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Runway Performance Report **2024**

# OSTEND-BRUGES INTERNATIONAL

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Runway performance report

# Ostend–Bruges International

# EXECUTIVE SUMMARY

This report provides an overview of the Air Traffic Management (ATM) performance at Ostend-Bruges International Airport. ATM performance is driven by four Key Performance Areas (KPAs): safety, capacity, environment and cost-efficiency. Its aim is to provide our main stakeholders and anyone else interested with traffic figures for 2024 and relevant data on the performance of our operations at Ostend Airport, namely on three of the four KPAs: safety, capacity and punctuality, and environment.

## Traffic

Due to the runway renovation work, traffic at Ostend Airport in 2024 decreased compared to 2023 and 2019. A total of 18,985 movements were recorded at Ostend Airport, a decrease of 16% compared to 2023 and a decrease of 28% compared to 2019.

Instrument flight rules (IFR) traffic decreased by 34% compared to 2023 and by 29% compared to 2019. Visual flight rules (VFR) traffic accounted for the majority of traffic (approximately 67% of the total). However, there was a 3% decrease in VFR traffic compared to 2023. One of the main causes of the decrease is attributed to the decline in training flights.

Cargo traffic also decreased – there was 53% less traffic compared to 2023 and 11% less compared to 2019. In terms of traffic patterns, hourly traffic decreased throughout the day in 2024 compared to 2023, 2022, and 2019.

## Safety

Safety is an important pilar of air traffic control. As such, safety occurrences and missed approaches are followed up by skeyes' safety unit that analyses the situations, trends and, if necessary, conducts investigations.

The number of missed approaches, a procedure used when the approach cannot be continued for a safe landing, and particularly their cause can indicate which measures are to be taken to improve the safety of air navigation service provision. In 2024, 16 missed approaches were logged. The rate of missed approaches per 1,000 arrivals decreased from 1,9 in 2023 to 1,7 in 2024. The main cause for missed approaches in 2024 was weather (visibility).

For safety occurrences, the report shows that the runway incursions decreased from nine in 2023 to four in 2024. Out of those four, three were with ATM contribution and one without. Overall, safety occurrences, other than missed approaches, decreased.

## Capacity and Punctuality

Capacity is one of the KPAs and in this report, the declared IFR capacity is given together with a view on the utilisation of the capacity. In 2024, the declared capacity was exceeded on seven occasions. On all of these occasions, VFR traffic made up at least 75% of the traffic movements.
While there is no annual target with regard to Air Traffic Flow Management (ATFM) arrival delay for Ostend Airport, skeyes still registers the arrival ATFM delays, as part of a continuous monitoring of the Air Navigation Service Provider's (ANSP) performance. In 2024, there was no ATFM regulation that was put in place.

In 2024, flights landing in Ostend Airport experienced a total of 7,693 minutes of ATFM delay, out of which 93 were due to skeyes' regulations. Flights taking off from Ostend Airport totalled 6,811 minutes of ATFM delay: 135 minutes were attributable to skeyes' en-route regulations.

## Environment

In 2024, compliance with the Preferential Runway System (PRS) in place at night at Ostend Airport was achieved for 80% of departures and 54% of arrivals. When combined, the total compliance rate with the PRS was 67%.

This report also analyses night movements as well, revealing that in 2024 traffic increased between 23:00 and 23:59 (local time), however, it decreased during the rest of the night hours.

# SAMENVATTING

Dit verslag biedt een overzicht van de prestaties inzake luchtverkeersbeheer (Air Traffic Management, ATM) op de internationale luchthaven van Oostende-Brugge. Die prestaties worden bepaald door vier prestatiekerngebieden (KPAs, Key Performance Areas): veiligheid, capaciteit, milieu en kostenefficiëntie. Het verslag beoogt aan onze belangrijkste stakeholders en belangstellenden de verkeerscijfers voor 2024 en relevante data over de prestaties van onze activiteiten op de internationale luchthaven van Oostende-Brugge te verstrekken, namelijk over drie van de vier prestatiekerngebieden: veiligheid, capaciteit en stiptheid en milieu.

## Verkeer

Door de renovatiewerken aan de baan nam het verkeer op de luchthaven van Oostende in 2024 af, ten opzichte van 2023 en 2019. Er werden in totaal 18.985 bewegingen opgetekend op de luchthaven van Oostende, goed voor een daling met 16% in vergelijking met 2023 en met 28% in vergelijking met 2019.

Het IFR-verkeer (Instrument Flight Rules) daalde met 34% in vergelijking met 2023 en met 29% in vergelijking met 2019. Het VFR-verkeer (Visual Flight Rules) vormde het leeuwendeel van het verkeer (ongeveer 67% van het totaal), maar daalde met 3% ten opzichte van 2023. Een van de belangrijkste oorzaken van de daling wordt toegeschreven aan de afname van het aantal opleidingsvluchten.

Het vrachtverkeer ontsnapte evenmin aan de neerwaartse tendens: het nam af met -53%, vergeleken met 2023 en met -11%, vergeleken met 2019. Wat de verkeerspatronen betreft, nam het verkeer per uur gedurende de dag af in 2024, vergeleken met 2023, 2022 en 2019.

## Veiligheid

Veiligheid is een belangrijke pijler in de luchtverkeersleiding. In dat verband volgt de safety unit van skeyes veiligheidsvoorvallen en afgebroken naderingen op om situaties te analyseren, trends in kaart te brengen en, zo nodig, grondig onderzoek te verrichten.

Het aantal afgebroken naderingen (een procedure die wordt gebruikt wanneer de nadering niet kan worden voortgezet met het oog op een veilige landing), en in het bijzonder de oorzaak ervan, kunnen aangeven welke maatregelen moeten worden genomen om de luchtvaartnavigatiedienstverlening veiliger te maken. In 2024 werden er 16 afgebroken naderingen geregistreerd. Het aantal afgebroken naderingen per 1.000 aankomsten daalde van 1,9 in 2023 tot 1,7 in 2024. De belangrijkste oorzaak voor de afgebroken naderingen in 2024 waren de weersomstandigheden (zicht).

Wat de veiligheidsvoorvallen betreft, toont het verslag aan dat het aantal runway incursions verminderde, van negen in 2023 naar vier in 2024. Van die vier waren er drie met ATM-bijdrage en één zonder. Door de bank genomen nam het aantal veiligheidsvoorvallen, andere dan de afgebroken naderingen, af.

## Capaciteit en stiptheid

Capaciteit is een van de prestatiekerngebieden en in dit verslag wordt de opgegeven IFR-capaciteit aangeduid, samen met een overzicht van de mate waarin die capaciteit benut wordt. In 2024 werd de opgegeven capaciteit zeven keer overschreden. Bij al die gelegenheden was het VFR-verkeer goed voor minstens 75% van de verkeersbewegingen.

Hoewel er voor de luchthaven van Oostende geen jaardoelstelling is vastgelegd, registreert skeyes, in het kader van een continue monitoring van zijn prestaties als luchtvaartnavigatiedienstverlener, nog altijd de ATFM-vertraging(en) bij aankomst (ATFM, Air Traffic Flow Management). In 2024 was er nog geen ATFM-reglementering van kracht.

In 2024 liepen vluchten die landden op de luchthaven van Oostende in totaal 7.693 minuten ATFM-vertraging op; 43 minuten daarvan waren te wijten aan reguleringen van skeyes. Vluchten die opstegen van de luchthaven van Oostende liepen in totaal 6.811 minuten ATFM-vertraging op, waarvan 135 minuten te wijten waren aan en-route-reguleringen van skeyes.

## Milieu

In 2024 werd het systeem van preferentieel baangebruik (Preferential Runway System, PRS) dat ‘s nachts op de luchthaven van Oostende van kracht is, voor 80% van de vertrekkende vluchten en voor 54% van de aankomende vluchten nageleefd. Gecombineerd bedraagt de mate waarin het PRS volledig nageleefd werd, 67%.

In dit verslag worden ook de nachtbewegingen geanalyseerd. Daaruit blijkt dat het verkeer in 2024 toenam tussen 23:00 en 23:59 (plaatselijke tijd), maar afnam gedurende de rest van de nachtelijke uren.

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# GLOSSARY

| | |
|---|---|
| **AIP** | Aeronautical Information Publication |
| **AMC** | Acceptable Means of Compliance |
| **AMS** | Airport Movement System |
| **ANSP** | Air Navigation Service Provider |
| **ATC** | Air Traffic Control |
| **ATCO** | Air Traffic Control Officer |
| **ATFM** | Air Traffic Flow Management |
| **ATM** | Air Traffic Management |
| **BCAA** | Belgian Civil Aviation Authority |
| **CAA** | Civil Aviation Authority |
| **COVID-19** | Corona Virus Disease (2019) |
| **CRSTMP** | C - Capacity, R - Routing, S - Staffing, T- Equipment, M - Airspace Management, P - Special Event |
| **CTR** | Control Zone |
| **EBOS** | Ostend–Bruges International Airport |
| **FABEC** | Functional Airspace Block Europe Central |
| **ICAO** | International Civil Aviation Organization |
| **IFR** | Instrument Flight Rules |
| **KPA** | Key Performance Area |
| **MTOW** | Maximum authorized take-off weight |
| **PRS** | Preferential Runway System |
| **RAT** | Risk Analysis Tool |
| **RPAS** | Remotely Piloted Aircraft System |
| **RWY** | Runway |
| **SAFCO** | Local Runway Safety Team at Ostend–Bruges International Airport |
| **UAS** | Unmanned Aircraft System |
| **VFR** | Visual Flight Rules |

# 1 TRAFFIC



This chapter presents the traffic data of Ostend-Bruges International Airport, hereafter referred to as Ostend Airport (International Civil Aviation Organization (ICAO) code: EBOS) as recorded by the Airport Movement System (AMS). AMS is an in-house developed tower air traffic control (ATC) system that records the movements at an aerodrome, within its Control Zone (CTR), and Terminal Control Area (TMA). The movements are defined as an aircraft either crossing the CTR or TMA, landing or taking off at the aerodrome. As this report considers runway performance, movements such as crossings of the CTR or TMA are not considered.

The numerical data presented in this report thus encapsulates movements in the form of take-offs or landings, encompassing all kind of traffic at the aerodrome, including flights under VFR and IFR, helicopters and airplanes, and traffic of any market segment (e.g. commercial, military, or general aviation). Adhering to the aerodrome movement definition established by the Belgian Civil Aviation Authority (BCAA), each recorded instance is quantified as follows:

- **one take-off = one movement**
- **one landing = one movement**
- **one touch-and-go = two movements**

# Traffic Overview

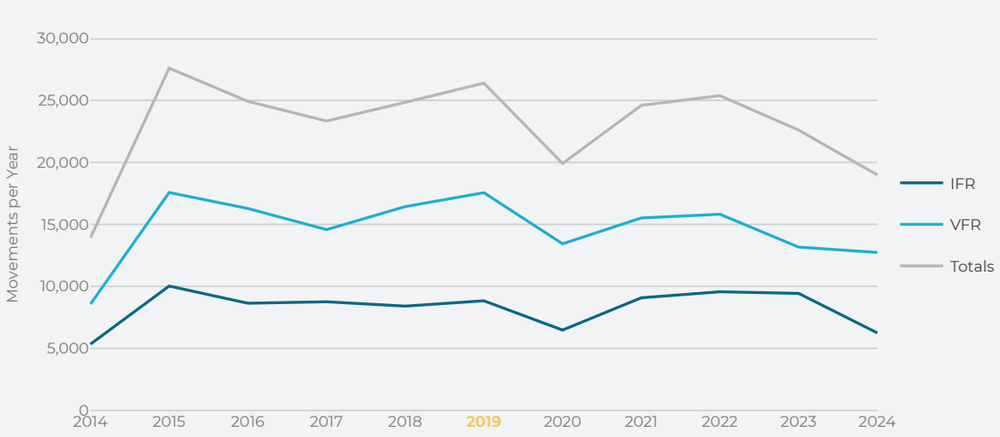
## YEARLY FIGURES

Throughout this report, the yearly analysis is conducted using 2019 as the reference year, as it represents the last full year of pre-pandemic operations, while the past three years are analyzed to highlight the evolving recovery patterns in the aftermath of Corona Virus Disease 2019 (COVID-19). The number of aircraft movements over the past three years, including the reference year of 2019, have evolved as follows:

| | | |
|---|---|---|
| 2019: | **26,387 movements** | (8,835 IFR; 17,552 VFR) |
| 2022: | **25,378 movements** | (9,564 IFR; 15,814 VFR) |
| 2023: | **22,598 movements** | (9,433 IFR; 13,165 VFR) |
| 2024: | **18,985 movements** | (6,249 IFR; 12,736 VFR) |

The historical evolution of traffic patterns can be analyzed in ***Figure 1.1***. After the COVID-19 pandemic, traffic in 2020 dropped significantly. In 2021, both VFR and IFR traffic increased greatly. Going onwards, the recovery of traffic reduced in 2022, showing minor growth in traffic numbers. In 2023 IFR traffic remained stable, while VFR traffic started to drop. Lastly, 2024 shows a decrease of traffic, both IFR and VFR.

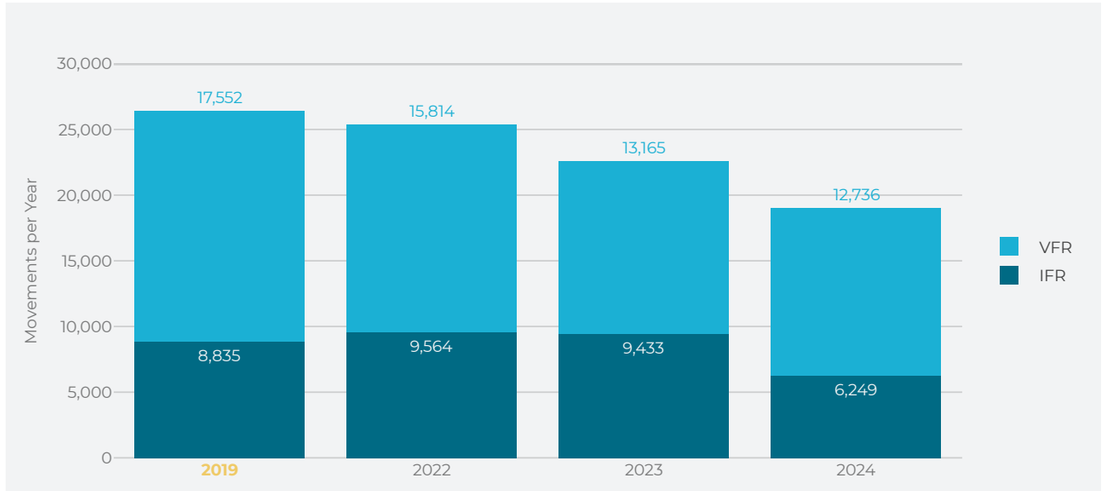
***Figure 1.1:*** *Historical traffic overview*




As seen in ***Figure 1.2***, traffic in 2024 has decreased compared to 2019, 2022, and 2023. The main reason for it is that Ostend Airport's entire runway was renovated in 2024 between January 25th and March 28th. In 2024, there was a 16% decrease of traffic overall compared to 2023 and a 28% decrease of traffic compared to 2019. When looking at flight rules individually, Ostend Airport had mainly VFR traffic in the past years. In 2024 specifically, IFR flights had a greater decrease than VFR flights: VFR flights had a 3% decrease in 2024 comparing to 2023 and a 27% decrease comparing to 2019, while IFR flights had a 34% decrease in 2024 comparing to 2023 and a 29% decrease when comparing to 2019.

However, despite the runway being closed for almost two months, when comparing the period of the runway being operational throughout the years, the traffic in 2024 had increased by 0.8%.

***Figure 1.2:*** *Yearly traffic overview*



## MONTHLY FIGURES

A more detailed analysis of monthly traffic per flight rule can be found in ***Figure 1.3*** and ***Table 1.1***. When comparing IFR traffic in 2024 with past years, there was a decrease of IFR traffic in January (43% less than 2023 and 44% less than 2019), February had almost no traffic (crossing traffic excluded) due to the runway being closed for works. The only two IFR (helicopter) flights that still took place were the ones operated by the Noordzee Helikopters Vlaanderen (NHV) that had permission to use the temporarily established helipad on the apron 3 in EBOS, alongside their own helipad in EBNH, where flights are attributed to the total flights of EBOS. March, April, and May followed a similar pattern to 2019 traffic, just slightly below the 2019 level, with less traffic. June and July didn't match any patterns of the previous years by having less traffic than usual. August had the most traffic when comparing the last years, but it didn't reach the level of 2019. September and October had a similar amount of traffic to 2019 and 2023, November was lower than 2023, but similar to 2019 while December had a decrease and had the lowest amount of traffic compared to the previous years.

