GREENPEACE CONCLUSIONS AND RECOMMENDATIONS ON THE T3 ANALYSIS

"BOOKING OF BUSINESS AND FIRST CLASS FLIGHTS IN EUROPE"

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GREENPEACE


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Introduction – Why did Greenpeace commission this analysis?

The aviation sector is widely subsidised and receives massive tax advantages. For example, there is no fuel (kerosene) tax or Value Added Tax (VAT) on any cross-border flight. In contrast to this, land-based public transport companies, such as railway operators, have to pay energy taxes, high track access charges, road tolls and VAT in most European countries.

Not even the luxury flight classes of regular airlines are adequately taxed. The T3 analysis provides a conservative estimate of the CO_2 impact of economy versus luxury flight seats – including business, first and premium economy classes – as well as the number of long-haul premium flight tickets sold in Europe. This enables Greenpeace to estimate the minimum revenue that a potential extra levy on these flights could generate. Greenpeace regards effective levies on private aviation and premium flyers as an important first step towards a fair aviation taxation scheme, without placing a burden on normal-income people who fly only occasionally for holidays or to visit family and friends.

95.7% of air passengers in Europe travel in economy class. However, there is a clear trend towards booking more premium flight tickets. In 2024, the number of passengers travelling in luxury flight classes in Europe increased by 8.1% compared with 2023 – a rise around 60% higher[1] than that seen for economy flights. This is a worrying development for the climate, made possible only by the massive tax subsidies that aviation continues to receive.

Key findings of the T3 analysis and Greenpeace conclusions:

- On average, first-class flights generate around five times the greenhouse gas emissions of economy class, while business class generates around four times as much. Premium economy produces around 50% more emissions than economy class (around 1.5 times as much).
- In 2024, the 24 European airlines analysed for long-haul departures from 44 European countries sold around 19 million tickets for luxury travel classes (business, first and premium economy, counted as departures).
- When considering only first and business class, these passengers account for less than 14% of all travellers, yet they are responsible for around 36% of emissions. When premium economy is included as a third luxury class, this share rises to 21% of travellers, who then account for around 44% of emissions.
- Of the 24 European airlines analysed, British Airways sold the most luxury-class tickets (around 3.7 million), followed by Lufthansa with 2.7 million, Air France with 2.6 million and Turkish Airlines with 2.5 million.
- Greenpeace calculated that a minimum ticket levy of just €220 on every long-haul business-class ticket, €340 on every first-class ticket and €75 on every premium economy ticket sold in Europe could generate at least €3.3 billion a year in tax revenue for European states, without increasing

[1] Economy class increased by 5.1%.

costs for the vast majority of people. This revenue could be used to tackle the impacts of aviation on the climate and on nature.

Climate impact of first, business and premium economy flights

Greenpeace supports and demands levies on premium flights, as they are clearly more polluting and are predominantly used by high-income people and profitable corporations. Compared with economy class, the T3 analysis identified the following per-passenger emission factors for luxury classes:

	CO_2 per passenger as multiples of economy class (long-haul flights)
First class	5
Business class	4
Premium economy	1.5 (= +50%)

This means, for example, that flying first class generates five times as much greenhouse gas per passenger as flying economy class. This is mainly due to the larger amount of space required on the aircraft.

The following table shows per-passenger greenhouse gas emissions for selected one-way flights across the different cabin classes. Data for the economy class was obtained from myclimate.org, while data for the luxury classes was calculated using the factors shown above.

Route	Aircraft	Economy	Premium economy	Business	First class
		Total CO_{2e} per passenger (tonnes), one-way			
Frankfurt–New York City	Airbus A330	1.4	2.1	5.6	7
Madrid–Mexico City	Boeing 767	2.1	3.2	8.4	10.5
Paris–Delhi	Airbus A330	1.5	2.2	6	7.5

A single one-way first-class flight from Frankfurt to New York City generates as much greenhouse gas as an average EU citizen does in a full year (2024).

Levy on first, business and premium economy flights

Based on these emission factors, Greenpeace proposes a levy of **at least** €220 on long-haul business-class flights, €340 on first-class flights and **at least** €75 on premium economy flights, all departing from European airports. The amounts of €220 ($250) and €340 ($400) follow the model suggested in the Legal Handbook of the Global Solidarity Levies Task Force (GSLTF), while the €75 levy for premium economy reflects the fact that this class causes 50% more emissions than economy, which is roughly a third of business-class emissions.

