



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:

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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.



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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

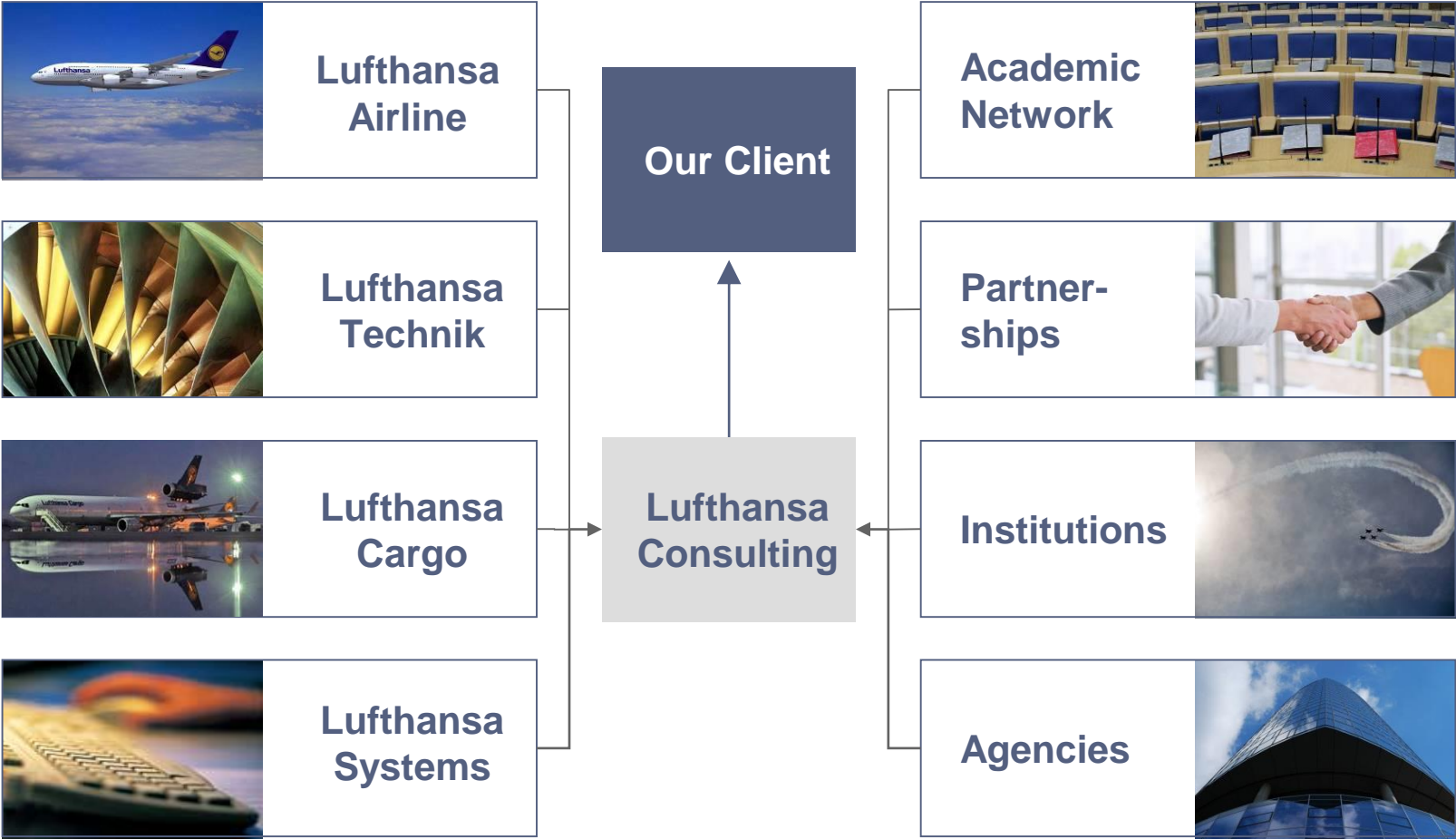


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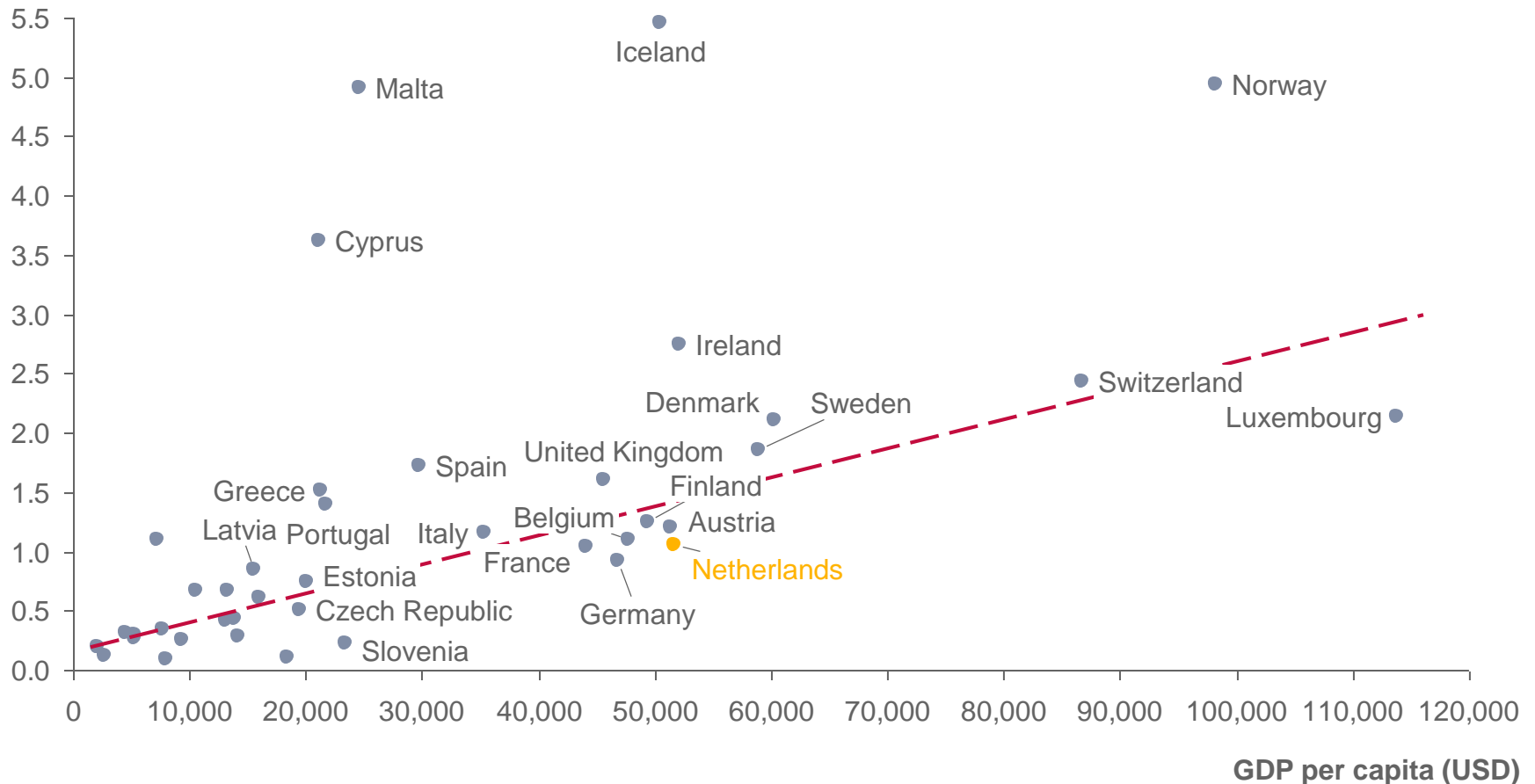
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Due to its exceptionally good land connectivity, the Netherlands has slightly fewer trips per capita compared with the trend in the EU

GDP per capita vs. trip per capita in European countries

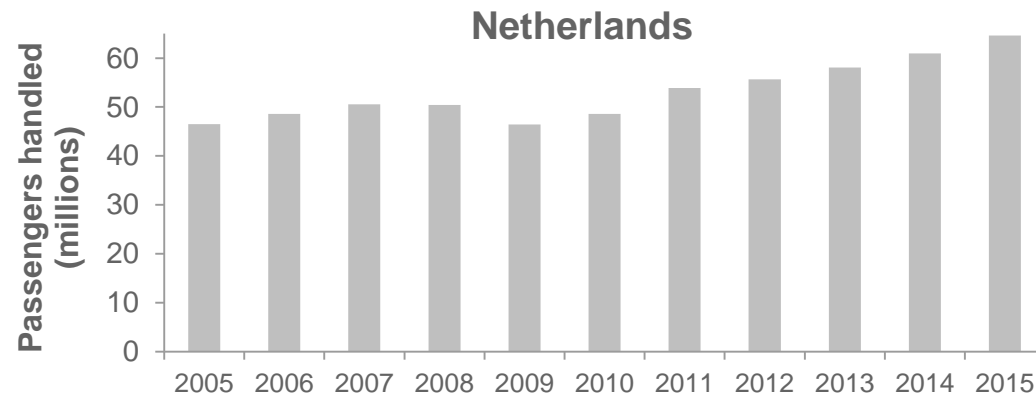
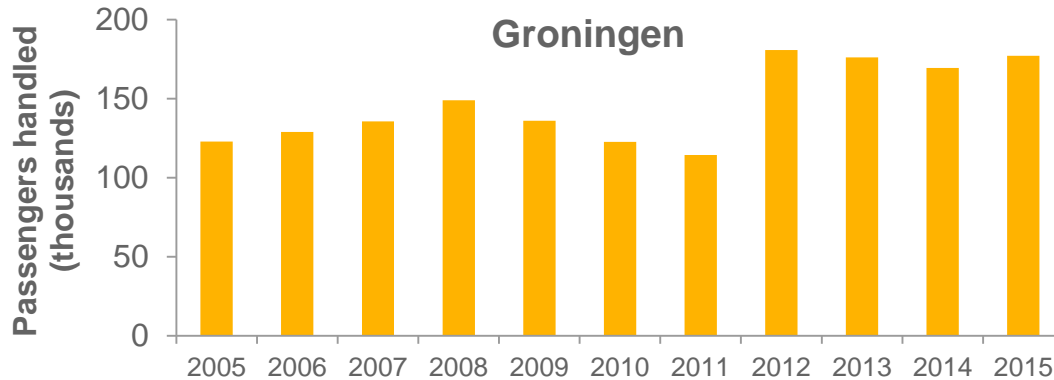
Trip per capita (round trip)



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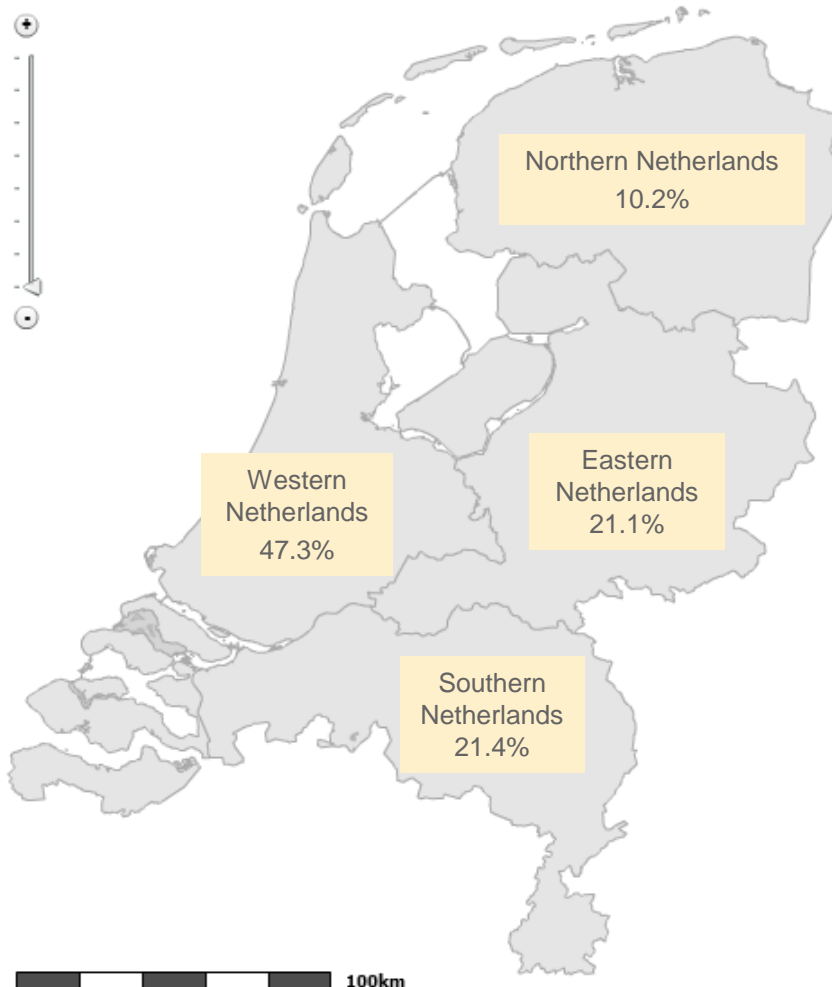
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According to Statistics Netherlands, Northern Netherlands only hosts 10% of the Dutch population

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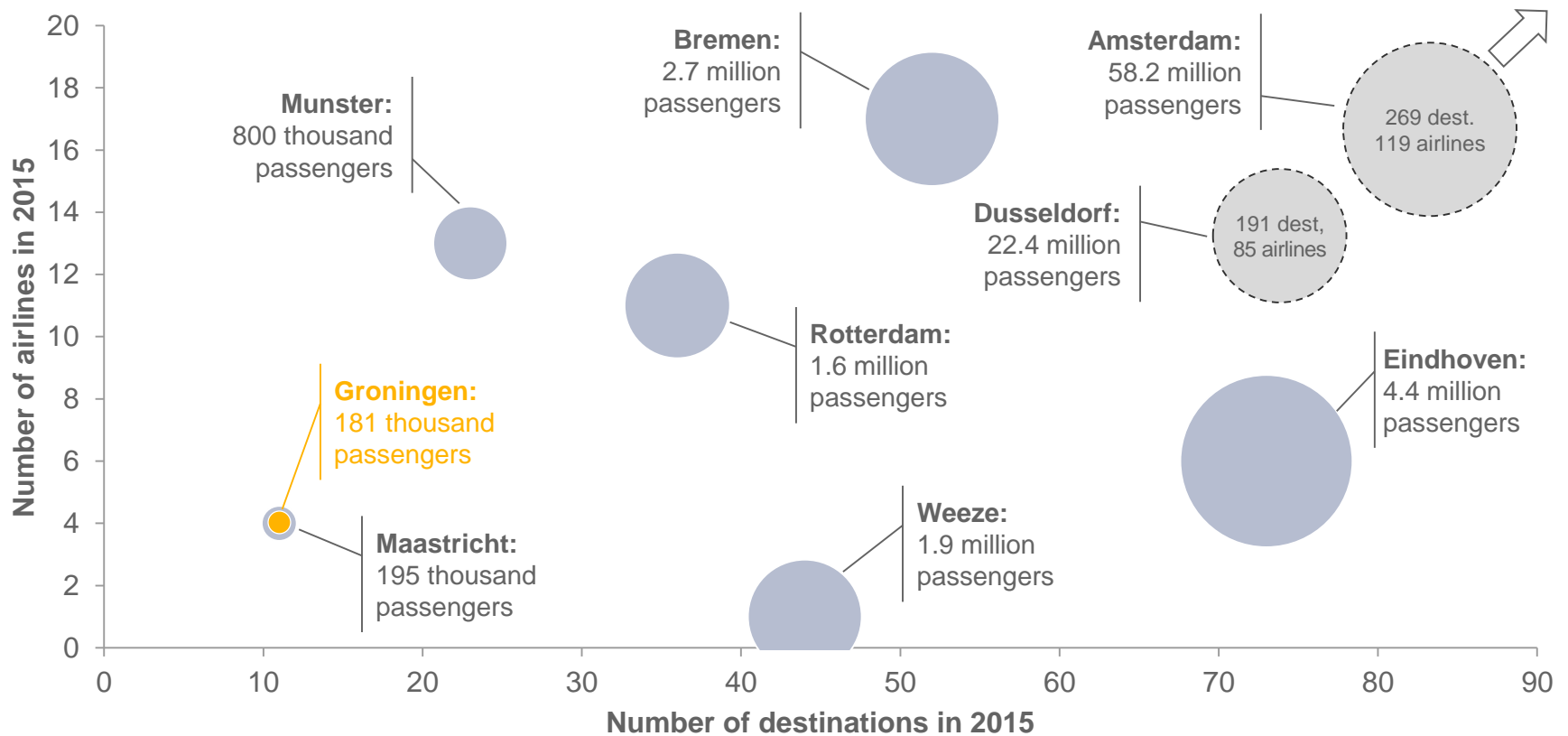
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Groningen airport is lagging behind the competition in the Dutch and German airport environment in traffic volume and destinations offered

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 woordvoester 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 veel mogelijk naar Lelystad en Eindhoven verkassen”, aldus de toekomstvisie van Schiphol op termijn ten minste 600.000 vluchtpoorten' gebruik moet worden gemaakt. Het is een wereldwijd knooppunt met concurrentie van landen en met name Turkije het hoofd te bieden.

Het Centraal Planbureau is van mening dat de komende decennia makkelijker zal worden om te

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



- 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

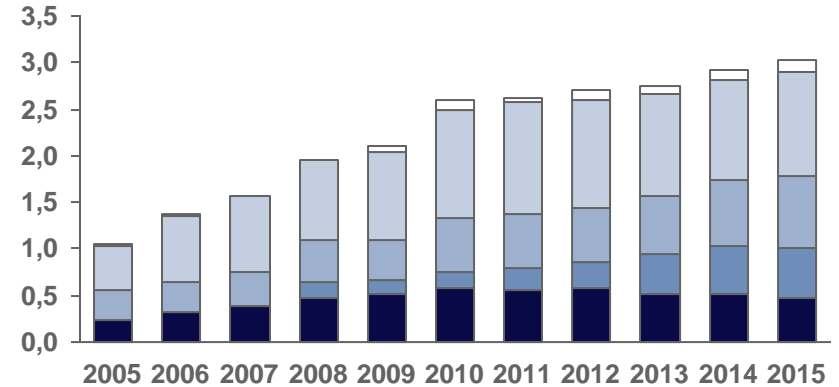
Map of European regional airports*



* 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



Business
 Hub
 Long haul

City break
 Leisure summer
 Others

Remarks

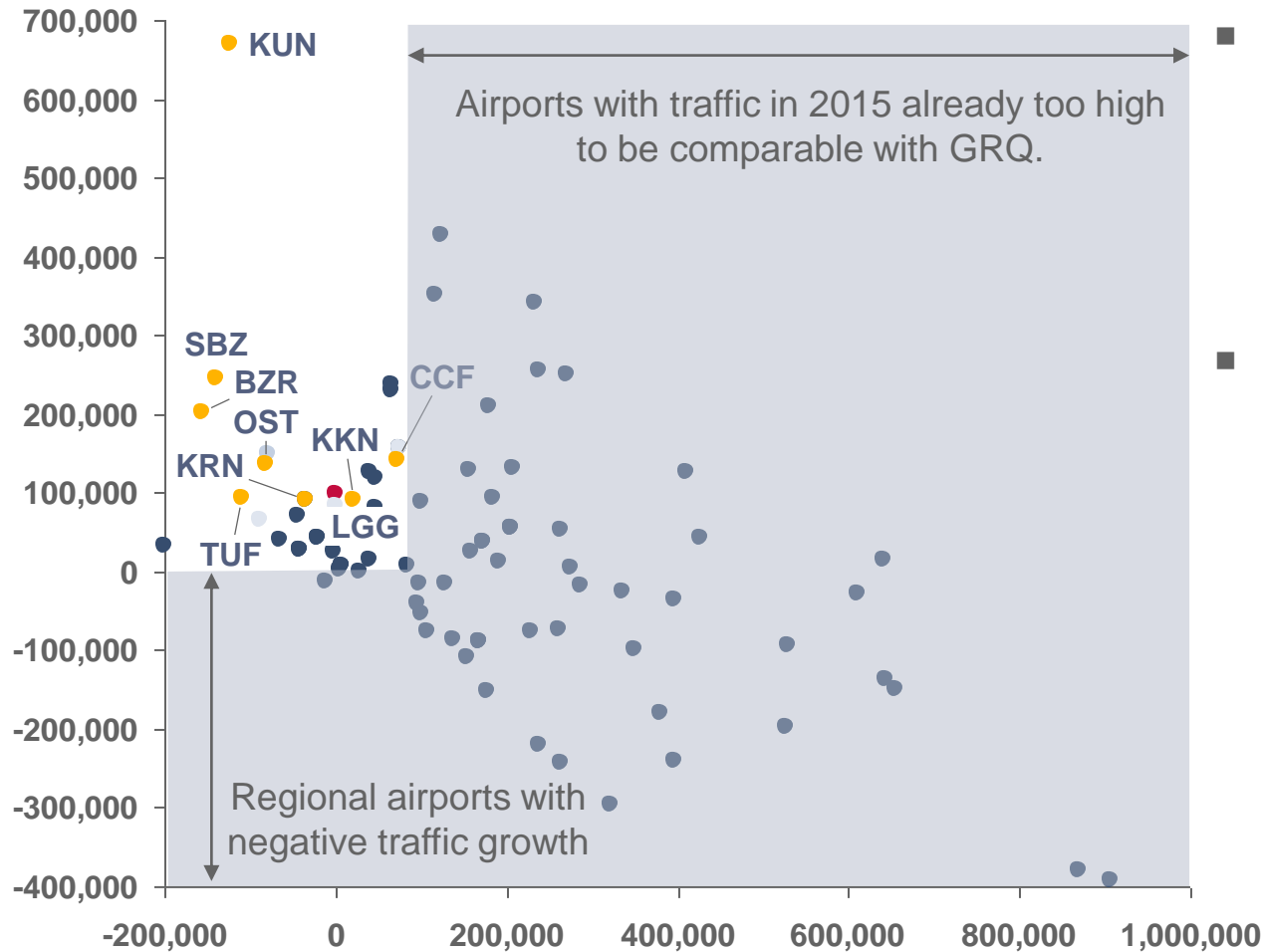
Finally, nine airports have been selected which meet all below criteria:

