

Case No. 1636 (Venezuela (Bolivarian Republic of)) – Complaint date 31-MAR-1992 (closed)

The Trade Union Federation of Pilots and Professional Aviators of Venezuela (FESPAVEN)

Case No. 1567 (Argentina) – Complaint date 07-NOV-1990 (closed)

The Association of Management Staff of Argentine Railways and General Ports Administration (APDFA), the Confederation of Education Workers of the Argentine Republic (CTERA), the Association of State Workers (ATE), the World Confederation of Labour (WCL) and the Argentine Association of Airline Crews (AAA)

Case No. 1511 (Australia) – Complaint date 02-OCT-1989 (closed)

The International Federation of Air Line Pilots Associations (IFALPA)

Case No. 1471 (India) – Complaint date 08-SEP-1988 (closed)

The International Transport Workers' Federation (ITF)

Denial of union rights (airline pilots) - Anti-union discrimination.

Case No. 1424 (Portugal) – Complaint date 16-SEP-1987 (closed)

The National Trade Union of Civil Aviation Flight Personnel (SNPNAC)

Legislation restricting union rights.

Case No. 1401 (United States of America) – Complaint date 16-MAR-1987 (closed)

The International Association of Machinists and Aerospace Workers (IAM) and the American Federation of Labor and Congress of Industrial Organisations (AFL-CIO)

Case No. 1392 (Venezuela (Bolivarian Republic of)) – Complaint date 22-SEP-1986 (closed)

The Union of Pilots of the Venezuelan International Aviation Corporation (OSPV)

Anti-union discrimination.

Case No. 1384 (Greece) – Complaint date 13-JUN-1986 (closed)

The International Federation of Transport Workers (ITF), The European Organisation of Airline Pilots Association (OEAPL), The Hellenic Airline Pilots Association (HALPA) and the International Federation of Airline Pilots Association (IFALPA)

Case No. 1332 (Pakistan) – Complaint date 01-MAY-1985 (closed)

The International Transport Workers' Federation (ITF)

Case No. 1312 (Greece) – Complaint date 17-OCT-1984 (closed)

The International Transport Workers' Federation (ITF)

Case No. 1163 (Cyprus) – Complaint date 28-OCT-1982 (closed)

The Cyprus Airways Cabin Attendant Union Solidarity

Committee of Experts on the Application of Conventions and Recommendations observations (by Convention)

Source: NORMLEX.

Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)

Observation (CEACR) – Bangladesh – adopted 2020, published 109th Session ILC (2021)

Observation (CEACR) – Fiji – adopted 2020, published 109th Session ILC (2021)

Observation (CEACR) – Botswana – adopted 2020, published 109th Session ILC (2021)

Observation (CEACR) – Philippines – adopted 2020, published 109th Session ILC (2021)

Observation (CEACR) – Colombia – adopted 2019, published 109th Session ILC (2021)

Observation (CEACR) – Fiji – adopted 2019, published 109th Session ILC (2021)

Observation (CEACR) – Pakistan – adopted 2018, published 108th Session ILC (2019)

Observation (CEACR) – Pakistan – adopted 2016, published 106th Session ILC (2017)

Observation (CEACR) – United Kingdom of Great Britain and Northern Ireland – adopted 2012, published 102nd Session ILC (2013)

Observation (CEACR) – Argentina – adopted 2011, published 101st Session ILC (2012)

Observation (CEACR) – United Kingdom of Great Britain and Northern Ireland – adopted 2010, published 100th Session ILC (2011)

Observation (CEACR) – United Kingdom Great Britain and Northern Ireland – adopted 2009, published 99th Session ILC (2010)

Observation (CEACR) – Indonesia – adopted 2007, published 97th Session ILC (2008)

Observation (CEACR) – Costa Rica – adopted 1996, published 85th Session ILC (1997)

Direct Request (CEACR) – Guatemala – adopted 1996, published 85th Session ILC (1997)

Protection of Wages Convention, 1949 (No. 95)

Observation (CEACR) – Colombia – adopted 2011, published 101st Session ILC (2012)

Observation (CEACR) – Colombia – adopted 2009, published 99th Session ILC (2010)

Observation (CEACR) – Colombia – adopted 2007, published 97th Session ILC (2008)

Observation (CEACR) – Colombia – adopted 2006, published 96th Session ILC (2007)