Ideally, this levy would form part of a broader **frequent-flyer levy**, meaning that the charge would increase progressively with the number of flights taken per person per year.

Based on the analysis' findings of 19 million premium flight tickets in Europe[2], this levy would result in revenues of **at least €3.3 billion a year**. This figure does not include potential revenues from levies on short- and mid-haul flights. If the levy is introduced at higher rates, or in combination with a frequent-flyer levy and a kerosene tax, the total revenue would, of course, increase accordingly.

	Passengers (2024, conservative estimate)	Minimum levy per flight, in addition to existing economy ticket taxes	Total revenue
First class	670,701	€340	€228 million
Business class	11,723,569	€220	€2.58 billion
Premium economy	6,583,328	€75	€494 million
			€3.30 billion

As only a few European countries have introduced levies on business and first-class flights so far, most of this revenue would represent additional public income. It should be used to close the funding gaps in urgently needed climate action.

[2] The 44 European countries analysed include all EU countries, the UK, Switzerland, Norway, Türkiye, all Balkan countries, most Caucasus countries and several smaller states.

Impact on premium flight ticket prices

Introducing a €75 levy on premium economy long-haul flights would increase their price by only 3.1% to 5.8%, while a €220 levy on business-class long-haul flights would raise prices by 3.1% to 12.9%. Premium economy tickets cost around twice as much as economy, and business-class tickets cost around four times as much as economy, as recent Greenpeace market research shows (based on 12 long-haul routes analysed on random dates; details available here). Prices for first-class tickets are only available upon registration and were therefore not included in the analysis. However, first-class tickets are usually two to three times as expensive as business-class tickets.

Origin	Destination	Economy	Premium economy	Business	Price increase by levy	
					Premium economy	Business
Vienna	Bangkok	€1,593.55	€1,714.55	€3,148.55	4.4%	7.0%
Frankfurt	New York City	€1,700.88	€2,856.88	€6,567.88	2.6%	3.3%
Zurich	Johannesburg	€1,230.12	€2,113.56	€5,248.80	3.5%	4.2%
Brussels	Montreal	€1,009.22	€2,391.22	€3,654.22	3.1%	6.0%
Madrid	Mexico City	€1,739.13	N/A[3]	€7,044.13		3.1%
Lisbon	São Paulo	€497.21	N/A	€2,323.21		9.5%
Amsterdam	San Francisco	€1,384.00	€2,940.00	€4,541.00	2.6%	4.8%
Paris	Delhi	€735.00	€1,286.00	€2,748.00	5.8%	5.1%[4]
Warsaw	Seoul	€514.04	€1,383.04	€2,457.04	5.4%	9.0%
Dublin	Chicago	€790.47	N/A	€2,784.47		7.9%
Copenhagen	Tokyo	€2,031.61	€2,453.19	€4,169.15	3.1%	5.3%
Belgrade	New York City	€498.45	N/A	€1,710.45		12.9%
Average		**€1,143.64**	**€2,142.31**	**€3,866.41**	**3.8%**	**6.7%**

How the revenue must be used

Regardless of these price impacts, such levies must be used to support the green transition and deliver benefits for people and the planet. A range of options exist, including:

[3] Not available
[4] The calculation for the flight departing from France takes into account the existing French levy (€120 for long-haul business-class flights, which is €80 more than the levy applied to economy-class tickets).

- "Climate Tickets", affordable network passes for public transport, or investments in public transport infrastructure (for example, reopening around 1,400 km of closed railway lines[5] or purchasing more than 100 new night-train sets[6])
- Climate mitigation and adaptation measures
- Nature restoration, which can help mitigate the impacts of flash floods

Political momentum

National momentum: levies on premium flights

So far, only a few European countries have introduced special ticket levies for premium passengers. France is one of them and increased its ticket levies (formally a ticket tax) in March 2025. Business-class passengers now pay €22.60 more than economy passengers on short-haul flights, €65 more on mid-haul flights, and €80 more on long-haul flights. These amounts remain below the minimum levy proposed by Greenpeace.