- 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

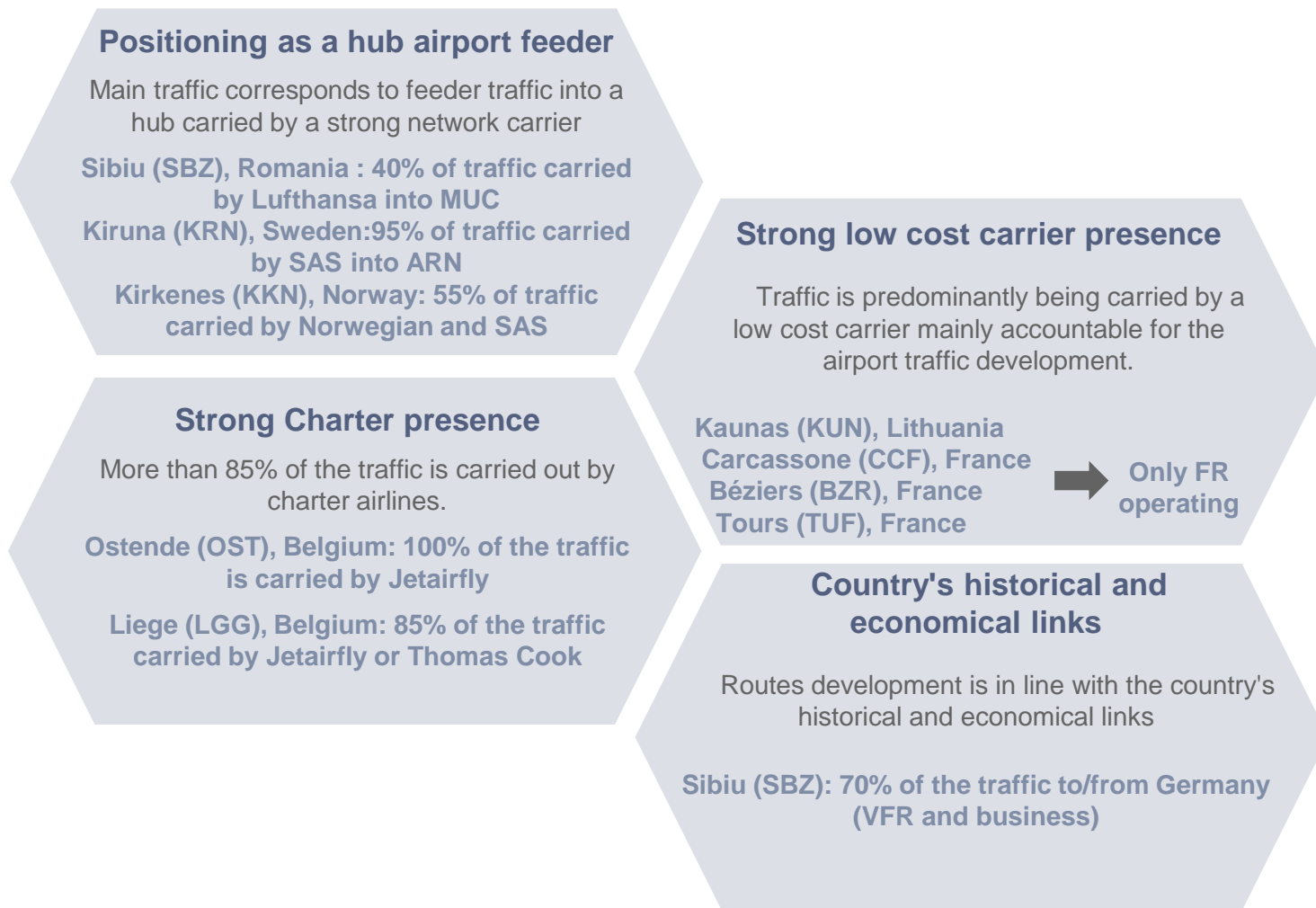
■ List of airport codes:

- 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

2005 traffic vs GRQ 2015 traffic

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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1. Current market environment

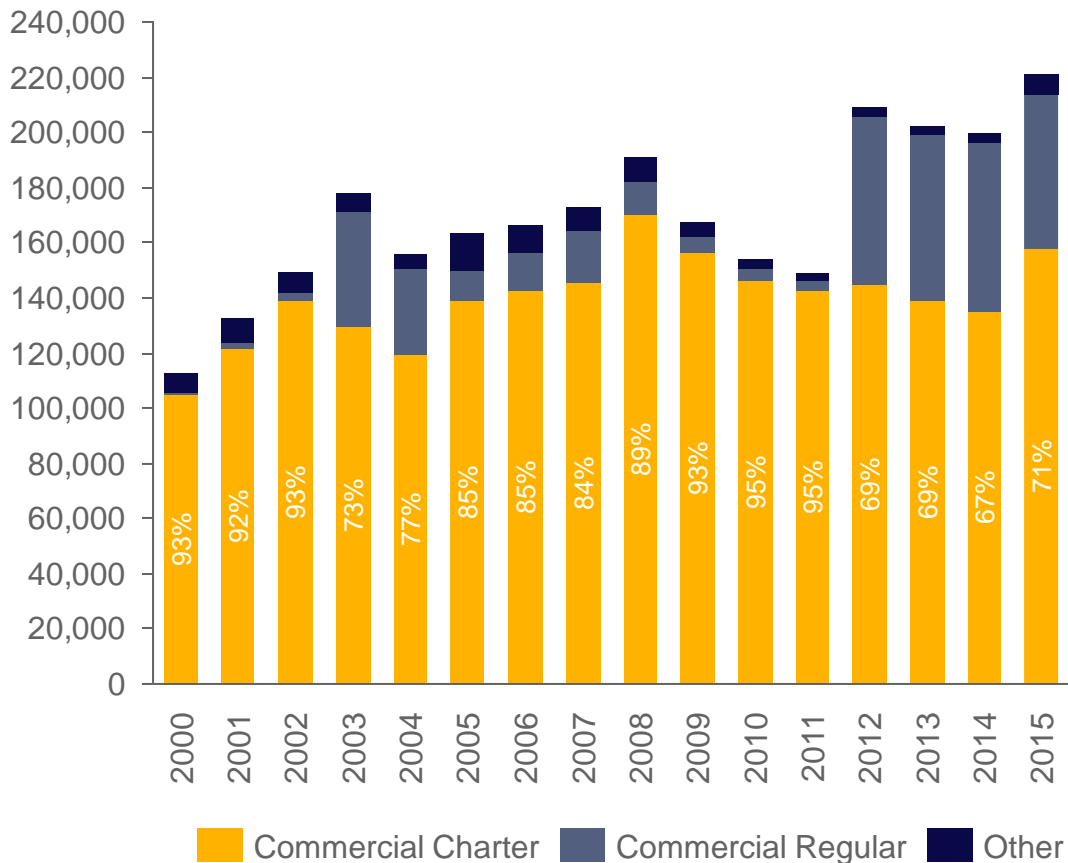
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3. Strategy and forecast

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:

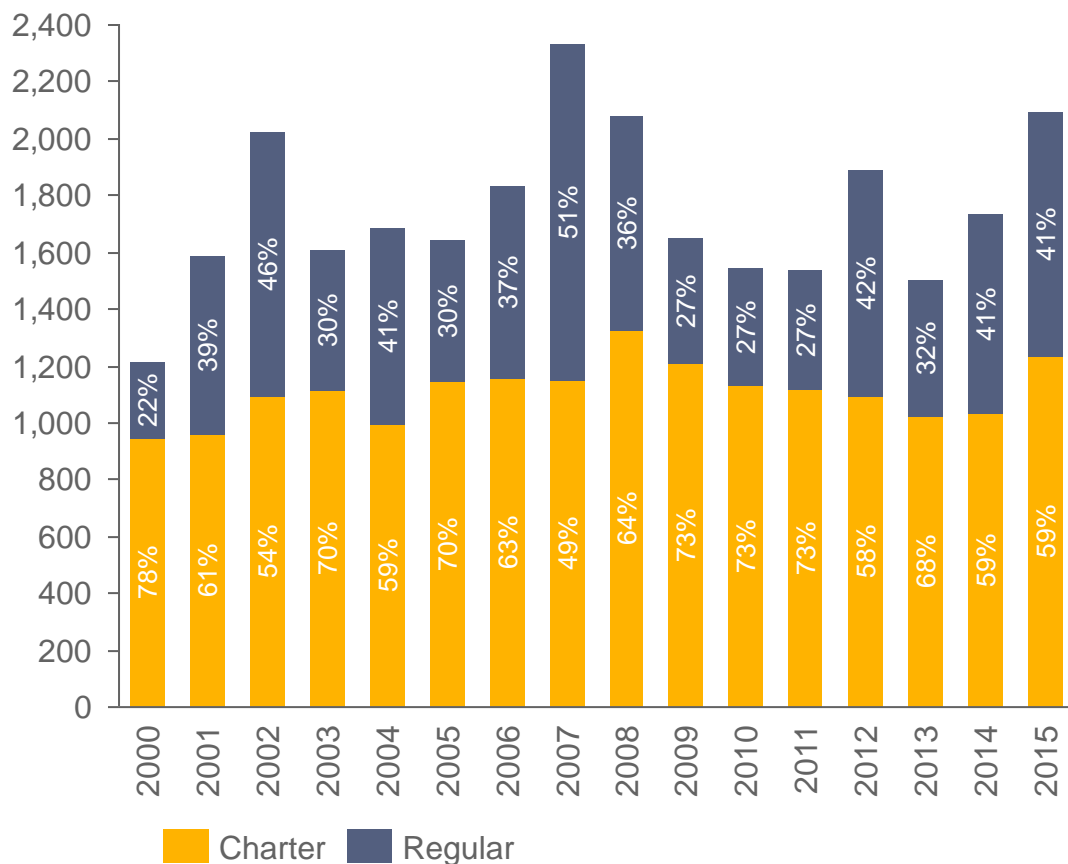
- Charter flights
 - Stable market since the early 2000s at GRQ airport with limited growth
 - Potential risks due to new strategy of main customer Transavia
 - Shrinking overall touroperator activity at European level
- Regular flights
 - Several routes launched successfully in the past
 - Few routes 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:

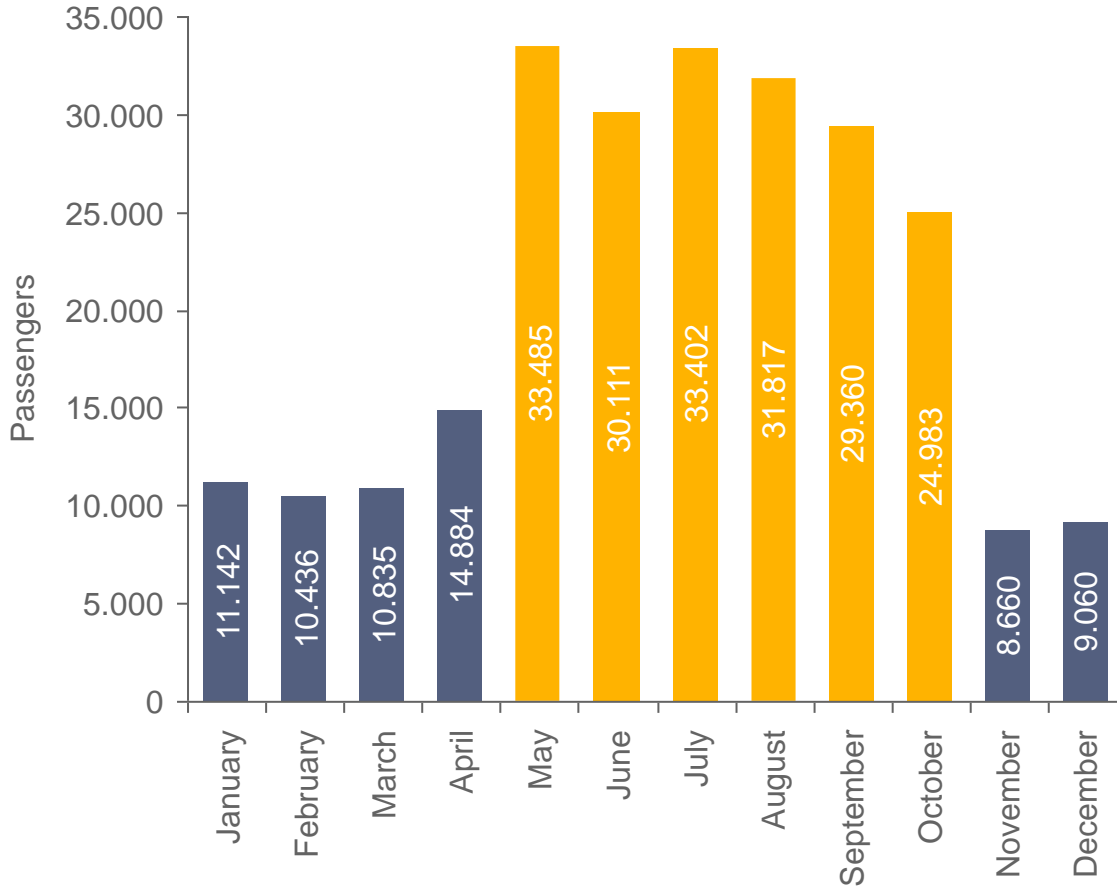
- Charter flights
 - The volume of operations has been relatively constant the last 10 years
 - The majority of charter flights use Boeing 737-800s with an average capacity of 184 seats
- Regular flights
 - The preferred equipment for the regular flights varied according to the airline serving the route
 - 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



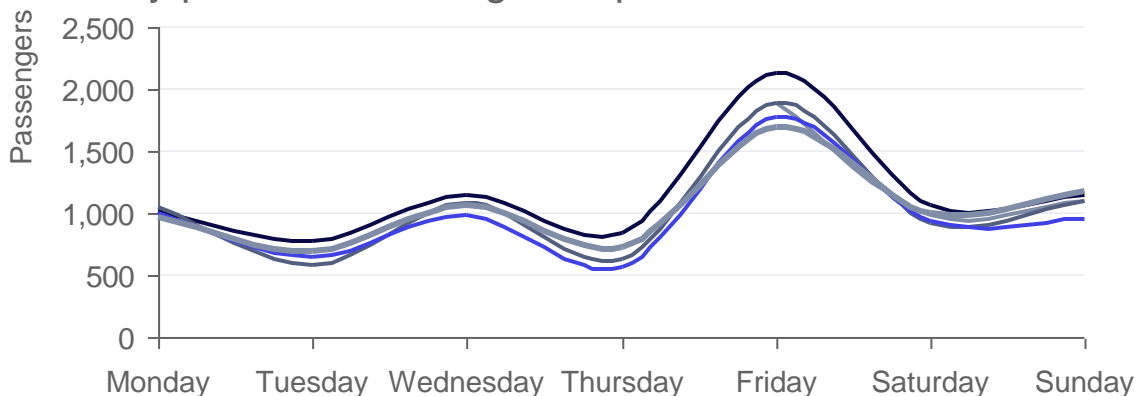
2015	Annual Passengers	Percentage of annual traffic
January	11,142	4%
February	10,436	4%
March	10,835	4%
April	14,884	6%
May	33,485	13%
June	30,111	12%
July	33,402	13%
August	31,817	13%
September	29,360	12%
October	24,983	10%
November	8,660	3%
December	9,060	4%

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

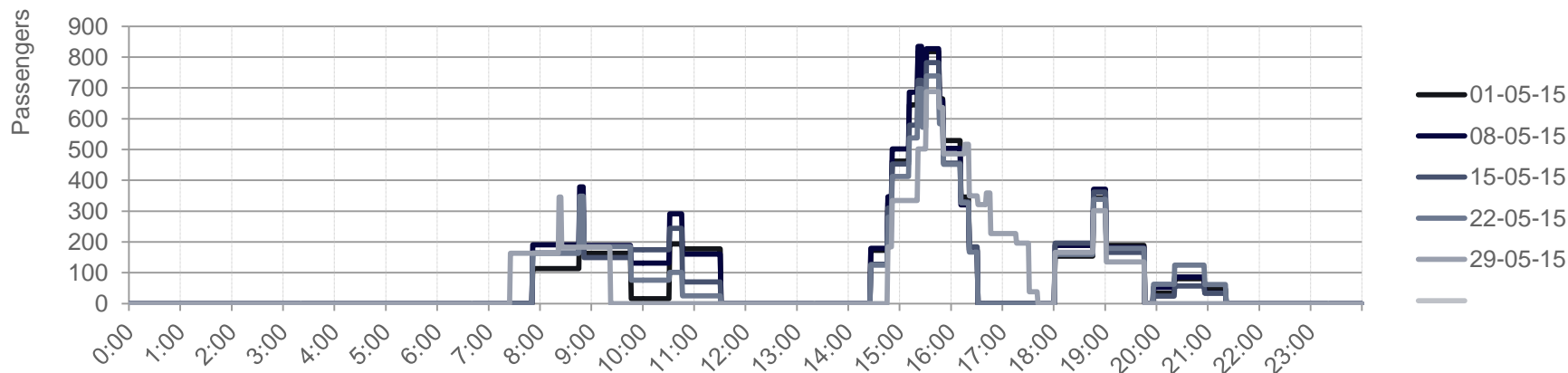
Weekly and daily seasonality pattern at Groningen (data for 2015)

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

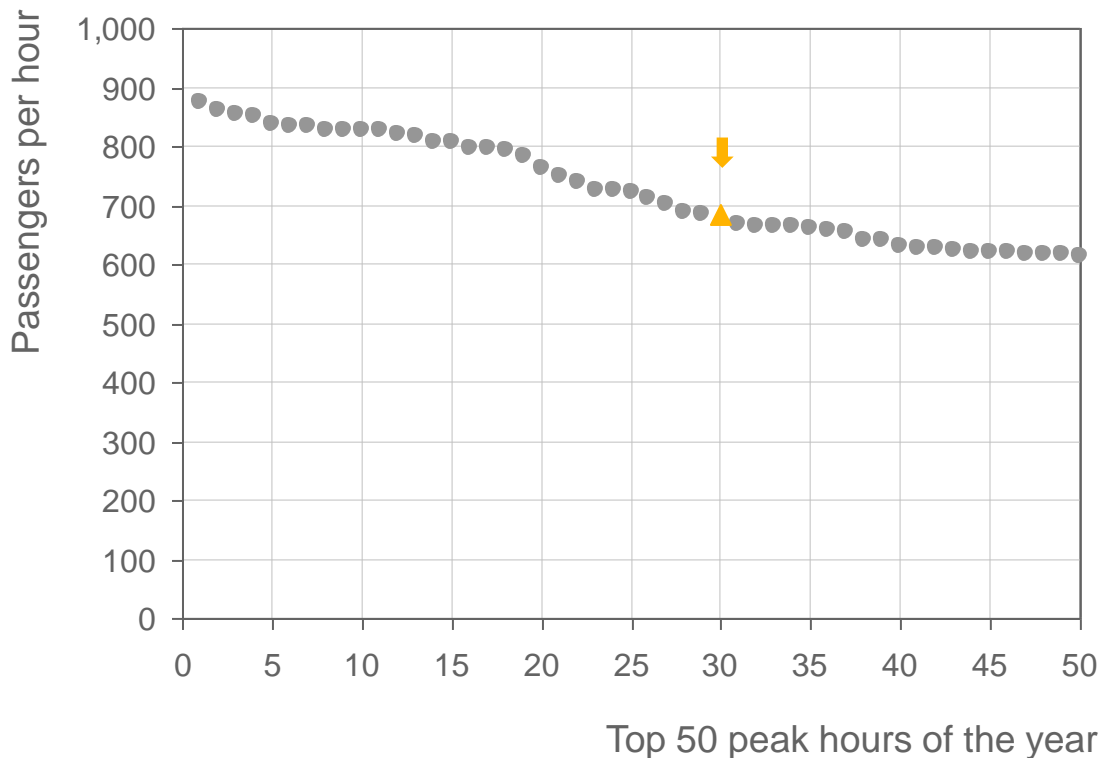
Daily profile at Groningen airport



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

Peak volumes at Groningen (data for 2015)