Observation (CEACR) – Colombia – adopted 2005, published 95th Session ILC (2006)

Observation (CEACR) – Colombia – adopted 2004, published 93rd Session ILC (2005)

Observation (CEACR) – Colombia – adopted 2003, published 92nd Session ILC (2004)

Right to Organise and Collective Bargaining Convention, 1949 (No. 98)

Observation (CEACR) – Pakistan – adopted 2021, published 110th Session ILC (2022)

Observation (CEACR) – Colombia – adopted 2020, published 109th Session ILC (2021)

Observation (CEACR) – Pakistan – adopted 2020, published 109th Session ILC (2021)

Direct Request (CEACR) – Cabo Verde – adopted 2017, published 107th Session ILC (2018)

Direct Request (CEACR) – Antigua and Barbuda – adopted 2009, published 99th Session ILC (2010)

Observation (CEACR) – Belarus – adopted 2007, published 97th Session ILC (2008)

Observation (CEACR) – Cabo Verde – adopted 2000, published 89th Session ILC (2001)

Equal Remuneration Convention, 1951 (No. 100)

Direct Request (CEACR) – Portugal – adopted 1990, published 77th Session ILC (1990)

Abolition of Forced Labour Convention, 1957 (No. 105)

Observation (CEACR) – Philippines – adopted 2005, published 95th Session ILC (2006)

Discrimination (Employment and Occupation) Convention, 1958 (No. 111)

Observation (CEACR) – Qatar – adopted 2018, published 108th Session ILC (2019)

Direct Request (CEACR) – Ghana – adopted 2004, published 93rd Session ILC (2005)

Direct Request (CEACR) – Ghana – adopted 2001, published 90th Session ILC (2002)

Direct Request (CEACR) – Morocco – adopted 1993, published 80th Session ILC (1993)

Direct Request (CEACR) – Morocco – adopted 1991, published 78th Session ILC (1991)

Direct Request (CEACR) – Morocco – adopted 1990, published 77th Session ILC (1990)

Direct Request (CEACR) – Portugal – adopted 1990, published 77th Session ILC (1990)

Working Environment (Air Pollution, Noise and Vibration) Convention, 1977 (No. 148)

Observation (CEACR) – Kazakhstan – adopted 2005, published 95th Session ILC (2006)

Observation (CEACR) – Kazakhstan – adopted 2004, published 93rd Session ILC (2005)

Observation (CEACR) – Kazakhstan – adopted 2000, published 89th Session ILC (2001)

▶ Appendix III

International Labour Organization

Tripartite technical meeting for civil aviation

Geneva, 7–15 December 1977

▶ Conclusions (No. 2) concerning employment security in civil aviation

The Tripartite Technical Meeting for Civil Aviation,

Having been convened by the Governing Body of the International Labour Office, and

Having met in Geneva from 7 to 15 December 1977,

Having examined different factors which affect employment security in civil aviation and the various measures which have been taken on different occasions by governments, employers and workers and their organisations in order to protect workers' employment security when threatened or to mitigate the adverse effects of loss of employment on the workers concerned;

Noting the principles and standards set forth in the Termination of Employment Recommendation, 1963 (No. 119), the Right to Organise and Collective Bargaining Convention, 1949 (No. 98) and the Discrimination (Employment and Occupation) Convention and Recommendation, 1958 (Nos 111);

Adopts this fifteenth day of December 1977 the following conclusions:

General considerations

1. Employment security in civil aviation is subject to a number of different factors, including economic factors, such as cyclical and seasonal variations in demand for air transport services, cost inflation, excess capacity, increasing competition and economic problems connected with regulation of route licencing and air fares; technological factors, including changes in equipment and aircraft and increasing computerisation and automation of operations; reorganisation or restructuring of air transport services, including mergers, co-operative arrangements, rationalisation measures and closures; and special licencing and other requirements related to health, skills and other conditions of employment of different categories engaged in the industry.

2. The civil aviation industry has a relatively good record in providing employment security to its personnel. Provision of security of employment to persons employed in the industry should remain an important objective of governments, employers, workers and their organisations.

3. Ensuring employment security in the civil aviation industry depends in large measure on ensuring the economic health and viability of the industry, which depends in part on the health of the economy in general and in part upon the viability of individual undertakings and services within the civil aviation industry.

