_ PASSENGER TERMINAL FOR THE LOW COST CARRIER RYANAIR AT BRATISLAVA AIRPORT_

AUTHOR FOLIE HEIKE
9916708

APRIL 2012

MASTER-/ DIPLOMARBEIT

THEMA_ PASSENGER TERMINAL FOR THE LOW COST CARRIER RYANAIR AT BRATISLAVA AIRPORT _

AUSGEFÜHRT ZUM ZWECKE DER ERLANGUNG DES AKADEMISCHEN GRADES EINER DIPLOM-INGENIEURIN UNTER DER BETREUUNG VON

- **AO.UNIV.PROF.DIPL.ING.DR.TECHN.CHRISTIAN KÜHN** *
- **UNIV. ASS. DIPL. ING. HARALD TRAPP** *

Institutsnummer_ E 253/1

Institutsbezeichnung_ Gebäudelehre und Entwerfen

EINGEREICHT AN DER TECHNISCHEN UNIVERSITÄT WIEN

Fakultät für Architektur und Raumplanung
von

FOLIE HEIKE *
9916708

Anschrift_ Folie Heike
Margaretenstr. 98/7
1050 Wien

DEDICATION_

I dedicate this work to my loving family * * *

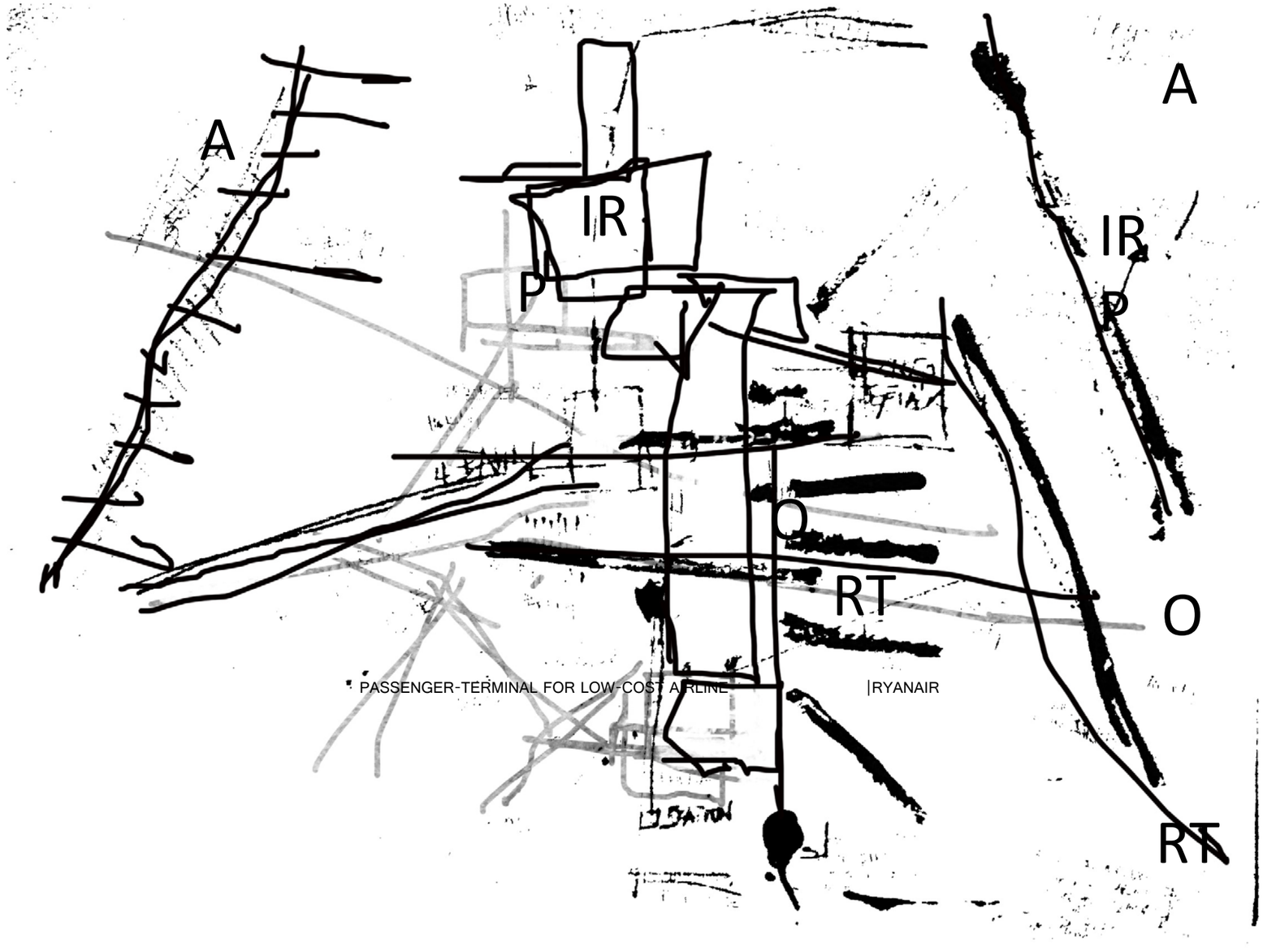
ACKNOWLEDGEMENT_

I thank ***Mr. Marián Ondri¹ík, M.A***. * Operations Product Manager at Letisko M. R. Stefánika - Airport Bratislava for favourably introducing me to BTS, the Apron, and specific issues regarding the Low-Cost-Carrier Ryanair.
Many thanks dear Mr. Ondri¹ík, M.A. I thank ***Mr. Dr. Andreas Singer*** * Direktor Informationssysteme CIO at Vienna International Airport for favourably introducing me to VIA, the Apron, the Hangars, the BHS, and specific issues regarding IT in correspondence to terminals. Many thanks dear Mr. Dr. Singer.
I thank ***Mr. MEng. Takeru Shibayama*** * Project Assistant at Research Center of Transport Planning and Traffic Engineering TU Vienna, for favourably consulting me regarding traffic approach issues.
Many thanks dear Mr. MEng. Shibayama.
I very much, especially, thank ***Mr. Dipl. Ing. Alexander Fitzek*** * Chief Technical Officer, adm - airport design management, Vienna and General Manager cpc-concept and planning consulting, Vienna, for the professional benevolent at any given time support.
Many thanks dear Mr. Dipl. Ing. Alexander Fitzek.
I very much, especially, thank my supervisor ***Mr. Ao.Univ.Prof.Dipl.Ing.Dr.Techn.Christian Kühn*** * for the professional and benevolent support. Many thanks dear Mr. Ao. Univ. Prof. Dipl. Ing. Dr. Techn. Christian Kühn.

I very much, especially, thank my supervisor ***Mr. Univ. Ass. Dipl. Ing. Harald Trapp*** *, for the professional benevolent foresighted at any given time support and growth-enhancing inputs.
I very much thank you dear Mr. Univ. Ass. Dipl. Ing. Harald Trapp for having been a wonderful teacher during University times at TU-Vienna. Thank you:).

I thank ***Mr. Ao. Univ. Prof. Dipl. Ing. Dr. Techn. Christian Kühn*** *
Mr. Ao. Univ. Prof. Arch. Dipl. Ing. Dr. Techn. Erich Raith *
Mrs. Ao. Univ. Prof. Dipl. Ing. Dr. Ing. Dörte Kuhlmann * for forming the assessment commission concerning diploma examination.

Special thanks to family and friends* * *



[figure03:_sketch airport; author F.H.]

PREFACE._

The substance of this diploma thesis entitled: "Passenger Terminal for the Low Cost Carrier Ryanair at Bratislava Airport", addresses in its first instance to the attempt of an holistic approach, for a Passenger Terminal states a linking indivisible unit, within a vast mutually depending and interacting network. To meet or to converge the up to date- as well as future requirements of a Passenger Terminal, a holistic approach regarding its context is indispensable. This diploma thesis tries to meet this request by providing a general-to-specific structure-approach.
Starting with:

- CHAPTER 01 discussing **1.** the deregulation in European aviation and the consequences for Airport planning in Europe, further, giving an inside into **2.** the vast network Airport and its functions, until focusing in a general way on the main issue **3.** Passenger Terminal and its functions.
- CHAPTER 02 refers to **1.** the Low Cost Airline Ryanair and its European sprawl, secondary referring specifically to a **2.** Passenger Terminal for the Low Cost Airline Ryanair, and tertiary **3.** approximating towards a close to reality Terminal in size and scope, regarding the Terminal Ryanair at Bratislava Airport, via diagrams and schedular calculations.
- CHAPTER 03 implements an introduction of the designed Passenger Terminal for the Low Cost Airline Ryanair at Bratislava Airport, via architectural formulation.

To enable an informative speeded overview, the content of the structure, follows an abbreviation form, not focusing on a plain coherent text unity, but trying to enable an fast approach to core informations via reduction.

INDEX._

REFERENCES._

CHAPTER 01_:

- Burghouwt, Guillaume; Menno Huys: Deregulations and the Consequences for Airport planning in Europe. In: DISP 54 (year´s) issues 65 / 2003, no. 3, p. 37 - 45.)
- Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Berlin-Heidelberg: Springer 2007.)
- Wikipedia: Fluggesellschaften. last update: 24.02.2012. URL: http://de.wikipedia.org/wiki/Fluggesellschaft- downloaded 04.08.2010)
- Cuadara, Manuel: World Airports Weltflughäfen - An Introduction Eine Einführung. Hamburg: Junius 2002.)

CHAPTER 02_:

- Wikipedia: Ryanair. last update: 21.03.2012. URL: http://en.wikipedia.org/wiki/Ryanair- downloaded /)
- Wikipedia: Ryanair. last update: 20.03.2012. URL: http://en.wikipedia.org/wiki/Ryanair_destinations- downloaded /)
- Ryanair: Rout map. last update: 25.03.2012. URL: http://www.ryanair.com/en/cheap-flight-destinations- downloaded 02/03/11)
- Ryanair: About Us. last update: 25.03.2012. URL: http://www.ryanair.com/en/about- downloaded /)
- CAPA - CENTER FOR AVIATION : Ryanair tops European seat capacity in Apr-2010. LCCs have largest market share at 34%. Top routes. last update: 27.05.2010. URL: http://www.centreforaviation.com/analysis/ryanair-tops-european-seat-capacity-in-apr-2010-lccs-have-largest-market-share-at-34-top-routes-27854- downloaded /)
- Ryanair: Rout map. last update: 25.03.2012. URL: http://www.ryanair.com/en/cheap-flight-destinations- downloaded 08/03/11)
- fly**lowcost**airlines: Airport Bratislava (BTS). The Low Cost Airlines Search Engine last update: / . URL: http://www.flylowcostairlines.org/low-cost-airlines/flights-to-airport-bratislava-bts.html- downloaded /)
- SLOWAKEI-NETZ.DE.: Ryanair and Bratislava Airport: 5 years together. last update: 20.10.2010. URL: http://en.slowakei-netz.de/174/2010-0120/airport-Bratislava-ryanair-en.html- downloaded /)
- Bloomberg Next; Radoslav Tomek: Bratislava Airport Traffic Decline Slowed to 3 Percent in 2010. last update: 26.01.2011. URL: http://www.bloomberg.com/news/2011-01-26/bratislava-airport-traffic-decline-slowed-to-3-percent-in-2010.html- downloaded /)
- Europäische Union: Länder. last update: / . URL: http://europa.eu/about-eu/countries/index_de.htm- downloaded /)
- Wikipedia: Schengener Abkommen. last update: 12.03.2012. URL: http://de.wikipedia.org/wiki/Schengener_Abkommen- downloaded /)
- Bundesministerium des Inneren: Der Schengen Raum. last update: / . URL: www.dpolg.de/upload/pdf/Schengen-Raum.pdf- downloaded /)
- Wikipedia: Prümer Vertrag. last update: 05.08.2011. URL: http://de.wikipedia.org/wiki/Pr%C3%BCmer_Vertrag- downloaded /)
- Wikipedia: Vienna. last update: 22.03.2012. URL: http://en.wikipedia.org/wiki/Vienna- downloaded /)
- Wikipedia: Bratislava. last update: 20.03.2012. URL: http://en.wikipedia.org/wiki/Bratislava- downloaded /)
- Wikipedia: Vienna International Airport. last update: 25.03.2012. URL: http://en.wikipedia.org/wiki/Vienna_International_Airport- downloaded /)
- Wikipedia: Flughafen Bratislava. last update: 04.03.2012. URL: http://de.wikipedia.org/wiki/Flughafen_Bratislava- downloaded /)
- Google maps: Vienna, Bratislava. last update: / . URL: http://maps.google.com/- downloaded /)
- De Neufville, Richard: Planning airport access in an era of **low-cost airlines**. In: Journal of the American Planning Association, (year´s) issues 35 / 2006, no. 3, p. 347 - 356.)
- Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)
- anna aero - airline network news and analysis: Slovakian airport traffic 2001-2010. Source ICAO. last update: / . URL: http://www.anna.aero/2011/03/16/ryanair-serves-19-destinations-from-slovakia/- downloaded /)
- anna aero - airline network news and analysis: Bratislava Airport Seasonality. Source Bratislava Airport. last update: / . URL: http://www.anna.aero/2011/03/16/ryanair-serves-19-destinations-from-slovakia/- downloaded /)
- Bloomberg Next; Radoslav Tomek: Bratislava Airport Traffic Decline Slowed to 3 Percent in 2010. last update: 26.01.2011. URL: http://www.bloomberg.com/news/2011-01-26/bratislava-airport-traffic-decline-slowed-to-3-percent-in-2010.html- downloaded /)
- bts - airport bratislava: Flight Information. last update: 27/03/12. URL: http://www.airportbratislava.sk/en/passengers/flight-information/current-arrivals/- downloaded /)

CHAPTER 03_:

- Wikipedia: Ryanair. last update: 21.03.2012. URL: http://en.wikipedia.org/wiki/Ryanair- downloaded /)
- Flottau, Jens; Oldag Andreas: Die Umwelt interessiert mich einen Dreck. Ryanair - Chef Michael O´Leary über grünes Image, die Konkurrenz und seine eigene Zukunft. In: Süddeutsche Zeitung (year´s) issues / 2011, no. 48, p.18.)

Deregulation and the Consequences for Airport planning in Europe:_

_>„**European Aviation** was characterised from 2nd world-war on by the trinity of:
- The NATIONAL GOVERNMENT (owner)
- The NATIONAL CARRIER
- The NATIONAL AIRPORT“
(Burghouwt, Huys 2003, p. 37; adaptation and rearrangement; F.H.)

_> **Bilateral Regulation/ Bilateral Air Service Agreements**:
„Individual nations negotiated the air services between two countries on a bilateral basis“
>consequence:_„the bilateral air service agreements - ASAs (Doganis 1991; Zacher and Sutton 1996) on:“- „Number of gateways(airports) accessible to each carrier /nation“
- Route frequency between the 2 countries (cfr. Burghouwt, Huys 2003 p. 37)
- „The designated carriers operating the routes between the two countries“
- Division of seat-capacity between designated carriers “
- „Tariffs in ASAs where derived from decisions of the IATA - „International **A**ir **T**ransport **A**ssociation (founded 1945)“
(ibid., p. 37; adaptation and rearrangement; F.H.)

_> **National Airlines + National Airports**: (cfr. Burghouwt, Huys 2003 p. 37)
- Airlines and airports were (partially) owned by governments thus >heavily subsidised
- „Each European nation had its own national airline /flag carrier“
- Since governmental property, the sense of competition was highly restricted (cfr. ibid., p. 37)
- „Little room for competition was offered since virtually no entry was possible for new scheduled airlines“
- „The lack of competition resulted in high-ticket prices for scheduled flights“
- Airlines had little impulse to reduce costs or improve efficiency (cfr. ibid., p. 37)
(ibid., p. 37; adaptation and rearrangement; F.H.)

_> **Limited Competition**:
- „During 80´s the positive experiences with airline deregulation in the United States[...] opened the door for deregulation and unification regarding the European aviation“ (Burghouwt, Huys 2003, p. 37; omission; F.H.)
- „1987:_ adoption of the 1. PACKAGE OF DEREGULATION MEASURES by the European Council >this was the first step towards the creation of a single European aviation market
- Further deregulation 1990 by implementing the 2. PACKAGE
- Further deregulation 1993 by implementing the 3. PACKAGE
- Deregulation process was completed by 1997“
(Burghouwt, Huys 2003, p. 37; adaptation and rearrangement, omission; F.H.)

_> **Deregulation packages**:
The deregulation packages gradually replaced the bilateral regulation of European air services as IATA tariff regulations >every package reduced the regulatory restrictions thus enhanced the opportunities for airlines to: (cfr. Burghouwt, Huys 2003 p. 37)
- set air„ fares
- choose frequency
- choose capacity
- choose entry and exit routes “(ibid., p. 37; omission; F.H.)

Yet, the new conditions of competition are limited due to >remaintenance of regulatory barriers: >The EU´s right to intervene in case the market is structurally out of balance
>The multilateral deregulations regarding EU aviation market to apply to the air-services within EU only
(cfr. ibid., p. 37)

- Concerning the intercontinental air services, „European airlines still depend on the bilateral air service agreements of the governments of the respective country of registration. Therefore carriers without a designation in the bilateral treaties cannot set up an intercontinental network.“
(Burghouwt, Huys 2003, p. 37)

_> **New Network Strategies**:„due to these changes in the aviation industry the major European airlines have adopted new network strategies to cope with the intensified competition: (most important ones):
- The adoption of HUB AND SPOKE NETWORKS
- The formation of GLOBAL STRATEGIC ALLIANCES
- The implementation of the LOW-COST-CONCEPT“
(ibid., p. 37; adaptation and rearrangement; F.H.)

_> **Hub and Spoke Networks**:
- „The most striking effects of deregulation on airlines was the adoption and intensification of hub-and-spoke networks“as originally practiced within US (Burghouwt, Huys 2003, p. 38)
- What results in the reorganisation of the networks form
|point- to- point| into |hub and spoke| - networks. [figure 01/figure02] (cfr. Burghouwt, Huys 2003 p. 38)
- „Direct flights from medium-sized airports to other medium-sized airports were increasingly replaced by indirect flights via central airports or hubs.“(ibid., p. 38)

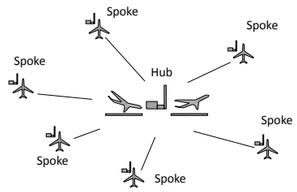


figure 01:_ Hub and Spoke - System
(cfr. Mensen, 2007 p.89-90)

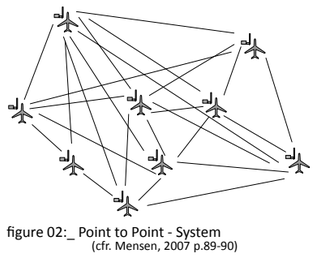


figure 02:_ Point to Point - System
(cfr. Mensen, 2007 p.89-90)

Hub Airport
Spoke Airport
Airport

_> **Hub and Spoke**:
- A Hub and Spoke airport is collector and at the same time a distributor within an organised time and spatial system. (cfr. ibid., p. 37)
- Hub and Spoke networks are concentrating their route networks in both space and time (cfr. ibid., p. 37)
- „In contrast to the US airlines, European airlines had entered the phase of spatial network concentration long before deregulation“ reason: >national airlines were the designated airlines in the bilateral air service agreements, (ibid., p. 38) (cfr. ibid., p. 38) operating from the national airports as well designated in the bilateral agreements.
- Thus European airline networks where already heavily concentrated in space before deregulation, but not coordinated in time > Transfer opportunities at central airports mostly occurred by accident (cfr. Burghouwt, Huys 2003, p. 39) (cfr. ibid., p. 38)
- The hub carrier concentrates its network spatially around one hub or a small „number of hubs
- Hub and Spoke networks offer airlines advantages on the cost- and demand side in a highly competitive market.“ (ibid., p. 38)
- Due to temporal concentration „Hub airlines operate synchronised, daily waves of flights through its hubs“ resulting in a wave - system (ibid., p. 38)
-The aim of a wave - system - structure is the optimisation of number and quality of connections offered by an airline (cfr. ibid., p. 38)

REFERENCES:_
Burghouwt, Guillaume; Menno Huys: Deregulations and the Consequences for Airport planning in Europe. In: DISP 54 (year's) issues 65 / 2003, no. 3, p. 37 - 45.)
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Berlin-Heidelberg: Springer 2007.)

_> The Low-Cost Concept:

It is said that there are 2 ways of making money in the aviation business:
- Creating a HUB AND SPOKE SYSTEM with additional alliances or
- Implementing the LOW-COST CONCEPT(originally introduced by the US airline Southwest in 1967) (cfr. Burghouwt, Huys 2003 p. 40)

- RYANAIR started the low-cost revolution in Europe on the British Isles 1991. by implementing genuine low cost operations patterned after the Southwest model The real break-through began after the 3rd deregulation package in 1993 (deregulation of the international air services within EU)
- UK emerged as the developer for low-cost carriers because of:
  - Low labour costs
  - The huge London market
  - The light-handed regulatory environment

(cfr. ibid., p. 40)

- Some of RYANAIR followers >GO >BUZZ >EASYJET, all started there. (cfr. ibid., p. 40)
- „Since 1999, after the expansion in the UK, the low-cost carriers began increasingly to take a hold on the continental market " (Burghouwt, Huys 2003, p. 40)
- With an **ANNUAL GROWTH** from **15% to 60%** the low cost carriers have rapidly expanded their market power (cfr. ibid., p. 40)
- Their success is a result of the **BUSINESS MODEL** which can be defined by 3 KEY-ELEMENTS:

1) LOW OPERATING COSTS:
- Low personnel costs(ticket-less sales, cheap labour)
- Low airport fees(use of secondary/peripheral airports)
- Low costs for maintenance(single aircraft type)
- High levels of productivity(high daily utilisation by reducing turnaround time)

2) NO FRILLS OFFERED:
- no free in-flight catering or entertainment
- narrow seats(higher seating density)
- no seat reservation

3) THE POSITIONING IN THE MARKET: Low-Cost-Carriers offer:
- High frequency
- Scheduled
- Point-to-Point short-haul services
- Promotion via aggressive marketing strategies

(cfr. ibid., p. 40)

_>Hub Airports:

(Burghouwt, Huys 2003, p. 42) „Due to the adoption and intensification of hub and spoke systems, the function of airports has changed significantly." Numerous central European airports evolved from OD-origin-destination nodes to TRANSFER-nodes. Hub-and-spoke traffic has different requirements than origin-destination traffic. (cfr. ibid., p. 40)

Hub and Spoke airports imply:
- a concentration of traffic in both space and time
- spatial concentration requires a vast daily capacity at the hub airport
- large peak-hour capacity at the runway, terminal- and landside infrastructure is required
- due to airline competition for transfer traffic passenger-buildings with minimized walking distances will be preferred in order to provide smooth transfer
- Flexible planning to render possible reactions on future demands >example: expansion issues
- Flexible planning = flexible, proactive, interactive

(cfr. Burghouwt, Huys 2003 p. 42)

_> Global Strategic Alliances:

- „The airline alliance frenzy of 1990s was another outcome of deregulation in European aviation " (Burghouwt, Huys 2003, p. 39)

[...] - 3 TYPES of airline alliances can be identified:
- The ROUTE SPECIFIC ALLIANCE(the simplest and by far the most numerous)
- The REGIONAL ALLIANCE(covers a much wider scale)
- The GLOBAL ALLIANCE(the most important ones concerning network expansion >they have the most far-reaching consequences for the airports)

(cfr. Burghouwt, Huys 2003 p. 39-40)

„ At present 4 strategic global alliances can be identified which make up to 60% of the world passenger-kilometers:
- STAR ALLIANCE
- ONE WORLD
- SKY TEAM
- WINGS "(Burghouwt, Huys 2003, p. 40; adaptation and rearrangement; F.H.)

