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EUROCONTROL FORECAST UPDATE 2023-2029

31 MARCH 2023

SUMMARY

- This Spring 2023 **forecast** is an **update** of the previously published 7-year forecast in Autumn 2022,
- Since October 2022, flight **movements** in Europe have developed **in line** with the **base** scenario,
- This forecast is the first publication post COVID-19 with **all** forecasting **modules** reconnected: the low-to-high values now refer to a **forecast range** (statistical uncertainty) rather than scenarios,
- The number of **European flights** in **2023** and **2024** has been **slightly revised upwards** due to the continuation of vivid pent-up demand (solid bookings, strong tourist flows in Southern Europe),
- The **2019** number of flights (11.1 million) is expected to be reached in **2025**,
- **After 2025**, flight growth is expected to average **1.5% per year** in the base forecast, owing to the greater uncertainties within the 7-year horizon (higher inflation, pressure on oil prices, environmental concerns...). As downside risks prevail, the number of flights in **the low forecast** stagnates from 2025 onwards.
- Users of the forecasts are strongly advised to use the forecast range. **Moreover, uncertainties** surrounding **further deterioration** of the economy, possible escalation of the geopolitical tensions or other unpredictable events may have a **negative impact** on this forecast.

THIS 7-YEAR FORECAST COVERS 2023-2029 PERIOD

The Spring 2023 forecast takes into account the following updated inputs:



Traffic trends up to February 2023:

After a strong Summer 2022, the industry is further recovering from the COVID-19 pandemic with China reopened since mid-January 2023. The network is still impacted by Russia's invasion of Ukraine.



Routings:

No return to "normal" routing (prior closure of Ukrainian and Russian airspaces) by the end of the seven-year horizon.



Full review of the forecast inputs :

Update of the economic forecast (Oxford Economics, February 2023 release), and all other inputs: population, load factors, future events, high-speed rail network, airport capacities, amongst others.



Forecast range:

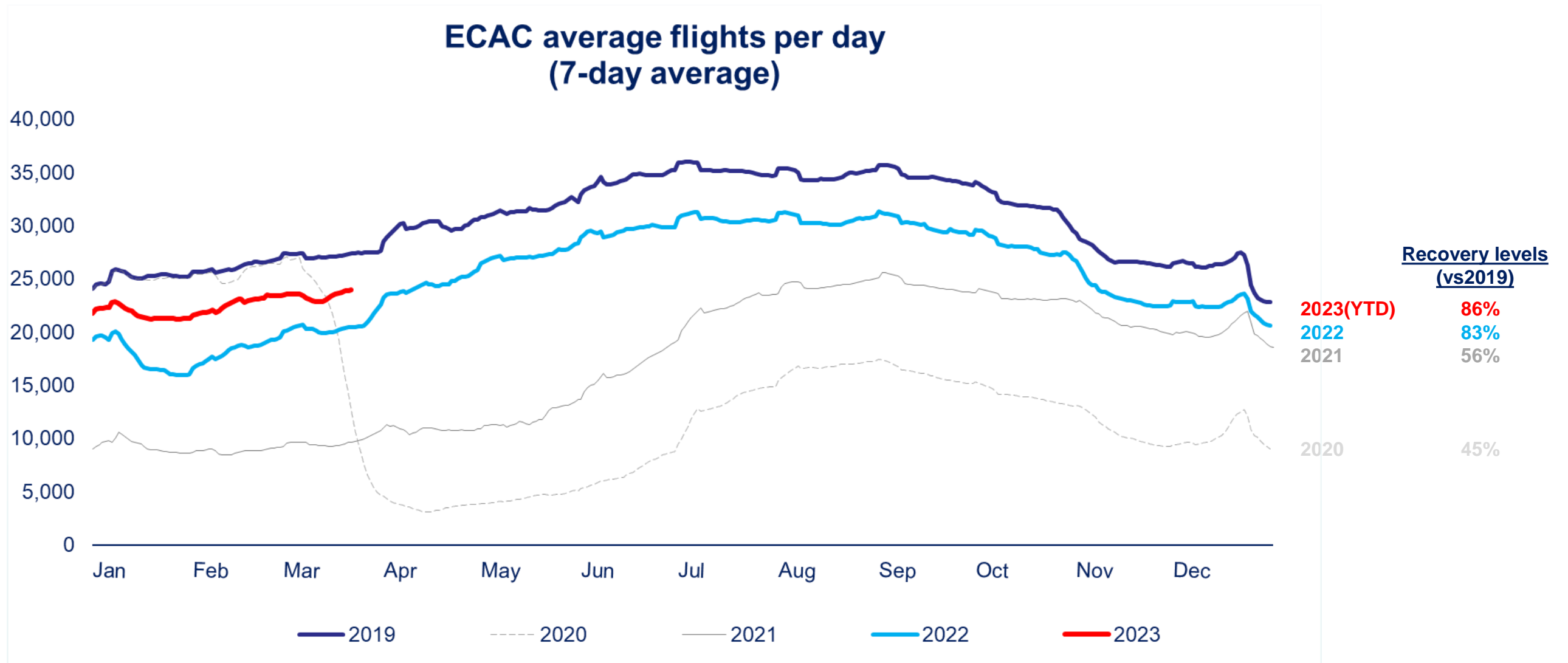
Forecast with statistical uncertainty (high/base/low) accounting for the following risks: impact of Russia's invasion of Ukraine on the economy, post-pandemic recovery, and increased environmental pressure.

This forecast replaces the 7-year forecast 2022-2028 published in October 2022.



FLIGHTS TRENDS

Traffic approaching pre-pandemic levels ...

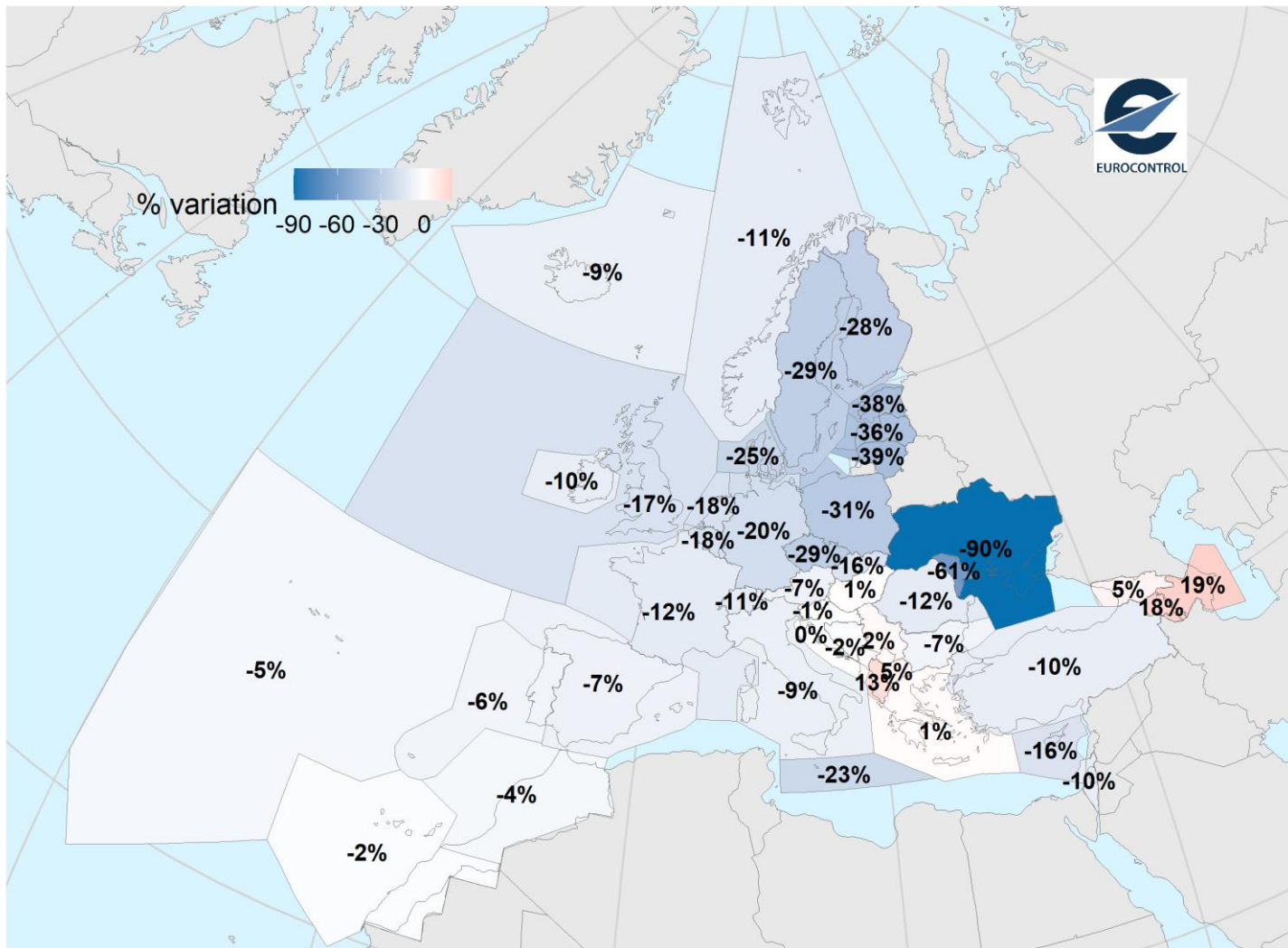




FLIGHTS TRENDS

... however still hiding local disparities in Europe.