4. Having regard to the relationship between the economics of the industry and employment security, regulatory authorities should consult with air carriers and the workers' organisations concerned before deciding to grant or withdraw operating licences.

5. Constructive labour–management relations and regular consultation in accordance with collective agreements, national law or current practice, are important to the economic health of the industry and thus also to employment security.

Protection against dismissal

6. Termination of employment of workers employed in civil aviation should not take place unless there is a valid reason for such termination connected with the capacity or conduct of the worker or based on the operational requirements of the undertaking, establishment or service.

7. The protection laid down in the Termination of Employment Recommendation, 1963 (No. 119) should be applied to all workers in civil aviation. In general, this means that a worker who feels that his employment has been unjustifiably terminated should be entitled to appeal against that termination under a grievance procedure within the undertaking, established in accordance with collective agreements, national laws or current practice, and to impartial machinery outside the undertaking empowered to decide on the justification of the termination and to award appropriate remedies where it finds that the termination of employment was unjustified.

Protection against or in case of loss of licence

8. Personnel subject to licencing requirements should be covered by adequate measures, which may be at the employer's expense, designed to prevent loss of licence. This protection should include the availability of appropriate medical services and training facilities to assist the persons concerned in maintaining the required health and skill standards. In the event of loss on medical grounds of a licence which includes medical standards, such measures should also include provision for income protection, such as adequate loss-of-licence insurance and, where applicable, disability insurance and retirement or early retirement pensions, in accordance with collective agreements, national laws or current practice. Opportunities for retraining and redeployment should also be available to workers who lose their licence.

Protection against discrimination

9. Women and men should have equality of treatment in accordance with the principles set out in the Discrimination (Employment and Occupation) Convention, 1958 (No. 111).

Protection to be afforded in case employment security is threatened for reasons of an economic, technological or organisational character

10. Workers in civil aviation and their representatives should be informed sufficiently in advance of and consulted on any appropriate proposed change in the structure, general objectives, working

methods, equipment or operational plans of an undertaking which is liable to prejudice employment security.

11. Where personnel reductions are foreseen, the employer should inform the workers' representatives and the appropriate public authorities as early as possible and, in accordance with collective agreements, national laws or current practice, consult with such representatives to develop measures which might be taken to avoid or limit collective dismissals or layoffs as well as measures to mitigate the adverse consequences of any personnel reductions on the workers affected.

12. The measures which should be considered with a view to avoiding or limiting collective dismissals or layoffs should include attrition, incentives to voluntary departure or early retirement, internal transfer and training, reduction of overtime and other methods as considered appropriate.

13. Having regard to the difficulty for older workers to find alternative employment if they lose their jobs, such workers should as far as possible be retained in employment until the age of retirement (subject to transfer within the undertaking, where necessary with the appropriate retraining), unless the worker has, in accordance with collective agreements, national laws or current practice, the possibility of retiring on reasonable terms.

14. Where workers have to be dismissed or laid off because of economic or technological reasons or because of reorganisation, the following measures should be considered, in accordance with national laws, regulations and practices, to mitigate the consequences of such action:

    (a) the selection of workers to be affected should he made in accordance with precise criteria – determined, in advance wherever possible, after consultation with workers' representatives – such as length of service, competence, family situation and age, and taking into account the need for the efficient operation of the undertaking;

    (b) a reasonable period of notice should be given to the workers to be affected;

    (c) provision should be made for appropriate compensation for the workers affected, which could include, for example, unemployment insurance or other forms of social security, or severance allowance or other types of separation benefits paid for by the employer, or a combination of benefits, depending upon national laws, or regulations, collective agreements and the personnel policy of the employer;

    (d) workers whose employment has been terminated owing to a reduction of the workforce should be given priority of re-engagement, to the extent possible, by the employer when he again engages workers; such priority of re-engagement may be limited to a specified period of time;

    (e) the employer should assist the workers affected to obtain training for alternative employment within the undertaking; the appropriate public authorities should do the same outside the undertaking.

15. Airline companies with activities and personnel employed in countries other than that in which the companies are registered should respect the labour legislation of those countries. In the event of circumstances which might involve collective dismissals or layoffs, reasonable notice of such dismissals or layoffs should be given to the appropriate government authorities and workers' representatives with a view to mitigating hardships to the personnel affected.