Another country with higher charges for premium passengers is the UK. The UK Air Passenger Duty, however, differs from the French approach: it is not directly linked to cabin classes but to seat pitch as the key criterion. A higher rate applies if the seat pitch exceeds 40 inches (just over a metre), which is the case for a large number of wide-body aircraft with dedicated business-class cabins. Depending on the distance of the flight, the fee for larger seat pitches is between £8 (€9) and £147 (€168) higher than for smaller pitches.[7]

Neither the UK nor the French levies are earmarked for green investments.

EU momentum

The EU is currently negotiating the Multiannual Financial Framework (MFF) for 2028–2034 – with a total volume of almost €2 trillion – and is considering new "own resources" to respond to today's unprecedented threats and opportunities over the next decade. The Draghi report identified the need for an additional €800 billion in annual investment in the green and digital transitions. At the same time, the EU requires new funding sources to strengthen its global role as the leading provider of climate finance and to meet its international commitments. Without new own resources that match this level of ambition, it will be impossible to mount a credible EU response. While some "polluter pays" mechanisms are currently under discussion at EU level, they remain insufficient to deliver the level of funding required. Introducing new taxes on luxury flights, kerosene and high-net-worth individuals, as well as phasing out subsidies for fossil fuels, would raise additional public revenue for climate action and support compliance with the Paris Climate Agreement.

[5] Estimation based on a Greenpeace Germany proposal for a redistribution of a wealth tax
[6] According to ÖBB, one night train costs around €27 million.
[7] These rates will become valid from 1 April 2026.

Global momentum

Founded in November 2023, the Global Solidarity Levies Taskforce (GSLTF) has led to the creation of the Premium Flyers Solidarity Coalition. At COP30 in Brazil, the GSLTF highlighted the coalition's rapid growth. First introduced in June 2025, the coalition now brings together nine member countries – seven from Africa as well as Spain and France – and four observer countries.

Greenpeace demands

Greenpeace calls on all European governments to introduce national premium-flyer levies on flights departing from European airports as a first step towards a future international levy agreement. The minimum levy shall be €75 per premium economy flight, €220 per business-class flight and €340 per first-class flight. Greenpeace also calls for a general ban on flights where a reasonable rail alternative exists. Greenpeace supports the GSLTF and urges governments to join the coalition.

Such a levy on premium flights, as a first step and followed by taxing-the-super-rich schemes, can provide the funding needed for measures that benefit people and the planet.

TRANSPORTATION THINK TANK

Booking of business and first class flights in Europe.

Assessment of seat numbers and corresponding climate impact of outgoing flights from Europe

Imprint

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CONTENT

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1) Introduction and Methodology

This report estimates the number of first class and business class seats and corresponding passengers of flights departing in Europe. On this basis, the report also allocates CO_2 emissions per seat, passenger, and average aircraft.

It does so by focussing on aircraft which departed in the European Civil Aviation Conference (ECAC) area in the year 2024 and arrived elsewhere. The ECAC comprises of 44 countries (see annex). The seats of these aircraft are allocated to first class, business class, premium economy class and economy class cabins. Load factors are added to deduct passenger numbers. The CO_2 emissions are calculated by utilising the space allocation for first class and business class as a proportion of total seats in typical wide-body aircraft.

Note that this is a calculation balancing effort and data accuracy. Research details are listed in the annex.

Step 1: Determine overall number of relevant flights

First class and business class are typically offered on long-haul flights operated by wide-body aircraft. Narrow-body aircraft do usually not include dedicated first/business class cabins. Similarly, low-cost carriers' business models are based on offering uniform cabins without class distinctions.

Eurocontrol (2025a) provides flight numbers for departing flights in 2024 in relevant market segments, namely business, cargo, low cost, mainline, other, regional. Eurocontrol reports 10.7 million flights (not counting overflights) in its managed area in 2024 (Eurocontrol, 2025c). Of this total, *702,671 mainline flights* departed from and arrived outside the ECAC area (Eurocontrol, 2025a). Other market segments are disregarded.

Of these 702,671 mainline flights, Eurocontrol does not indicate what proportion are long-haul. However, it provides data on the average number of daily flights to and from Europe that connected the region with other parts of the world in 2024: 21.3 % of non-intra-European flights connected Europe with North Africa, 23.3 % with the Middle East, and 6.3 % with other Europe (see Figure 1). On these shorter distances, narrow-body aircraft are efficient and cost-effective. Therefore, narrow-body aircraft dominate on flights connecting European and North African countries and are also used for the Europe-Middle East route.

