



Lufthansa Consulting

Your Business Runway



Strategic exploration of the future of Groningen Airport Eelde

Passenger aviation market and transport forecast analysis

Groningen, March 18th, 2016



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Introduction

Lufthansa Consulting performed a 'Passenger aviation market analysis' based on a combination of desk research, an extensive analysis of available market data, years of experience in market analysis topics and a cross-check of draft results with relevant market experts in a 'market test' on March 10th.

This final report comes with a management summary and is only complete in conjunction with a verbal presentation explaining the underlying detailed analysis. Please note that a glossary of the abbreviations used throughout the study can be found in the annex of this presentation.

The report was created for the exclusive use of:

Province of Drenthe (formally representing the collective shareholders of Groningen Airport Eelde NV)
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Our background makes us different



Independent management consulting subsidiary within the Lufthansa Group

Our affiliation with the Lufthansa Aviation Group with one of the world's leading air carriers and founder of the Star Alliance network provides us with in-depth aviation business knowledge.



Aviation know-how combined with extensive methodological expertise

Lufthansa Consulting combines operational experience and methodological skills to develop and implement concepts that work.



Global experience

Since 1988 more than 2,000 projects were successfully completed for clients worldwide.



Multicultural organization

We employ consultants from many different nations and cultures which enable us to better understand our clients' language and culture.

Our background makes us different

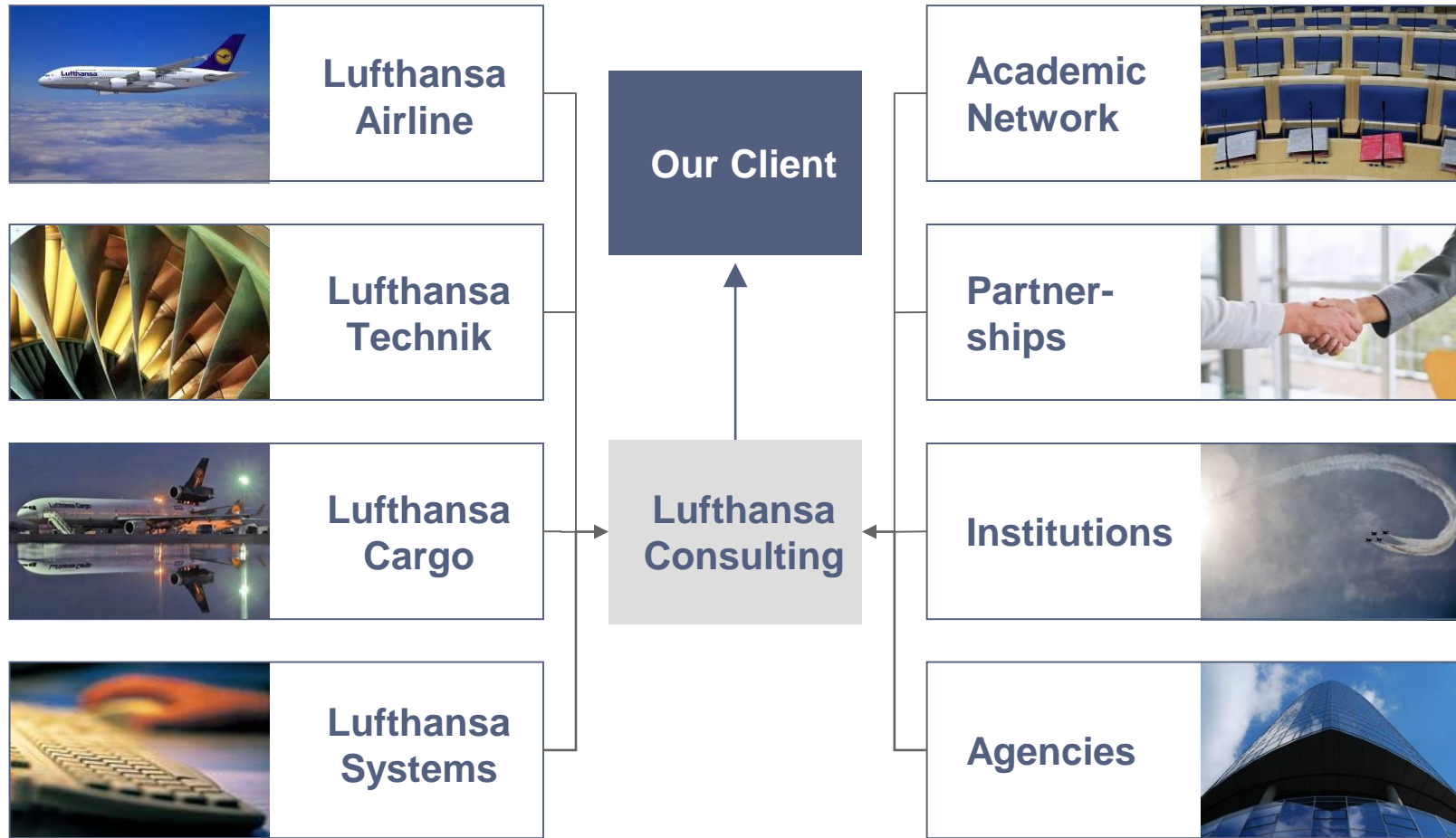


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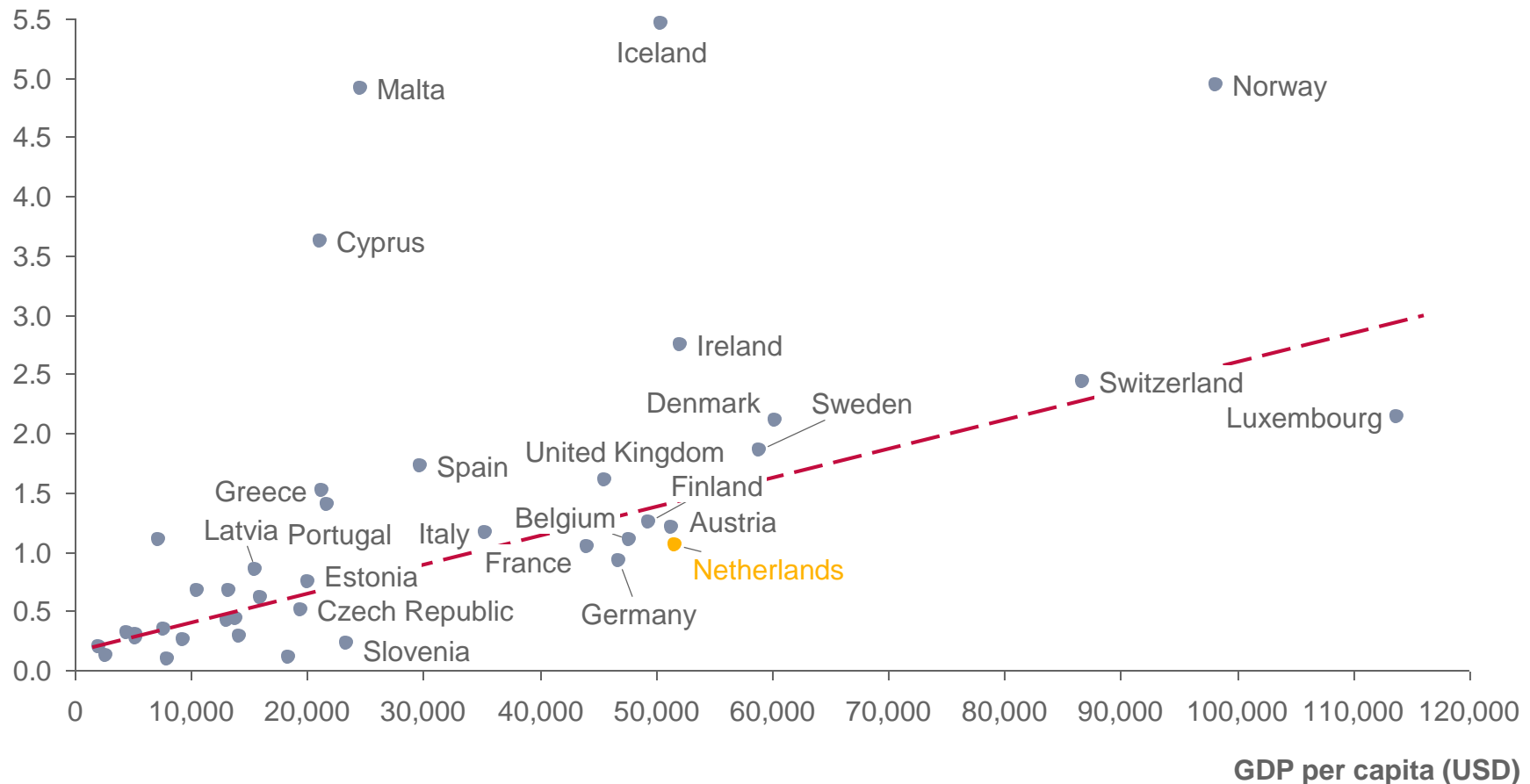
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Due to its exceptionally good land connectivity, the Netherlands has slightly fewer trips per capita compared with the trend in the EU

GDP per capita vs. trip per capita in European countries

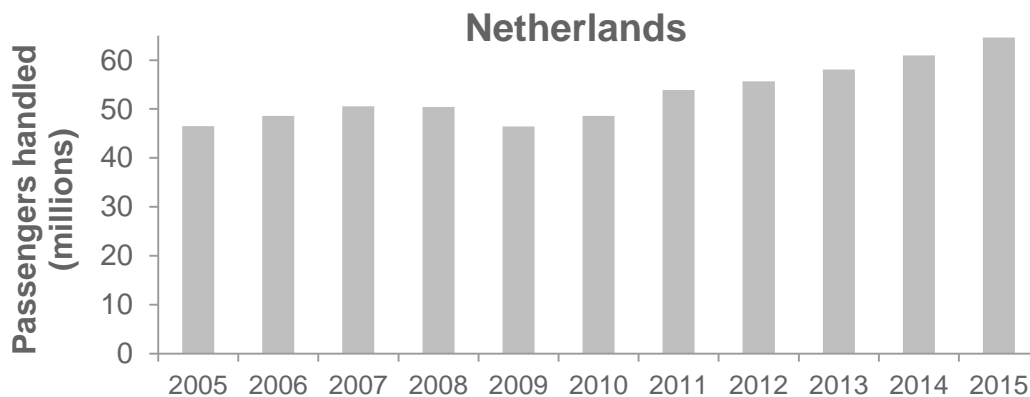
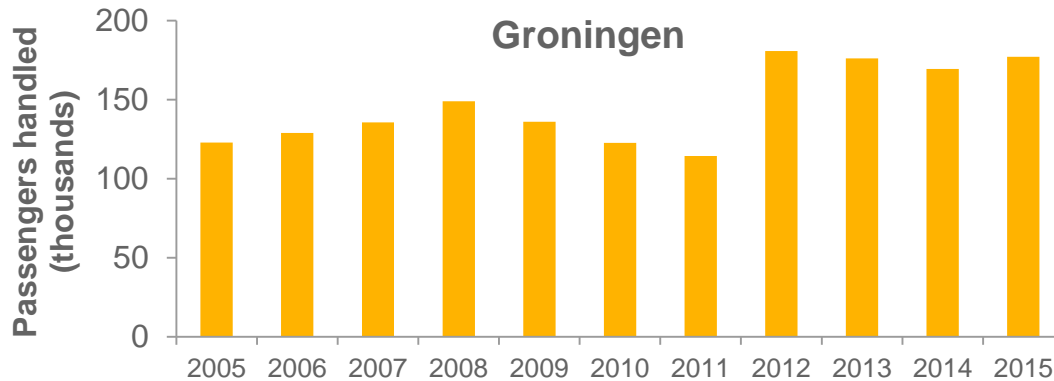
Trip per capita (round trip)



Note: trip per capita is the average number of round trips from a country per year divided by the population

Source: Lufthansa Consulting research 2015

Air traffic growth in the Netherlands is mostly driven by Amsterdam whereas Groningen has seen its market share decreased over time



- From 2005 to 2015, passenger numbers in GRQ have grown from a low basis to 200,000 passengers (excluding transit pax)
- The traffic development has suffered some descendent periods that made the overall traffic to fall behind expectations
- As opposed to competitors like EIN, NRN and BRE, low cost airlines have failed to operate consistently at GRQ
- Several examples highlight the difficulties airlines encounter when launching operations from GRQ
 - **BM:** to ABZ, ceased in 2013
 - **FR:** to PMI and GRO, ceased in 2015
 - **A3:** to CFU, ceased in 2015
- Besides two scheduled routes, the airport traffic relies on outbound tourism flows – a traffic segment very sensitive to the European economic situation

Source: Centraal Bureau voor de Statistiek (CBS)

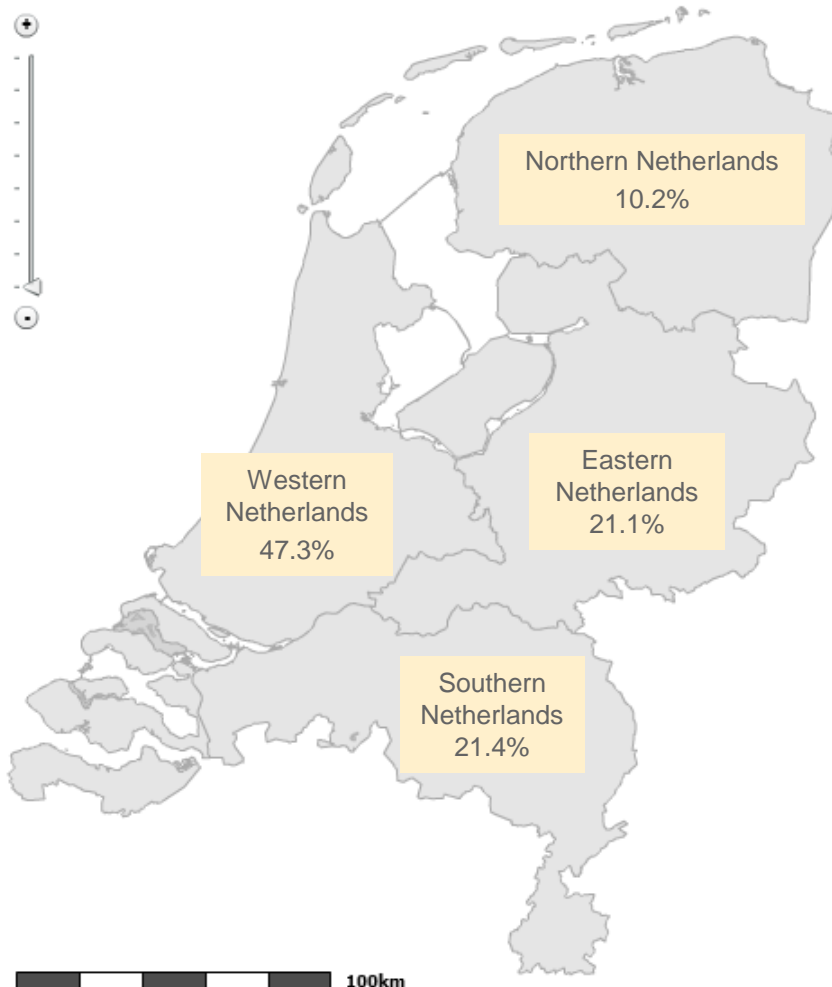
Note: Data may differ from GRQ traffic statistics

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According to Statistics Netherlands, Northern Netherlands only hosts 10% of the Dutch population

Distribution of Dutch population per region



Detailed data

- In 2013, the Netherlands had a population of 16.8 million
- The region of Northern Netherlands is sparsely populated
- It consists of the provinces of
 - Groningen with approximately 583,000 inhabitants,
 - Drenthe with approximately 489,000 inhabitants, and
 - Friesland with approximately 646,000 inhabitants

Source: Statistics Netherlands, Den Haag/Heerlen Data of 2013

Groningen Airport Eelde has a catchment area within 60 minutes by car of over two million people

GRQ's catchment area



Detailed data

	Within 30 minutes by car	Within 45 minutes by car	Within 60 minutes by car
Population	575,319	1,278,974	2,078,780
GDP (€m)	33,661	52,407	76,766
GDP per capita	58,508*	40,976	36,928

*Without the mining sector, the GDP per capita estimated to be above 30,000

- **Within 30 minutes** of driving, potential passengers can reach Groningen Airport Eelde from:
 - Overig Groningen
 - Noord-Drenthe
- **Within 45 minutes** of driving, potential passengers can reach Groningen Airport Eelde from:
 - Delfzijl en omgeving
 - Overig Groningen
 - Zuidoost-Friesland
 - Zuidoost-Drenthe
 - Zuidwest-Drenthe
- **Within 60 minutes** of driving, potential passengers can reach Groningen Airport Eelde from:
 - Noord-Friesland
 - Zuidwest-Friesland
 - Noord-Overijssel

Note: The catchment area of a COROP is determined by the average travel time from the municipalities of the COROP adjusted for outliers

Source: Statistics Netherlands, Den Haag/Heerlen Data of 2013, Google Maps

Within the Netherlands, Maastricht Aachen Airport has a catchment area of almost two million people

MST's catchment area



Detailed data

	Within 30 minutes by car	Within 45 minutes by car	Within 60 minutes by car
Population	839,489	839,489	1,868,332
GDP (€m)	26,287	26,287	67,952
GDP per capita	31,313	31,313	36,370

- **Within 30 minutes** of driving, potential passengers can reach Maastricht Aachen Airport from:
 - Midden-Limburg
 - Zuid-Limburg
- **Within 60 minutes** of driving, potential passengers can reach Maastricht Aachen Airport from:
 - Noord-Limburg
 - Zuidoost-Noord-Brabant

Note: The catchment area of a COROP is determined by the average travel time from the municipalities of the COROP adjusted for outliers

Source: Statistics Netherlands, Den Haag/Heerlen Data of 2013, Google Maps

Within the Netherlands, Eindhoven Airport has a catchment area of more than four million people

EIN's catchment area



Detailed data

	Within 30 minutes by car	Within 45 minutes by car	Within 60 minutes by car
Population	748,326	2,329,633	4,350,359
GDP (€m)	32,429	86,996	158,612
GDP per capita	43,335	37,343	36,460

- **Within 30 minutes** of driving, potential passengers can reach Eindhoven Airport from:
 - Zuidoost-Noord-Brabant
- **Within 45 minutes** of driving, potential passengers can reach Eindhoven Airport from:
 - Midden-Noord-Brabant
 - Noordoost-Noord-Brabant
 - Midden-Limburg
 - Zuidwest-Gelderland
- **Within 60 minutes** of driving, potential passengers can reach Eindhoven Airport from:
 - West-Noord-Brabant
 - Noord-Limburg
 - Zuidoost-Zuid-Holland
 - Arnhem/Nijmegen

Note: The catchment area of a COROP is determined by the average travel time from the municipalities of the COROP adjusted for outliers

Source: Statistics Netherlands, Den Haag/Heerlen Data of 2013, Google Maps

Amsterdam Schiphol has a catchment area of more than eight million people

AMS's catchment area



Detailed data

	Within 30 minutes by car	Within 45 minutes by car	Within 60 minutes by car
Population	3,379,732	5,383,321	8,209,042
GDP (€m)	160,115	242,286	343,449
GDP per capita	47,375	45,007	41,838

- **Within 30 minutes** of driving, potential passengers can reach Amsterdam Schiphol from:
 - IJmond
 - Agglomeratie Haarlem
 - Zaanstreek
 - Groot-Amsterdam
 - Het Gooi en Vechtstreek
 - Agglomeratie Leiden en Bollenstreek
 - Agglomeratie 's-Gravenhage
- **Within 45 minutes** of driving, potential passengers can reach Amsterdam Schiphol from:
 - Utrecht
 - Alkmaar en omgeving
 - Delft en Westland
 - Oost-Zuid-Holland
- **Within 60 minutes** of driving, potential passengers can reach Amsterdam Schiphol from:
 - Flevoland
 - Zuidwest-Gelderland
 - Kop van Noord-Holland
 - Groot-Rijnmond
 - Zuidoost-Zuid-Holland