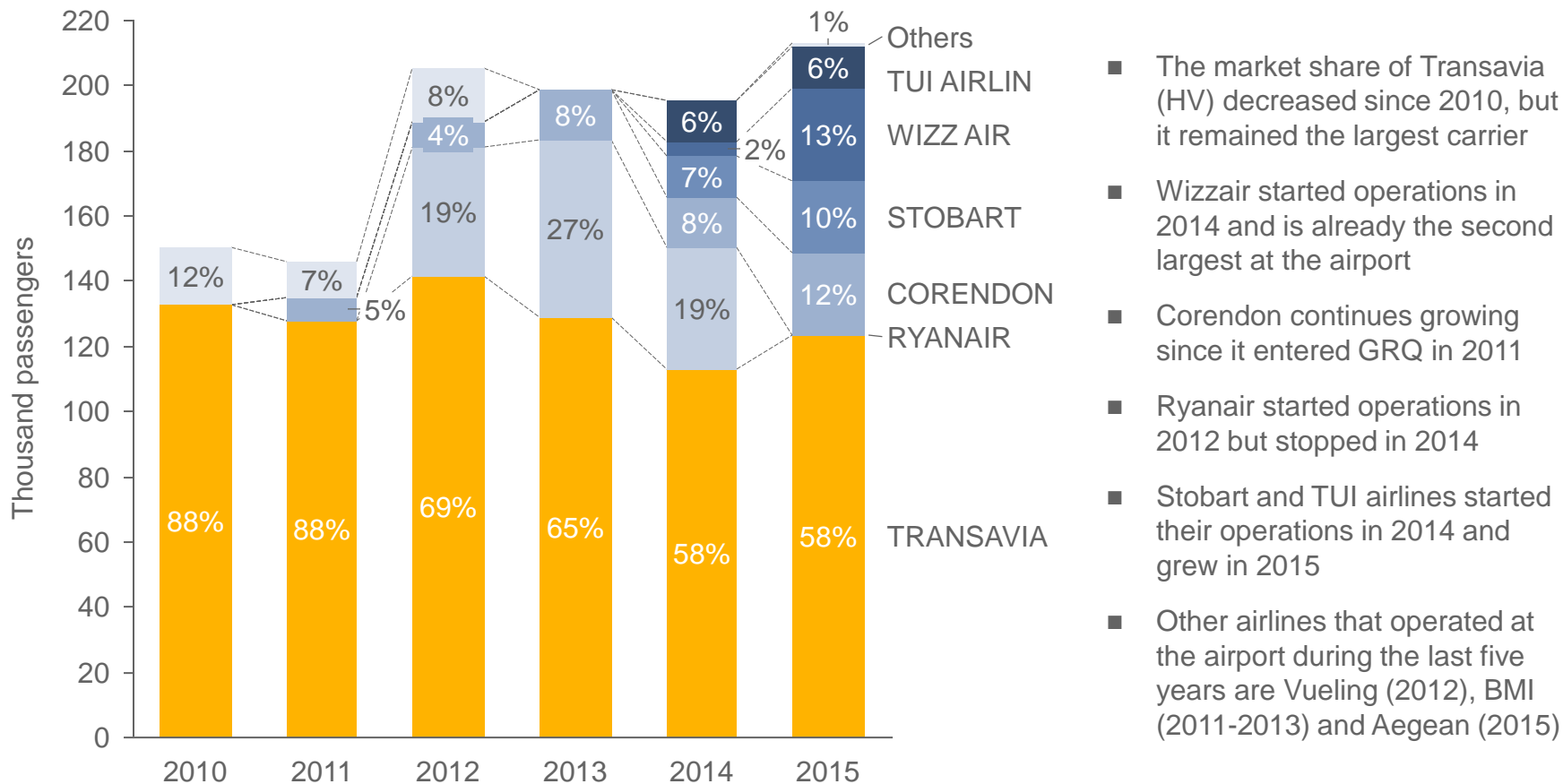
- The airport facilities should be designed to cope with the majority of the annual peaks at the desired level of service
- The design hour should be selected to cover the majority of the traffic of the airport which is commonly taken as the 30th peak hour of the year



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

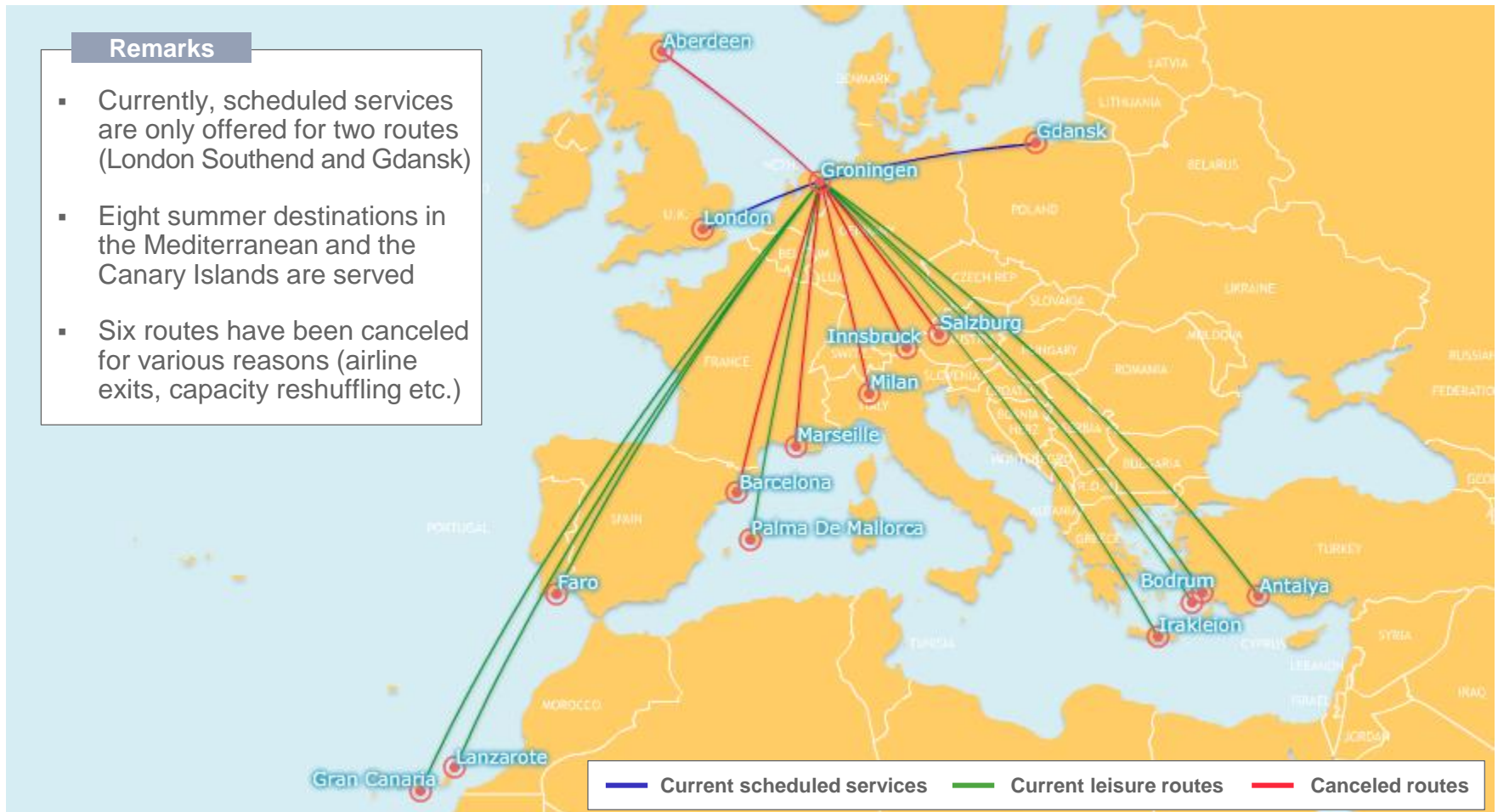
Top airlines by passenger traffic share at Groningen Airport



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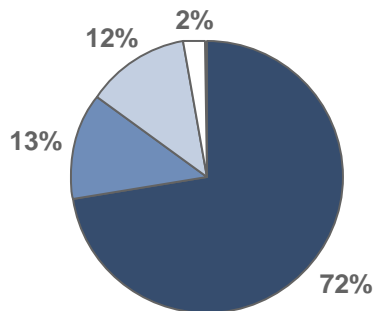
1. Current market environment
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In order to assess the current and potential future traffic out of Groningen, the destinations were clustered according to their main characteristics

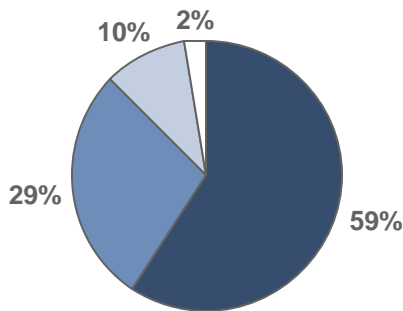
Leisure summer	<ul style="list-style-type: none"> ▪ Destinations with distinct seasonal pattern ▪ Typical summer holiday charter traffic ▪ Mainly operated by tour operators 	Illustrative destinations: Canary Islands, Balearic Islands, Greek Islands and Turkey	
Leisure winter	<ul style="list-style-type: 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

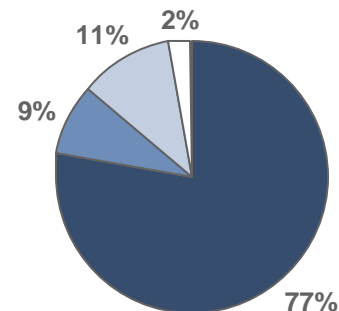
Share of seats



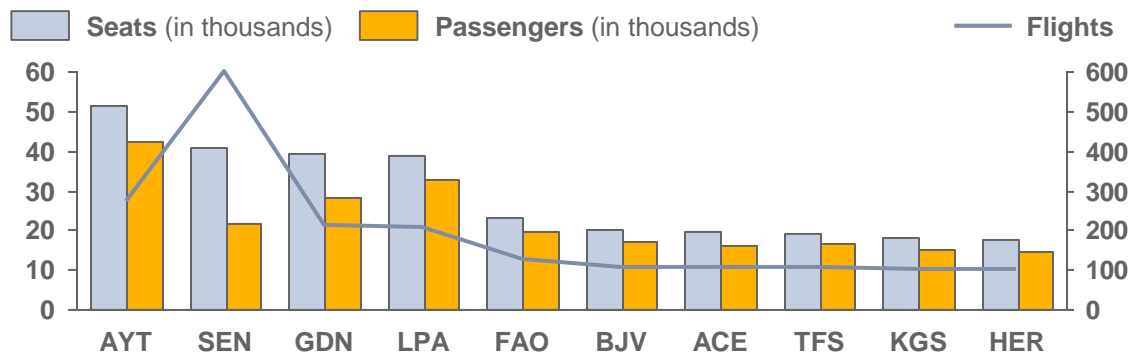
Share of flights



Share of passengers



Top 10 destinations*



* In terms of total number of seats offered

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

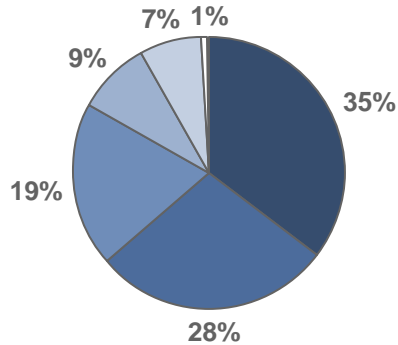
Source: Groningen Airport traffic data, AirportIS

Remarks

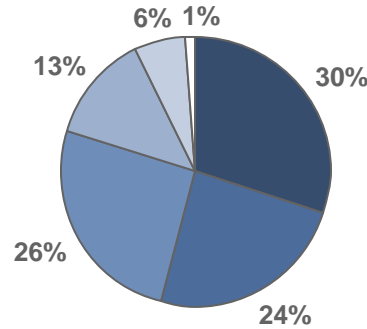
- More than 70% of seats and passengers in the leisure summer sector
- Share of flights larger for city break routes due to higher number of frequencies
- Leisure winter routes almost negligible, ceased in 2016

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

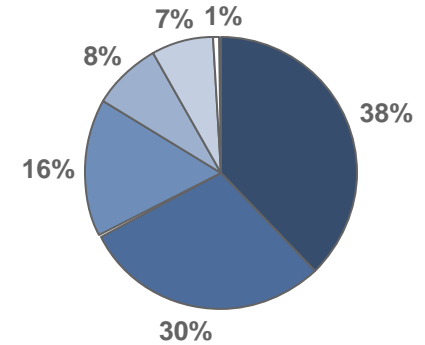
Share of seats



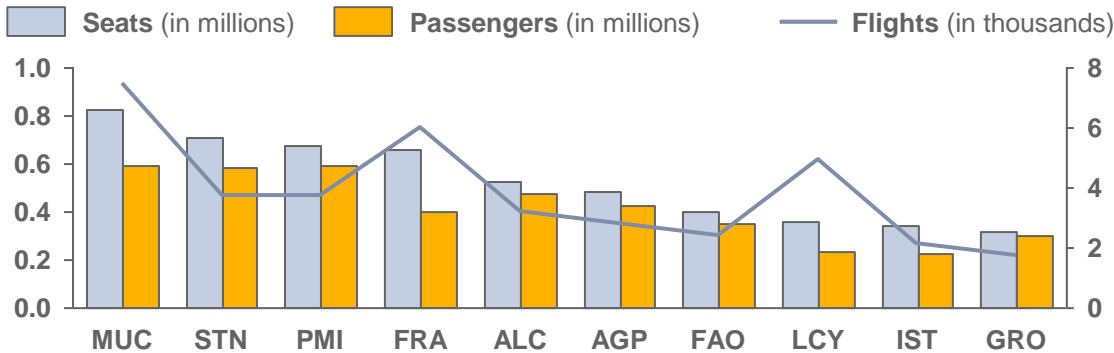
Share of flights



Share of passengers



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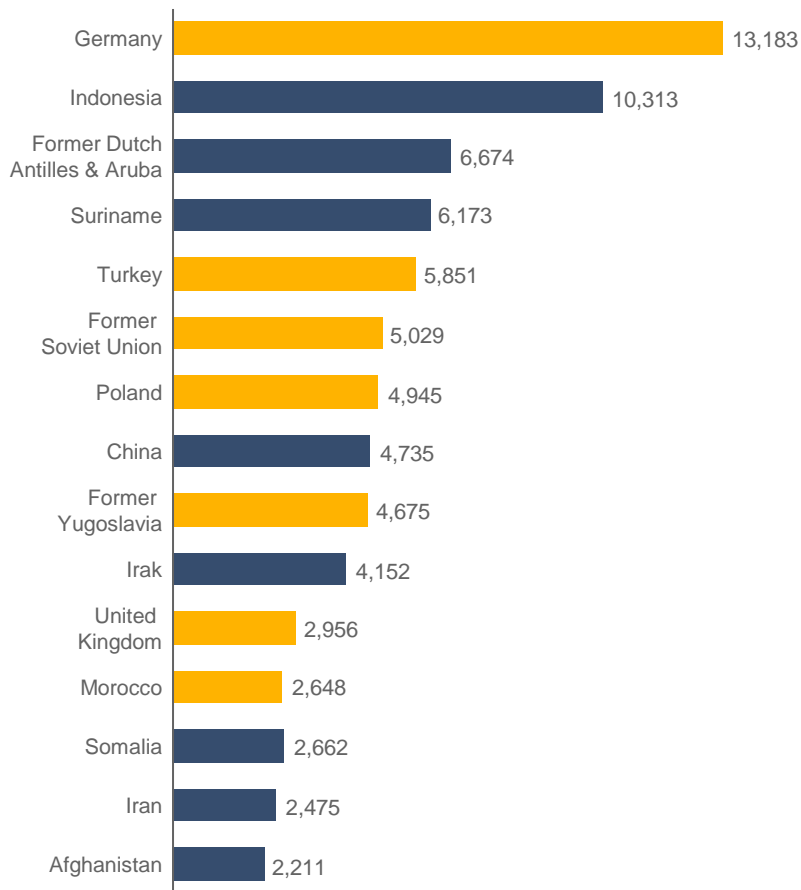
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Ethnic traffic – Almost six percent of the population of GRQ’s catchment area is not of Dutch origin creating potential for ethnic traffic

Non-Dutch population’s origin in GRQ’s catchment area



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 require 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

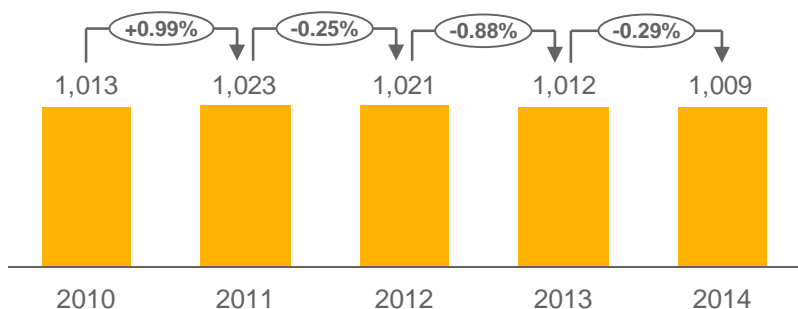
Source: Centraal Bureau voor de Statistiek (CBS)

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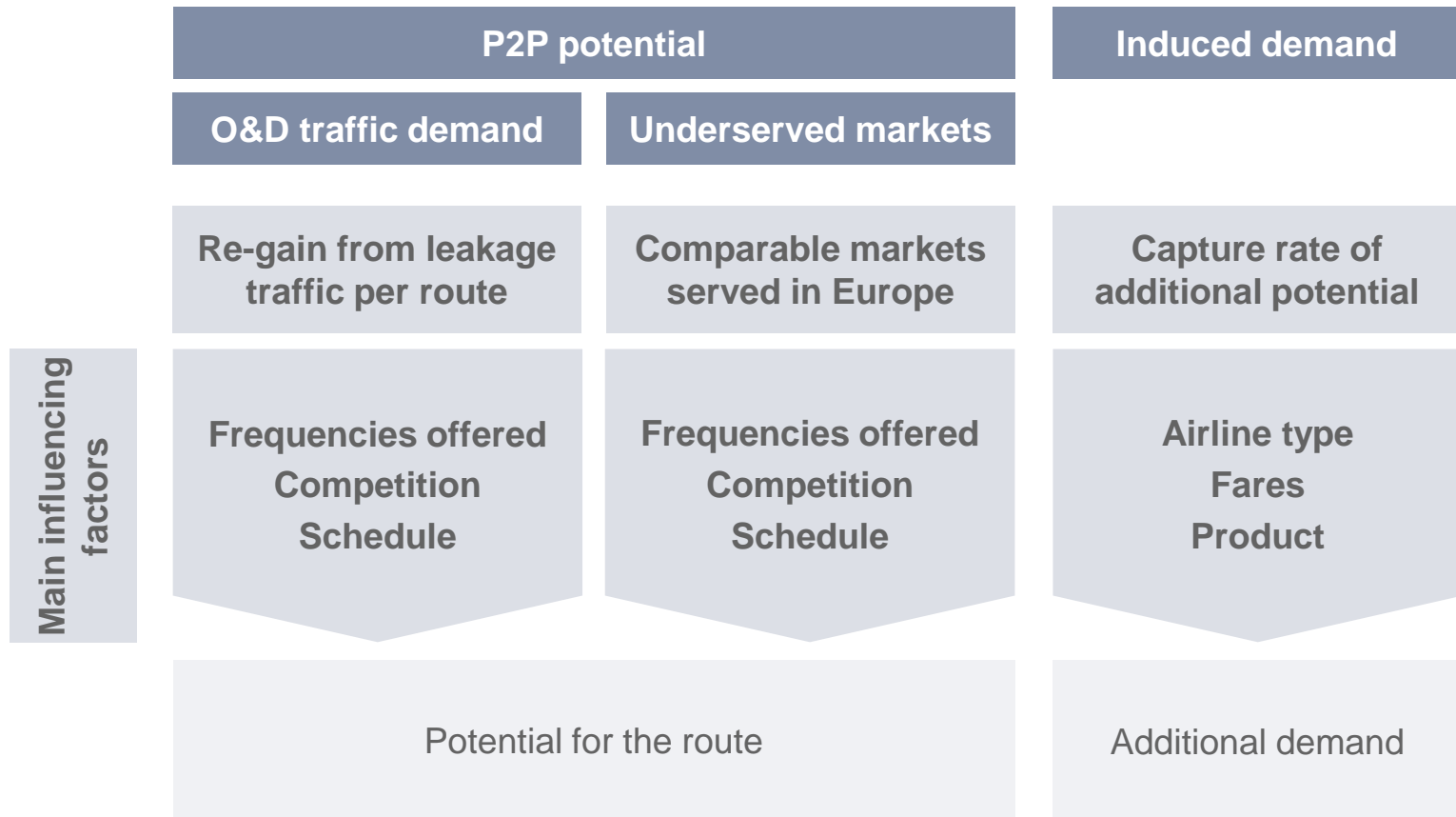
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The P2P volume is estimated based on the re-gain from the leakage and the stimulation rate of the residual potential derived from the benchmark

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



- What is the total theoretical traffic potential per year?
- How much of the potential is already captured?
- What is the leakage to other airports?
- How attractive in relative terms are the competing airports based on market offer and road travel time?
- How is the total leakage traffic distributed to the competing airports?
- What are the estimated O&D market sizes for unserved markets from GRQ?