Figure 1: Average daily departure/arrival flights for 2024

Region	Average daily flights	% previous year	% 2019
Intra-Europe	22,588	+4%	-2%
Europe ↔ Middle-East	1,357	-3%	-5%
Europe ↔ North Atlantic	1,329	+8%	+12%
Europe ↔ North-Africa	1,239	+13%	+21%
Europe ↔ Asia/Pacific	858	+21%	+8%
Europe ↔ Other Europe	364	+9%	-65%
Europe ↔ Southern Africa	305	+3%	-2%
Europe ↔ Mid-Atlantic	178	+2%	+3%
Europe ↔ South-Atlantic	193	+12%	+4%
Non Intra-Europe	5,823	+8%	-5%

Source: Eurocontrol 2025c, p. 20

To approximate the number of flights offering first and business class as accurately as possible, we subtract the proportion of flights between Europe and Other Europe, North Africa and Middle East from the total of 702,671 mainline flights.

Based on these numbers, the overall number of relevant flights is approximated at roughly 50 % of all mainline flights. That is, *350,000 relevant flights* departed from the ECAC area in 2024. Relevant flights are those operated by wide-body aircraft, which typically feature first and business class cabins.

The estimated number of flights included in this calculation is conservative for the following reasons:

- Some airlines offer business seats in narrow-body planes, e.g., La Compagnie. This airline operates exclusively with narrow-body jets, including for transatlantic connections (Airbus A321neo).
- Some routes within Europe, as well as between Europe and the Middle East and North Africa, are operated using wide-body aircraft including first and business class cabins.

Step 2: Determine the mean number of seats per cabin class

The aim of this step is to find a representative sample of flights operated by wide-body aircraft, including a representative fleet of aircraft and cabin layouts.

2a) We select all flights detected by the OpenSky Network in 2024, as provided by Eurocontrol in its database. The number was as high as 15 million flights and tower signals throughout the year (Eurocontrol, 2025b).

2b) We search the internet for wide-body aircraft cabin layouts using a multitude of sources, all of which indicate cabin layouts of airlines and their respective fleet of wide-body aircraft (aeroLOPA, Air France, British Airways, Lufthansa, SeatGuru, Seatlink, Seatmaestro, Swiss Airlines, Turkish Airlines). The research focuses on airlines with European hubs, given their likely dominant market share of flights departing from Europe. Their exact market share cannot be determined through this research method and is not relevant to the research question. Focusing on European airlines simply ensures a large sample size. We search *24 (European) airlines* (see annex). According to the research, their fleets comprise *16 different (wide-body) aircraft types* (see annex). We search up to five different cabin layouts per airline and aircraft type. According to the research, we can assume an even distribution of layouts per aircraft and airline. The research finds *67 combinations of airlines and aircraft types* (see annex), which include *115 different cabin layouts*.

2c) We search for all of the 67 combinations of airlines and aircraft types in the Eurocontrol database (see step 2a, Eurocontrol, 2025b), finding 588,452 out of 15 million flights and tower signals. As the database does in most cases not indicate the departure and/or arrival airport, these flights can be internal flights, arrivals, departures or overflights. Due to the applied filters, they are most likely departures or arrivals. Again, wide-body aircraft are used for long-haul flights. The filters remove narrow-body and other aircraft. The market of regional jets (short haul and "feeder" flights) is excluded from the search, because these planes usually do not offer business or first class cabins.

In the Eurocontrol database (2025b), the flights of the selected 67 combinations can be found by matching the columns "typecode" and "icao_operator" (see illustrative examples in Table 1).

Table 1: OpenSky Network ADS-B data, sample for illustration

DOF	FLT_ID	REGISTRATION	MODEL	TYPECODE	ICAO_OPERATOR
2024-01-01	TAP075	CS-TUP	A330-941	A339	TAP
2024-07-25	DLH500	D-ABVW	747 430	B744	DLH

Source: Eurocontrol, 2025b

Each of the 67 combinations represents a specific share of the 588,452-flight sample (see annex). To determine the average number of seats per cabin class in a representative wide-body aircraft, we use a weighted average. This approach calculates the mean number of first, business, premium economy, and economy seats across the sample.