Note: The catchment area of a COROP is determined by the average travel time from the municipalities of the COROP adjusted for outliers

Source: Statistics Netherlands, Den Haag/Heerlen Data of 2013, Google Maps

Within the Netherlands, Rotterdam Airport has a catchment area of more than eight million people

RTM's catchment area



Detailed data

	Within 30 minutes by car	Within 45 minutes by car	Within 60 minutes by car
Population	246,9801	3,577,032	8,291,480
GDP (€m)	10,1185	13,7698	35,4473
GDP per capita	40969	38495	42751

- **Within 30 minutes** of driving, potential passengers can reach Rotterdam Airport from:
 - Agglomeratie 's-Gravenhage
 - Delft en Westland
 - Groot-Rijnmond
- **Within 45 minutes** of driving, potential passengers can reach Rotterdam Airport from:
 - Agglomeratie Leiden en Bollenstreek
 - Oost-Zuid-Holland
 - Zuidoost-Zuid-Holland
- **Within 60 minutes** of driving, potential passengers can reach Rotterdam Airport from:
 - Zuidwest-Gelderland
 - Utrecht
 - IJmond
 - Agglomeratie Haarlem
 - Zaanstreek
 - Groot-Amsterdam
 - Het Gooi en Vechtstreek
 - West-Noord-Brabant
 - Midden-Noord-Brabant

Note: The catchment area of a COROP is determined by the average travel time from the municipalities of the COROP adjusted for outliers

Source: Statistics Netherlands, Den Haag/Heerlen Data of 2013, Google Maps

Within the Netherlands, Weeze Airport has a catchment area of 1.6 million people

NRN's catchment area in the Netherlands



Detailed data

	Within 30 minutes by car	Within 45 minutes by car	Within 60 minutes by car
Population	0	280,517	1,643,001
GDP (€m)	0	9,236	58,686
GDP per capita	0	32,925	35,719

- **Within 45 minutes** of driving, potential passengers can reach Weeze Airport from:
 - Noord-Limburg
- **Within 60 minutes** of driving, potential passengers can reach Weeze Airport from:
 - Arnhem/Nijmegen
 - Noordoost-Noord-Brabant

Note: The catchment area of a COROP is determined by the average travel time from the municipalities of the COROP adjusted for outliers

Source: Statistics Netherlands, Den Haag/Heerlen Data of 2013, Google Maps

Within the Netherlands, Dusseldorf Airport a catchment area of 0.5 million people

DUS's catchment area in the Netherlands



Detailed data

	Within 30 minutes by car	Within 45 minutes by car	Within 60 minutes by car
Population	0	0	515,852
GDP (€m)	0	0	16,277
GDP per capita	0	0	31,554

- **Within 60 minutes** of driving, potential passengers can reach Dusseldorf Airport from:
 - Midden-Limburg

Note: The catchment area of a COROP is determined by the average travel time from the municipalities of the COROP adjusted for outliers

Source: Statistics Netherlands, Den Haag/Heerlen Data of 2013, Google Maps

Almost 800,000 Dutch are within 120 minutes travel time from Bremen Airport

BRE's catchment area in the Netherlands



Detailed data

	Within 30 minutes by car	Within 45 minutes by car	...	Within 120 minutes by car
Population	0	0		772,221
GDP (€m)	0	0		37,880
GDP per capita	0	0		49,053

- **Within 120 minutes** of driving, potential passengers can reach Bremen Airport from:
 - Oost-Groningen
 - Delfzijl en omgeving
 - Overig Groningen
 - Noord-Drenthe

Note: The catchment area of a COROP is determined by the average travel time from the municipalities of the COROP adjusted for outliers

Source: Statistics Netherlands, Den Haag/Heerlen Data of 2013, Google Maps

Almost 800,000 Dutch are within 90 minutes travel time from Munster Osnabruck Airport

FMO's catchment area in the Netherlands



Detailed data

	Within 30 minutes by car	Within 45 minutes by car	...	Within 90 minutes by car
Population	0	0		795,787
GDP (€m)	0	0		23,362
GDP per capita	0	0		29,357

- **Within 90 minutes** of driving, potential passengers can reach Munster Osnabruck Airport from:
 - Zuidoost-Drenthe
 - Twente

Note: The catchment area of a COROP is determined by the average travel time from the municipalities of the COROP adjusted for outliers

Source: Statistics Netherlands, Den Haag/Heerlen Data of 2013, Google Maps

Potential overlap of catchment areas of Groningen Airport Eelde and Lelystad airport is populated by approximately 800,000 people

Overlap LEY and GRQ catchment areas



Detailed data

	Within approx. 60 minutes by car from both GRQ and LEY
Population	804,182
GDP (€m)	24,554
GDP per capita	30,533

- Population residing in overlapping catchment areas equals approximately 38.7 % of the total population located within GRQ's catchment area located within a 60 minutes car drive
- Within 60 minutes** of driving, potential passengers can reach Groningen Airport Eelde as well as Lelystad airport from large parts of:
 - Zuidoost-Friesland
 - Zuidwest-Friesland
 - Noord-Overijssel
 - Zuidwest-Drenthe

Note: The catchment area of a COROP is determined by the average travel time from the municipalities of the COROP adjusted for outliers
Source: Statistics Netherlands, Den Haag/Heerlen Data of 2013, Google Maps

Conclusions about the catchment areas

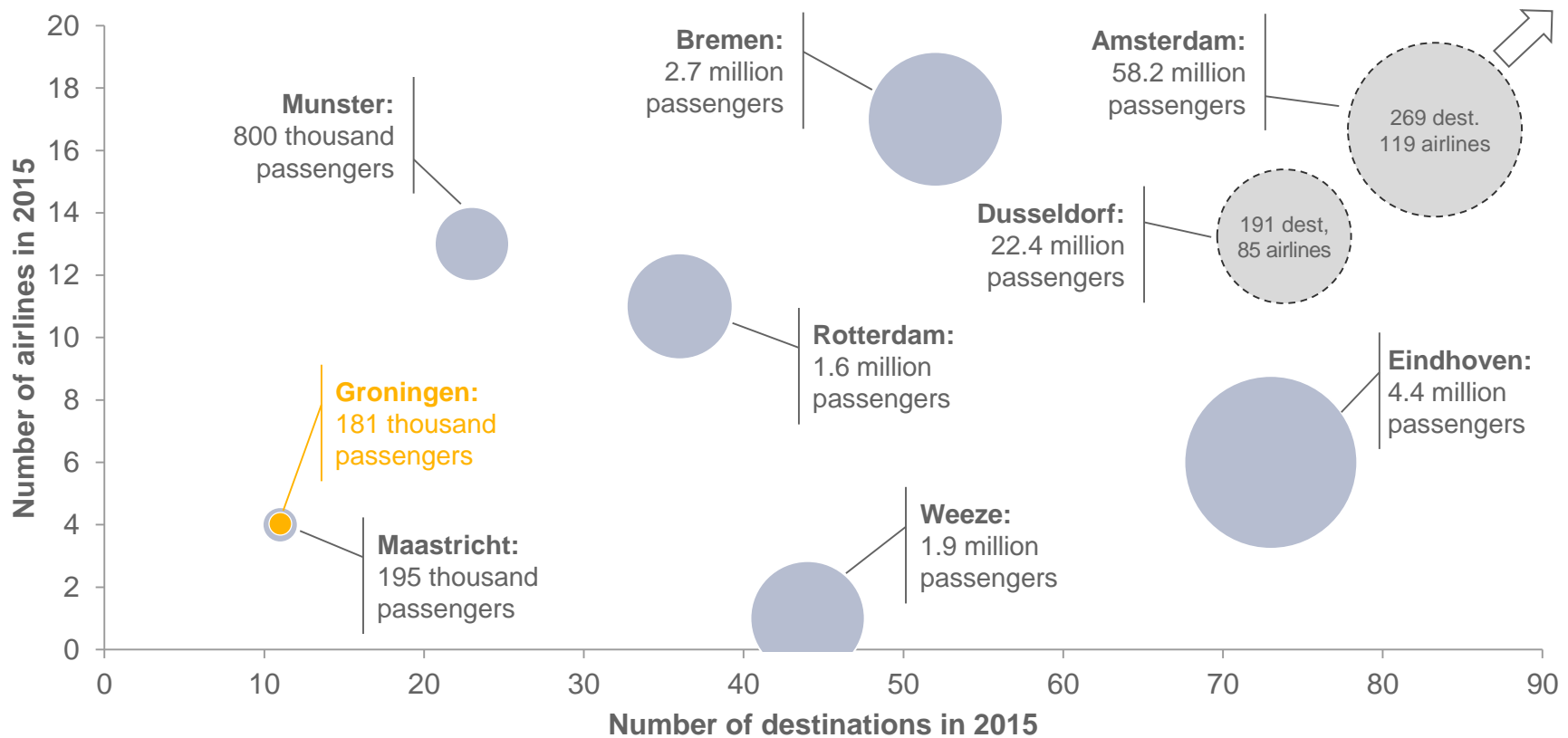
- Within 60 minutes by car from Groningen Airport Eelde, there is no overlapping catchment area of any competitor, representing > 2m people located within this area. This is similar to the catchment areas of Maastricht/Aachen and Weeze airports
- Amsterdam, Eindhoven, and Rotterdam have access to comparably much larger catchment areas within the above mentioned radius of 60 minutes by car
- German airports Dusseldorf, Bremen, and Munster Osnabruck serve comparably smaller catchment areas within the Netherlands
- In the immediate vicinity of Groningen Airport Eelde, GDP per capita is very high from the official statistics as it includes the mining sector, nevertheless without this sector the GDP per capita is close to the average of the Netherlands
- Even though there can be defined secondary catchment areas (up to 120 minutes driving time) both west and east from the primary catchment area, a conservative approach has been taken, excluding these areas for the following reasons:
 - The Eastern secondary catchment area falls in German territory. Given the strong cultural market behavior from the German market to use national carriers and airports, this area is not considered as likely potential source of traffic for GRQ
 - The Western secondary catchment area is in direct competition with Amsterdam primary catchment area and future Lelystad catchment area, which makes unlikely bigger volumes of leakage from this areas to GRQ
- The primary catchment area of GRQ is sparsely populated limiting the demand for air transport
- The growth forecast for the Dutch population does not promise a significant change of this population density

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Groningen airport is lagging behind the competition in the Dutch and German airport environment in traffic volume and destinations offered

Coverage of the competing airports in NL and DE



Note: Figures reflect bi-directional total passengers at each airport in 2015, not counting transit passengers
Source: AirportIS, Statistics Netherlands – CBS, Federal Statistical Office (Destatis)

size of bubbles proportional
to 2015 passenger traffic

According to recent press releases, Lelystad Airport is urgently needed to relieve Amsterdam and Eindhoven, the capital airport's “overloopvliegveld”

Once operational, Lelystad Airport will become a major threat to Groningen

Schiphol moet uitwijken

Lelystad en Eindhoven hard nodig als overloopvliegveld

De Telegraaf 23 Dec 2015

Van een onzer verslaggevers

AMSTERDAM Schipholtopman Jos Nijhuis verwacht volgend jaar de grens van 60 miljoen passagiers veruit te doorbreken. Volgens de Omgevingsraad koerst de luchthaven dan af op 470.000 starts en landingen, waarvan 31.000 in de nacht. Juist over dat lawaai klagen omwonenden.

„Daarom is het hard nodig dat we in 2018 ook Lelystad Airport in gebruik nemen als extra polderbaan. De verbouwing is aanbesteed en zal eind 2016 beginnen”, aldus een woordvoerder van Schiphol. Eindhoven, dat als ‘overloopvliegveld’ van Amsterdam dient, mikt in 2016 op 4,6 miljoen passagiers.

vertrekken, maar ook bijvoorbeeld van schaarser. „De bedoeling is om veel mogelijk naar Lelystad te verhuizen”, aldus de toekomstvisie van Schiphol op termijn ten minste 600.000 vluchtopportunities te creëren. Het gebruik moet een mondiaal knooppunt worden met concurrentie van landen met name Turkije en het hoofd te bieden.

Het Centraal Planbureau kent dat de vraag naar vliegvelden de komende decennia makkelijk

Remarks

- Currently LEY is a general aviation facility 100% owned by the Schiphol Group
- Investment of EUR 90 million to increase capacity to 3.7 million passengers p.a.
- Government approval to develop Lelystad and expand Eindhoven in June 2014
- Financed by Schiphol Group, government funding for land-access improvements
- Plan is part of the Alders Table process for aviation in the Netherlands
- Two possible scenarios: (a) Ryanair base or (b) Transavia moving from Schiphol
- Expected opening by mid 2018

Source: “De Telegraaf”, 12/23/2015

The development of Lelystad Airport is important for the **growth of Mainport Schiphol**. This investment will enable Schiphol to **remain a competitive international Mainport** in a competitive region. – *Jos Nijhuis, CEO of Schiphol Group*

Opening vakantieluchthaven

753 dagen 8 uren 58 minuten

Source: www.lelystadairport.nl,
retrieved on 03/08/2016



**Lelystad
Airport**

member of Schiphol Group

- Research proves consumers' interest in taking holiday flights from LEY, given competitive fares and attractive destinations
- Financial incentives, low airport charges and excellent facilities are likely to make LEY an attractive alternative for airlines
- Schiphol Group expects airlines to have interest in development of LEY due to growth of aviation and investments in aircraft

Source: www.schiphol.nl, retrieved on 03/08/2016

Possible consequences for Groningen Airport related to the opening of Lelystad Airport in 2018

General



- Lelystad Airport relieving Amsterdam and Eindhoven Airports by taking over LCC and leisure traffic primarily
- Overlapping catchment areas with GRQ with approximately 38.7% of the total population located within GRQ's catchment area
- No additional competition regarding hub feeder business assumed for Groningen Airport, as this segment is not focused upon by Lelystad Airport

Leisure and LCC



- Increased level of competition based on low fare levels possible at Lelystad Airport
- LEY capturing LCC traffic, hence impacting the LCCs' potential at GRQ to function as a source of traffic growth based on demand stimulation through market presence at GRQ
- Required price reaction or incentive scheme from GRQ side to avoid LCC traffic loss

Charter



- Withdrawal of stopovers at Groningen Airport Eelde
- Risk of GRQ's largest carrier Transavia shifting traffic to Lelystad Airport
- Stable market outlook leading to assumption that potentially lost Transavia traffic is likely to be replaced by other charter airlines

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The understanding of comparable European regional airports' strategy with positive traffic development is necessary to assess GRQ positioning

Map of European regional airports*

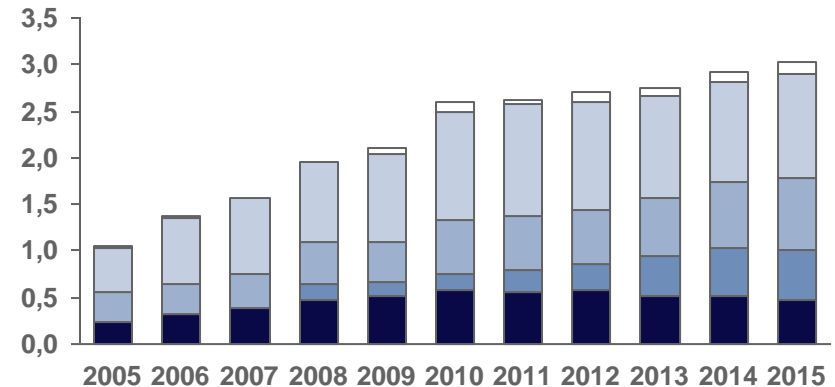


* Regional airports with over 160,000 pax and less than 750,000 pax in 2015

Note: Figures reflect number of total bi-directional passengers p.a. Source: AirportIS, Flightglobal

Regional Airports traffic evolution

Passenger development by cluster from 2005 to 2015



Remarks

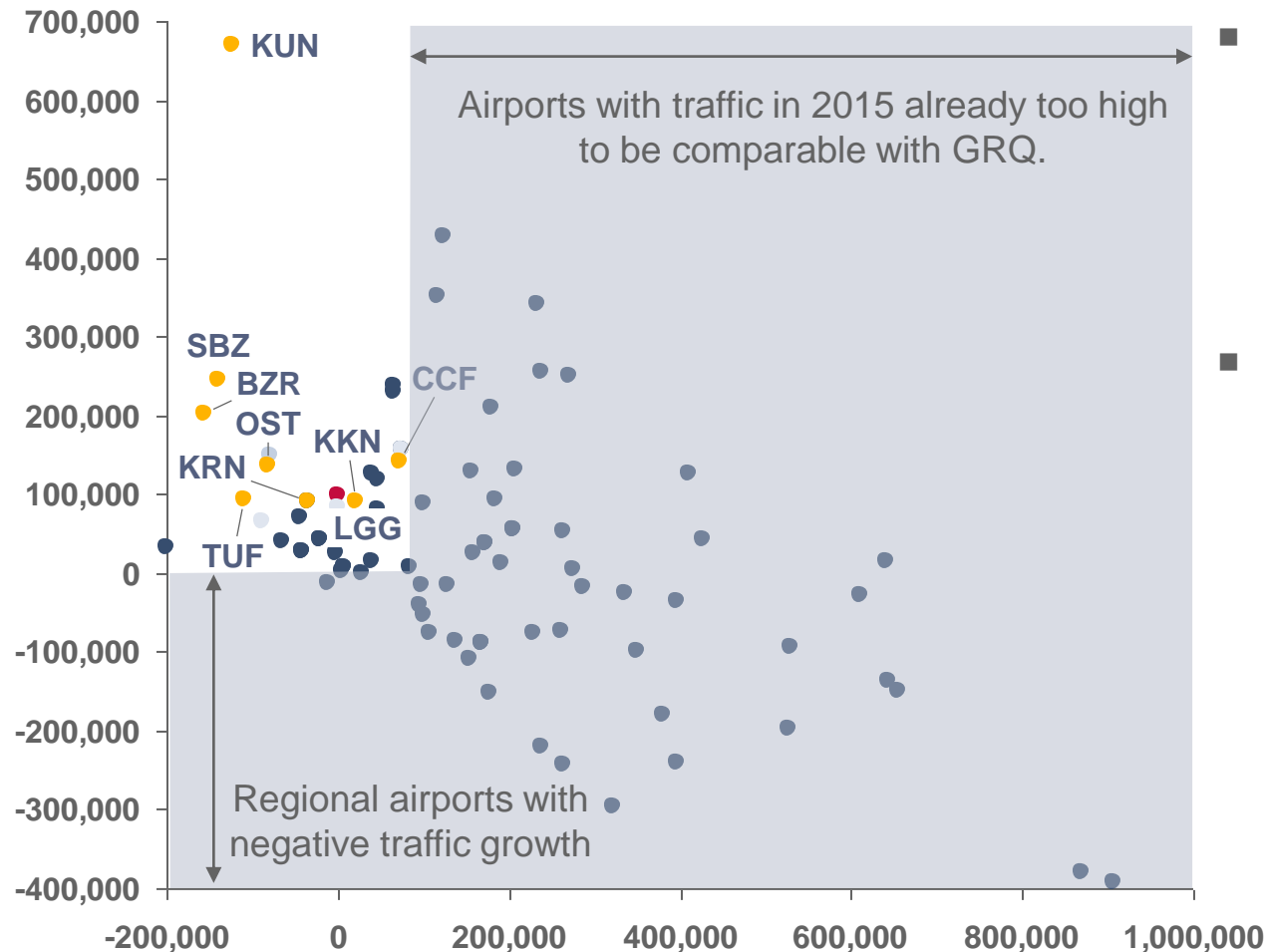
Finally, nine airport have been selected which meet all below criteria:

- 160,000 < Traffic (2015) < 750,000
- Traffic growth since 2005 > 0
- Traffic in 2005 comparable with GRQ current traffic.