_> Reasons for Alliances building:

- „The hub-and-spoke networks of two or more large airlines that operate in geographically distinct markets, often on different continents, are linked by their respective hubs" (Burghouwt, Huys 2003, p. 40)
- This means: >„an increase in the scope and size of the airline network" (ibid., p. 40; adaptation and rearrangement; F.H.)
- Therefore an increase in passengers and freight volume (cfr. Burghouwt, Huys 2003 p. 40)
- Possible reduction of costs trough alliances by producing economies of density, size and scope and by joint purchasing of aircraft (cfr. ibid., p. 40)
- Reduction of competition which is most effective when the airlines serve the same routes (cfr. ibid., p. 40)
- Possibility to bypass the nationality rules and other regularity barriers that make cross- border acquisitions and mergers impossible for the time being (cfr. ibid., p. 40)
- Alliances are only transitional devices on the rocky road to full mergers. (cfr. ibid., p. 40)

_> Hubs and Alliances:

- „Every alliance has its own primary hub, which function as the major transfer points between the networks of the alliance partners on the different continents.
- Nowadays Europe has 4 primary hubs:
  - Charles de Gaulle, Paris
  - Frankfurt Airport, Frankfurt
  - Heathrow Airport, London
  - Schiphol Airport, Amsterdam

each bound to a global alliance that is responsible for the greater part of the total number of passengers.
- The growth potential of an airport is therefore largely dependent on the presence or absence of a global alliance at the airport." (ibid., p. 40; adaptation and rearrangement; F.H.)

Hub Airports	Alliances
- Charles de Gaulle, Paris (CDG)	Star Alliance /Sky Team
- Frankfurt Airport, Frankfurt (FRA)	Star Alliance
- Heathrow Airport, London (LHR)	Star Alliance
- Amsterdam Schiphol Airport (AMS)	Sky Team

REFERENCES:
Burghouwt, Guillaume; Menno Huys: Deregulations and the Consequences for Airport planning in Europe. In: DISP 54 (year's) issues 65 / 2003, no. 3, p. 37 - 45.)

* ***AUTHORS´S NOTE****: THE FOLLOWING SUBTITLE AND ITS CONTENT: European Low-Cost- Airlines and their market shares from and to germany. Page 06*. ***IS NOT BASED ON ACADEMIC SOURCES! SUBTITLE AND ITS CONTENT TO BE SEEN AS ILLUSTRATIVE EXAMPLE ONLY!***

* _> **European Low-Cost-Airlines and their market shares from and to germany**: (cfr., Wikipedia; author´s translation; F.H.)

AIRLINES	MARKET SHARE	DOMICILS
- Air Berlin	48.3%	Berlin
- Germanwings	18.2%	Cologne
- Ryanair	15.9%	Dublin
- Easyjet	6.2%	Luton
- Flybe	2.6%	Exeter

(cfr., Wikipedia; author´s translation; F.H.)

AIRLINES	BASES	AIRCRAFT FLEET
- Air Berlin	4 bases germany /spain	148+[96 orders]
- Germanwings	5 bases in germany	32
- Ryanair	41 bases europewide	248+[68 orders]
- Easyjet	21 bases in 6 european nations	176+[53 orders]
- Flybe	16 bases in UK	77+[35 orders]

(cfr., Wikipedia; author´s translation; F.H.)

* ***AUTHORS´S NOTE****: THE FOLLOWING SUBTITLE AND ITS CONTENT: Alliances. Page 06*. ***IS NOT BASED ON ACADEMIC SOURCES! THUS NO GUARANTEE OF ACCURACY!***

*_>**Alliances**: Alliances between airlines coordinate and regulate the air traffic. Due to alliances:

- judicial independency is still held by the airlines
- coordination of booking and ticketing systems
- coordination of frequent flier programs
- coordination of interconnecting and transit flights
- codeshare >mutual seat-sharing
- open skies agreement: transatlantic traffic regulations between the designated nations allowed only to designated airlines.

(cfr., Wikipedia; author´s translation; F.H.)

_> **Low-Cost-Airports**: „An interesting group of airports among the non-hub airports are the home bases of low-cost-carriers." (Burghouwt, Huys 2003, p. 43)

- REGIONAL AIRPORTS benefit the most form the low-cost-revolution, because of „offering the low-cost-airlines remarkable opportunities for growth":
  - Regional airports are UNCONGESTED (cfr. Burghouwt, Huys 2003 p. 43)
  - relatively LOW CHARGE of airport fees (cfr. ibid., p. 43)

- LOW-COST-AIRPORTS have to provide the necessary infrastructures for LOW-COST-AIRLINES:
  - facilities include single storey terminals
  - lower and cheaper service levels
  - quick turnaround times
  - highs-peed check-in facilities

(cfr. ibid., p. 43)

* ***AUTHORS´S NOTE****: THE FOLLOWING SUBTITLE AND ITS CONTENT: Airlines. Page 05*. ***IS NOT BASED ON ACADEMIC SOURCES! THUS NO GUARANTEE OF ACCURACY!***

Airlines and Alliances:_ (cfr., Wikipedia; author´s translation; F.H.)

*_> **Airlines**: Are enterprises with the commercial target of passenger and cargo transportation via air supply. Nowadays can be defined 4 types of airlines:

- **PRIVATE AIRLINES**(operating in a competitive network system in cooperation with alliances)
- **CHARTER AIRLINES**(only providing air services on demand for touristic enterprises or private persons)
- **CARGO AIRLINE /AIRFREIGHT CARRIERS**(airlines specialized on carriage of cargo. The economical impact of cargo airlines is vitally important due to the merging of the global economic systems. The aircraft fleet of Cargo Carriers such as:
  - Federal Express
  - DHL
  - UPS

  (cfr., Wikipedia; author´s translation; F.H.)

  are formed of approximately 600 airplanes. While airlines with focus on passenger transport scarcely inheritate more than 400 airplanes. Though its important to keep in mind that approximately 50% of cargo transport is featured due to passenger transport)
- **LOW COST AIRLINES**:
  - Serve short- and middle-haul services via extreme low cost
  - Therefore opening the world to populace
  - BENEFITS result from:
    - extreme high capacity utilisation
    - short turnaround of aircraft
    - no frills no comfort offered
    - catering only via extra charge
    - use of regional peripheric airports
    - therefore low airport fees
    - disadvantage > possibly badly arranged connections to existing infrastructures
    - single aircraft type

(cfr., Wikipedia; author´s translation; F.H.)

REFERENCES:_
Burghouwt, Guillaume; Menno Huys: Deregulations and the Consequences for Airport planning in Europe. In: DISP 54 (year´s) issues 65 / 2003, no. 3, p. 37 - 45.)
Wikipedia: Fluggesellschaften. last update: 24.02.2012. URL: http://de.wikipedia.org/wiki/Fluggesellschaft- downloaded 04.08.2010)

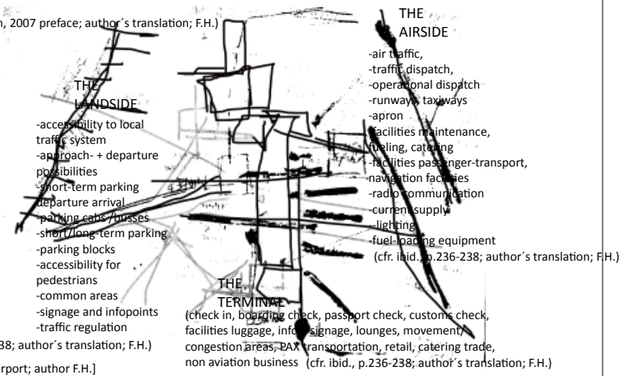
Airports:_

The 3 main stakeholders in the aviation business are: (cfr. Mensen, 2007 preface; author´s translation; F.H.)

_> THE AIRLINES

_> THE AIRPORTS

_> THE NATIONAL AIR TRAFFIC-CONTROL



(cfr. Mensen, 2007 p.236-238; author´s translation; F.H.)

(cfr. ibid., p.236-238; author´s translation; F.H.)

[figure03:_sketch airport; author F.H.]

Airports are facilities belonging to the traffic infrastructure of a region, providing economic wealth by international competing in an economically globalized environment. They provide direct, indirect, induced and catalytic employment effects. Nowadays airports are more than only infrastructure providers. Due to deregulation they manoeuvre in an environment regulated by competition; Airports are to be seen as economic enterprises, acting profit-oriented and competing one another.
New requirements considering airport management issues are requested. The ACI > **A**irports **C**ouncil **I**nternational is indicative for prospective developments regarding foresighted professional airport management. ACI-Europe is attending this scope in Europe, with its at time 436 airports in 45 European countries.
(cfr. Mensen, 2007 preface; author´s translation; F.H.)

Airports provide necessary infrastructure and environment for allowing aviation business to happen. Due to these suppositions, airline services become possible. Airline processes include by naming some:

- Take off and landing (cfr. Cuadara, 2002 p. 10-11)
- Processing with passengers
- Processing with cargo and mail (loading/unloading)
- Refueling, repairs, maintenance, catering...
- Domicils, bases
- Hubs
- Transfer
- Transition

(cfr. ibid., p. 10-11)

_> **Financing of Airports**: The financing program has changed immensely, while airports where state-owned property, >governmental subsidy rebalanced financially, now that they have been broadcasted to private ownership, their financial benefits come form:

- take off and landing fees > ***20% revenue only*** (cfr. ibid., p. 10-11) (once the traditional source of income)
- the remaining ***80% of revenue*** is obtained by: (cfr. ibid., p. 10-11)
  - the airlines,
  - the operators of the luggage handling systems
  - similar services
  - the non-aviation-business and companies(retail, catering hotels, entertainment...)
  - the users of other buildings on the grounds of the airport

(cfr. ibid., p. 10-11)

Detailed Information about Airport planning:_

_> **The Masterplan + Environment Planning**:

- Configuration of the airspace and air traffic control infrastructures
- Configuration and organisation of the operational surface space + configuration of take off and landing space
- Terminal design + -configuration
- Utility services and support systems
- Land-based traffic systems
- Safety- and security facilities

(cfr. Mensen, 2007 p.197; author´s translation; F.H.)

_>**The leading Design-creteria for Airports**:

- Integration in the local/ regional traffic master plan
- Integration in the air traffic master plan
- Consideration of the airport as being an economic center for the region
- Forecasts about air traffic and technology development tendencies
- The constitution of the airport itself > Hub and Spoke Airport Point to Point-Airport, Low Cost Airport
- Type of the expected flight traffics (scheduled flights, charter air fares, low- cost traffic)
- Aircraft types (single/multiple aircraft type)
- Terminal capacity, Runway capacity, as well regarding forecasts
- Landside approach local passenger traffic
- Form of enterprise
- Financing- as well as capital procurement concepts

(cfr. Mensen, 2007 p.195; author´s translation; F.H.)

_> **Aircraft service facilities**: include:

- The aircraft maintenance: > Hangar and parking areas for aircraft maintenance
- The aircraft refueling: > Fuel depot and fuel services
- Adequate supply for aircraft: > including the concessionary ground controls as well as external dispatch

The aircraft service areas adjoin the air traffic areas or have to be located to their immediate surroundings. Fundamental parameters of area requirements depends on the character of aircraft type and number of simultaneously handled aircraft.
(cfr. Mensen, 2007 p.200; author´s translation; F.H.)

_> **Passenger Transport Systems and Luggage-Conveyor Belt**:

PST **P**assenger **T**ransports **S**ystems are conduced to the transport of passengers within the passenger-terminal and the airside of the airport referring to guaranteed transfer time. The eventually sub-surfaced luggage conveyor belts inclusive their entry- and sampling spots are conduced to the transport and distribution of luggage between terminal and airside of the airport. A primary impact on the surface demand and the organisation of these systems has the expected numerical passenger volume (arriving, departing, transfer passengers)
(cfr. ibid., p.200; author´s translation; F.H.)

_> **Cargo facilities**: Include airport areas referred to transition and storage of incoming- and outgoing cargo and mail by the use of handlers, self-handling airlines as well as conveyance companies. The scope and size of the areas for transition-needs arise from the cargo volume at the airport, as well the productivity of the single functions and providers is decisive.
(cfr. ibid., p.200; author´s translation; F.H.)

REFERENCES:
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Berlin-Heidelberg: Springer 2007.)
Cuadara, Manuel: World Airports Weltflughäfen - An Introduction Eine Einführung. Hamburg: Junius 2002.)

_> **Functional Diagram:_THE AIRPORT CHARACTERISTICS**:

FUNCTIONAL DIAGRAM >AIRPORT-CHARACTERISTICS

AIRSIDE	TAKE OFF + LANDING SYSTEMS /AIR TRAFFIC SURFACES NAVIGATION LIGHTS /SIGNAGE NAVIGATION FACILITIES /METEOROLOGICAL FACILITIES AIR TRAFFIC CONTROL FACILITIES AIRSIDE CONFIGURATION AND AIR TRAFFIC CONTROL CONCEPTS
TERMINAL	PASSENGER TERMINAL /CHECK-IN SYSTEMS / LUGGAGE CONVEYOR BELTS CARGO TERMINAL /AIR-CARGO FACILITIES FACILITIES FOR FIRE-FIGHTING AND RESCUE SERVICE NON-AVIATION-ENVIRONMENT AND FACILITIES
LANDSIDE	TRAFFIC SURFACES BELONGING TO THE LANDSIDE /PARKING AREAS /PARKING HOUSES TRANSPORT CONNECTIONS TO STREET /RAIL /UNDERGROUND.... ESCAPE ROUTES DELIVERY TRAFFICS
Supplying Functions + Infrastructures	SECURITY(FACILITIES GUARANTEEING SAFETY) DISPATCH AREAS FOR AIRCRAFT FACILITIES FOR AIRCRAFT REGARDING TRAFFICAL NEEDS(PASSENGER TRAFFIC CARGO TRAFFIC) AS WELL AS OPERATIONAL NEEDS(CATERING /REFUELING /WATER SUPPLY /CLEANING SERVICES /WASTE DISPOSAL /MAINTENANCE....) HANGAR /MAINTENANCE FACILITIES ADMINISTRATIVE FACILITIES /PASSENGER MAINTENANCE FACILITIES OTHER FACILITIES COMPANIES LOCATION

(cfr. Mensen, 2007 p.202; author´s translation; F.H.)

_> **THE GENERAL ARRANGEMENT OF THE AIRPORT**:

_>**LANDSIDE**: The landside links the airport to the land-based traffic structures + is providing the right of way areas as well as parking possibilities for the private and commercial traffic.
- Connections to land-based traffic
- Approach- and departure possibilities to terminal facilities
- Connections to rail-based traffic systems local- and intercity traffic
- Public approach to passenger terminals as well as cargo terminals
- Facilities for administration as well as offices
- Other facilities (ex. facilities for rental cars...)

The **MAIN FEATURE** of the **LANDSIDE** is the **RIGHT OF WAY AREA!**
(cfr. Mensen, 2007 p.239; author´s translation; F.H.)

> **THE RIGHT OF WAY AREA**: The right of way area docking the passenger terminal has divers functions.

- **MAIN FUNCTIONS** for **DEPARTING PASSENGERS** is the enabling of:
  - The drop out by land-based means of transport
  - Discharge of luggage
  - Short distance to the terminal entrances

(cfr. Mensen, 2007 p.240-241; author´s translation; F.H.)

_> **TRAFFIC INFRASTRUCTURES belonging to the LANDSIDE**:
Landside traffic infrastructures include all the ground-based transportation-systems which guarantee the approach to airport-facilities and -infrastructures.
Those include public and internal traffic-infrastructures:
- Parking areas
- Rail infrastructures
- Infrastructures for the public traffic (underground, tram, busses...)
- Infrastructures for pedestrians (walkingpaths, -areas, cycle tracks...)

(cfr. Mensen, 2007 p.201; author´s translation; F.H.)

_> **Non-Aviation-Environment**: Nowadays it would be impossible for an airport to financially survive in a competing system, without the revenue income from the non-aviation-business. Up to approximately ***60% of the annual revenue*** at airports manifests from the non-aviation-business. Without this income airports would definitely not be able to survive and adapt themself to the time-needed and prospective airport- issues and -infrastructures.
As example:
- Catering
- Commercial environments and infrastructures for visitors (shops, restaurants...)
- Infrastructures for leisure
- Medicinal Infrastructures as well as
- daily business infrastructures (lawyer, post office,..)
- parking

(cfr. Mensen, 2007 p.201; author´s translation; F.H.)

_> **Other Environments**: They are identified by numerous functions, which collectively define the infrastructure of an airport:
- Administration
- Air traffic-control facilities
- Airport security-service
- Training- and social facilities
- Storages and manufacturing facilities/ factories/garages
- Cleaning- and winter services(ex: defrosting of the airplanes)
- Utility- and disposal services(ex: supply of water, waste disposal)
- Information- and communication infrastructures
- Facilities for public authorities

The capacity and size of all these impacts are determined due to:

- Flight activities
- Passenger volumes
- Cargo and mail volumes
- Workforce number
- The number of customers and visitors
- The amount/abundance and organisation of the the landside traffic

(cfr. Mensen, 2007 p.201; author´s translation; F.H.)

REFERENCES:_
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Berlin-Heidelberg: Springer 2007.)

-FLIGHT CHECK-IN:
Every single flight is assigned to a single counter.
Here a deconcentration of flights is provided. The check-in activity follows the rules of the common check in.

1. Check in at the counter
2. Receiving the boarding card
3. Abandonment of the luggage
4. Luggage is transferred to luggage collecting point of the designated flight

(cfr. Mensen, 2007 p.280; author´s translation; F.H.)

-GATE CHECK-IN:
The check-in counter is to be found directly at departing gate. Thus a direct flight assignment is possible.
Use for passengers with hand luggage only.

1. Check in at the counter
2. Receiving the boarding card

(cfr. ibid., p.280; author´s translation; F.H.)

-QUICK CHECK-IN:
Check in via automatic units provided by the single airlines.

1. Booking via Internet
2. Inserting credit card into machine
3. Selecting reserved flight, selecting seat
4. The luggage abandonment as well the emission of the luggage label is ensued menu-driven
5. Receiving prints of: >boarding card
   >baggage tag
   >commitment

(cfr. ibid., p.280; author´s translation; F.H.)

> **BOARDING PASS CHECK**
> **PASSPORT CHECK**
> **CUSTOMS CHECK**
> **SAFETY CHECK FOR CUSTOMERS AND LUGGAGE**
> **INFORMATION SYSTEMS AND SIGNAGES**
> **CIRCLING AREAS/ LOUNGES/ VIP LOUNGES**
> **MOVEMENT AREAS**
> **CONGESTION AREAS**
> **PASSENGER TRANSPORTATION SYSTEMS AND CARRYING SYSTEMS**
> **CUSTOMER FACILITIES --> RETAIL CATERING...**
> **BAGGAGE HANDLING FACILITIES**
> **BAGGAGE CLAIM**

_>**AIRSIDE**: The airside is providing surfaces needed for air traffic to happen.

>**THE APRON SYSTEM**: Offering parking- maintenance- maneuvering space for aircraft. The traffic- and operational dispatch of aircraft is being handled.

>**TAXIWAYS**: Tracking systems connecting runways to the apron system.

> **RUNWAYS**: Runways provide take off and landing space for aircraft.

> **INFRASTRUCTURAL FACILITIES** (needed to guarantee traffic and operational dipatch for aircraft): Garages for repair and maintenance /service facilities /fire services /winter service /charging and discharging /catering /fuel service stations / water reservoirs /facilities for cleaning / facilities for dispatch machines...

(cfr. Mensen, 2007 p.313; author´s translation; F.H.)

- **MAIN FUNCTIONS** for **ARRIVING PASSENGERS** is the enabling of:
  - Finding an appropriate connection network to the street- or rail-based means of transportation for the onward passage to the target locations or regions. Therefore it is absolutely essential to provide the needed traffic-surfaces. Means of transportation within the right of way areas are mostly cars/ cabs/ busses/ vans...
  - The discharge of the luggage
  - Short distance to the terminal entrances
  - The supply of circling areas for passengers /accompanists/ visitors/ collectors/ employees
  - The crossing of the right of way- area must be guaranteed to the users
  - The guaranty of a safe connection within the area terminal-exits and taxi spots/ busses
  - Areas for delivery needs
  - Areas for rental cars + return areas for rental cars
  - providing baggage cars
  - information spots for passengers
  - retail facilities

  (cfr. Mensen, 2007 p.240-243; author´s translation; F.H.)

- **USERS**:
  - Departing passengers
  - Arriving passengers
  - Accompanists
  - Collectors
  - Visitors
  - Employees
  - Suppliers
  - Crew members

  (cfr. Mensen, 2007 p.240-243; author´s translation; F.H.)

- **MEANS OF TRANSPORTATION**:
  - Cars
  - Rental cars
  - Cabs
  - Buses privat/ public
  - Vans/ tour buses
  - Delivery trucks
  - Tram/ railway
  - Subway
  - Rail local/ intercity traffic

  (cfr. Mensen, 2007 p.240-243; author´s translation; F.H.)

_>**TERMINAL**: The Terminal is the **DISPATCH-AND TRANSIT-AREA**.
Passenger- and Cargo Terminals define the intersection spots between Land-and Airside of the airport. Terminals enable handling space for passenger dispatches, departing and arriving passengers as well as for customer supply and regulation of transit-passengers.
Within the Cargo Terminal the incoming and outgoing Cargo is getting prepared documentary and physically for the further transport.
(cfr. Mensen, 2007 p.235-236; author´s translation; F.H.)

>**THE ELEMENTARY FUNCTIONS OF A PASSENGER TERMINAL**:

> **CHECK-IN**: -COMMON CHECK-IN:
The regular mode to check in via counter:

1. Check in at the counter
2. Receiving the boarding card
3. Abandonment of the luggage
4. Luggage is transferred to the luggage collecting point of the designated flight

(cfr. Mensen, 2007 p.276; author´s translation; F.H.)

REFERENCES:_
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Berlin-Heidelberg: Springer 2007.)

> Functional Diagram: ELEMENTS OF THE AIRSIDE:

FUNCTIONS

- AIR TRAFFIC
- FACILITIES FOR AIRCRAFT REGULATING TRAFFICAL NEEDS(PASSENGER/ CARGO)
- FACILITIES FOR AIRCRAFT REGUALTING OPERATIONAL NEEDS (FLUELING/ MAINTENANCE/ REPAIRS...)

INFRASTRUCTURE

- RUNWAYS: TAKE OFF + LANDING
- TAXIWAYS
- PROVIDING AREAS
- THE APRON
- NAVIGATION LIGHTS SYSTEMS/ SIGNAGES/
- FACILITIES FOR NAVIGATION SERVICES
- RADIO INSTALLATIONS
- STREETS + FACILITIES FOR SUPPLY
- CURRENT SUPPLY/ ILLUMINATION
- STORAGE + FACILITIES FOR FUELING

(cfr. Mensen, 2007 p.238; author´s translation; F.H.)

DIAGRAMATICALLY OVERVIEW:_

> Functional Diagram: ELEMENTS OF THE LANDSIDE:

FUNCTIONS

- ACCESS + DEPARTURE TO/FROM THE AIRPORT/ PUBLIC MASS TRANSPORT/ PRIVAT- INDIVIDUAL TRAFFIC

INFRASTRUCTURE

- APPROACH + DEPARTURE
- STOPOVER AREAS FOR PASSENGERS (INCOMING PAX + COLLECTORS)
- STOPOVER AREAS FOR CABS/ BUSSES
- SHORT TIME PARKING
- PARKING FOR CREWBUSES /BUSES - HOTELS
- PARKING FOR BUSES PUBLIC TRAFFIC
- PARKING HOUSES
- APPROACH TO PUBLIC MASS TRAFFIC TRANSPORTATIONS
- SIGNAGES/ BOUNDS
- TRAFFIC REGULATIONS

(cfr. Mensen, 2007 p.236; author´s translation; F.H.)