Training

16. Well-developed systems of training are essential to employment security in the civil aviation industry where technological change and requirements of high levels of skill are such important factors. Appropriate training systems and facilities, following initial training, are of great importance in order to provide the recurrent training required for personnel to maintain their levels of competence, the transitional training necessary to enable them to qualify for work with new equipment, aircraft or procedures and the training required for redeployment within the industry. Availability of training in administrative skills as well as in other skills is relevant for some of these purposes.

17. Employers, workers and their organisations, the appropriate public authorities and educational and training institutions should cooperate in developing the training systems needed to help safeguard employment security in civil aviation as well as promoting full utilisation of these training facilities by the personnel concerned, and in particular older personnel.

International labour standards

18. The Meeting calls on all Member States of the International labour Organisation to apply in civil aviation the principles embodied in the Discrimination (Employment and Occupation) Convention, 1958 (No. 111), the Discrimination (Employment and Occupation) Recommendation, 1958 (No. 111) and the Termination of Employment Recommendation, 1963 (No. 119).

19. The problems arising with respect to employment security in civil aviation should be borne in mind in any revision of the Termination of Employment Recommendation, 1963 (No. 119).

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Note by the Secretariat (2023): the Termination of Employment Recommendation, 1963 (No. 119) was replaced/superseded by the Termination of Employment Recommendation, 1982 (No. 166).

▶ Appendix IV

Conclusions related to the problems concerning air traffic controllers (ATCOs): Identification and possible solutions, 1979

International Labour Organization

Meeting of experts (air traffic controllers)

Geneva, 8–16 May 1979

▶ Conclusions

The experts discussed a wide range of problems concerning air traffic controllers (ATCOs). Recognising that this profession is unique and has certain specific features which have to be taken into account in identifying its problems and finding solutions to them, they have agreed to put forward the following recommendations:

Industrial relations

1. The governments of all ILO Member States should be urged to ratify and apply the Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87), the Right to Organise and Collective Bargaining Convention, 1949 (No. 98) and the Labour Relations (Public Service) Convention, 1978 (No. 151), as their provisions embody principles which should be recognised as applicable to ATCOs.

2. In particular, ATCOs should have the right to establish and join organisations of their own choosing without previous authorisation. These organisations should have the right to draw up their own constitutions and rules, elect their representatives in full freedom, organise their administration and activities and formulate their programmes without interference from public authorities. These organisations should not be dissolved or suspended by administrative authority and should have the right to establish and join federations and confederations. Any such organisation, federation or confederation should have the right to affiliate with international organisations.

3. ATCOs should enjoy adequate protection against acts of anti-union discrimination in respect of their employment. In particular the employment of ATCOs should not be made subject to the condition that they shall not join or that they shall relinquish membership of an ATCO trade union

or other representative organisation, and they should be protected against acts calculated to cause their dismissal or otherwise prejudice them by reason of membership of such an organisation or because of participation in the normal activities of such an organisation.

4. These organisations should enjoy complete independence from employers and/or public authorities, and adequate protection against any interference by an employer and/or public authority in their establishment, functioning or administration.

5. ATCOs should participate, through their trade unions and/or other such representative organisations, in the determination of their conditions of employment and service. Furthermore, ATCOs should be consulted in the conception, planning and implementation of technical provisions concerning ATC systems, for example, through the establishment of joint committees of ATCO organisations and ATC authorities. The extent of this participation and consultation should be determined by national law and practice but in all cases, they should take place in the early stages of the decision-making process where feasible.

6. Procedures appropriate to national conditions should be established to encourage and promote voluntary negotiation designed to resolve issues related to terms and conditions of employment.

7. Industrial disputes in ATC are due to a variety of causes. In particular there appears to be a correlation between their occurrence and inadequate professional recognition, quality of ATC equipment, a lack of capacity of ATC systems to cope with peak demand of air traffic as well as concern with wages and working conditions. This correlation appears to be more evident in situations where adequate dispute settlement machinery does not exist.

8. The settlement of disputes should be sought as may be appropriate to national conditions, through negotiation between the parties or through independent and impartial machinery, such as mediation, conciliation and arbitration, established in such a manner as to ensure the confidence of the parties involved. Where ATCOs are employed by the government, their civil servant status should not preclude them from having access to the following procedures: in particular, the settlement of disputes arising in connection with the determination of terms and conditions of employment should be sought through negotiation between the parties, or through independent and impartial machinery, such as mediation, conciliation and voluntary arbitration, with a view to making it unnecessary for the organisations representing ATCOs to have recourse to industrial action.