Traffic Zone (based on FIR) % total flights variation 2022 vs 2019



- ▲ Majority of states in **South-Eastern Europe** increased above 2019 levels,
- ▼ **South- & North-Western Europe** remained between 2% and 20% below 2019 levels,
- ▼ **Northern Europe** were significantly impacted by the loss of overflights (Asian flows) due to the Russian's invasion of Ukraine (hence, re-routings via South-Eastern States)
- ▼ Massive flight reduction in **Ukraine** (-90% for 2022 as traffic was normal until 24 February) and **Moldova**.

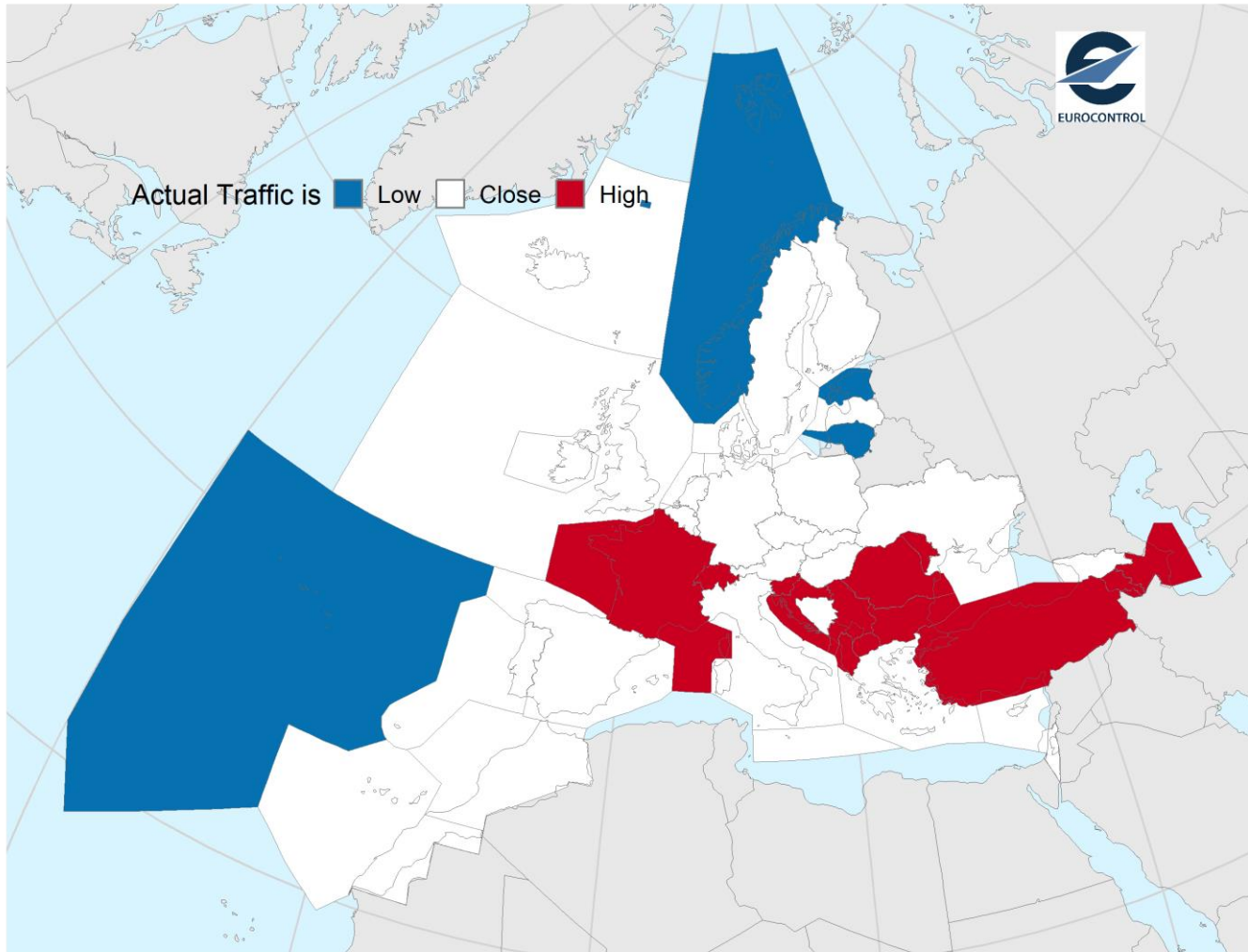


FLIGHTS TRENDS

Most of the States in line with the low-to-high previous forecast*

Deviation from 7-year flight forecast (October 2022).

2022 actual growth (% on 2021) vs 2022 growth from the 7-year forecast (Oct. 2022).



* [7-year forecast 2022-2028](#) published in October 2022

Total (including overflights).

Deviation of the actual flight growth from previous forecast for 2022:

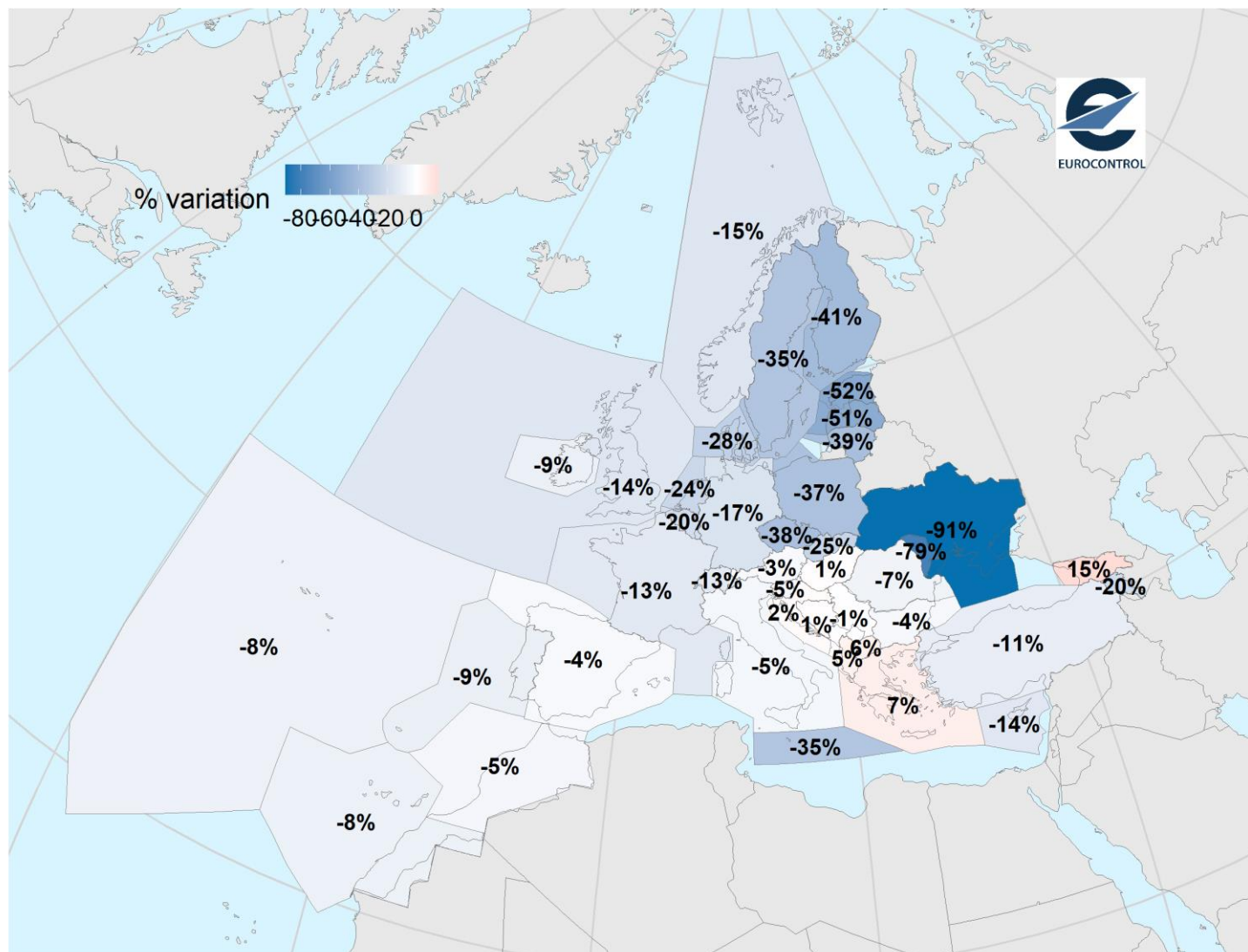
- Some **States** recorded growth above the high forecast range: additional North-South overflights and routes moved towards the South-Eastern States (impact of the Russia's invasion of Ukraine).
- A few **States** were overestimated (Norway, Estonia and Lithuania) due to the above-mentioned re-routings.



EN-ROUTE SERVICE UNITS# TRENDS

Also hiding local disparities (mostly driven by the flights)

Traffic Zone (based on FIR) % total Service Units variation 2022 vs 2019



On top of the traffic trends observed:

- ▼ **Baltic and Northern Europe** States are affected by the loss of overflights from Asia (heavier aircraft weights): *lower level of Service Units than of flights* compared to 2019.
- ▼ **Czech Republic and Slovakia** affected by the loss of flights flying longer routes along the West-East axis. *Lower level of Service Units than of flights* compared to 2019.