> Functional Diagram: ELEMENTS TERMINAL

FUNCTIONS

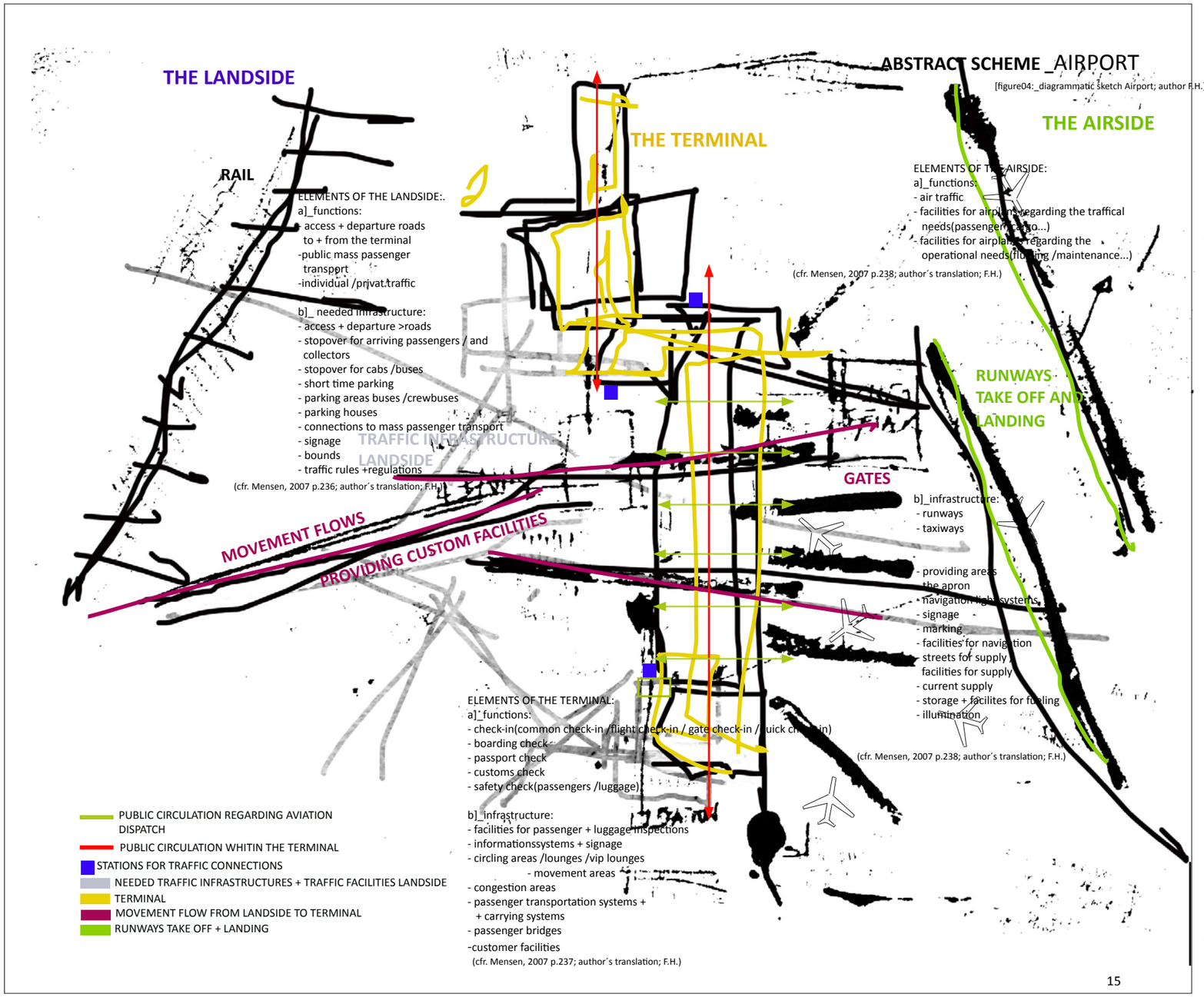
- CHECK IN:_ COMMON CHECK-IN/ FLIGHT CHECK-IN/ GATE CHECK-IN/ QUICK CHECK-IN
- BOARDING CHECK
- PASSPORT CHECK / CUSTOM CHECK
- SECURITY CHECK (PASSENGERS/ LUGGAGE)

INFRASTRUCTURE

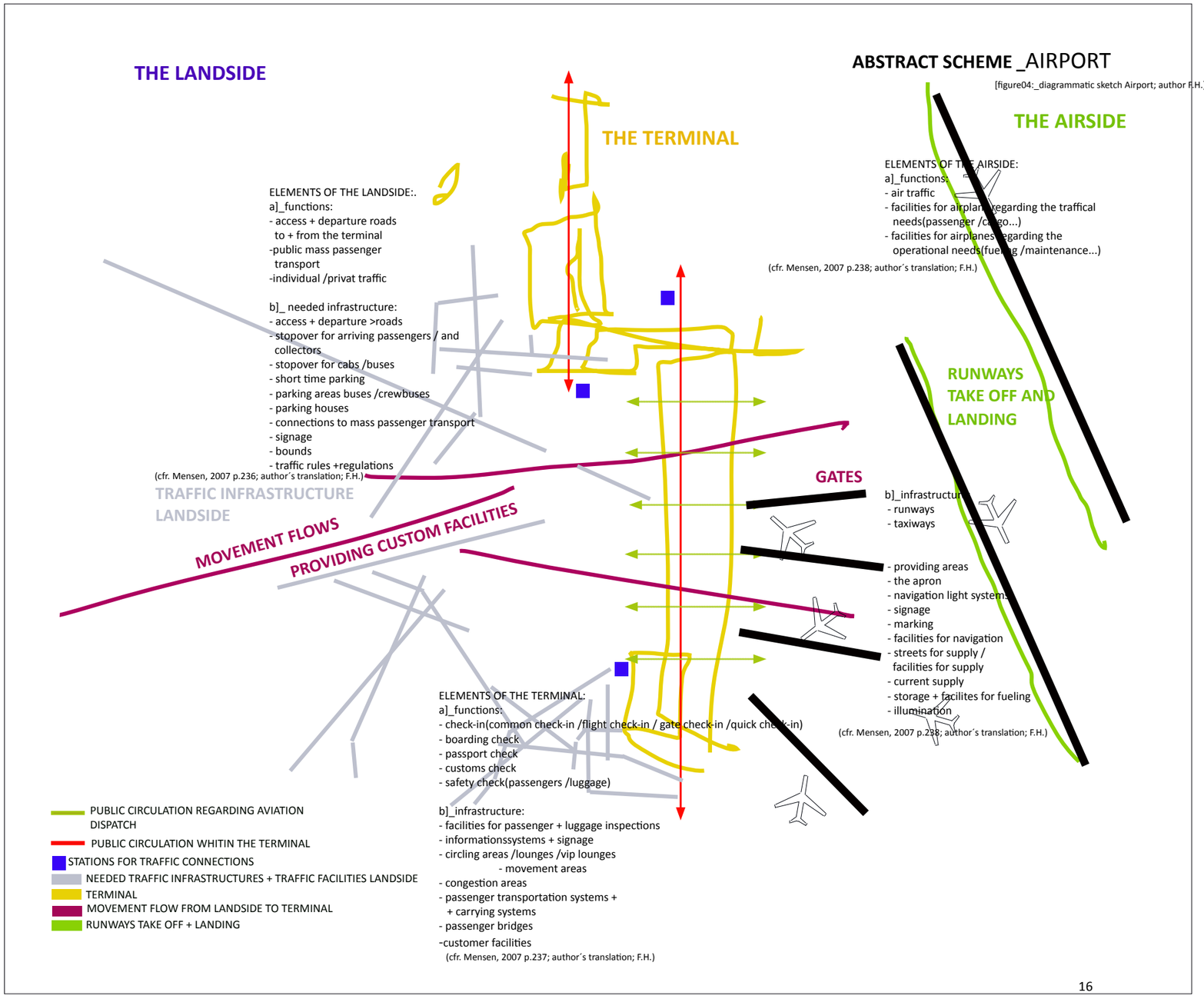
- FACILITIES FOR PASSENGERS + LUGGAGE INSPECTIONS
- INFORMATIONSYSTEMS/ SIGNAGE
- CIRCLING AREAS/ LOUNGES/ VIP LOUNGES
- MOVEMENT-/ CONGESTION AREAS
- PASSENGER TRANSPORT SYSTEMS + CARRYING SYSTEMS
- PASSENGER BRIDGES
- TRAVEL VALUE/ COFFEE SHOPS/ CATERING/ RETAIL INDUSTRY

(cfr. Mensen, 2007 p.237; author´s translation; F.H.)

REFERENCES:_
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)

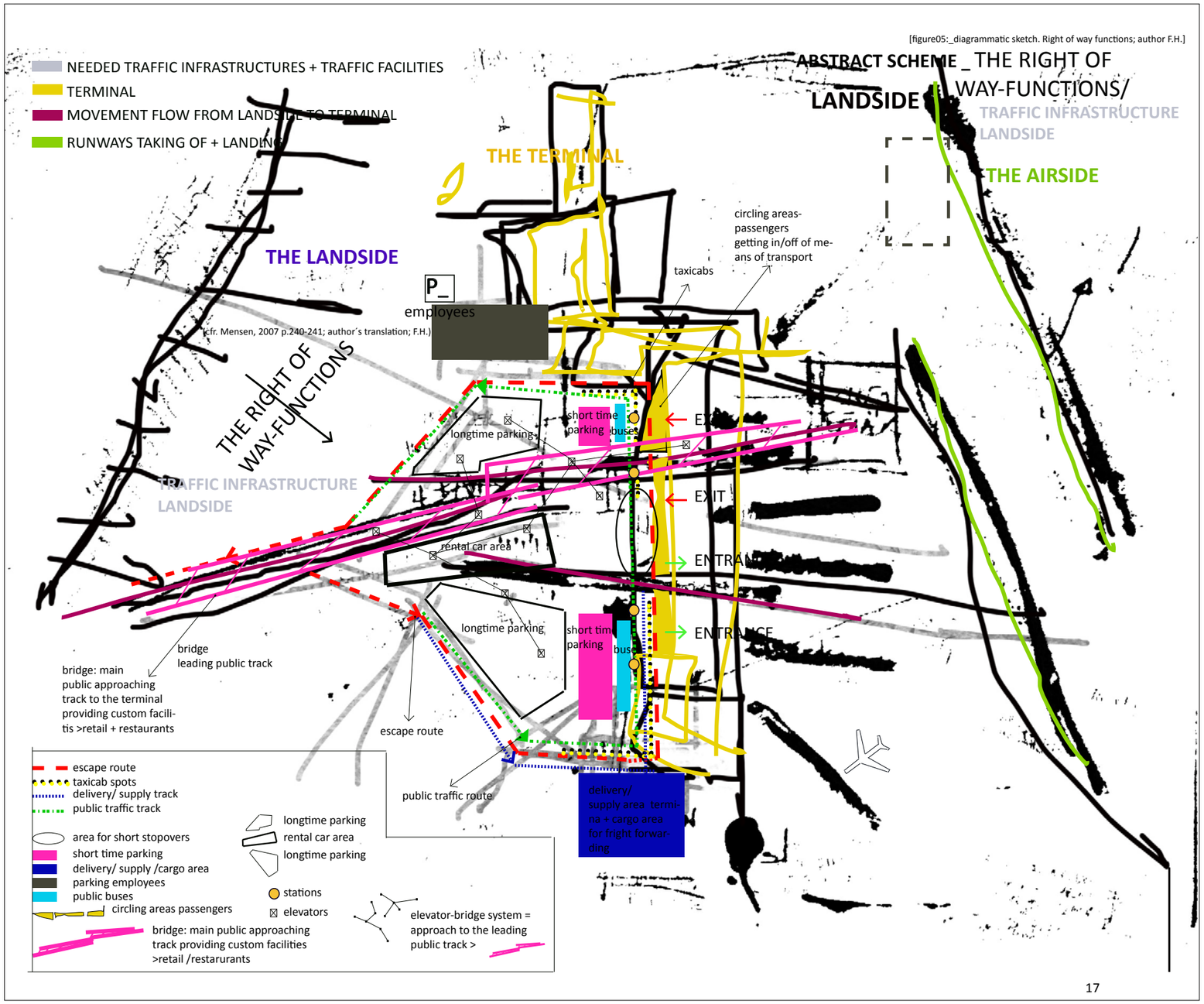


REFERENCES _
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)



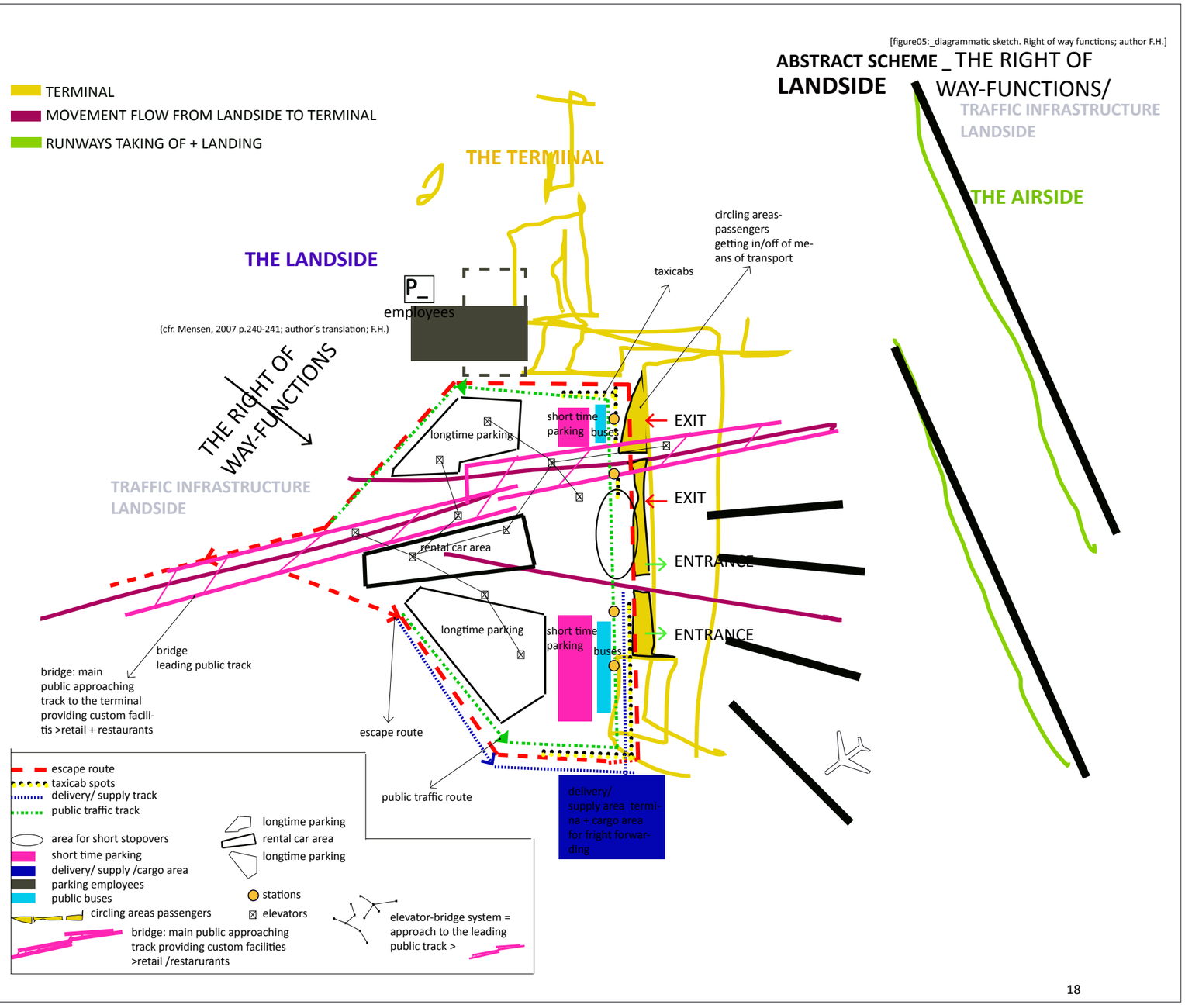
BIBLIOGRAPHY:
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)

[figure05:_diagrammatic sketch. Right of way functions; author F.H.]



REFERENCES:_
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)

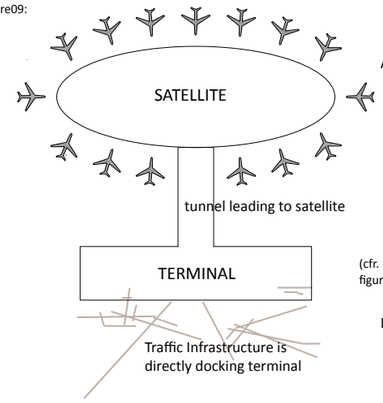
[figure05:_diagrammatic sketch. Right of way functions; author F.H.]



REFERENCES:_
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)

>3) The **SATELLITE TERMINAL CONCEPT**:

figure09:



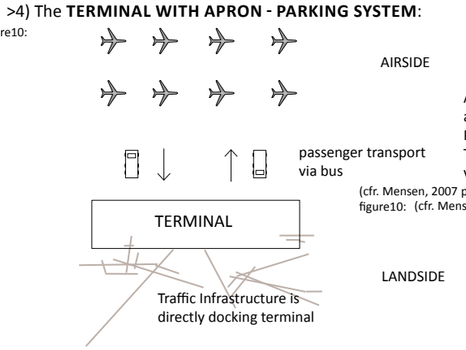
Aircraft is directly docking SATELLITE = "collector" building

Aim = short passenger distances within the satellite
Disadvantage = opposite direction traffic within the satellite

(cfr. Mensen, 2007 p.270; author´s translation; F.H.)
figure09: (cfr. Mensen, 2007 p.270)

>4) The **TERMINAL WITH APRON - PARKING SYSTEM**:

figure10:

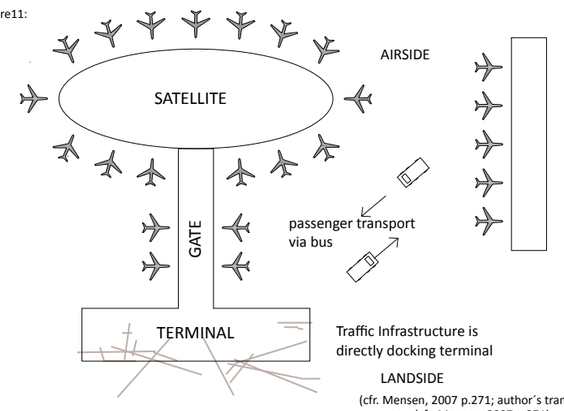


Aircraft is positioned at the apron, no docking!
Passenger transfer from Terminal to Aircraft via bus.

(cfr. Mensen, 2007 p.270; author´s translation; F.H.)
figure10: (cfr. Mensen, 2007 p.270)

>5) Combination of **SATELLITE /PIER AND /APRON- PARKING SYSTEM**:

figure11:



(cfr. Mensen, 2007 p.271; author´s translation; F.H.)
figure11: (cfr. Mensen, 2007 p.271)

_>**TERMINAL-CONCEPTS AND THEIR DEPENDENCIES**: Terminals and their layouts are depending on their environmental circumstances: >leading questions:

- Which are the available surfaces for terminal building? Size and scope?
- How is their location regarding the environment?
- How are connection possibilities regarding traffic transportation system belonging to landside?
- How is the orientation and structure of the runway system?
- What is/are the used aircraft types?
- What is the quantitative annual traffic volume?
- What kind of air traffic is it?
  >private airlines - low cost airlines - charter airlines - cargo airlines

The purpose of usage of the airport? (hub - airport, point to point - airport, seasonal airport, airport for low cost carriers...). These environmental circumstances are leading inputs for terminal conceptions differ in their design. For example an international hub requires a mixture of different terminal- and dispatch concepts for allowing the air traffic to process. A departure and destination airport requires a simple linear terminal conception because of relatively low traffic volume. The same counts for a seasonal airport.

(cfr. Mensen, 2007 p.265; author´s translation; F.H.)

_> **THE TERMINAL CONCEPTIONS_01**:

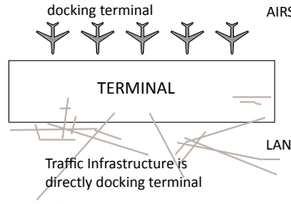
1) The LINEAR TERMINAL CONCEPT
2) The PIER and FINGER TERMINAL CONCEPT
3) The SATELLITE TERMINAL CONCEPT
4) The TERMINAL WITH APRON - PARKING SYSTEM
5) A combination of SATELLITE /PIER AND /APRON - PARKING SYSTEM

(cfr. Mensen, 2007 p.268-271; author´s translation; F.H.)

>1) The **LINEAR TERMINAL CONCEPT**:

Aircraft is directly docking terminal

figure06:

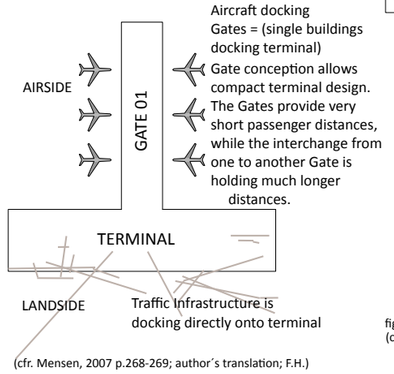


The result of this conception is: short passenger distances between air- and landside which is one of the main targets in terminal conception.

(cfr. Mensen, 2007 p.268; author´s translation; F.H.)
figure06: (cfr. Mensen, 2007 p.268)

>2) The **PIER/ GATE TERMINAL CONCEPT**:

figure07:



Aircraft docking Gates = (single buildings docking terminal)
Gate conception allows compact terminal design.
The Gates provide very short passenger distances, while the interchange from one to another Gate is holding much longer distances.

(cfr. Mensen, 2007 p.268-269; author´s translation; F.H.)
figure07: (cfr. Mensen, 2007 p.269)

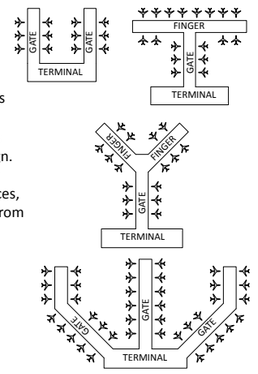


figure08: _different gate conceptions
(cfr. Mensen, 2007 p.269)

REFERENCES:_
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)

_> TERMINAL CONCEPTIONS_02:

According to the airport size, airport location, the passenger traffic volume, the airport typ, the airport significance within the regional, national, international aviation business ..., the terminal conceptions do not only differ in their constellations regarding the arrangement of the single terminal buildings, but as well of the conceptions of the respective terminal buildings themself, referring to diverse level- variations. Within an increasing or massive traffic volume, needed efficiency is to be achieved by splitting the passenger volume, not to speak of the unthinkability to process the dispatch-activities via a single-story building, when talking about huge numbers of transition-activities. Therefore optimized terminal-variations provide adequate dispatch-space, by firstly splitting the arrival- from the departure-dispatch and secondly the separate positioning of the dispatches not only ground-related but furthermore transferring them onto different levels. Besides the dispatch-facilitation, the utilisation of multi-level-buildings, provide advantages regarding length of passenger paths, avoiding long distances.
(cfr. Mensen, 2007 p.264; author´s translation; F.H.)

1) **VARIATION 01**: Terminal conception = **SINGLE-STORY BUILDING**
   Arrival and Departure >single-story, Right of Way function >single-story, Terminal >single-story
2) **VARIATION 02**: Terminal conception = **TWO-STORY BUILDING**
   Arrival and Departure >two-story, Right of Way function >single-story, Terminal >two-story
3) **VARIATION 03**: Terminal conception = **TWO-STORY BUILDING**
   Arrival and Departure >two-story, Right of Way function >two-story, Terminal >two-story
4) **VARIATION 04**: Terminal conception = **TWO-STORY BUILDING**
   Arrival and Departure >two-story, Right of Way function >single-story, Arrival and Departure >separated, Terminal >two-story

(cfr. Mensen, 2007 p.264; author´s translation; F.H.)