Yearly traffic potential calculated based on regional GDP analysis

Difference between total potential and already flown traffic from GRQ

QSI factors based on number of destinations + flights and road travel time

Percentage distribution of leakage traffic per competing airport

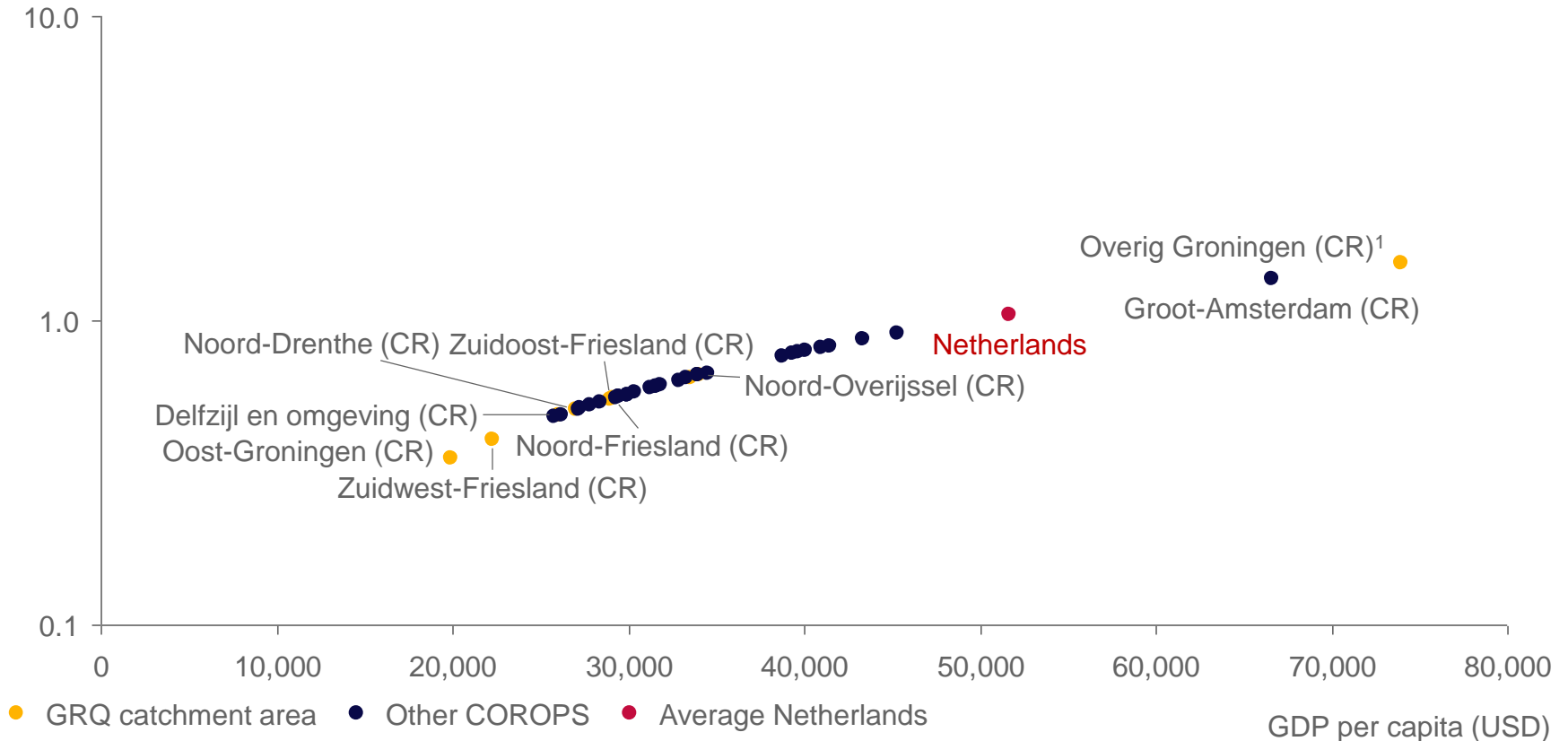
Aggregated O&D traffic share per competing airport in relation to total O&D traffic

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

Trip per capita (roundtrip traffic / population)



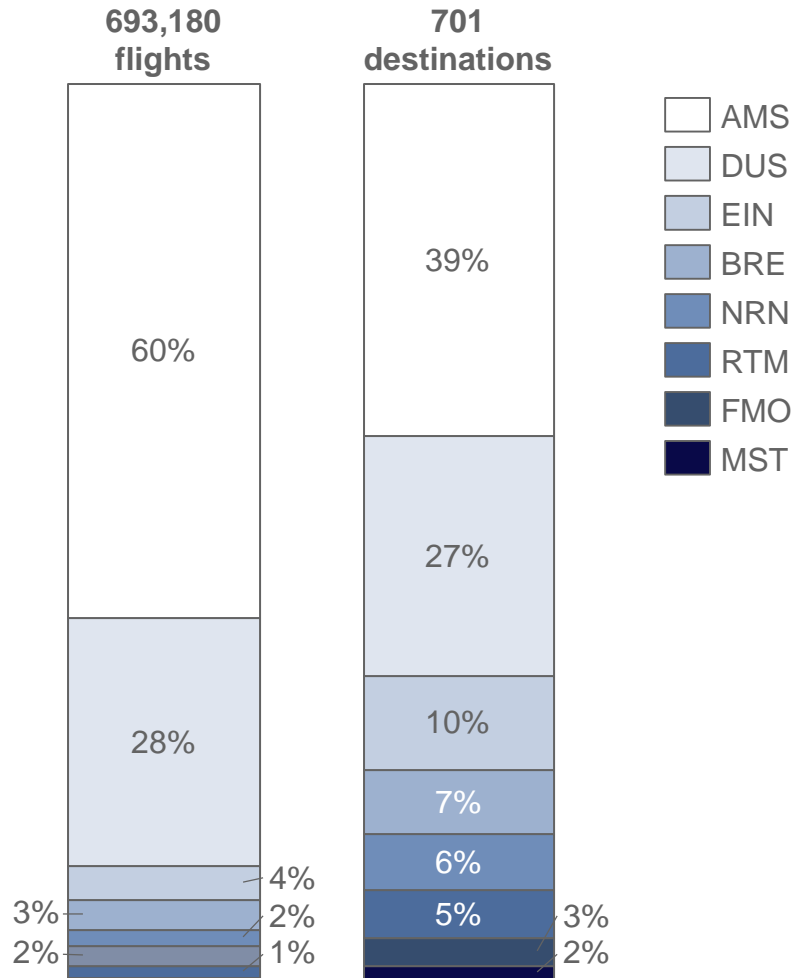
Note 1: In the immediate vicinity of Groningen Airport Eelde, GDP per capita is very high from the official statistics as it includes the mining sector, nevertheless without this sector the GDP per capita is close to the average of the Netherlands

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

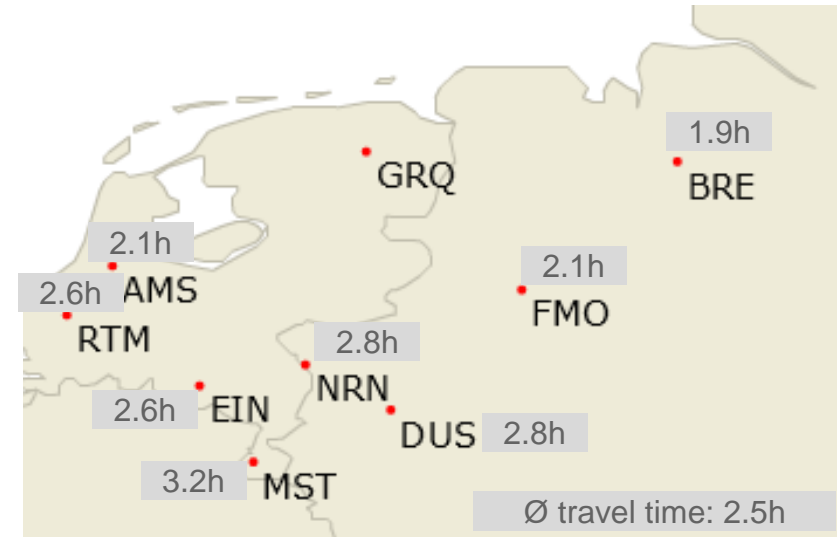
Source: Lufthansa Consulting research

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

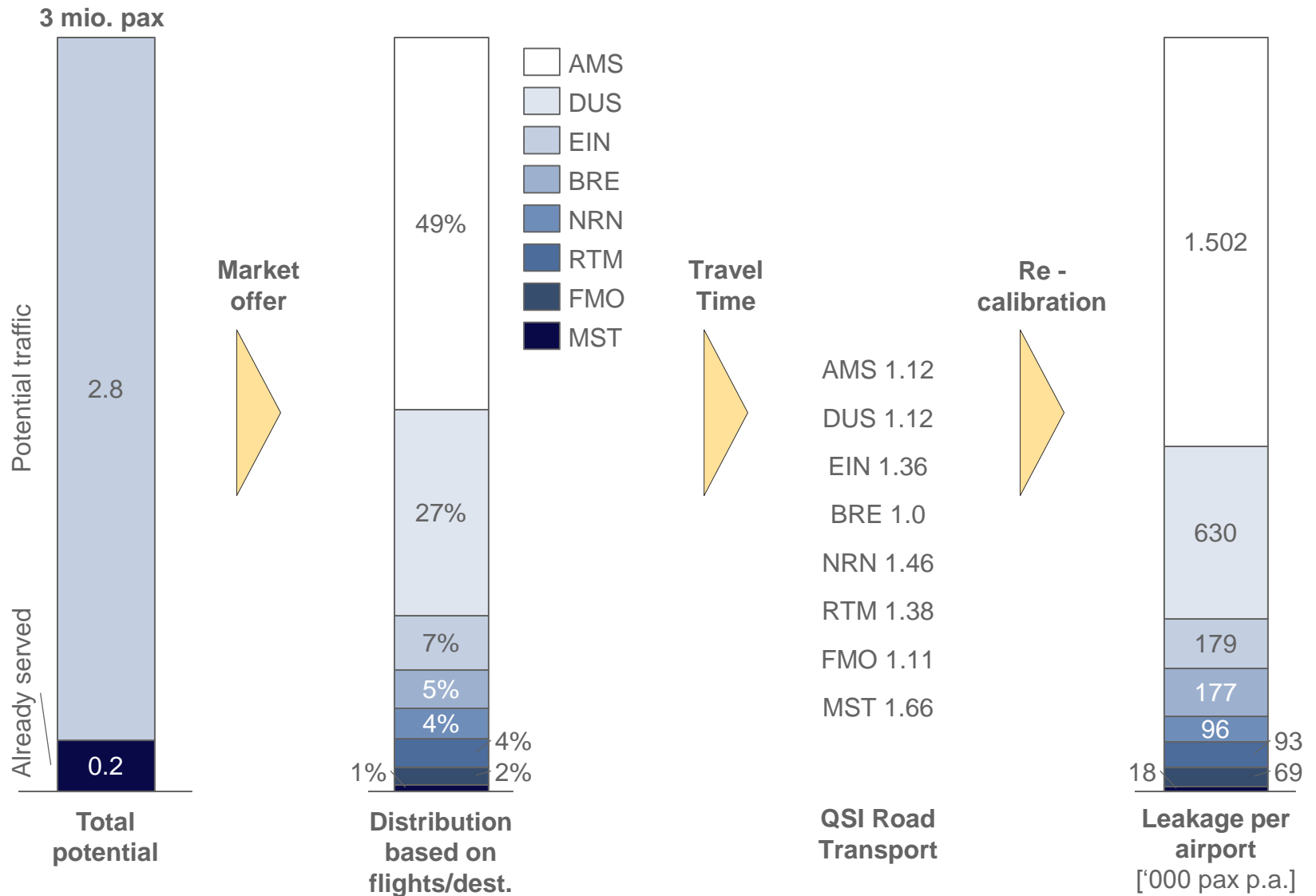


Determination of a relative QSI factor for each airport based on road transport

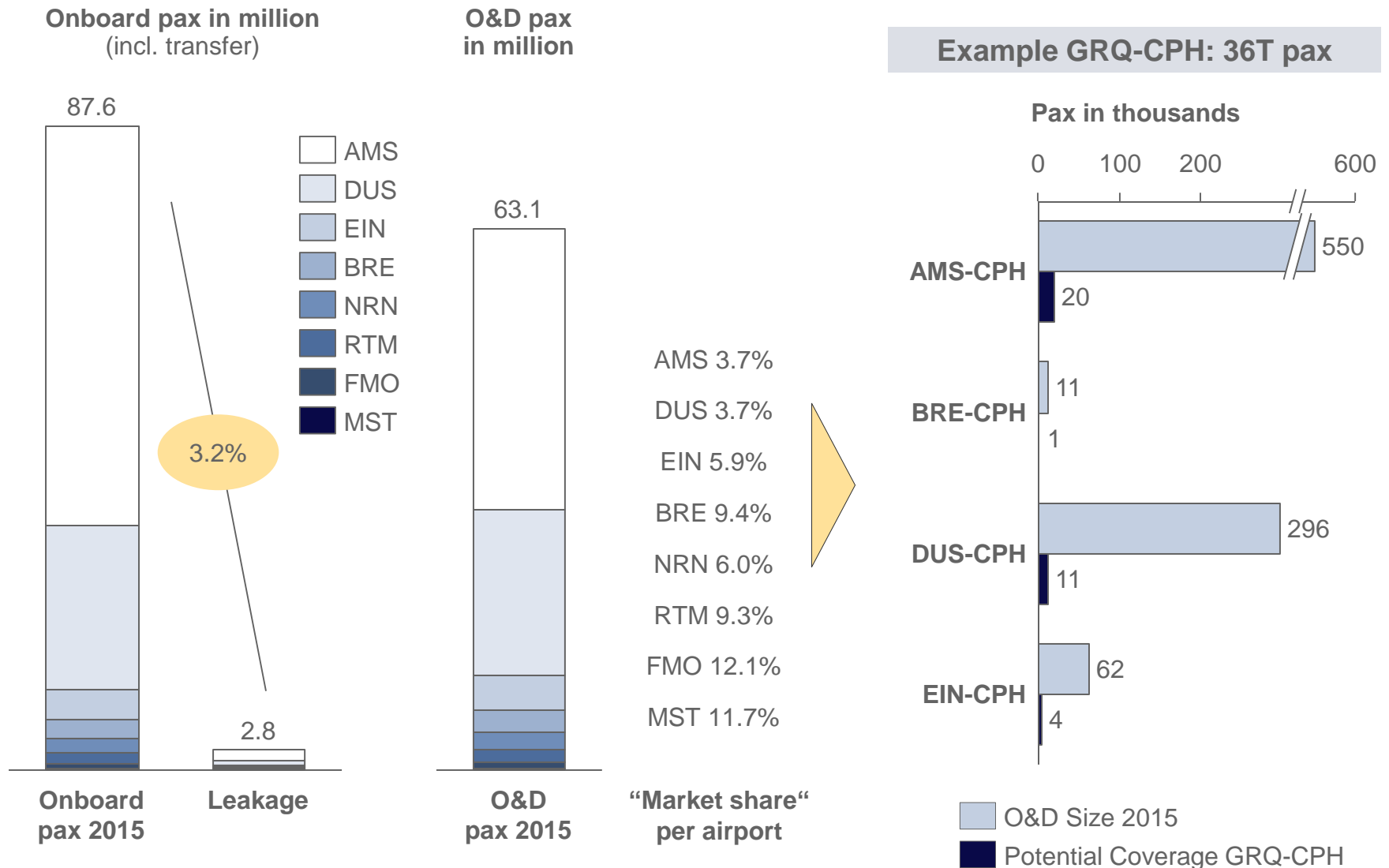
Dest	AMS	DUS	EIN	BRE	NRN	RTM	FMO	MST
QSI Score	1.12	1.47	1.36	1.00	1.46	1.38	1.11	1.66

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

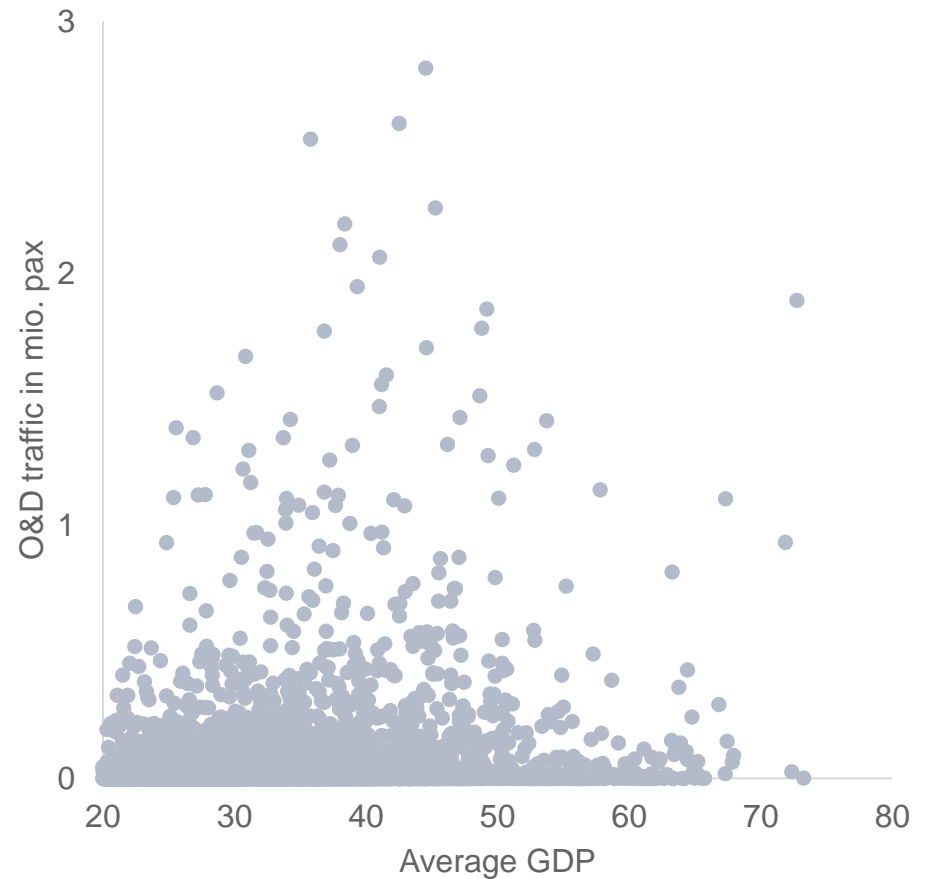
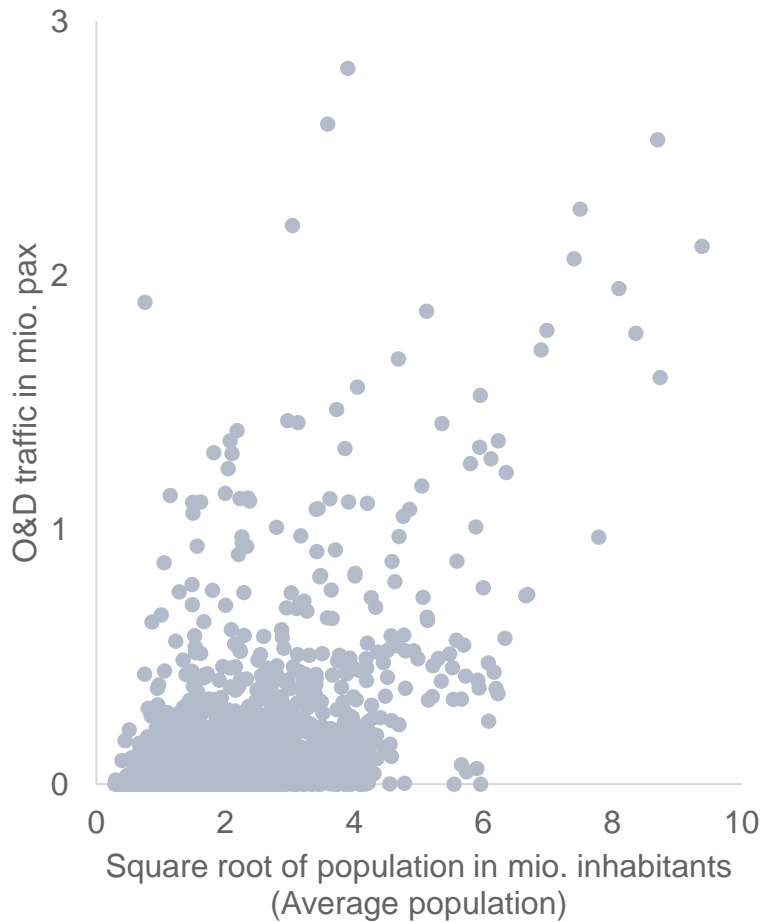