Looking at VFR movements, it is clear that they account for the majority of traffic (approximately 67% in 2024) at Ostend Airport. Going month by month, January had a 31% increase of traffic above 2019 levels and a significant 71% increase when compared to 2023. February and March had a significant drop of traffic due to the runway closure, not taking into account overflights - traffic crossing the CTR or TMA. However, in February there were still a total of 87 VFR flights, all were helicopter flights (86 done by the NHV and one by the medical helicopter FHLCA). All of these flights were included in the total VFR flights in Ostend airport, however, none of them were using the runway. As the majority of the flights were done by the NHV, they mainly used their own helipad in EBNH or the temporarily established helipad on apron 3 in EBOS. As for the medical helicopter, it took off from a hospital's helipad and landed near the location where medical assistance was required. April numbers show that traffic recovered, but was still 10% below traffic of 2023. May continues to show increasing numbers as there was 22% more traffic than in 2023. June, July, and August had the most traffic in 2024, being significantly higher than the traffic of 2023, similar to 2019, but lower than 2022. The peak in July had 55% more traffic than in 2023 and just 6% less than in 2019. September followed the trend of the previous years (except 2023) and had a drop of traffic. October had a trending peak of traffic compared to previous years (again except 2023), while November and December showed a trending drop of traffic, common to all previous years in the beginning of winter due to adverse weather conditions.



***Figure 1.3:*** *Monthly movements per year*

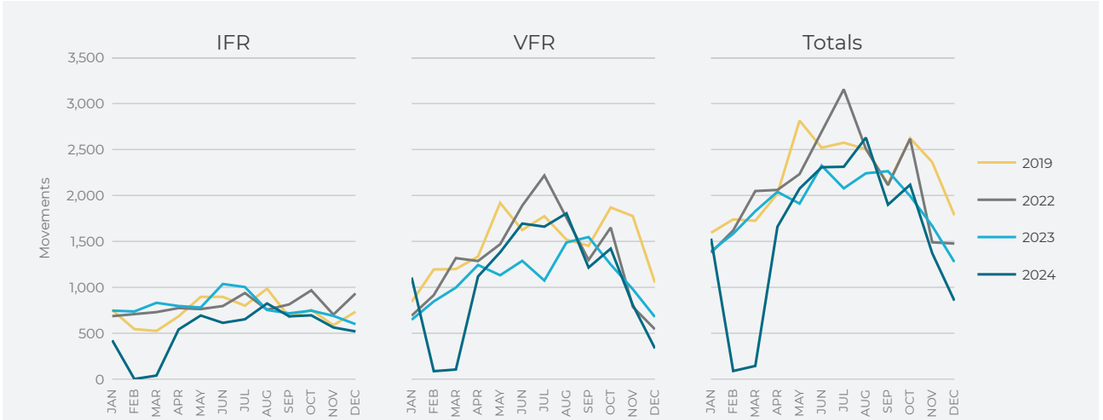



***Table 1.1:*** *Monthly movements per flight rule per year*

| | | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IFR | **2019** | 752 | 545 | 525 | 684 | 896 | 896 | 800 | 985 | 677 | 754 | 587 | 734 | **8,835** |
| | **2022** | 686 | 704 | 730 | 774 | 763 | 796 | 938 | 756 | 814 | 967 | 703 | 933 | **9,564** |
| | **2023** | 746 | 737 | 831 | 796 | 780 | 1,036 | 1,003 | 753 | 717 | 746 | 689 | 599 | **9,433** |
| | **2024** | 423 | 2 | 39 | 541 | 693 | 613 | 652 | 824 | 684 | 695 | 563 | 520 | **6,249** |
| | 2024 vs 2019 | -44% | -100% | -93% | -21% | -23% | -32% | -18% | -16% | +1% | -8% | -4% | -29% | -29% |
| | 2024 vs 2023 | -43% | -100% | -95% | -32% | -11% | -41% | -35% | +9% | -5% | -7% | -18% | -13% | -34% |
| VFR | **2019** | 842 | 1,194 | 1,199 | 1,335 | 1,919 | 1,623 | 1,774 | 1,519 | 1,452 | 1,869 | 1,775 | 1,051 | **17,552** |
| | **2022** | 691 | 915 | 1,318 | 1,286 | 1,469 | 1,889 | 2,217 | 1,751 | 1,298 | 1,650 | 787 | 543 | **15,814** |
| | **2023** | 647 | 846 | 997 | 1,243 | 1,131 | 1,288 | 1,074 | 1,488 | 1,547 | 1,248 | 979 | 677 | **13,165** |
| | **2024** | 1,107 | 87 | 105 | 1,118 | 1,381 | 1,694 | 1,660 | 1,805 | 1,215 | 1,421 | 808 | 335 | **12,736** |
| | 2024 vs 2019 | +31% | -93% | -91% | -16% | -28% | +4% | -6% | +19% | -16% | -24% | -54% | -68% | -27% |
| | 2024 vs 2023 | +71% | -90% | -89% | -10% | +22% | +32% | +55% | +21% | -21% | +14% | -17% | -51% | -3% |
| Total | **2019** | 1,594 | 1,739 | 1,724 | 2,019 | 2,815 | 2,519 | 2,574 | 2,504 | 2,129 | 2,623 | 2,362 | 1,785 | **26,387** |
| | **2022** | 1,377 | 1,619 | 2,048 | 2,060 | 2,232 | 2,685 | 3,155 | 2,507 | 2,112 | 2,617 | 1,490 | 1,476 | **25,378** |
| | **2023** | 1,393 | 1,583 | 1,828 | 2,039 | 1,911 | 2,324 | 2,077 | 2,241 | 2,264 | 1,994 | 1,668 | 1,276 | **22,598** |
| | **2024** | 1,530 | 89 | 144 | 1,659 | 2,074 | 2,307 | 2,312 | 2,629 | 1,899 | 2,116 | 1,371 | 855 | **18,985** |
| | 2024 vs 2019 | -4% | -95% | -92% | -18% | -26% | -8% | -10% | +5% | -11% | -19% | -42% | -52% | -28% |
| | 2024 vs 2023 | +10% | -94% | -92% | -19% | +9% | 0% | +11% | +17% | -16% | +6% | -18% | -33% | -16% |

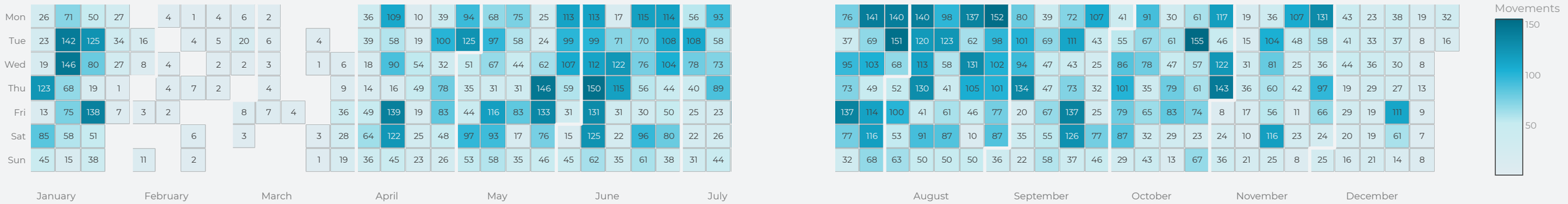



***Figure 1.4:*** *Calendar view of movements per day in 2024*

Overall, traffic in 2024 was 16% lower than in 2023 and 28% lower than in 2019. The greatest drop of traffic was in February and March, with respectively -94% and -92% compared to 2023, due to the runway works. The rest of the year had a fluctuating amount of traffic with the greatest increase in August (17% greater than 2023).

A calendar view with daily movements can be seen in ***Figure 1.4.*** It shows the significant decrease of traffic (including days when there was no traffic at all) during the runway works from the end of January until the end of March, as well as a decrease of traffic towards the end of the year (from November onwards), which is typical for airports that mainly have VFR traffic. It was the busiest during the period between April and October, with top days such as October 22nd having had 155 flights that day, August 26th with 152 flights and July 30th with 151 flight. October 1st was a difficult day for Brussels and Charleroi airports due to strike that led to 17 additional flights for Ostend Airport.[1] However, despite the extra flights, there were only 55 flights in Ostend Airport that day. January, having had an increase of 71% compared to 2023 and 31% compared to 2019, had some peak days as well, namely January 10th with 146 flights, January 9th with 142 flights and January 19th with 138 flights.

Another visible trend is regarding days of the week. Sundays are usually less busy compared to other weekdays, when VFR training flights are not allowed. For more information regarding traffic trends, refer to the following chapter.

1. Strike's impact on Ostend Airport, https://www.aviation24.be/airlines/tui-aviation/tui-fly-belgium/ostend-bruges-and-liege-airports-faced-increased-traffic-due-to-strikes-at-brussels-and-charleroi-airports/ (URL retrieved on 31/01/2025)

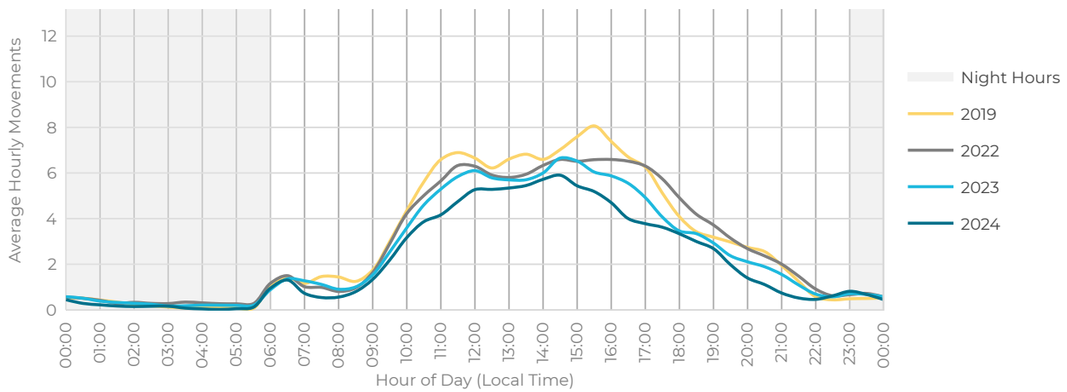
## Traffic Patterns

This section of the report covers average hourly movements per year, average hourly movements per season, and average hourly movements per day of the week at Ostend Airport in 2024. The general distribution of all traffic over the hours of the day is shown in ***Figure 1.5***. The graph shows the average number of movements in an hour in steps of half an hour. The night is defined from 23:00 to 06:00 local time and is indicated with a grey background. Ostend airport is open 24/7. The average daily pattern shows activity throughout the day and the night. A small peak of traffic can be seen in the morning (at 06:30) followed by a period of higher activity from 09:00 until 22:00. Traffic in 2024 generally followed the trend of the previous years. During the period between 09:00 and 22:00 traffic in 2024 was lower than in the previous years. In 2024, the peak of 6 movements per hour was at 14:30.

***Figure 1.6*** shows a view of the airport's busiest times throughout the day, with a focus on the seasons. In 2024, each season's unique trend stands out quite clearly – summer is the busiest season above all the rest, followed by fall, spring and winter. Looking at hourly trends by season, the graph shows that the early peak (06:30) is less pronounced in the winter and continues to have less activity throughout the day. When looking at the summer, the peak is present at around 6:30 in the morning and the active hours continue from 9:00 to 23:00, due to the favorable weather conditions. The peak hours with the most traffic in the summer were between 12:00 and 15:00 reaching 9 movements per hour at 14:00. Spring and fall follow similar trends with a peak at 06:30 and an increase of traffic starting at 08:00 and ending at 21:00, with a peak between 10:00 and 17:00.

Another noticeable traffic trend relates to the days of the week. As shown in ***Figure 1.7***, Sundays are usually less busy compared to other weekdays, when VFR training flights are allowed. The next paragraph covers restrictions regarding training flights in Ostend Airport as stated in the Aeronautical Information Publication (AIP).

**Figure 1.5:** *Average hourly movements per year*






Training flights include touch-and-go flights, stop-and-go flights and multiple approaches. According to the Belgium & Luxembourg AIP[2], training flights are prohibited on Sunday and holidays, as well as on Saturdays in July and August for aircraft exceeding six tons maximum authorized take-off weight (MTOW). Overall, training flights are allowed between 06:00 UTC and 18:00 UTC. Training flights with aircraft of less than six tons MTOW are allowed between 06:00 UTC and 21:00 UTC, except in July and August. Furthermore, for training flights with civil aircraft exceeding six tons MTOW, a quota count of maximum 12 is allowed. On top of all that, training flights of aircraft with MTOW of less than two tons must have a noise certificate which states that the noise level is ≤ 76 dB(A) according to ICAO Annex 16, Volume 1, Part II. As for military flights, military aircraft may perform no more than three training flights per day.

**Figure 1.6:** *Average hourly movements by season*

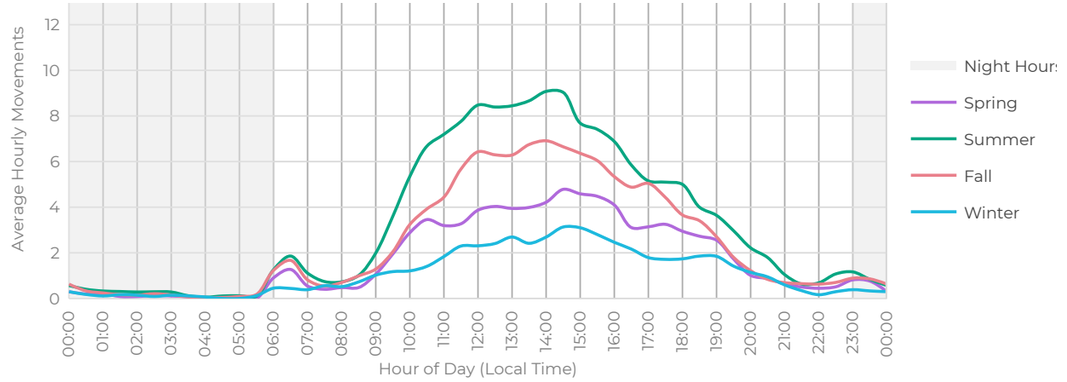
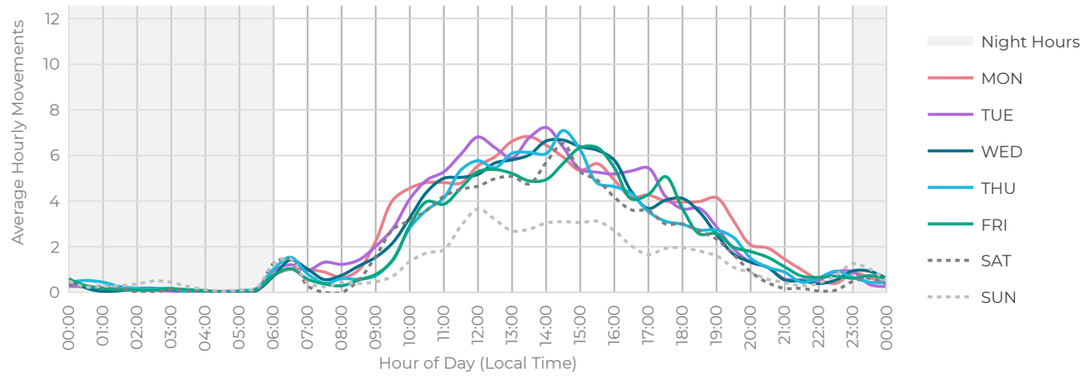



**Figure 1.7:** *Average hourly movements per day of the week in 2024*




2. EBOS AD 2.20 Local Aerodrome Regulations - 5 SPECIFIC TRAFFIC REGULATIONS - 5.7 Training and test flights

## Runway Use

The layout of Ostend-Bruges International Airport with its two reciprocal Runways (RWY) is depicted in ***Figure 1.8.*** This chapter covers the use of the runway, while more information over the PRS can be found in ***Chapter 4*** – Environment – Preferential Runway System (PRS).