>1) **VARIATION 01_ SINGLE-STORY BUILDING**: figure12:

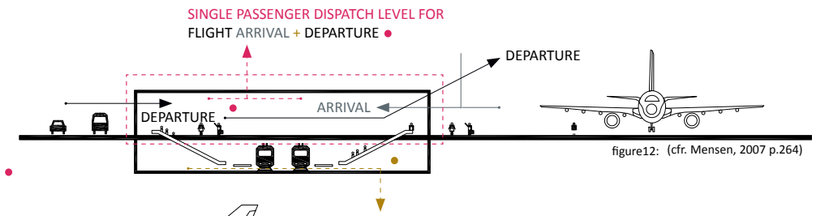


figure12: (cfr. Mensen, 2007 p.264)

>2) VARIATON 02_ TWO-STORY BUILDING: figure13:

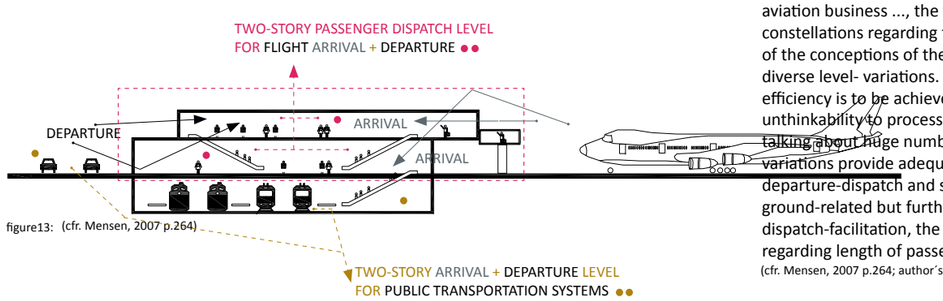


figure13: (cfr. Mensen, 2007 p.264)

>3) VARIATION 03_ TWO-STORY BUILDING: figure14:

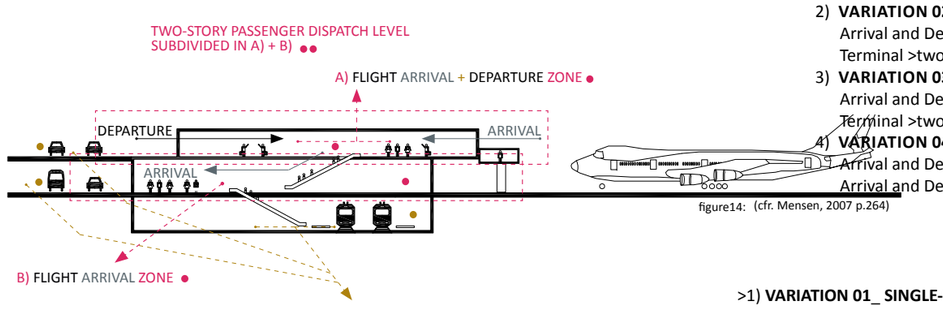


figure14: (cfr. Mensen, 2007 p.264)

>4) VARIATION 04_ TWO-STORY BUILDING: figure15:

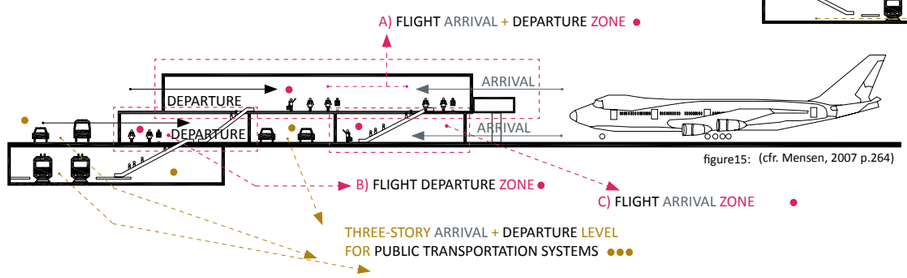


figure15: (cfr. Mensen, 2007 p.264)

REFERENCES:_
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)

TRAFFIC PASSENGER DISPATCHES:_> D I A G R A M S:_____

1_ **PASSENGER DISPATCH** for **DEPARTURE:**

PASSENGER DISPATCH:_ **OVERVIEW**

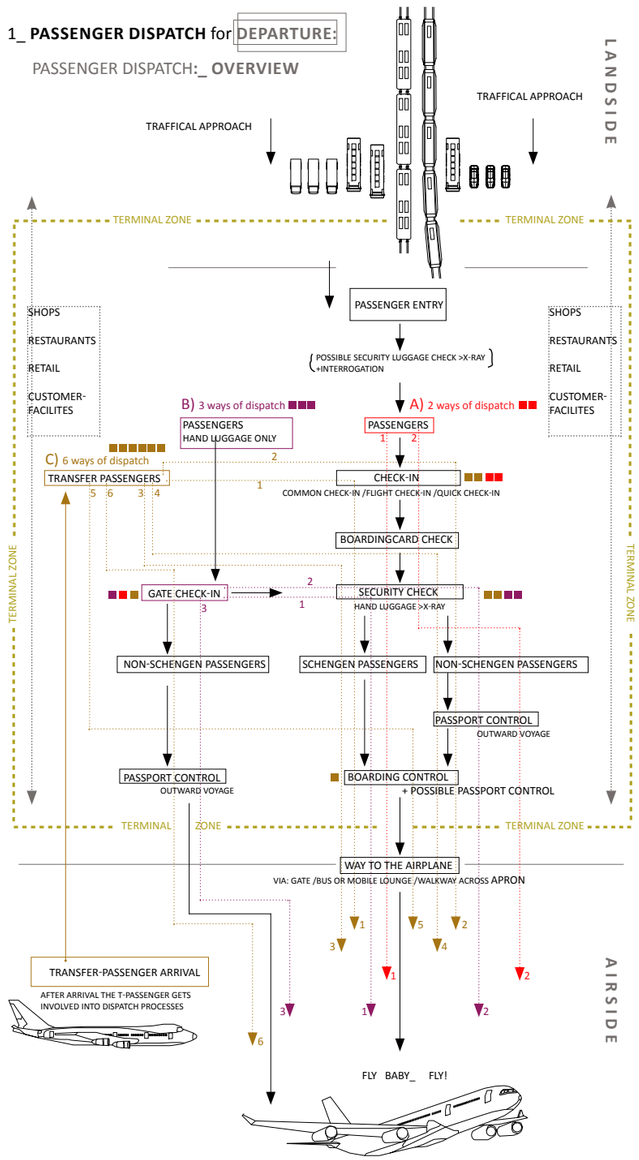


figure17:(cfr. Mensen, 2007 p.275; author´s translation; F.H.)

_>FUNCTIONS OF THE PASSENGER TERMINALS:

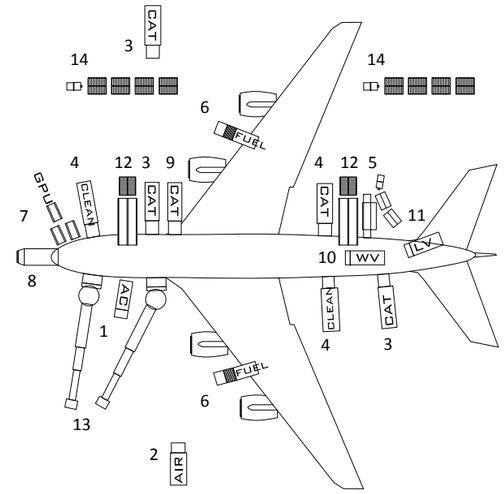
1] **PRIMARY PROCESSES =** **PASSENGER DISPATCHES !!!**
2] **SECONDARY PROCESSES**
3] **TERTIARY PROCESSES**

>1) **PRIMARY PROCESSES**:_ ARE **DIRECT DISPATCH-PROCESSES** REGARDING **TRAFFIC**- AS WELL AS **OPERATIONAL PASSENGER DISPATCH NEEDS**:

- > Approach and departure from and to the airport: > parking, charging and discharging of passengers and luggage as well as cargo and mail.
- > The traffic passenger dispatch regarding dispatche-activities needed for flight- departure and -arrival, > passing through the dispatch-processes:_ check-in, boarding pass check, passport check, custom check safety check, luggage abandonment, luggage assignment to the designated flight...
- > The traffic luggage-, cargo-, mail- dispatch for departure- and arrival-flight.
- > The traffic dispatch and transportation for transit-passengers, transit-cargo and transit-mail.
- > GROUND CONTROL belonging to the airside and supporting the operational dispatch-processes for aircraft regarding: fueling, cleaning, catering, luggage- charge and discharge, security services, winter services...

(cfr. Mensen, 2007 p.273-274; author´s translation; F.H.)

GROUND CONTROL:_ graphics



1 - **AC** =Air Conditioning Vehicle
2 - **AIR** =Air Start Vehicle
3 - **CAT** =Catering Vehicle
4 - **CLEAN** =Cleaning Vehicle
5 - Conveyor=Conveyor Belt
6 - **FUEL** =Fuel Hydrant Dispenser
7 - **GPU** =Ground Power Unit
8 - **TOW** =Towing Vehicle
9 - **UDCAT** =Upper Deck Catering Vehicle
10 - **WV** =Potable Water Vehicle
11 - **LV** =Lavatory Vehicle
12 - **PL** =Pallet/Container Loader
13 =Passenger Bridges
14 =Pallet/Container Vehicles

figure16: operational dispatch aircraft (cfr. Mensen, 2007 p.546; author´s translation; F.H.)

REFERENCES:_
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)

TRAFFIC PASSENGER DISPATCH:_ diagrams

1_ **PASSENGER DISPATCH** for DEPARTURE:

PASSENGER DISPATCH:_ **DETAILED**

C) 6 WAYS OF PASSENGER DISPATCH: ■■■■■■

TRANSFER-PASSENGERS

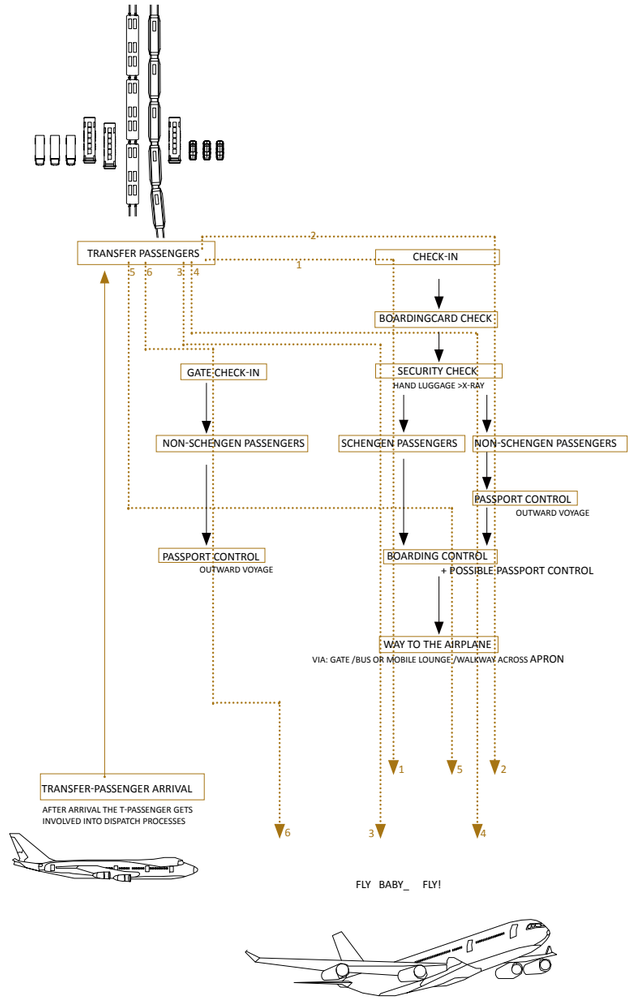


figure17:(cfr. Mensen, 2007 p.275; author´s translation; F.H.)

TRAFFIC PASSENGER DISPATCH:_ diagrams

1_ **PASSENGER DISPATCH** for DEPARTURE:

PASSENGER DISPATCH:_ **DETAILED**

A) 2 WAYS OF PASSENGER DISPATCH: ■■

REGULAR PASSENGERS

B) 3 WAYS OF PASSENGER DISPATCH: ■■■

PASSENGERS HAND LUGGAGE ONLY!

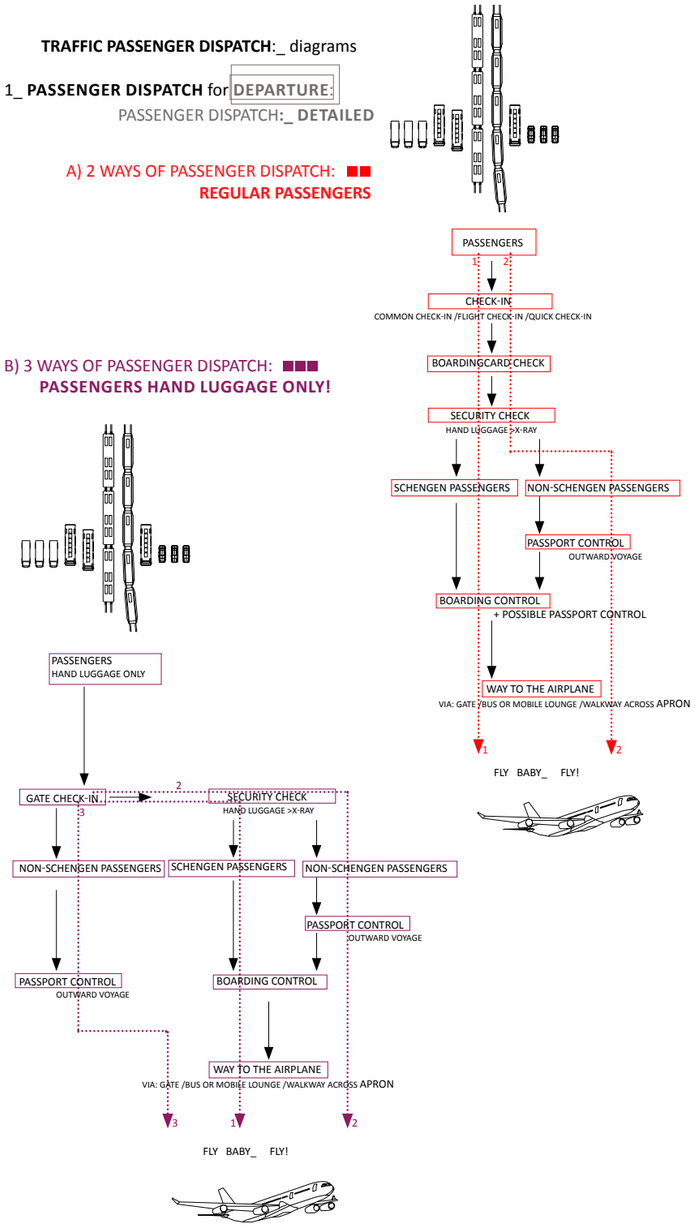


figure17:(cfr. Mensen, 2007 p.275; author´s translation; F.H.)

REFERENCES:_
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)

TRAFFIC PASSENGER DISPATCH:_ diagrams

1_ PASSENGER DISPATCH for ARRIVAL:

PASSENGER DISPATCH: **_ OVERVIEW**

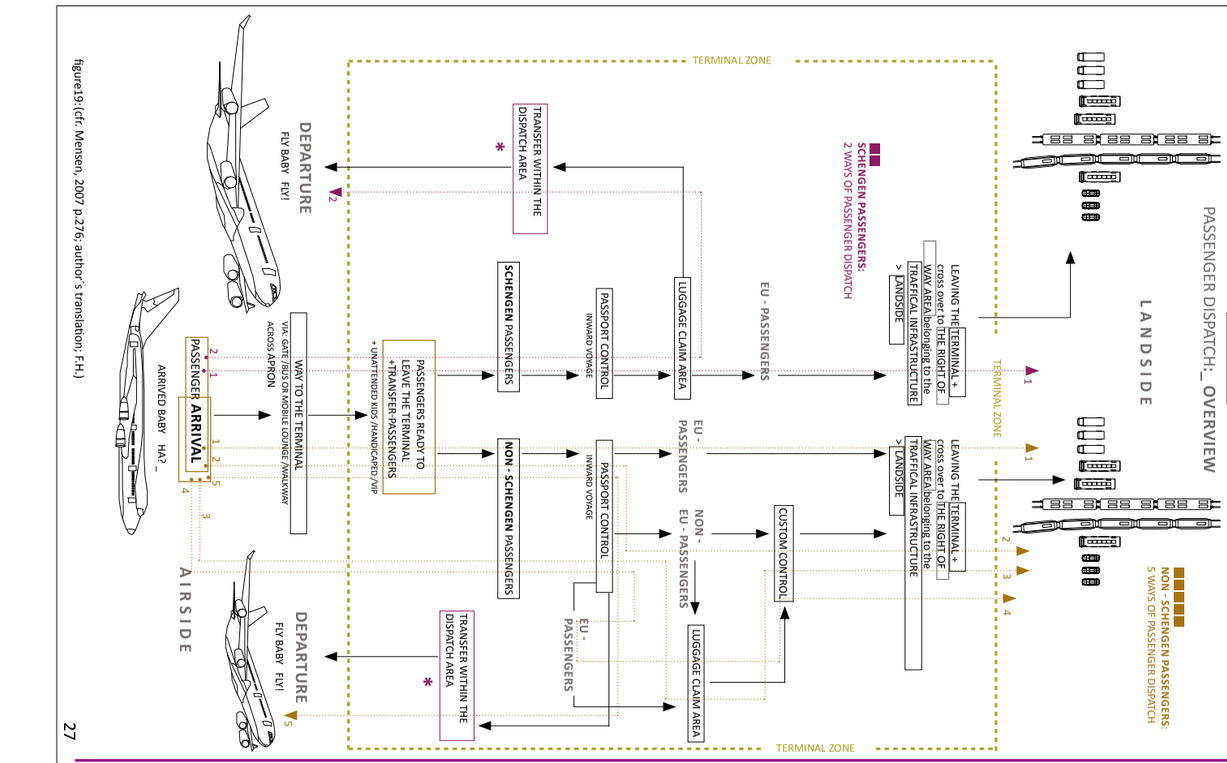


figure19:(cfr. Mensen, 2007 p.276; author's translation; F.H.)

TRAFFIC PASSENGER DISPATCH:_ diagrams

1_ PASSENGER DISPATCH for ARRIVAL:

TRANSFER-PASSENGER DISPATCH: **_ OVERVIEW**

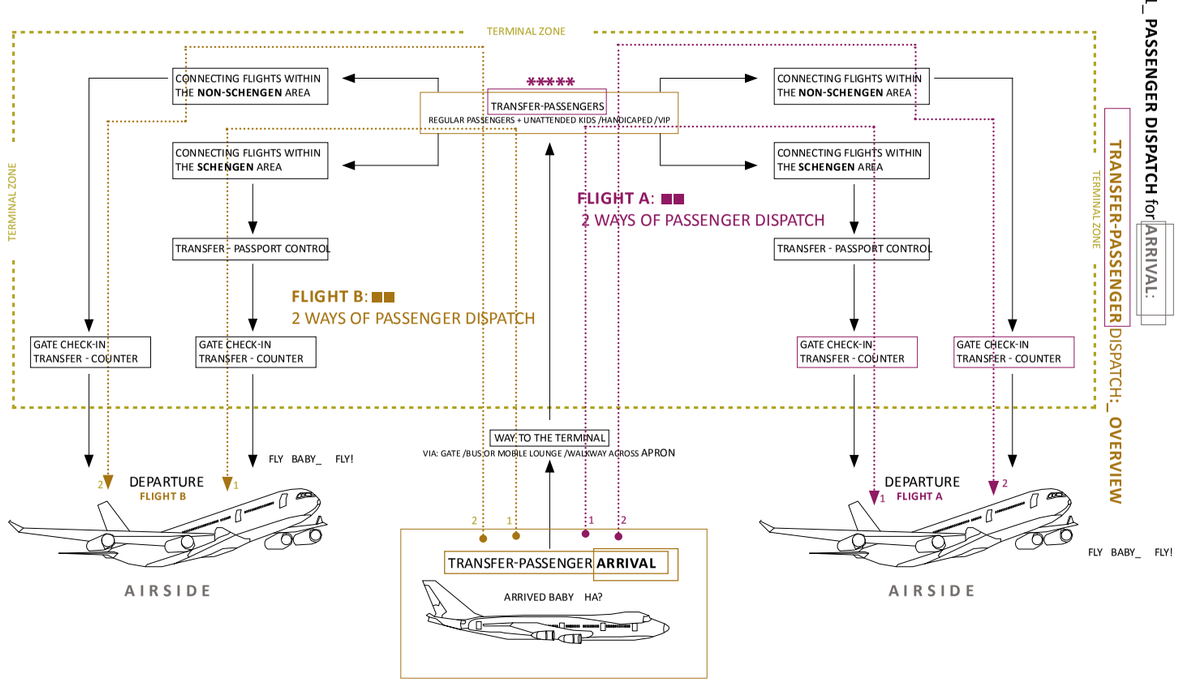


figure18:(cfr. Mensen, 2007 p.275; author's translation; F.H.)

REFERENCES:_

Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)

PASSENGER DISPATCH:_ **DETAILED >** **SCHENGEN PASSENGERS**

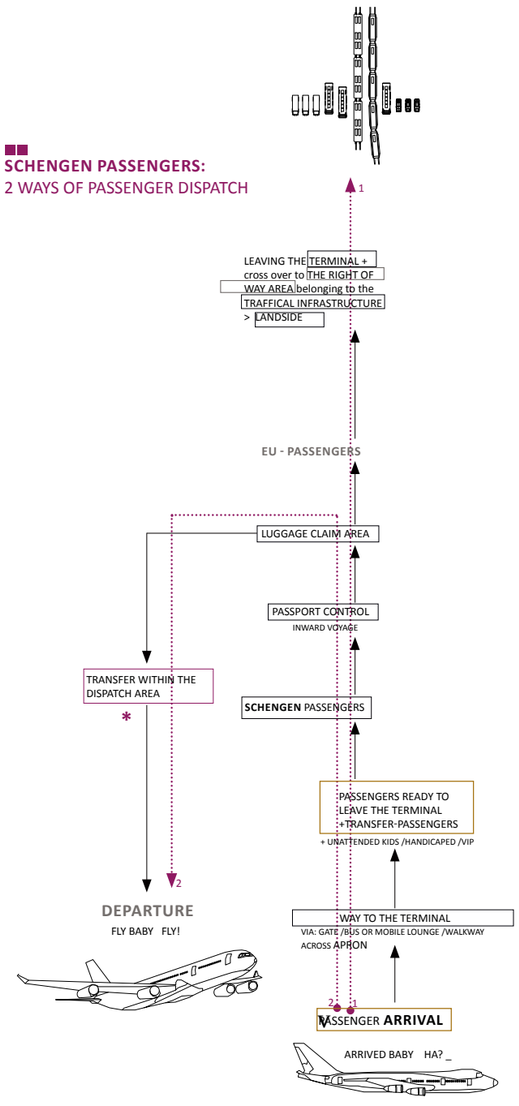


figure19: (cfr. Mensen, 2007 p.276; author´s translation; F.H.)