Finally, in order to determine the O&D sizes per destination for GRQ, the leakage traffic distribution is set in relation to the total existing traffic



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)

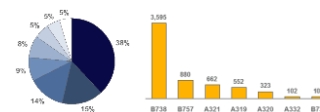
- Aberdeen, Scotland (ABZ)
- Alicante, Spain (ALC)
- Agadir, Morocco (AGA)
- Antalya, Turkey (AYT)
- Athens, Greece (ATH)
- Barcelona, Spain (BCN)
- Bari, Italy (BRI)
- Basel, Switzerland (BSL)
- Belgrade, Serbia (BEG)
- Bergamo, Italy (BGY)
- Berlin, Germany (SXF, TXL)
- Billund, Denmark (BLL)
- Birmingham, 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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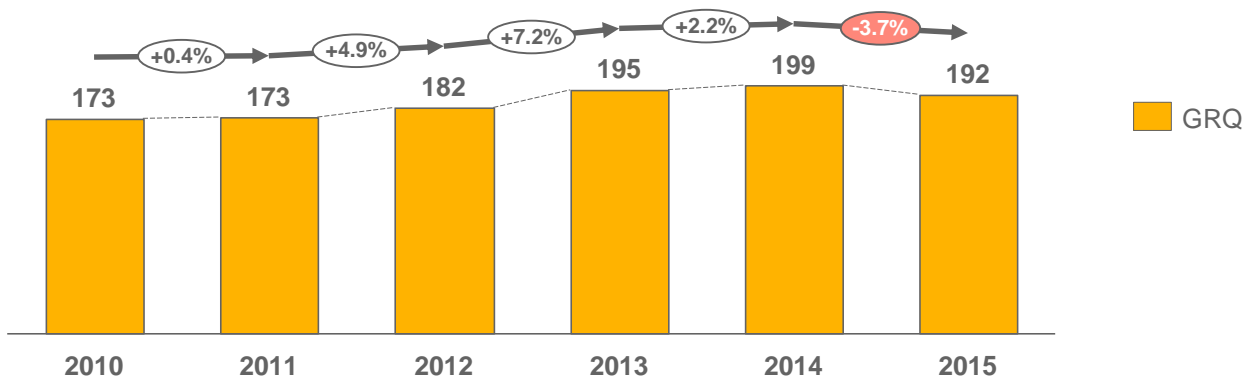
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 - 1. Leisure summer cluster**
 2. Leisure winter cluster
 3. City break cluster
 4. Business cluster
 5. Hub feeder
 6. Other destinations

3. Strategy and forecast

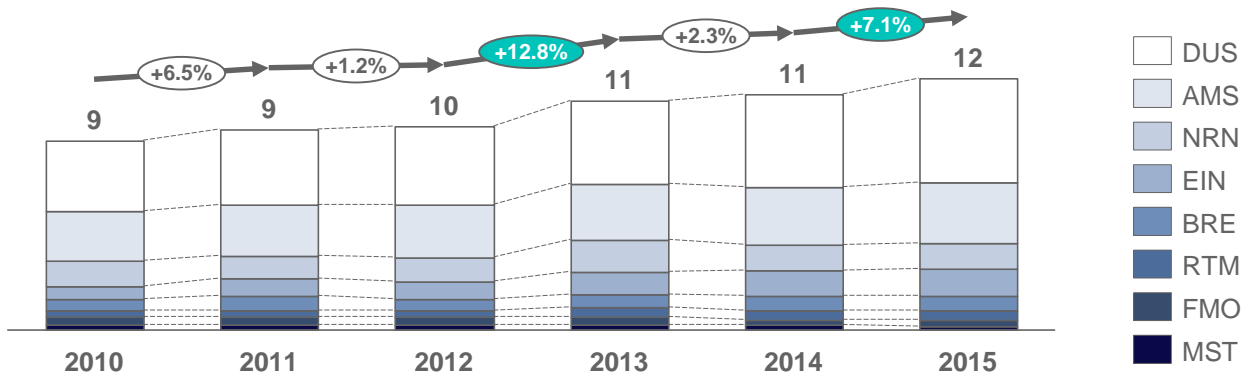
After positive years, volumes on the leisure summer routes decreased in Groningen in 2015, while competition has constantly been raising demand

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


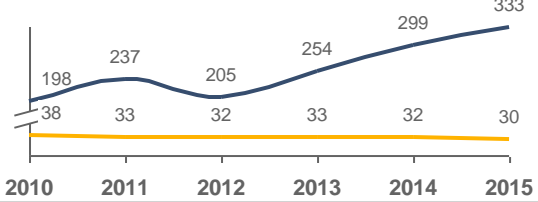


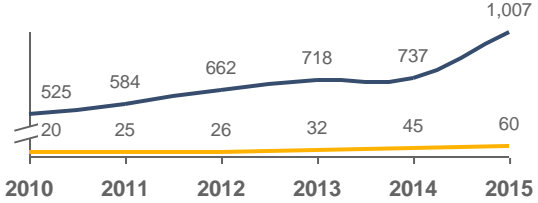


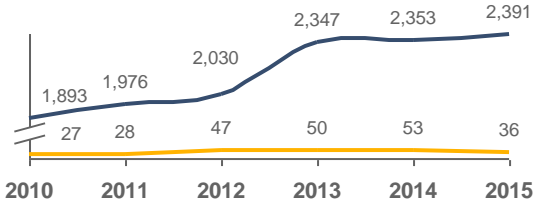


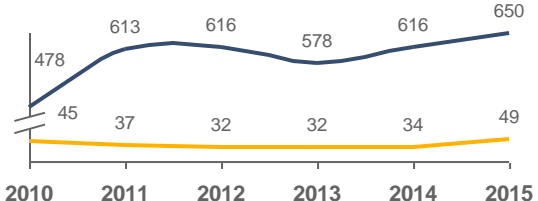

- Overall positive trend of passenger number in Groningen, up by ca. 10% from 2010 to 2015
- Slight decrease in 2015 potentially due to re-shuffling of capacity
- Volume growth for the competition primarily driven by Dusseldorf and Amsterdam
- Stable market segment, no exits of competing airports in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


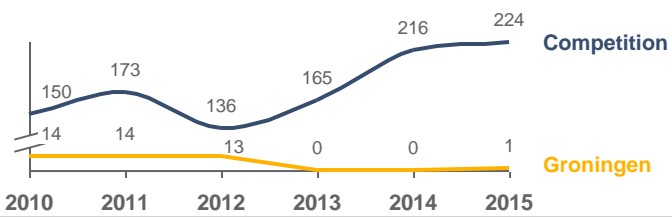

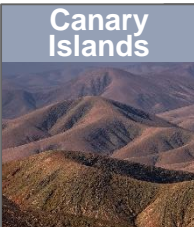
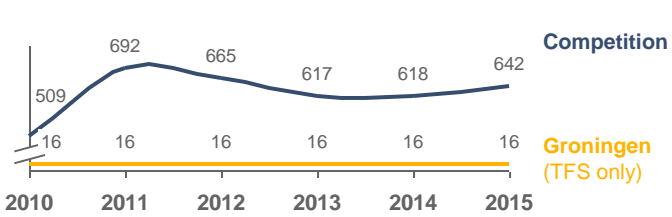


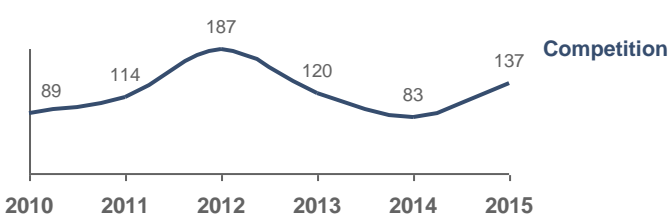


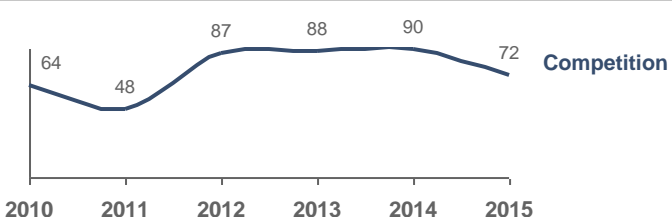

Leisure summer routes (served from Groningen in 2015) – Growth options

	Passenger development (in thousands)	Recommendation																					
 <p>Greek Islands</p>	 <table border="1"> <caption>Passenger development (in thousands) - Greek Islands</caption> <thead> <tr> <th>Year</th> <th>Competition</th> <th>Groningen</th> </tr> </thead> <tbody> <tr><td>2010</td><td>198</td><td>38</td></tr> <tr><td>2011</td><td>237</td><td>33</td></tr> <tr><td>2012</td><td>205</td><td>32</td></tr> <tr><td>2013</td><td>254</td><td>33</td></tr> <tr><td>2014</td><td>299</td><td>32</td></tr> <tr><td>2015</td><td>333</td><td>30</td></tr> </tbody> </table>	Year	Competition	Groningen	2010	198	38	2011	237	33	2012	205	32	2013	254	33	2014	299	32	2015	333	30	<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 
Year	Competition	Groningen																					
2010	198	38																					
2011	237	33																					
2012	205	32																					
2013	254	33																					
2014	299	32																					
2015	333	30																					
 <p>Turkey</p>	 <table border="1"> <caption>Passenger development (in thousands) - Turkey</caption> <thead> <tr> <th>Year</th> <th>Competition</th> <th>Groningen</th> </tr> </thead> <tbody> <tr><td>2010</td><td>525</td><td>20</td></tr> <tr><td>2011</td><td>584</td><td>25</td></tr> <tr><td>2012</td><td>662</td><td>26</td></tr> <tr><td>2013</td><td>718</td><td>32</td></tr> <tr><td>2014</td><td>737</td><td>45</td></tr> <tr><td>2015</td><td>1,007</td><td>60</td></tr> </tbody> </table>	Year	Competition	Groningen	2010	525	20	2011	584	25	2012	662	26	2013	718	32	2014	737	45	2015	1,007	60	<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 
Year	Competition	Groningen																					
2010	525	20																					
2011	584	25																					
2012	662	26																					
2013	718	32																					
2014	737	45																					
2015	1,007	60																					
 <p>Spain and Portugal</p>	 <table border="1"> <caption>Passenger development (in thousands) - Spain and Portugal</caption> <thead> <tr> <th>Year</th> <th>Competition</th> <th>Groningen</th> </tr> </thead> <tbody> <tr><td>2010</td><td>1,893</td><td>27</td></tr> <tr><td>2011</td><td>1,976</td><td>28</td></tr> <tr><td>2012</td><td>2,030</td><td>47</td></tr> <tr><td>2013</td><td>2,347</td><td>50</td></tr> <tr><td>2014</td><td>2,353</td><td>53</td></tr> <tr><td>2015</td><td>2,391</td><td>36</td></tr> </tbody> </table>	Year	Competition	Groningen	2010	1,893	27	2011	1,976	28	2012	2,030	47	2013	2,347	50	2014	2,353	53	2015	2,391	36	<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 
Year	Competition	Groningen																					
2010	1,893	27																					
2011	1,976	28																					
2012	2,030	47																					
2013	2,347	50																					
2014	2,353	53																					
2015	2,391	36																					
 <p>Canary Islands</p>	 <table border="1"> <caption>Passenger development (in thousands) - Canary Islands</caption> <thead> <tr> <th>Year</th> <th>Competition</th> <th>Groningen</th> </tr> </thead> <tbody> <tr><td>2010</td><td>478</td><td>45</td></tr> <tr><td>2011</td><td>613</td><td>37</td></tr> <tr><td>2012</td><td>616</td><td>32</td></tr> <tr><td>2013</td><td>578</td><td>32</td></tr> <tr><td>2014</td><td>616</td><td>34</td></tr> <tr><td>2015</td><td>650</td><td>49</td></tr> </tbody> </table>	Year	Competition	Groningen	2010	478	45	2011	613	37	2012	616	32	2013	578	32	2014	616	34	2015	650	49	<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 
Year	Competition	Groningen																					
2010	478	45																					
2011	613	37																					
2012	616	32																					
2013	578	32																					
2014	616	34																					
2015	650	49																					

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


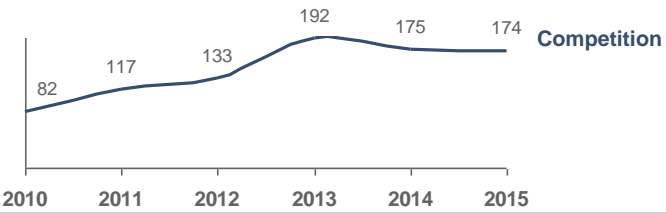


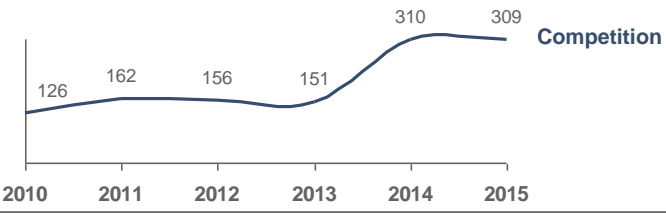


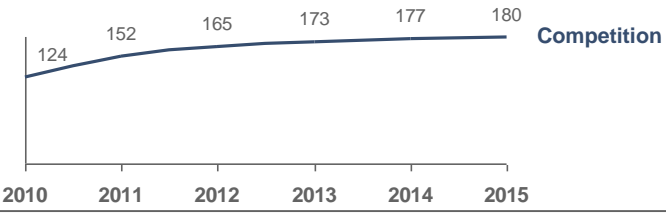


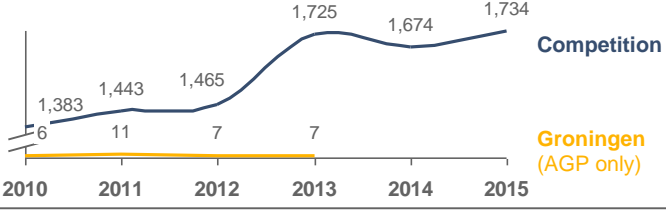

Leisure summer routes (partly served from Groningen in 2015) – Growth options

	Passenger development (in thousands)	Recommendation
 <p>Greek Islands</p>	 <p>Competition</p> <p>Groningen</p>	<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> 
 <p>Canary Islands</p>	 <p>Competition</p> <p>Groningen (TFS only)</p>	<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> 
 <p>Egypt</p>	 <p>Competition</p>	<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> 
 <p>Tunisia</p>	 <p>Competition</p>	<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> 

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)

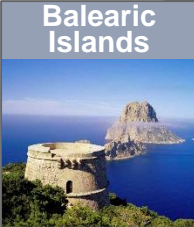
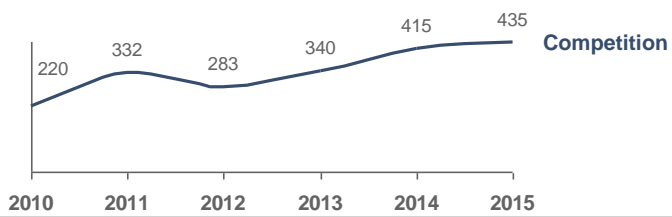


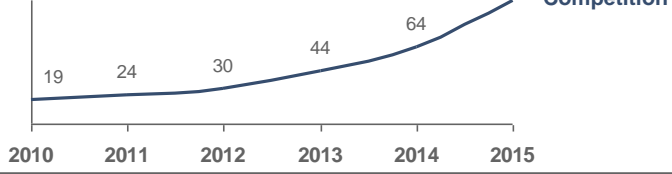

Leisure summer routes (not served from Groningen in 2015) – Growth options

	Passenger development (in thousands)	Recommendation
Morocco 		<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> 
Italy 		<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> 
Malta 		<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> 
Spain 		<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> 

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

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

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

	Passenger development (in thousands)	Recommendation														
 <p>Balearic Islands</p>	 <table border="1"> <caption>Passenger development (in thousands) - Balearic Islands</caption> <thead> <tr> <th>Year</th> <th>Passenger Volume (thousands)</th> </tr> </thead> <tbody> <tr> <td>2010</td> <td>220</td> </tr> <tr> <td>2011</td> <td>332</td> </tr> <tr> <td>2012</td> <td>283</td> </tr> <tr> <td>2013</td> <td>340</td> </tr> <tr> <td>2014</td> <td>415</td> </tr> <tr> <td>2015</td> <td>435</td> </tr> </tbody> </table>	Year	Passenger Volume (thousands)	2010	220	2011	332	2012	283	2013	340	2014	415	2015	435	<ul style="list-style-type: none"> ▪ Ibiza (IBZ) – launch low cost operations <p>Passenger volume doubled over the last six years Fragmented market, high number of airlines competing Diverse travel motives (weekend getaway, summer holiday)</p> 
Year	Passenger Volume (thousands)															
2010	220															
2011	332															
2012	283															
2013	340															
2014	415															
2015	435															
 <p>Croatia</p>	 <table border="1"> <caption>Passenger development (in thousands) - Croatia</caption> <thead> <tr> <th>Year</th> <th>Passenger Volume (thousands)</th> </tr> </thead> <tbody> <tr> <td>2010</td> <td>19</td> </tr> <tr> <td>2011</td> <td>24</td> </tr> <tr> <td>2012</td> <td>30</td> </tr> <tr> <td>2013</td> <td>44</td> </tr> <tr> <td>2014</td> <td>64</td> </tr> <tr> <td>2015</td> <td>103</td> </tr> </tbody> </table>	Year	Passenger Volume (thousands)	2010	19	2011	24	2012	30	2013	44	2014	64	2015	103	<ul style="list-style-type: none"> ▪ Split (SPU) – launch low cost operations <p>Increase from virtually zero to six-digit passenger number Seasonal flights of easyJet, Transavia and Germanwings Low cost stimulation of the booming tourism region</p> 
Year	Passenger Volume (thousands)															
2010	19															
2011	24															
2012	30															
2013	44															
2014	64															
2015	103															