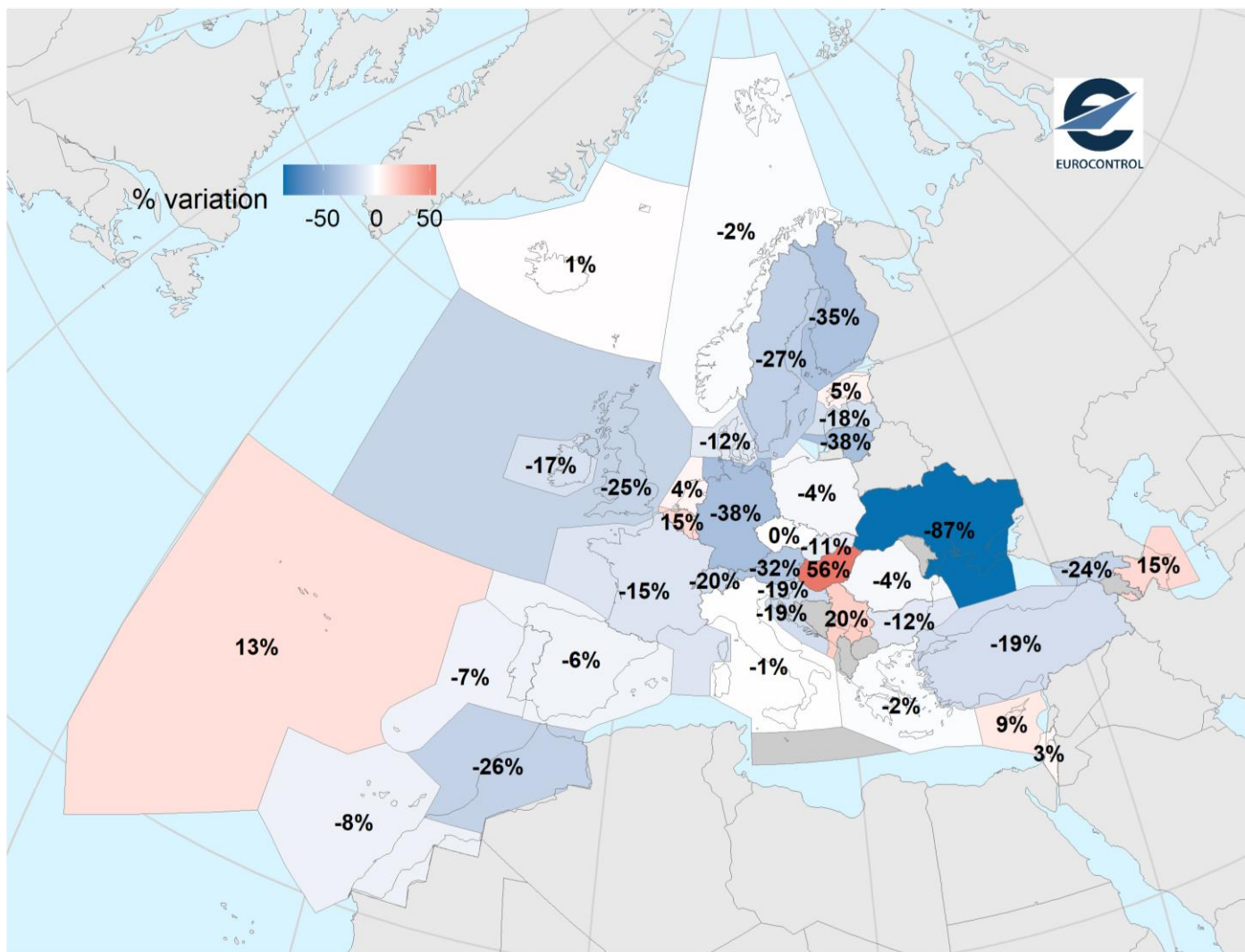
En-route service units (TSU) are calculated for each flight and used to bill airspace users for the cost of air navigation services this flight has received.



FLIGHTS TRENDS

Domestic flows (already eroding) under environmental pressure

Traffic Zone (based on FIR) % internals variation 2022 vs 2019



Note: Showing only Traffic Zones with 1,000 or more flights per year in 2022.

Examples of recent initiatives:

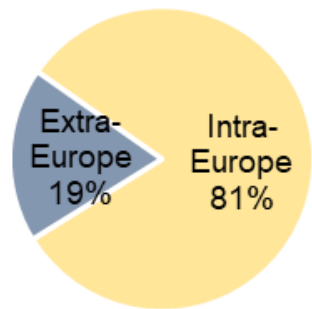
- **Austria** and **France** banning short-haul domestic flights where trains are available,
- **Spain, Germany** and **Austria** proposing cheap train ticket deals.
- **KLM** or **Swiss** entering into rail partnerships on certain air routes,
- **KLM** and **Transavia** increasing ticket prices to pay for the use of SAF.



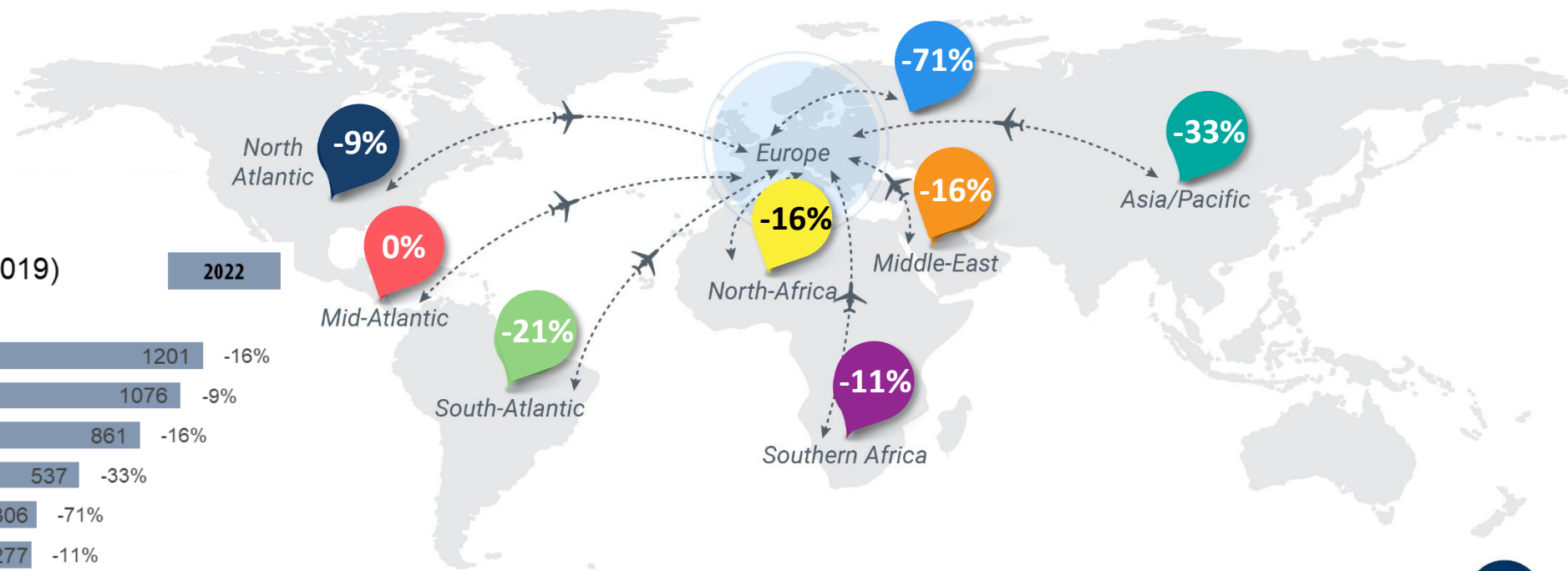
FLIGHTS TRENDS

Russian Federation and Asia/Pacific lagging behind

Share of total flights



Traffic evolution between worldwide Regions (2022 vs 2019)



Europe = ECAC 44 Member States

2019

Europe - Top Region Pairs (2022 vs. 2019) avg daily flights (dep/arr)

2022

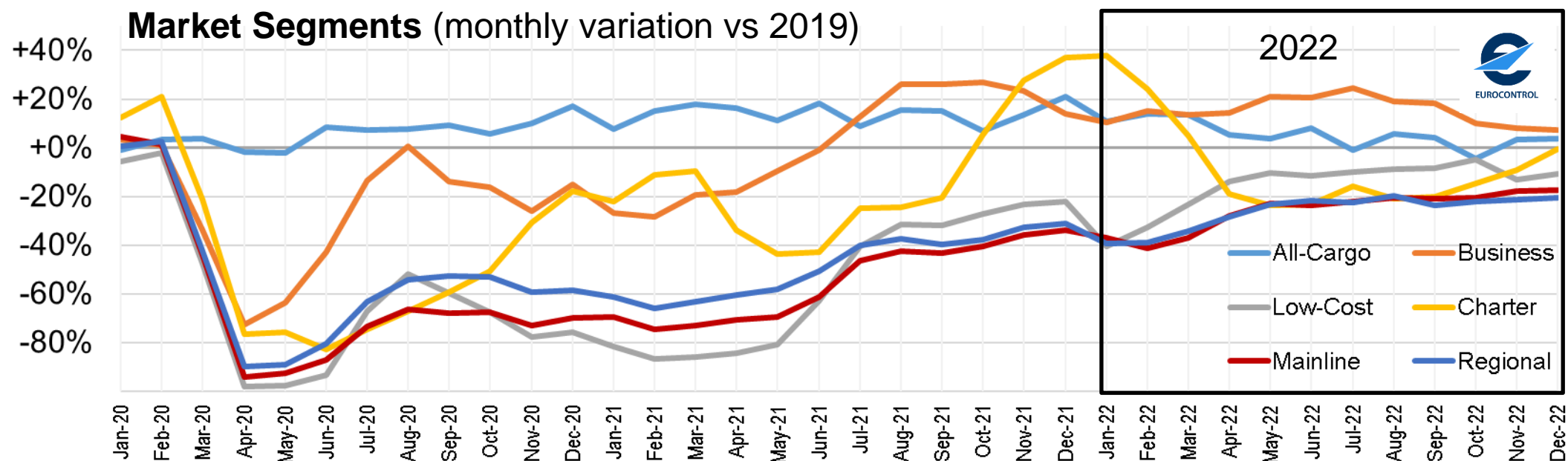
Region	2019
Middle-East	1429
North Atlantic	1186
Other Europe	1039
North-Africa	1028
Asia-Pacific	797
Southern Africa	312
South-Atlantic	186
Mid-Atlantic	174