1_ **PASSENGER DISPATCH** for **ARRIVAL**:

PASSENGER DISPATCH:_ **DETAILED >** **NON - SCHENGEN PASSENGERS**

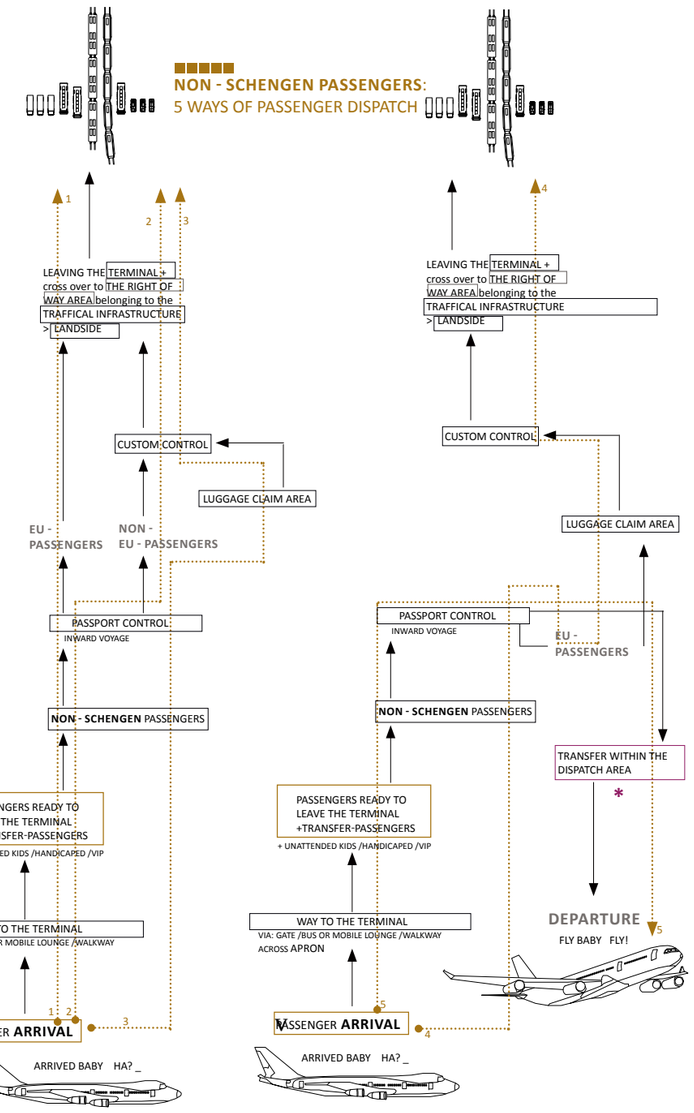
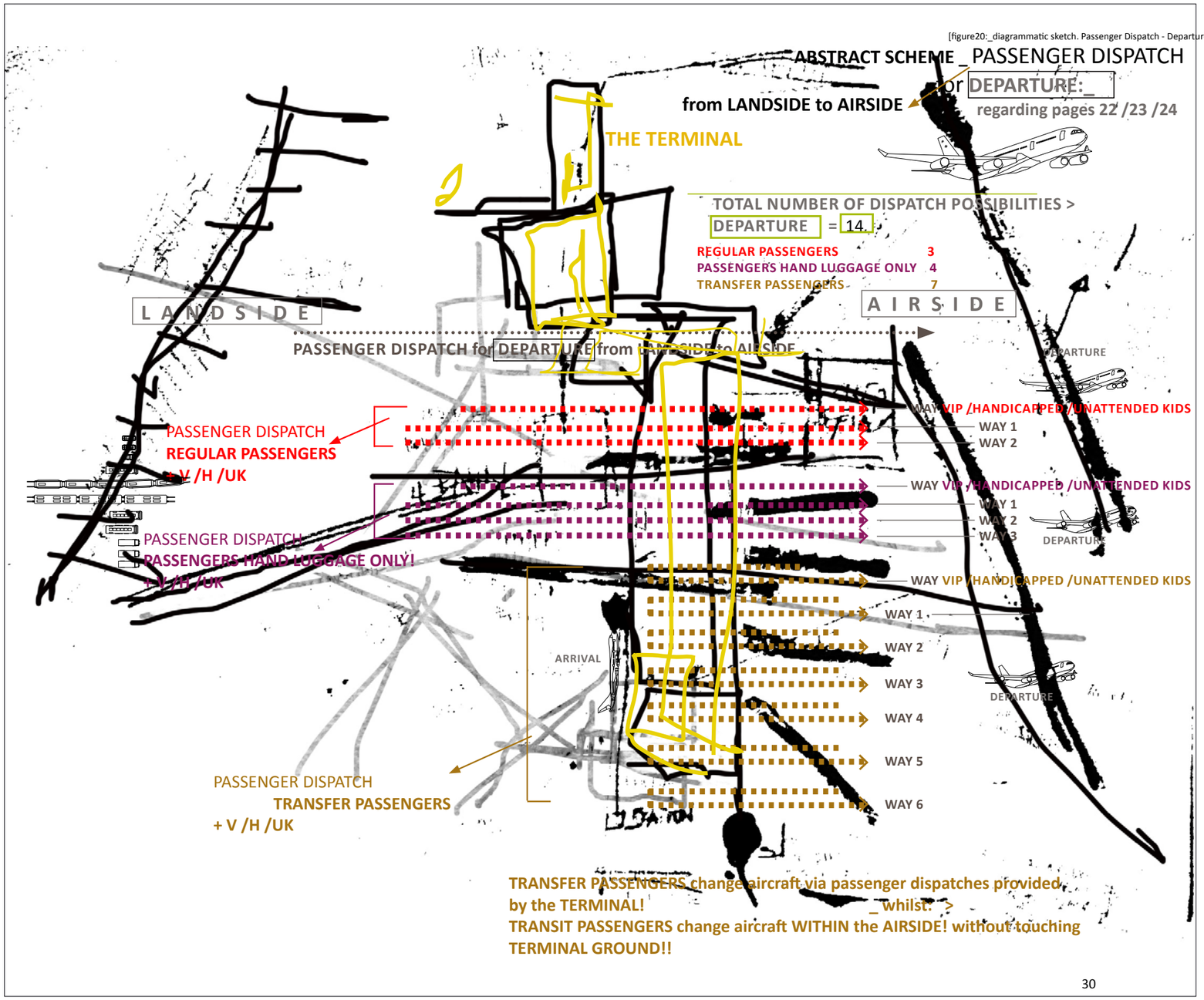


figure19: (cfr. Mensen, 2007 p.276; author´s translation; F.H.)

REFERENCES:_
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)

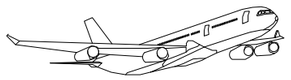
[figure20:_diagrammatic sketch. Passenger Dispatch - Departure; author F.H.]



[figure20:_diagrammatic sketch. Passenger Dispatch - Departure; author F.H.]

ABSTRACT SCHEME _ PASSENGER DISPATCH
for DEPARTURE:_
from LANDSIDE to AIRSIDE
regarding pages 22 /23 /24

THE TERMINAL



TOTAL NUMBER OF DISPATCH POSSIBILITIES >
DEPARTURE = 14

REGULAR PASSENGERS	3
PASSENGERS HAND LUGGAGE ONLY	4
TRANSFER PASSENGERS	7

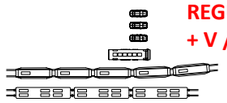
L A N D S I D E

A I R S I D E

PASSENGER DISPATCH for DEPARTURE from LANDSIDE to AIRSIDE

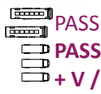

DEPARTURE

PASSENGER DISPATCH
REGULAR PASSENGERS
+ V /H /UK



WAY VIP /HANDICAPPED /UNATTENDED KIDS
WAY 1
WAY 2

PASSENGER DISPATCH
PASSENGERS HAND LUGGAGE ONLY
+ V /H /UK



WAY VIP /HANDICAPPED /UNATTENDED KIDS
WAY 1
WAY 2
WAY 3


DEPARTURE

WAY VIP /HANDICAPPED /UNATTENDED KIDS
WAY 1
WAY 2
WAY 3
WAY 4
WAY 5
WAY 6

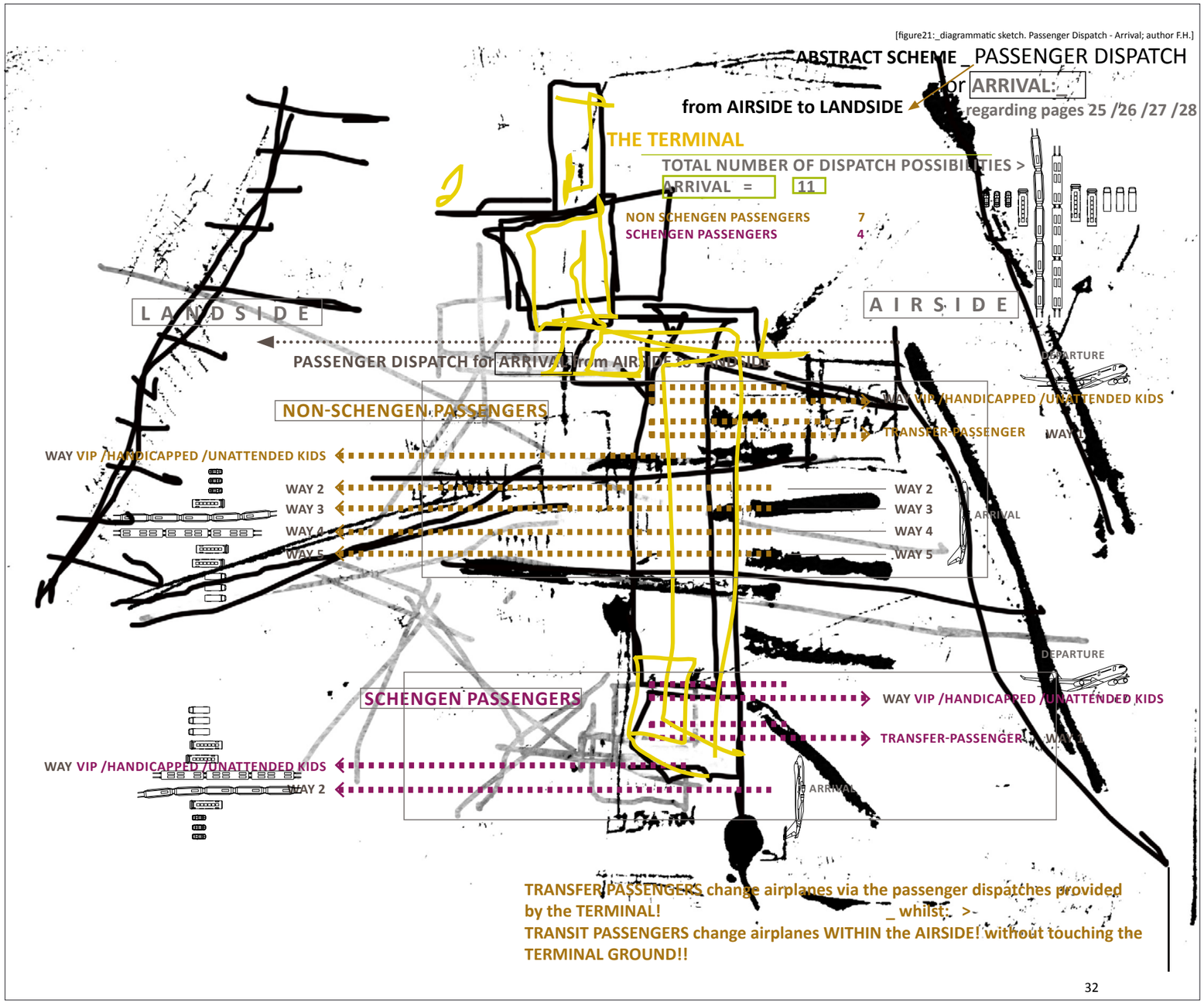
ARRIVAL


DEPARTURE

PASSENGER DISPATCH
TRANSFER PASSENGERS
+ V /H /UK

TRANSFER PASSENGERS change airplanes via the passenger dispatches provided by the TERMINAL! _ whilst: >
TRANSIT PASSENGERS change airplanes WITHIN the AIRSIDE! without touching the TERMINAL GROUND!!

[figure21:_diagrammatic sketch. Passenger Dispatch - Arrival; author F.H.]



[figure21:_diagrammatic sketch. Passenger Dispatch - Arrival; author F.H.]

ABSTRACT SCHEME _ PASSENGER DISPATCH for ARRIVAL:_

from AIRSIDE to LANDSIDE

regarding pages 25 /26 /27 /28

THE TERMINAL

TOTAL NUMBER OF DISPATCH POSSIBILITIES >

ARRIVAL = 11

NON SCHENGEN PASSENGERS 7

SCHENGEN PASSENGERS 4

L A N D S I D E

A I R S I D E

PASSENGER DISPATCH for ARRIVAL from AIRSIDE to LANDSIDE

DEPARTURE

NON-SCHENGEN PASSENGERS

WAY VIP /HANDICAPPED /UNATTENDED KIDS

TRANSFER-PASSENGER WAY 1

WAY VIP /HANDICAPPED /UNATTENDED KIDS

WAY 2

WAY 3

WAY 4

WAY 5

WAY 2

WAY 3

WAY 4

WAY 5

ARRIVAL

DEPARTURE

SCHENGEN PASSENGERS

WAY VIP /HANDICAPPED /UNATTENDED KIDS

TRANSFER-PASSENGER WAY 1

WAY VIP /HANDICAPPED /UNATTENDED KIDS

WAY 2

ARRIVAL

TRANSFER PASSENGERS change airplanes via the passenger dispatches provided by the TERMINAL! _whilst: >
TRANSIT PASSENGERS change airplanes WITHIN the AIRSIDE! without touching the TERMINAL GROUND!!

TRAFFICAL LUGGAGE DISPATCHES:_> D I A G R A M S:_____

2_ **LUGGAGE DISPATCH** for TRANSFERING LUGGAGE:

3 WAYS OF DISPATCH for TRANSFERING LUGGAGE

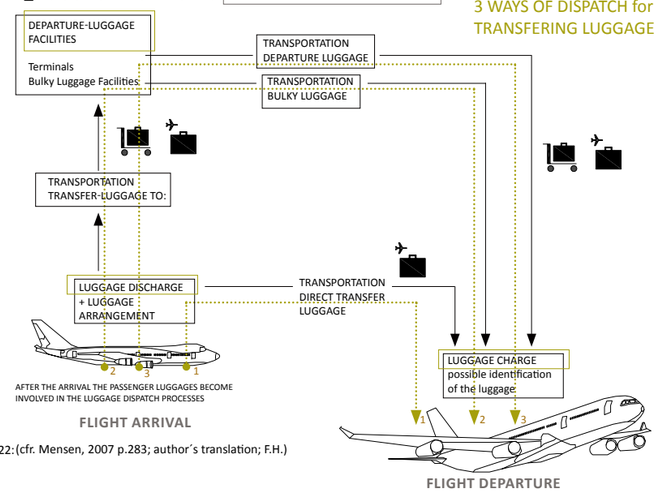


figure22:(cfr. Mensen, 2007 p.283; author´s translation; F.H.)

2_ **LUGGAGE DISPATCH** for DEPARTING LUGGAGE:

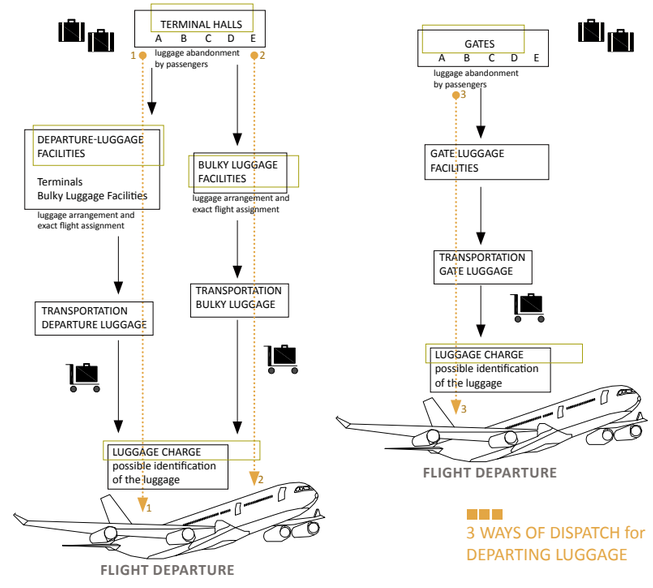


figure22:(cfr. Mensen, 2007 p.283; author´s translation; F.H.)

1] **PRIMARY PROCESSES > LUGGAGE DISPATCHES**

PRIMARY PROCESSES:_ 2)

LUGGAGE DISPATCH: Among passenger dispatches the most important services regarding aviation-dispatch-activities are the LUGGAGE DISPATCHES. A primary importance is to guaranty as low as possible error rates referring to miscarriage of luggage. As well guaranteeing a very fast and optimized baggage claim. Besides optimized baggage claim, guaranteed transfer times of maximum 45 min. and check-in possibilities shortly before departure become inescapable targets for airports, not least in cause of competition laws. Among dispatch processes, luggage dispatch has the most influent impact regarding optimization of time issues. The task of luggage dispatch lays in the arrangement, assignment and carriage of arriving, transferring, and departing passenger-luggage, between the TERMINAL and the arriving or departing AIRCRAFT. This becomes possible through baggage tags, they hold informations such as flight number, connecting flight number regarding the transfer luggage, destinations, plus the individual number of the respective luggage. After check-in every luggage receives a code relaying onto flight number. The conveyor belt tracks transport the coded luggage, underlaying X-ray checks, from check-in(departure luggage), make up carousselles(arrival luggage) up to collecting points(departurte luggage), baggage claim hall(arrival luggage), where the luggage then is ready to leave the terminal. The next step in dispatch line for departure luggage is its transportation to and loading into aircraft. Loading targets for transfer luggage are the parking positions of the arriving aircraft. Activities regarding luggage dispatch departure lay in between 1 up to 3 hours before departure. There are time-regarding possibilities for luggage dispatch, such as luggage dispatch at check-in, luggage dispatch before check-in, luggage dispatch fly and rail... After flight arrival the baggage dispatch time should not pass 25 min. after On-Block positioning aircraft(landing aircraft + turning off the jet engine while parking). Flight assignment regarding disbursement baggage rotation proceeds before landing.

(cfr. Mensen, 2007 p.282-287; author´s translation; F.H.)

> **TRAFFICAL LUGGAGE DISPATCHES**:_> D I A G R A M S:_____

2_ **LUGGAGE DISPATCH** for ARRIVING LUGGAGE:

2 WAYS OF DISPATCH for ARRIVING LUGGAGE

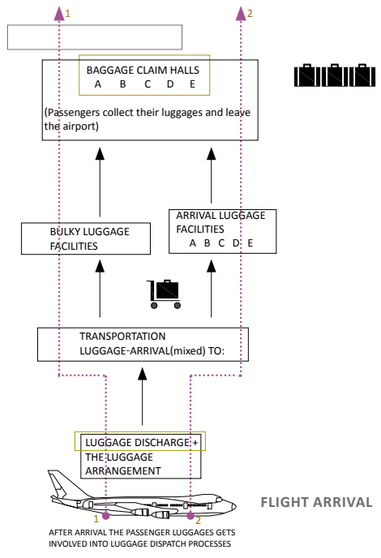


figure22:(cfr. Mensen, 2007 p.283; author´s translation; F.H.)

REFERENCES:_
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)

[figure23:_diagrammatic sketch. Luggage Dispatch - Arrival/Transfer/Departure; author F.H.]

[figure23:_diagrammatic sketch. Luggage Dispatch - Arrival/Transfer/Departure; author F.H.]

ABSTRACT SCHEME _ LUGGAGE DISPATCH

for ARRIVAL / TRANSFER /DEPARTURE_ :

AIRSIDE + LANDSIDE

regarding pages 33 /34

THE TERMINAL

TOTAL NUMBER OF LUGGAGE DISPATCH POSSIBILITIES >

ARRIVAL /TRANSFER /DEPARTURE = 8

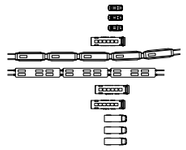
ARRIVAL DISPATCH 2

TRANSFER DISPATCH 3

DEPARTURE DISPATCH 3

L A N D S I D E

A I R S I D E



ARRIVAL

WAY 1

WAY 2

WAY 1

WAY 2

ARRIVAL DISPATCH

WAY 1

WAY 2

WAY 3

DEPARTURE

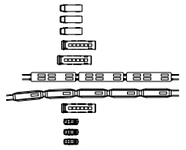
TRANSFER DISPATCH

WAY 3

WAY 2

WAY 1

ARRIVAL



WAY 1

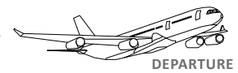
WAY 2

WAY 3

WAY 1

WAY 2

WAY 3



DEPARTURE

DEPARTURE DISPATCH

>2) **SECONDARY PROCESSES**:_ This porcesses are assigned to traffic- and operational dispatch in a secondary way only. Examples for secondary processes:

> Sale of flight-tickets via tourist agencies
> Rental car services
> Preparation of luggage carts
> Circling areas
> Areas for customer supply....

(cfr. Mensen, 2007 p.273-274; author´s translation; F.H.)

>3) **TERTIARY PROCESSES**:_ Processes which are assigned to traffic and operational dispatch in a tertiary way, still THEY engender an enormous input regarding attractiveness and efficiency of an airport. Actually ***THE TERTIARY PROCESSES GUARANTEE THE FINANCIAL AND COMPETING SURVIVAL OF AN AIRPORT NOWADAYS***. Examples for tertiary processes are:

- Restaurants
- Retail for common day needs
- Retail for travel necessities
- Retail for leisure
- Banking institutions
- Cash points/ cash dispenser
- Pharmacies
- Conference rooms
- Offices
- Lawyer offices
- Facilities for baby changing
- Medical care
- Facilities for cleaning
- Storage facilities for luggage
- Shower- and bath rooms
- Services for belongings regarding documents
- Travel agencies
- Visitor services
- Child care /Kindergarten
- Potentially meditation rooms
- Water posts/ fountains
- Gas stations
- Hotels
- Leisure facilities....

(cfr. Mensen, 2007 p.273-274; author´s translation; F.H.)

REFERENCES:_
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)

* ***AUTHORS´S NOTE****: THE FOLLOWING TITLE AND ITS CONTENT: The Low Cost Carrier >Ryanair. Page 39-44.* ***IS NOT BASED ON ACADEMIC SOURCES! THUS NO GUARANTEE OF ACCURACY!*** *authoritative source: Wikipedia - free encyclopedia*

chapter 1.

02

*
_>THE **LOW COST CARRIER** >**RYANAIR**

>**GENERAL INFORMATIONS**:

Ryanair is an Irish low-cost airline with its head office at Dublin Airport, and with primary operational bases at Dublin Airport and London Stansted Airport.
Ryanair operates 265 Boeing 737-800 aircraft on over 1.100 routes across Europe and Morocco from 44 bases. The airline has been characterised by rapid expansion, by reason of deregulation of the aviation industry in Europe in 1997 and the success of its low-cost business model. Ryanair is Europe's largest low-cost carrier and the 2nd-largest airline in Europe in terms of passenger numbers and the largest in the world in terms of international passenger numbers. (Wikipedia)

Ryanair was founded in 1985 by Christopher Ryan, Liam Lonergan and Tony Ryan after whom the company is named. The airline began with a 14-seat "Embraer Bandeirante turboprop" aircraft, flying between Waterford and London Gatwick Airport, with the aim of breaking the duopoly on London-Republic of Ireland flights at that time, held by British Airways and Aer Lingus. (Wikipedia)
In 1986, the company added a second route – flying Dublin-Luton International Airport in direct competition with the Aer Lingus / BA duopoly for the first time. Under partial EU deregulation, airlines could begin new international intra-EU services, as long as at least one of the two governments gave approval. The Irish government at the time refused its approval, in order to protect Aer Lingus, but Britain, under Margaret Thatcher's pro-free-market Conservative government, approved the service. (Wikipedia)
With two routes and two planes, the fledgling airline carried 82.000 passengers in one year. Passenger numbers continued to increase, but the airline generally ran at a loss and by 1991 was in need of restructuring. Michael O'Leary was charged with the task of making the airline profitable. O'Leary quickly decided that the key to low fares was to implement quick turn-around times for aircraft, "no frills" and no business class, as well as operating a single model of aircraft. He competed with the major airlines by providing low-cost service. Flights were scheduled into regional airports, which offered lower landing and handling charges than larger established international airports. (Wikipedia)

In 1992 the European Union's deregulation of the air industry in Europe gave carriers from one EU country the right to operate scheduled services between other EU states and represented a major opportunity for Ryanair. In 1998 the airline placed a massive $2 billion order for 45 new Boeing 737–800 series aircraft. (Wikipedia)

In 2000 the airline launched its website with online booking, initially said to be a small and unimportant part of the software supporting the site. Increasingly the online booking contributed to the aim of cutting flight prices by selling direct to passengers and excluding the costs imposed by travel agents. Within a year the website was handling three-quarters of all bookings. Today it is only possible to book seats via the website or via the "Ryanair direct" call-centre. No other possibilities are officially offered. (Wikipedia)
In 2003 Ryanair announced the order of a further 100 new Boeing 737–800 series aircraft. By the end of the year the airline flew 127 routes, of which 60 had opened in the previous 12 months. By mid of 2004 the airline was operating from a total of 11 bases across Europe. (Wikipedia)

During 2004 Michael O'Leary warned of a "bloodbath" during the winter from which only two or three low-cost airlines would emerge, the expectation being that these would be Ryanair and EasyJet. A modest loss of €3.3 million in the second quarter of 2004 was the airline's first recorded loss for 15 years. However, the airline recovered posting profits soon after. (Wikipedia)
The enlargement of the European Union on 1 May 2004 opened the way to more new routes as Ryanair and other budget airlines tapped the markets of the EU accession countries. (Wikipedia)
In February 2005 Ryanair announced an order for a further 70 Boeing 737–800 aircraft, along with an option for a further 70. This was expected at the time to allow Ryanair to increase passenger numbers from the 34 million expected in 2005 up to 70 million in 2011. Some of these aircraft would be deployed at Ryanair's 12 European bases, others to 10 new bases the company intended to establish over the next seven years. (Wikipedia)
In June 2006, the company announced that in the quarter ending 30 June 2006, its average yields were 13% higher than the same quarter of the previous year.
And its passenger numbers were up by 25% to 10.7 million, although year-on-year comparison was difficult, because of the movement of Easter from first quarter 2005 to second quarter 2006. (Wikipedia)
Net profits €115.7 m increased by 80% over the same quarter in 2005. Management indicated that the level of growth may not be sustained for the remainder of that year, despite adding 27 new aircraft and opening new routes. (Wikipedia)