The traffic is mainly driven by the City Break markets, followed by leisure summer and hubs. Pure business traffic is very limited (3%).

Airport selection has been proceeded according to their growth since 2005 and their traffic volume in 2005 compared to Groningen current

Traffic growth since 2005



■ Nine airport are selected that meet both criteria:

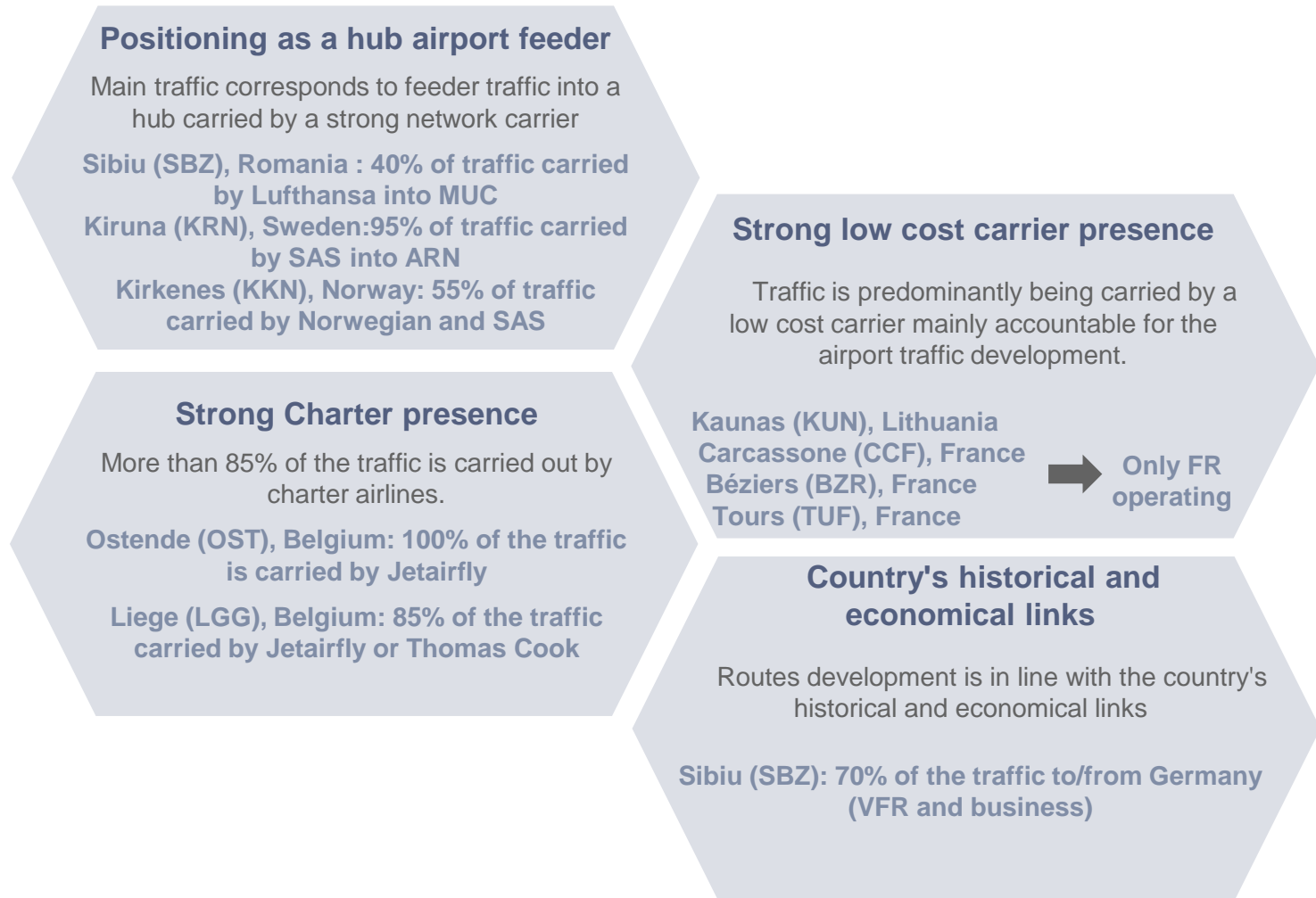
- Traffic growth since 2005 > 0
- 2005 traffic comparable with GRQ current traffic

■ List of airport codes:

- KUN Kaunas, Lithuania
- SBZ Sibiu, Romania
- BZR Béziers, France
- OST Ostend-Bruges, Belgium
- KRN Kiruna, Sweden
- TUF Tours, France
- LGG Liège, Belgium
- KKN Kirkenes, Norway
- CCF Carcassonne, France

Source: AirportIS

Results: The positive traffic evolution of the regional airports considered can be grouped into four main strategic positioning features



On all airports considered, city break is the main market cluster with 37% of the traffic, followed by hub (26%) and leisure summer (18%). Business traffic remains very restricted at 4% of the traffic only.

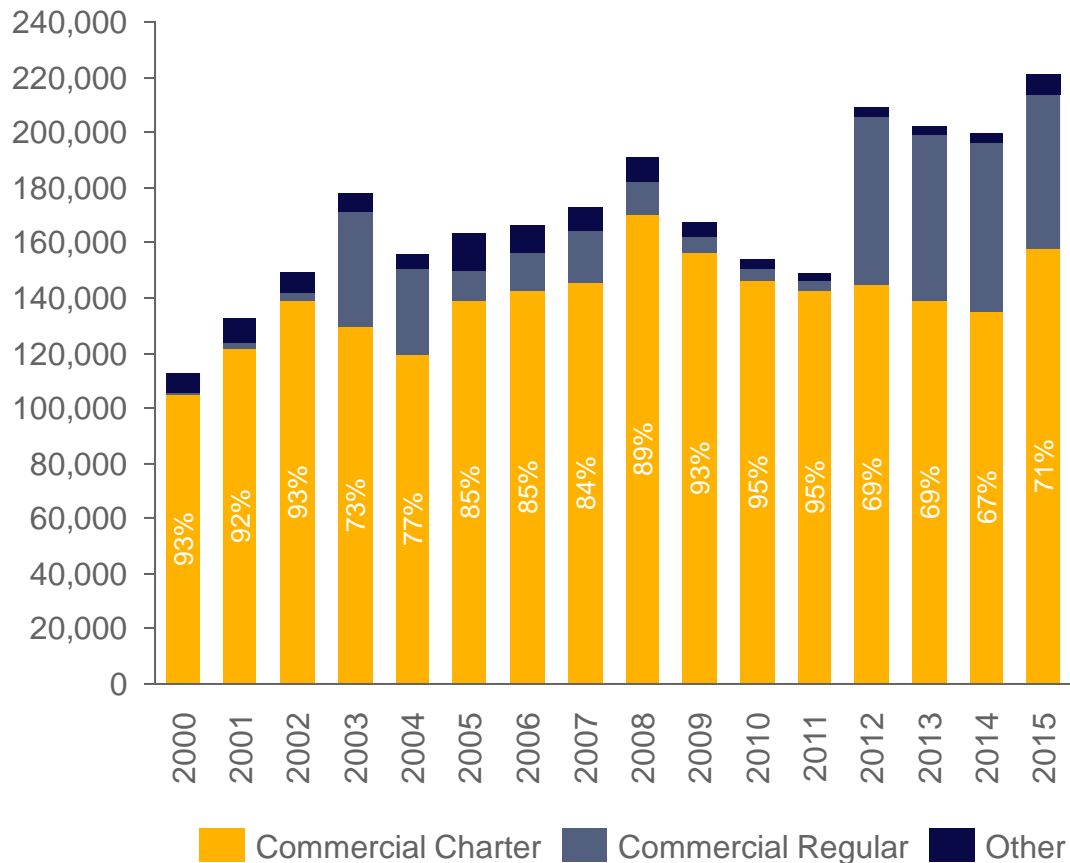
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The most prominent traffic at Groningen airport are the charter flights which are complemented since 2012 with regular traffic

Passenger volumes by segment at Groningen (data for 2000-2015)

Airport traffic segmentation (passenger evolution)



Following segments were identified and analyzed in detail:

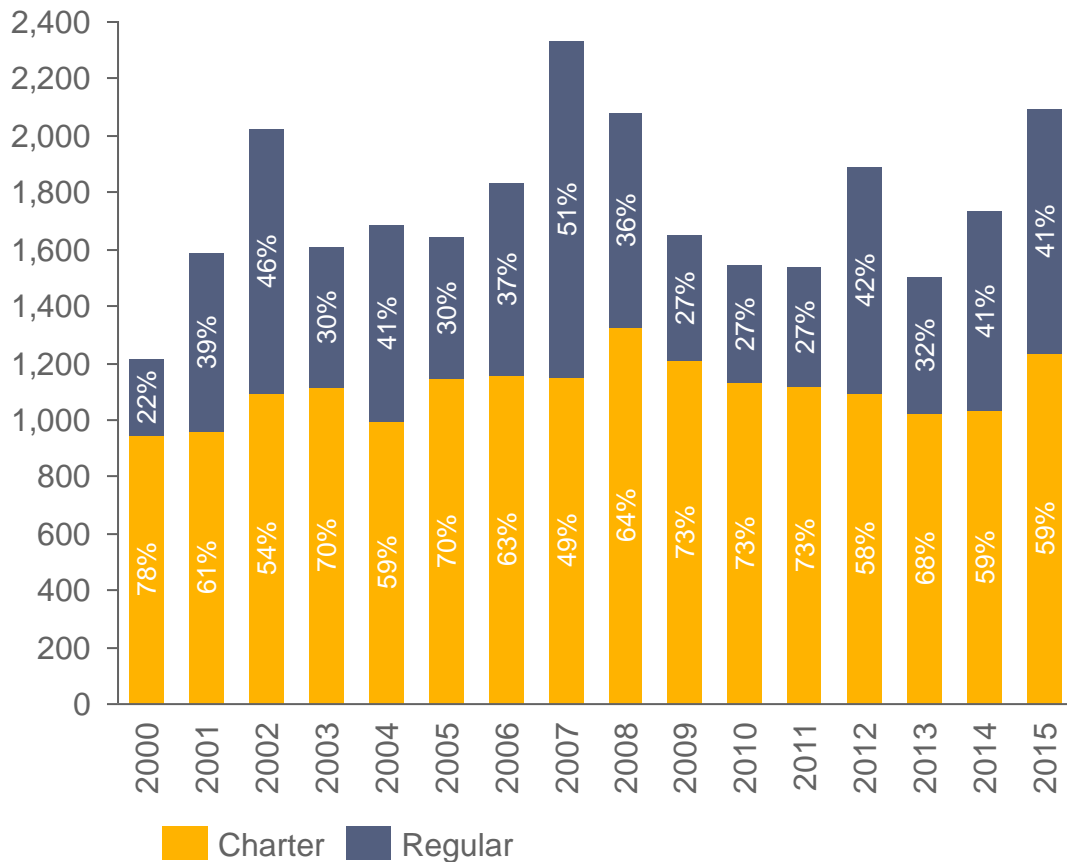
- Charter flights
 - Stable market since the early 2000s at GRQ airport with limited growth
 - Potential risks due to new strategy of main customer Transavia
 - Shrinking overall touroperator activity at European level
- Regular flights
 - Several routes launched successfully in the past
 - Few routes were active for more than 3 to 4 years of operation
 - Difficulties to retain airline loyalty

Source: GRQ Airport traffic data, Lufthansa Consulting

Regular flights conform a higher percentage of the airport movements due to the smaller aircraft types used in scheduled flights (ATRs)

Charter and regular flights at Groningen (data for 2000-2015)

Development of Commercial ATM by type at GRQ airport



Following segments were identified and analyzed in detail:

■ Charter flights

- The volume of operations has been relatively constant the last 10 years
- The majority of charter flights use Boeing 737-800s with an average capacity of 184 seats

■ Regular flights

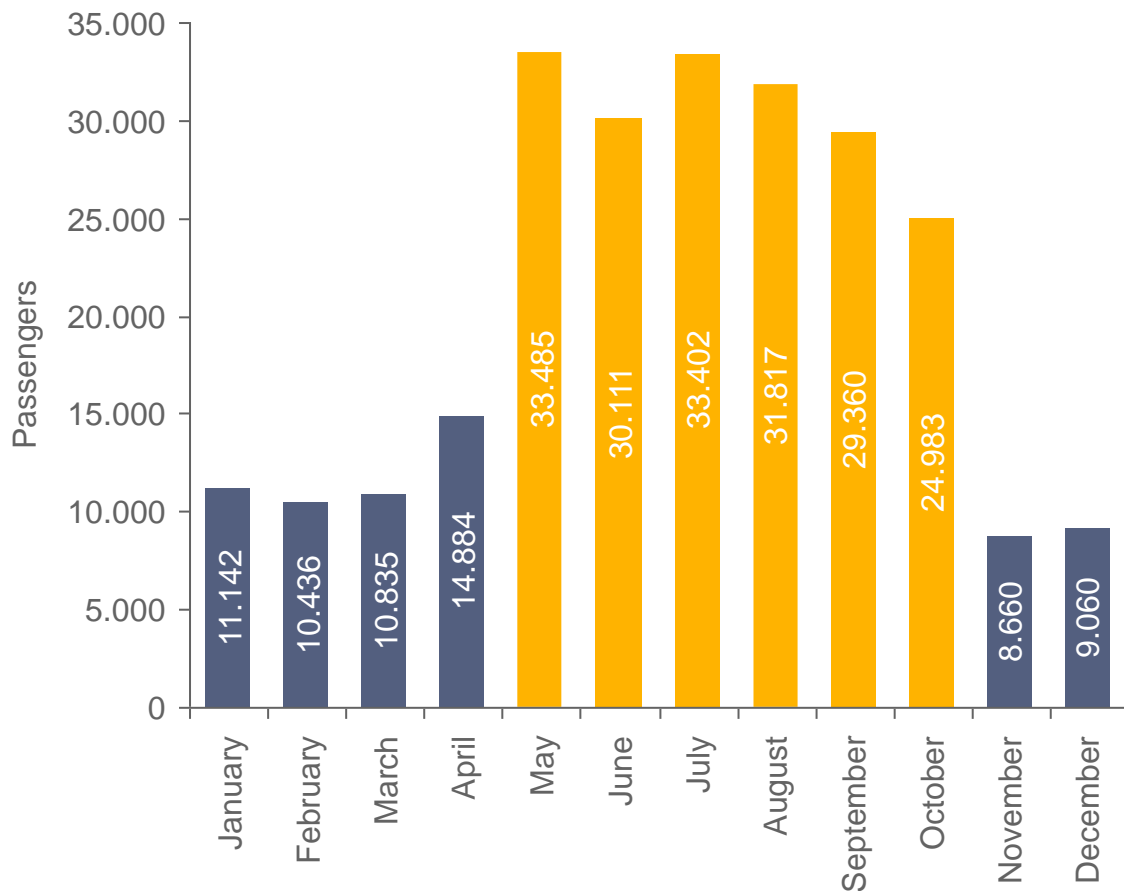
- The preferred equipment for the regular flights varied according to the airline serving the route
- BMI used extensively Embraer E135 and E145 between 2004 and 2012
- Vueling and Wizzair used Airbus A320 for their routes while Ryanair used 737
- Stobart is currently using ATR AT75 with 72 seats capacity for their regular flights

Source: GRQ Airport traffic data, Lufthansa Consulting

Groningen airport has clearly seasonal traffic with the summer season from May to October covering over 70% of the total traffic

Seasonality pattern at Groningen (data for 2015)

Seasonality is a reality at Groningen airport



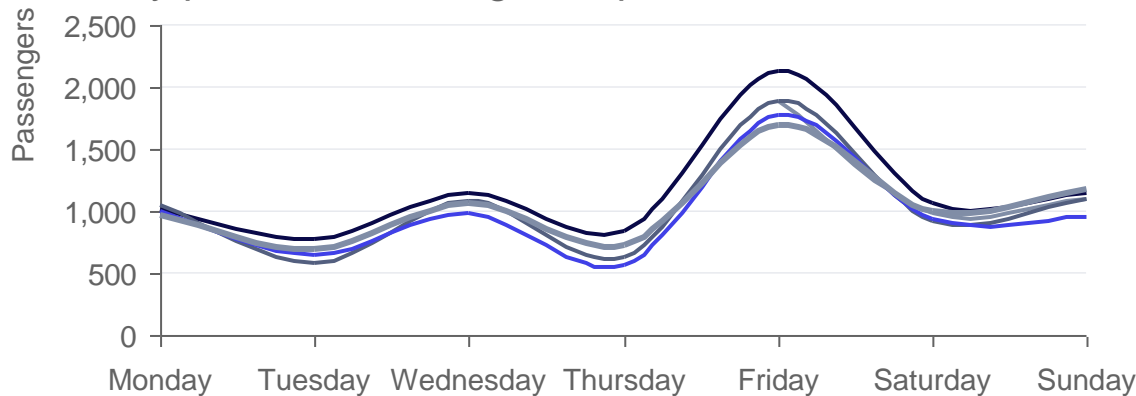
2015	Annual Passengers	Percentage of annual traffic
January	11,142	4%
February	10,436	4%
March	10,835	4%
April	14,884	6%
May	33,485	13%
June	30,111	12%
July	33,402	13%
August	31,817	13%
September	29,360	12%
October	24,983	10%
November	8,660	3%
December	9,060	4%

Source: GRQ Airport traffic data, Lufthansa Consulting

Fridays were the peak days of the week of 2015 having the peak period of activity between 15:00 and 16:30

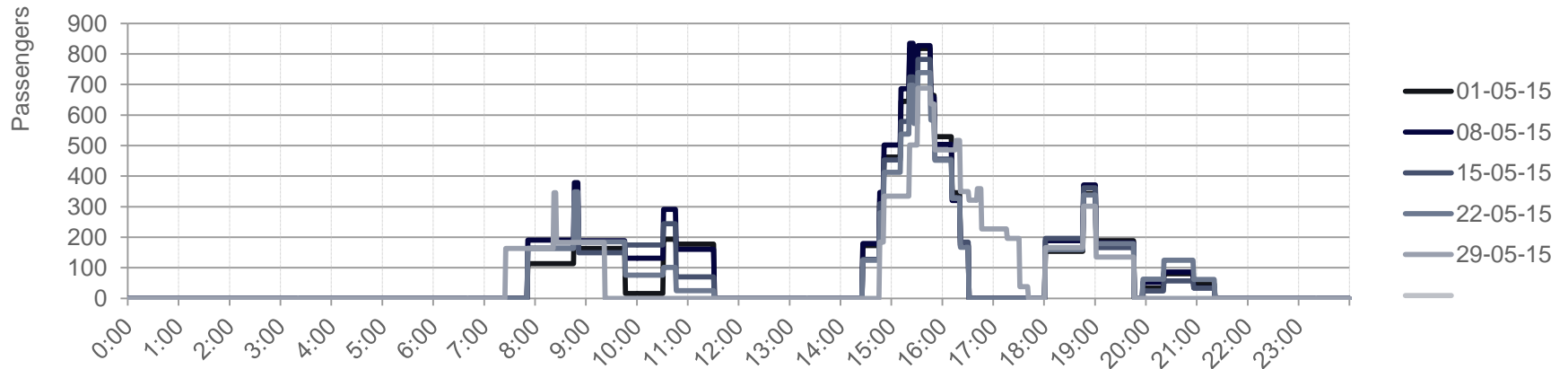
Weekly and daily seasonality pattern at Groningen (data for 2015)

Weekly profile at Groningen airport



- The analysis of the four weeks of the peak day shows that Fridays are the peak day of the week
- Comparing the profile of the day of the five Fridays of May 2015, the operation is similar with a pronounced peak in the afternoon and little to no activity during the rest of the day