Conclusion

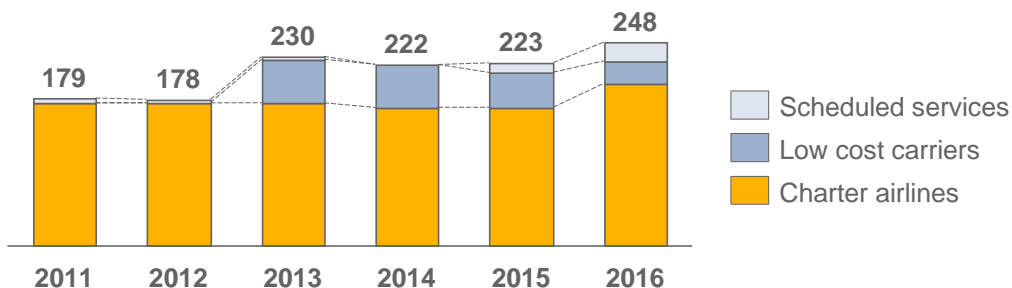
- Number of interesting additional **leisure summer destinations** in Europe and North Africa that are not served from Groningen at the moment, but from some of the competing airports in NL and DE
- Groningen could serve as **base for typical low cost carrier routes**, so that the cities can be served twice or three times per week to capture a relevant market share from the competition
- Even low cost carriers could **cooperate with tour operators**, that would commit to buying a certain share of the seats from the airlines to sell them as part of packaged tours to the destinations

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

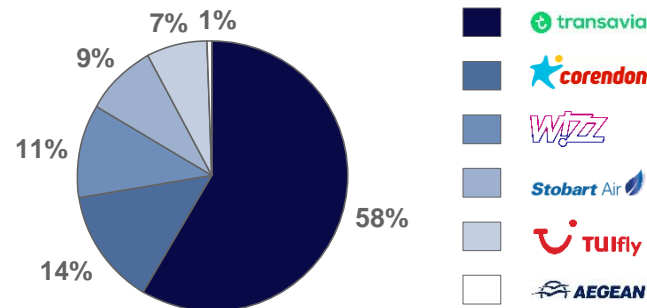
As the strategic departure point of Groningen, a frequent and proactive exchange with the crucial tour operators must continuously be fostered

Development of the charter traffic segment vs. scheduled and low cost services

Passenger development (in thousands)



Passenger shares in 2015



Conclusion

- Holiday traffic offered through traditional tour operators forms the **mainstay** of Groningen airport, with a **passenger share of almost 80%** in 2015
- It is essential to maintain **intense communication** with the most relevant tour operators in the region, in order to **keep the traffic volume at current levels**

Scheduled services: Stobart Air, BMI, Aegean Airlines / **Low cost carriers:** Ryanair, Wizz Air, Vueling / **Charter airlines:** Transavia, TUIfly, Corendon Airlines, Sky Airlines / **Note:** Insignificant passenger volumes ignored

Source: Traffic statistics from GRQ

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1. Current market environment

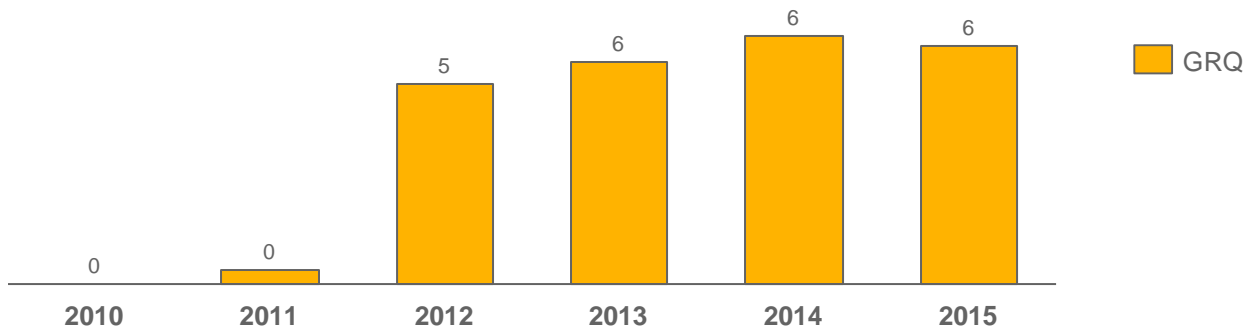
2. Traffic analysis
 1. Current situation
 2. Market clusters
 3. Other market opportunities
 4. Methodology
 - 5. Route analysis**
 1. Leisure summer cluster
 - 2. Leisure winter cluster**
 3. City break cluster
 4. Business cluster
 5. Hub feeder
 6. Other destinations

3. Strategy and forecast

Even though competition has constantly increased traffic volumes leisure winter routes have not succeed in GRQ

Leisure winter routes – Passenger volume development

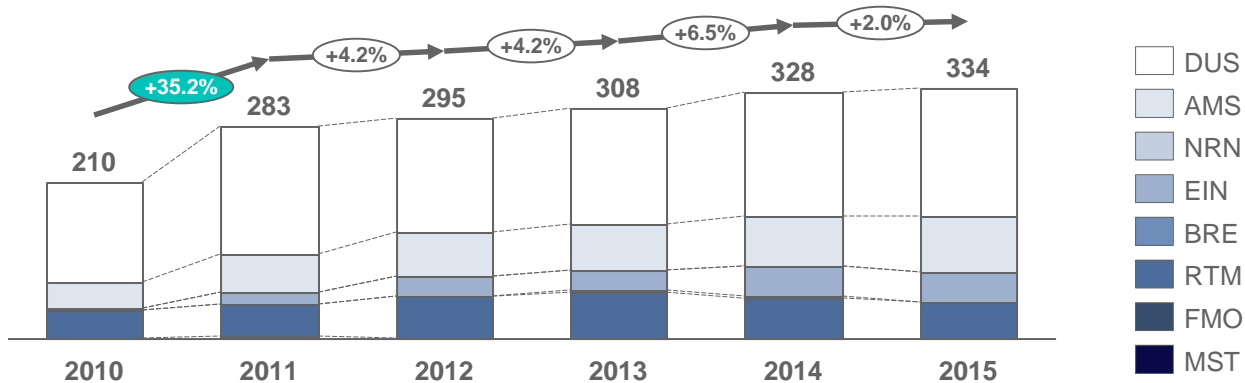
Passenger development (in thousands) from 2010 to 2015 in Groningen



Remarks

- Overall positive trend of passenger number in Groningen until 2014
- Slight decrease in 2015 and cease of operations in 2016
- Overall volume growth for the competition with Amsterdam as the market leader
- Stable market segment, with exits of competing airports during the last years
- Very limited potential**
- Relaunch routes in case spare capacity is available to complement summer seasonal routes**

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


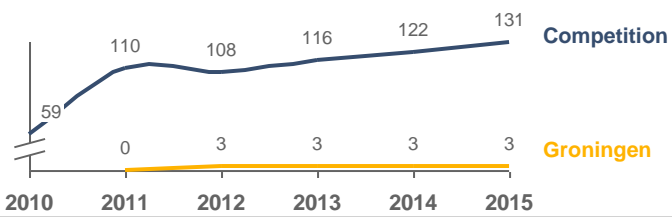


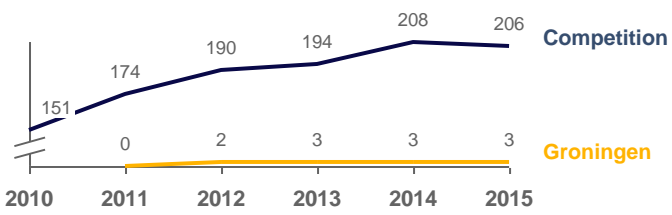



Note: Figures reflect both inbound and outbound passengers to and from GRQ resp. the competing airports

Source: Traffic statistics from GRQ, AirportIS

The routes Innsbruck and Salzburg are still growing markets for the competition but do not represent a clear opportunity for GRQ

Leisure winter routes (served from Groningen between 2010 and 2015) – Opportunistic options

	Passenger development (in thousands)	Recommendations and market potential*																					
Innsbruck 	 <table border="1"> <caption>Innsbruck Passenger Development (in thousands)</caption> <thead> <tr> <th>Year</th> <th>Competition</th> <th>Groningen</th> </tr> </thead> <tbody> <tr><td>2010</td><td>59</td><td>0</td></tr> <tr><td>2011</td><td>110</td><td>3</td></tr> <tr><td>2012</td><td>108</td><td>3</td></tr> <tr><td>2013</td><td>116</td><td>3</td></tr> <tr><td>2014</td><td>122</td><td>3</td></tr> <tr><td>2015</td><td>131</td><td>3</td></tr> </tbody> </table>	Year	Competition	Groningen	2010	59	0	2011	110	3	2012	108	3	2013	116	3	2014	122	3	2015	131	3	<ul style="list-style-type: none"> Innsbruck (INN) – resume if available capacity <p>Stable passenger volume with slight drop in 2015 and cease of operations in 2016 Extreme seasonality effect and competition but consistent growth rates</p> 
Year	Competition	Groningen																					
2010	59	0																					
2011	110	3																					
2012	108	3																					
2013	116	3																					
2014	122	3																					
2015	131	3																					
Salzburg 	 <table border="1"> <caption>Salzburg Passenger Development (in thousands)</caption> <thead> <tr> <th>Year</th> <th>Competition</th> <th>Groningen</th> </tr> </thead> <tbody> <tr><td>2010</td><td>151</td><td>0</td></tr> <tr><td>2011</td><td>174</td><td>2</td></tr> <tr><td>2012</td><td>190</td><td>3</td></tr> <tr><td>2013</td><td>194</td><td>3</td></tr> <tr><td>2014</td><td>208</td><td>3</td></tr> <tr><td>2015</td><td>206</td><td>3</td></tr> </tbody> </table>	Year	Competition	Groningen	2010	151	0	2011	174	2	2012	190	3	2013	194	3	2014	208	3	2015	206	3	<ul style="list-style-type: none"> Salzburg (SZG) – resume if available capacity <p>Stable passenger numbers with marginal decrease in 2015 and cease of operations in 2016 Load factors also enhancing since the inauguration of the route, high seasonality effect</p> 
Year	Competition	Groningen																					
2010	151	0																					
2011	174	2																					
2012	190	3																					
2013	194	3																					
2014	208	3																					
2015	206	3																					

Conclusion

- As winter leisure destinations, Innsbruck and Salzburg operated by Transavia ceased operations in 2016. These routes could be resumed if there is spare capacity to capture the very limited volume of this market from GRQ
- Further winter leisure destinations with proximity to the Alps, such as Basel, Geneva, Graz, Bern and Grenoble were investigated, however, due to low air traffic demand and no clear winter leisure seasonality patterns in those routes, no further potential could be identified in this cluster

* Number of total bi-directional passengers p.a.; source: LH Consulting estimates, AirportIS, GRQ traffic data

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1. Current market environment

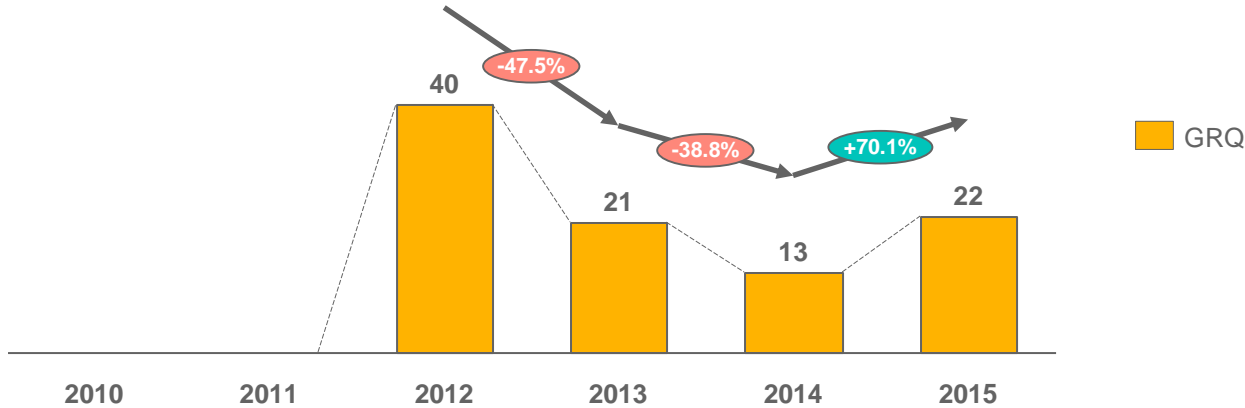
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 - 3. City break cluster**
 4. Business cluster
 5. Hub feeder
 6. Other destinations

3. Strategy and forecast

In contrast to its competitors, Groningen underperforms in the city break segment, highlighting the potential for further growth opportunities

City break routes – Passenger volume development

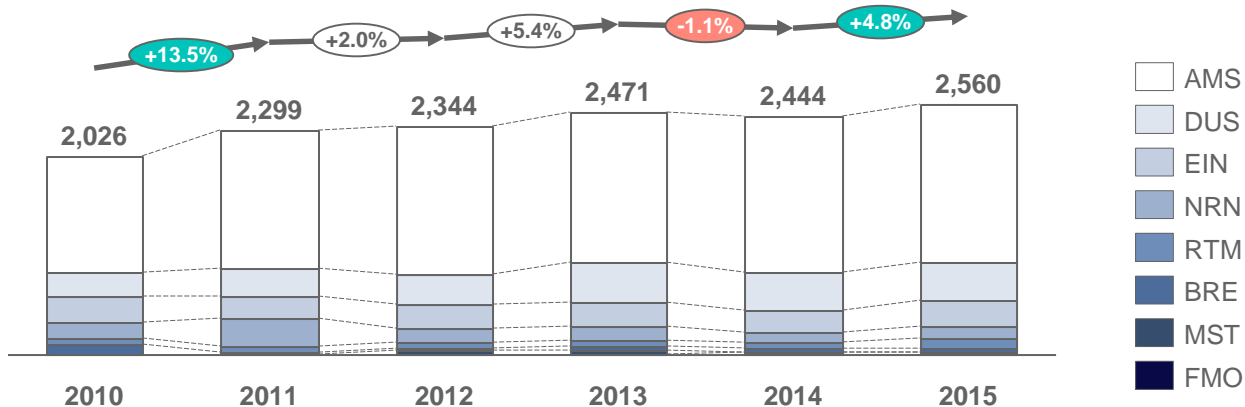
Passenger development (in thousands) from 2010 to 2015 in Groningen



Remarks

- Overall instable traffic trend in Groningen
- Before 2012, no city break destinations were served
- Volume growth for the competition fueled mainly by Amsterdam, Dusseldorf and Rotterdam
- Munster recently entered this market cluster (2015)
- Maastricht exited this type of routes and Bremen limited its expansion in 2015

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




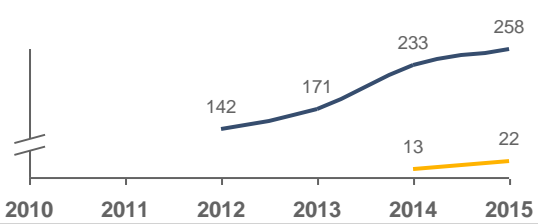


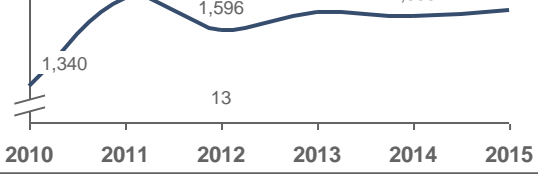


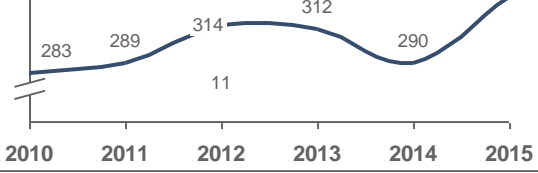


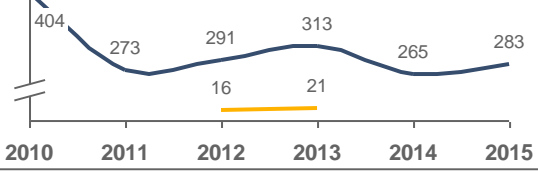

- Potential for further growth for Groningen in this segment**

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

Source: Traffic statistics from GRQ, AirportIS

Groningen has operated in the recent years only four destinations in the city break cluster with three of the routes active for just one or two years


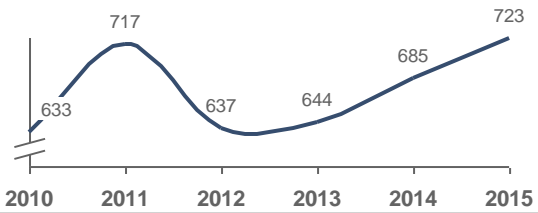


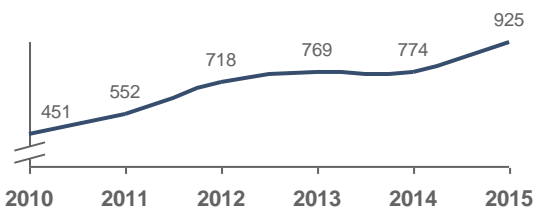


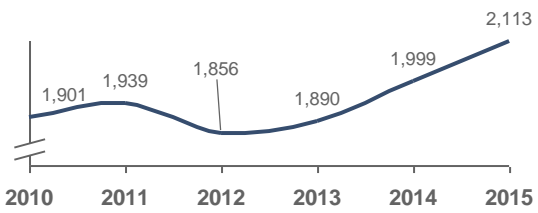


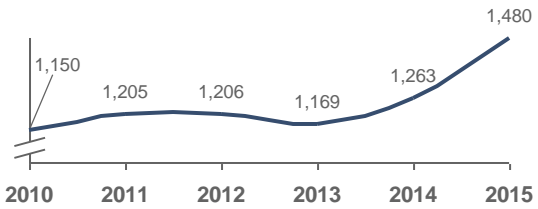

City break routes (served from Groningen between 2010 and 2015) – Growth options

	Passenger development (in thousands)	Recommendations																					
 <p>London Southend</p>	 <table border="1"> <caption>London Southend Passenger Development (in thousands)</caption> <thead> <tr> <th>Year</th> <th>Competition</th> <th>Groningen</th> </tr> </thead> <tbody> <tr> <td>2010</td> <td>-</td> <td>-</td> </tr> <tr> <td>2011</td> <td>-</td> <td>-</td> </tr> <tr> <td>2012</td> <td>142</td> <td>-</td> </tr> <tr> <td>2013</td> <td>171</td> <td>-</td> </tr> <tr> <td>2014</td> <td>233</td> <td>13</td> </tr> <tr> <td>2015</td> <td>258</td> <td>22</td> </tr> </tbody> </table>	Year	Competition	Groningen	2010	-	-	2011	-	-	2012	142	-	2013	171	-	2014	233	13	2015	258	22	<ul style="list-style-type: none"> ▪ London Southend (SEN) – Continuous improvement of the schedule/product <p>Stobart recently launched operations but load factors remain insufficient to sustain profitability. Now working on improving the service to better tackle the business needs. Investigate potential to operate to STN</p> 
Year	Competition	Groningen																					
2010	-	-																					
2011	-	-																					
2012	142	-																					
2013	171	-																					
2014	233	13																					
2015	258	22																					
 <p>Barcelona</p>	 <table border="1"> <caption>Barcelona Passenger Development (in thousands)</caption> <thead> <tr> <th>Year</th> <th>Competition</th> <th>Groningen</th> </tr> </thead> <tbody> <tr> <td>2010</td> <td>1,340</td> <td>-</td> </tr> <tr> <td>2011</td> <td>1,737</td> <td>-</td> </tr> <tr> <td>2012</td> <td>1,596</td> <td>13</td> </tr> <tr> <td>2013</td> <td>1,675</td> <td>-</td> </tr> <tr> <td>2014</td> <td>1,656</td> <td>-</td> </tr> <tr> <td>2015</td> <td>1,687</td> <td>-</td> </tr> </tbody> </table>	Year	Competition	Groningen	2010	1,340	-	2011	1,737	-	2012	1,596	13	2013	1,675	-	2014	1,656	-	2015	1,687	-	<ul style="list-style-type: none"> ▪ Barcelona (BCN) – potential in resuming operations <p>Strong growth recorded in the market and large potential Vueling already operated in 2012 with insufficient loads but in different competition environment</p> 
Year	Competition	Groningen																					
2010	1,340	-																					
2011	1,737	-																					
2012	1,596	13																					
2013	1,675	-																					
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2015	1,687	-																					
 <p>Marseille</p>	 <table border="1"> <caption>Marseille Passenger Development (in thousands)</caption> <thead> <tr> <th>Year</th> <th>Competition</th> <th>Groningen</th> </tr> </thead> <tbody> <tr> <td>2010</td> <td>283</td> <td>-</td> </tr> <tr> <td>2011</td> <td>289</td> <td>-</td> </tr> <tr> <td>2012</td> <td>314</td> <td>11</td> </tr> <tr> <td>2013</td> <td>312</td> <td>-</td> </tr> <tr> <td>2014</td> <td>290</td> <td>-</td> </tr> <tr> <td>2015</td> <td>333</td> <td>-</td> </tr> </tbody> </table>	Year	Competition	Groningen	2010	283	-	2011	289	-	2012	314	11	2013	312	-	2014	290	-	2015	333	-	<ul style="list-style-type: none"> ▪ Marseille (MRS) – not resume operations <p>Strong market growth, however mainly fueled by Amsterdam development and Dusseldorf recent entry Remaining airports suffered a traffic decline or exit the route</p> 
Year	Competition	Groningen																					
2010	283	-																					
2011	289	-																					
2012	314	11																					
2013	312	-																					
2014	290	-																					
2015	333	-																					
 <p>Bergamo</p>	 <table border="1"> <caption>Bergamo Passenger Development (in thousands)</caption> <thead> <tr> <th>Year</th> <th>Competition</th> <th>Groningen</th> </tr> </thead> <tbody> <tr> <td>2010</td> <td>404</td> <td>-</td> </tr> <tr> <td>2011</td> <td>273</td> <td>-</td> </tr> <tr> <td>2012</td> <td>291</td> <td>16</td> </tr> <tr> <td>2013</td> <td>313</td> <td>21</td> </tr> <tr> <td>2014</td> <td>265</td> <td>-</td> </tr> <tr> <td>2015</td> <td>283</td> <td>-</td> </tr> </tbody> </table>	Year	Competition	Groningen	2010	404	-	2011	273	-	2012	291	16	2013	313	21	2014	265	-	2015	283	-	<ul style="list-style-type: none"> ▪ Bergamo (BGY) – not resume operations <p>Important market decline, barriers of entry with Ryanair</p> 
Year	Competition	Groningen																					
2010	404	-																					
2011	273	-																					
2012	291	16																					
2013	313	21																					
2014	265	-																					
2015	283	-																					