Ryanair's passenger numbers have grown up to 25% a year for most of the last decade. (Wikipedia)
Carrying under 700.000 annually in its early years, passenger figures grew to 21.4 million in 2003. The rapid addition of new routes and new bases has enabled this growth in passenger numbers and made Ryanair among the largest carriers on European routes. In August 2004, the airline carried 20% more passengers within Europe than British Airways. Ryanair posted record half-year profits of € 329 million for the six months ending 30 September 2006. Over the same period, passenger traffic grew by more than a fifth to 22.1 million passengers and revenues rose by a third to € 1.256 billion. (Wikipedia)
Fourth quarter 2006 profits far exceeded analyst expectations and over the period from October 2006 to February 2007, the stock rose by some 50%. Ryanair continued to expand and establish new European bases. In May Ryanair launched BING. This application brings daily fare specials to the user's computer.
In 2006 and 2009 Ryanair launched a takeover bid of fellow Irish airline, Air Lingus, both times rejected by the Air Lingus Board and the Irish Government on the grounds that it undervalued the airline and would harm competition.
However Ryanair bought 2006 a 16% stake in Aer Lingus, in October 2010 competition regulators in the UK opened an enquiry, concerning that Ryanair's stake may lead to a reduction in competition. (Wikipedia)
February 2009, it was confirmed by Ryanair that they were planning to close all check-in desks by the start of 2010. Michael O'Leary, Ryanair's chief executive said that passengers will be able to leave their luggage at a bag drop but otherwise everything will be done online. This became reality in October 2009. (Wikipedia)

In February 2010, Michael O'Leary threatened that if London Stansted did not give Ryanair any more low-priced landing fees, the airline would move many of its routes from Stansted to London Gatwick, which provided lower landing offers to the airline, and open a base there, or even pull out entirely from Stansted. (Wikipedia)

REFERENCES:_
Wikipedia: Ryanair. last update: 21.03.2012. URL: http://en.wikipedia.org/wiki/Ryanair- downloaded /)

In common with other no-frills airlines, Ryanair is a strictly point-to-point carrier and does not offer connecting flights. Passengers who purchase an onward flight from their destination, intending to make a connection, are held responsible for making it to the airport on time for each flight. Ryanair does not compensate passengers who miss their flights because they arrive too late at the airport, nor does it provide replacement tickets free of charge. If a passenger misses their flight, then it is the passenger's responsibility to buy a new ticket at their own expense. This rule applies regardless of the passenger's chosen method of transport to the airport, including another Ryanair flight. (Wikipedia)

CUSTOMER SERVICE:_ Ryanair has been criticised for many aspects of its customer service. The Economist wrote that Ryanair's "cavalier treatment of passengers" had given Ryanair "a deserved reputation for nastiness" and that the airline "has become a byword for appalling customer service ... and jeering rudeness towards anyone or anything that gets in its way". The airline has come under heavy criticism in the past for its poor treatment of disabled passengers. In 2002, it refused to provide wheel chairs for disabled passengers at London Stansted Airport, greatly angering disabled rights groups. The airline argued that this provision was the responsibility of the airport authority, stating that wheelchairs were provided by 80 of the 84 Ryanair destination airports, at that time. A court ruling in 2004 judged that the responsibility should be shared by the airline and the airport owners, Ryanair responded by adding a surcharge of £0.50 to all its flight prices.(Wikipedia)
Ryanair does not offer customers the possibility of contacting them by email or webform, only through a premium rate phone line, by fax or by post. An early day motion in the British Parliament put forward in 2006 criticised Ryanair for this reason and called on the company to provide customers with a means to contact the company by e-mail. It is claimed that Ryanair is therefore flouting UK e-commerce regulations, which state that the email address of the service provider must be given. (Wikipedia)

PUBLICITY:_
Publicitiy regarding Ryanair is following a very radical, aggressive, provocative, straight, penetrant and attacking design, against its competitors.
A Ryanair tactic is to make deliberately controversial statements to gain media attention. An example of this was the live BBC News interview on 27 February 2009 when Michael O'Leary, observing that it was "a quiet news day", commented that Ryanair was considering charging passengers £1 to use the toilet on their flights. The story subsequently made headlines in the media for several days and drew attention to Ryanair's announcement that it was removing check-in desks from airports and replacing them with online check-in. Eight days later O'Leary eventually admitted that it was a publicity stunt saying "It is not likely to happen, but it makes for interesting and very cheap PR". It is perhaps a demonstration of the public's expectations of Ryanair that the concept of paying for even this most essential of customer services was foreseen by the spoof news website "The Mardale Times" some five months previously, in their article "Ryanair announce new 'Pay-Per-Poo' service". (Wikipedia)
Ryanair often use their advertising to make direct comparisons and attack their competitors. One of their advertisements used a picture of the Manneken Pis, a famous Belgian statue of an urinating child, with the words: "Pissed off with Sabena's high fares? Low fares have arrived in Belgium." Sabena sued and the court ruled that the advertisements were misleading and offensive. Ryanair was ordered to discontinue the advertisements immediately or face fines. Ryanair was also obliged to publish an apology and publish the court decision on their website. Ryanair used the apologies for further advertising, primarily for further price comparisons.(Wikipedia)

On 28 March 2010, Ryanair announced that the on-board mobile phone service would be temporarily unavailable. Michael O'Leary explained that the contract with OnAir, who provided Ryanair the service, had been terminated after a 13 month proving period. As a result, Ryanair have invited other in-flight-communications providers to tender for access to Ryanair's in-flight phone service. (Wikipedia)

In August 2010, Ryanair announced its first ever Bulgarian destination connecting Plovdiv with London Stansted. The service is planned to start in November 2010 with two flights weekly. (Wikipedia)
On the 31st of August Ryanair announced that they would be withdrawing all their routes from their smallest base, Belfast City. Chief executive Michael O'Leary said: "While we recognise the right of the government and people of Northern Ireland to subject this small runway extension to an extended planning process, these repeated delays, the reference to a public inquiry, and now the further delay to the public inquiry for spurious noise reasons, shows a lack of willingness on the part of the local authorities to grow and develop traffic, routes, tourism and jobs in Northern Ireland. In these circumstances, sadly, we have better alternative airports elsewhere in the UK and Europe, all of whom are willing and able to provide us with the runway infrastructure and low-cost facilities we need in order to operate our lowest fare flights immediately, safely and profitably."
On 4 January 2011, Ryanair announced that its 2010 traffic grew by 10% from 65 million to over 72 million passengers. (Wikipedia)

>BUSINESS MODEL:

ANCILLARY REVENUE AND IN-FLIGHT SERVICE:_ Twenty percent of Ryanair's revenue is generated from ancillary revenue, that is income from sources other than ticket fares. In 2009 ancillary revenue was at €598 million, compared to a total revenue of €2,942 million. As part of the low-cost business model the airline charges fees, these can be related to alternative services like using airport check-in facilities instead of the online service fee and using non-preferred methods of payment. It also charges for extra services like checked in luggage and it offers food and drinks for purchase as part of a buy on board programme. Ryanair argues that it charges for a large number of optional extras in order to allow those passengers who do not require baggage, priority boarding or other premium services to travel for the lowest possible price by giving customers the flexibility to choose what they pay for.
In 2009, Ryanair abolished airport check-in and replaced it with a fast bag drop for those passengers checking in bags. The option of checking in at the airport for €10 has been discontinued, and all passengers are required to check-in online and print their own boarding pass. Passengers arriving at the airport without a pre-printed online check-in will have to pay €40 for their boarding pass to be re-issued. Ryanair has also replaced the free online check-in with a €5 online check-in fee which is charged per person, per flight. (Wikipedia)

NO FRILLS:_ New Ryanair aircraft have been delivered with non-reclining synthetic leather seats, no seat-back pockets, safety cards stuck on the back of the seats, and life jackets stowed overhead rather than under the seat. This allows the airline to save on aircraft costs and enables faster cleaning and safety checks during the short turnaround times. (Wikipedia)
Other proposed measures to reduce frills further have included eliminating two toi lets to add six more seats, redesigning the aircraft to allow standing passengers, charging extra for overweight passengers, and asking passengers to carry their checked-in luggage to the plane. (Wikipedia)

REFERENCES:_
Wikipedia: Ryanair. last update: 21.03.2012. URL: http://en.wikipedia.org/wiki/Ryanair- downloaded /)

>CHOOSING DESTINATIONS:

When Ryanair negotiates with its airports, it demands very low landing and handling fees, as well as financial assistance with marketing and promotional campaigns. In subsequent contract renewal negotiations, the airline has been reported to play airports against each other, threatening to withdraw services and deploy the aircraft elsewhere, if the airport does not make further concessions. In April 2006, a failure to reach agreement on a new commercial contract resulted in Ryanair announcing that it would withdraw service on the Dublin–Cardiff route at short notice. The airport management rebutted Ryanair's assertion that airport charges were unreasonably high, claiming that the Cardiff charges were already below Ryanair's average and claimed that Ryanair had recently adopted the same negotiating approach with Cork Airport and London Stansted Airports. Ryanair was recently reported to have adopted 'harsh' negotiating with Shannon Airport and is closing 75% of its operations there from April 2010. Ryanair was forced to give up its Rome Ciampino–Alghero route, after the route was allocated to Air One, as a public service obligation (PSO) route. The European Commission is investigating the actions of the Italian Government in assigning PSO routes and thus restricting competition. (Wikipedia)

>RYANAIR´S DESTINATIONS: Generally

Ryanair's five largest bases are **LONDON-STANSTED** (UK) - **106 routes**], **DUBLIN** (UK) - **79 routes**], **GIRONA** (ES) - **64 routes**], **ALICANTE** (ES) - **57 routes**] and **BRUSSELS-CHARLEROI** (BE) - **57 routes**].
Until October 2010 Belfast City was the airline's smallest base, with five routes. Ryanair pulled out of the Belfast City in October 2010 and **PESCARA** (ITA) - **7 routes**] became the airline's smallest base with 7routes served from the airport Cagliari, Eindhoven, Frankfurt Hahn, Girona Costa Brava, London Stansted, Oslo Torp and Milan Bergamo. (Wikipedia)
Ryanair flies to many regional or secondary airports in a point to point model rather than the more traditional airline hub and spoke model where the passengers have to change aircraft in transit at a major airport. This allows the airline to offer lower fares due to the lower landing and handling costs they can negotiate at regional airports. (Wikipedia)
Secondary airports are not always far from the city they serve and in fact can be closer than the city's major airport, this is the case at Belfast, Gothenburg and Rome. Ryanair does serve as well a number of major airports including Dublin, Barcelona, Berlin Schönefeld, Edinburgh, London-Gatwick, Madrid-Barajas and Porto.
In October 2010 Ryanair had offered to build a new base in Prague as well in Budapest, but due to high charges, high landing fees and high ground handling fees, Ryanair pulled out all routes from Budapest and Prague.(Wikipedia)
Ryanair has 44 European bases. Despite Ryanair being an Irish airline, it has a significant presence in the UK, France, Italy and Spain and amongst other European countries. (Wikipedia)

Another deliberately provocative ad campaign headlined "Expensive Bastards!" compared Ryanair with British Airways. As with Sabena, British Airways disagreed with the accompanying price comparisons and brought legal action against Ryanair. However, in this case the High Court sided with Ryanair and threw BA's case out ordering BA to make a payment towards Ryanair's court costs. The judge ruled "The complaint amounts to this: that Ryanair exaggerated in suggesting BA is five times more expensive because BA is only three times more expensive. "Accordingly, in my view, the use was honest comparative advertising. I suspect the real reason that BA do not like it is precisely because it is true." (Wikipedia)

Ryanair had to deal with many judicial proceedings regarding allegations of misleading advertising. (Wikipedia)
The low-cost-airline was ordered by the ASA - Advertising Standards Authority, to stop claiming that its flights from London to Brussels are faster than the rail connection Eurostar, on the grounds that the claim was misleading, due to required travel times to the airports mentioned. Ryanair stood by its claims, noting that their flight is shorter than the train trip and that travel time is also required to reach Eurostar's train stations. (Wikipedia)
In April 2008, Ryanair faced a probe by the UK Office of Fair Trading, after a string of complaints about its adverts. It was found to have breached advertising rules seven times in two years. ASA's director general Christopher Graham commented that formal referrals to the OFT were rare, the last occurring in 2005. He added that the ASA "would prefer to work with advertisers within the self-regulatory system rather than call in a statutory body, but Ryanair's approach has left us with no option." Ryanair countered with the claim that the ASA had "demonstrated a repeated lack of independence, impartiality and fairness" (Wikipedia)
In July 2009, Ryanair took a number of steps to "increase the clarity and transparency of its website and other advertising" after reaching an agreement with the OFT. The airline's website now includes a statement that "Fares don't include optional fees/charges" and they now include a table of fees to make fare comparisons easier. (Wikipedia)
In July 2010 Ryanair once again found itself in controversy regarding alleged misleading advertising. Ryanair circulated advertisements in two newspapers offering £10 one-way fares to European destinations. Following a complaint from rival carrier EasyJet, the ASA ruled the offer was "likely to mislead".(Wikipedia)

>COMPETITORS:

Ryanair now has a number of low-cost competitors. In 2004, approximately 60 new low-cost airlines were formed. Although traditionally a full-service airline, Aer Lingus moved to a low-fares strategy from 2002, leading to a much more intense competition with Ryanair on Irish routes. (Wikipedia)
Airlines which attempt to compete directly with Ryanair are treated competitively, with Ryanair being accused by some of reducing fares to significantly undercut their competitors. In response to MyTravelLite, who started to compete with Ryanair on the Birmingham to Dublin route in 2003, Ryanair set up competing flights on some of MyTravelLite's routes until they pulled out. Go was another airline which attempted to offer services from Ryanair's base at Dublin to Glasgow and Edinburgh in Scotland. A fierce battle ensued, which ended with Go withdrawing its service from Dublin. (Wikipedia)
Also Ryanair´s biggest competitor Easyjet, which 2004 firstly competed with Ryanair on its home ground, announced in July 2006, that it was withdrawing its Gatwick-Cork, Gatwick-Shannon and Gatwick-Knock services within two weeks. (Wikipedia)

REFERENCES:_
Wikipedia: Ryanair. last update: 21.03.2012. URL: http://en.wikipedia.org/wiki/Ryanair- downloaded /)

RYANAIR-BASES

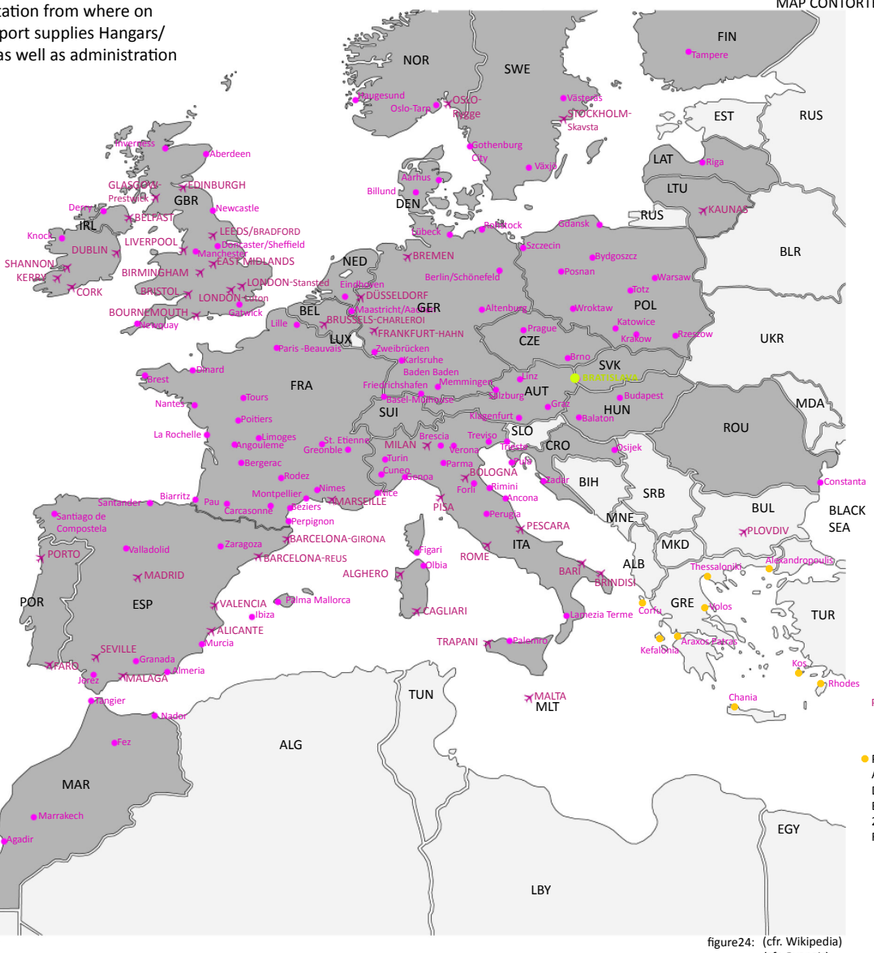
To date Ryanair has approximately 57 Bases european-wide, considering a Base as being an aircraft-station from where on Airlines CAN DIRECTLY OPERATE. The Airport supplies Hangars/ Garages concerning aircraft-positioning as well as administration facilities for office-needs to Airlines.

57 BASES OVERVIEW

- IRL:_ BELFAST, DUBLIN, SHANNON, KERRY, CORK
- NOR:_ OSLO-Rygge
- SWE:_ STOCKHOLM-Skavsta
- LTU:_ KAUNAS
- BEL:_ BRUESSELS-Charleroi
- FRA:_ MARSEILLE
- ESP:_ BARCELON-Girona, BARCELONA-Reus, MADRID, VALENCIA, ALICANTE, SEVILLE, MALAGA
- ESP (CANARY ISLANDS):_ LANZAROTE, TENERIFE-SOUTH, GRAN CANARIA
- POR:_ PORTO, FARO
- MLT:_ MALTA
- GER:_ BREMEN, FRANKFURT-Hahn, DÜSSELDORF
- BUL:_ PLOVDIV
- GBR:_ GLASGOW-Prestwick, EDINBURGH, LEEDS/ Bradford, LIVERPOOL, EAST MIDLANDS, BIRMINGHAM, LONDON-Stansted, LONDON-Luton, BRISTOL, BOURNMOUTH
- ITA:_ MILAN, BOLOGNA, PISA, PESCARA, ROME, BARI, BRINDISI, TRAPANI, ALGHERO, CAGLIARI

_> RYANAIR: BASES / and DESTINATIONS >SCHEME

MAP CONTORTED!



Pleas note:
Additional Flight Destinations and Bases. Last update. 25/03/12. author F.H.
Reference: (cfr. Ryanair)

figure24: (cfr. Wikipedia) (cfr. Ryanair)

RYANAIR-DESTINATIONS

Ryanair is heading for approximately 96 Destinations inward and partially outward Europe. Compared to a Base, a Destination represents targeted goal only, with supplying facilities allowing aviation dispatch, means any traffic and operational needs the aircraft require are guaranteed. No Hangars/Garages nor administration facilities are being offered to Airlines.

96 DESTINATIONS OVERVIEW

- IRL:_ Derry, Knock
- GBR:_ Inverness, Aberdeen, Newcastle, Dncaster/Sheffield, Manchester, Gatwick, Newquay
- NOR:_ Haugesund, Oslo-Tarp
- FIN:_ Tampere
- GBR:_ Gothenburg City, Växjö, Västeräs
- LAT:_ Riga
- DEN:_ Aarhus, Billund
- NED:_ Eindhoven, Maastricht/Aachen
- MAR:_ Nador, Tangier, Fez, Marrakech, Agadir
- FRA:_ Brest, Nantes, La Rochelle, Biarritz, Pau, St. Etienne, Lille, Paris-Beauvais, Dinard, Tours, Poitiers, Limoges, Angouleme, Bergerac, Rodez, Montpellier, Carcasonne, Perpignon, Beziers, Nimes, Nice, Rodez, Grenoble
- ESP:_ Santander, Santiago de Compostela, Valladolid, Zaragoza, Jerez, Granada, Murcia, Ibiza, Palma de Mallorca
- ITA:_ Brescia, Treviso, Trieste, Verona, Turin, Parma, Cuneo, Genoa, Forli, Rimini, Ancona, Perugia, Lamezia Terme, Palermo, Figari, Olbia
- GER:_ Rohstock, Lübeck, Berlin/Schönefeld, Eindhoven, Altenburg, Zweibrücken, Karlsruhe/ Baden Baden, Memmingen, Friedrichshafen
- SUI:_ Basel/Mulhouse
- AUT:_ Linz, Salzburg, Graz, Klagenfurt
- CEZ:_ Prague, Brno
- SVK:_ BRATISLAVA
- HUN:_ Budapest, Balaton
- CRO:_ Pula, Zadar, Osijek
- ROU:_ Constanta

REFERENCES:_
Wikipedia: Ryanair. last update: 20.03.2012. URL: http://en.wikipedia.org/wiki/Ryanair_destinations- downloaded /)
Ryanair: Rout map. last update: 25.03.2012. URL: http://www.ryanair.com/en/cheap-flight-destinations- downloaded 02/03/11)

> RYANAIR: BASES - DESTINATIONS / AND - >SCHEME

PASSENGER-EMPLOYEE GROWTH/ FLEET/ EU-MARKET SHARE/ INTRA EU M-SHARE:_

RYANAIR PASSENGER GROWTH:_ (cfr. Ryanair) last update. 25/03/12
data available up to year 2009

1985	5000 PAX
1986	82.000 PAX
1987	322.000 PAX
1988	592.000 PAX
1989	644.000 PAX
1990	745.000 PAX
1991	651.000 PAX
1992	945.000 PAX
1993	1.120.000 PAX
1994	1.666.000 PAX
1995	2.260.000 PAX
1996	2.950.000 PAX
1997	3.730.000 PAX
1998	4.629.000 PAX
1999	5.358.000 PAX
2000	7.002.000 PAX
2001	9.355.000 PAX
2002	15.736.936 PAX
2003	23.132.936 PAX
2004	27.593.923 PAX
2005	34.768.813 PAX
2006	42.509.112 PAX
2007	50.931.723 PAX
2008	58.565.663 PAX
2009	66.503.999 PAX
2010	73.553.580 PAX

RYANAIR EMPLOYEE GROWTH:_ (cfr. Ryanair) last update. 25/03/12
data available up to year 2009

1985	51 EMP
1986	151 EMP
1987	212 EMP
1988	379 EMP
1989	477 EMP
1990	493 EMP
1991	477 EMP
1992	507 EMP
1993	503 EMP
1994	523 EMP
1995	523 EMP
1996	605 EMP
1997	659 EMP
1998	892 EMP
1999	1.094 EMP
2000	1.262 EMP
2001	1.467 EMP
2002	1.547 EMP
2003	1.746 EMP
2004	2.288 EMP
2005	2.700 EMP
2006	3.991 EMP
2007	5.262 EMP
2008	6.369 EMP
2009	7.245 EMP
2010	8.896 EMP

Pleas note:
Additional Passenger-Employee Growth year 2010. Last update. 25/03/12. author F.H.
Reference: (cfr. Ryanair)

RYANAIR FLEET:_ Mod: BOEING 737-800
Number: 275
Capacity: 189
(cfr. Ryanair) last update. 25/03/12

RYANAIR-EUROPEAN MARKET SHARE regarding **SEAT CAPACITY:_**

RYANAIR:_	Seat Capacity:	7.3 million INCREASE: +13.3%
LUFTHANSA:_	Seat Capacity:	5.7 million INCREASE: +2.8%
AIR FRANCE:_	Seat Capacity:	3.8 million DECREASE: -8.4%
EASYJET:_	Seat Capacity:	4.4 million INCREASE: +10.1%
AIRBERLIN:_	Seat Capacity:	3.0 million INCREASE: +22%
BA:_	Seat Capacity:	2.4 million DECREASE: -2.0%
IBERIA:_	Seat Capacity:	2.3 million INCREASE: +13.8%
ALITALIA:_	Seat Capacity:	2.1 million INCREASE: +15.5%