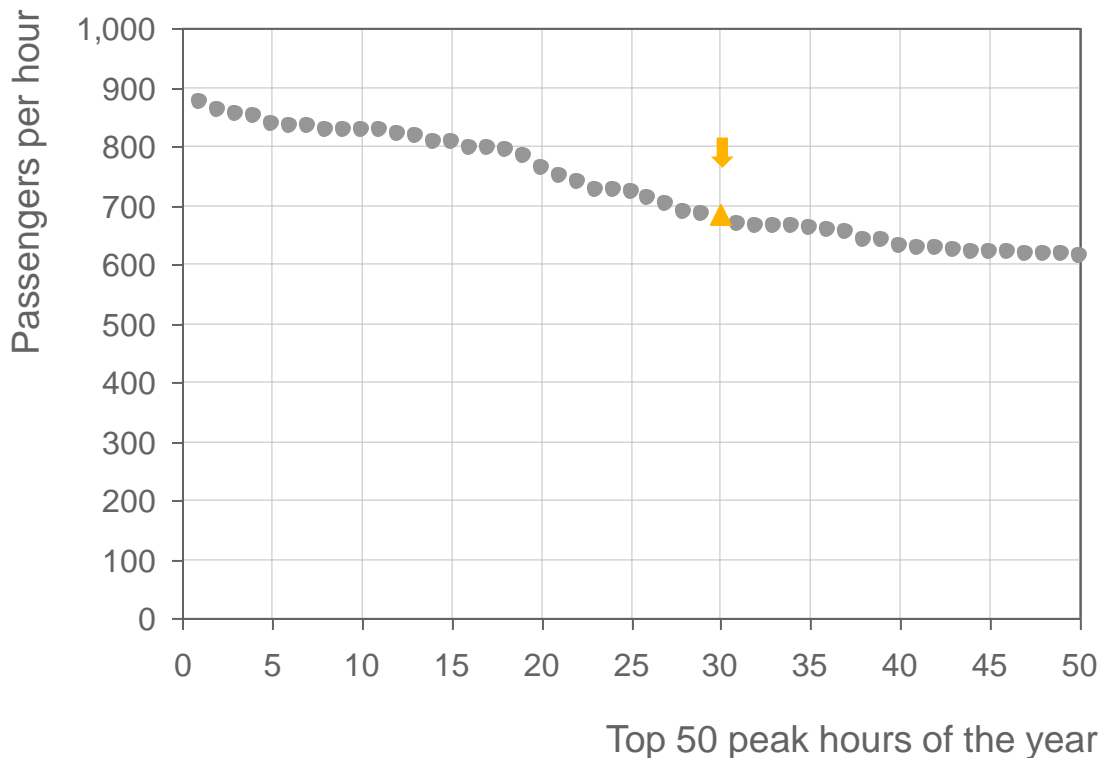
Daily profile at Groningen airport



The 30th peak hour of 2015 involved 684 passenger in the hour

Peak volumes at Groningen (data for 2015)

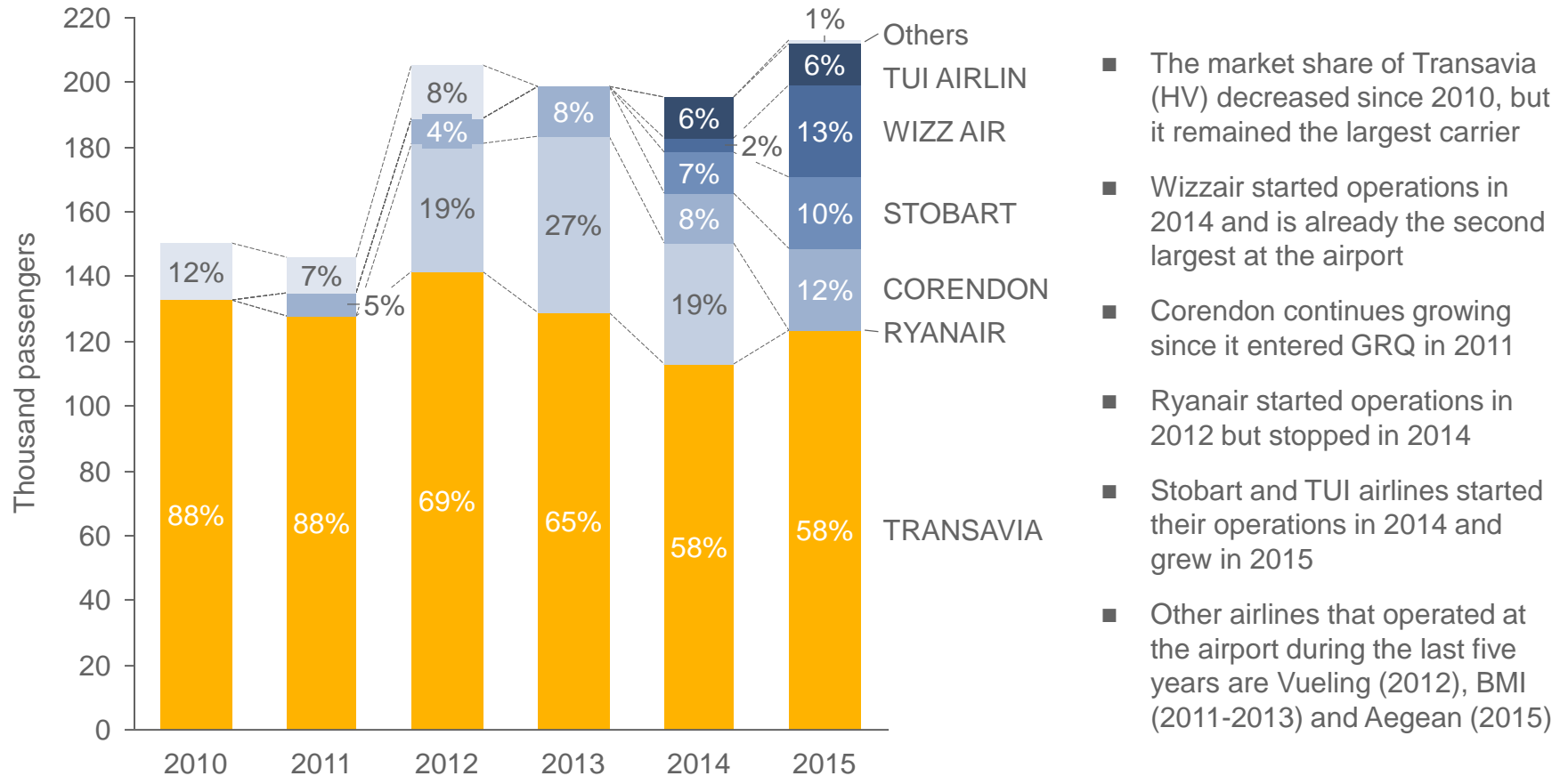
- The airport facilities should be designed to cope with the majority of the annual peaks at the desired level of service
- The design hour should be selected to cover the majority of the traffic of the airport which is commonly taken as the 30th peak hour of the year



Order	Pax	Starting day	Starting hour	Cumulative %
1	876	28-08-15	15:30	100.00%
2	861	24-07-15	15:30	99.65%
3	853	26-06-15	15:20	99.30%
4	852	31-07-15	15:20	98.96%
5	836	03-07-15	15:30	98.61%
6	835	08-05-15	15:20	98.28%
7	833	19-06-15	15:30	97.94%
8	828	14-08-15	15:20	97.60%
9	828	18-09-15	15:30	97.27%
10	826	17-07-15	15:30	96.94%
11	826	07-08-15	15:20	96.60%
12	822	11-09-15	15:20	96.27%
13	818	01-05-15	15:30	95.94%
14	808	21-08-15	15:20	95.61%
15	807	25-09-15	15:20	95.28%
16	797	04-09-15	15:30	94.96%
17	797	16-10-15	15:30	94.64%
18	792	12-06-15	15:30	94.32%
19	782	15-05-15	15:30	94.00%
20	764	02-10-15	15:20	93.68%
21	750	09-10-15	15:20	93.38%
22	739	22-05-15	15:30	93.07%
23	727	24-04-15	15:30	92.78%
24	727	03-10-15	15:10	92.48%
25	723	25-07-15	15:10	92.19%
26	712	23-10-15	15:20	91.90%
27	701	21-02-15	16:40	91.61%
28	688	29-05-15	15:30	91.33%
29	686	09-05-15	15:10	91.05%
30	684	26-09-15	15:10	90.78%

GRQ has diversified its portfolio of airlines reducing its dependency to Transavia, nevertheless HV is still the largest operator at GRQ

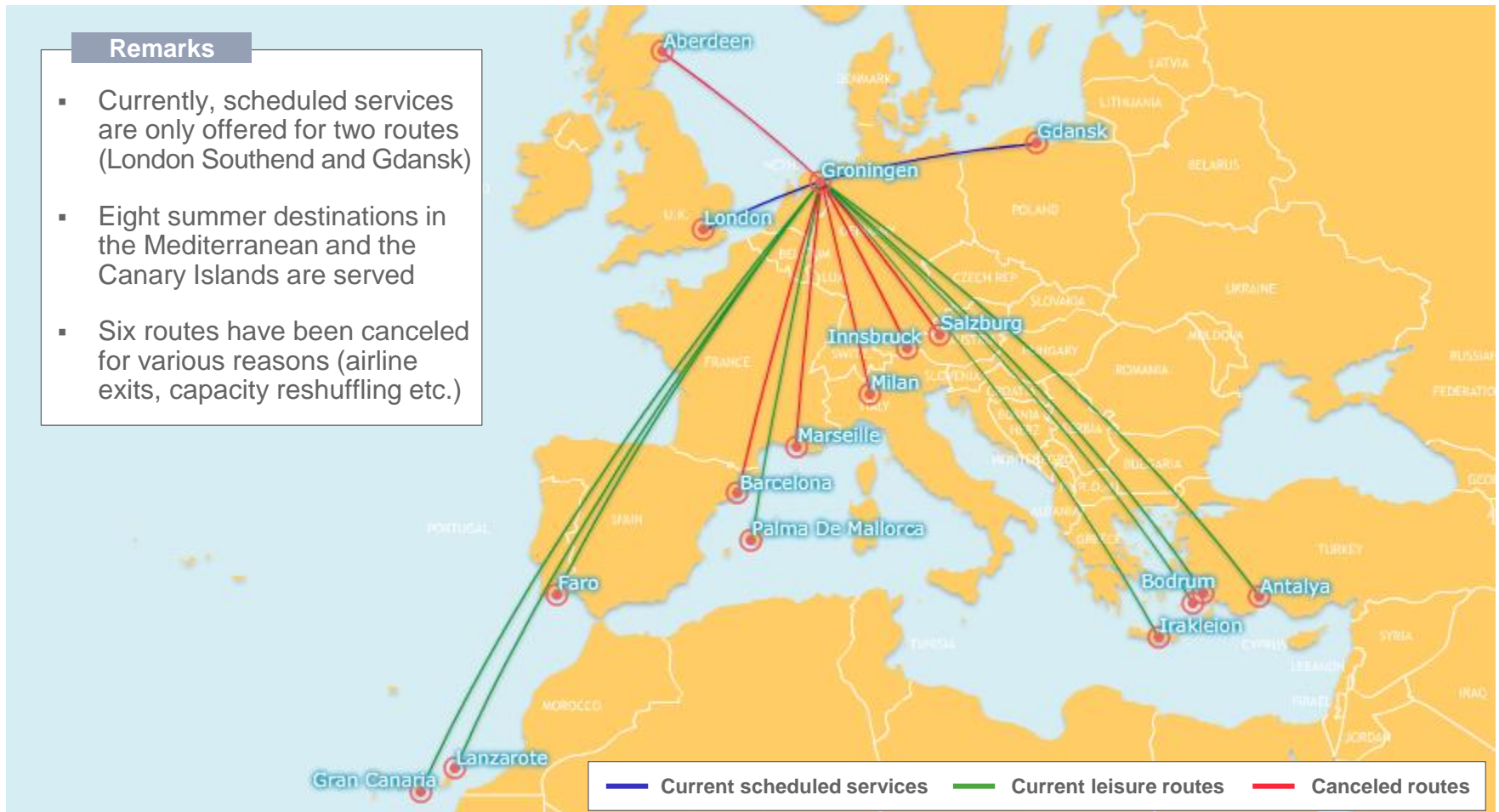
Top airlines by passenger traffic share at Groningen Airport



Source: GRQ Airport traffic data, Lufthansa Consulting

The complete route map of Groningen airport shows 15 historical destinations since 2010 with diverse traffic characteristics

Destination portfolio out of GRQ (past and current routes)



Source: Flightglobal

An in-depth analysis of Skyscanner data available for Groningen shows potential demand for several destinations within Europe

Visualization of findings from Skyscanner analysis (data for 2015)



1: Barcelona



2: Milan



3: Rome



4: Berlin



5: Budapest



Remarks


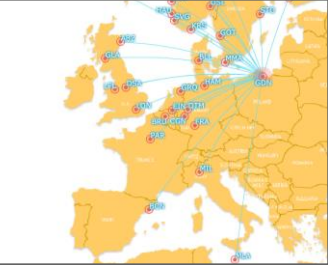

- The original data shows how often a certain trip (e.g. GRQ-LIS) was searched online
- Existing regular routes, i.e. London and Gdansk excluded from the analysis
- In terms of queries, flights to Barcelona rank first, followed by Milan and Rome
- All major European cities and leisure destinations show some demand
- Even North American long haul routes (NYC, SFO) and Iceland are inquired
- All identified cities from this analysis were evaluated as potential routes from GRQ



Note: Additional cities not shown in the map: REK, NYC and SFO. LON and GDN are already served as regular routes

Source: Great Circle Mapper, Skyscanner

General analysis of market trends and developments in the European air transport market

<p>General Market</p> 	<ul style="list-style-type: none"> ■ 2015 proved to be a positive year for European carriers ■ Favorable fuel price development ■ Strong demand especially during the summer ■ Collective profit record of \$6.9 billion for European carriers in 2015 ■ Intra-European capacity increased by 5.7% throughout 2015
<p>Low cost carrier</p> 	<ul style="list-style-type: none"> ■ LCCs development in Europe remains strong, leading the increased Intra-European capacity ■ Transavia Airlines passenger numbers 2015 +4.6% vs. 2014 ■ Ryanair passenger numbers 2015 +10.8% vs. 2014 ■ Wizzair passenger numbers 2015 +18.4% vs. 2014
<p>Charter</p> 	<ul style="list-style-type: none"> ■ LCCs, with the exception of Ryanair, show an increased interest in charter operations, softening the distinction between traditional charter and LCC, with several carriers operating own tour operator divisions, such as: <ul style="list-style-type: none"> ■ Norwegian Holidays ■ Wizz Tours ■ EasyJet Holidays ■ Charter operations remain a popular model for traditional network carrier, i.e. SunExpress (joint venture LH and TK) increasing passenger numbers by 18% in first half of 2015

Source: Flight Global: Airline Market Review 2015, Airlines Business 2015, Airline Business Special Report Low-Cost & Leisure Carriers 2015

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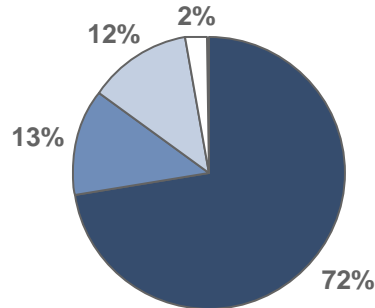
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In order to assess the current and potential future traffic out of Groningen, the destinations were clustered according to their main characteristics

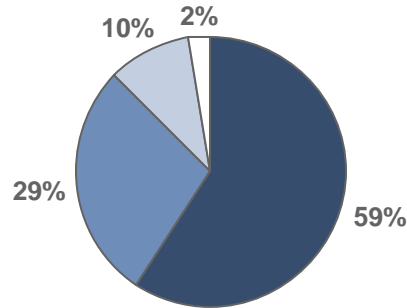
Leisure summer	<ul style="list-style-type: none"> Destinations with distinct seasonal pattern Typical summer holiday charter traffic Mainly operated by tour operators 	Illustrative destinations: Canary Islands, Balearic Islands, Greek Islands and Turkey	
Leisure winter	<ul style="list-style-type: none"> Destinations with distinct seasonal pattern Demand peaking in the winter months Typical ski and winter sports resorts 	Illustrative destinations: Salzburg, Innsbruck and ski resorts in the French or Swiss Alps	
City break	<ul style="list-style-type: none"> Weekend getaways to popular cities Demand peaks mainly in summer months Primarily served by low cost carriers 	Illustrative destinations: Barcelona, Milan and London (typically to the low cost airports)	
Business	<ul style="list-style-type: none"> Destinations with important business traffic Usually metropolitan areas with large firms Links to industries such as oil and gas etc. 	Illustrative destinations: Aberdeen, London and Rome (typically to the hub/city airports)	
Hub	<ul style="list-style-type: none"> Typical feeder routes into large hub airports Online agreement with hub airline needed Focus on connecting flights (long haul etc.) 	Illustrative destinations: Copenhagen, Stockholm, Oslo, Istanbul and Munich	
Long haul	<ul style="list-style-type: none"> Widebody destinations beyond EU borders Flights operated by large-scale hub airline Potential for O&D demand ex Groningen 	Illustrative destinations: New York, Bangkok and others in the Americas and Far East	
Others	<ul style="list-style-type: none"> Destinations with no clear characteristics Combination of all the demand types Usually smaller airports with limited traffic 	Illustrative destinations: Nuremberg, Cluj-Napoca, Stavanger and Newcastle	

In 2015, Groningen offered the vast majority of their seats in the leisure summer sector, followed by city break routes and other destinations

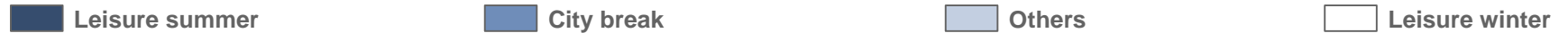
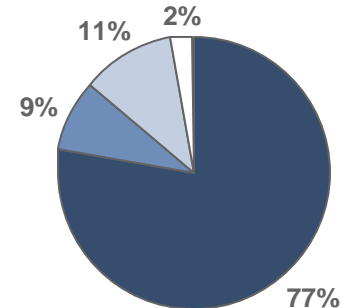
Share of seats



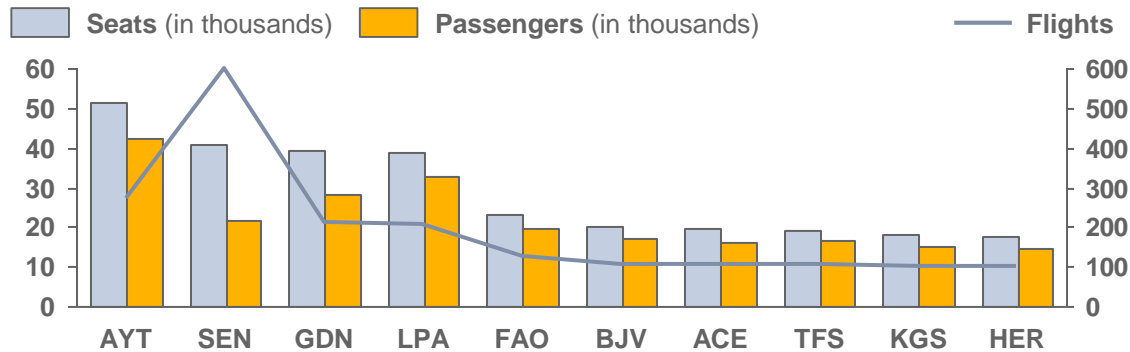
Share of flights



Share of passengers



Top 10 destinations*



* In terms of total number of seats offered

Note: Figures reflect bi-directional total traffic to/from GRQ

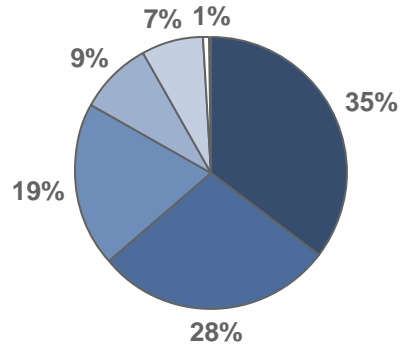
Source: Groningen Airport traffic data, AirportIS