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

An analysis of the untapped city break markets highlights potential for further traffic development through the deployment of low cost services (I)


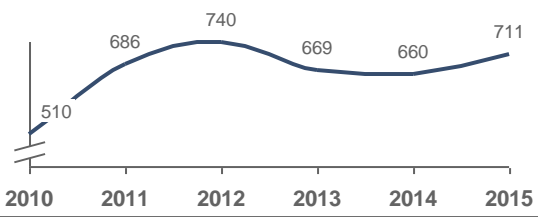


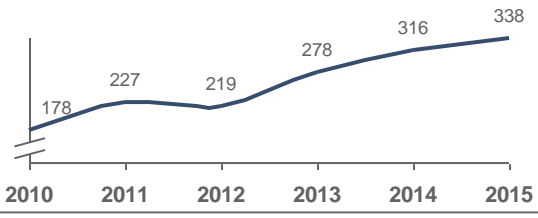


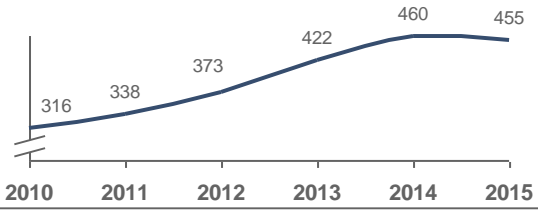

City break routes (not served from Groningen between 2010 and 2015) – Growth options

	Passenger development (in thousands)	Recommendations
Prague 	 <p>Competition</p>	<ul style="list-style-type: none"> Prague (PRG) – launch low cost operations <p>Growing market +14% since 2010, large overall potential Some competition but not too fierce Base for low cost carriers Risk : traffic development marked by some low cost carriers exiting the route</p> 
Lisbon 	 <p>Competition</p>	<ul style="list-style-type: none"> Lisbon (LIS) – launch low cost operations <p>Recent market with huge growth +105% fueled by recent entries from EIN/BRE stimulating demand and development of operations out of AMS/DUS Recent interest from low cost carriers to link NL to LIS: 2012 U2 (AMS), 2014 FR (EIN, BRE), 2012 HV (EIN)</p> 
Berlin 	 <p>Competition</p>	<ul style="list-style-type: none"> Berlin (SXF) – launch low cost operations <p>Steadily growing market +11% but high level of competition Attractive city break destination with over 2 mio passengers carried in 2015 Strong low cost carrier base</p> 
Rome 	 <p>Competition</p>	<ul style="list-style-type: none"> Rome (FCO) – launch low cost operations <p>Large steadily growing market +28.7% since 2010 Growth fueled by all competitor airports currently offering services Strong low cost carrier base</p> 

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

An analysis of the untapped city break markets highlights potential for further traffic development through the deployment of low cost services (II)

City break routes (not served from Groningen between 2010 and 2015) – Growth options

	Passenger development (in thousands)	Recommendations
 <p>Budapest</p>	 <p>Competition</p>	<ul style="list-style-type: none"> ▪ Budapest (BUD) – launch low cost operations Positive traffic developments since 2010 (+40%) Recent history of airport entries (RTM and MST) and the induced traffic stimulation reveals further growth potential Over 700,000 passengers in 2015 carried between the Netherlands and BUD makes it an attractive gateway Strong base for low cost carriers 
 <p>Porto</p>	 <p>Competition</p>	<ul style="list-style-type: none"> ▪ Porto (OPO) – launch low cost operations Steadily growing market since 2010 (+90%) Growth fueled by all competitive airports serving the route Moderate level of competition Attractive city break destination for low cost carriers 
 <p>Bucharest</p>	 <p>Competition</p>	<ul style="list-style-type: none"> ▪ Bucharest (OTP) – launch low cost operations Steadily growing market since 2010 (+44%) Nearly 500,000 passengers in 2015 flew between the Netherlands and OTP Moderate level of competition Strong base for low cost carriers 

Conclusion

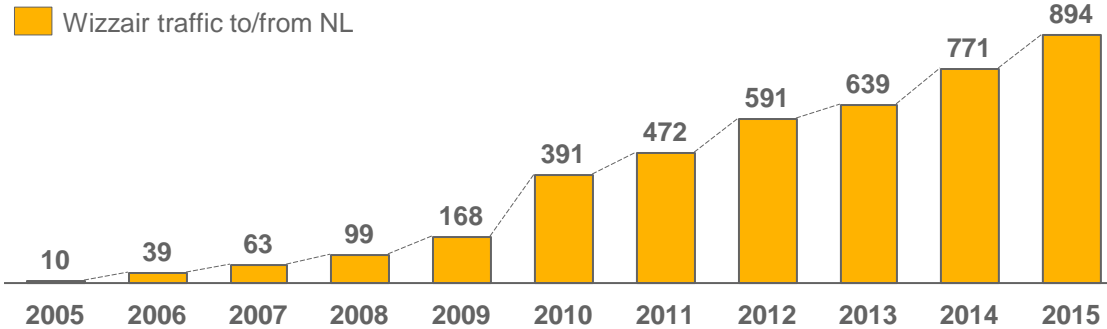
- There are a number of interesting additional **city break destinations** in Europe that are not served from Groningen at the moment, but from some of the competing airports in NL and DE
- These destinations represent attractive gateways with strong market potential to which Groningen could develop operations through the deployment of low cost airline services

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



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.

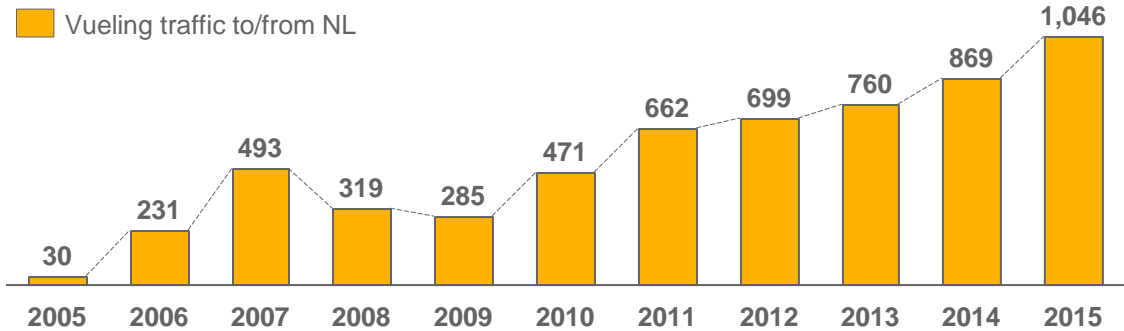
- **W6 regional bases and their traffic potential to/from Groningen have been considered as part of the airport future expansion plans.**

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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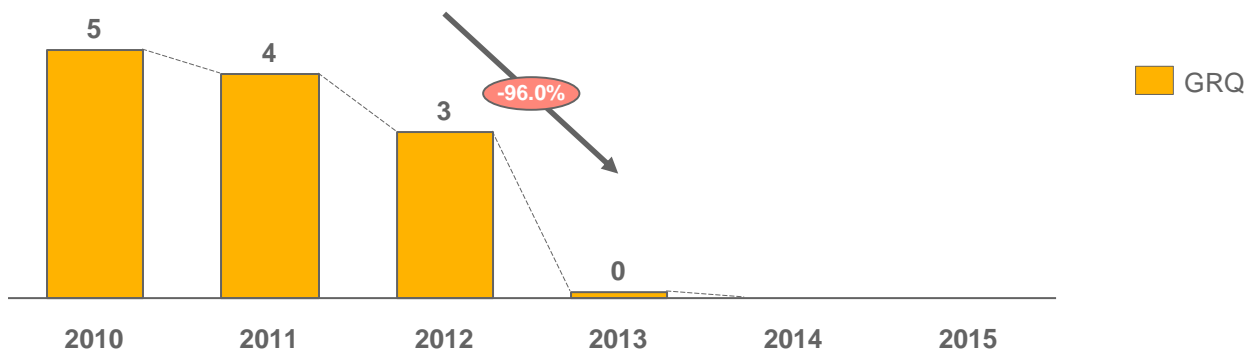
2. Traffic analysis
 1. Current situation
 2. Market clusters
 3. Other market opportunities
 4. Methodology
 - 5. Route analysis**
 1. Leisure summer cluster
 2. Leisure winter cluster
 3. City break cluster
 - 4. Business cluster**
 5. Hub feeder
 6. Other destinations

3. Strategy and forecast

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

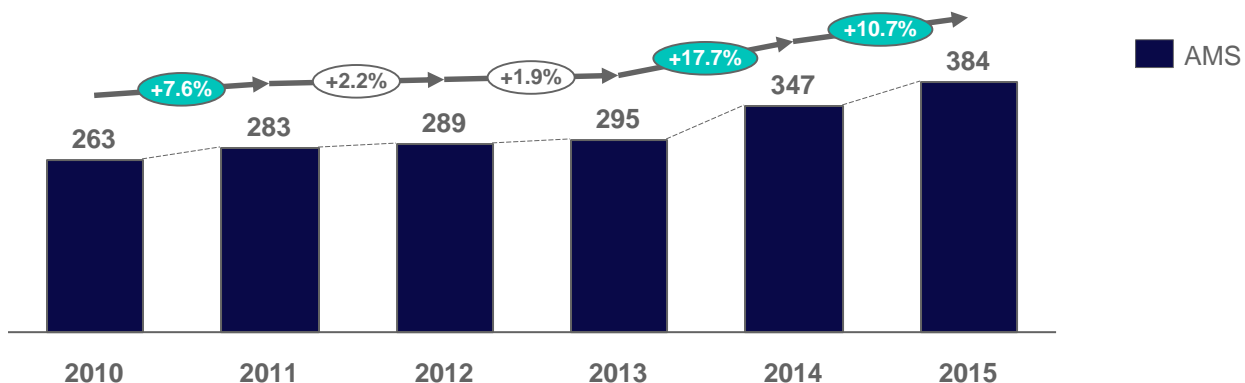
Passenger development (in thousands) from 2010 to 2015 in Groningen



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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1. Current market environment

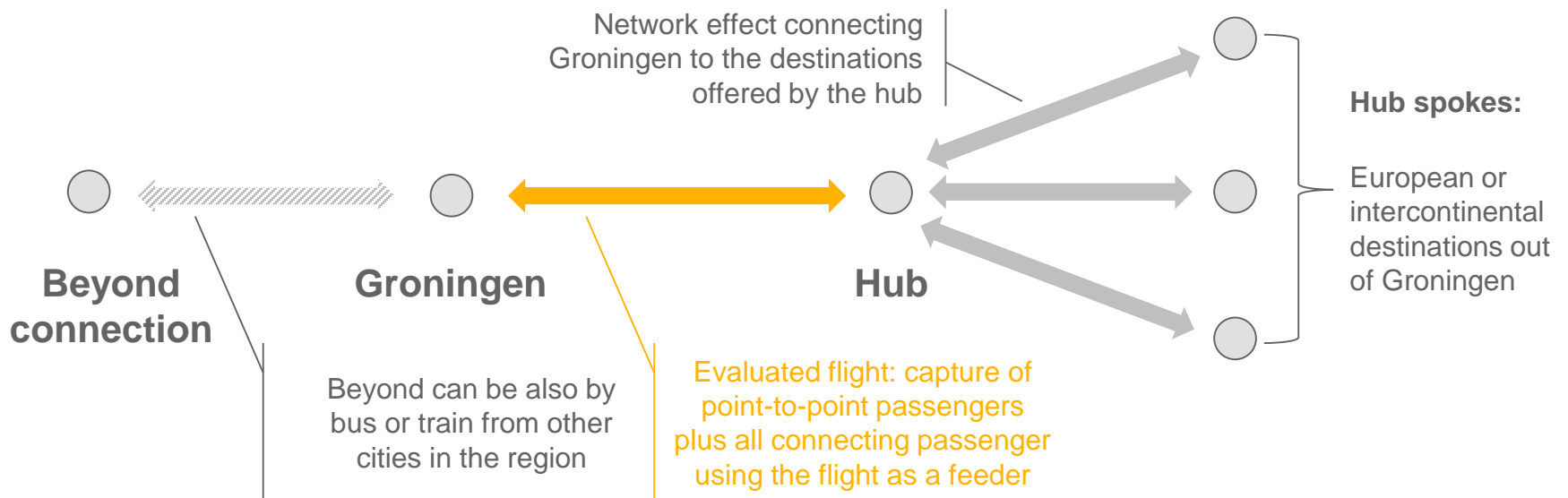
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 6. Other destinations

3. Strategy and forecast

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




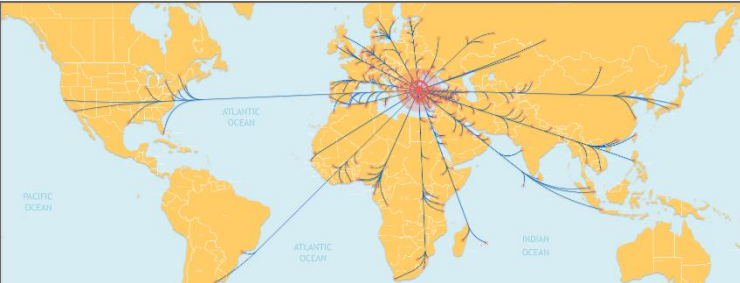




New York

Source: Lufthansa Consulting

Hub connections could be another main pillar for the future of the airport – it is recommendable to focus on negotiations with SAS in the first step

Hub routes (not served from Groningen between 2010 and 2015) – Growth options

Route network to/from hub (as of March 2016)	Recommendation
<p>Scandinavia</p> <p>1. priority</p>  	<p>SAS hub feeder services into Copenhagen</p> <ul style="list-style-type: none"> ▪ Negotiations with Nextjet already well under way ▪ Additionally, potential for flights to Stockholm/Oslo ▪ Interline agreement with SAS already in place ▪ Limited connections to North America and Far East
<p>Turkey</p> <p>2. priority</p>  	<p>Turkish Airlines feeder services into Istanbul</p> <ul style="list-style-type: none"> ▪ Strategic fit with rapid expansion plans of hub carrier ▪ Already services to AMS, RTM and 14 German cities ▪ Rather long sector with length of over 2,000 km ▪ Connections to largest airline network worldwide
<p>Germany</p> <p>3. priority</p>  	<p>Lufthansa hub feeder services into Munich</p> <ul style="list-style-type: none"> ▪ Talks with Lufthansa initiated some years ago ▪ Flights from Munich to Rotterdam launch in 2013 ▪ Due to lack of demand route now operated by BM ▪ Extensive global route portfolio out of hub in Munich

Source: Lufthansa Consulting, Flightglobal

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1. Current market environment

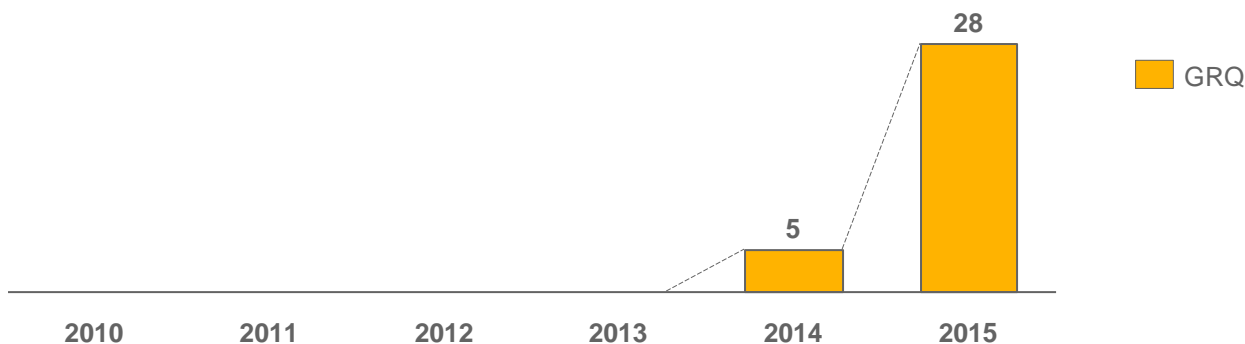
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3. Strategy and forecast

Groningen recently launched Gdansk with proven successful results and further development opportunities in Poland

“Others” routes – Passenger volume development

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

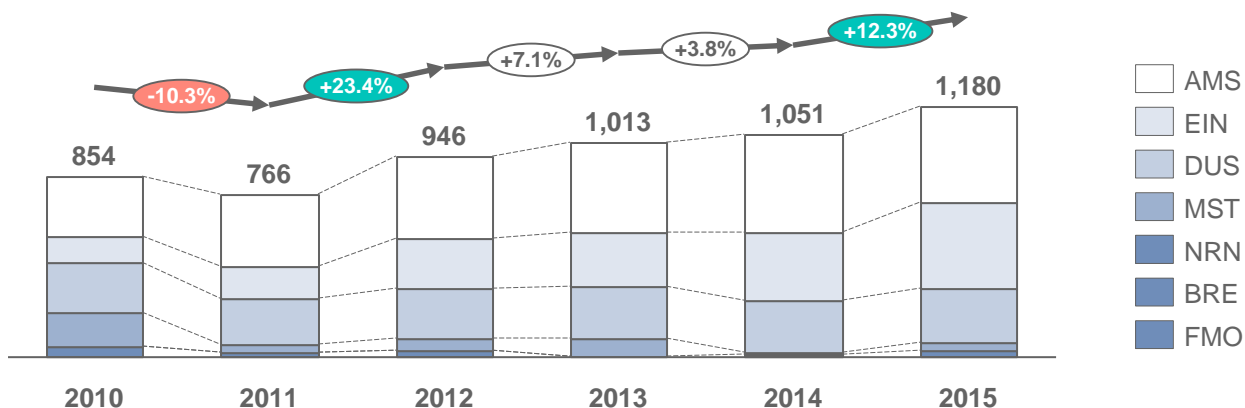


Remarks

- Gdansk launched in 2014 with Wizzair maintaining a 73.4% load factor in its second year of operations
- Overall market in Poland has been steadily growing



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




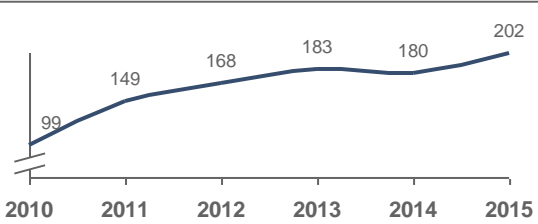


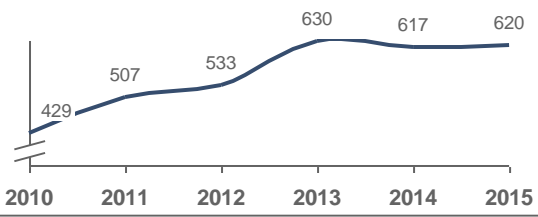


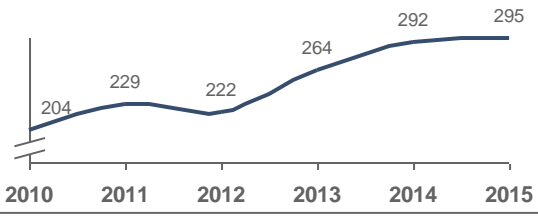

- Gdansk operations should be further developed
- Looking at the overall potential offered by the Polish market, the scenario of W6 shifting to another airport in Poland should be considered