Region	2022	Change (%)
Middle-East	1201	-16%
North Atlantic	1076	-9%
North-Africa	861	-16%
Asia-Pacific	537	-33%
Other Europe	306	-71%
Southern Africa	277	-11%
Mid-Atlantic	174	0%
South-Atlantic	146	-21%



FLIGHTS TRENDS

Low-cost carriers leading Europe's recovery



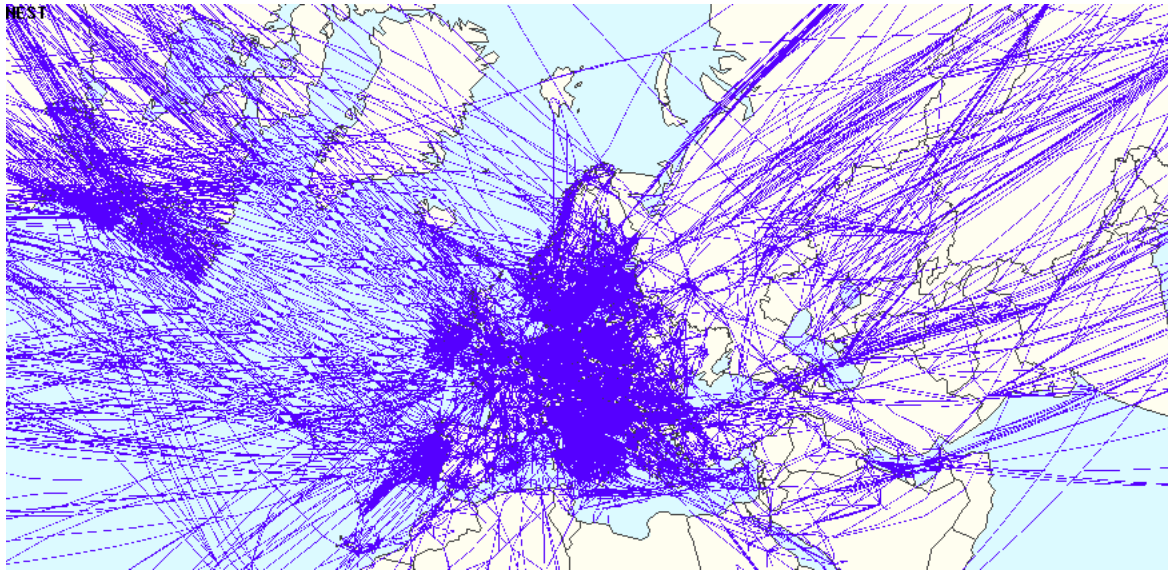
- **Low-cost carriers** consistently outperforming **mainline** and **regional** sectors, closing 2022 with market share of 32.3%, just behind mainline carriers (32.4%).
- After increased demand during the pandemic, market share of **All-Cargo segment** reverting to pre-COVID share (4.2%) in 2022. Fall in cargo capacity caused by the Russia's invasion of Ukraine now strongly impacting this segment.
- Since end 2022, **Business aviation** operating below 2021 levels. Market share declining in 2022 (8.6% vs. 11.4% in 2021), but still remaining significantly higher than in 2019 (6.2%).

RUSSIA'S INVASION OF UKRAINE

Some overflights and long-haul routes affected

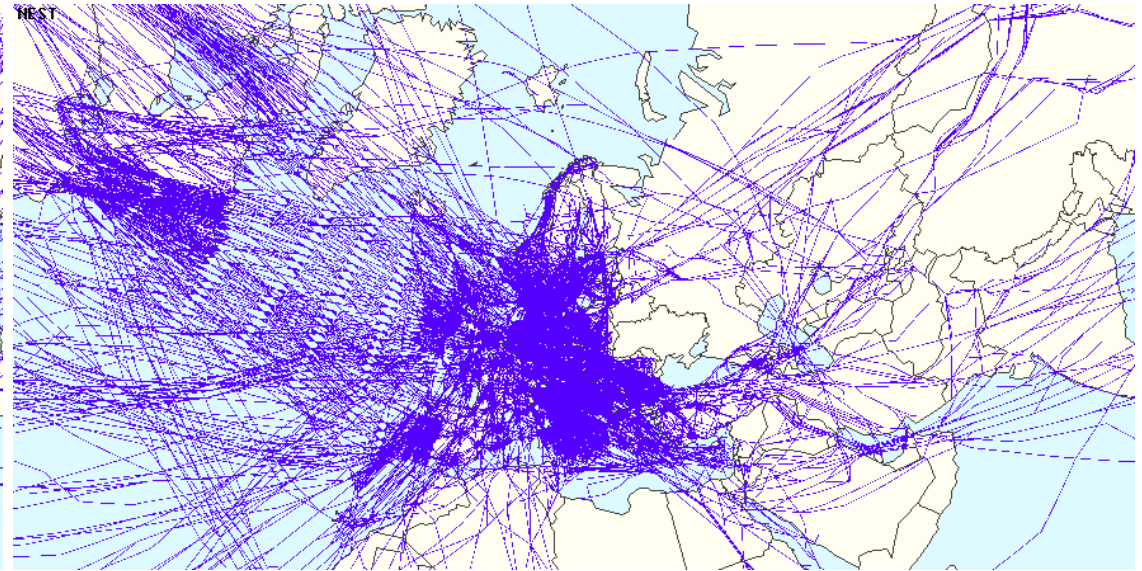
Summer 2019

Friday 16 August 2019



Summer 2022

Friday 19 August 2022



- **Closure** of Ukraine airspace since 24 February 2022,
- **Fewer overflights:** mainly Baltic States, Scandinavian States and Poland,
- **More overflights:** mainly States in South-East Europe,
- ▶▶ **Forecast up to 2029,** routes used are those flown in the period March 2022 - January 2023.

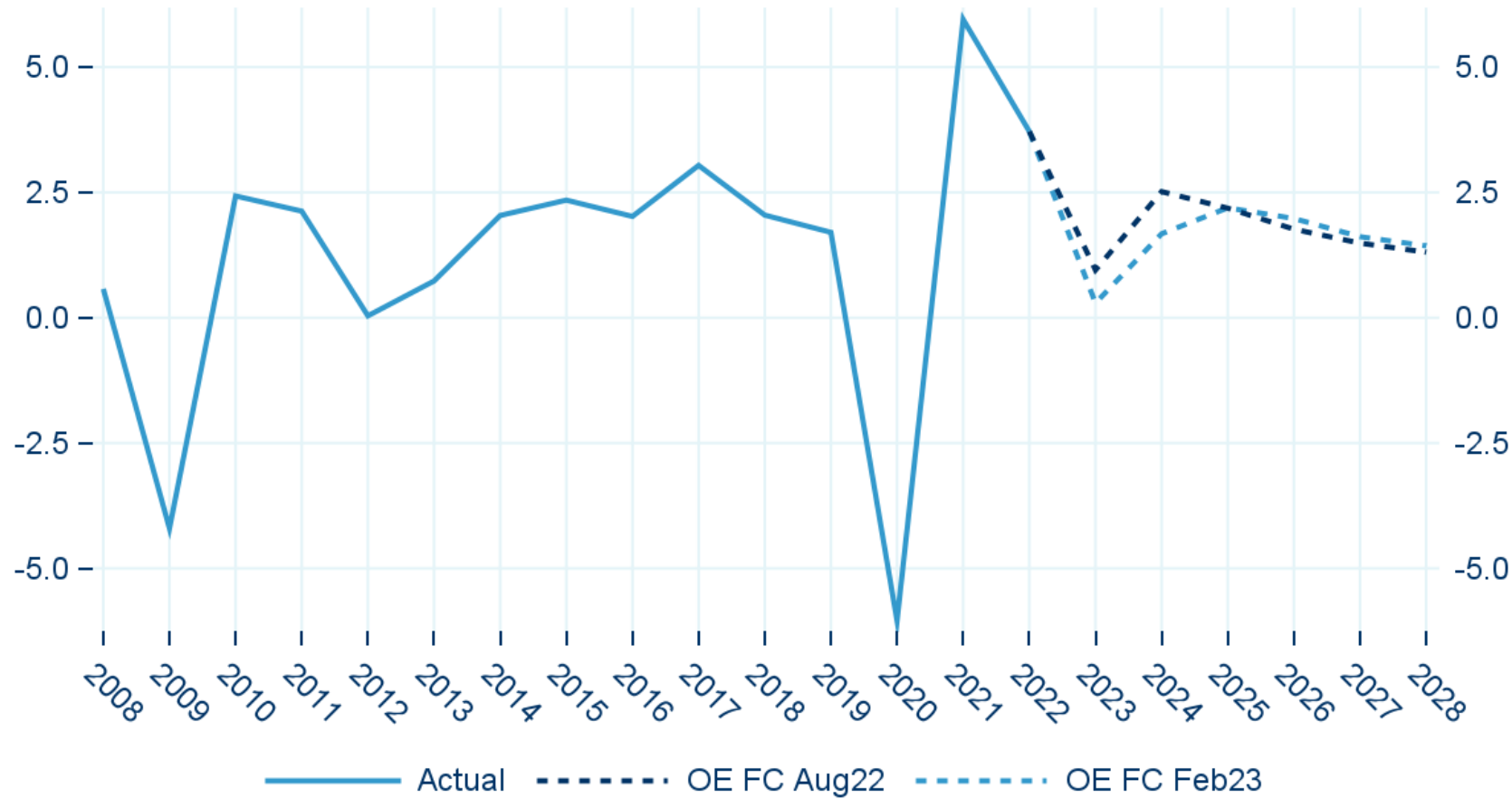


ECONOMIC GROWTH

GDP baseline forecast revised downwards in 2023 and 2024

GDP Growth (%)