Remarks

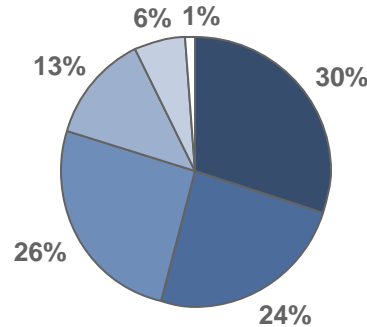
- More than 70% of seats and passengers in the leisure summer sector
- Share of flights larger for city break routes due to higher number of frequencies
- Leisure winter routes almost negligible, ceased in 2016

Comparable Dutch and German regional airports also offer most seats in the leisure summer cluster, but other route types are much more present

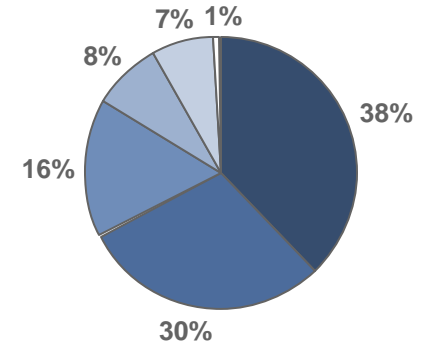
Share of seats



Share of flights

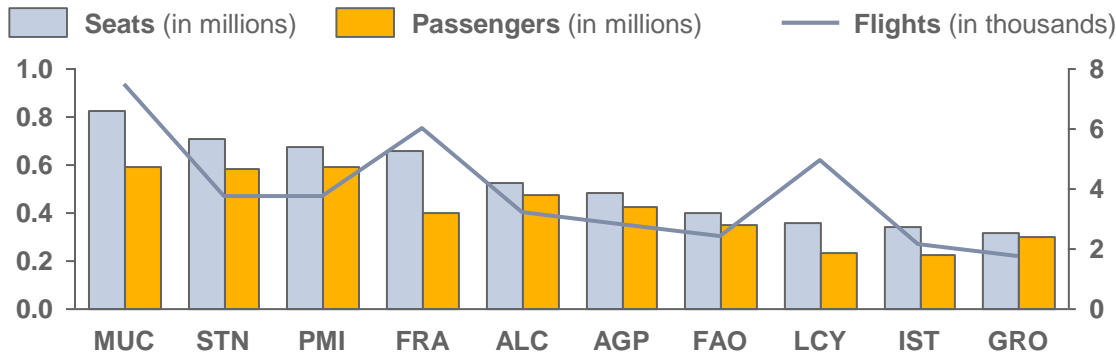


Share of passengers



Leisure summer
 City break
 Hub
 Business
 Others
 Leisure winter

Top 10 destinations*



* In terms of total number of seats offered

Note: Figures reflect bi-directional total traffic to/from RTM, EIN, MST, BRE, FMO and NRN

Source: Groningen Airport traffic data, AirportIS

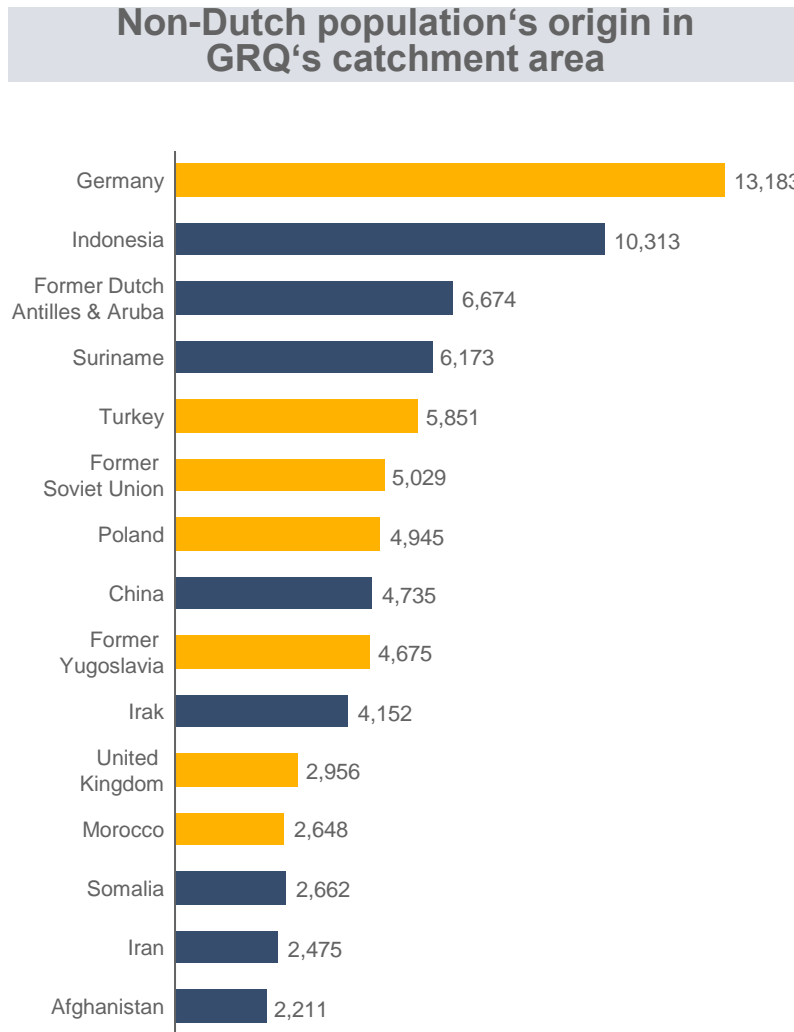
Remarks

- More than a third of the seats in the leisure summer cluster
- Higher share of city break and hub as well as other routes
- Munich, Stansted and Palma de Mallorca top routes in 2015

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Ethnic traffic – Almost six percent of the population of GRQ's catchment area is not of Dutch origin creating potential for ethnic traffic



- Comments**
- Even though Germany is the first ethnic group in volume, the proximity between the two countries allows ground transportation limiting the potential of air traffic
 - Ethnic origins that would required long haul destinations are excluded as potential routes from GRQ (indicated in blue)
 - Almost 5,000 people with Polish and 3,000 people with UK descent live in GRQ's catchment area
 - Groningen Airport Eelde already offers scheduled services to Gdansk in Poland and London in the United Kingdom – routes which are, among other factors, successful due to ethnic traffic
 - Excluding long-haul destinations, other routes to ethnic destination could have sufficient demand for scheduled services. These can be in the following countries:
 - Turkey
 - Morocco
 - Former Soviet Union
 - Former Yugoslavian countries

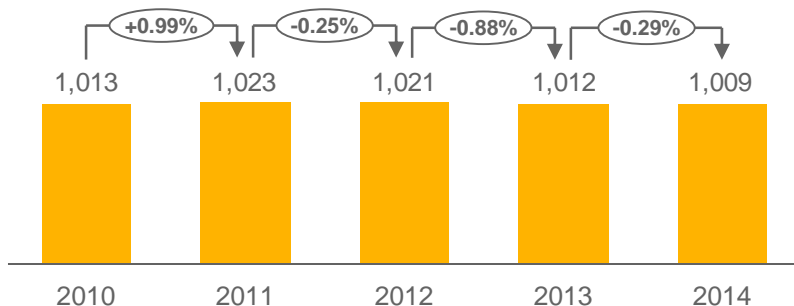
Source: Centraal Bureau voor de Statistiek (CBS)

Corporate traffic – GRQ shows limited numbers relative to the rest of the Netherlands leading to low demand for a pure business driven route

Fortune 500's largest Dutch companies in 2015

Rank	Company	Headquarters	Revenues (\$ billion)	Profits (\$ billion)	Number of employees
1	Royal Dutch Shell	The Hague	431.3	14.9	94,000
2	Trafigura	Amsterdam	127.6	1.0	5,326
3	ING Group	Amsterdam	80.0	1.3	68,431
4	Airbus Group	Leiden	80.5	3.1	138,622
5	Louis Dreyfus Com.	Rotterdam	64.7	0.7	17,615
6	Aegon	The Hague	61.5	1.0	28,602
7	LyondellBasell Ind.	Rotterdam	45.6	4.2	13,100
8	Royal Ahold	Zaandam	43.5	0.8	126,000
9	Achmea	Zeist	35.5	0.02	16,556
10	Royal Philips	Amsterdam	30.9	0.55	113,678
11	Radobank	Utrecht	29.9	0.82	48,254
12	GasTerra	Groningen	25.9	0.05	179
13	Heineken	Amsterdam	25.7	1.0	76,136

Employed people in GRQ's catchment area (in thousands)



Comments

- Compared to the rest of the Netherlands, the business environment in Groningen Airport Eelde's catchment area is relatively limited in terms of presence of large firms and institutions
- In 2015, Fortune 500 listed 13 Dutch companies, among them only GasTerra is located in GRQ's vicinity
- This company boasts with high revenue. It, however, has a reduced number of employees which could generate air traffic demand
- Approximately twelve percent of the Netherlands' total employed population lives in GRQ's catchment area (2014), but the number of employees in this region has been decreasing since 2011
- The top 5 destinations with business traffic potential from GRQ catchment area are:
 - London
 - Paris
 - Munich
 - Milan
 - Copenhagen

Source: Fortune Magazine (2015), Statistics Netherlands, Den Haag/Heerlen Data of 2013

Inbound tourism – If properly marketed, different drivers have potential to fuel tourism to the provinces of Groningen, Drenthe and Friesland

City of Groningen

- University city with ca. 50,000 students, international reputation
- Canals of Groningen, boat tours and “Art under the bridge”
- Groningen Museum, most high-profile building in the Netherlands
- Groningen estate houses, former country seats of local nobility
- Almshouses and courtyards, old hospices from the Middle Ages



Northern Netherlands

- Growing number of world heritage sites such as the Wadden Isles
- Leeuwarden will be European Culture Capital in 2018
- Lauwersmeer National Park, ideal for hiking, cycling and water sports
- Bourtange, an old medieval fortress from the 16th century
- Terp villages, artificial hillocks with old churches surrounded by field



Special events

- DelfSail 2016, a public free sail event (in 2009: 850,000 visitors)
- MotoGP races in Assen, British Superbikes and TruckStar Festival
- Yearly Ice Skating Thialf
- International darts tournament in Assen (players from 20 countries)
- Eurosonic (yearly), large northern music festival
- Bid provinces Groningen/Drenthe for WC race cycling in 2020
- Various international exhibitions in Groningen, Assen and Leeuwarden

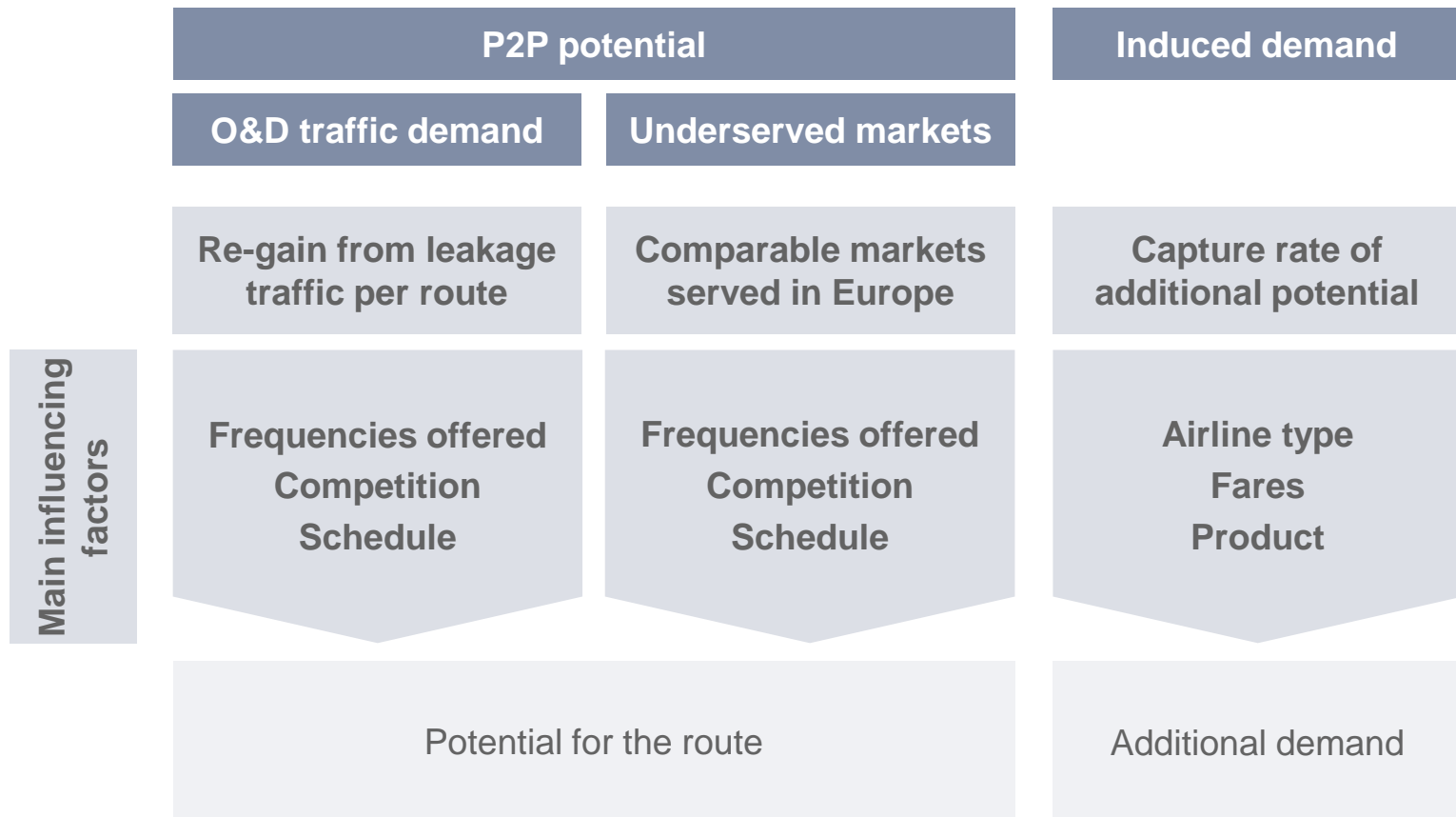


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The P2P volume is estimated based on the re-gain from the leakage and the stimulation rate of the residual potential derived from the benchmark

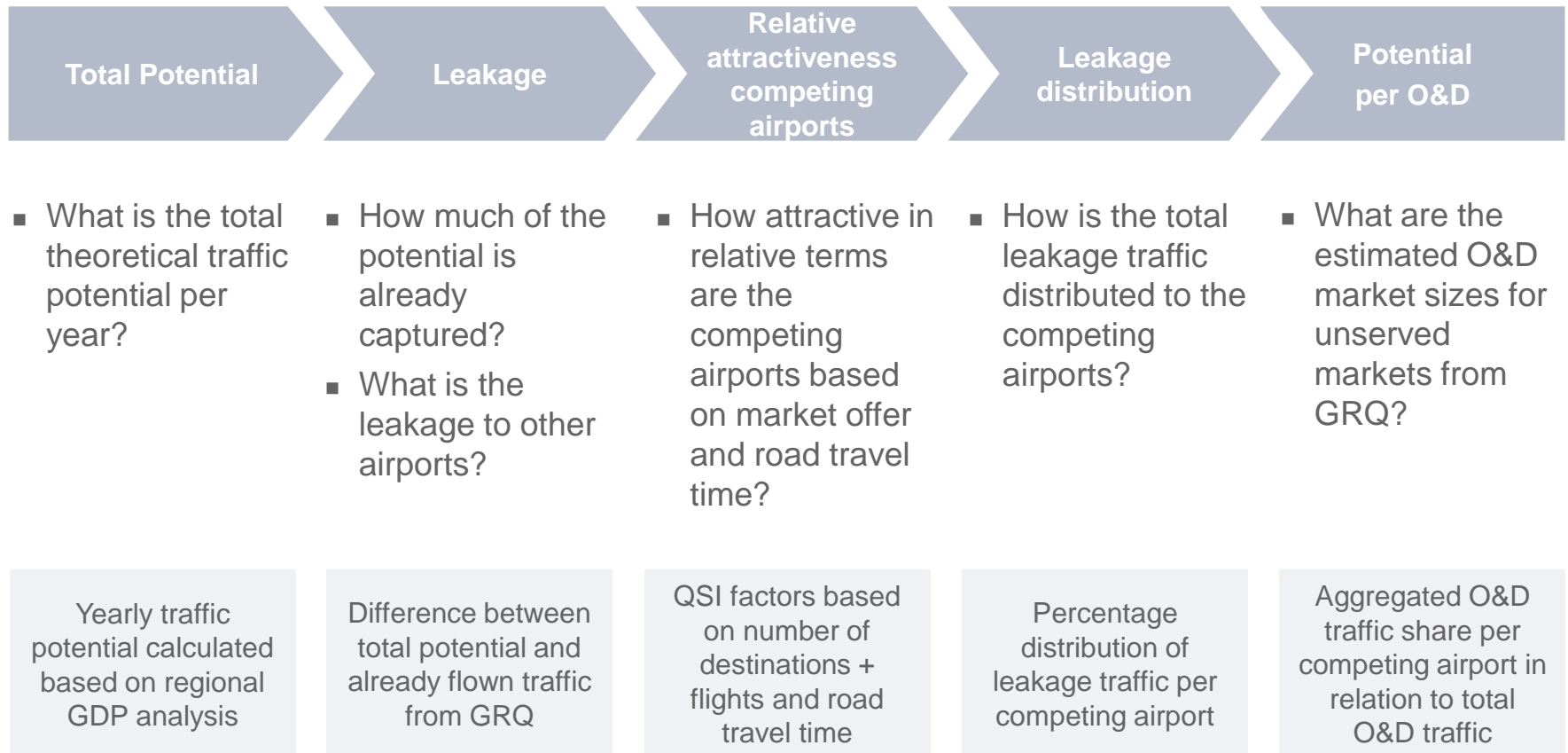
Methodology to derive P2P (point-to-point) potential



Source: Lufhansa Consulting Analysis

The O&D demand for unserved markets from GRQ can be estimated in a five step approach taking the offer from competing airports into account