We assume our sample to be representative, as other (non-European) airlines use the same 16 aircraft types and similar cabin layouts.

Step 3: Assess the space required for business class and first class seats as a proportion of all seats in an average (wide-body) aircraft

Cabin width in wide-body aircraft is typically 5-6 meters (16-20 feet). Premium cabins (first and business) have fewer seats than economy and premium economy per row to provide more space per passenger (e.g., Websites Alternative Airlines; Rosen Aviation):

- Seats in first class usually come in a 1-2-1 configuration and it is not uncommon for airlines to offer these seats in the form of enclosed mini suites.
- Similarly, the seating arrangement of business class typically consists of 2-4 seats per row, with the seats arranged in a staggered pattern.
- Economy class: 7-10 seats per row, with seat pitch and width minimised for density.

These numbers correspond with the numbers of the "IATA Recommended Practice" (IATA, 2025) guideline for calculating CO_2 emissions per passenger (Table 2).

Table 2: Cabin Class Factors

	ECONOMY	PREMIUM ECON	BUSINESS	FIRST
Narrow-body aircraft	1	1	1.5*	1.5
Wide-body aircraft	1	1.5	4	5

*Source: IATA, 2025. *As per the source, a cabin class factor of 4 applies to narrow-body aircraft where all seating is arranged in a business class configuration.*

Our calculation uses Table 2's numbers to deduct the CO_2 impact of business and first class in wide-body aircraft. As described under Step 1, the estimation disregards narrow-body jets, as the role of business class in these aircraft is small (and first class practically non-existent).

To obtain a calculation per passenger, we search airline-wide load factors for combined premium cabins (first and business class) from recent reports (2023–2025). According to IATA (2024), global passenger load factors (all cabins) reached record highs in 2024, with an annual average of 83.5% and peaks of 85.7%–86.9% in mid-2024, surpassing pre-pandemic levels. Further, premium cabins (first and business class) outperform economy, with load factors typically 5-15% higher than the overall average (IATA, 2024).

Based on the IATA report (2024), this calculation assumes *a load factor of 83.5% for economy, and 92% for premium cabins* (i.e., 10% higher than economy).

2) Overview of Results

Table 3 presents the results of the calculations as described in chapter 1.

Table 3: First class and business class in wide-body aircraft In 2024

Average aircraft, 350,000 flights	FIRST	BUSINESS	PREMIUM ECONOMY	ECONOMY
Mean seat number (305.4 seats)	2.1 (0.7 % of seats)	36.4 (11.9 % of seats)	22.5 (7.4 % of seats)	244.4 (80.0 % of seats)
Mean passenger number (258.3 passengers)	1.9 (0.7 % of p.)	33.5 (13.0 % of p.)	18.8 (7.3 % of p.)	204.1 (79.0 % of p.)
CO_2 per cabin*	2.4 %	33.5 %	7.8 %	56.3 %
CO_2 per passenger	1.33 %	1.06 %	0.40 %	0.27 %
Total seats	729,023	12,743,010	7,884,225	85,549,149
Total passengers	670,701	11,723,569	6,583,328	71,433,539

Source: Own research, own calculations. **The calculation accounts for the load factor.*

The mean seat number is based on the sample fleet and corresponding flight shares described. The average CO_2 impact is calculated per cabin and, following IATA (2025), per passenger—thus accounting for load factors. These calculations must also be broken down by distance. Absolute CO_2 emissions, however, can only be determined using actual airport-to-airport routes.