The use of one runway configuration over another depends on several factors, such as wind direction and proximity to densely populated areas. ***Figure 1.9*** shows the runway use in Ostend Airport since 2019 with the corresponding wind rose below each year. Overall, in 2024, 12,546 movements were performed on runway 26. This corresponds to 66% of all the movements, which makes 2024 the top year compared to 2019, 2022 and 2023. This is due to a change of wind, specifically the decrease of north easterly wind. Ostend Airport has a PRS during evening and night hours. More information on this can be found in ***Chapter 4.***

***Figure 1.8:*** *Aerodrome ground movement chart*

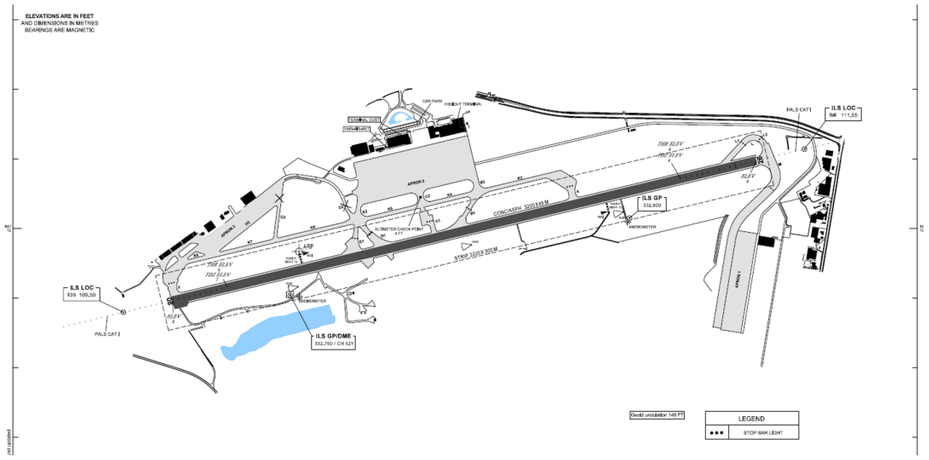



***Figure 1.9:*** *Runway usage per year in movements*

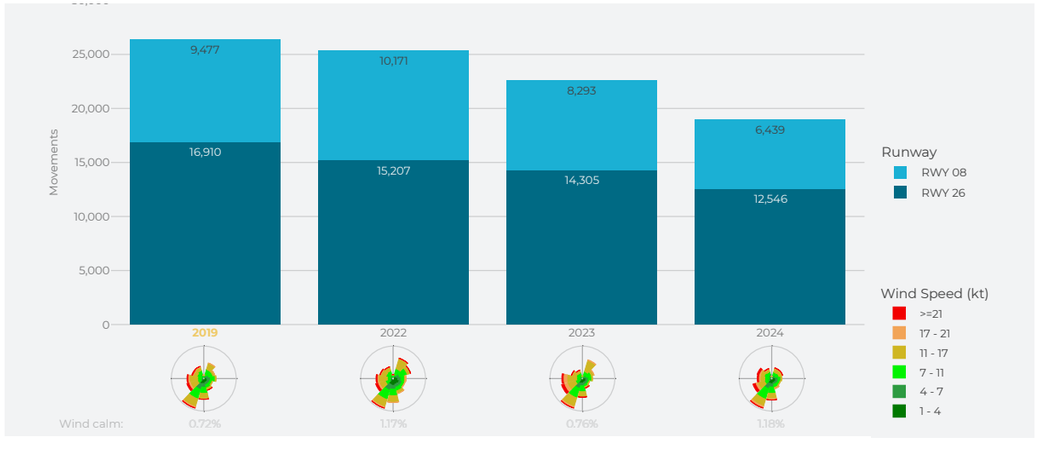



***Figure 1.10*** and ***Figure 1.11*** show the runway use per month and the wind rose for each month in 2023 and 2024. Wind direction is the main factor for the choice of the runway configuration. Larger images of the wind roses can be found in Chapter 4.

When comparing 2023 and 2024, most of the differences and similarities can be explained using the wind roses. Some of the biggest differences between the two years occurred during the months of April, May and June. In 2023, April, May and June had mainly north easterly winds, which is also reflected in the relatively high percentage of RWY 08 usage (54-69%). The situation in 2024, however, looks different: April mainly had south westerly winds, May had winds from various directions, although mainly north easternly, while June had a lot of wind from the south west, north west and north east. This resulted in a higher usage of the RWY 26 (59% - 77%). Another obvious difference between the two years is the month of February. In February 2024, during the runway renovation works, the runway was never actually used, despite this the runway usage for that month is shown to be RWY 26 for 98% of movements and 2% for RWY 08. During February all 87 VFR and 2 IFR flights were helicopter flights that either landed on a helipad (in EBOS or EBNH) or in another location while remaining in the Ostend CTR (in the case of the medical helicopter).

***Figure 1.10:*** *Runway usage per month in 2023 in share of movements*

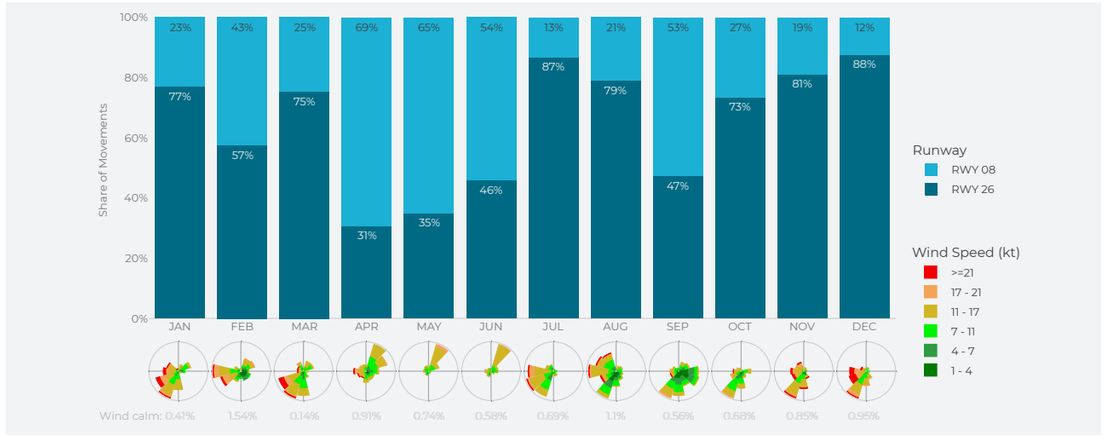
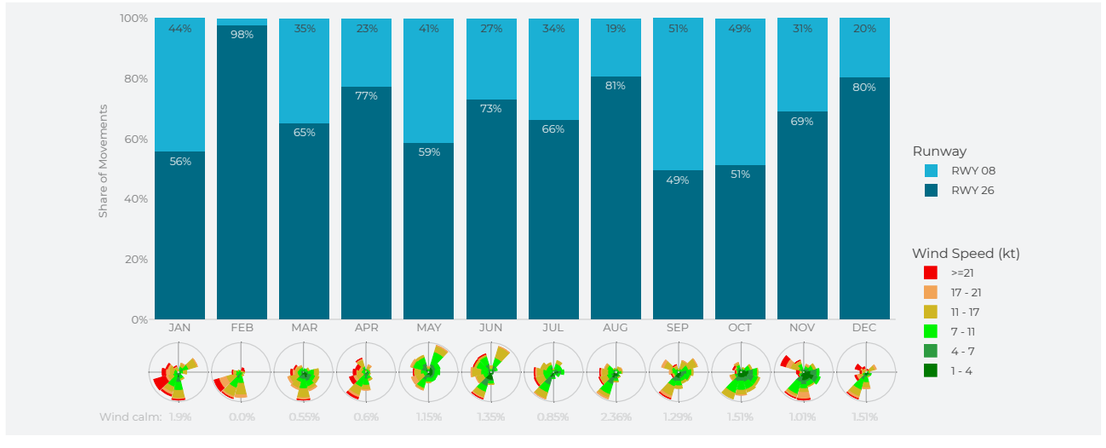



***Figure 1.11:*** *Runway usage per month in 2024 in share of movements*



# Market Contributions

*This chapter examines the key contributions within the sector, focusing on the various market segments that drive growth. It explores the performance of top airlines, important routes, the low-cost, and the cargo sectors, providing a clear picture of how these factors shape the overall traffic in Ostend Airport. This chapter only covers IFR flights, excluding all local IFR flights within Belgium (that are mainly training flights) and all VFR flights.*

## MARKET SEGMENTS

This chapter analyses the type of market Ostend Airport serves. First, the market segment distribution is shown in ***Figure 1.12***, based on the IFR traffic at the airport. For this grouping, the air traffic market segmentation rules from STATFOR/EUROCONTROL[3] are followed, based on the flight plan information captured by skeyes' airport movement system. The EUROCONTROL's Market Segment Rules provide a definition for air traffic market segments based on lists of aircraft types, aircraft operators and the flight types filed on flight plans.

Aviation market segments include various categories of air travel and transport, defined by their purpose, target customers, and business models. ***Figure 1.12*** visualizes the distribution of all market segments in Ostend Airport in the reference year of 2019 and the last three years of 2022, 2023, and 2024. Throughout these years, shifts in market segment trends have been observed, reflecting the dynamic nature of the airport and its operations. In 2024, 2,010 Low-Cost flights accounted for 32.2% off all IFR movements, making it the largest segment, where it came in second in 2023 and 2022. The next biggest share are flights classified as Other. With the lowest amount throughout all analysed years, 1,697 IFR movements in 2024 that fall under this classification make up 27.2% of all IFR movements. More details regarding the exact amount of flights and their ratio per category can be found in ***Table 1.2.***

***Figure 1.12:*** *Market segments distribution volume and ratio (only IFR)*

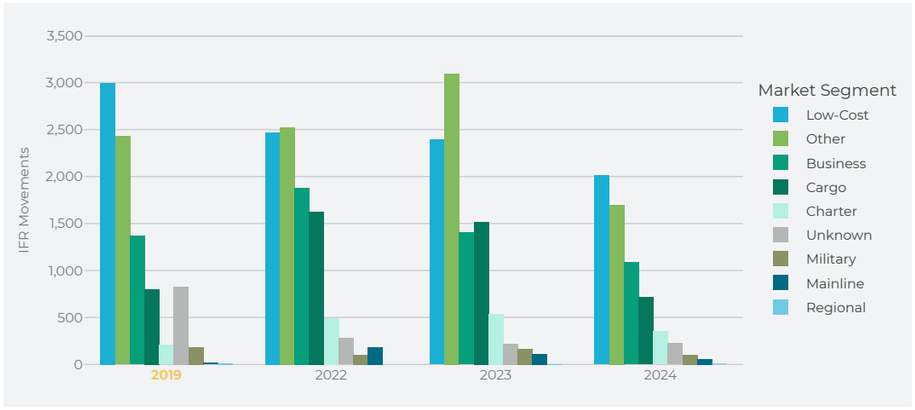



***Table 1.2:*** *Market segments distribution ratio (only IFR)*

| | Low-Cost | | Other | | Business | | Cargo | | Charter | | Unknown | | Military | | Mainline | | Regional | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2019** | 2,997 | 33.9% | 2,427 | 27.5% | 1,366 | 15.5% | 801 | 9.1% | 205 | 2.3% | 828 | 9.4% | 182 | 2.1% | 16 | 0.2% | 13 | 0.1% |
| **2022** | 2,469 | 25.8% | 2,526 | 26.4% | 1,882 | 19.7% | 1,627 | 17.0% | 494 | 5.2% | 281 | 2.9% | 102 | 1.1% | 182 | 1.9% | 0 | 0% |
| **2023** | 2,393 | 25.3% | 3,096 | 32.8% | 1,402 | 14.8% | 1,516 | 16.0% | 540 | 5.7% | 221 | 2.3% | 165 | 1.8% | 114 | 1.2% | 2 | 0% |
| **2024** | 2,010 | 32.2% | 1,697 | 27.2% | 1,085 | 17.4% | 715 | 11.4% | 353 | 5.7% | 223 | 3.6% | 105 | 1.7% | 55 | 0.9% | 6 | 0.1% |



## TOP AIRLINES

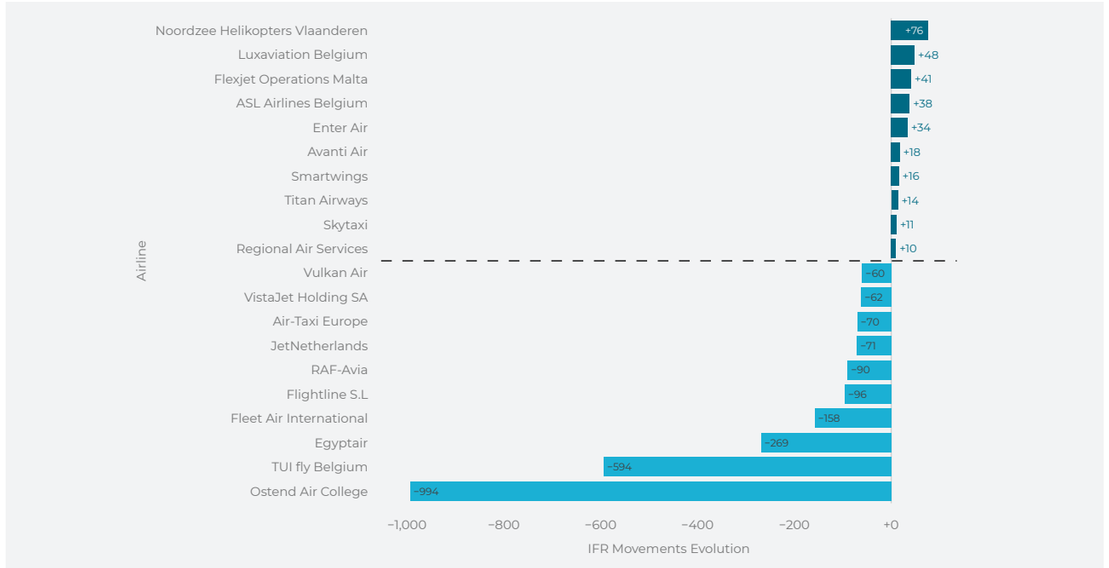
This subchapter covers the main airlines that operated IFR flights in Ostend Airport in 2024. The top ten airlines, total amount of flights and ratio compared to 2019 and 2023, are listed in ***Table 1.3***. In 2024, TUI fly Belgium (JAF) was the top one airline operating at Ostend Airport in all the years included in this report, with 2,068 flights in 2024. The second air transport company with most movements was Ostend Air College flight school (OCO) with 602 flights followed by Egyptair (MSR) with 458 flights.

***Figure 1.13*** illustrates the greatest differences in airlines' IFR movements in 2024 compared to 2023 at Ostend Airport. Noordzee Helicopters Vlaanderen had the biggest increase in IFR movements with 76 more IFR flights in 2024 compared to 2023. Luxaviation Belgium had 48 more flights and Flexjet Operations Malta had 41 more flights. As for the airlines that had the biggest decrease in IFR movements, Ostend Air College had the biggest decrease of IFR movements – 994 fewer flights in 2024 compared to 2023, also TUI fly Belgium had 594 fewer flights in 2024, while Egyptair had 269 fewer.

***Table 1.3:*** *Top 10 airlines of 2024 (only IFR)*

| | JAF | OCO | MSR | NHX | ASL group | FJO | AAB | BAF | FRF | NJE | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **2019** | 2,981 | 1,381 | 439 | 40 | 4 | 0 | 54 | 124 | 8 | 30 | **5,061** |
| **2022** | 2,507 | 874 | 681 | 101 | 175 | 18 | 146 | 66 | 200 | 50 | **4,818** |
| **2023** | 2,662 | 1,596 | 727 | 86 | 111 | 44 | 36 | 83 | 218 | 54 | **5,617** |
| **2024** | 2,068 | 602 | 458 | 162 | 91 | 85 | 84 | 73 | 60 | 60 | **3,743** |
| 2024 *vs* 2019 | -31% | -56% | +4% | +305% | >999% | - | +56% | -41% | +650% | +100% | -26% |
| 2024 *vs* 2023 | -22% | -62% | -37% | +88% | -18% | +93% | +133% | -12% | -72% | +11% | -33% |