9. The principles relevant to trade union activities which are embodied in the Workers' Representatives Convention, 1971 (No. 135) and the Paid Educational Leave Convention, 1974 (No. 140) should be recognised as applicable to ATCOs.

Social and labour aspects of the ATC system

10. The technical aspects of any ATC system have a definite impact on the social and labour problems of ATCOs, and in most cases it is difficult to consider the two groups of issues separately.

11. In all countries research should be carried out with a view to defining the capacity of the ATC system and the ATCO's workload. Such research should take account of the differences among ATC regions, units and even sectors.

12. Although the findings of such national research cannot be directly applied in other countries, an exchange of information would be beneficial to States having similar ATC conditions and systems. The ILO, in collaboration with other International organisations concerned, should collect and disseminate such findings and information.

13. The ILO should call the attention of the International Civil Aviation Organization (ICAO) to the need for establishing international minimum standards concerning the design and maintenance of ATC premises and ground equipment, the type o such equipment and the requirements of the working environment in order to maximize safety. The ILO, as well as the World Health Organisation (WHO) and other international organisations concerned, should participate in the establishment of these standards. This suggestion does not in any way preclude States from establishing national standards which meet their requirements. ATCOs, through their organizations, should participate in the elaboration of such standards.

14. ATCOs should be provided with ATC equipment commensurate with the operational requirements so as to promote an optimum level of safety. ATCOs, through their trade unions and/or other such representative organisations, should also be consulted in the early stages on the design of new ATC premises and the type of new ATC equipment.

15. In areas where civil air traffic, in the normal course of events, predominates, or where civil airspace is clearly defined, a civilian ATC system is preferable to a military one for the controlling of air traffic. Such a system should be a well-defined organisation responsible for managing the technical, social and labour aspects of ATC. The ICAO policy is that one controller should be responsible for any given area of airspace at any given time.

16. In order to guarantee air safety, recourse should not be had to replacement AP0 staff who do not have the required national or international qualifications.

17. After considerable debate on different types of ATC administration, it is recognised that, regardless of the type of structure which exists, the system should in all cases ensure sound industrial relations and the proper functioning of ATC services.

Hours of work

18. ATCOs are directly involved in the safety of civil aviation and have problems which are unique to their profession, and their concern with safety could broadly be compared with that of pilots.

19. Hours of work, length of shifts, duration of uninterrupted work at air traffic control positions and other parameters of work schedules have a direct impact on air safety. It is therefore necessary to establish guidelines for work schedules to reduce fatigue of air traffic controllers.

20. Long working hours and inadequate rest periods for ATCOs are potential threats to the safety of aviation. However, it is very difficult to establish uniform standards for all countries, ATO systems, levels of traffic density and hours of the day. There are no internationally accepted medical criteria in relation to fatigue and working hours, but socio-domestic factors which are important must also be taken into account.

21. Maximum working hours per day, per week and per month with minimum rest periods should be laid down for ATCOs by the governments of all States in consultation with the trade unions and other representative organisations concerned. These should preferably be enforceable by law. For the reasons indicated in the preceding paragraphs, the maximum hours of attendance at the place of work per week by ATCOs should normally be less than the generally accepted number of hours of attendance per week completed by other workers in civil aviation in the State concerned.

22. Shift lengths which embrace periods of high activity should not normally exceed 8 hours and in other cases should not exceed 10–12 hours.

23. Timetables should be devised in consultation with staff organisations in such a manner that sufficient time is allowed to relieve fatigue, and should allow for short rest periods. The prevalent practice in some countries appears to provide controllers with 30-minute breaks after two hours'

duty. Agreement should be reached between ATCO trade unions and/or other such representative organisations and local managements as to which positions the entitlement and frequency of rest periods should apply.

24. Since overtime work is undesirable from the safety as well as from the social points of view, it should be avoided.

25. The ILO should as a matter of urgency undertake a thorough investigation into the impact of fatigue and the effect of stress on ATCOs in collaboration with other international organisations, such as WHO and ICAO, and should set minimum international standards on working hours and. rest periods for ATCOs, as has been done for other categories of employees such as pilots.