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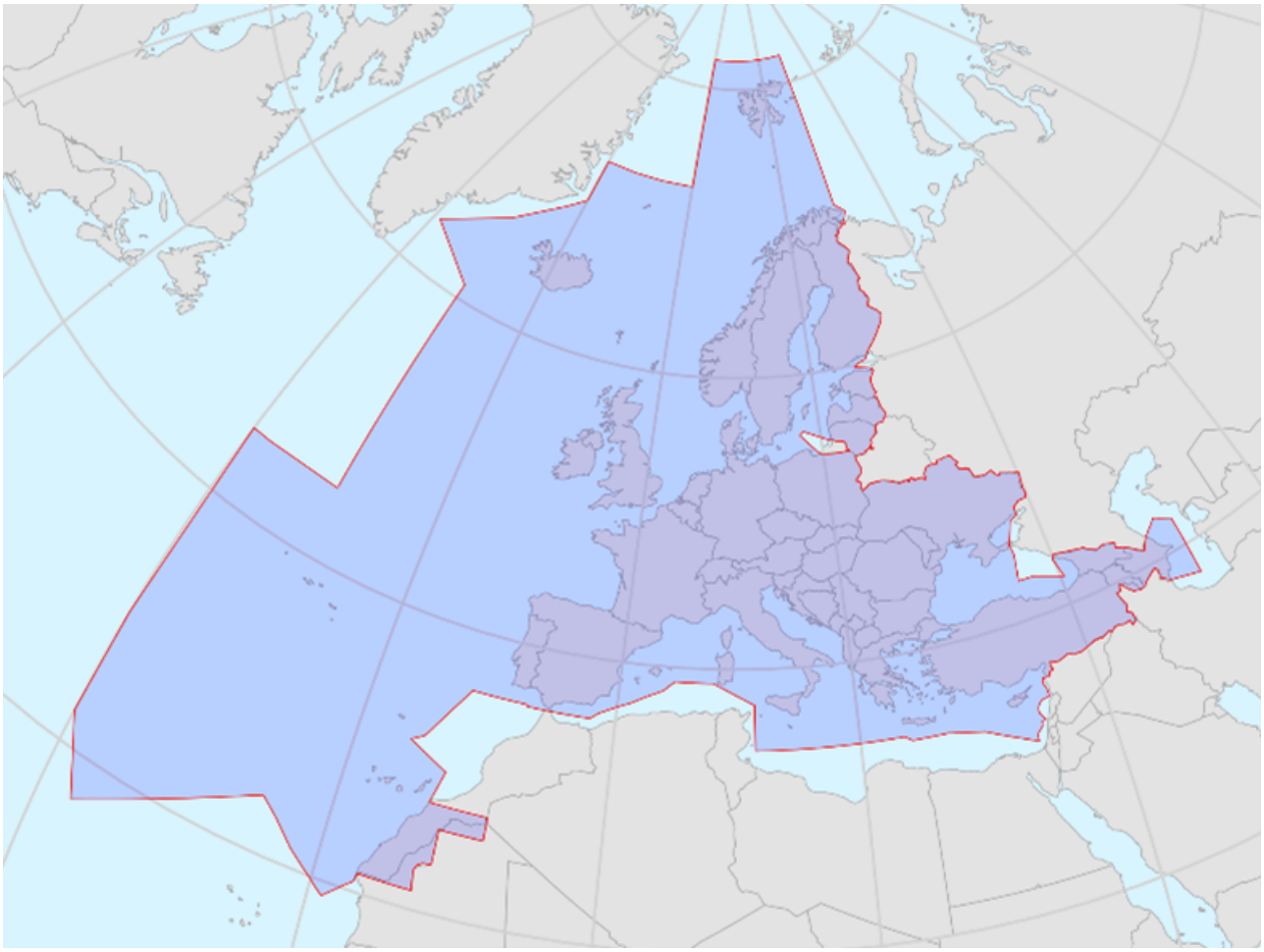
All websites were accessed in October 2025.

ANNEX

The European Civil Aviation Conference (ECAC) is an intergovernmental organisation that was established by the International Civil Aviation Organization (ICAO) and the Council of Europe. ECAC now has 44 Member States, including all 27 EU Member States, and all 42 Eurocontrol Member States. The map below is a graphical representation of the airspace belonging to the ECAC states (Figure 2).

Figure 2: State flight information region for ECAC



Source: Website Eurocontrol

The below linked spreadsheet contains more data from our study, namely the 24 airlines we selected, the 16 aircraft types we found, and the 67 combinations of airlines and types searched in Eurocontrol (2025b), accounting for average cabin layouts (the latter we keep undisclosed to comply with the terms of use of the websites we searched). Note that Alitalia ceased operations in October 2021 and was replaced by ITA Airways. However, the Eurocontrol 2024 data includes the Alitalia ICAO code (AZA), hinting that the existing fleet uses the original transponder signals.

https://t3-forschung.de/wp-content/uploads/2025/11/Airlines_longdistance_configurations.xlsx