***Figure 1.13:*** *Top 10 airlines' evolution (only IFR)*

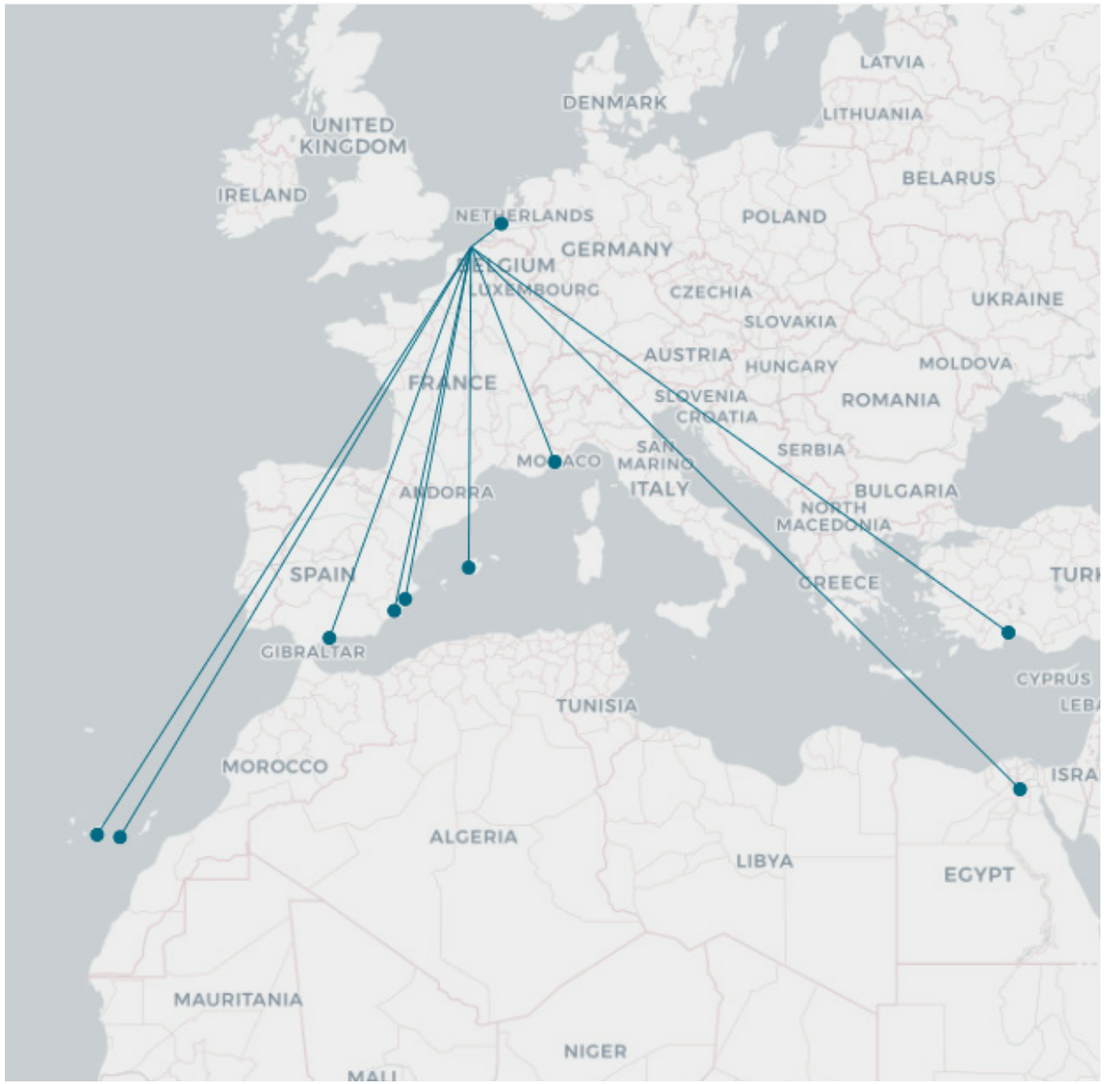



3. **EUROCONTROL market segment rules,** https://www.eurocontrol.int/publication/market-segment-rules (URL retrieved on 02/02/2025)

## TOP CONNECTIONS

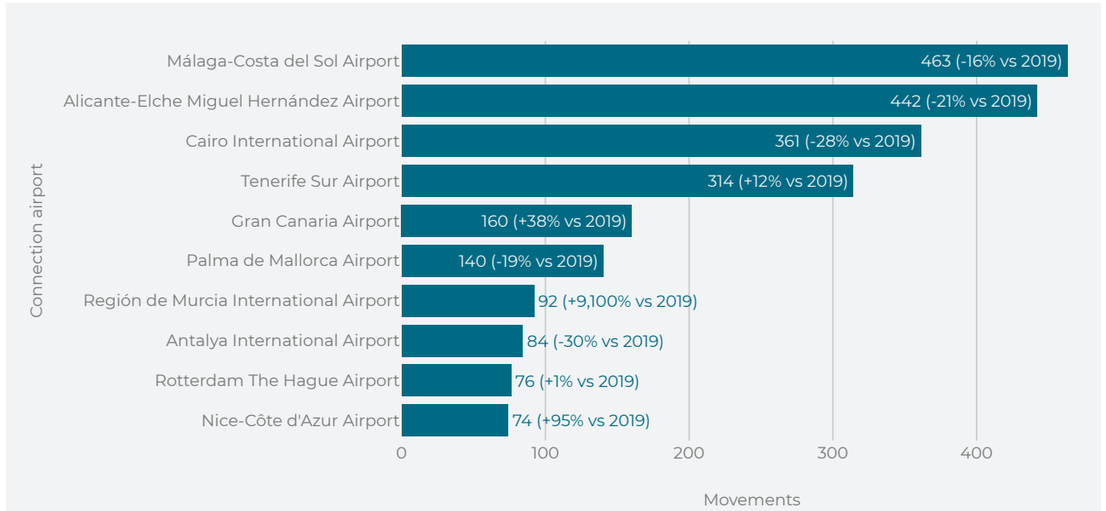
***Figure 1.14*** shows a map visualizing the top ten IFR flight connections from Ostend Airport in 2024. A detailed list of those connections is shown in ***Figure 1.15***. To be noted, that all Belgian airports, aerodromes, airfield, and helipads, as well as Midden-Zeeland Airfield (EHMZ) were removed due to being mainly training, local flights.

***Figure 1.14:*** *Top 10 International connections map (only IFR)*




The most popular connection airports, for both arrivals and departures, were Málaga-Costa del Sol Airport (with 463 flights in 2024), Alicante-Elche Miguel Hernández Airport (442 flights), and Cairo International Airport (361 flights). Regarding the change of IFR movements when comparing 2024 and 2019, Región de Murcia International Airport showed the biggest relative increase within the top ten, when compared to 2019, Nice-Côte d'Azur Airport showed +95% increase compared to 2019 while Antalya International Airport showed the biggest decrease of -30% compared to 2019.

***Figure 1.15:*** *Top 10 International connections (only IFR)*



## CARGO

The number of cargo operations can be estimated based on air traffic market segment rules (STATFOR/EUROCONTROL) and flight plan information captured by skeyes' airport movement system. EUROCONTROL's Market Segment Rules provide a definition for air traffic market segments based on lists of aircraft types, aircraft operators, and ICAO flight types filed on flight plans. For this study, cargo refers to the "all-cargo" segment, not taking into account cargo moved in the hull of passenger aircraft.

***Figure 1.16*** and ***Table 1.4*** provide an overview of the yearly evolution of cargo traffic, other market segments (i.e., mainline, business aviation, low-cost , regional, military, and other) and the share of cargo over all IFR traffic. The year of 2020 witnessed a significant increase in cargo figures (1,701 cargo flights compared to 4,775 other IFR flights, making cargo flights 26% of all IFR flights in Ostend Airport), but since then, the cargo share has steadily declined in both volume and proportion to the overall IFR traffic, leading to 715 flights in 2024, making it 11% of all IFR flights that year.

***Figure 1.16:*** *Cargo movements per year*

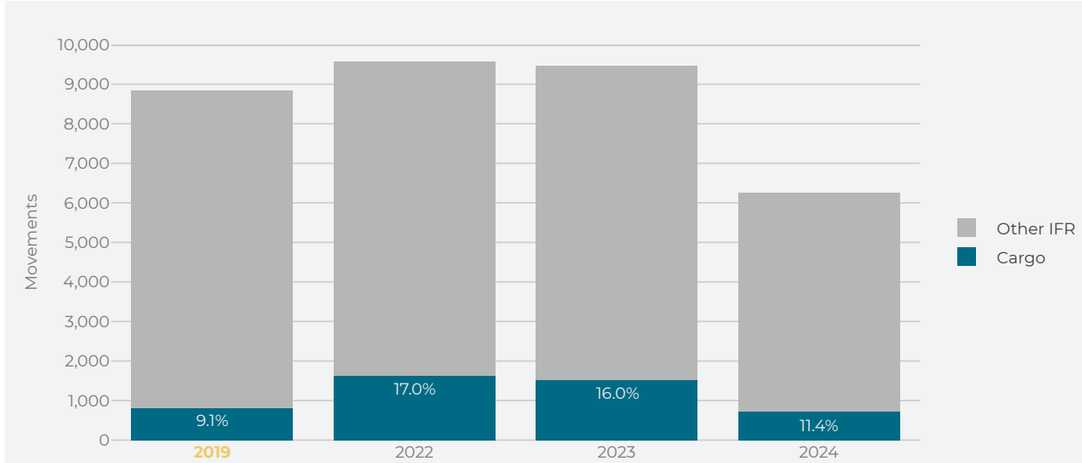



***Table 1.4:*** *Cargo movements per year*

| | Cargo | Other IFR | % of Cargo |
|---|---|---|---|
| **2019** | 801 | 8,034 | **9.1%** |
| **2022** | 1,627 | 7,936 | **17.0%** |
| **2023** | 1,516 | 7,933 | **16.0%** |
| **2024** | 715 | 5,534 | **11.4%** |

***Figure 1.17*** and ***Table 1.5*** show the number of cargo traffic throughout the months. The number of cargo movements have decreased by 53% when comparing 2024 and 2023, and by 11% when comparing 2024 and 2019. The busiest months in 2024 were January and December. The decrease in cargo traffic is mostly influenced by the sudden departure of Qatar Airways Cargo in April 2023 and the runway renovation works from January 25th  until March 28th in 2024.

***Figure 1.17:*** *Monthly cargo movements per year*

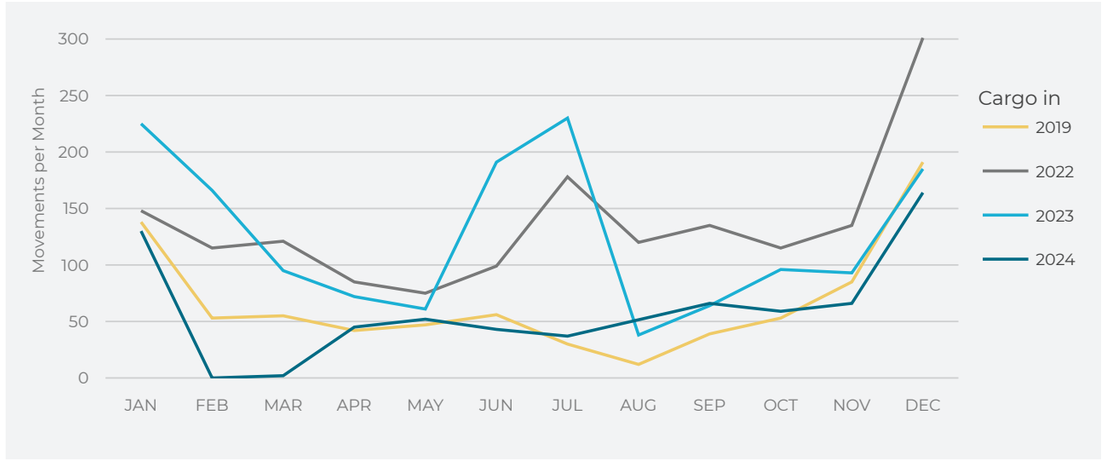



***Table 1.5:*** *Monthly cargo movements per year*

| | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **2019** | 138 | 53 | 55 | 42 | 47 | 56 | 30 | 12 | 39 | 53 | 85 | 191 | **801** |
| **2022** | 148 | 115 | 121 | 85 | 75 | 99 | 178 | 120 | 135 | 115 | 135 | 301 | **1,627** |
| **2023** | 225 | 166 | 95 | 72 | 61 | 191 | 230 | 38 | 64 | 96 | 93 | 185 | **1,516** |
| **2024** | 130 | 0 | 2 | 45 | 52 | 43 | 37 | 51 | 66 | 59 | 66 | 164 | **715** |
| 2024 vs 2019 | -6% | -100% | -96% | +7% | +11% | -23% | +23% | +325% | +69% | +11% | -22% | -14% | -11% |
| 2024 vs 2023 | -42% | -100% | -98% | -38% | -15% | -77% | -84% | +34% | +3% | -39% | -29% | -11% | -53% |

## Drone Activities

The emerging activities of unmanned aircraft systems (UAS) and the variety of their operations is one of the challenges driving the future of Air Navigation Service Providers (ANSP). To enable a reliable and efficient UAS integration, a framework is designed at European Union level: U-space. U-space is a set of specific services and procedures designed to ensure safe and efficient access to airspace for a large number of drones. Implementing U-space airspace requires states to define and designate U-space airspaces with mandatory service provision. For the provision of these mandatory services, the deployment of U-space will entail the integration of two new service providers into the system: the common information service provider (CISP) and the U-space service provider (USSP). The CISP will be in charge of making the common information required available, to enable the operation and provision of U-space services in U-space airspaces wherever it has been designated.[4]

skeyes is playing a central role in the development of the U-space as manager of UAS geographical zones in Belgium and by actively participating in the BURDI Project. The BURDI project which stands for Belgium-Netherlands U-space Reference Design Implementation, is dedicated to implementing a U-space airspace concept to ensure a reliable and efficient UAS integration. The project has been extended until December 2025. Additionally, in 2025, skeyes will receive its certification as the CISP in Belgium.[5]

The controlled airspace above and around an airport is a Unmanned Aircraft System geographical zone (GeoZone). GeoZone is a kind of zone that is only accessible to drones complying with technical and operational criteria called access conditions, and that can have restrictions with regard to the use of drones. skeyes is the GeoZone manager for controlled airspace above and around the airports of Antwerp, Brussels, Charleroi, Liege, Ostend and the Radio Mandatory Zone of Kortrijk.[6] [7]

A new drone detection system has been installed as a result of the collaboration between skeyes and SkeyDrone. The working methods and procedures to be followed are still being drafted.

The figures in this report related to UAS are provided by the Drone Service Application (DSA) tool. This tool is a web application to facilitate planning, coordination and information flow between drone operators and Air Traffic Control, especially in controlled airspace.[8]

Due to the runway closure for renovation works, temporary regulations were published regarding VLL0, VLL1, and VLL2. VLL0 remained active 24/7, however no Remotely Piloted Aircraft System (RPAS) missions in VLL0 were approved during the period of the runway works between 20:00 UTC and 06:00 UTC. Moreover, VLL1 and VLL2 became inactive  from January 25th, 2024 20:00 UTC until March 28th, 2024 06:00 UTC.



*Table 1.6* displays the number of drone activities and the level of risk involved in the operations. These categories are defined by the risk the drone activity forms for manned aviation in very low level (VLL 0, 1 and 2) zones. For all airports where a Control Zone exists, these are defined as:

**VLL0 - high risk** → runway and surroundings

**VLL1 - moderate risk** → departure/approach track, visual circuits and rest of the control zone above 400 ft above aerodrome elevation (AAE), excluding the high risk zone

**VLL2 - low risk** → on the edge of the control zone below 400 ft AAE, outside the moderate and high risk zone

A drone activity can take place in several VLL zones, therefore, it will be counted as one activity for each risk level. This means that the addition of activities in the low, moderate and high risk levels will not provide the total number of activated drone activities in Ostend CTR.

***Table 1.6:*** *Activated drone operations per VLL zone risk level*[9]

| | Low | Moderate | High |
|---|---|---|---|
| **2022** | 771 | 79 | 12 |
| **2023** | 972 | 92 | 7 |
| **2024** | 1,219 | 140 | 12 |
| 2024 *vs* 2023 | +25% | +52% | +71% |

4. What is U-space?, https://www.easa.europa.eu/en/what-u-space (URL retrieved 16/02/2024)
5. BURDI project, https://www.sesarju.eu/projects/BURDI (URL retrieved 16/02/2024)
6. UAS geographical zone statuses can be seen at https://map.droneguide.be (URL retrieved on 21/04/2022)
7. skeyes, "skeyes drone service application, https://www.skeyes.be/en/services/drone-home-page/you-and-your-drone/drone-service-application/ (URL retrieved on 21/04/2022)
8. The data extraction method used by SkeyDrone has been update and discrepancies with data from previous years is to be expected.
9. Note that if an operation crosses multiple VLL zones, it will be counted multiple times in the table.  ICAO Doc 4444 – PANS–ATM.

The drone operations can also be classified by level of risk involved in the operations. There are three such categories, which are described as follows (as per EASA definition[10]):

**OPEN** → Presents low risk to third parties. An authorization from the Civil Aviation Authority (CAA) is not required;

**SPECIFIC** → More complex operations or aspects of the operation fall outside the boundaries of the Open Category. Authorization is required from the CAA;

**FORMER CLASS 1** → Very complex operations, presenting an equivalent risk to that of manned aviation.

The number of authorized drone operations per EASA classification is given in ***Table 1.7.*** In 2024, 92% of the drone activities operated under the Open category (1,230 authorized drone activities) and 8% were registered as Specific (113 authorized drone operations). There were no Former Class 1 flights, just like in 2023.

***Table 1.7**: Activated drone operations per EASA risk category*

| | Open | Specific | Former Class 1 | Total |
|---|---|---|---|---|
| **2022** | 607 | 215 | 10 | **832** |
| **2023** | 837 | 204 | 0 | **1,041** |
| **2024** | 1,230 | 113 | 0 | **1,343** |
| 2024 *vs* 2023 | +47% | -45% | - | +29% |

Furthermore, ***Table 1.8*** provides the number of exempted flights. These are operations performed by firefighters, police or different federal entities and are a service provided to the state. Most of the 420% increase in exempted drone activities is due to an increase in security related activities.