26. With regard to holidays and days off, the principle of extra leave for ATCOs in view of the particular demands of their profession, either above that of office workers in general or above that of shift workers in particular, has been established in some countries.

Remuneration

27. Because of the uniqueness of the air traffic control profession, it does not readily lend itself to comparisons with other professions. However, to ensure that the ATCOs' remuneration is commensurate with their responsibilities, it should be noted that one of the professions in which the responsibilities assumed closely resemble that of the ATCO is that of the professional pilot. In fact, in at least one country, the controller's remuneration has been compared and linked to that of airline captain. In many countries ATCOs are compared to other public servants for remuneration purposes due to their employment status which has led to considerable dissatisfaction among ATCOs. In all cases, the trade unions and/or the appropriate organisations concerned should be consulted on the proposed remunerations resulting from these comparisons.

28. In the interest of air safety, when determining remuneration structure and levels, ATC authorities should take into consideration the impact of remuneration on staffing levels and turnover. The relevant principles which are embodied in the Discrimination (Employment and Occupation) Convention, 1958 (No. 111) should be recognised as applicable to ATCOs.

Age of retirement and pensions

29. The principle of an early age of retirement should be recognised for ATCOs in view of the peculiarity of this profession and in the interest of air safety. This early age of retirement should be determined by negotiations at the national level between the employer and ATCO trade unions and/or such other representative organisations.

30. The requirement for retirement at an earlier age than that of other employees should enable ATCOs to receive pension benefits as if service had continued to normal retirement age, the method of assessment of such benefits to be the subject of negotiations between the employer and ATCO trade unions and/or other such representative organisations.

Occupational safety, health and welfare

31. Close co-operation should be established between ATO authorities in all countries and ATCO trade unions and other representative organisations in improving all aspects of occupational safety, health and welfare.

32. Studies and research on all aspects of the occupational safety, health and welfare of ATCOs, including ergonomics and equipment design, should be carried out in all countries. ATCO trade

unions and other representative organisations should be involved in these efforts from the start. These studies should be communicated to the ILO.

33. With regard to safety, control towers and control rooms should be fitted with tire and emergency exits.

34. Studies carried out at the national level indicate that a stress problem exist in ATC. There is still scope for considerable research to identify the causes of stress and its impact on the ATCOs, measure it levels and work out measures for preventing, diagnosing and treating its manifestations as soon as possible.

35. A system of initial and regular follow-up medical examinations specifically for ACOs is essential in the interest of safety. Such a system should be geared to selection, and be capable of: detecting any medical deficiencies in ATCOs before or during their ab initio training; providing for a thorough and regular monitoring of the ATCO's health throughout his career; detecting any deterioration in his health as early as possible; and preventing such deterioration wherever possible. Such system should include aptitude tests specifically developed for ATC requirements The ATCO should be entitled to have his medical file forwarded to his own physician at the latter's request. Statistics should be taken and evaluated by each national authority of the medical standards of the ATCO profession, and it would: be desirable that these statistical results should be collated by the ILO in co-operation with the WHO and published annually.

36. Adequate recreation, rest, welfare and sanitary facilities should be planned for and available at all ATC units. Rest rooms should be separate from the place of work and the recreation facilities.

Legal liabilities

37. ATCOs are knowledgeable about the reliability and efficiency of the ATC systems, procedures and equipment that they operate and many improvements to the system originate in the lessons drawn from its failures. Therefore, in every country, it should be considered whether, in the interest of safety, a reporting system on incidents, observations and suggestions could be established, which does not penalise or sanction the ATCO, except in cases of dereliction of duty, disregard for the law and gross negligence, which would be made known by means other than the ATCO reports.

38. In every country, where ATCOs are involved in the investigation of incidents and accidents, they should be entitled to representation from their trade union and/or other such representative organisations to the extent that is legally possible.

39. In the light of recent court decisions in some countries and developments of case law, ATCOs in some countries may be held liable and found guilty either for strictly adhering to ATC rules and regulations or for departing from them in the interest of safety. They are therefore operating in a complex system with respect to their legal liability. Legislative action should be taken whenever necessary to harmonise air navigation and ATO regulations with developments in the law of the land on an ongoing basis.