Zone = ECAC Area



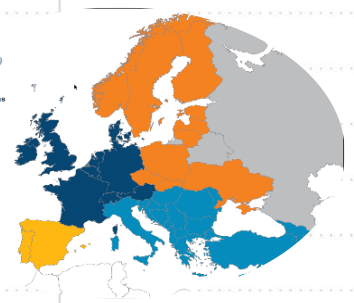
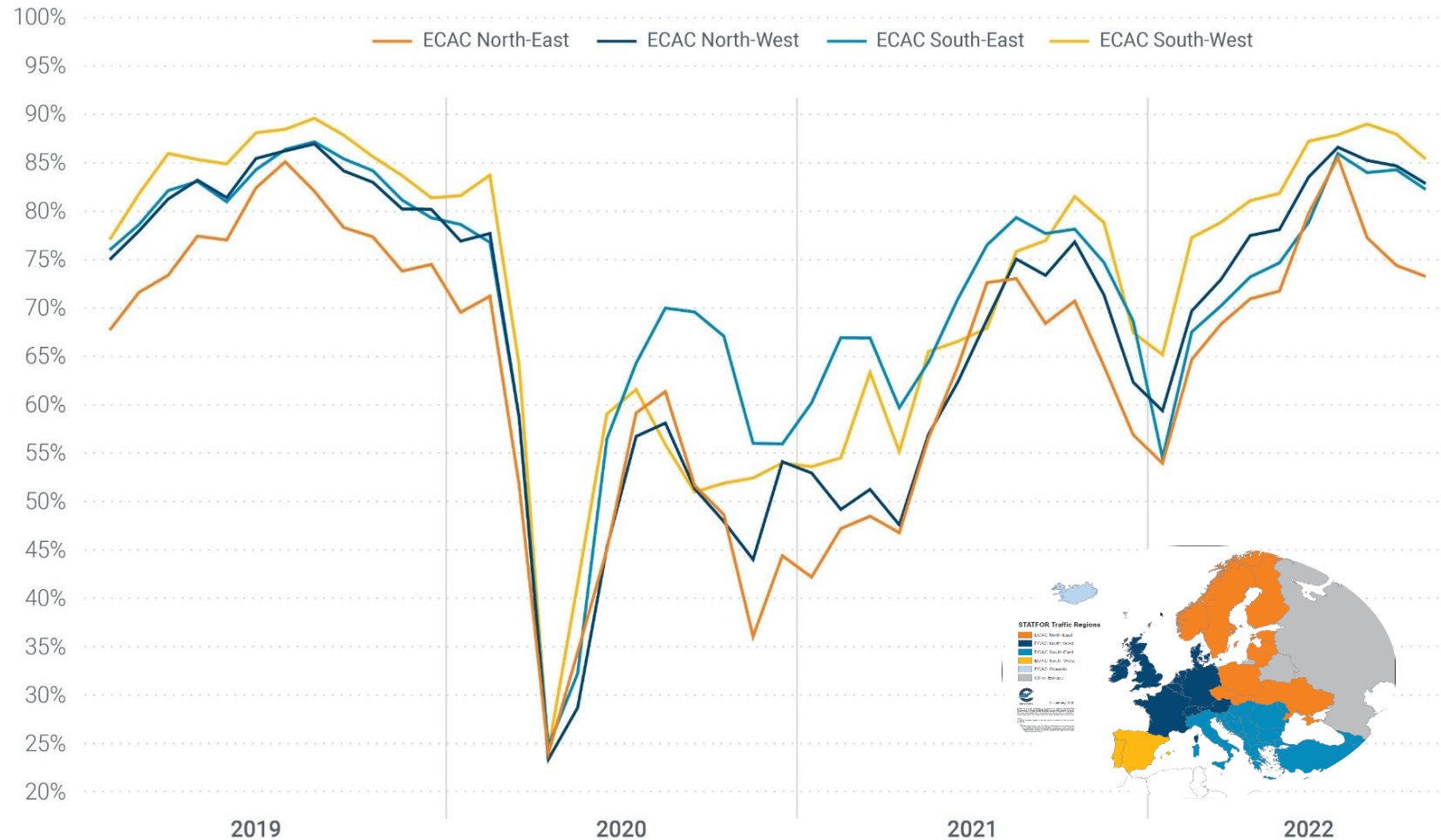
Source: Oxford Economics, Release: February 2023

- ▶▶ Downward revision in 2023 and 2024 of the baseline projections of Oxford Economics explained by the impact of **energy supply disruptions**, **higher inflation** and the **related fall in confidence**.
- ▶▶ Uncertainty remains very high, with **risks** skewed to the **downside**.



LOAD FACTORS

Load factors are returning to similar pre-COVID levels



- ➔ **Passenger load factors for Western Europe** reaching pre-pandemic load factors. North-East or South-East not yet back.
- ➔ **Europe South-West** outperforming other regions.
- **Forecast up to 2029**, we expect load factors in the base to increase to:
 - 81% **North-East**,
 - 87% **North-West & South-East**,
 - 90% **South-West**.

Source: EUROSTAT, STATFOR analysis

Note: Passengers and seats information are available from EUROSTAT but this only covers major flows. So, load factors are based on this subset of flights.



KEY FACTORS INFLUENCING THE FORECAST RANGE

Forecast range as an indicator of the risk

Behind the Scenes of the Forecast Range

Key Factors

Russia's invasion of Ukraine

- **Restrictions** on Ukrainian, Russian, Belarusian and Moldovan airspaces to **remain** until the end of the horizon (2029).
- Overall **degradation** of the economic situation. **Downward** revision of the GDP forecast for 2023 and 2024 due to the impact of energy supply disruptions, higher inflation and the related fall in confidence.
- **High** energy prices and the **cost-of-living crisis** to affect travel demand.
- Cargo segment **strongly** impacted due to constrained operations of key cargo carriers.

Post-pandemic recovery

- Long-haul flows **recovering well**. Recovery of Asia/Pacific region affected by airspace closures.
- Business aviation: after the strong uplift, the segment is **levelling off** with the return of some passengers to scheduled services.
- Staff shortages **affecting** the capacity of airlines and airports, especially when demand is high (Summer).

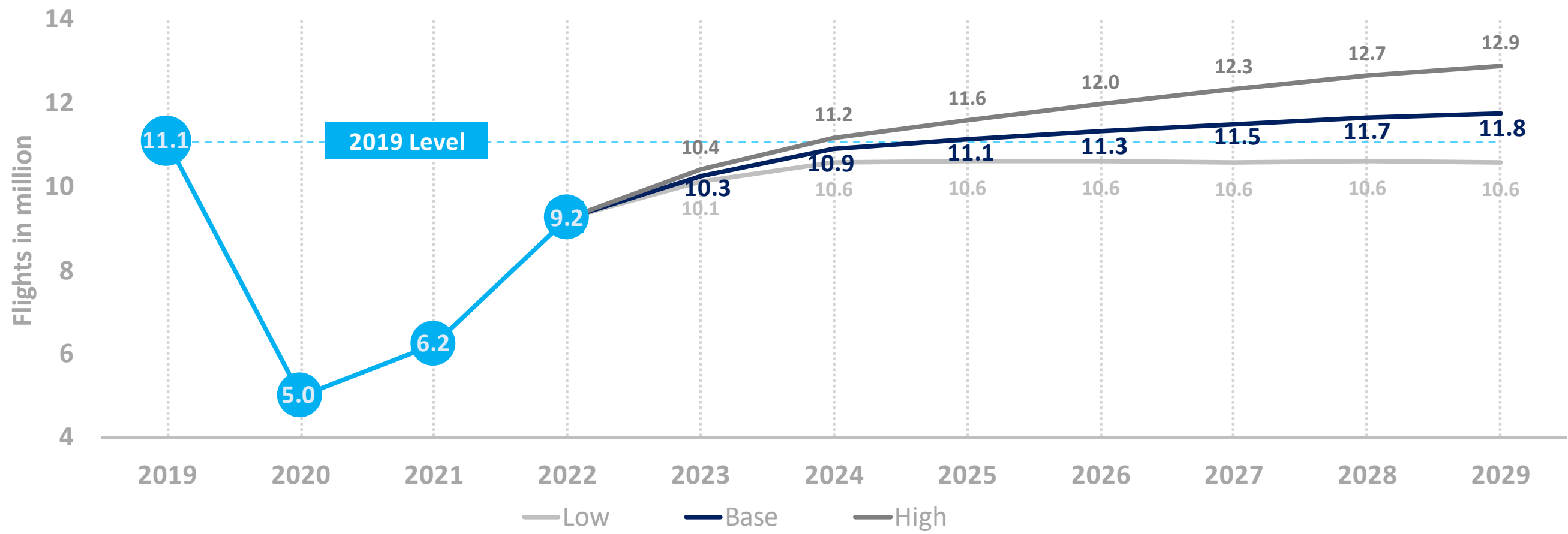
Environmental pressure

- Taxes imposed by some government for environmental protection affecting **domestic flights** (switch to train). Impact on ticket prices on long-haul flows might curb the demand for air travel.