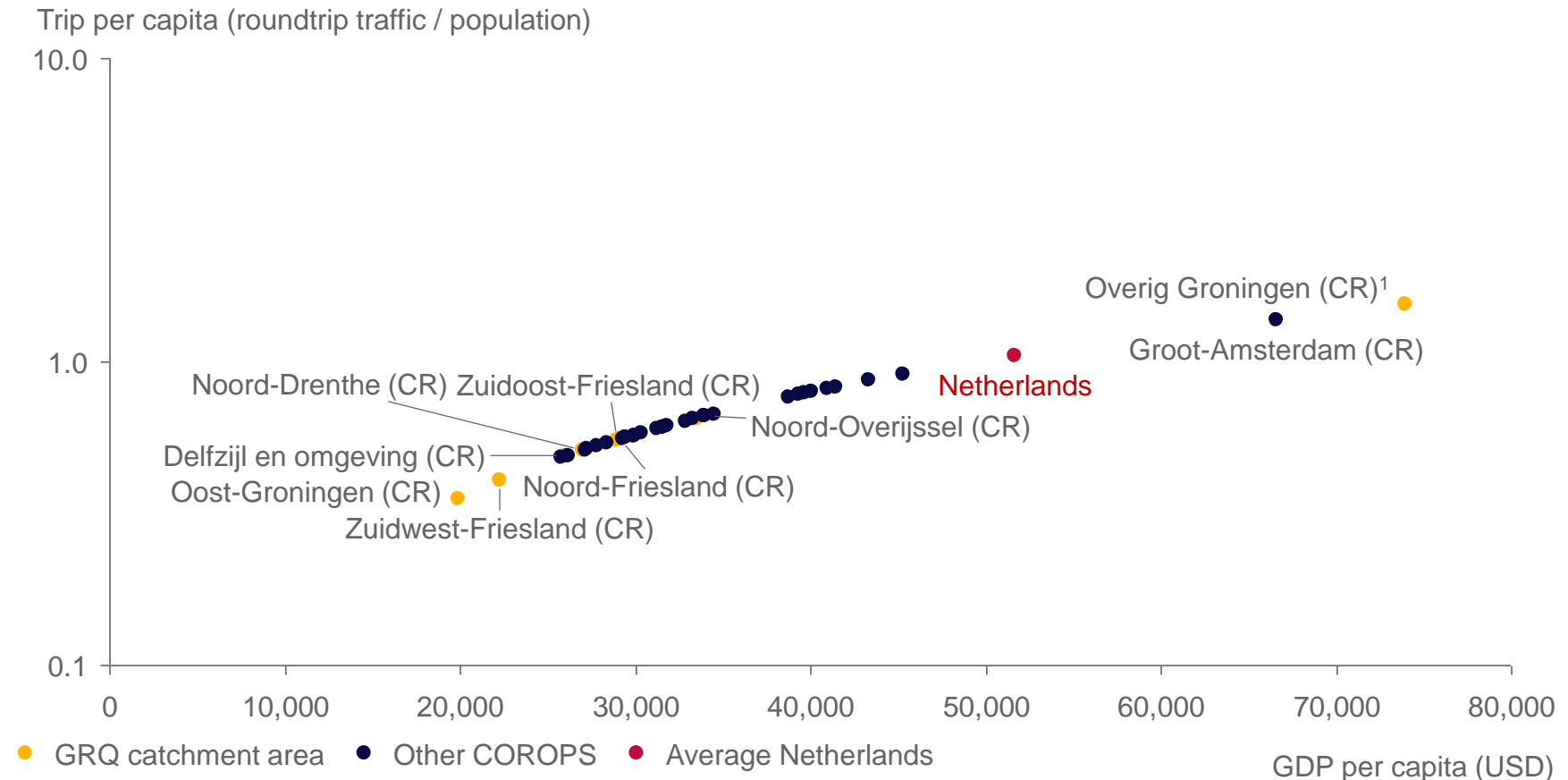
Methodology to estimate O&D sizes for unserved markets from GRQ



Source: Lufhansa Consulting Analysis

The total population in the catchment area of GRQ would sum up to a potential annual traffic of over 3 million passengers

GDP per capita vs. trip per capita



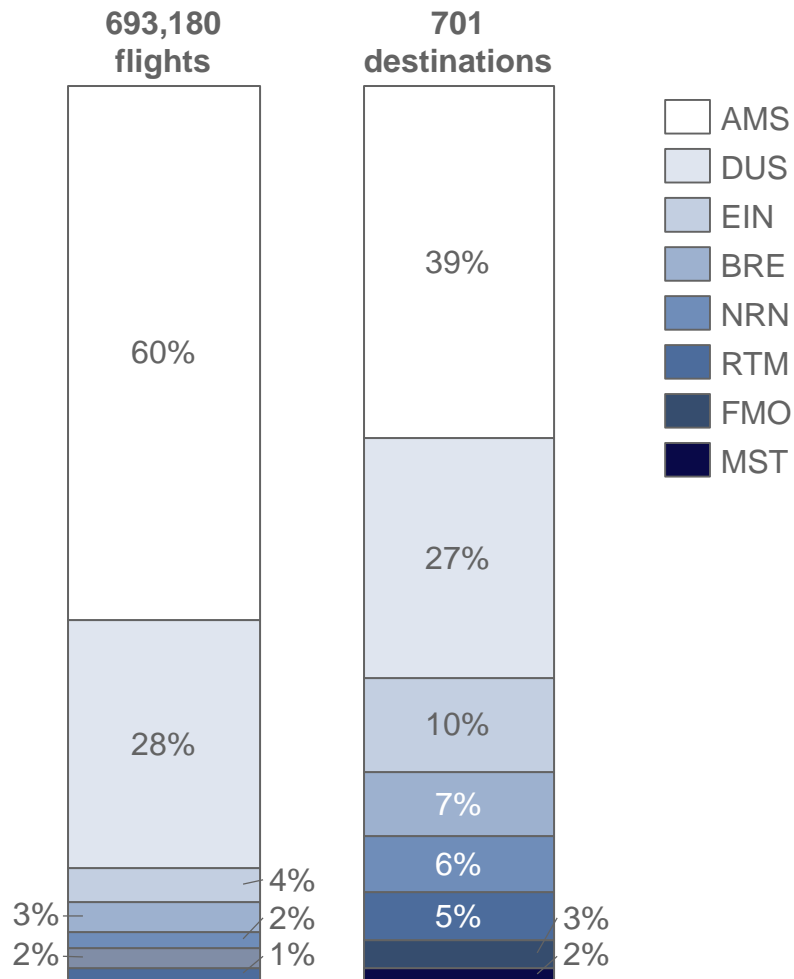
Note 1: In the immediate vicinity of Groningen Airport Eelde, GDP per capita is very high from the official statistics as it includes the mining sector, nevertheless without this sector the GDP per capita is close to the average of the Netherlands

Note 2: Round trip per capita is the average number of trips (passengers both ways) from a region per year divided by the population

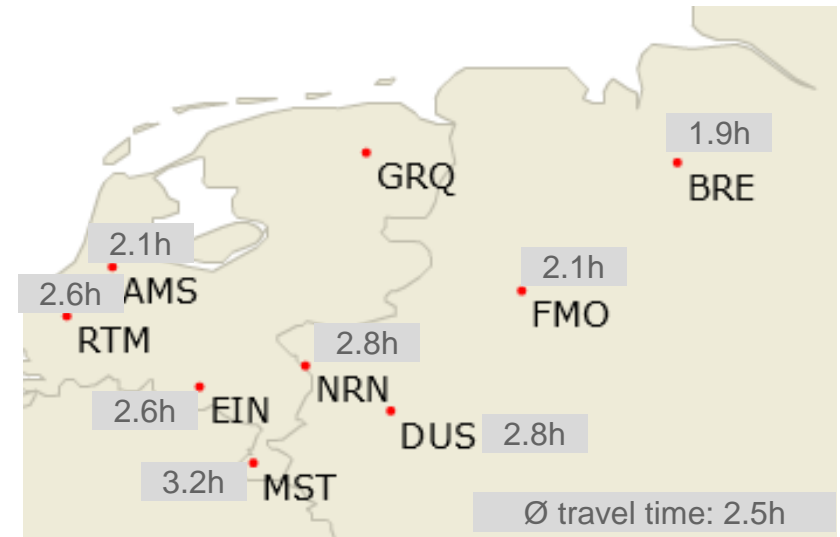
Source: Lufthansa Consulting research

After identifying the total theoretical traffic potential and leakage to other airports, the relative attractiveness of competing airports is analyzed

Market offer from competing airports



Travel time from GRQ to competing airports

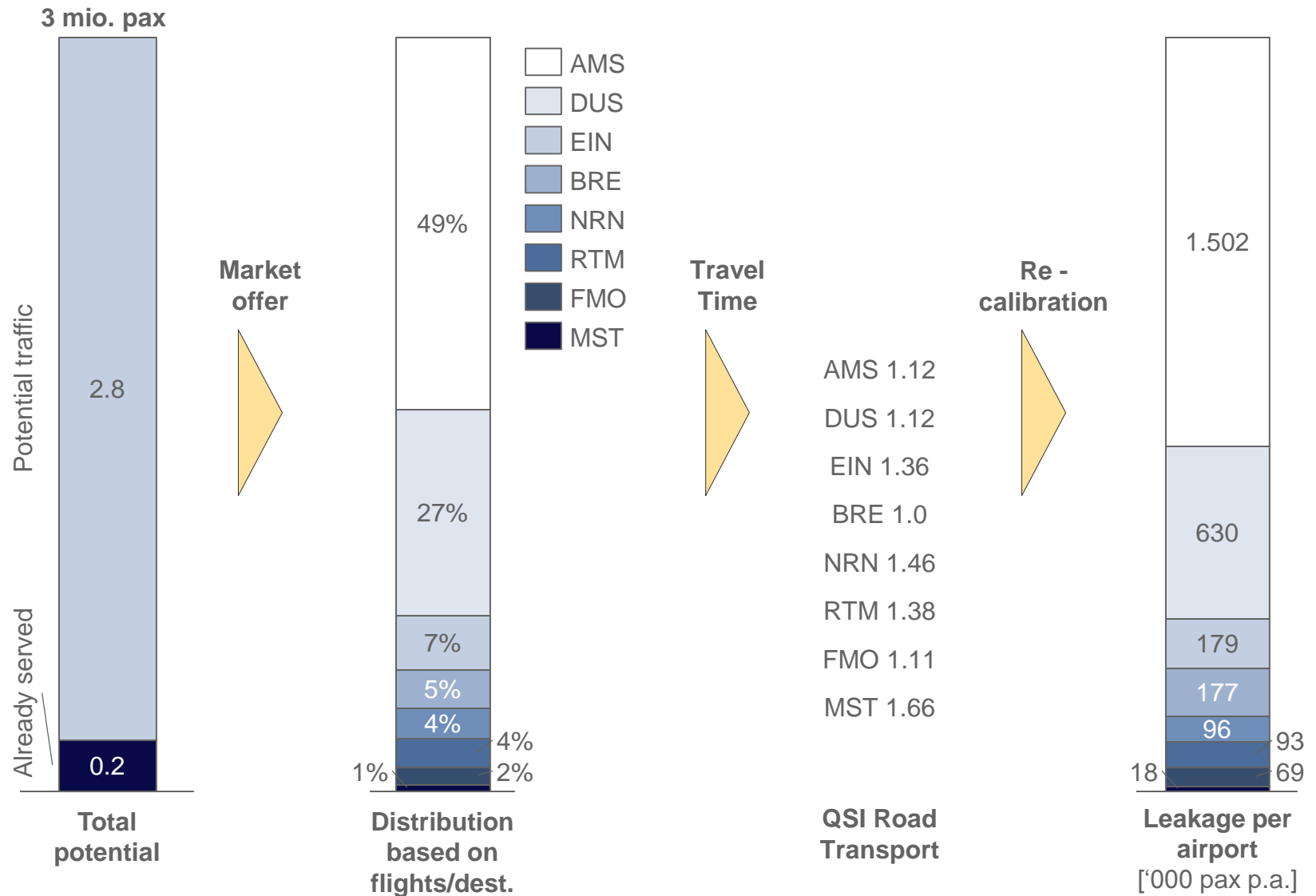


Determination of a relative QSI factor for each airport based on road transport

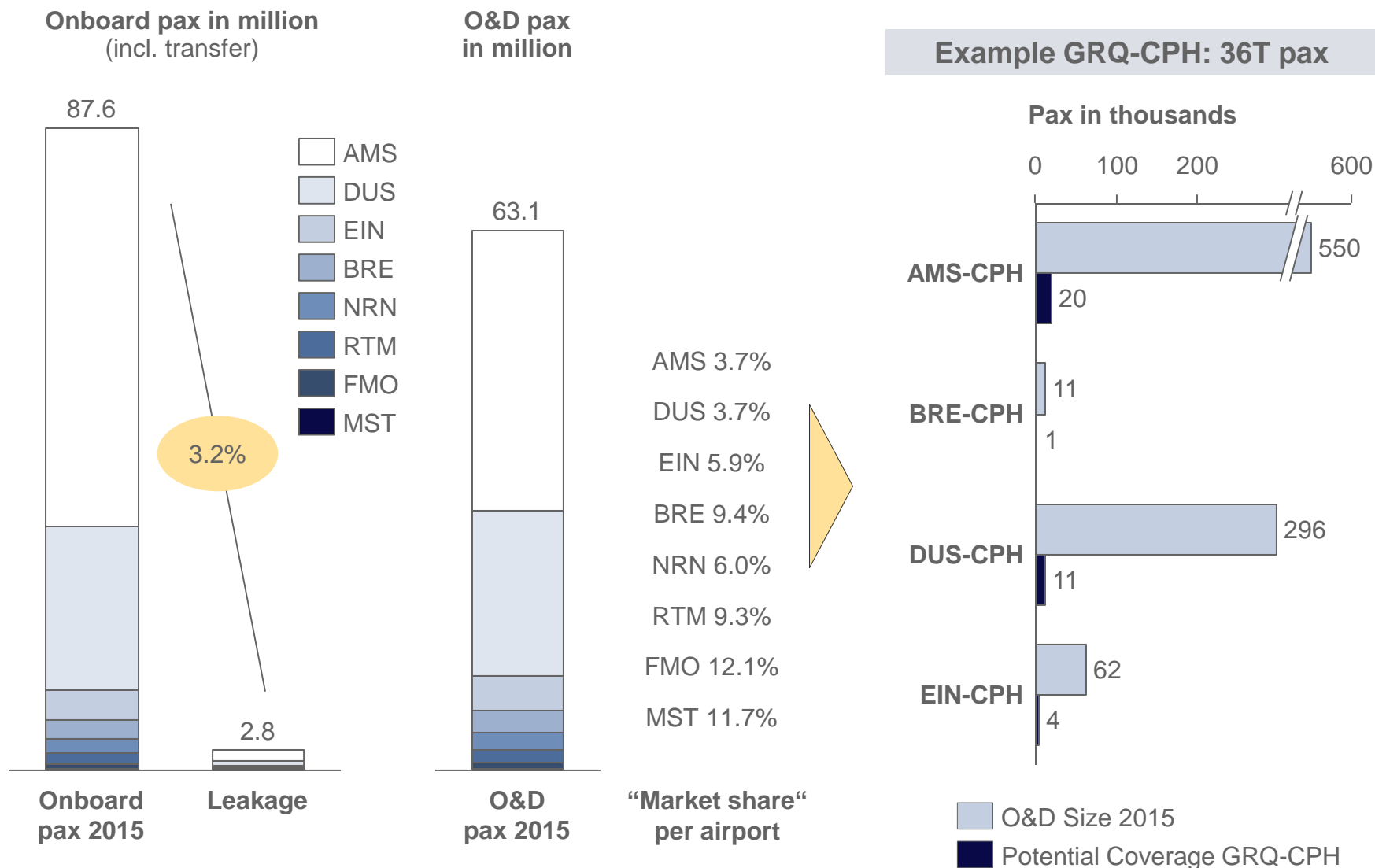
Dest	AMS	DUS	EIN	BRE	NRN	RTM	FMO	MST
QSI Score	1.12	1.47	1.36	1.00	1.46	1.38	1.11	1.66

Source: Airport IS, Google Maps

Traffic is then distributed according to the capacity share and destination portfolio of the competition taking the road travel time into account

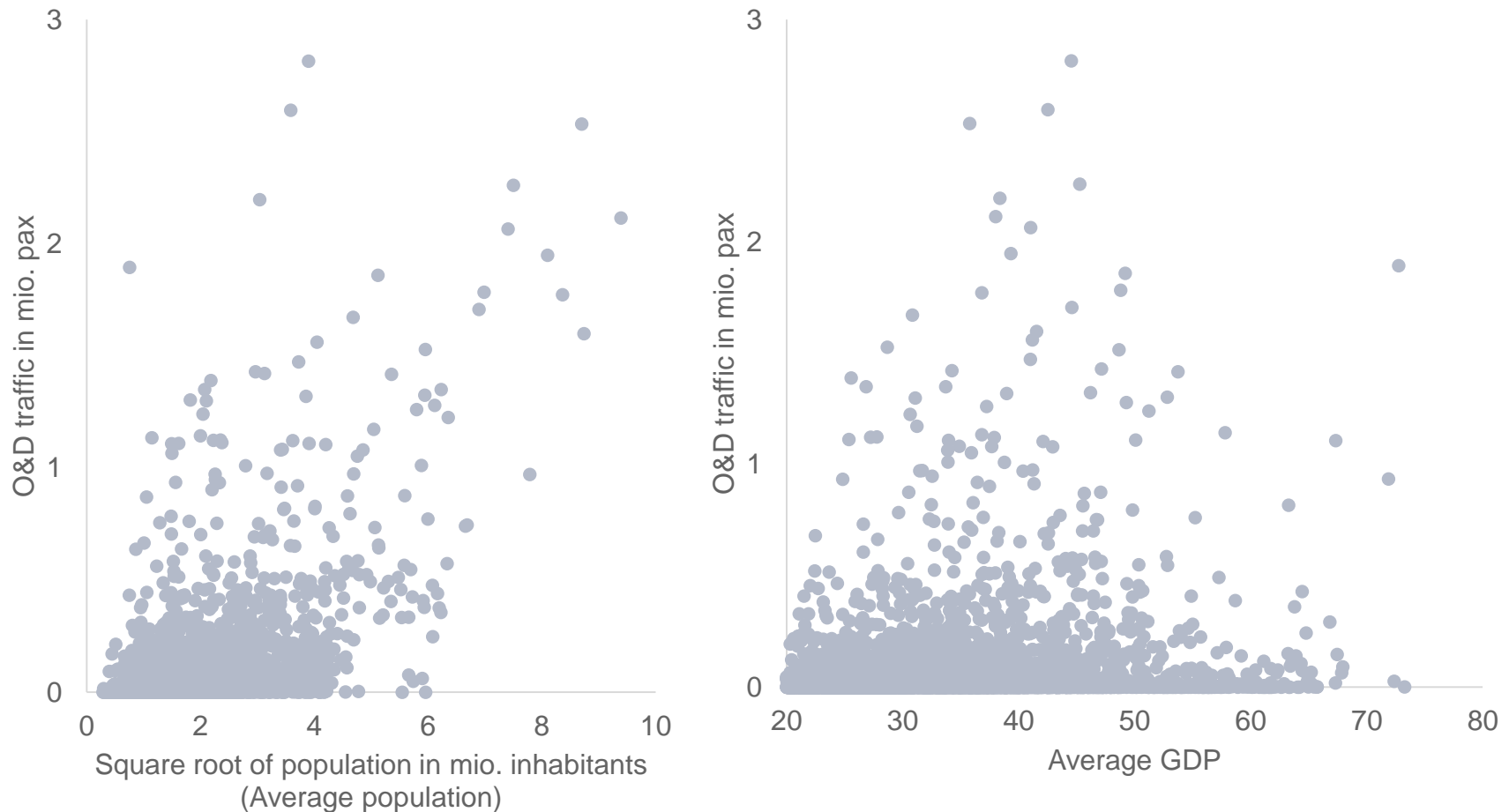


Finally, in order to determine the O&D sizes per destination for GRQ, the leakage traffic distribution is set in relation to the total existing traffic



For underserved markets in the O&D analysis, the maximum route potential is taken from the benchmark with other similar European routes

Regression Analysis based on 2015 O&D traffic with GDP and population



Note: Includes O&D traffic between 203 destinations in Europe (max. traffic 3 mio. / max. pop Ø 10 mio. / min. GDP Ø 20T, max. GDP Ø 80T)

Source: Airport IS for O&D traffic, Eurostat for GDP and population size based on metropolitan areas (most current value available used)

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Out of almost 400 potential destinations from Groningen, a total of 86 routes to 30 countries were subjected to close scrutiny

List of destinations analyzed in detail (in alphabetical order)