***Table 1.8**: Activated exempted drone operations*

| | Regular | Exempted | Total |
|---|---|---|---|
| **2022** | 822 | 10 | **832** |
| **2023** | 1,031 | 10 | **1,041** |
| **2024** | 1,291 | 52 | **1,343** |
| 2024 *vs* 2023 | +25% | +420% | +29% |

10. EASA, "Drones - regulatory framework background". https://www.easa.europa.eu/domains/civil-drones/drones-regulatory-framework-background (URL retrieved on 10/02/2024)

11. https://www.skeydrone.aero/wp-content/uploads/2024/09/Drone-detection-report-Belgian-Coast-Summer-2024.pdf (URL retrieved on 25/02/2025)



Two locations, as shown in ***Figure 1.18***, have become hotspots for drone activity, with a high concentration of flights receiving prior authorization from the DAA. One such site is the nudist beach in Bredene, where authorized drone operations are mainly carried out by police patrolling the dune nature reserve, a restricted-access area where public entry is prohibited. Another key location is the newly opened Silt Casino in Middelkerke, which became a popular destination for drone enthusiasts during the summer months of July and August 2024.[11]

***Figure 1.18**: Reserved airspaces of activated drone operations in 2024*


Finally, the number of drone operations per type of are shown in ***Table 1.9.*** Two type of operations are registered:

**VISUAL LINE OF SIGHT (VLOS)** → This means the drone is operated within the visual range of the pilot, allowing them to see the drone without any visual aids other than corrective lenses;

**BEYOND VISUAL LINE OF SIGHT (BVLOS)** → In BVLOS operations, the drone is flown outside the pilot's direct visual range, typically relying on technology such as cameras, GPS, or sensors to navigate and observe the environment.

In 2024, the majority of the drone operations were VLOS – there were 1,342 such operations, which is a 61% increase compared to 2022 and a 29% increase compared to 2023.

***Table 1.9**: Activated drone operations per type*

| | VLOS | BVLOS | Total |
|---|---|---|---|
| **2022** | 832 | 0 | **832** |
| **2023** | 1,038 | 3 | **1,041** |
| **2024** | 1,342 | 1 | **1,343** |
| 2024 *vs* 2023 | +29% | -67% | +29% |

# 2 SAFETY

- **Missed Approaches**
- **Runway Incursions**
- **Other Noteworthy Incidents**
- **Recommendations and Awareness**

This chapter covers the three types of safety related topics concerning the runways with a recommendation section at the end.

The missed approaches covered in the following chapter are based on internal logging. As such, the quality and accuracy of the available information is commensurate with the level of reporting. These logs of missed approaches are not considered as safety occurrences. They are an operational solution allowing to maintain safety margins when the approach cannot be continued for a safe landing. At the same time, particularly during peak hours at busy airports, they also increase the traffic complexity and the residual safety risk. It could be argued that missed approaches are a hybrid leading indicator, and that by analysing the reasons leading to this type of procedure, it is possible to examine if there are any systemic deficiencies in a technical equipment, in a procedure or in manner in which Air Traffic Control Officers (ATCOs) and/or pilots apply these procedures. The runway incursions are a lagging runway safety indicator. The runway incursions and occurrences discussed in other noteworthy incidents are safety occurrences. These are subject to a risk classification using the Risk Analysis Tool (RAT) methodology to assess the contribution that skeyes had in the chain of events (in accordance with EU Reg 376/2014 and EU Reg 2019/317). The following chapters indicate the severity classification that was derived from the calculated RAT risk for the safety occurrences. The following definitions apply for the severity classification (in accordance with EASA Acceptable Means of Compliance (AMC)). This classification scheme is applicable for the later mentioned operational occurrences.

**Table 2.1:** *Severity classification*[12]

| Severity Classification | Description |
|---|---|
| A – Serious incident | An incident involving circumstances indicating that there was a high probability of an accident and is associated with the operation of an aircraft, which in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time it comes to rest at the end of the flight and the primary propulsion system is shut down. |
| B – Major incident | An incident associated with the operation of an aircraft, in which the safety of the aircraft may have been compromised, having led to a near collision between aircraft, with ground or obstacles (i.e. safety margins were not respected; in this case, not as a result of an ATC instruction). |
| C – Significant incident | An incident involving circumstances indicating that an accident, or a serious or major incident could have occurred if the risk had not been managed within the safety margins, or if another aircraft had been in the vicinity. |
| D – Not determined | Insufficient information was available to determine the risk involved or inconclusive or conflicting evidence precluded such determination (RAT RF < 70 %). |
| E – No safety effect | An incident which has no safety significance. |
| N – No ATM ground contribution | No system, procedure or person involved in the provision of ATC services initiated or contributed to the incident. |

In 2024, skeyes updated the data extraction method of logged incidents.
This can generate small differences with the numbers published in previous reports.

## Missed Approaches

Missed approaches are performed according to published procedures, under the instructions of the air traffic controller or initiated by the pilot when the approach cannot be continued for a safe landing. Besides the discomfort for passengers and crew, the missed approaches increase the air traffic management complexity. The number of missed approaches and particularly their cause can therefore indicate which measures are to be taken to improve the safety of air navigation service provision. All missed approaches are recorded by cause of event and the reporting is done by the ATCOs.

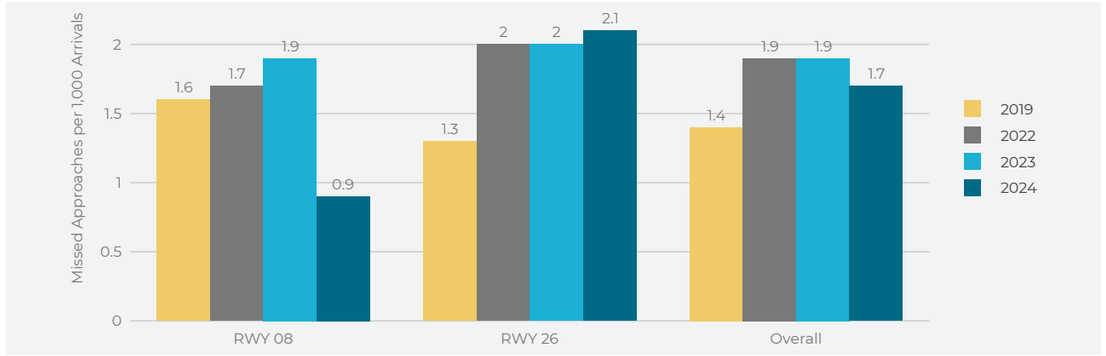
For a better year-to-year comparison, see ***Figure 2.1***. The graph reveals that the missed approach rate on runway 26 increased compared to previous years, averaging 2.1 missed approaches per 1,000 arrivals. However, on runway 08, the rate dropped significantly, totaling 0.9 missed approaches per 1,000 arrivals. The days with the most missed approaches were May 2nd and December 28th – there were a total of 4 missed approaches on those days, mainly due to poor weather conditions.

| | | | |
|---|---|---|---|
| 2019: | **19 missed approaches** | (11 on runway 26, | 8 on runway 08) |
| 2022: | **24 missed approaches** | (15 on runway 26, | 9 on runway 08) |
| 2023: | **22 missed approaches** | (14 on runway 26, | 8 on runway 08) |
| 2024: | **16 missed approaches** | (13 on runway 26, | 3 on runway 08) |

12. UI – under investigation (a non-official severity classification used during the process before a final classification is determined)



**Figure 2.1:** *Rate of missed approaches per 1,000 arrivals per runway per year*




Missed approaches are documented, categorized by their respective causes, with ATCOs responsible for reporting. In 2023, the main reason for missed approaches was an unstable approach, which dropped to third place in 2024. The main reason for missed approaches in 2024 was weather – visibility, which was the fourth reason in 2023. As illustrated in ***Figure 2.2***, the top missed approaches per cause in 2024 were as follows: a total of eight with weather – visibility as reason in 2024 (for both runways combined), three missed approaches with their reason marked as other, two missed approaches due to an unstable approach, two more with missed approaches due to an aircraft being too close behind preceding aircraft, and also two missed approaches due to a pilot's error.

**Figure 2.2**: *Top 5 causes for missed approaches in 2024*

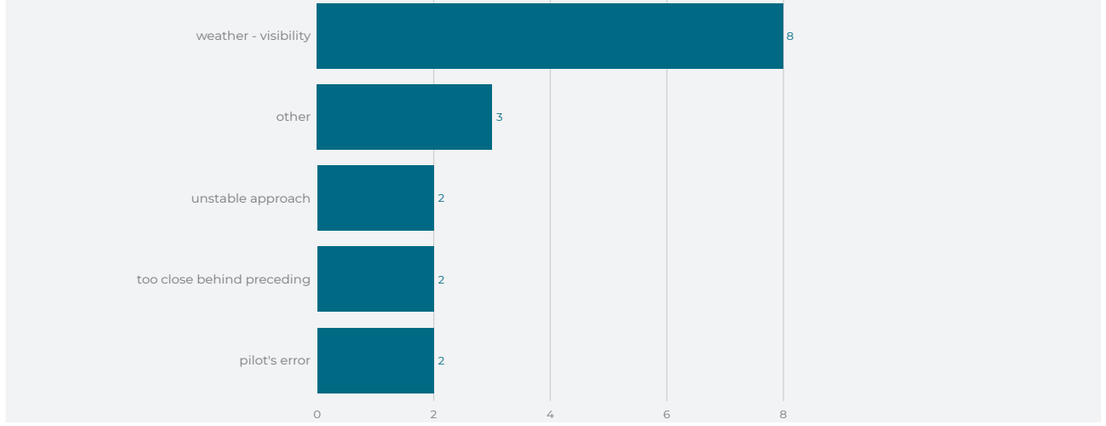



***Table 0.1*** in the Annex gives the number of missed approaches per runway and per cause for the reference year of 2019, followed by the previous three years. Overall, there were 13 missed approaches on runway 26 in 2024: eight due to weather – visibility, two due to pilot's error, also two due to being too close behind preceding aircraft and one due to other reasons. The main difference compared to previous year is that in 2024 most of the missed approaches were due to weather – visibility, while in previous years this reason had fewer cases. As for runway 08, in 2024, there were a total of three missed approaches: two due to an unstable approach and one due to a reason categorised as "other". This indicates that the amount of missed approaches on runway 08, while already being low compared to runway 26, the primarily used runway, decreased even more compared to previous years.

## Runway Incursions

A Local Runway Safety Team at Ostend–Bruges International Airport (SAFCO) is attended by all runway users (operators, airport inspection, ATC, ...). During this meeting, a number of Safety Performance Indicators are discussed, along with relevant incidents/accidents. They are discussed during these meetings, so that the lessons learned can be disseminated among all stakeholders.

According to ICAO (ICAO Doc 4444 – PANS–ATM), a Runway Incursion (RI) is defined as "any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft".

According to the AMC 3 of EU Regulation 2019/317, an incorrect presence is hereby defined as "the unsafe, unauthorized or undesirable presence, or movement of an aircraft, vehicle, or pedestrian, irrespective of the main contributor (e.g. ATC, pilot, driver, technical system)".

***Figure 2.3*** gives a yearly overview of runway incursions for the reference year of 2019 and the past three years of 2022, 2023, and 2024. The colours of the bar chart indicate the severity as defined in ***Table 2.1.*** In 2024, four runway incursions have been registered at Ostend Airport, of which three were of class E that were also with ATM contribution and one was of class N, resulting in no ATM contribution. These runway incursions consisted of two miss-communications regarding backtrack, one landing without clearance and one touch and go without clearance.

***Figure 2.3:*** *Yearly runway incursions per severity category*

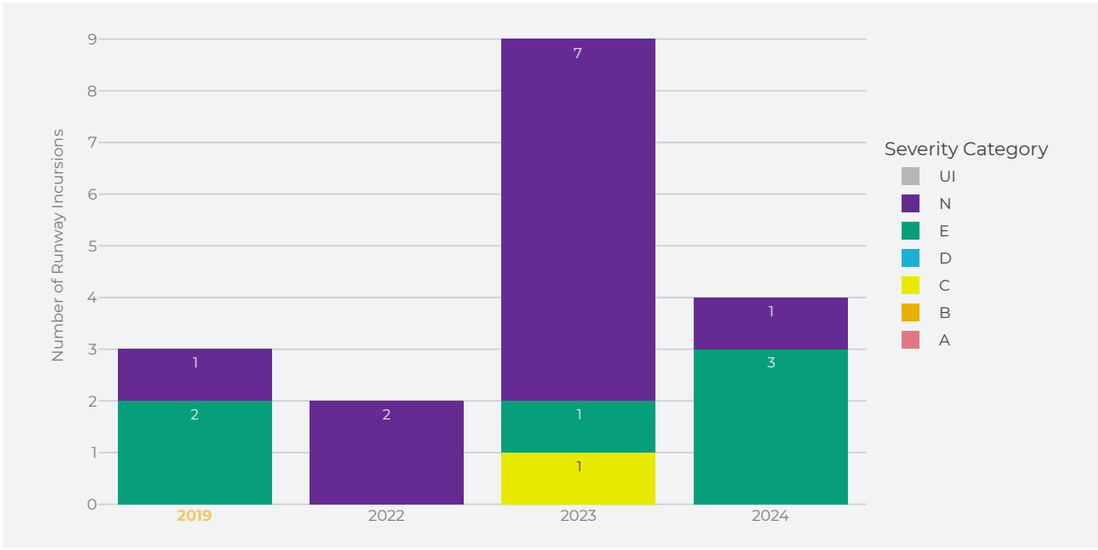





***Figure 2.4*** puts the number of RIs in perspective by comparing the incursions with the number of movements throughout the year. In 2024, there were three runway incursions with ATM contribution and one - without, which is equal to a rate of 15.8 runway incursions with ATM contribution per 100,000 movements and a rate of 5.3 runway incursions with no ATM contribution per 100,000 movements, respectively.

A monthly overview of the runway incursions in 2024 can be seen in ***Figure 2.5***. July and August had one runway incursion each, while there were two runway incursions in October.

***Figure 2.4:*** *Yearly rates of runway incursions per 100,000 movements by ATM contribution*

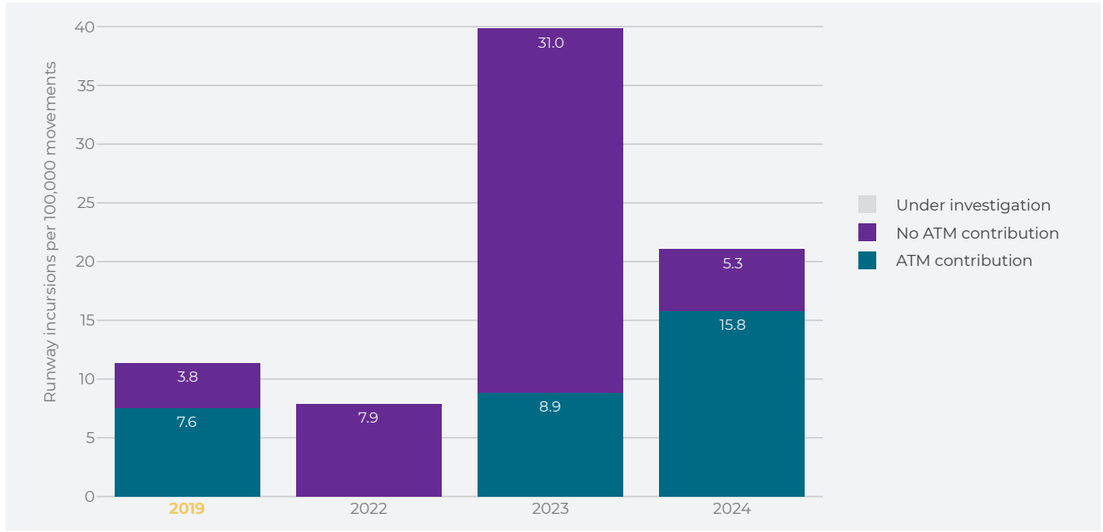
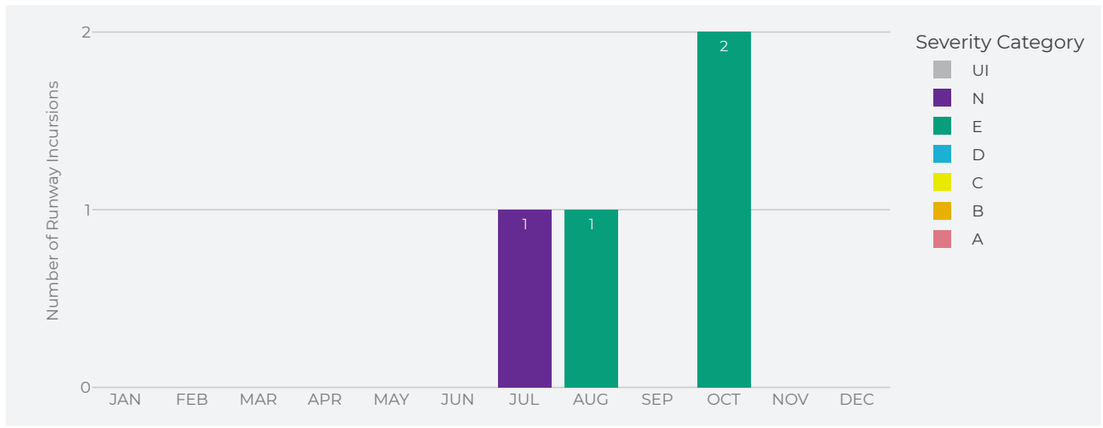