EUROCONTROL STATFOR 7-YEAR FORECAST FOR *EUROPE 2023-2029 (SPRING 2023)

Actual and future IFR movements



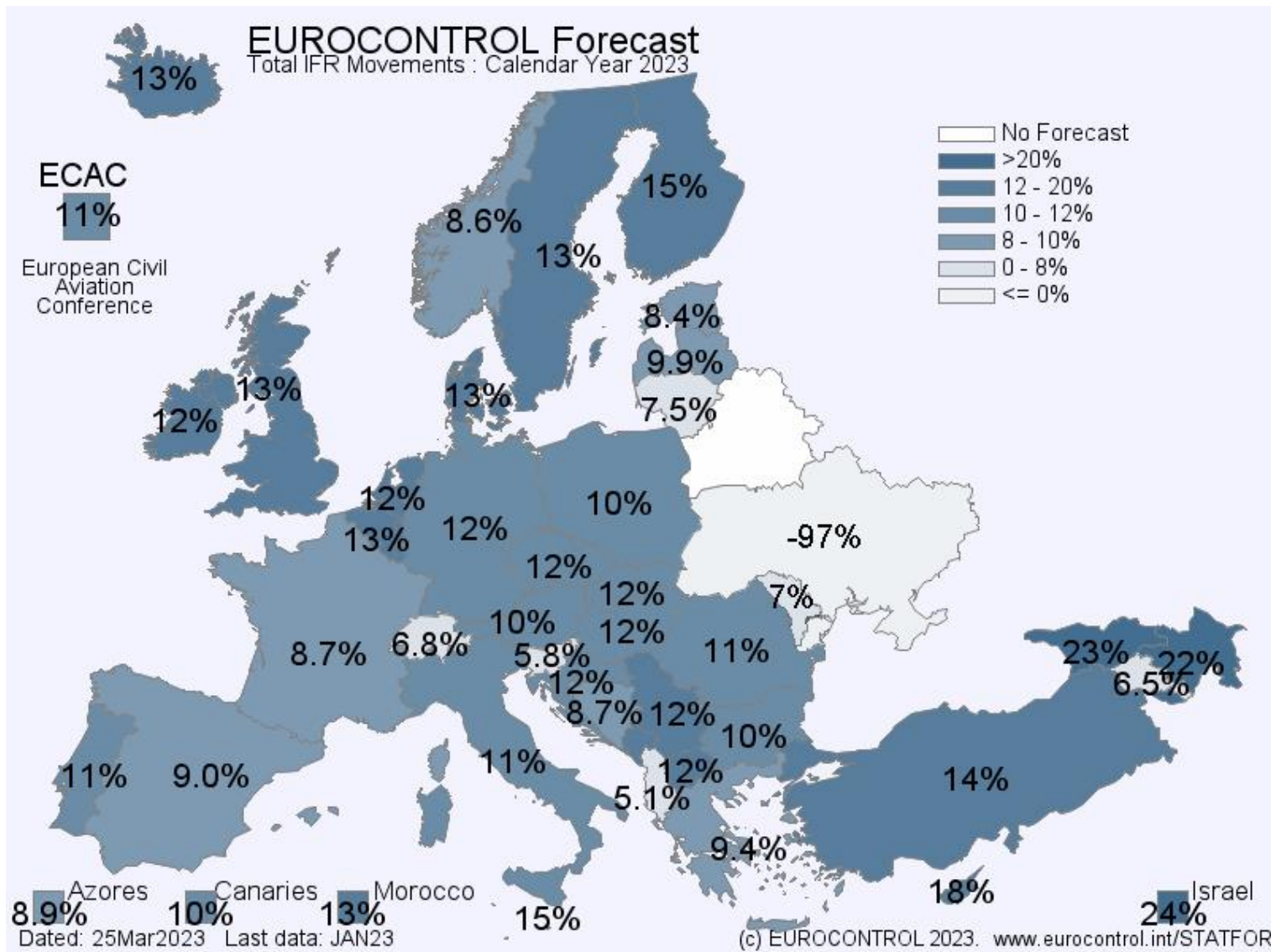
Source: EUROCONTROL 7-year Forecast 2023-2029, Spring 2023.

* Europe = ECAC 44 Member States



EUROCONTROL STATFOR FLIGHT FORECAST FOR 2023

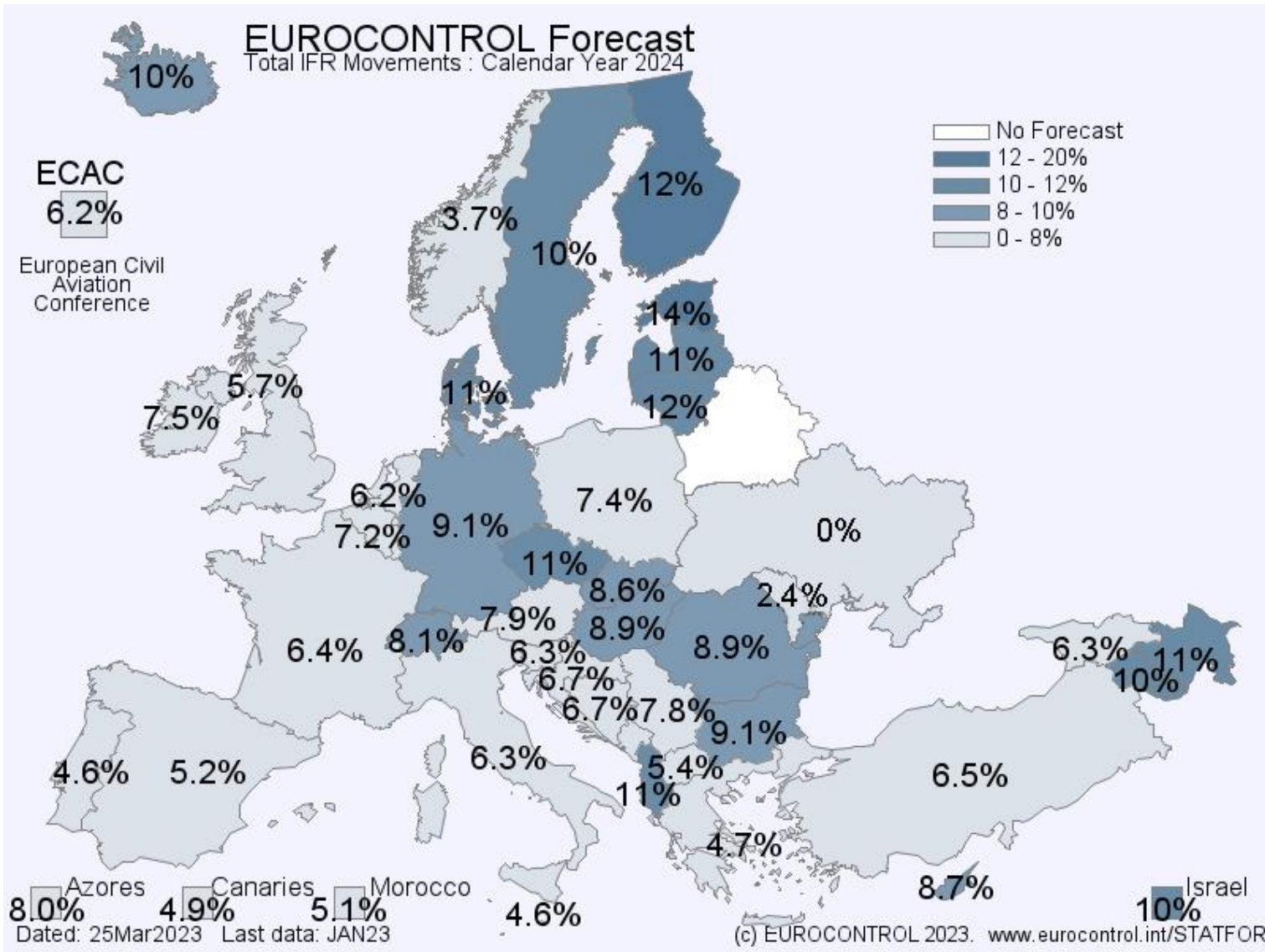
A slight upwards revision for ECAC to +11% (± 1.7 pp for low-to-high range)





EUROCONTROL STATFOR FLIGHT FORECAST FOR 2024

ECAC +6.2% (±1.4pp for low-to-high range)





EUROCONTROL STATFOR 7-YEAR FORECAST

FLIGHT FORECAST (Spring 2023)

Summary of flight forecast for Europe (ECAC)

ECAC*		2016**	2017	2018	2019	2020**	2021	2022	2023	2024**	2025	2026	2027	2028**	2029
IFR Flight Movements (Thousands)	High	.	.	.	.	.	.	9,238	10,420	11,175	11,591	11,975	12,340	12,659	12,908
	Base	10,197	10,604	11,002	11,085	4,979	6,231	9,238	10,272	10,905	11,146	11,330	11,490	11,661	11,771
	Low	.	.	.	.	.	.	9,238	10,122	10,576	10,627	10,621	10,597	10,621	10,591
Annual Growth (%) <small>Compared to previous year.</small>	High	.	.	.	.	.	.	48%	12.8%	7.2%	3.7%	3.3%	3.0%	2.6%	2.0%
	Base	2.8%	4.0%	3.8%	0.8%	-55%	25%	48%	11.2%	6.2%	2.2%	1.7%	1.4%	1.5%	0.9%
	Low	.	.	.	.	.	.	48%	9.6%	4.5%	0.5%	-0.1%	-0.2%	0.2%	-0.3%
Daily Growth (%) <small>Compared to previous year. Removing leap year effect.</small>	High	.	.	.	.	.	.	48%	12.8%	7.0%	4.0%	3.3%	3.0%	2.3%	2.2%
	Base	2.8%	4.0%	3.8%	0.8%	-55%	25%	48%	11.2%	5.9%	2.5%	1.7%	1.4%	1.2%	1.2%
	Low	.	.	.	.	.	.	48%	9.6%	4.2%	0.8%	-0.1%	-0.2%	0.0%	0.0%
Fraction of 2019 (%) <small>Compared to 2019 level.</small>	High	.	.	.	.	.	.	83%	94%	101%	105%	108%	111%	114%	116%
	Base	.	.	.	100%	45%	56%	83%	93%	98%	101%	102%	104%	105%	106%
	Low	.	.	.	.	.	.	83%	91%	95%	96%	96%	96%	96%	96%