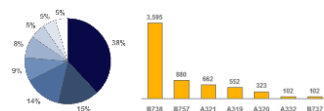
- Aberdeen, Scotland (ABZ)
- Alicante, Spain (ALC)
- Agadir, Morocco (AGA)
- Antalya, Turkey (AYT)
- Athens, Greece (ATH)
- Barcelona, Spain (BCN)
- Bari, Italy (BRI)
- Basel, Switzerland (BSL)
- Belgrade, Serbia (BEG)
- Bergamo, Italy (BGY)
- Berlin, Germany (SXF, TXL)
- Billund, Denmark (BLL)
- Birmingham, UK (BHX)
- Bodrum, Turkey (BJV)
- Bologna, Italy (BLQ)
- Bordeaux, France (BOD)
- Bristol, UK (BRS)
- Bucharest, Romania (OTP)
- Budapest, Hungary (BUD)
- Catania, Italy (CTA)
- Copenhagen, Denmark (CPH)
- Corfu, Greece (CFU)
- Dalaman, Turkey (DLM)
- Djerba, Tunisia (DJE)
- Dublin, Ireland (DUB)
- Edinburgh, Scotland (EDI)
- Enfidha, Tunisia (NBE)
- Faro, Portugal (FAO)
- Frankfurt, Germany (FRA)
- Friedrichshafen, Germany (FDH)
- Fuerteventura, Spain (FUE)
- Gdansk, Poland (GDN)
- Geneva, Switzerland (GVA)
- Girona, Spain (GRO)
- Glasgow, Scotland (GLA)
- Gothenburg, Sweden (GOT)
- Gran Canaria, Spain (LPA)
- Graz, Austria (GRZ)
- Helsinki, Finland (HEL)
- Heraklion, Greece (HER)
- Hurghada, Egypt (HRG)
- Ibiza, Spain (IBZ)
- Innsbruck, Austria (INN)
- Istanbul, Turkey (IST)
- Izmir, Turkey (ADB)
- Katowice, Poland (KTW)
- Kos, Greece (KGS)
- Krakow, Poland (KRK)
- Lanzarote, Spain (ACE)
- Linz, Austria (LNZ)
- Lisbon, Portugal (LIS)
- London, UK (all airports)
- Madrid, Spain (MAD)
- Malaga, Spain (AGP)
- Malta, Malta (MLA)
- Manchester, UK (MAN)
- Marrakech, Morocco (RAK)
- Marseille, France (MRS)
- Milan, Italy (LIN, MXP)
- Moscow, Russia (SVO)
- Munich, Germany (MUC)
- Nice, France (NCE)
- Oslo, Norway (OSL)
- Mallorca, Spain (PMI)
- Paris, France (CDG)
- Pisa, Italy (PSA)
- Porto, Portugal (OPO)
- Prague, Czech Republic (PRG)
- Rhodes, Greece (RHO)
- Riga, Latvia (RIX)
- Rome, Italy (CIA, FCO)
- Salzburg, Austria (SZG)
- Sharm El Sheikh, Egypt (SSH)
- Sofia, Bulgaria (SOF)
- Southend, UK (SEN)
- Split, Croatia (SPU)
- Stockholm, Sweden (ARN)
- Tangier, Morocco (TNG)
- Tenerife, Spain (TFS)
- Thessaloniki, Greece (SKG)
- Valencia, Spain (VLC)
- Venice, Italy (VCE)
- Vienna, Austria (VIE)
- Vilnius, Lithuania (VNO)
- Warsaw, Poland (WAW)
- Zurich, Switzerland (ZRH)

In the course of the analysis, a number of KPIs were taken into account to analyze the shortlisted routes subject to close scrutiny

Overview of the determining KPIs

- **Historical evolution at Groningen airport**
Development of passenger volume from 2010 to 2015
- **Traffic pattern of the service in Groningen**
Seasonality of flights, seats, demand and load factor
- **Historical evolution at the competition**
Development of passenger volume from 2010 to 2015
- **Traffic pattern of the service at the competition**
Seasonality of flights, seats, demand and load factor
- **Airlines and aircraft types operating the route**
Overview of operators and equipment deployed in 2015
- **Potential traffic on the route from Groningen**
Execution of market size model to estimate demand
- **Potential airlines to serve the route from GRQ**
Differentiation according to characteristics of the route

Exemplary route: GRQ – AYT



- Steady and significant growth from 2010 to 2014
- Route served from March to November 2015
- Doubled passenger volume over last 6 years
- Average seat load factor of 82% throughout 2015
- XQ, DE and AB capture over 65% of the market
- Strong market growth, but also strong competition
Potential market size: 42,000 – 52,000 (2015: 42,290)
- Traditional tour operator destination in the summer
Operated on full charter basis by e.g. Transavia

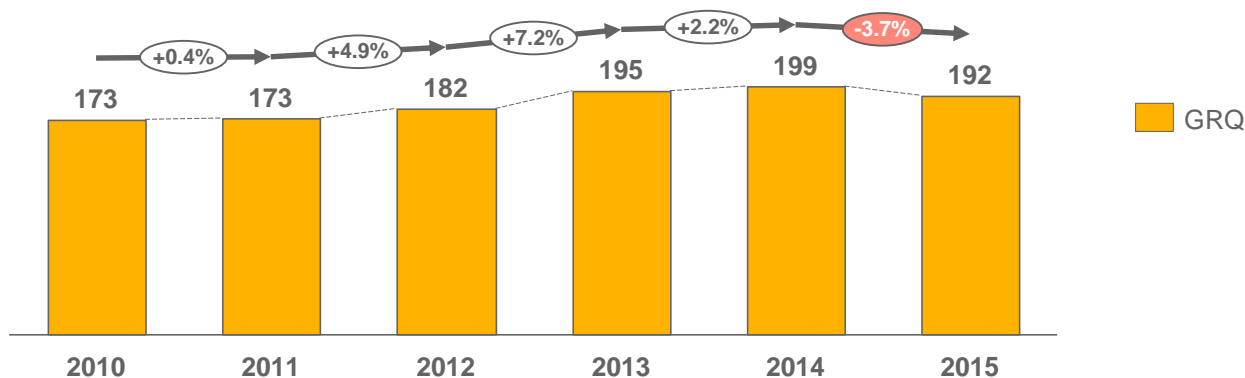
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 2. Leisure winter cluster
 3. City break cluster
 4. Business cluster
 5. Hub feeder
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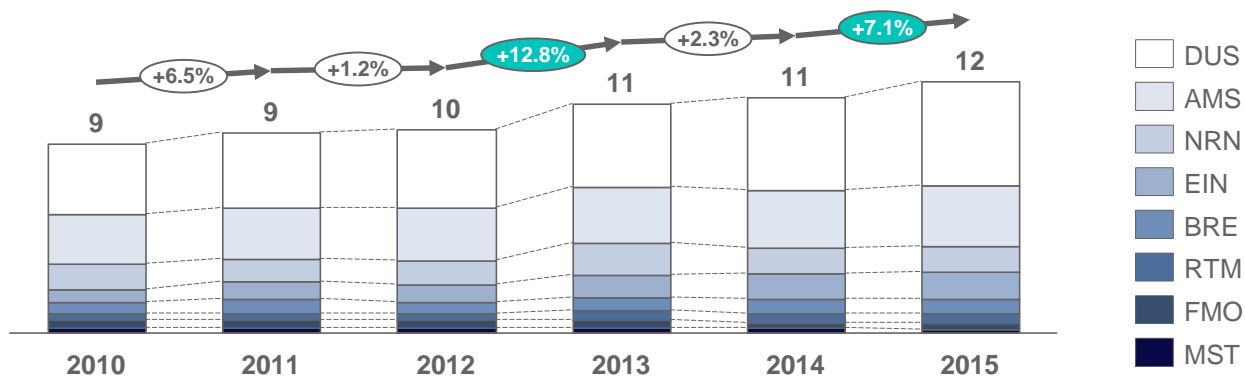
After positive years, volumes on the leisure summer routes decreased in Groningen in 2015, while competition has constantly been raising demand

Leisure summer routes – Passenger volume development

Passenger development (in thousands) from 2010 to 2015 in Groningen



Passenger development (in millions) from 2010 to 2015 at competing airports



Remarks


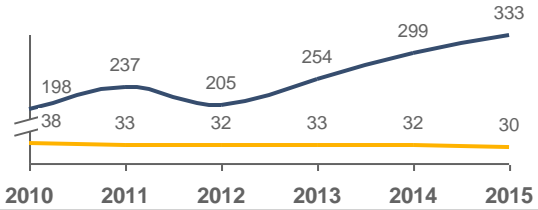


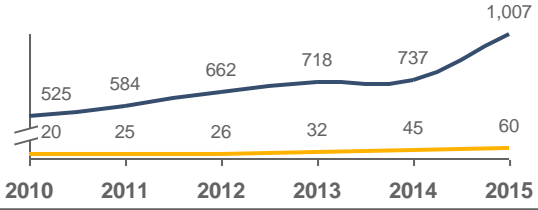


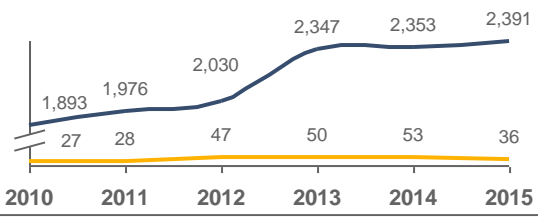


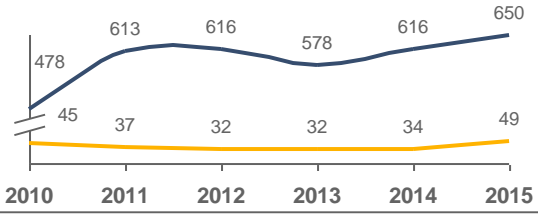

- Overall positive trend of passenger number in Groningen, up by ca. 10% from 2010 to 2015
- Slight decrease in 2015 potentially due to re-shuffling of capacity
- Volume growth for the competition primarily driven by Dusseldorf and Amsterdam
- Stable market segment, no exits of competing airports in 2010-2015
- Main market and cash cow for Groningen, promising outlook**

Note: Figures reflect both inbound and outbound passengers to and from GRQ resp. the competing airports

Source: Traffic statistics from GRQ, AirportIS

The current destinations can be segmented along their characteristics – first and foremost, Spain and Portugal offer specific growth opportunities


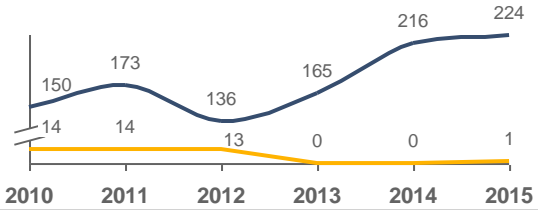


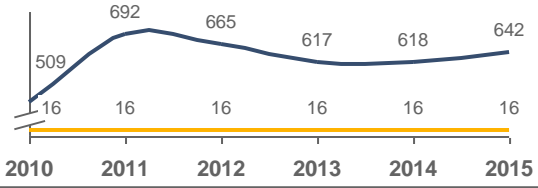


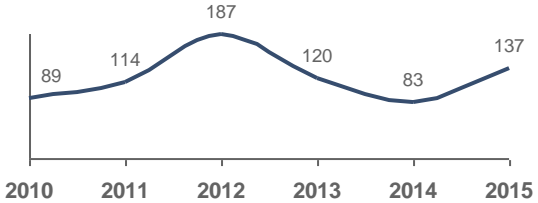


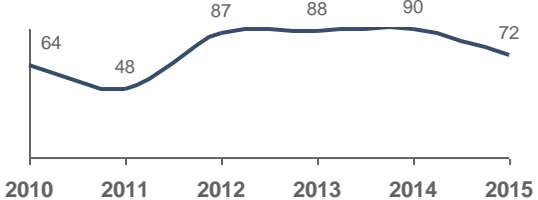

Leisure summer routes (served from Groningen in 2015) – Growth options

	Passenger development (in thousands)	Recommendation
Greek Islands 	 <p>Competition</p> <p>Groningen</p>	<ul style="list-style-type: none"> ▪ Heraklion (HER) – await political stabilization Significant growth potential in the medium/long term ▪ Kos (KGS) – await political stabilization Canceled in 2016, expected resume in the short term 
Turkey 	 <p>Competition</p> <p>Groningen</p>	<ul style="list-style-type: none"> ▪ Antalya (AYT) – await political stabilization Significant growth potential in the medium/long term ▪ Bodrum (BJV) – await political stabilization Moderate growth potential in the medium/long term 
Spain and Portugal 	 <p>Competition</p> <p>Groningen</p>	<ul style="list-style-type: none"> ▪ Faro (FAO) – add winter service on tour operator basis Moderate growth rates, very fragmented market ▪ Mallorca (PMI) – recover 2014 traffic volume Very stable market, but also strong competition 
Canary Islands 	 <p>Competition</p> <p>Groningen</p>	<ul style="list-style-type: none"> ▪ Lanzarote (ACE) – ramp up to double weekly service Stable market growth, moderate competition ▪ Gran Canaria (LPA) – continue current operations Staggering traffic volumes, rather fragmented market 

Note: Figures reflect number of total bi-directional segment passengers p.a.; source: AirportIS, traffic statistics from GRQ

Greek and Canary Islands offer further attractive holiday destinations – Egypt and Tunisia could provide lucrative opportunities in the long term


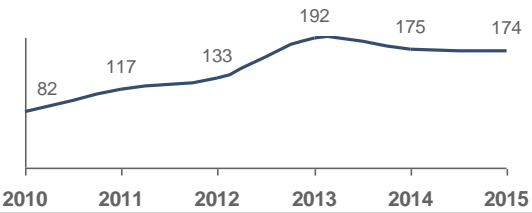





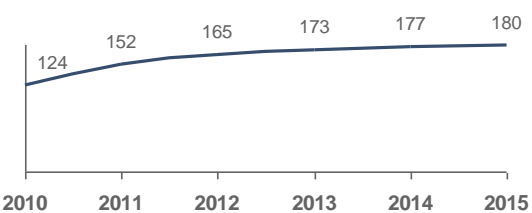


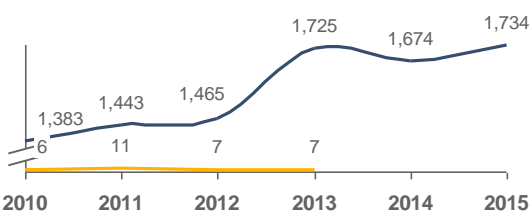

Leisure summer routes (partly served from Groningen in 2015) – Growth options

	Passenger development (in thousands)	Recommendation																					
Greek Islands 	 <table border="1"> <caption>Greek Islands Passenger Development (in thousands)</caption> <thead> <tr> <th>Year</th> <th>Competition</th> <th>Groningen</th> </tr> </thead> <tbody> <tr><td>2010</td><td>150</td><td>14</td></tr> <tr><td>2011</td><td>173</td><td>14</td></tr> <tr><td>2012</td><td>136</td><td>13</td></tr> <tr><td>2013</td><td>165</td><td>0</td></tr> <tr><td>2014</td><td>216</td><td>0</td></tr> <tr><td>2015</td><td>224</td><td>1</td></tr> </tbody> </table>	Year	Competition	Groningen	2010	150	14	2011	173	14	2012	136	13	2013	165	0	2014	216	0	2015	224	1	<ul style="list-style-type: none"> ▪ Corfu (CFU) & Rhodes (RHO) – await political stabilization <p>Market growth of almost 50% between 2010 and 2015 Fragmented market, high number of airlines competing Services offered from all airports but Maastricht in 2015</p> 
Year	Competition	Groningen																					
2010	150	14																					
2011	173	14																					
2012	136	13																					
2013	165	0																					
2014	216	0																					
2015	224	1																					
Canary Islands 	 <table border="1"> <caption>Canary Islands Passenger Development (in thousands)</caption> <thead> <tr> <th>Year</th> <th>Competition</th> <th>Groningen (TFS only)</th> </tr> </thead> <tbody> <tr><td>2010</td><td>509</td><td>16</td></tr> <tr><td>2011</td><td>692</td><td>16</td></tr> <tr><td>2012</td><td>665</td><td>16</td></tr> <tr><td>2013</td><td>617</td><td>16</td></tr> <tr><td>2014</td><td>618</td><td>16</td></tr> <tr><td>2015</td><td>642</td><td>16</td></tr> </tbody> </table>	Year	Competition	Groningen (TFS only)	2010	509	16	2011	692	16	2012	665	16	2013	617	16	2014	618	16	2015	642	16	<ul style="list-style-type: none"> ▪ Fuerteventura (FUE) & Tenerife (TFS) – add winter services <p>Increase of volume by approx. 25% from 2010 to 2015 Air Berlin, Ryanair and Condor dominating the market Year-round services due to beneficial climatic conditions</p> 
Year	Competition	Groningen (TFS only)																					
2010	509	16																					
2011	692	16																					
2012	665	16																					
2013	617	16																					
2014	618	16																					
2015	642	16																					
Egypt 	 <table border="1"> <caption>Egypt Passenger Development (in thousands)</caption> <thead> <tr> <th>Year</th> <th>Competition</th> </tr> </thead> <tbody> <tr><td>2010</td><td>89</td></tr> <tr><td>2011</td><td>114</td></tr> <tr><td>2012</td><td>187</td></tr> <tr><td>2013</td><td>120</td></tr> <tr><td>2014</td><td>83</td></tr> <tr><td>2015</td><td>137</td></tr> </tbody> </table>	Year	Competition	2010	89	2011	114	2012	187	2013	120	2014	83	2015	137	<ul style="list-style-type: none"> ▪ Sharm El Sheikh (SSH) & Hurghada (HRG) – long term option <p>Staggering passenger volumes over the last six years Recent demand increase driven by services to Hurghada Potential destination in long-term future after stabilization</p> 							
Year	Competition																						
2010	89																						
2011	114																						
2012	187																						
2013	120																						
2014	83																						
2015	137																						
Tunisia 	 <table border="1"> <caption>Tunisia Passenger Development (in thousands)</caption> <thead> <tr> <th>Year</th> <th>Competition</th> </tr> </thead> <tbody> <tr><td>2010</td><td>64</td></tr> <tr><td>2011</td><td>48</td></tr> <tr><td>2012</td><td>87</td></tr> <tr><td>2013</td><td>88</td></tr> <tr><td>2014</td><td>90</td></tr> <tr><td>2015</td><td>72</td></tr> </tbody> </table>	Year	Competition	2010	64	2011	48	2012	87	2013	88	2014	90	2015	72	<ul style="list-style-type: none"> ▪ Enfidha (NBE) & Djerba (DJE) – long term option <p>Market recovery after downswing in volume in 2011 Tunisair, Nouvelair, Condor and Air Berlin dominating Potential destination in long-term future after stabilization</p> 							
Year	Competition																						
2010	64																						
2011	48																						
2012	87																						
2013	88																						
2014	90																						
2015	72																						

Note: Figures reflect number of total bi-directional segment passengers p.a.; source: AirportIS

A thorough market analysis reveals additional unserved routes, that could provide ideal opportunities for the introduction of low cost services (I)