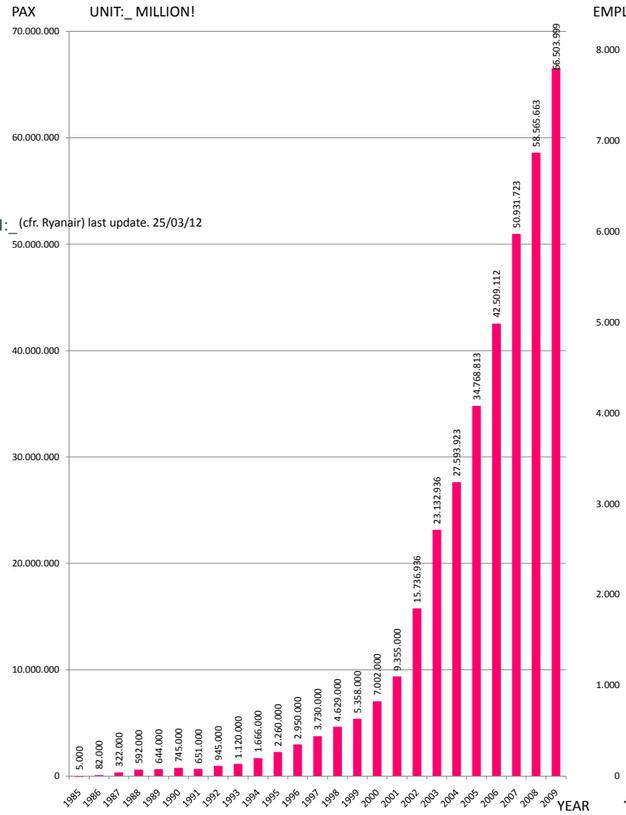
(cfr. CAPA-CENTER FOR AVIATION) last update. 27/05/10

INTRA EUROPEAN MARKET SHARE:_

LCCs:	= 34%
STAR ALLIANCE-MEMBERS:_	= 25%
SKYTEAM-MEMBERS:_	= 16%
ONEWORLD-MEMBERS:_	= 9%

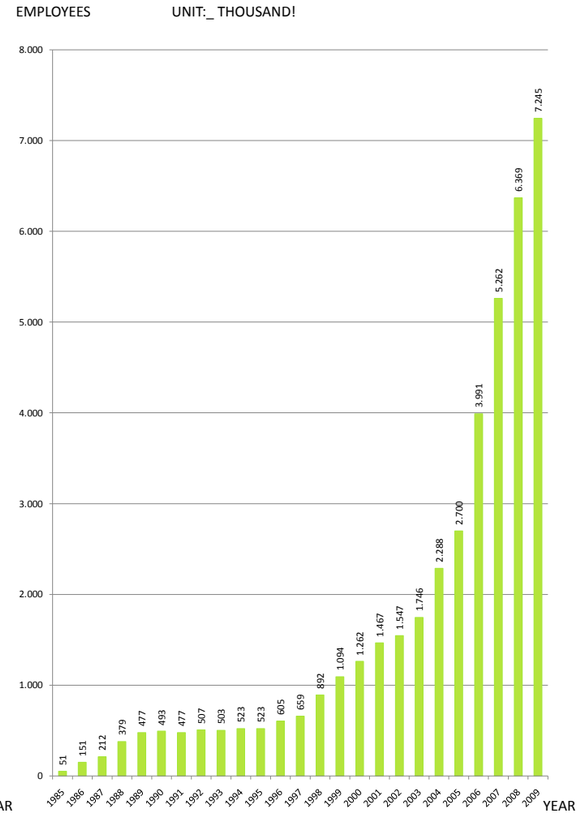
(cfr. CAPA-CENTER FOR AVIATION) last update. 27/05/10

DIAGRAM01:_**RYANAIR PASSENGER GROWTH**:_



[figure25:_diagram: Ryanair Passenger Growth; author F.H.] Reference: (cfr. Ryanair)

DIAGRAM02:_**RYANAIR EMPLOYEE GROWTH**:_



[figure26:_diagram: Ryanair Employee Growth; author F.H.] Reference: (cfr. Ryanair)

REFERENCES:_
Ryanair: About Us. last update: 25.03.2012. URL: http://www.ryanair.com/en/about- downloaded /)
CAPA - CENTER FOR AVIATION : Ryanair tops European seat capacity in Apr-2010. LCCs have largest market share at 34%. Top routes. last update: 27.05.2010.
URL: http://www.centreforaviation.com/analysis/ryanair-tops-european-seat-capacity-in-apr-2010-lccs-have-largest-market-share-at-34-top-routes-27854- downloaded /)

SCHEME_ 1: -
BIGGEST BASE

> **RYANAIR: ROUTES** concerning **biggest / smallest Base** and **NEW BASE BRA-VIE**

>SCHEMES 1-3
MAP CONTORTED!

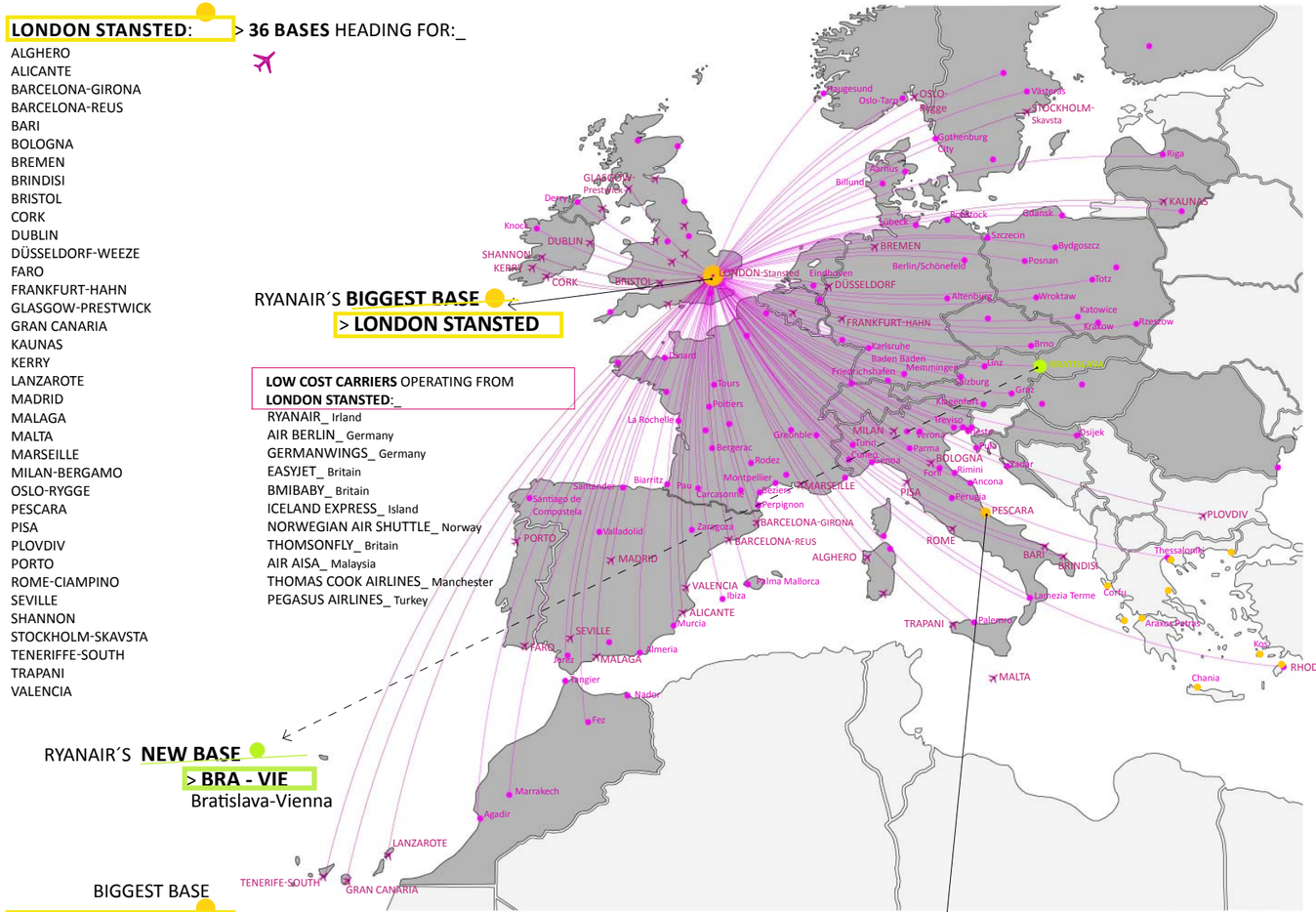
LONDON STANSTED: > **36 BASES** HEADING FOR:_

ALGHERO
ALICANTE
BARCELONA-GIRONA
BARCELONA-REUS
BARI
BOLOGNA
BREMEN
BRINDISI
BRISTOL
CORK
DUBLIN
DÜSSELDORF-WEEZE
FARO
FRANKFURT-HAHN
GLASGOW-PRESTWICK
GRAN CANARIA
KAUNAS
KERRY
LANZAROTE
MADRID
MALAGA
MALTA
MARSEILLE
MILAN-BERGAMO
OSLO-RYGGE
PESCARA
PISA
PLOVDIV
PORTO
ROME-CIAMPINO
SEVILLE
SHANNON
STOCKHOLM-SKAVSTA
TENERIFFE-SOUTH
TRAPANI
VALENCIA

RYANAIR´S **BIGGEST BASE**
> **LONDON STANSTED**

LOW COST CARRIERS OPERATING FROM **LONDON STANSTED**:_
RYANAIR_ Irland
AIR BERLIN_ Germany
GERMANWINGS_ Germany
EASYJET_ Britain
BMIBABY_ Britain
ICELAND EXPRESS_ Island
NORWEGIAN AIR SHUTTLE_ Norway
THOMSONFLY_ Britain
AIR AISA_ Malaysia
THOMAS COOK AIRLINES_ Manchester
PEGASUS AIRLINES_ Turkey

RYANAIR´S **NEW BASE**
> **BRA - VIE**
Bratislava-Vienna



Pleas note:
Additional Flight Destinations and Bases. Last update. 25/03/12. author F.H. Reference: (cfr. Ryanair)

figure27: (cfr. Wikipedia)
(cfr. Ryanair)

BIGGEST BASE
LONDON STANSTED: > **75 DESTINATIONS** HEADED FOR:_

AARHUS
AGADIR
ALMERIA
ALTENBURG
ANCONA
BERGERAC
BERLIN-SCHÖNEFELD
BEZIERS
BILLUND
BIARRITZ
BRATISLAVA
BRNO
BYDGOSZCZ
CARCASONNE
CUNEO
DERRY
DINARD
EINDHOVEN
FEZ
FORLI
FRIEDRICHSHAFEN
GDANKS
GENOA
GOTHENBURG-CITY
GRAZ
GRENOBLE
HAUGESUND
IBIZA
JEREZ
KARLSRUHE-BADEN BADEN
KATOWICE
KLAGENFURT
KNOCK
KRAKOW
LAMEZIA TERME
LA ROCHELLE
LINZ
LÜBECK
MARRAKECH
MEMMINGEN
MONTPELLIER
MURCIA
NADOR
OSIJEK
OSLO-TARP
PAU
PALERMO
PALMA DE MALLORCA
PARMA
PERPIGNON
PERUGIA
POITIERS
POSNAN
PULA
RIGA
RIMINI
ROHSTOCK
RODEZ
RZESZOW
SANTIAGO DE COMPOSTELA
SANTANDER
SALZBURG
SZCZECIN
TANGIER
TOTZ
TOURS
TREVISO
TRIESTE
TURIN
VALLADOLID
VÄSTERÄS
VERONA
WROKTAW
ZADAR
ZARAGOZA

RYANAIR´S **SMALLEST BASE**
> **PESCARA**

REFERENCES:_
Wikipedia: Ryanair. last update: 20.03.2012. URL: http://en.wikipedia.org/wiki/Ryanair_destinations- downloaded /)
Ryanair: Rout map. last update: 25.03.2012. URL: http://www.ryanair.com/en/cheap-flight-destinations- downloaded 08/03/11)

> **RYANAIR: ROUTES** concerning **biggest** / **smallest** **Base** and **NEW BASE BRA-VIE**

>SCHEMES 1-3

MAP CONTORTED!

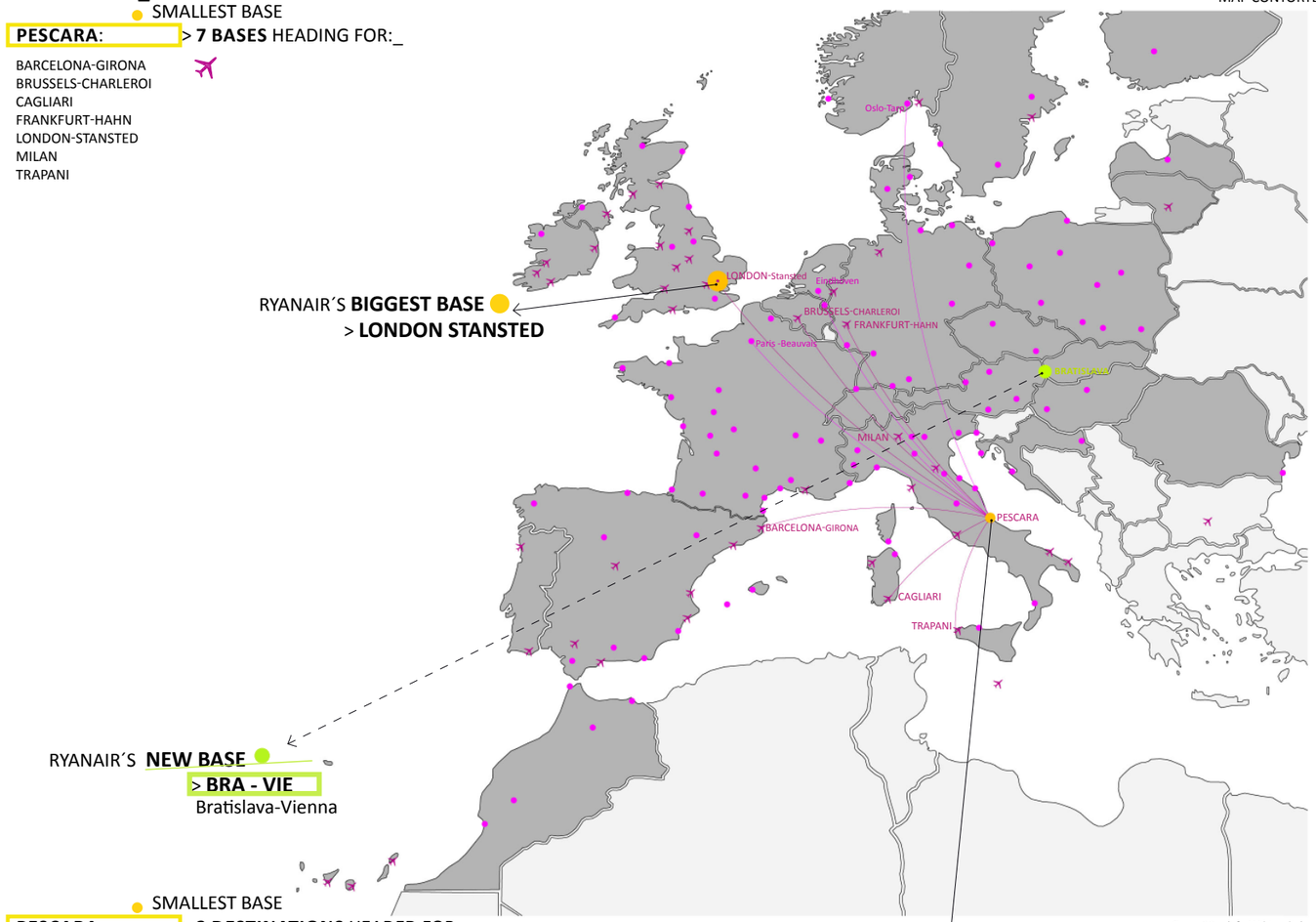
SCHEME_ 2: -

SMALLEST BASE

PESCARA:

> **7 BASES** HEADING FOR:_

BARCELONA-GIRONA
BRUSSELS-CHARLEROI
CAGLIARI
FRANKFURT-HAHN
LONDON-STANSTED
MILAN
TRAPANI



RYANAIR´S **BIGGEST BASE**

> **LONDON STANSTED**

RYANAIR´S **NEW BASE**

> **BRA - VIE**

Bratislava-Vienna

SMALLEST BASE

PESCARA:

> **3 DESTINATIONS** HEADED FOR:_

EINDHOVEN
OSLO-TARP
PARIS-BEAUVAIS

figure28: (cfr. Wikipedia)
(cfr. Ryanair)

RYANAIR´S **SMALLEST BASE**

> **PESCARA**

LOW COST CARRIERS OPERATING FROM **PESCARA**:_

RYANAIR_ Irland
AIR TRANSAT_ Canada
SMARTWINGS_ Czech Republic

REFERENCES:_

Wikipedia: Ryanair. last update: 20.03.2012. URL: http://en.wikipedia.org/wiki/Ryanair_destinations- downloaded /)

Ryanair: Rout map. last update: 25.03.2012. URL: http://www.ryanair.com/en/cheap-flight-destinations- downloaded 08/03/11)

SCHEME_ 3: - _> **RYANAIR: ROUTES** concerning **biggest / smallest Base** and **NEW BASE BRA-VIE_**

>SCHEMES 1-3

MAP CONTORTED!

NEW BASE

BRA-VIE |BRATISLAVA-VIENNA|: > **16** + **3 BASES** HEADING FOR:_

ALGHERO
ALICANTE
BARCELONA-GIRONA
BIRMINGHAM
BRISTOL
BRUSSELS-CHARLEROI
DUBLIN
EDINBURGH
GRAN CANARIA
LIVERPOOL
LONDON LUTON
LONDON-STANSTED
MALAGA
MILAN
ROME
STOCKHOLM-SKAVSTA
TRAPANI

Summer flights: **3**
BARI
BOLOGNA
PISA

RYANAIR´S **BIGGEST BASE**
> **LONDON STANSTED**

As shown in the scheme, **RYANAIR** is serving mostly WEST of Europe, becoming a **NEW BASE** at **BTS - Bratislava Airport,** would allow Ryanair to expand its dimension towards EAST.
In 2010 Ryanair had already been into negotiations with Prague as well as Budapest airport regarding Base building issues. Negotiations failed with both of the airports. (cfr. Wikipedia)
BRATISLAVA surely states an interesting spot regarding **EASTERN EXPANSION**.

* ***AUTHORS´S NOTE****: THE TITLE AND ITS CONTENT: Ryanair-Bratislava - Passenger Volume. Page 49.* ***IS NOT BASED ON BTS-BRATISLAVA AIRPORT STATISTICS! THUS NO GUARANTEE OF ACCURACY!***

* **RYANAIR-BRATISLAVA - PASSENGER VOLUME**:_

year 2005 -	**63.000 PAX**	(cfr. SLOWAKEI-NETZ.DE)
year 2009 -	**800.000 PAX**	(cfr. SLOWAKEI-NETZ.DE)
year 2010 -	**1.025.000 PAX**	(cfr. SLOWAKEI-NETZ.DE)

What means an **PAX-INCREASE** in the year **2010** up to almost **16-TIMES** the **PAX-VOLUME** of the year **2005**.
(cfr. Bloomberg Next)

RYANAIR´S **NEW BASE**
> **BRA - VIE**
Bratislava-Vienna

NEW BASE

BRA-VIE |BRATISLAVA-VIENNA|: > **2 DESTINATIONS** HEADED FOR:_

PALMA MALLORCA
PARIS-BEAUVAIS

LOW COST CARRIERS OPERATING FROM **BRATISLAVA**:_
RYANAIR_ Irland
DANUBE WINGS_ Slovakia
SMARTWINGS_ Czech Republic
NORWEGIAN AIR SHUTTLE_ Norway
(cfr. fly**lowcost**airlines)

RYANAIR´S **SMALLEST BASE**
> **PESCARA**

figure29:
(cfr. Wikipedia)
(cfr. Ryanair)

* **BRATISLAVA AIRPORT - PASSENGER VOLUME 2010**:_
year 2010 - A TOTAL OF **1.660.000 PAX** (cfr. Bloomberg Next)
thereof **2/3** served by **RYANAIR** with **1.025.000 PAX** (cfr. SLOWAKEI-NETZ.DE)

Ryanair celebrated in October 2010 five years of cooperation with the main international airport of Slovakia, **M.R. STEFANIK AIRPORT BRATISLAVA**.
Its first landing took place in 2005, a flight that had been operated from Bergamo,ITA. During this 5 years the Irish airline serviced in total **3.5 MIO PAX**, at Bratislava Airport.
To date Ryanair turns out to be the largest Low Cost Airline operating at Bratislava Airport. ***2005*** Ryanair serviced ***63.000 PAX*** at Bratislava Airport,
2009 the PAX-Volume increased up to ***800.000 PAX***, by end of ***2010*** the company expected a ***GROWTH IN PAX*** up to ***1 MAP***(million annual PAX).
(cfr. SLOWAKEI-NETZ.DE)
(cfr. Bloomberg Next)

* ***AUTHORS´S NOTE****: THE TITLE AND ITS CONTENT: Bratislava Airport - Passenger Volume 2010. Page 49.* ***IS NOT BASED ON BTS-BRATISLAVA AIRPORT STATISTICS! THUS NO GUARANTEE OF ACCURACY!***

REFERENCES:_
Wikipedia: Ryanair. last update: 21.03.2012. URL: http://en.wikipedia.org/wiki/Ryanair- downloaded /)
Wikipedia: Ryanair. last update: 20.03.2012. URL: http://en.wikipedia.org/wiki/Ryanair_destinations- downloaded /)
Ryanair: Rout map. last update: 25.03.2012. URL: http://www.ryanair.com/en/cheap-flight-destinations - downloaded 08/03/11)
fly**lowcost**airlines: Airport Bratislava (BTS). The Low Cost Airlines Search Engine last update: 20.10.2010. URL: http://en.slowakei-netz.de/174/2010-0120/airport-Bratislava-ryanair-en.html- downloaded /)
SLOWAKEI-NETZ.DE.: Ryanair and Bratislava Airport: 5 years together. last update: 26.01.2011.
Bloomberg Next; Radoslav Tomek: Bratislava Airport Traffic Decline Slowed to 3 Percent in 2010. last update: 26.01.2011.
URL: http://www.bloomberg.com/news/2011-01-26/bratislava-airport-traffic-decline-slowed-to-3-percent-in-2010.html- downloaded /)

RYANAIR´S DESTINATION-COUNTRIES **OUTSIDE EU**

EU COUNTRIES AND RYANAIR DESTINATIONS

COUNTRIES **APPLYING FOR EU**

NON - EU COUNTRIES

(cfr. Wikipedia.; author´s translation; F.H.)

SCHENGEN COUNTRIES = EU-COUNTRIES + NOR / ISL / SUI

EU-CUSTOM UNION = EU-COUNTRIES + NOR / ISL / LIE / TUR
Andorra-Monaco-San Marino

COUNTRIES WITH EXCEPTIONS = GBR + IRL
regarding the Schengen Agreement

SCHENGEN AGREEMENT:_ The Schengen Agreement represents a widely spread juridical effect within mostly the European Union, with its main core, to ELIMINATE THE STATIONARY BORDER CONTROLS WITHIN THE INTERNAL COMMUNITY FRONTIER of the so-called SCHENGEN-COUNTRIES. (cfr. Wikipedia; author´s translation; F.H.)
The 1. Schengen Agreement - **Schengen I** took place in 1985, where 5 European states accorded the abolishment of border control, within their internal community boarders, with the superior goal of an establishment of the European market. For practically implementing the political declaration in 1990 **Schengen II** took place, with the subject matter > Execution-Accordance for Schengen I <. (cfr. ibid.; author´s translation; F.H.)
With 2005 the so-called **Prümer-Contract**, often declared as well as **Schengen III** was placed amongst 10 European countries and Norway, with the objective of transnational cooperation, particularly focusing on the informational interchange regarding the combat of criminal-transborder-actions, as well as terrorism, and illegal migration.
1997 the **Amsterdam-Contract** declared, the **SCHENGEN AGREEMENT** as being **integrated** in the **EU- LEGISLATION**, 1999 it became implemented. Therefore the Schengen Agreement automatically is **OBLIGATORY LAW** for every EU-Country, with the admission date.
As exceptions can be stated Great Britain and Irland in terms of escape clauses, with the regulation that the Schengen Agreement is not being applied on both of the countries, unless they file a separate request.
Up to that point, both countries are NON- Schengen-Countries.
Meanwhile **28 countries** entered the **Schengen Agreement**, **All of the Member States of the European Union** (exclusively **GBR** and **IRL**), as well as the **associated countries** **Norway**, **Island** and **Switzerland**, Member States of the EWR- European economic area(exlusive SUI).
(cfr. ibid.; author´s translation; F.H.)