* ECAC is the European Civil Aviation Conference

** leap year

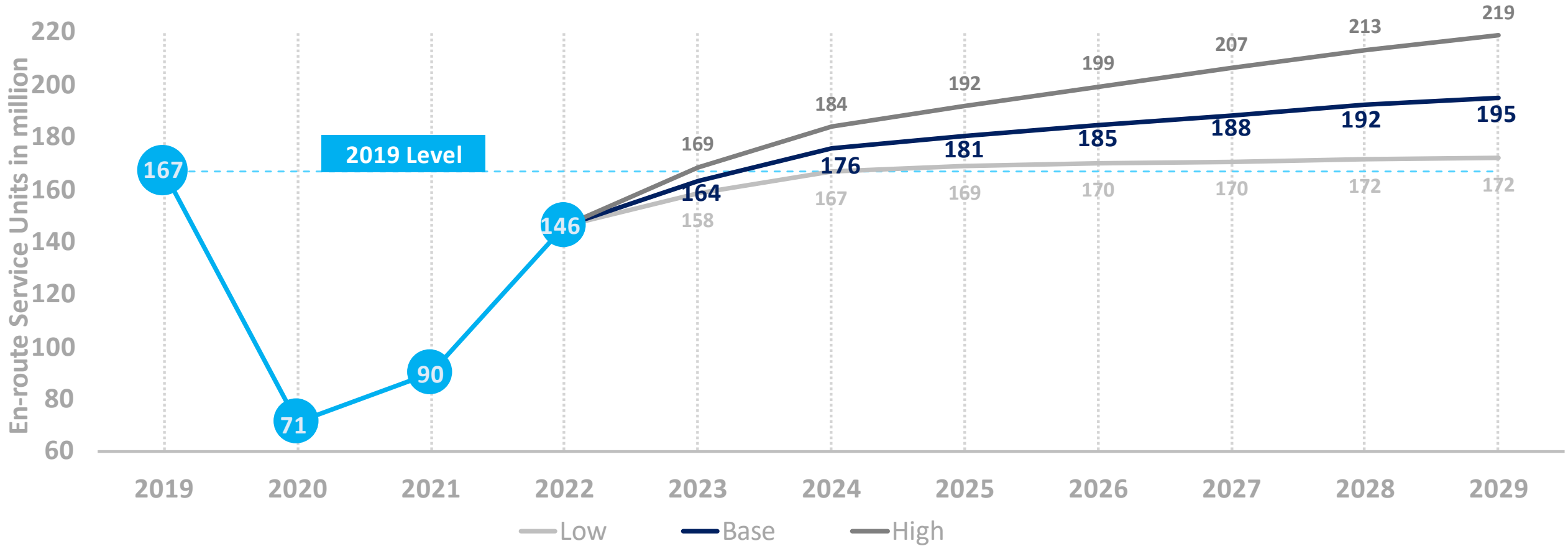
Source:

EUROCONTROL 7-year Forecast 2023-2029, Spring 2023.



EUROCONTROL STATFOR 7-YEAR FORECAST FOR °EUROPE 2023-2028 (SPRING 2023)

Actual and future **En-Route Service Units**



° Europe corresponds to 39 Contracting States of the Multilateral Route Charges System (without Ukraine).

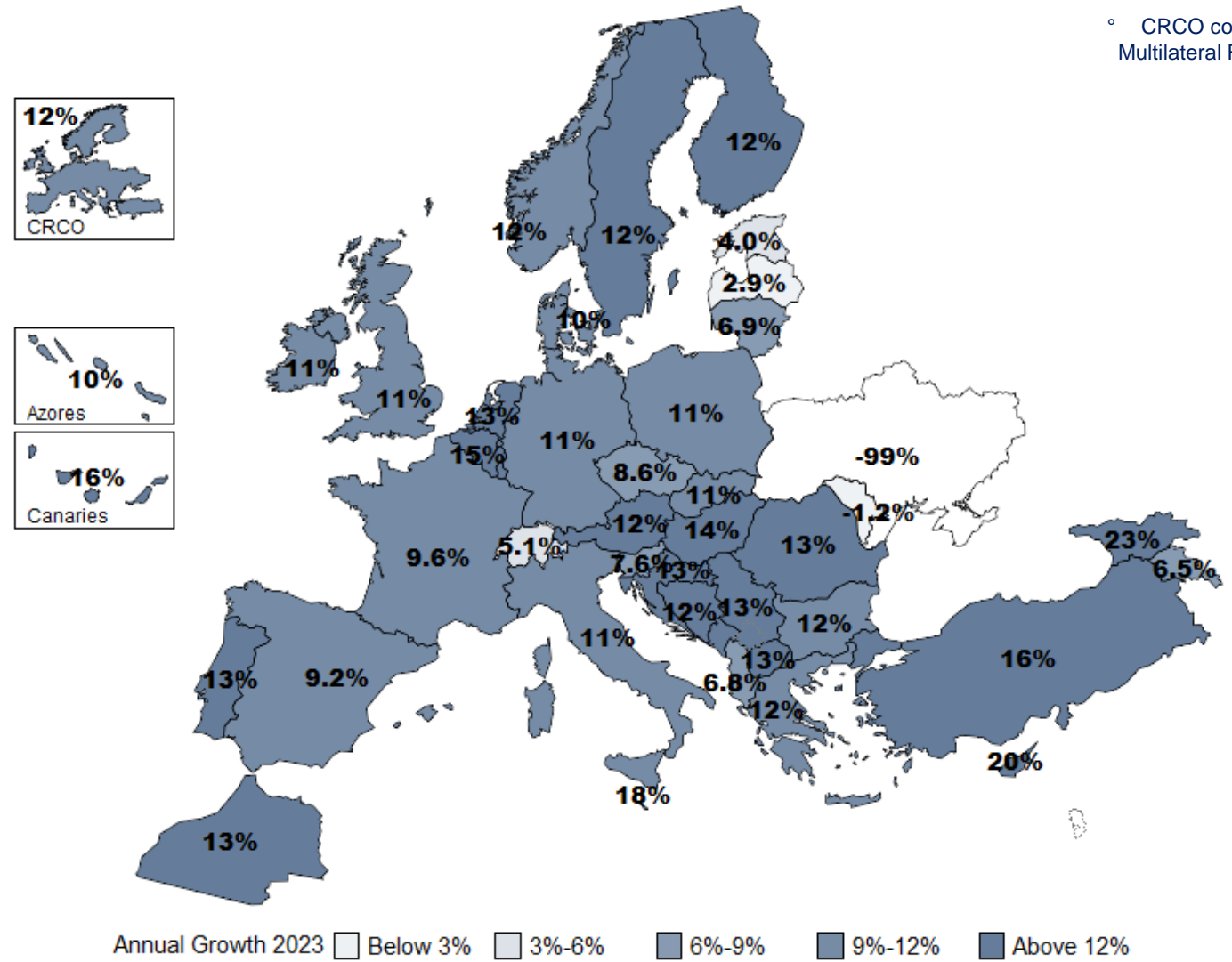
Source: EUROCONTROL 7-year Forecast 2023-2029, Spring 2023.



EUROCONTROL STATFOR **TSU** FORECAST FOR 2023

A slight upwards revision for CRCO° to +11.8% (±3.5pp for low-to-high range)

° CRCO corresponds to 39 Contracting States of the Multilateral Route Charges System (without Ukraine).



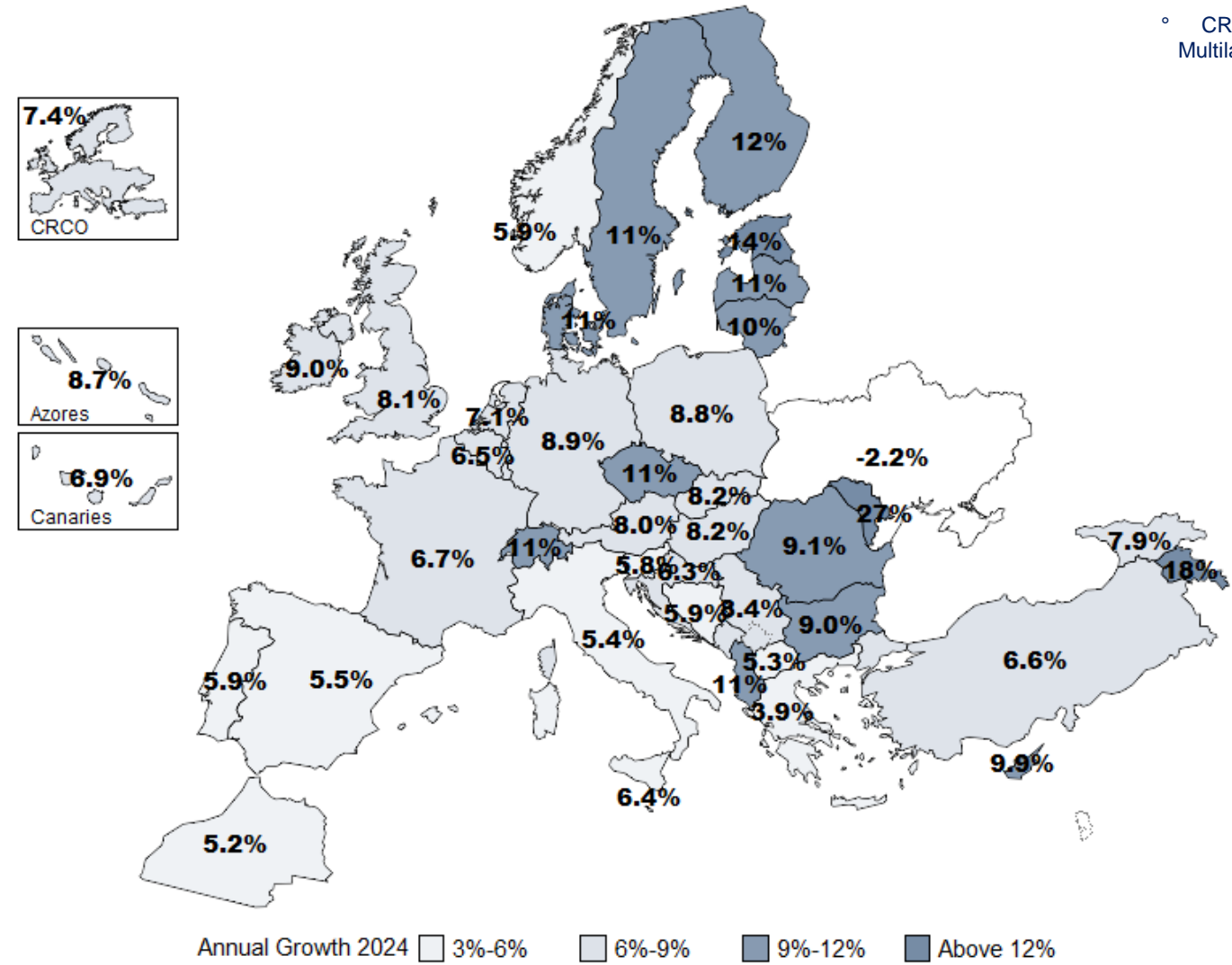
Source: EUROCONTROL 7-year Forecast 2023-2029, Spring 2023.