40. Since no legal system recognises the principle of vicarious criminal liability, and since under several legal systems the ATCO's civil liability may be invoked separately and independently from the vicarious civil liability of his employer, the ATCO may be sued both on criminal and civil grounds independently from his employer. Governments in the legal systems concerned should pass legislation to abolish such independent civil liabilities of ATCOs and provide them with adequate legal protection and counsel in those areas where this does not exist at present.

41. The ILO should call ICAO's attention to the need to safeguard the ATCO's legal interests when ICAO is considering an international Convention on the liability of air traffic control agencies, with a view to ensuring, in particular, that the ATCO will not be individually and independently sued for damages over and above the limits to be stipulated by that Convention.

42. The ILO should collect and disseminate all relevant information on this subject, and undertake a study of the ATCO's legal liabilities and legal position in different countries.

Manpower and career planning

43. Adequate manpower and. career planning activities are vital to the efficiency and safety of air traffic control systems. These programmes should take into account all relevant factors such as seasonal fluctuations, air traffic forecasts in the short and medium term, the capacity of ATO systems, the ATCO's workload and capacity to handle traffic, the number of control positions needed, the level of competence and qualifications of staff and staffing formulas. A closer co-operation between airlines and air traffic control services is desirable in this respective, in order to overcome some of the inherent instability and fluctuations of these factors.

44. The staffing formulas should take into account all the relevant factors such as operating hours of the different working positions; number and length of shifts; hours of work; holidays, annual leave, time off, maternity leave, trade union activity leave and other days off; number of days lost on sick leave; time needed for holding positions other than actual control; time needed for specialised and refresher training courses; ATCO attrition through retirements, medical incapacity and resignations. Although these factors can be forecast with relatively greater accuracy than the ones outlined in the preceding paragraph, their values may change, sometimes abruptly, when new conditions of work are negotiated.

Training and retraining

45. In the interest of safety, the existing international guidelines for the training of ATCOs should be revised and the ILO should bring this to ICAO's attention.

46. With regard to recruitment, ATCO candidates with no previous aviation experience should be normally recruited between 17 and 25 years of age and their general education should be relevant to civil aviation, and at university entrance level. The basic training programme should provide for three phases before licensing: classroom instruction; exercises with simulators on ATC procedures; and practical experience. Training to private pilot licence standard could be considered where it would usefully contribute to the training process.

47. In order to sustain the required high degree of aviation safety and the high ATC standards and also to keep the ATCO abreast with aviation progress, it is considered essential that ATCOs receive regular refresher courses and benefit from regular familiarisation flights. The frequency of such courses and flights may be agreed upon by the ATCO trade unions and/or other such representative organisations and the respective aviation authorities. In the interest of safety, a system of regular proficiency checking should be established for the ATCOs.

48. Post-licensing training should provide for retraining courses prior to the introduction of new ATC equipment and procedures. Simulators could be suitable tools for on-the-job training, despite the complex problems their introduction would imply.

49. Both classroom and on-the-job instructors should be carefully selected and given adequate pedagogical training prior to their work. Classroom instructors should generally be selected from among ATCOs engaged in actual ATC work and be provided with opportunities to keep their knowledge up to date. A specific instructor rating, or qualification level, should be established as

a distinct category of ATCO to facilitate the ensuring of proper selection of high-quality instructors.

Employment security

50. Throughout his career the ATCO is exposed to the concrete and constant risk of losing his licence on grounds of medical or terminal incapacity, thereby ceasing to be able to exercise his profession and thus losing his livelihood. Since – the number of suitable and meaningful posts for re-employing the ATCO within the civil service is rather limited in view of his specialised background, training and. experience, employer-sponsored loss of licence insurance schemes and employers pensioned second career programmes should be encouraged for ATCOs in all countries, more particularly where ATC is run by a private company and where re-employment possibilities are thus even more difficult to obtain. If the ATCO is to be reemployed after he has lost his licence, he should be given thorough retraining for his new post.

51. Since ATCOs attain a high level of professional specialisation and remuneration at a relatively young age, the impact on their incomes of loss of licence is much more significant than for other groups of workers. Consequently, the re-training requirements are greater and the difficulties more severe when ATCOs are reassigned to other positions to learn new responsibilities.

52. The Governing Body of the International Labour Office is invited to consider placing on the agenda of an early session of the International Labour Conference the question of conditions of employment and service of air traffic controllers with a view to the adoption of an appropriate international instrument.