Leisure summer routes (not served from Groningen in 2015) – Growth options

	Passenger development (in thousands)	Recommendation																		
Morocco 	 <table border="1"> <caption>Passenger development (in thousands) - Morocco</caption> <thead> <tr> <th>Year</th> <th>Passenger volume (thousands)</th> </tr> </thead> <tbody> <tr><td>2010</td><td>82</td></tr> <tr><td>2011</td><td>117</td></tr> <tr><td>2012</td><td>133</td></tr> <tr><td>2013</td><td>192</td></tr> <tr><td>2014</td><td>175</td></tr> <tr><td>2015</td><td>174</td></tr> </tbody> </table>	Year	Passenger volume (thousands)	2010	82	2011	117	2012	133	2013	192	2014	175	2015	174	<p>Competition</p> <ul style="list-style-type: none"> ▪ Marrakech (RAK) – launch low cost operations <p>Passenger volume doubled in size from 2010 to 2015 90% of market captured by Transavia and Air Berlin Ethnic links with Morocco in addition to holiday traffic</p> 				
Year	Passenger volume (thousands)																			
2010	82																			
2011	117																			
2012	133																			
2013	192																			
2014	175																			
2015	174																			
Italy 	 <table border="1"> <caption>Passenger development (in thousands) - Italy</caption> <thead> <tr> <th>Year</th> <th>Passenger volume (thousands)</th> </tr> </thead> <tbody> <tr><td>2010</td><td>126</td></tr> <tr><td>2011</td><td>162</td></tr> <tr><td>2012</td><td>156</td></tr> <tr><td>2013</td><td>151</td></tr> <tr><td>2014</td><td>310</td></tr> <tr><td>2015</td><td>309</td></tr> </tbody> </table>	Year	Passenger volume (thousands)	2010	126	2011	162	2012	156	2013	151	2014	310	2015	309	<p>Competition</p> <ul style="list-style-type: none"> ▪ Catania (CTA) & Bari (BRI) – launch low cost operations <p>Doubling of passenger volume from 2013 to 2014 Ryanair, Transavia and Air Berlin dominant carriers In 2015 services from DUS, AMS, EIN, NRN and MST</p> 				
Year	Passenger volume (thousands)																			
2010	126																			
2011	162																			
2012	156																			
2013	151																			
2014	310																			
2015	309																			
Malta 	 <table border="1"> <caption>Passenger development (in thousands) - Malta</caption> <thead> <tr> <th>Year</th> <th>Passenger volume (thousands)</th> </tr> </thead> <tbody> <tr><td>2010</td><td>124</td></tr> <tr><td>2011</td><td>152</td></tr> <tr><td>2012</td><td>165</td></tr> <tr><td>2013</td><td>173</td></tr> <tr><td>2014</td><td>177</td></tr> <tr><td>2015</td><td>180</td></tr> </tbody> </table>	Year	Passenger volume (thousands)	2010	124	2011	152	2012	165	2013	173	2014	177	2015	180	<p>Competition</p> <ul style="list-style-type: none"> ▪ Malta (MLA) – launch low cost operations <p>Volume increase by almost 50% over the last six years Air Malta dominant carrier, potential to steal traffic Development of reputation as attractive leisure destination</p> 				
Year	Passenger volume (thousands)																			
2010	124																			
2011	152																			
2012	165																			
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2014	177																			
2015	180																			
Spain 	 <table border="1"> <caption>Passenger development (in thousands) - Spain</caption> <thead> <tr> <th>Year</th> <th>Passenger volume (thousands)</th> </tr> </thead> <tbody> <tr><td>2010</td><td>6</td></tr> <tr><td>2011</td><td>11</td></tr> <tr><td>2012</td><td>1,383</td></tr> <tr><td>2013</td><td>1,443</td></tr> <tr><td>2014</td><td>1,465</td></tr> <tr><td>2015</td><td>1,725</td></tr> <tr><td>2016</td><td>1,674</td></tr> <tr><td>2017</td><td>1,734</td></tr> </tbody> </table> <p>Groningen (AGP only)</p>	Year	Passenger volume (thousands)	2010	6	2011	11	2012	1,383	2013	1,443	2014	1,465	2015	1,725	2016	1,674	2017	1,734	<p>Competition</p> <ul style="list-style-type: none"> ▪ Malaga (AGP) & Alicante (ALC) – launch low cost operations <p>Great potential, increase of 25% over last six years Flights to Malaga from Groningen ceased after 2013 Fragmented market, dominated by Transavia and Ryanair</p> 
Year	Passenger volume (thousands)																			
2010	6																			
2011	11																			
2012	1,383																			
2013	1,443																			
2014	1,465																			
2015	1,725																			
2016	1,674																			
2017	1,734																			

Note: Figures reflect number of total bi-directional segment passengers p.a.; source: AirportIS, traffic statistics from GRQ

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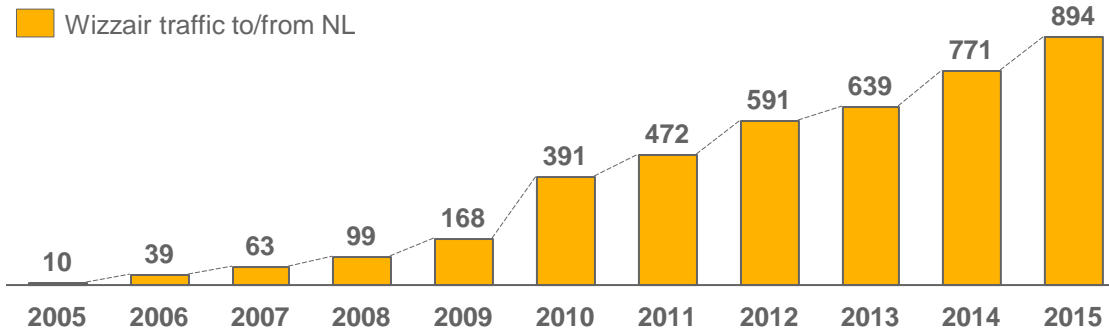
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Wizzair has recently shown interest in the Netherlands market; developing its network from a 3rd airport can be a good fit to its expansion plans

Wizzair passenger development (in thousands) from 2005 to 2015 in the Netherlands



W6 Regional bases which have been considered



Remarks

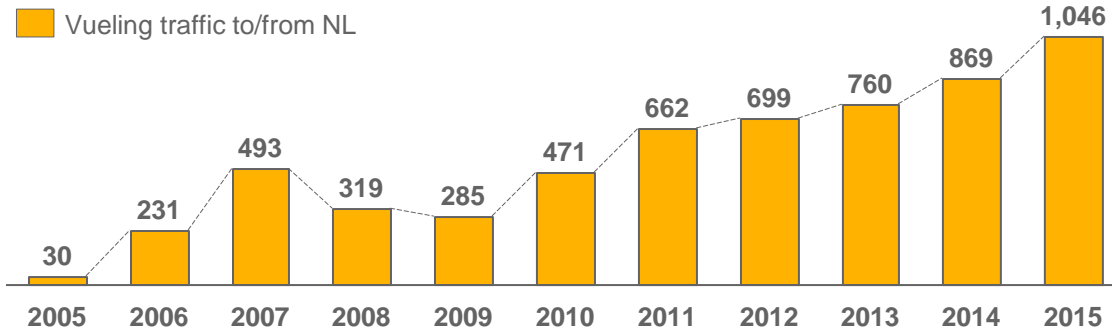
- The development of Wizzair operations to/from the Netherlands is recent as the traffic has since a fast evolution since 2010.
 - Adding a third airport in the Netherlands in its portfolio could be a good fit to its expansion strategy.
 - It is time for Groningen to engage talks with the airline especially as W6 seems to have interest in entering Maastricht airport.
-
- **W6 regional bases and their traffic potential to/from Groningen have been considered as part of the airport future expansion plans.**

Note: Figures reflect both inbound and outbound passengers to and from GRQ resp. the competing airports

Source: Traffic statistics from GRQ, AirportIS

Vueling has recently strongly increased its services to the Netherlands and could resume operations to GRQ from some of its European bases

Vueling passenger development (in thousands) from 2005 to 2015 in the Netherlands



Vueling Regional bases which have been considered



Remarks

- Vueling operations to/from the Netherlands have shown a recent strong growth since 2009.
- Vueling could resume operations to GRQ as part of its expansion strategy in the Netherlands.

- **Vueling European bases and their traffic potential to/from Groningen have been considered as part of the airport future expansion plans.**

Note: Figures reflect both inbound and outbound passengers to and from GRQ resp. the competing airports

Source: Traffic statistics from GRQ, AirportIS

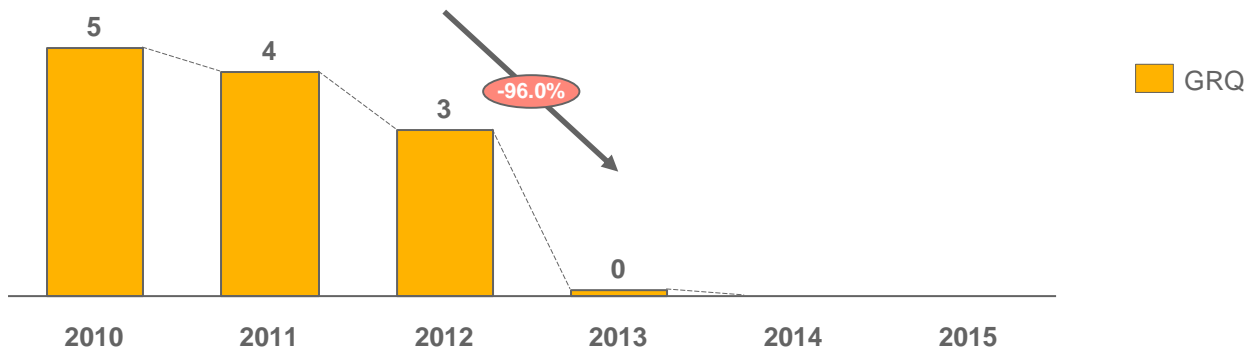
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As a previous business route operated out of Groningen, ABZ has shown poor results before being ceased whilst AMS insures a stable growth

Business routes – Passenger volume development

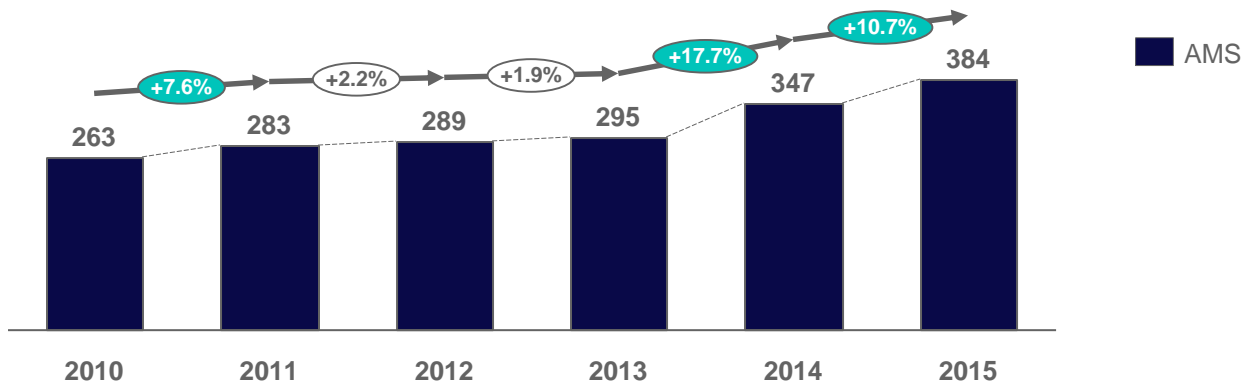
Passenger development (in thousands) from 2010 to 2015 in Groningen



Remarks

- Aberdeen was operated by BMI. Poor demand in the oil sector resulted in capacity cutbacks with BMI finally ceasing operations in 2013
- The supply to ABZ is now concentrated in Amsterdam operated by a single airline which accommodated the entire traffic in 2015

Passenger development (in thousands) from 2010 to 2015 at competing airports



- Considering the past performance in Groningen and the high degree of supply concentration on Aberdeen route, the risk to re open it is evaluated as high

Note: Figures reflect both inbound and outbound passengers to and from GRQ resp. the competing airports

Source: Traffic statistics from GRQ, AirportIS

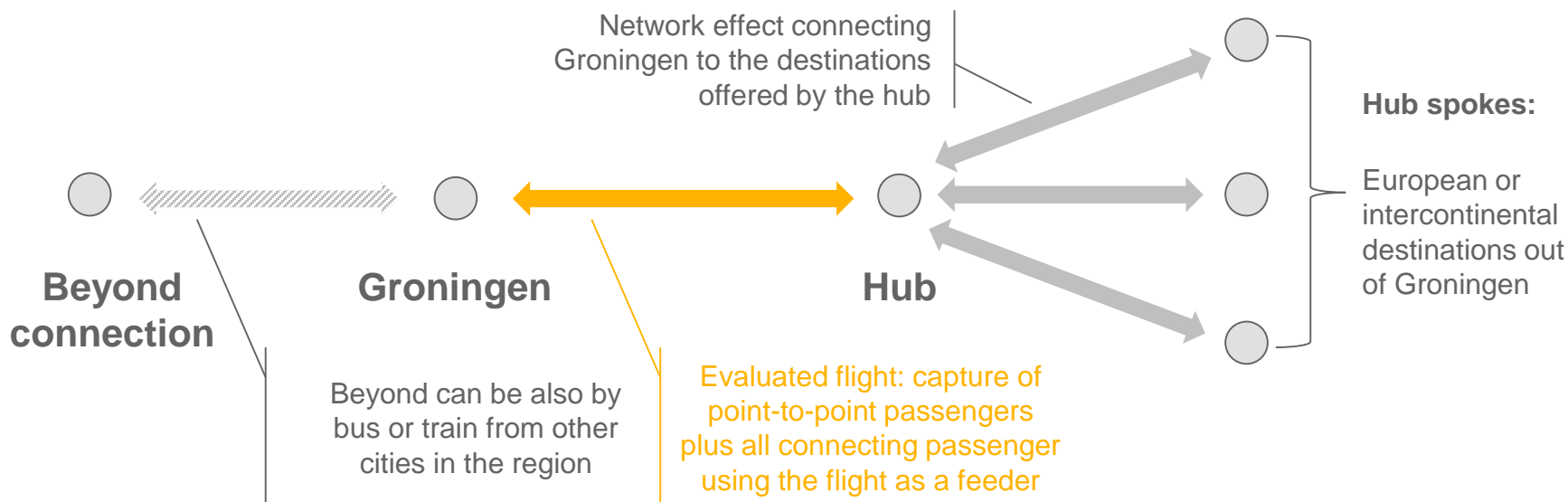
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In the in-depth route analysis conducted, both point-to-point markets and potential connections beyond the hubs were taken into consideration

Hub routes – Methodology and approach

- The route evaluation is considering potential **point-to-point traffic** on the flight including all the **network effects at the hub** airport as well as potential **beyond connections in Groningen**



Example



Leeuwarden



Groningen



Copenhagen



New York

Source: Lufthansa Consulting

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A range of preconditions need to be met in order to successfully develop the selected routes

Hub feeder



- Negotiations with hub feeder airline top priority in strategic action plan of the airport
- Frequencies and timings critical to hit the waves at the hub
- Establishment of strong commitment from businesses in the region
- Transport from Groningen airport selected as preferred option, if available
- Funds to cover risk guarantee and marketing

Low cost services







- Focus on low cost operations into Groningen
- Commitment to significant monetary investments in advance
- Low airport fees, efficient infrastructure and marketing campaigns
- Provision of sufficient funds to offer necessary framework conditions
 - Dedicated budget for incentives and risk cover guarantee
 - Estimated a volume of € 500,000 annual budget for marketing support per route

Charter routes



- Limited growth opportunities, but steady source of revenues
- Continuous facilitation of proactive exchange with tour operators
- Close contact with most influential operators essential
- Volatile market segment constantly undergoing structural changes

Three different scenarios are designed for the traffic forecast of Groningen airport combining the described route developments

Negative growth	Status quo	Moderate growth	Substantial growth
 <ul style="list-style-type: none"> No additional efforts will be provided by the airport or its shareholders Lelystadt competition materializes in a drop of all regular routes Shift of some charter routes to the competition No potential for growth among Low Cost carriers No implementation of hub connectivity The natural growth is not sufficient to cover the cancelled routes Nevertheless a minimum volume of traffic will still remain at the airport 	 <ul style="list-style-type: none"> No additional efforts will be provided by the airport or its shareholders Most of charter routes remain, with some airlines ceasing operations Tour operators can shift routes to other airlines (new market entries) The traffic forecast will continue its natural trend with only charter and very few regular routes in place Risk of losing regular routes and therefore lowering the visibility and reputation of the airport as connecting point of the region 	 <ul style="list-style-type: none"> Moderate effort and investment into marketing activities This investment can be steered into two different directions: Hub connectivity or LCC operations The preferred alternative would be a hub connection which is seen as the key growth scenario for GRQ The hub connection will allow the region to be connected with long haul markets If an LCC is attracted, a number of new destinations would be launched to city break destinations 	 <ul style="list-style-type: none"> The airport will have the full support of its shareholders, the region and other local entities Higher investment volumes in marketing and route developments Implement airline manager activities among airport duties for the better use of the airline capacity at GRQ Development of the hub connection, the entry of a LCC at the airport and positive development of charter flights Exponential increase of the demand to exceed the critical mass of the airport (>400 thousand pax)

Agenda

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To become a successful airport, Groningen needs substantial support in marketing activities to establish and develop new routes

- The strategic recommendations are based on **three main pillars, i.e. hub feeder services, low cost operations and traditional holiday charter traffic.**
- First of all, the launch of **hub feeder flights** should take top priority in the strategic action plan of the airport. Frequencies and timing of the flights are critical to hit the hub waves and successfully operate this business model. The overall success of the hub feeder connection will require **complementary policies and commitment from the region and local institutions** to the use of GRQ airport over connecting via competing airports.
- Despite having a low population density, Groningen Airport Eelde has access to a relatively autonomous catchment area with an total volume of population over 2 million within 60 minutes drive. The overall connectivity of the region would be greatly improved by connecting the airport with a hub.
- Likewise, certain preconditions must be met for the successful introduction of **low cost services** in Groningen. Experience shows that airports need to commit to not insignificant monetary investments in order to attract low cost airlines. By offering low airport and passenger fees, efficient infrastructure and marketing campaigns these airlines are incentivized to launch services from an airport that turn in considerably benefits from the traffic an additional operator triggers. Also in the case of Groningen it must be made sure that **sufficient funds and commitment are available to offer the necessary framework conditions for low cost services.**
- Analysis of the current market situation shows that the airport management has retrieved the most out of its limited resources. Thus, additional resources would lead to more potential to be commercialized.

To become a successful airport, Groningen needs substantial support in marketing activities to establish and develop new routes

- The opening of Lelystad Airport in 2018 will lead to increased competition in substantial parts of Groningen Airport's catchment area, inducing a downward development of fees to be charged to airlines. Despite this, Lelystad Airport is expected to compete with Groningen Airport mainly in the LCC segment, making it more difficult but not impossible for Groningen Airport to attract LCC services, especially in conjunction with setting up services to unserved city break destinations in Southern and Eastern Europe.
- **Since Lelystad Airport is expected to open in mid 2018, quick action is needed in order to benefit from the current window of opportunity that exists.**
- As for the **holiday traffic**, Groningen airport should **continue to foster the proactive and frequent exchange with the tour operators**, as already done in the past. For the development of the charter routes it is essential to be in close contact with the most influential operators, as this volatile market segment is continuously undergoing changes.
- Incoming tourism shows underserved potential, requiring support from all relevant regional stakeholders in terms of international marketing. Nevertheless it is not expected to be one of the main drivers of the traffic evolution at the airport.
- Finally, besides the effort in the development of new routes and consolidation of existing ones, there is a need to **increase the awareness and visibility of the airport in the region**. The promotion of the airport among corporate travelers, institutions, other local entities and the overall population of the region is key for its long term success.

Glossary of abbreviations used (in alphabetical order)

- A3 : Aegan Airlines
- AB : Air Berlin
- ABZ : Aberdeen airport
- AMS : Amsterdam Schipol airport
- ARN : Stockholm-Arlanda airport
- AYT : Antalya airport
- BM : BMI
- BRE : Bremen airport
- BUD : Budapest airport
- CAGR : Compound annual growth rate
- cca: circa
- CFU : Corfu airport
- CPH : Copenhagen airport
- DE : Condor
- DE : Germany
- Dest. : Destination
- DUS : Dusseldorf airport
- EIN : Eindhoven airport
- FR : Ryanair
- GDP: Goss Domestic Product (GDP)
- GRO : Girona-Costa Brava airport
- GRQ : Groningen airport
- HV : Transavia
- INN : Innsbruck airport
- KPIs : Key Performance Indicators
- LCC(s) : Low Cost Carrier(s)
- LEY : Lelystad airport
- LIS : Lisbon Airport
- Mio. : Million
- MST : Maastricht airport
- MUC : Munich airport
- NL : Netherlands
- NRN : Weeze airport
- NYC : New York City
- OTP : Bucharest airport
- O&D : Origin and Destination
- Pax : Passengers
- PMI : Palma de Mallorca airport
- RTM : Rotterdam
- SFO : San Francisco
- STN : Stansted Airport
- SZG : Salzburg airport
- U2 : Easyjet
- VFR: Visit Friends and Relatives
- W6 : Wizzair
- XQ : Sun Express

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