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

Source: Traffic statistics from GRQ, AirportIS * Includes all airports in Poland

To tap into new markets, Groningen can develop services onto low cost carriers' regional bases revealing past positive traffic developments

“Others” routes (served from Groningen between 2010 and 2015) – Growth options

	Passenger development (in thousands)	Recommendations
 <p>Belgrade</p>	 <p>Competition</p>	<ul style="list-style-type: none"> ▪ Belgrade (BEG) – launch low cost operations <p>Exponential traffic developments +102% since 2010 Growth fostered by all competitor airports serving the route. Limited level of competition</p> 
 <p>Warsaw</p>	 <p>Competition</p>	<ul style="list-style-type: none"> ▪ Warsaw (WAW) – launch low cost operations <p>Strong traffic developments +44% since 2010 Growth fostered by all competitor airports serving the route. Moderate level of competition</p> 
 <p>Riga</p>	 <p>Competition</p>	<ul style="list-style-type: none"> ▪ Riga (RIX) – launch low cost operations <p>Strong traffic developments +45% since 2010 Limited level of competition</p> 



- Number of interesting additional **cities from the cluster „Others“** in Europe that are not served from Groningen at the moment, but from some of the competing airports in NL and DE
- These correspond to low cost carriers' regional bases with strong market potential to which Groningen could develop services

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

Although the other clusters were thoroughly analyzed, insufficient potential was found to justify the opportunity for further routes launch

Leisure Winter Cluster



- The demand in this segment is considered as insufficient to represent potential for any new route launch
- The previous services to Innsbruck and Salzburg could be resumed if there were spare capacity to capture the limited volume of this market from GRQ

Long Haul Cluster



- There is a low potential foreseen in direct long haul operations from GRQ
- The analysis of comparable European regional airports lead to similar conclusions revealing low market penetration into this market segment

Business Cluster

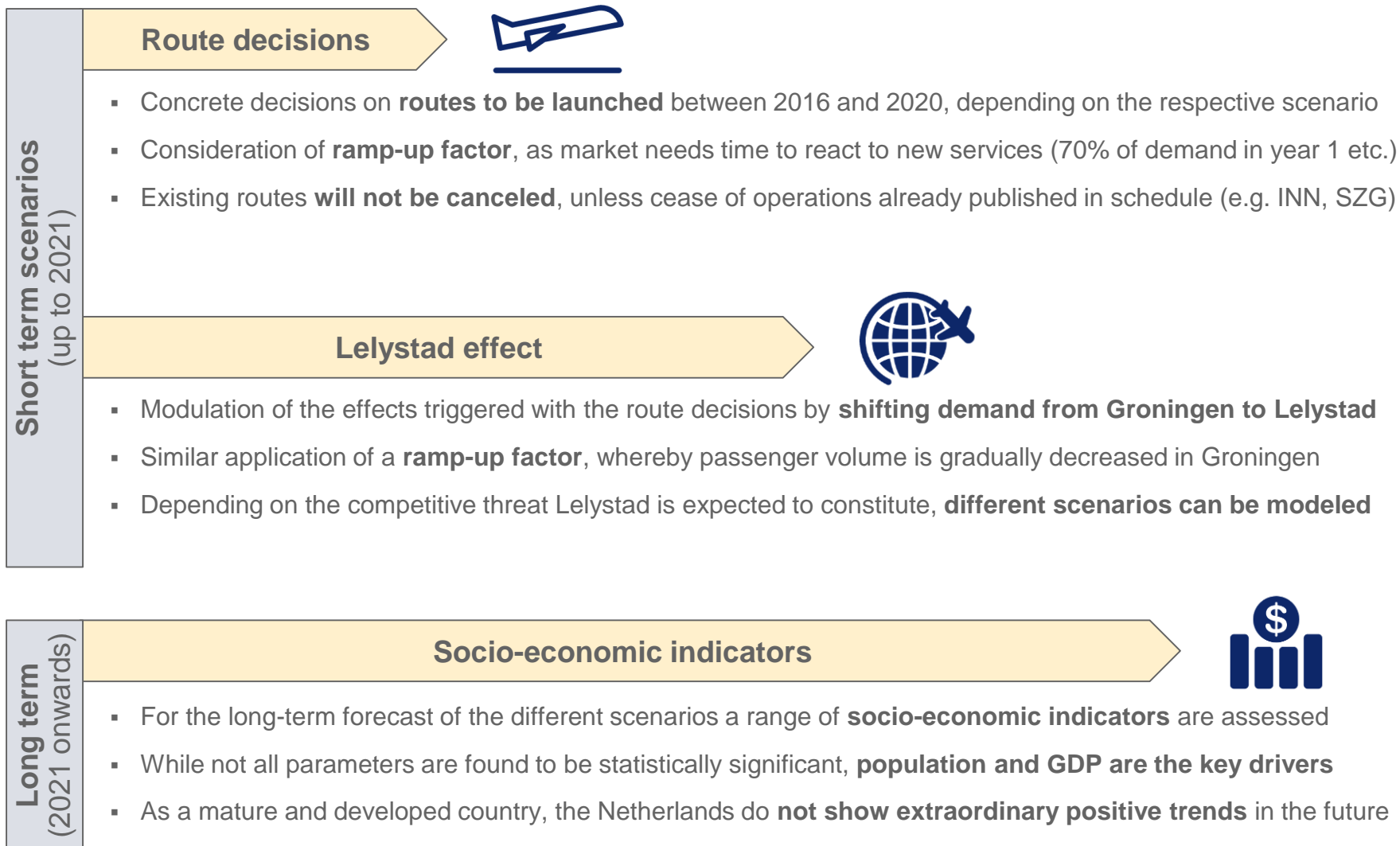


- The business environment in Groningen Airport Eelde's catchment area was considered to be insufficient to justify the potential for a pure business driven route launch
- The analysis of comparable European regional airports showed low penetration into this market segment (less than 4% of the regional airports' traffic is driven by pure business routes)

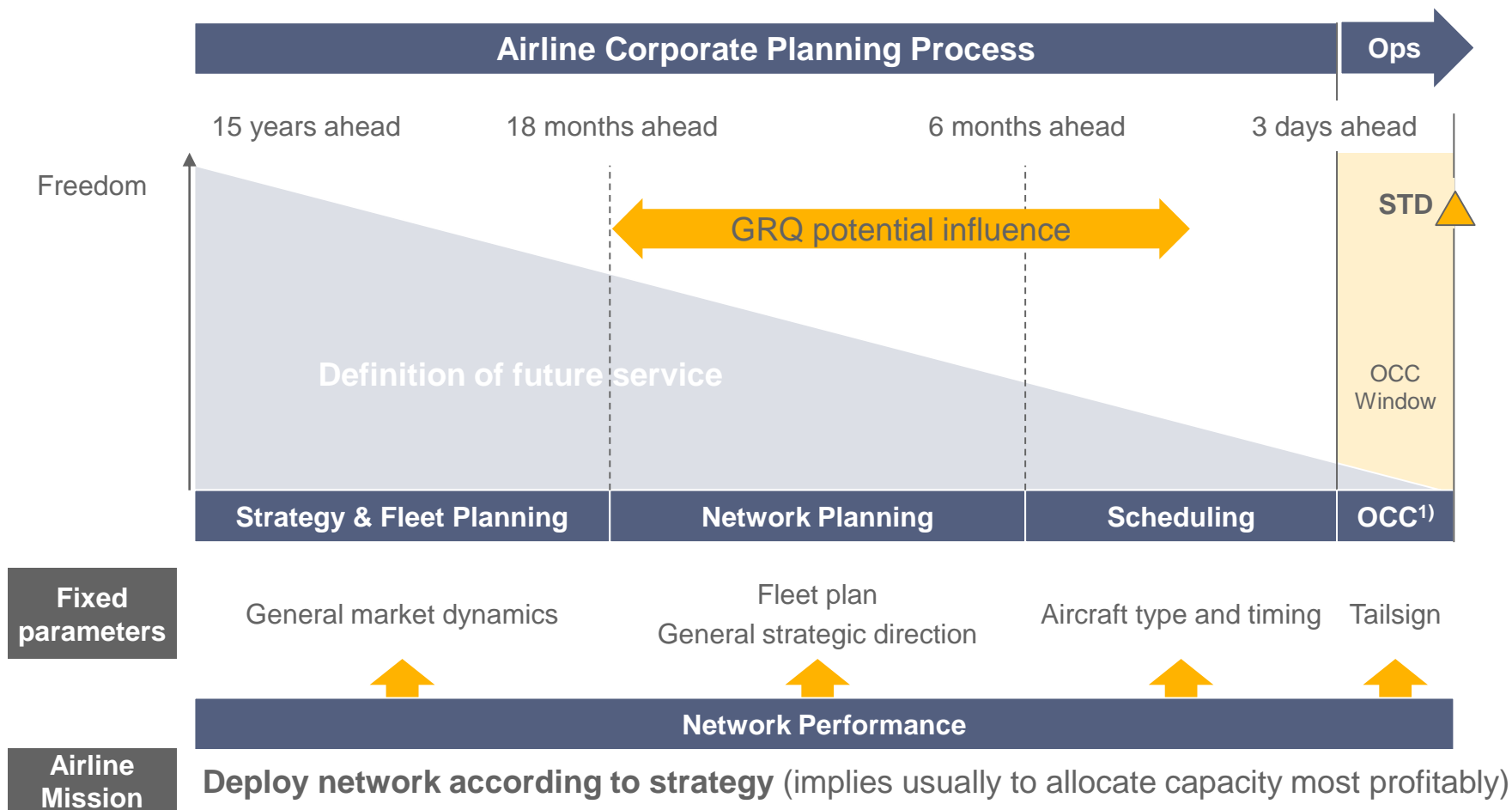
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The traffic forecast is impacted by three main drivers, combining strategic decisions with market behavior as well as socio-economical trends



Understanding the airline network planning process is crucial to properly evaluate the potential of route implementation



1) OCC = Operational Control Center

Source: Lufthansa Consulting

In order to depict the sources of traffic growth at Groningen airport three different route developments are defined

Hub feeder connection



- Feeder services into major hub (e.g. CPH) are established
- Significant additional demand is created through connections
- No impact of LEY in this route type



- **Key growth scenario** for GRQ, raising demand
- **Preferred option: CPH connection** to be implemented with interline agreements

Leisure and low cost routes



- A number of new destinations are launched, mainly driven by LCCs
- Stimulation of market generates considerable additional demand
- LEY opening will impact some of this routes depending on the LCC established in LEY vs LCC operating at GRQ



- **Significant rise in demand** due to the market presence of LCCs
- Given past development of GRQ, **LCC entries are possible**
- Most likely on city break routes to Southern/Eastern European cities

Traditional charter routes



- Main traffic volumes at the airport on charter routes remain, with some airlines ceasing operations to move to LEY or other airports
- Tour operators can shift routes to other airlines (new market entries)
- Only minor “natural” growth, no additional new destinations etc.



- **Stagnating demand** at GRQ
- Latent risk of **decreasing demand**
- Most likely the market changes will lead to a shift of operations from Transavia to other charter airlines like TUI or Corendon

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

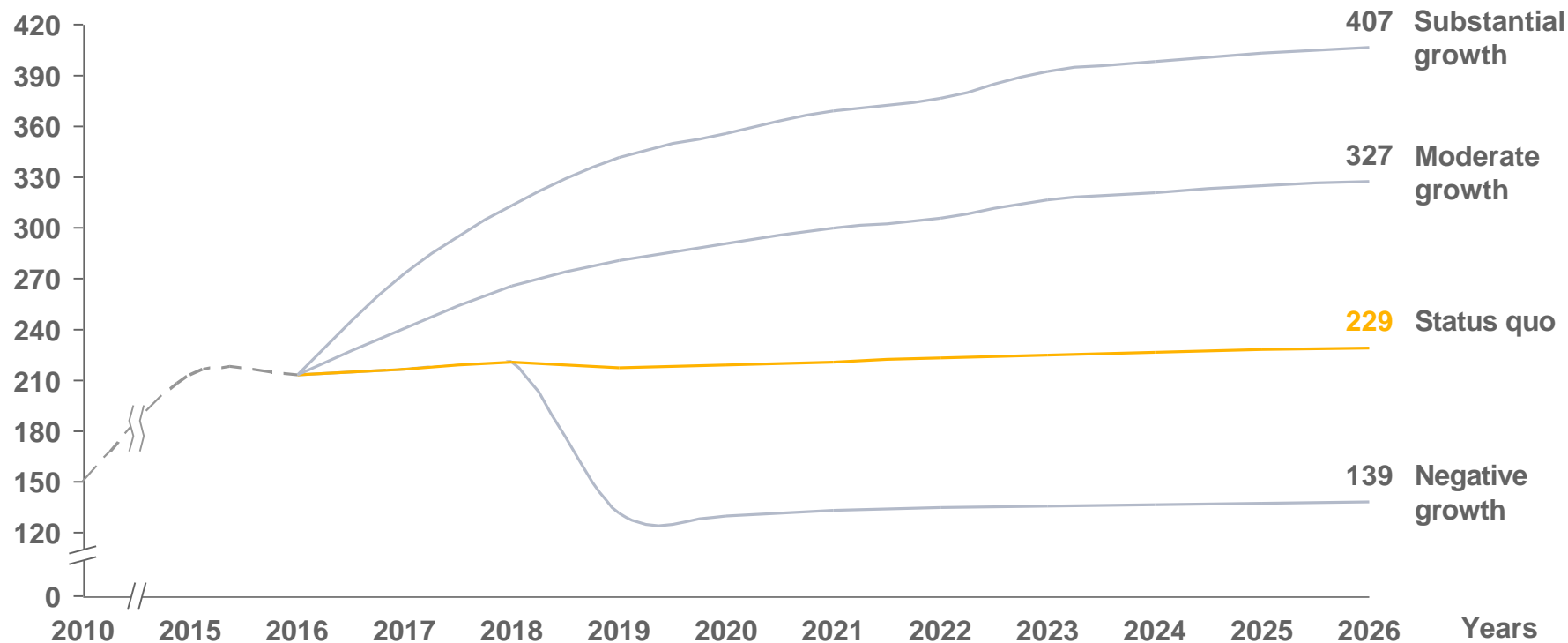
Three different scenarios are designed for the traffic forecast of Groningen airport combining the described route developments

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)

Depending on the market entry of the respective carriers, different growth scenarios can be modeled for the short-medium term passenger forecast

Groningen passenger forecast (until 2026) – Different scenarios

Passengers (in thousands)



- Lufthansa Consulting considers that in case sufficient resources are committed to the airport route development, the most plausible evolution of GRQ traffic volumes will be in line with the Moderate growth scenario
- With no changes in route development efforts, the predicted volumes are in the range of the Status quo scenario with tendency to the Negative scenario

Source: Lufthansa Consulting analysis

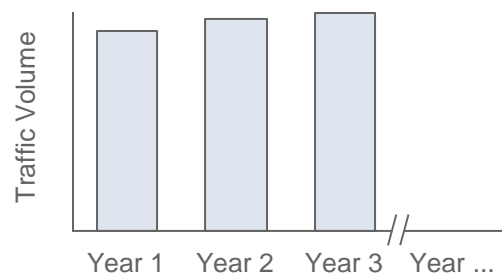
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Socio-economic indicators are assessed for the long-term forecast determining the range of potential evolution of the traffic

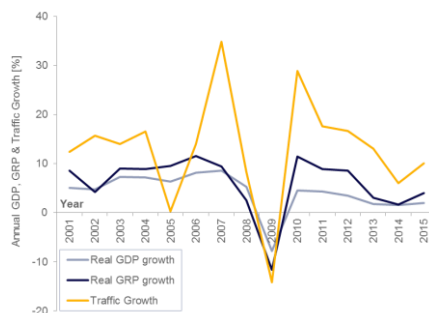
Forecast methodology based on socio-economic indicators

Step 1: Historical traffic analysis



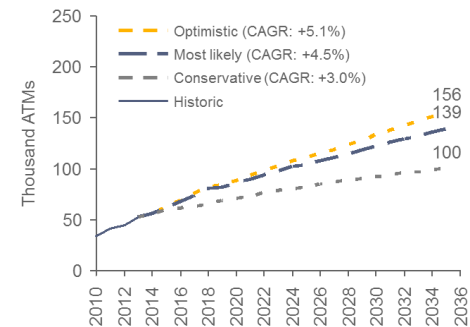
- The historic traffic development is analyzed with respect to the evolution of socio-economic indicators
- Capture market dynamics and demand drivers and patterns

Step 2: Correlation



- Methodology, hypothesis and assumptions
- Air traffic forecast model set-up and calibration

Step 3: Annual forecasts



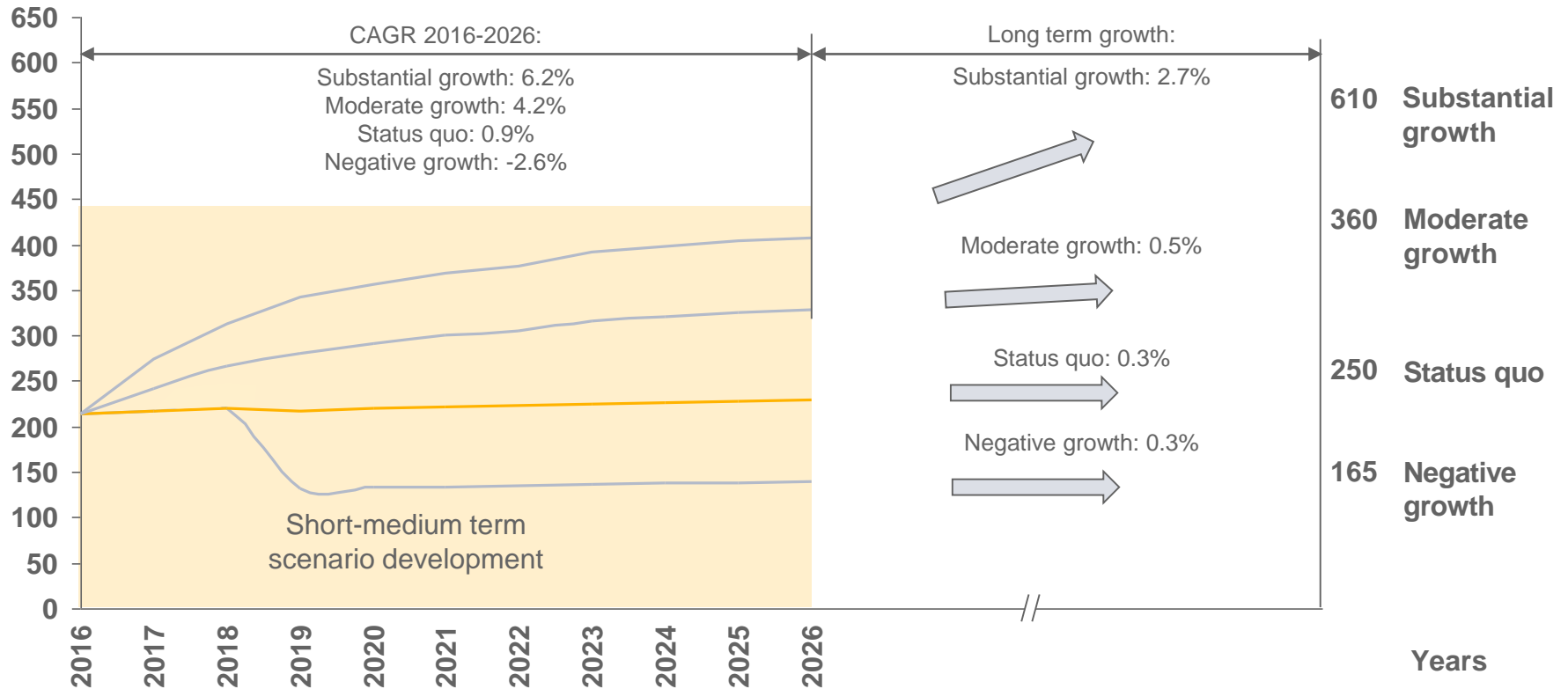
- Initial results of traffic potential
- Scenario building and modeling
- Verification of upper and lower potential

Source: Lufthansa Consulting analysis

Applying pure econometric factors, the evolution of the airport can range from stagnation to triple the current traffic volumes

Groningen passenger long term forecast – Different scenarios

Passengers (in thousands)



Source: Lufthansa Consulting analysis

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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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