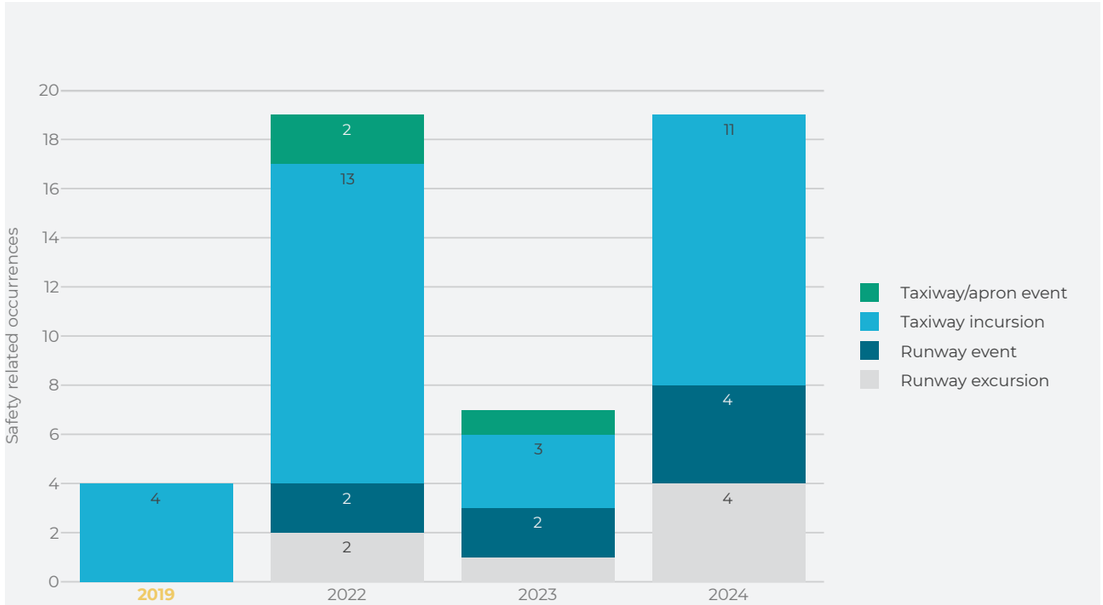

***Figure 2.5:*** *Monthly runway incursions per severity category*



## Other Noteworthy Incidents

In addition to runway incursions, other runway, taxiway, and apron safety events can happen and must be reported. These occurrences include runway events, runway excursions, taxiway/apron events, taxiway excursions and taxiway incursions. ***Figure 2.6*** gives a summary of those incidents in Ostend Airport per year.

***Figure 2.6:*** *Yearly runway and taxiway safety events*




A total of 19 safety occurrences were recorded in 2024, which aligns to the amount of safety occurrences in 2022, but indicates an increased amount of safety occurrences when compared to 2023 and 2019. There were a total of 11 taxiway incursions, four runway events, and four runway excursions. Note that an increase in events also might be caused by increased reporting by the air traffic controllers, which is generally welcomed as it showcases a good safety culture at skeyes.

As seen in ***Figure 2.7*** and ***Figure 2.8***, the amount of deviations from ATC clearances decreased from 16 to 11 in 2024 compared to 2023, and the amount of deviations from ATM procedures decreased from eight to six. This decrease can be partially explained by the decreased amount of traffic in Ostend Airport in 2024 due to the runway renovation works.



***Figure 2.7:*** *Yearly deviations from ATM procedures and ATC clearance*

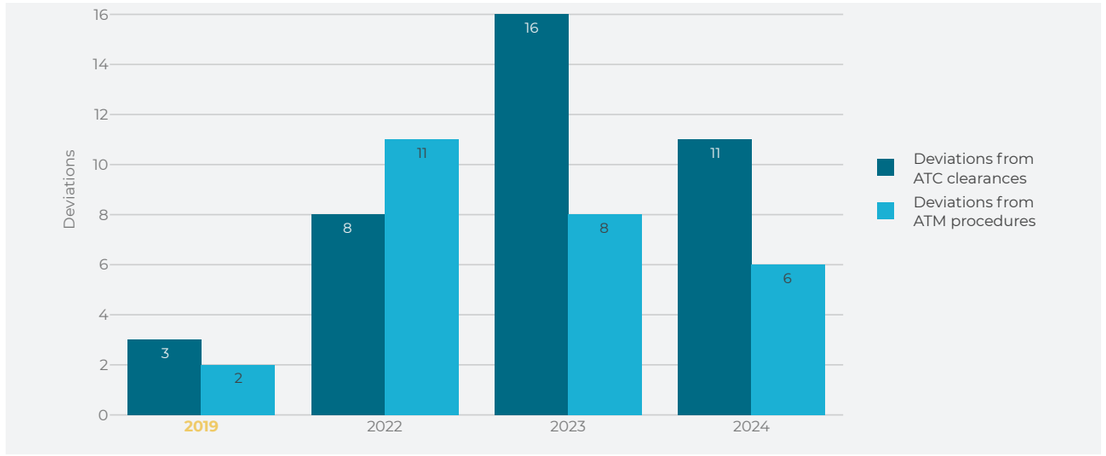



***Figure 2.8:*** *Yearly deviations from ATM procedures and ATC clearances per 100,000 movements*

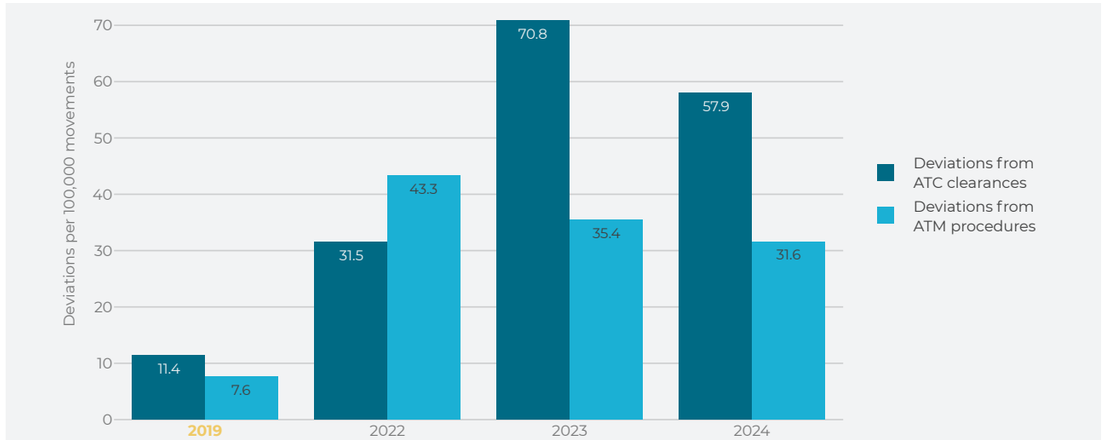



***Table 2.2*** shows the total numbers of safety related occurrences regarding RPAS and laser beams. There were no recorded safety occurrences related to RPAS in 2024. Regarding laser beams, there were two such occurrences in 2024, which aligns with previous years. When taking into account the reduced amount of traffic in 2024 due to the runway renovation works, the relative amount decreased (even) further.

***Table 2.2****: RPAS and lasers incidents per year*

| Safety occurrence | 2019 | 2022 | 2023 | 2024 |
|---|---|---|---|---|
| **RPAS** | - | 3 | - | - |
| **Laser beam** | 1 | 3 | 3 | 2 |

# Improvements And Recommendations

## Strengthening safety through regular collaboration

SAFCO is committed to increase runway safety. The team is composed of pilots, air traffic controllers, and safety departments of skeyes and the airport. The meetings attended by SAFCO members are held every two months. The main objective is to reduce the number of runway incursions based on EUROCONTROL's European Action Plan for The Prevention of Runway Incursions.

These SAFCO meetings are a moment to discuss safety issues between partners and to share outcomes of the safety investigations among all parties. That way everyone may benefit from the lessons learned. When recommendations are made in an investigation report, these are also discussed with other stakeholders. If a recommendation from skeyes concerns the airport for instance, it will be discussed and agreed upon during a SAFCO meeting.

In regard to the increase of taxiway incursions, the LRST followed up the issue in collaboration with local flying clubs and school that in turn informed their members.

## Improved airspace safety through implementation of a unified transition layer

In addition, in 2023, skeyes implemented a common transition layer in all Belgian airspace to ensure 1,000 ft separation between traffic below and above this layer (the transition layer separates traffic whose vertical position is defined based on local altitude and traffic whose vertical altitude is defined based on Average Sea Level). This is in line with ICAO DOC 7030 EUR and Commission Implementing Regulation (EU) 2020/469 of 14 February 2020.

# 3 CAPACITY & PUNCTUALITY

- **Airport Capacity**
- **Punctuality**

This chapter addresses airport's capacity and punctuality. In a first section, the declared capacities for different runway configurations are given along with a view on the effective utilisation of this capacity.

In the second section, the punctuality at Ostend Airport is studied. The arrival delay, delay due to regulations placed by Ostend Airport on the arrivals, is analysed and the ATFM delay from the airport's point of view is given, i.e. the impact on traffic to or from Ostend Airport caused by regulations not only at Ostend Airport, but also in the Belgian en-route airspace and by other ANSPs.

## Airport Capacity

The capacity of an aerodrome, defined as the number of operations it can handle in a given time, is influenced by factors such as airport layout, fleet mix of the arriving and departing traffic, ATC procedures, weather conditions and technological aids. Under optimal conditions, a theoretical measure, called **Theoretical Capacity Throughput**, is calculated for each runway configuration. This represents the average number of movements (arrivals and/or departures) that can be performed on the runway system within one hour, based on certain assumptions:

- *A continuous supply of arrivals and/or departures;*
- *Simultaneous Runway Occupancy (SRO) is prohibited (ATC rule);*
- *Safe Wake Vortex separation distances between flights are maintained (ATC rule);*
- *A static fleet mix (unchanging aircraft types);*
- *Unchanging approach and departure procedures;*
- *Optimal operational conditions (e.g., weather and staffing).*

The calculation also incorporates the following parameters:

- *The fleet mix from a monthly sample of traffic;*
- *A nominal radar separation of three NM;*
- *A 15% loss factor in inter-arrival times to account for conservative separation by controllers;*
- *Assumptions for the average Runway Occupancy Time for Arrivals (ROTA);*
- *An average approach speed of 136 knots (adjusted for headwind per runway);*
- *Inter-departure time, determined by the time between take-off clearance and reaching a specified altitude.*

Since safe wake vortex separation distances are specified only for IFR flights, the Theoretical Capacity Throughput applies exclusively to IFR movements, and represents the highest number of IFR movements that an aerodrome can handle per hour with a given runway configuration under ideal conditions.

In practice, optimal conditions are rarely achieved. To account for this, the **Declared IFR Capacity** is set at 90% of the theoretical maximum. ***Table 3.1*** shows the declared IFR capacity per runway configuration at Brussels Airport. Note that this is only a theoretical calculation and currently not used for schedule coordination purposes.

***Table 3.1:*** *Declared IFR capacity*

| Runway Configuration | | Declared IFR Capacity (movements/hour) | | |
|---|---|---|---|---|
| Departures | Arrivals | Only Departures | Only Arrivals | Mixed Fleet |
| 08 | 08 | 27 | 24 | 33 |
| 26 | 26 | 24 | 23 | 34 |



**Figure 3.1:** *Hourly movements for configuration 26-26*

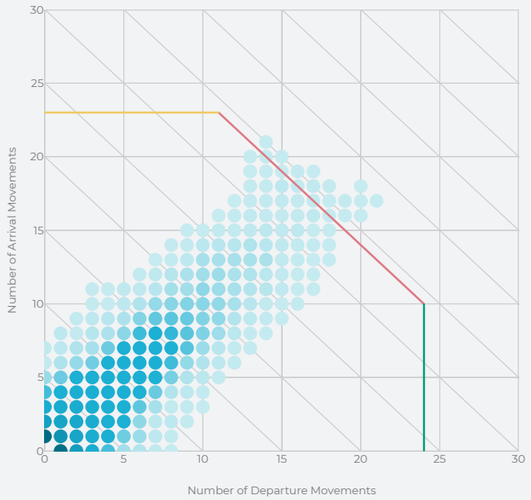
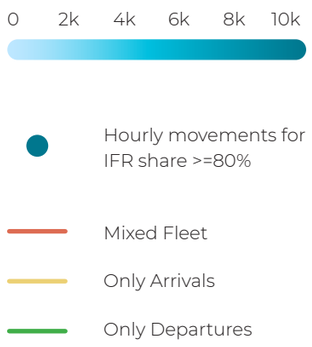



**Figure 3.2:** *Hourly movements for configuration 08-08*


To get a view on the actual usage of the aerodrome's capacity, the **Effectively Used Capacity** is an important performance indicator for the airport and the air navigation service provider handling the arrivals and departures. For each runway configuration, it compares the theoretical value of the declared capacity to the distribution of the actual number of movements performed within each hour of the year.

***Figure 3.1*** and ***Figure 3.2*** provide a way to visually inspect if the declared capacity has ever been exceeded on runway 26 and runway 08 respectively. In these plots, each dot represents a rolling hour throughout the year of 2024 (with a roll step of one minute), during which the runway configuration was active for at least an hour within the default opening times of the aerodrome and during which there was at least one movement. The measuring points with no arrivals and no departures are disregarded in the graph. The position of the dot indicates the number of arrivals (y-axis) and the number of departures (x-axis). The opacity of the dot indicates if there were many or few hours with this number of arrivals and departures, with more translucency indicating less hours. The histograms on the sides show the distributions of arrivals and departures. The mixed fleet declared capacity is shown by a diagonal red line: at any point on this line, the x-axis value (departures) and y-axis value (arrivals) will add up to the threshold number (total movements). The declared capacity for only departures is shown with a green vertical line and the declared capacity for only arrivals is shown with a yellow horizontal line. Any dot above this line indicates an hour exceeding the declared capacity. Even though the capacity is only declared for IFR movements , the plots consider both IFR and VFR movements. This is because only considering IFR flights would give a distorted view on the number of hourly movements – especially for airports with high VFR shares. Helicopter movements are not included, as they don't land on the runways of the configurations, but missed approaches are. The notation for the runway configurations in this report always mentions the departure runways first and the arrival runways, separated by a hyphen, afterwards.

As seen in ***Figure 3.1*** and ***Figure 3.2***, in 2024, traffic exceeded the declared IFR capacity on some occasions. Based on ***Table 3.2*** and ***Table 3.3***, there were a total of seven days where the capacity was exceeded in 2024. Out of those seven, four days were for runway configuration 26 – 26 with a capacity of 34 movements per hour, when a maximum of 38 movements per hour was recorded. The remaining three days were for configuration 08 – 08 with a capacity of 33 movements per hour, when a maximum of 36 movements per hour were recorded.

**Table 3.2:** *Days with hours exceeding the declared capacity*

| Runway Configuration | | Date | Maximum | % of IFR | % of Departures |
|---|---|---|---|---|---|
| Departures | Arrivals | of Occurrence | Extra Movements | at Occurrence | at Occurrence |
| 08 | 08 | Jan. 10 | 2 | 11% | 51% |
| | | Apr. 30 | 3 | 3% | 53% |
| | | Jul. 19 | 1 | 3% | 47% |
| 26 | 26 | Jun. 6 | 2 | 0% | 47% |
| | | Jul. 2 | 4 | 8% | 53% |

**Table 3.3:** *Capacity statistics*

| Runway Configuration | | Maximum | Declared | % of Hours |
|---|---|---|---|---|
| Departures | Arrivals | Movements/hour | Capacity | above Capacity |
| 08 | 08 | 36 | 33 | 0.02% |
| 26 | 26 | 38 | 34 | 0.02% |
| closed | closed | 2 | - | - |

***Table 3.2*** gives figures on the days where the traffic exceeded the capacity. As the calculation is based on a rolling calculation per minute, the capacity is exceeded for a period. The table gives a summary in terms of extra movements (during the time that the traffic exceeded capacity the minimum number and maximum number of extra movements is given), share of IFR traffic and share of departures.

If the maximum number of movements within an hour exceeds the declared capacity, this can be due to several reasons. For instance, a high share of VFR traffic : since the separation minima do not apply strictly to these flights, more movements can be performed within an hour. As seen in ***Table 3.2***, during those four days in 2024 when the capacity for 26 – 26 was exceeded, IFR traffic consisted a maximum of 31% of all traffic at that time. During three days in 2024 when the capacity for 08 – 08 was exceeded, IFR traffic consisted a maximum of 15% of all traffic at that time.

