Pre-covid = year 2016 – 2019

Post covid = year 2022 and 2023

Covid = 2020 and 2021

AMS = Amsterdam Schiphol Airport

EIN = Eindhoven Airport

RTM = Rotterdam The Hague Airport

**Research question 2:**

“What is the load factor (number of passengers per flight) and how did it change over time?”

To answer this research question, the total number of flights and passengers per airport, per year, will be analyzed. This analysis will include overall flight and passenger data, as well as this data separated by arrivals and departures. Based on this information, the load factor will be calculated for each airport per year and represented visually in graphs.

### 2.1 Approach and Assumptions

To gain more insight in the load factor, this analysis focuses on the three largest airports in the Netherlands: Amsterdam Schiphol Airport, Eindhoven Airport, and Rotterdam The Hague Airport. For each airport, the data on the number of passengers and flights, including arrivals and departures, will be examined.

This research will concentrate on full-year data, specifically from 2016 to 2023. This decision excludes 2024, which is based on the fact that the available data for this year only covers January to August. As a result, this data will not provide a complete overview of the load factor for 2024 and would therefore not be comparable to the load factors of previous years.

### 2.2 Results

A total of eighteen graphs are created to provide a comprehensive understanding of the load factor. In Figure X (1), the total number of flights and passengers (arrivals + departures) for the three airports are presented per year. This graph illustrates the significant decline in both flights and passengers during the Covid period, with a gradual recovery during the post-Covid years at all airports.

Using the data from these graphs, the load factor for each airport, which is the ratio of the total passengers to total flights, can be derived. The resulting load factor graphs reflect a similar trend, as shown in Figure X (2).

Afbeelding met diagram, Perceel, lijn, tekst

Automatisch gegenereerde beschrijving



Figure 2

Afbeelding met lijn, Perceel, diagram, helling

Automatisch gegenereerde beschrijving



This same analysis is also conducted with a focus on arrivals and departures separately to determine if there is a noticeable difference between these two. By examining the data for arrivals and departures separately, it can be identified if trends in passenger numbers and therefore load factors differ between these categories.

Figure 3

Afbeelding met lijn, Perceel, diagram, helling

Automatisch gegenereerde beschrijving

Figure 4

Afbeelding met lijn, Perceel, diagram, helling

Automatisch gegenereerde beschrijving



As shown in Figure X (3) and Figure X (4), the load factor follows the same trend for every airport as it reaches a peak in 2019 during the pre-Covid period, drops to a low in 2020, and then gradually improves in the post-Covid years. It should be noticed that both EIN and RTM achieve a new, higher load factor in the post-Covid years in comparison to the pre-Covid years.

Over the years, the load factor for arrivals and departures remains relatively similar. In Figure X (6), a table is provided displaying the load factor values for both arrivals and departures at the three airports. As can be seen in the table, the load factor does not vary significantly between arrivals and departures, which indicated that the number of passengers arriving at the airport is nearly the same as the number departing even during Covid.

Figure 6:

Afbeelding met tekst, schermopname, menu, nummer

Automatisch gegenereerde beschrijving

### 2.3 Conclusion

By examining all visualizations, it can be concluded that the total load factor did change during the Covid period. For both Eindhoven Airport and Rotterdam The Hague Airport, the load factor reaches a higher level than the all-time high observed during the pre-Covid period. Amsterdam Schiphol Airport is nearly back to its pre-Covid levels and is expected to continue increasing in the upcoming years, potentially also surpassing the all-time high seen before the pandemic.