EUROCONTROL STATFOR TSU FORECAST FOR 2024

CRCO° +7.4% (±1.8pp for low-to-high range)

° CRCO corresponds to 39 Contracting States of the Multilateral Route Charges System (without Ukraine).



Source: EUROCONTROL 7-year Forecast 2023-2029, Spring 2023.



EUROCONTROL STATFOR 7-YEAR FORECAST

EN ROUTE SERVICE UNITS FORECAST (SPRING 2023)

Summary of TSU forecast

CRCO°		2016**	2017	2018	2019	2020**	2021	2022	2023	2024**	2025	2026	2027	2028**	2029
En-route Service Units (Thousands)	High	.	.	.	.	.	.	146,221	168,716	183,948	191,776	199,363	206,696	213,374	218,901
	Base	144,274	153,194	162,512	167,000	70,828	89,680	146,221	163,515	175,595	180,610	184,718	188,372	192,222	195,062
	Low	.	.	.	.	.	.	146,221	158,348	167,078	169,061	169,978	170,445	171,652	171,954
Annual Growth (%) <small>Compared to previous year.</small>	High	.	.	.	.	.	.	63%	15%	9.0%	4.3%	4.0%	3.7%	3.2%	2.6%
	Base	4.2%	6.2%	6.1%	2.8%	-58%	27%	63%	12%	7.4%	2.9%	2.3%	2.0%	2.0%	1.5%
	Low	.	.	.	.	.	.	63%	8.3%	5.5%	1.2%	0.5%	0.3%	0.7%	0.2%
Daily Growth (%) <small>Compared to previous year. Removing leap year effect.</small>	High	.	.	.	.	.	.	63%	15%	8.7%	4.5%	4.0%	3.7%	2.9%	2.9%
	Base	3.9%	6.5%	6.1%	2.8%	-58%	27%	63%	12%	7.1%	3.1%	2.3%	2.0%	1.8%	1.8%
	Low	.	.	.	.	.	.	63%	8.3%	5.2%	1.5%	0.5%	0.3%	0.4%	0.5%
Fraction of 2019 (%) <small>Compared to 2019 level.</small>	High	.	.	.	.	.	.	88%	101%	110%	115%	119%	124%	128%	131%
	Base	.	.	.	100%	42%	54%	88%	98%	105%	108%	111%	113%	115%	117%
	Low	.	.	.	.	.	.	88%	95%	100%	101%	102%	102%	103%	103%
SES-RP3°°		2016**	2017	2018	2019	2020**	2021	2022	2023	2024**	2025	2026	2027	2028**	2029
En-route Service Units (Thousands)	High	.	.	.	.	.	.	108,508	124,709	135,879	141,570	147,037	152,230	156,825	160,500
	Base	109,333	115,160	121,822	125,206	52,595	66,991	108,508	120,719	129,579	133,176	136,055	138,541	141,127	142,928
	Low	.	.	.	.	.	.	108,508	116,795	123,228	124,557	125,063	125,198	125,878	125,861
Annual Growth (%) <small>Compared to previous year.</small>	High	.	.	.	.	.	.	62%	15%	9.0%	4.2%	3.9%	3.5%	3.0%	2.3%
	Base	4.2%	6.2%	6.1%	2.8%	-58%	27%	62%	11%	7.3%	2.8%	2.2%	1.8%	1.9%	1.3%
	Low	.	.	.	.	.	.	62%	7.6%	5.5%	1.1%	0.4%	0.1%	0.5%	0.0%
Daily Growth (%) <small>Compared to previous year. Removing leap year effect.</small>	High	.	.	.	.	.	.	62%	15%	8.7%	4.5%	3.9%	3.5%	2.7%	2.6%
	Base	3.9%	5.6%	5.8%	2.8%	-58%	28%	62%	11%	7.0%	3.1%	2.2%	1.8%	1.6%	1.6%
	Low	.	.	.	.	.	.	62%	7.6%	5.2%	1.4%	0.4%	0.1%	0.3%	0.3%
Fraction of 2019 (%) <small>Compared to 2019 level.</small>	High	.	.	.	.	.	.	87%	100%	109%	113%	117%	122%	125%	128%
	Base	.	.	.	100%	31%	40%	87%	96%	103%	106%	109%	111%	113%	114%
	Low	.	.	.	.	.	.	87%	93%	98%	99%	100%	100%	101%	101%

° CRCO corresponds to 39 Contracting States of the Multilateral Route Charges System (without Ukraine).

°° SES-RP3 corresponds 29 States that are involved in the EU-wide performance target setting for the third period.

** leap year

Source: EUROCONTROL 7-year Forecast 2023-2029, Spring 2023.

ADDITIONAL RISKS NOT INCLUDED IN THE FORECAST



Higher inflation and **greater uncertainty** triggered by Russia's invasion of Ukraine have emerged as key risks. A longer period of conflict with bigger disruptions to energy markets would translate into a bigger hit to the **global economic expansion**. Current forecast includes different economic forecasts, but a further deterioration of the economic situation and **geopolitical tensions** is a downside risk.



The **oil price outlook** remains very uncertain, and the lack of available refining capacity is a downside risk for the airline industry.



Further environmental pressures: Additional measures to reduce emissions from aviation are a downside risk.



Future **airspace and network changes** (e.g. unexpected closures/reopenings, new routes) and **airlines' changing choice of routes** are not modelled by the forecast. We currently assume that the Ukrainian and Russian airspaces remain closed till the end of the horizon (2029)*.



Terrorist attacks, bans of one country on another one, wars and natural disasters. These are impossible to predict. Their impact on air traffic could however be temporary, or more long term.



The cancellations due to strikes as well as shortage of staff in airports and airlines are also downside risks.

* The routes used in the forecast are those flown in the period Mar22-Jan23.

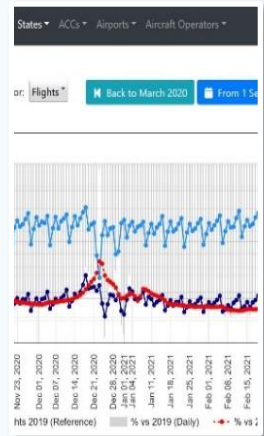
USEFUL LINKS



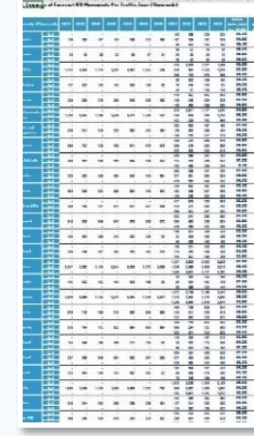
A presentation of the geographical definitions can be found in [Annex - Traffic Region Definitions](#)



Connect to the [STATFOR Interactive Dashboard](#)



Connect to the [Aviation Intelligence Dashboard](#)



The forecast per state can be found in [Annex - Detailed Traffic Forecast](#)

For further info, please contact the forecasting team: statfor.info@eurocontrol.int

To further assist you in your analysis, EUROCONTROL provides the following additional information:

1. EUROCONTROL STATFOR Interactive Dashboard :

www.eurocontrol.int/dashboard/statfor-interactive-dashboard

The STATFOR interactive dashboard (SID) is a unique source of statistics on flights in Europe. Thanks to the segmented approach of the SID, users benefit from a customisable and flexible interface; early access to statistics – updated and made available in the first week of each month; a wide coverage of the statistics, synchronisation with the other STATFOR products.



2. EUROCONTROL Daily Traffic Variation dashboard:

www.eurocontrol.int/Economics/

This dashboard provides traffic for Day+1 for all European States; for the largest airports; for each Area Control Centre (ACC) and for the largest airline operators.



3. EUROCONTROL “Our Data” Portal:

www.eurocontrol.int/our-data/

This webpage provides an overview of key charts and publications related to European aviation performance.



For more information please contact statfor.info@eurocontrol.int



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