## Punctuality

Punctuality can be seen as a service quality indicator from a passenger perspective. This section observes one of the factors that influences the punctuality: Air Traffic Flow Management (ATFM) delay. ATFM delay is defined as the time difference between estimated take-off time (ETOT) and calculated take-off time (CTOT) of the NM (Network Manager, EUROCONTROL) and is due to ATFM measures that are classified according to the respective causes listed below:

*A - Accident*
*C – ATC Capacity*
*D - De-icing*
*E - Equipment (non-ATC)*
*G – Aerodrome Capacity*
*I - Industrial Action (ATC)*
*M - Airspace Management*
*N - Industrial Action (non-ATC)*
*O - Other*
*P - Special Event*
*R – ATC Routeing*
*S – ATC Staffing*
*T - Equipment (ATC)*
*V – Environmental Issues*
*W - Weather*
*NA - Not Specified*

The ATFM measures with Air Navigation Service Provider (ANSP) contribution are listed according to the Functional Airspace Block Europe Central (FABEC) performance plan:[13]

*C – ATC Capacity*
*R – ATC Routeing*
*S – ATC Staffing*
*T - Equipment (ATC)*
*M - Airspace Management*
*P - Special Event*

Hence, in the remainder of the report all causes with ANSP contribution are referred to as "CRSTMP," while "Other Categories" aggregates all categories but CRSTMP and W (weather).

This section of the report starts with the key performance indicator arrival delay, the delay of a flight due to a regulation placed by the airport of arrival. In addition, this section gives an overview of the influence of ATFM measures on departing traffic followed by an overview of the influence of ATFM measures on arriving traffic.

13. A common FABEC Performance plan https://www.fabec.eu/who-we-are/optimised-performance/a-common-fabec-performance-plan (URL extracted on 25/02/2025)

14. Hence the difference with figures in the Traffic chapter, where movements are counted using the AMS and the BCAA criteria. The Network Manager only accounts for flights with a registered flight plan.

15. EUROCONTROL, "SES Performance Scheme Reference Period 3 (2020-2024), 2022, https://www.eurocontrol.int/prudata/dashboard/metadata/rp3/ (URL retrieved on 19/04/2023)



## AIRPORT ARRIVAL ATFM DELAY

As of January 1st, 2015, skeyes is subject to an annual target with regard to ATFM arrival delay. ATFM arrival delay is the delay of a flight attributable to terminal and airport air navigation services and caused by restrictions on landing capacity (regulations) at the destination airport. The average minutes of arrival ATFM delay per flight is a performance indicator in accordance with the European Performance Regulation (EU) no 317/2019, Annex 1, section 1, §3.1(b).

Targets are set on a national level and on an airport level, where the national target is the aggregation of the airport targets. For reference period 2, 2016-2019, the national target was 0.10 minutes/flight, and Brussels Airport and Liège Airport were considered as contributing airport. For reference period three (RP3), 2020-2024, the national target was initially 1.82 minutes/flight for all causes and 0.17 minutes/flight for CRSTMP causes with Brussels Airport the only contributing airport. However, due to the unexpected impact of COVID-19 on the air traffic, the European Commission requested a revision of Union-wide performance targets for RP3. The current proposal only includes arrival delay targets for Belgium as of 2022 (1.08 minutes/flight all causes and 0.12 minutes per flight for CRSTMP causes), and the only contributing airport remains Brussels Airport.

In 2025 the new reference period four (RP4), 2025-2029, starts. The new targets set for this period will bring a change on how the delay for the target is calculated. For RP3 the target was set on minutes/flight for CRSTMP causes, but this will change in RP4 as the target will be set on minutes/flight for all causes.

Despite not having its own target, skeyes registers the arrival delays for Ostend Airport as part of a continuous monitoring of the ANSP's performance and internal performance indicator. This indicator is the average time, expressed in minutes, of arrival ATFM delay per inbound IFR flight and is calculated for the whole calendar year. The indicator includes all IFR flights with an activated flight plan submitted to the Network Manager landing at the destination airport and covers all ATFM delay causes excluding exceptional events.[14]

The number of arrivals and the arrival delay for the performance indicator for the years 2019, 2022, 2023, and 2024 are given in ***Table 3.4***. The average arrival delay per flight is calculated by dividing the sum of arrival delay with ANSP contribution by the number of total flights calculated by the Network Manager (EUROCONTROL). Both the arrival delay and the included flights are provided by the Performance Review Unit (EUROCONTROL)[15]. In 2024, there was no ATFM arrival delay attributed to Ostend Airport.

***Table 3.4:*** *Number of IFR arrivals and minutes of arrival ATFM delay per reason and per year (with flight plan)*

| | Minutes of ATFM Arrival Delay | | | | IFR Arrivals |
|---|---|---|---|---|---|
| | CRSTMP | Weather | Other categories | Total | (with flight plan) |
| **2019** | 0 | 0 | 0 | 0 | 3,554 |
| **2022** | 0 | 0 | 0 | 0 | 3,942 |
| **2023** | 0 | 0 | 38 | 38 | 3,978 |
| **2024** | 0 | 0 | 0 | 0 | 2,661 |

## ALL ATFM IMPACT ON TRAFFIC AT OSTEND AIRPORT

The impact of ATFM measures goes beyond the restrictions placed by the airport of destination. In this section of the report, a view is given on the ATFM delay for all departing and arriving traffic in Ostend Airport. Regulations can be put in place at all ATC sectors on the flight plan: en-route sectors, departure and/or destination airport. The impact of all these regulations give the total ATFM delay at the airport. With the traffic downturn during COVID-19 the need for regulations was very low up to 2021. With the post-COVID-19 recovery bringing a much busier airspace, the need for regulations has once again increased.

This can also be seen in the ATFM delay figures for departing and arriving traffic in Ostend Airport. ***Figure 3.3*** shows the delay on departing traffic for 2019, 2022, 2023, and 2024. In 2024, departing flights from Ostend Airport were delayed by 6,811 minutes. 2% (135 minutes) of that delay is attributable to skeyes while 98% (6,676 minutes) is attributable to other ANSPs. ***Figure 3.4*** shows the delay on arriving traffic for 2019, 2022, 2023, and 2024. In 2024, arriving flights from Ostend Airport were delayed for a total of 7,693 minutes, 1% (93 minutes) of that delay is attributable to skeyes while 99% (7,600 minutes) is attributable to other ANSPs.

To be noted: ***Figure 3.3*** and ***Figure 3.4*** present an overview of the ATFM delay on arriving and departing flights at Ostend Airport over the past three years, including the reference year 2019. The delay is attributed to the regulation originating it. For the flights with Ostend Airport as origin and destination, if they are impacted by any regulation, the delay is counted in the arrival delay and in the departure delay, as those flights are considered arrivals and departures to/from the airport. As a result, the total ATFM delay is not the sum of delays recorded for arrivals and departures, as this will count delays for the flights with origin and destination Ostend Airport twice.

***Figure 3.3**: ATFM delay for IFR departures per year and delay origin*

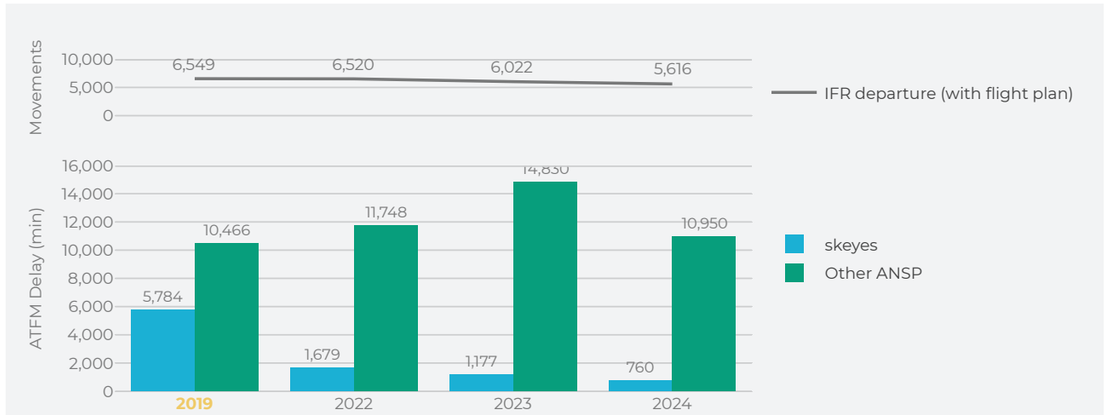
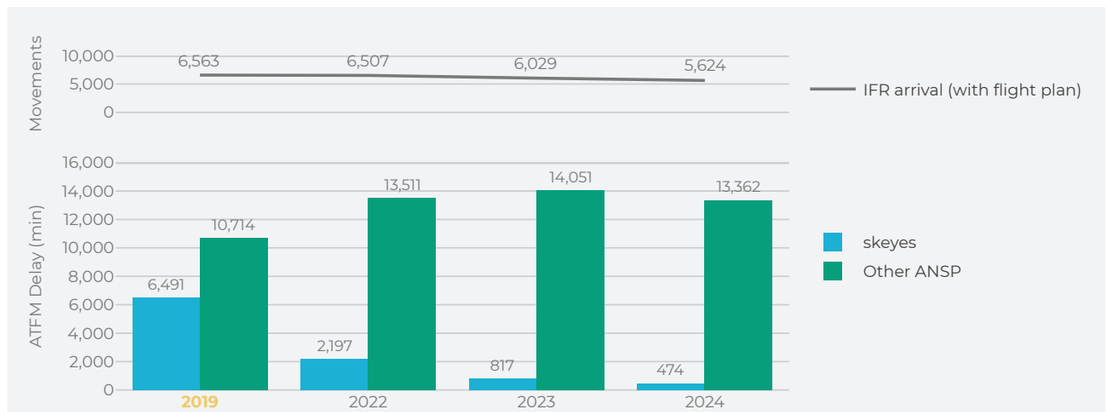



***Figure 3.4**: ATFM delay for IFR arrivals per year and delay origin*



In total, in 2024, 402 departures and 474 arrivals in Ostend Airport were impacted by ATFM regulations. To give a view of the severity of the impact, the delayed flights can be categorised based on the length of the delay. There are four categories:

- *Little Delay: 1-15 minutes*
- *Medium Delay: 15-30 minutes*
- *Heavy Delay: 30-60 minutes*
- *Severe Delay: more than 60 minutes*

***Figure 3.5*** and ***Figure 3.6*** show these categories respectively for departing and arriving traffic. 57% of the delayed departures and 64% of the delayed arrivals were delayed for a maximum of 15 minutes. 2% of the departing flights in 2024 and 3% of the arriving flights had a delay of more than one hour.

***Figure 3.5:*** *Delayed IFR departures per category of delayed time*

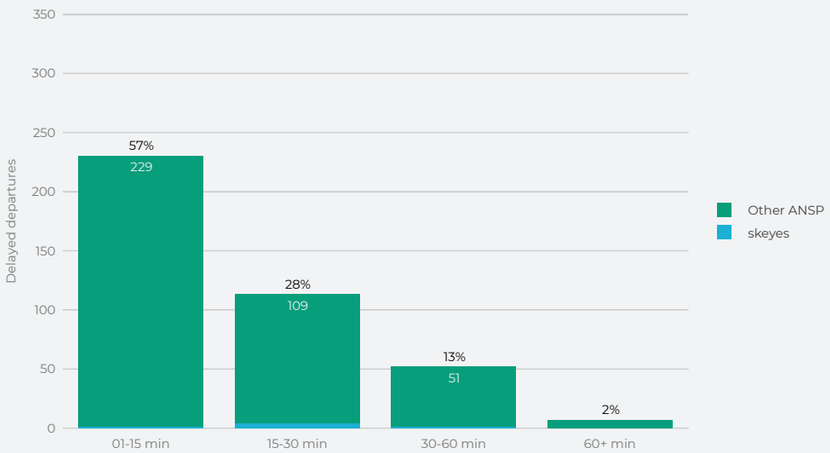
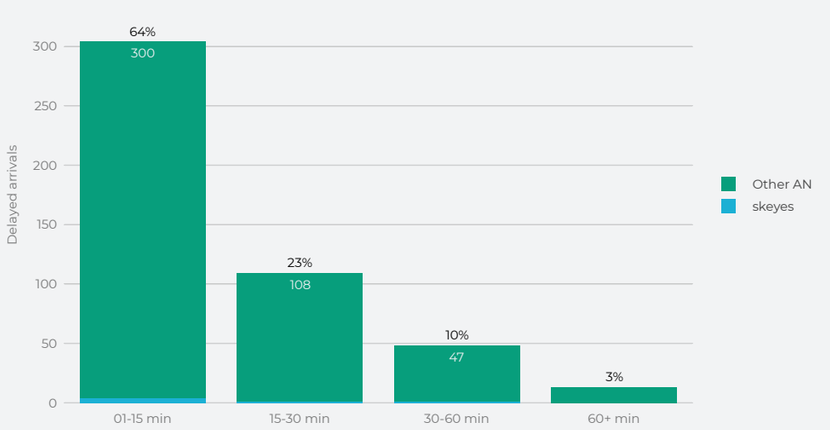



***Figure 3.6:*** *Delayed IFR arrivals per category of delayed time*



# 11 ENVIRONMENT

- **Preferential Runway System**
- **Night Movements**
- **Wind Patterns**
- **Considerations and Improvements**

As most airports, Ostend Airport is located near populated areas. It is therefore foremost important to consider noise and its reduction, as far as possible, in the vicinity of the airport. One of the ways to do so is to put in place a preferential runway system, a decision taken by the BCAA, which prioritises the usage of one runway over the other during certain hours, given that some conditions, mainly weather-driven, are met.

This chapter addresses, in the first part, the compliance to the preferential runway system in Ostend Airport, goes over night movements, and gives an overview of wind speed and direction, as wind is a major factor in the choice of runway use.

## Preferential Runway System

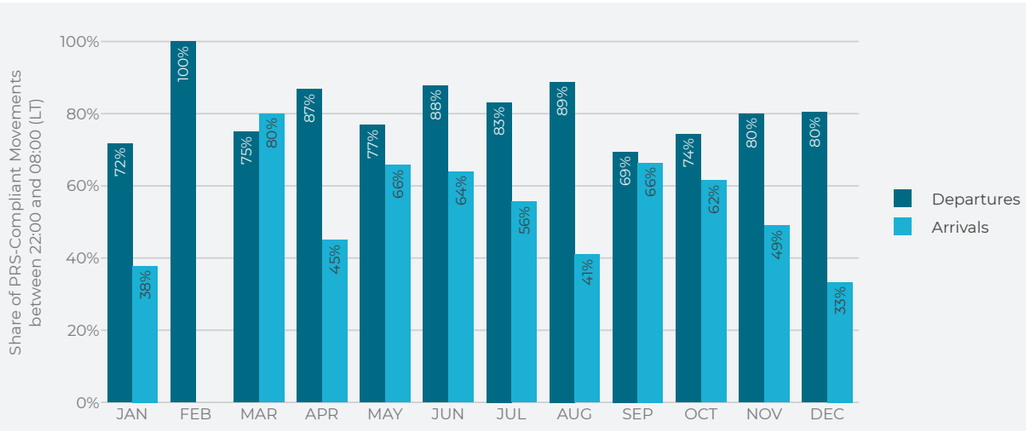
A basic aerodynamic principle is that an airplane should take off and land against the wind direction. In addition to the speed and surface wind direction, there are many more factors to consider when choosing the runway in use, such as environmental regulations, available navigation aids for approach and landing, the weather conditions, the available instrument approach procedures, or simply the availability of taxiways.

As published in the AIP[16] for Ostend Airport, between 22:00 and 08:00 local time, when the crosswind component - including gusts - does not exceed 15 knots, or the tailwind component - including gusts - does not exceed 5 knots and with traffic permitting, runway 26 shall be used as preferred runway for take-off and runway 08 for landing. If the pilot-in-command considers the runway-in-use not usable for reasons of safety or performance, he/she shall request permission to use another runway. ATC will accept such request, provided that traffic and air safety conditions permit.

For safety reasons, if one of the above-mentioned conditions is not met, the PRS will not be followed and the most suiting runway in the given case will be used. ***Figure 4.1*** depicts the compliance to the PRS per month for the year 2024. Throughout the year, the PRS was followed by 80% of departures (an increase compared to 78% in 2023) and 54% of arrivals (an increase compared to 51% in 2023). The overall compliance rate for 2024 was 67%, that indicates a general increase compared to 66% in 2023.

During the runway renovation works from January 25th until March 27th there was a temporary established helipad in Ostend Airport on apron 3, that was permitted to be used by NHV. On top of that, NHV continued their operations using their own helipad (EPNH) alongside the temporary one, that's why even with the runway closed there were still some recorded movements in February, which ended up giving PRS data as well. When using the temporary helipad in Ostend Airport, the actual runway in use was used as a base to determine the approach to the helipad according to the current wind.

***Figure 4.1:*** *PRS usage between 2200 and 0800 in percentage of movements per departure or arrival per month*




16. Belgium & Luxembourg AIP/ AD 2.20 EBOS Local Aerodrome Regulations/ 4.1 Selection of runway-in-use



## Night movements

***Figure 4.2*** shows the number of nighttime movements throughout the years of 2019, 2022, 2023, and 2024. For Ostend-Bruges Airport the night is defined to range from 23:00 to 06:00 local time. Overall, night traffic decreased from 878 movements in 2023 to 599 movements in 2024. The main cause of the decline was the decrease of cargo traffic which dropped from 1,516 movements (day and night combined) in 2023 to 715 movements in 2024.

***Figure 4.3*** and ***Table 4.1*** illustrate yearly night movements per hour throughout the years of 2019, 2022, 2023, and 2024. Due to the fact that there was 16% less traffic (day and night combined) in Ostend Airport in 2024 compared to 2023 overall, the amount of traffic during almost all night hours also decreased. Only during the first hour of night traffic (between 23:00 and 23:59 local time) there were more movements in 2024 (255) than in 2023 (249), making it the busiest hour out of all night hours.

***Figure 4.2:*** *Yearly day and night movements*

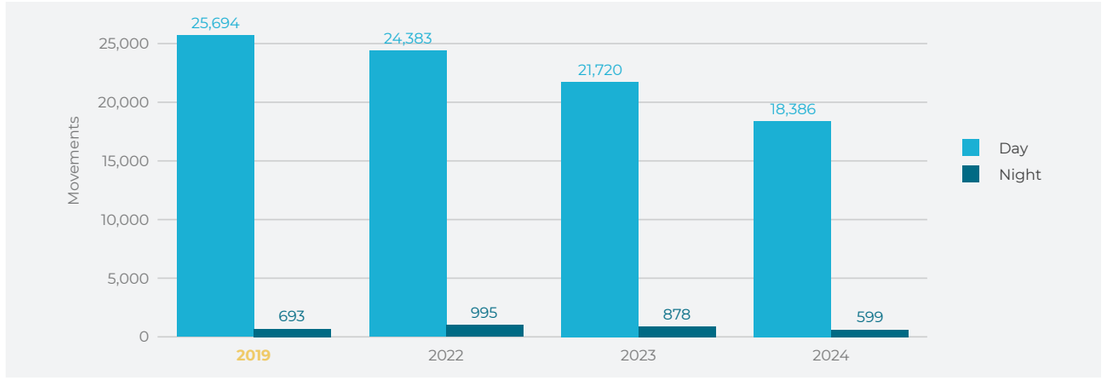



***Figure 4.3:*** *Yearly night movements per hour*

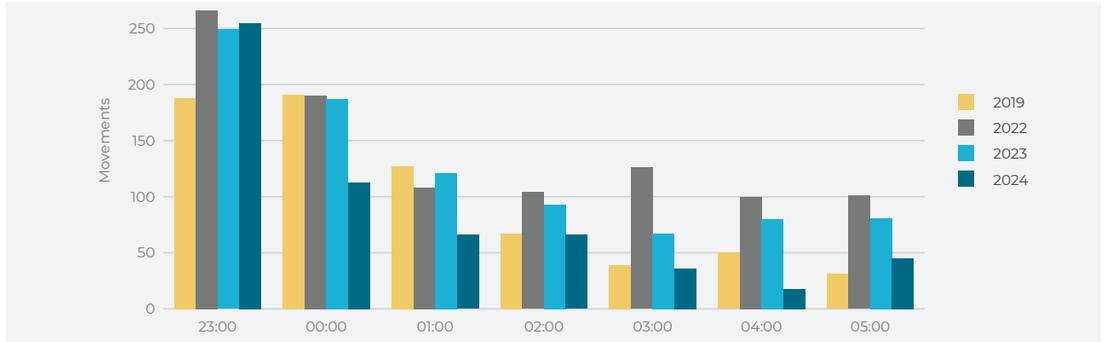



***Table 4.1:*** *Yearly night movements per hour*

| Year | 23:00 | 00:00 | 01:00 | 02:00 | 03:00 | 04:00 | 05:00 |
|---|---|---|---|---|---|---|---|
| **2019** | 188 | 191 | 127 | 67 | 39 | 50 | 31 |
| **2022** | 266 | 190 | 108 | 104 | 126 | 100 | 101 |
| **2023** | 249 | 187 | 121 | 93 | 67 | 80 | 81 |
| **2024** | 255 | 113 | 66 | 66 | 36 | 18 | 45 |

## Wind Patterns

The annual wind speed and direction are illustrated in ***Figure 4.4***. In 2024, the wind patterns remained consistent with previous years, with an increase in the prevalence of south westerly winds and a decrease of the north easterly winds. The dominant wind direction with the medium strength originated from the south west, while the strong wind occurrences were more frequent from the westerly direction, aligning closely with the trend observed in all previous years.

***Figure 4.5*** shows the monthly wind roses throughout the year of 2024. In May, June, and September north easterly winds prevailed, while February, August, and December mainly recorded south westerly wind. The strong and frequent winds from the sea side (south westerly and north westerly) mainly appeared in January, February, April, November, and December, while the rest of the year the wind was calmer and varied in direction.

**Figure 4.4:** *Yearly wind roses*

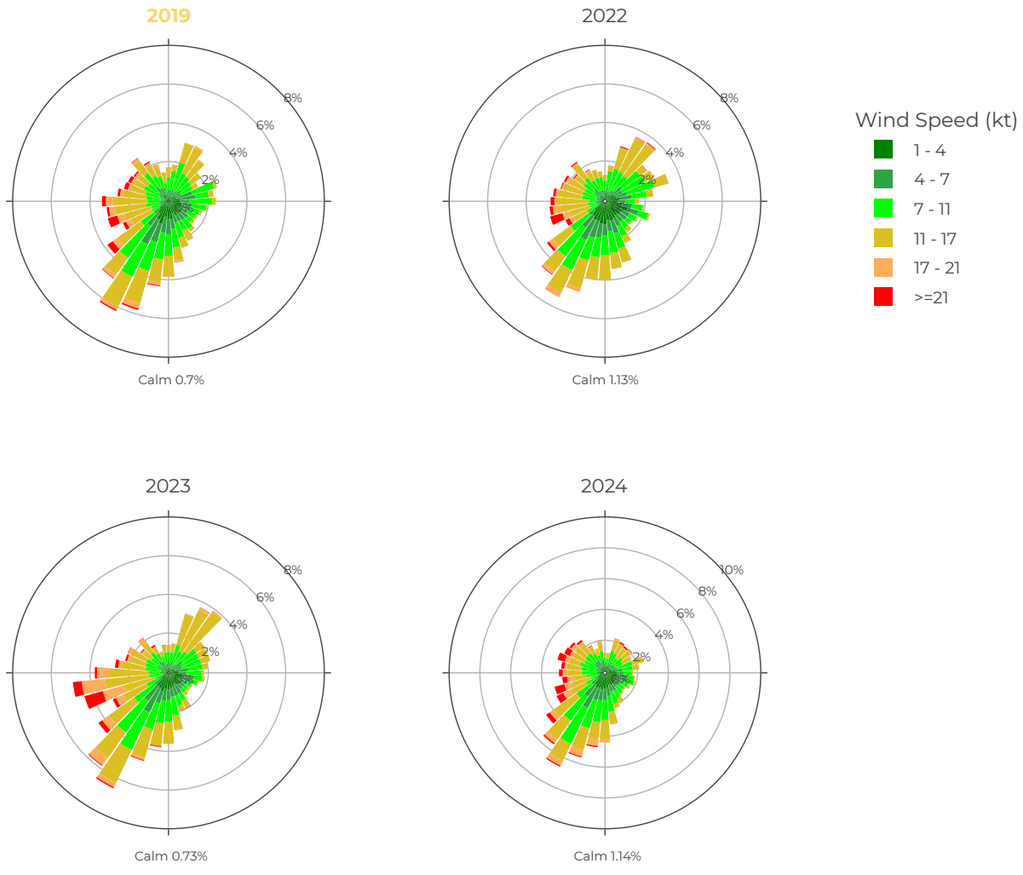
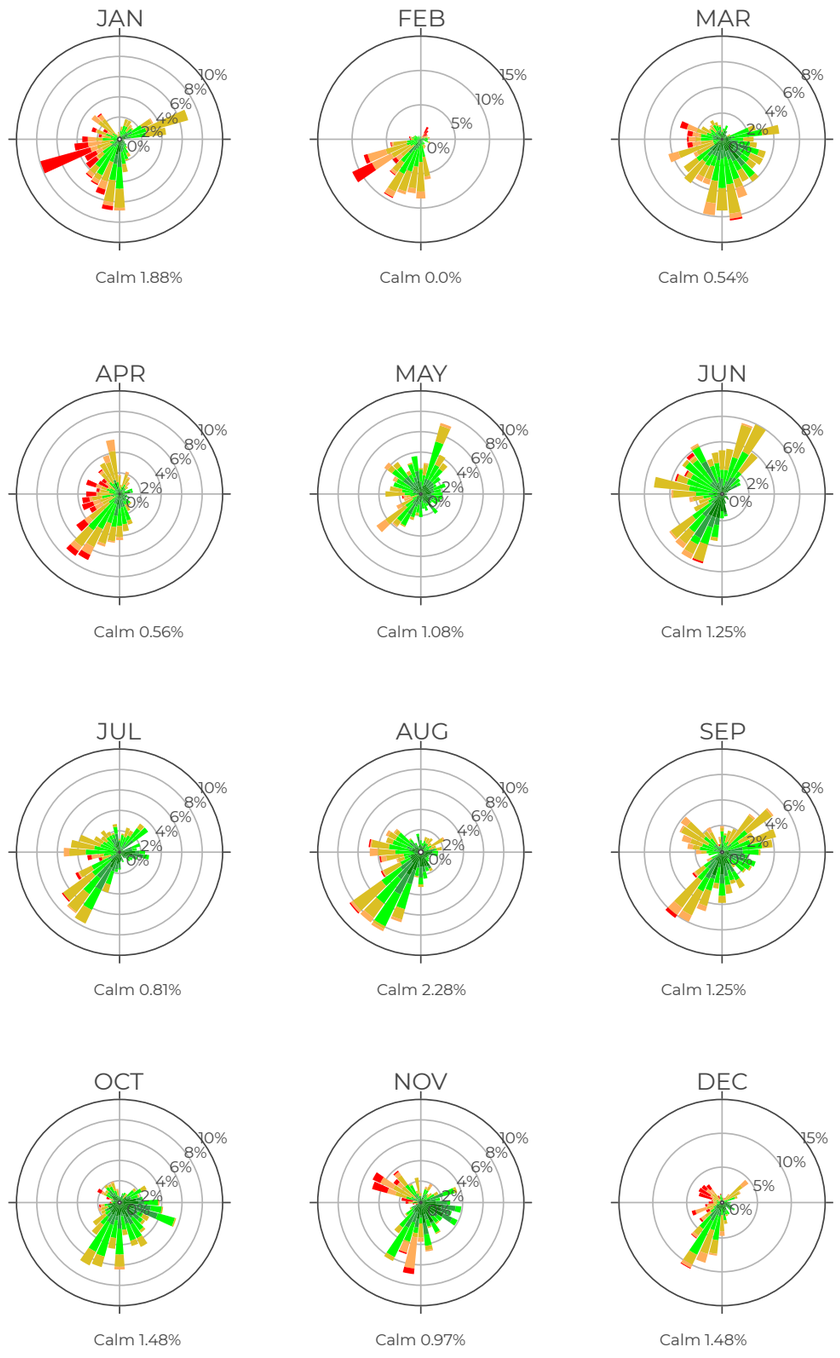



**Figure 4.5:** *Monthly wind roses of 2024*



# Considerations and Improvements

## Recognition of environmental efforts through GreenATM

To conclude this chapter, it is important to mention that skeyes obtained the GreenATM level 3 accreditation in 2023. CANSO GreenATM is an environmental accreditation programme to provide ANSPs with an independent, industry-endorsed, accreditation of their environmental efforts.

## Data-driven insights for sustainability

skeyes continuously expands and renews its toolset for performing (environmental) assessments. For this purpose, skeyesAnalyzer, a web-based radar visualisation tool, was developed and it is being implemented. This tool will, amongst others, assist various skeyes teams in visualizing, retrieving and analysing aircraft track data. The tool will also increase transparency towards the public, as it will comprise a publicly available interface.

## Shaping future airspace with PBN

skeyes also designed a PBN (Performance Based Navigation) implementation and transition plan describing the way ahead to 2030. The purpose of the transition and implementation plan 2024/2030 is the establishment of a full PBN environment within the Belgian part of the Brussels Flight Information Region (FIR) and at the aerodromes of Antwerp, Brussels, Charleroi, Kortrijk, Liège and Ostend. Once the full PBN environment is realized, an optimization of this PBN environment will be initiated. This comprises the redesign of airspace as well as the routes which can then be redesigned independently from the ground-based infrastructure and placed at the most strategically beneficial location.

# ANNEX

# Annex A: Missed Approaches

***Table 0.1:*** *Missed approaches per category per runway*

| | Reasons | 2019 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|
| RWY 08 | aircraft with technical problems | - | - | - | - |
| | cabin crew not ready | 1 | - | - | - |
| | departing traffic on the runway | - | - | 1 | - |
| | other | - | 1 | 1 | 1 |
| | pilot's error | 1 | 1 | - | - |
| | previous landing on the runway | - | - | - | - |
| | runway condition | - | - | - | - |
| | tail wind | - | 2 | - | - |
| | taken out of sequence | - | - | - | - |
| | too close behind preceding | - | - | 1 | - |
| | unstable approach | 5 | 2 | 4 | 2 |
| | weather - thunderstorm - windshear | - | 1 | - | - |
| | weather - visibility | 1 | 2 | 1 | - |
| | **Total** | **8** | **9** | **8** | **3** |
| RWY 26 | aircraft with technical problems | - | 1 | 1 | - |
| | cabin crew not ready | - | - | - | - |
| | departing traffic on the runway | - | - | - | - |
| | other | 1 | 3 | 1 | 1 |
| | pilot's error | - | - | - | 2 |
| | previous landing on the runway | 1 | 1 | 2 | - |
| | runway condition | 1 | - | - | - |
| | tail wind | 1 | - | - | - |
| | taken out of sequence | - | - | 1 | - |
| | too close behind preceding | - | - | 3 | 2 |
| | unstable approach | 3 | 3 | 4 | - |
| | weather - thunderstorm - windshear | 3 | - | 1 | - |
| | weather - visibility | 1 | 7 | 1 | 8 |
| | **Total** | **11** | **15** | **14** | **13** |

# Annex B: Fact sheets

TRAFFIC

### *Yearly Evolution*

- *16% decrease in movements in 2024 compared to 2023;*
- *2024 was at 72% of 2019 traffic.*

| *Movements* | 2019 | 2022 | 2023 | 2024 | 2024 vs 2023 | 2024 vs 2019 |
|---|---|---|---|---|---|---|
| **IFR** | 8,835 | 9,564 | 9,433 | 6,249 | -34% | -29% |
| **VFR** | 17,552 | 15,814 | 13,165 | 12,736 | -3% | -27% |
| **Total** | 26,387 | 25,378 | 22,598 | 18,985 | -16% | -28% |

### *Quarterly comparison*

- *63% less traffic in Q1 due to runway renovation works.*

| *Movements* | 2019 | 2022 | 2023 | 2024 | 2024 vs 2023 | 2024 vs 2019 |
|---|---|---|---|---|---|---|
| **Q1** | 5,057 | 5,044 | 4,804 | 1,763 | -63% | -65% |
| **Q2** | 7,353 | 6,977 | 6,274 | 6,040 | -4% | -18% |
| **Q3** | 7,207 | 7,774 | 6,582 | 6,840 | +4% | -5% |
| **Q4** | 6,770 | 5,583 | 4,938 | 4,342 | -12% | -36% |

SAFETY

### *Missed Approaches*

16 missed approaches in 2024 (-28% vs. 2023)

TOP 3 causes in 2024:

1. Weather - visibility (8);
2. Other (3);
3. Unstable approach/ too close behind preceding/ pilot's error (2).

### *Safety Occurrences*

- 4 runway incursions: 3 with ATM contribution & 1 without.

CAPACITY & PUNCTUALITY

### *Capacity*

- Capacity exceeded on 4 days for 26-26 and on 3 days for 08-08 mainly due to VFR traffic;
- IFR capacity never exceeded.

| *Runway configuration* | *Declared IFR Capacity* | *Maximum Movements/Hour* |
|---|---|---|
| **08-08** | *33 movements/hour* | *36 movements/hour* |
| **26-26** | *34 movements/hour* | *38 movements/hour* |

### *Punctuality*

**Arrival delay:**

- CRSTMP delay: 0.00 min/flight.

**ATFM impact:**

- Arrivals: 7,693 minutes of ATFM delay (93 due to skeyes' regulations);
- Departures: 6,811 minutes of ATFM delay (135 due to skeyes' regulations).

ENVIRONMENT

### *Runway use*

- RWY26 – 66%;
- RWY08 – 34%.

### *PRS*

- The PRS was complied by 80% of departures, 54% of arrivals, overall – 67% of movements.

### *Night Movements*

- 32% decrease in night movements.

skeyes nice to guide you

# Runway Performance Report **2024**

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