SCHENGEN AGREEMENT and **IMPACT ON AIRPORTS:_**
Within the **Schengen-Area** the **PASSPORT-CONTROL** has been **abolished**, whilst PASSENGER-CONTROLS along the PERIPHERICAL BORDER to NON-EU-COUNTRIES occur. EU-Countries are ALL liable to **UNIFORM ENTRY-REGULATIONS** regarding passengers from Non-EU-Countries. Therefore, the entry is to be denied at any point of the SCHENGEN-OUTSIDE-BORDER, if not having a SCHENGEN-VISA, or for instance, reasons concerning SECURITY- ENDANGER within the Schengen-Countries.
(cfr. ibid.; author´s translation; F.H.)
(cfr. Wikipedia.; author´s translation; F.H.)

_> RYANAIR MAP / EU - MAP / SCHENGEN MAP + SCHENGEN AGREEMENT >SCHEME

PASSPORT CONTROL:_

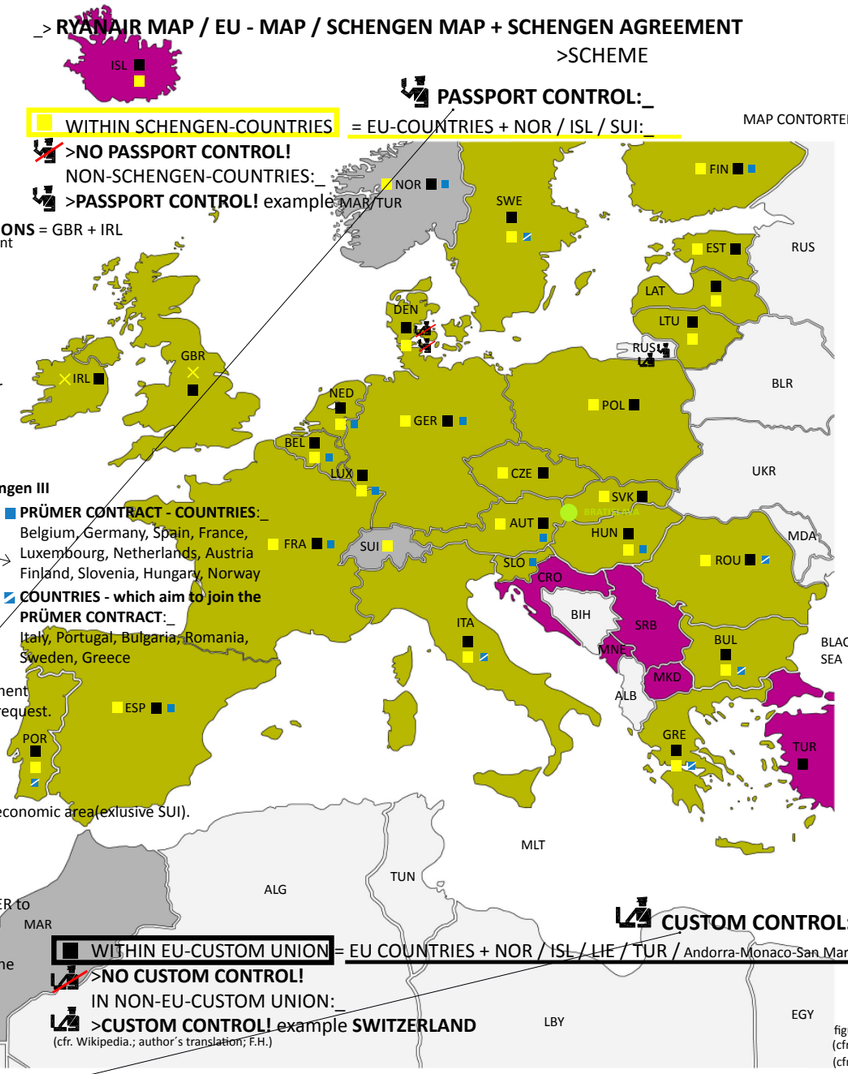
WITHIN SCHENGEN-COUNTRIES = EU-COUNTRIES + NOR / ISL / SUI:_

>NO PASSPORT CONTROL!

NON-SCHENGEN-COUNTRIES:_

>PASSPORT CONTROL! example MAR/TUR

MAP CONTORTED!



PRÜMER CONTRACT - COUNTRIES:_
Belgium, Germany, Spain, France, Luxembourg, Netherlands, Austria Finland, Slovenia, Hungary, Norway

COUNTRIES - which aim to join the PRÜMER CONTRACT:_
Italy, Portugal, Bulgaria, Romania, Sweden, Greece

CUSTOM CONTROL:_

WITHIN EU-CUSTOM UNION = EU COUNTRIES + NOR / ISL / LIE / TUR / Andorra-Monaco-San Marino

>NO CUSTOM CONTROL!

IN NON-EU-CUSTOM UNION:_

>CUSTOM CONTROL! example **SWITZERLAND**
(cfr. Wikipedia.; author´s translation; F.H.)

figure30:
(cfr. Wikipedia)
(cfr. Bundesministerium des Inneren)

At the **AIRPORT** the **PASSANGER-DISPATCHES** clearly differ between flights from SCHENGEN-COUNTRIES and flights from NON-SCHENGEN-COUNTRIES. With a uniform Schengen-Visa (certification needed from only 1 Member State of EU) travel-opportunity within EU is given. The **ABOLISHMENT** of PASSPORT-CONTROL inside EU, has been replaced by some Schengen-Countries with the expansion of an interior police control. The **CUSTOM-CONTROL** inside EU-Countries is regulated via the **EU-CUSTOM UNION**, which provides, the internal business interactions not being handicapped through custom or congenial consequences. Therefore **NO CUSTOM-CONTROL** inside **EU** and for **Members of the EU-CUSTOM UNION**. The countries NOR / ISLAND /LICHTENSTEIN / TURKEY as well as Andorra, Monaco and San Marino, have as well become Members of EU-CU. SWITZERLAND is neither being a EU-Country nor a Member of EU-CU, hence CUSTOM-CONTROLS in Switzerland.

REFERENCES:_
Wikipedia: Ryanair. last update: 20.03.2012. URL: http://en.wikipedia.org/wiki/Ryanair_destinations- downloaded /)
Europäische Union: Länder. last update: / . URL: http://europa.eu/about-eu/countries/index_de.htm- downloaded /)
Wikipedia: Schengener Abkommen. last update: 12.03.2012. URL: http://de.wikipedia.org/wiki/Schengener_Abkommen- downloaded /)
Bundesministerium des Inneren: Der Schengen Raum. last update: / . URL: www.dpolg.de/upload/pdf/Schengen-Raum.pdf- downloaded /)
Wikipedia: Prümer Vertrag. last update: 05.08.2011. URL: http://de.wikipedia.org/wiki/Pr%C3%BCmer_Vertrag- downloaded /)

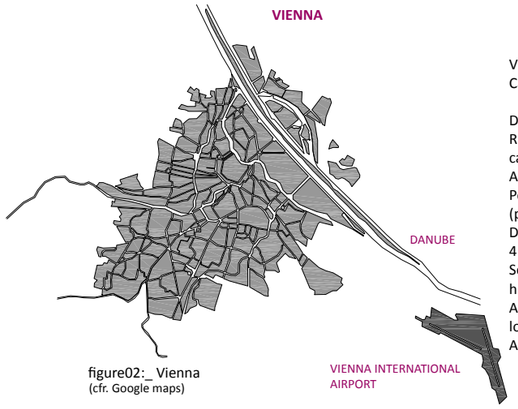


figure02:_ Vienna
(cfr. Google maps)

Vienna:_
Capital of Austria

Districts: 23
Rivers: Danube, Danube canal, die Wien
Area: 414,89 km2
Population: 1.712.903 (provisional result 2010)
Densitiy:
4110 inhabitants / km2
Sea Hight:
highest > 542m above Adria
lowest > 151m above Adria

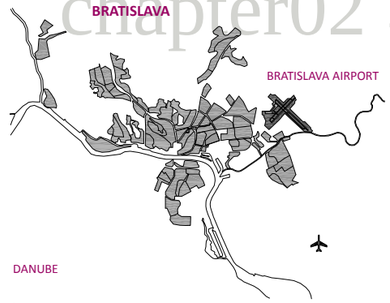


figure01:_ Bratislava and its surroundings
(cfr. Google maps)

Bratislava:_
Capital of Slovakia

Districts: I II III IV V
Boroughs: 17
Rivers: Danube, Morava, Little Danube
Area: 367,58 km2
Population: 471.061 (2009/12/31)
Densitiy:
1.282 inhabitants / km2
Sea Hight: 134m
(cfr. Wikipedia)

(cfr. Wikipedia)

Vienna Airport:_
Opening: 1954
Operator: Flughafen Wien AG
Area: approx. 1000 ha
Terminals: 4
Passengers: 19.691.206 (2010)
Freight: 295.989 t (2010)
Air activity/Flight movement: 246.146 (2010)
Annual PAX: 22.500.000 (2007)
Employees: 4.148 within Flughafen Wien AG
approx. 18.000 at the base Vienna International Airport
Runways: 3
(cfr. Wikipedia)

Bratislava Airport:_
Opening: 1951
Operator: Airport Bratislava
Area: appr. 477 ha
Terminals: 2
Passengers: 1.665.704 (2010)
Freight: 17.717 t (2010)
Air activity/Flight movement: 27.220 (2010)
Annual PAX: 2,6 Mio (2010)
Employees: 673 (2007)
Runways: 2
(cfr. Wikipedia)

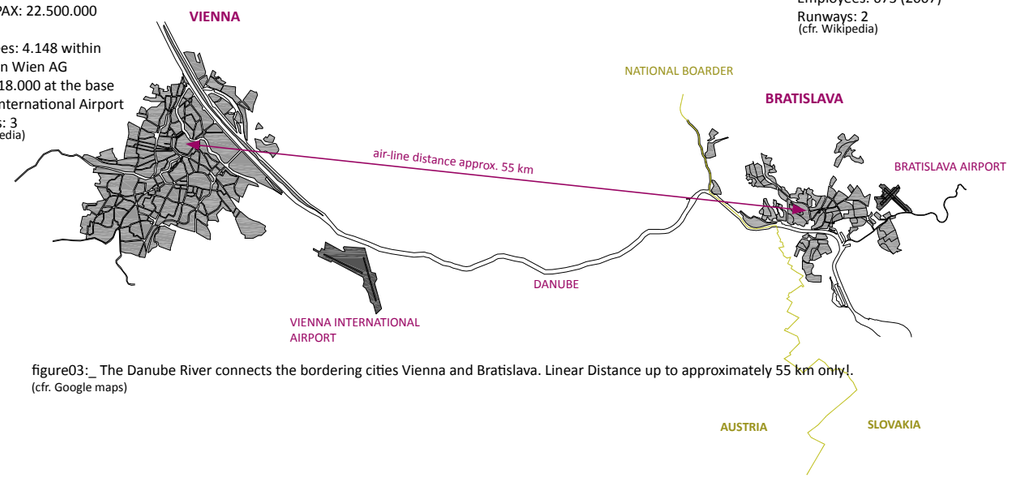


figure03:_ The Danube River connects the bordering cities Vienna and Bratislava. Linear Distance up to approximately 55 km only!.
(cfr. Google maps)

REFERENCES:_
Wikipedia: Vienna. last update: 22.03.2012. URL: http://en.wikipedia.org/wiki/Vienna- downloaded /)
Wikipedia: Bratislava. last update: 20.03.2012. URL: http://en.wikipedia.org/wiki/Bratislava- downloaded /)
Wikipedia: Vienna International Airport. last update: 25.03.2012. URL: http://en.wikipedia.org/wiki/Vienna_International_Airport- downloaded /)
Wikipedia: Flughafen Bratislava. last update: 04.03.2012. URL: http://de.wikipedia.org/wiki/Flughafen_Bratislava- downloaded /)
Google maps: Vienna, Bratislava. last update: / . URL: http://maps.google.com/- downloaded /)

> **INFORMATIONS** ABOUT: **VIE (VIENNA) + BRA (BRATISLAVA) _**

Infrastructural System between **VIE** - **BRA**: **> HIGHWAY**

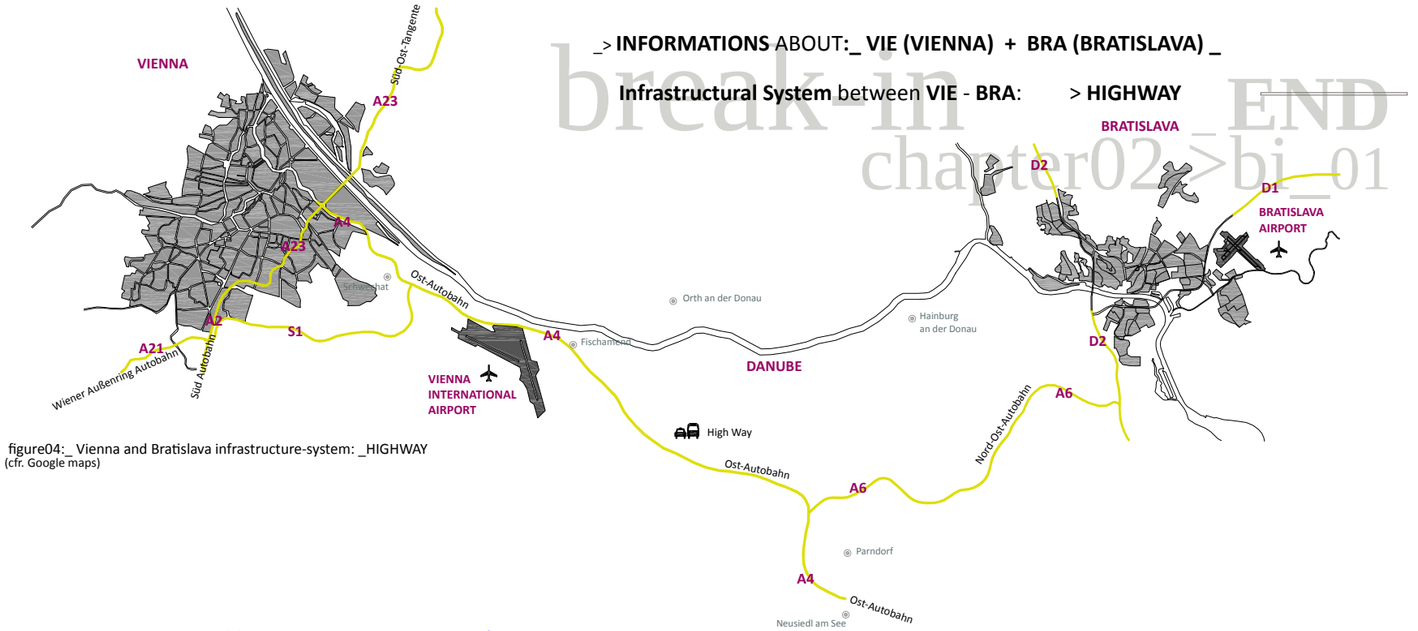


figure04:_ Vienna and Bratislava infrastructure-system: _HIGHWAY
(cfr. Google maps)

Infrastructural System between **VIE** - **BRA**: **> RAILWAY / BUS / TRAM - S7**

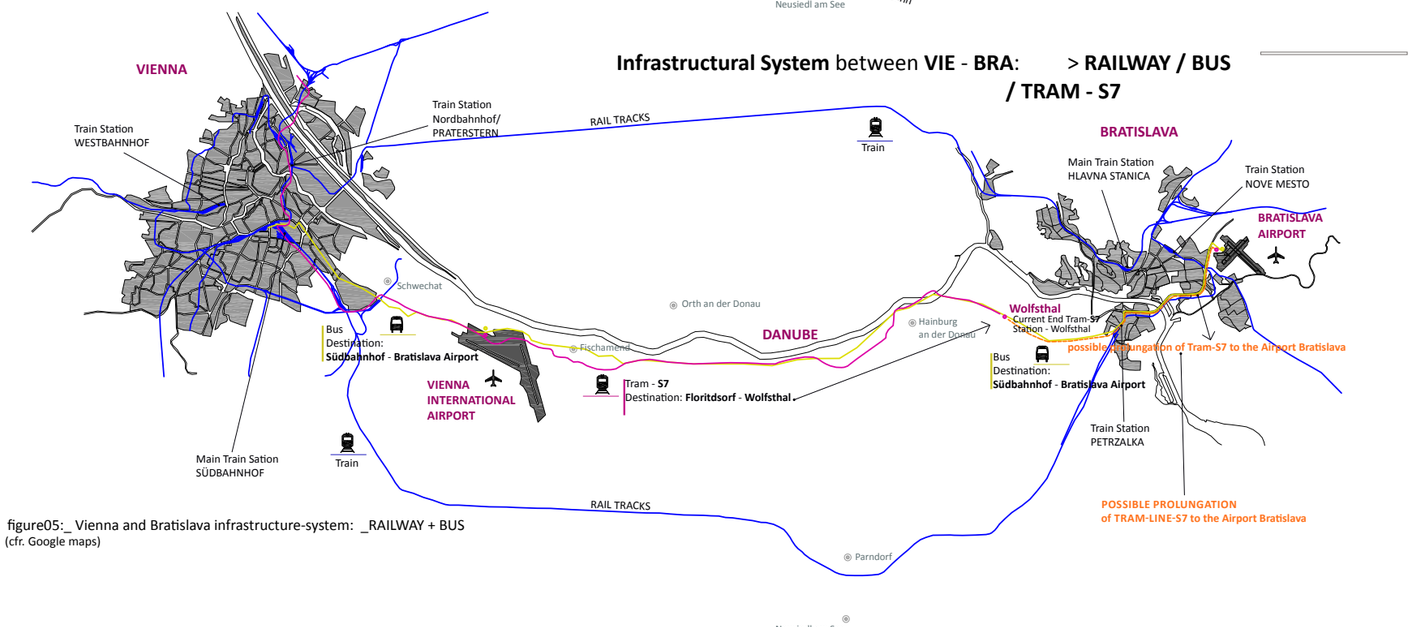


figure05:_ Vienna and Bratislava infrastructure-system: _RAILWAY + BUS
(cfr. Google maps)

REFERENCES:_
Google maps: Vienna, Bratislava. last update: / . URL: http://maps.google.com/- downloaded /)

_>Brief Summary: **MAIN CHARACTERISTICS - LOW COST CARRIERS** such as > ***RYANAIR*** and guideline for the **TARGET FOR RYANAIR TERMINAL PROJECT = EMACIATION TO THE SKELETON.** *TERMINAL CONCEPTUAL DESIGN!*

RYANAIR interests: * **REDUCTION OF COSTS, FACILITY NEEDS, OFFERS IN TERMS OF CUSTOMER FRILLS AND CONVENIENCES**

REDUCTIONS AIRSIDE:_
RYANAIR -

(cfr. De Neufville, 2006 p. 350)
(cfr. De Neufville, 2006 p. 349)

* ***SHORT TURNAROUND TIMES** max. **25MIN***
* ***SINGLE** aircraft model >NO BUSINESS CLASS*
* ***REORGANISATION** of used **AIRCRAFT MODEL**:*
  - = **Synthetic leather seats, Non- reclining**
  - = **No seat back pockets**
  - = **Safety cards** stuck on the **back** of the seat
  - = **Life jackets stowed overhead** rather than underneath seats
  - = **Possible reduction** of **toilettes** for **increasing seatnumbers: >** 2 toilettes less > 6 more seats
  - = Allow **STANDING SEATS** for passengers
  - = **BUY ON BOARD** - Program
  - = Possible **charge** on **TOILETTE USE** (cfr. Wikipedia)

All of these ISSUES allow RYANAIR to SAVE MONEY on aircraft costs, to proceed the ground handling inside aircraft far faster due to faster cleaning as well as faster safety check, during the minimum turn around time.

* ***AUTHORS´S NOTE**: THE TITLE AND ITS CONTENT: Reorganisation of used Aircraft Model. Page 54. **IS NOT BASED ON ACADEMIC SOURCES! NO GUARANTEE OF ACCURACY!** authoritative source: Wikipedia - free encyclopedia*

The MOST ESSENTIAL seems to be a ***RADICAL ELIMINATION of all the UN-NECESSITIES***, WITH THE MAIN GOAL > ***REDUCTION OF EXPENSES! TO REACH THE PROFITABEL TARGET: >>>>>***
*** OPEN UP THE TRAVEL MARKET TO THE WORLD!**

A development presenting the obvious **displacement of PRIORITIES and their USERS**. Obviously our concernings are not laying any longer so intensely in ***HOW WE ARE TRAVELLING?** concerning comfortability, but much more in the position_ * **WE ARE ABLE TO TRAVEL WHEREVER, WHENEVER, EVERYWHERE!,** nearly regardless how we travel. Of course this **OBSERVATION is INSEPARABLY CONNECTED to the FACT** that we are talking about **SHORT HAUL FLIGHTS** > Flights **UNDER 3 HOURS** FLIGHT-TIME in length. As well we are talking about the aviation business rail business for example, would surely differ in its needs.

To open up the **COOPERATION PROCESS** between the associates, * **COMMON MARKETING STRATEGIES** concerning **Promotional Campaigns**/ The **Handling and Capability** concerning **HANDICAPPED PERSONS**/ **the Offer and Proposals** to **CUSTOMER NEEDS**/ **Contact Possibilities** for **CUSTOMERS** could emerge as being very interesting.

* **REDUCTIONS** due to operating on ***RYANAIR -*** **REGIONAL AIRPORTS:_**

The cooperation between **RYANAIR** - and the **REGIONAL AIRPORTS** allows * **INCREASING CAPACITY** on both sides >

Regional Airports = *** LOWER LEVEL OF TRAFFIC/ DELAYS/ CONGESTIONS/ FEES/ FAR LESS EXPENSES ON USAGE OF GROUND FACILITIES**
(cfr. ibid., 2006 p. 350)

* **Ryanair** heightens *** FINANCIAL CAPACITY** and **PRODUCTIVITY** of the **AIRPORTS REGIONS** by bringing passengers = new spending power, passengers who would not necessarily come to the regions, hence a possible growth in tourism and employment for regional airports as well as cities!

PRIMARY BUSINESS PARADIGM for Low Cost Airlines = * >**EFFICIENCY INCREASE!** (cfr. De Neufville, 2006 p. 349)

Low Cost Carrier operate differently from legacy carriers, by following to **2 key-strategies**:(cfr. ibid., 2006 p. 349)

*** NO AIRPORTS WITH CONGESTED AIRSPACE - RUNWAYS - TAXIWAYS** !!!
(cfr. ibid., 2006 p. 349)

*** NO EXPENSIVE CAPITAL PROJECTS**
(cfr. ibid., 2006 p. 349)

Low Cost Carrier operate on * **SECONDARY / REGIONAL AIRPORTS!**
= AIRPORTS WITH **LOWER LEVEL OF TRAFFIC**, **FEWER AIRPORT DELAYS** and **LESS EXPENSIVE FACILITES** = > **CONGESTIONS** and **FEES** are kept within limits.
(cfr. ibid., 2006 p. 349)

Due to utilisation of regional airports, LCC´s achieve an **AIRCRAFT PRODUCTIVITY**
often more than * **50%** compared to legacy airlines.
Pursuing * **REDUCTION OF EXPENSES** via: _ >>>

*** MINIMIZING UNPRODUCTIVE GROUND- as well as AIR TIME!**
PUT IN OTHER WORDS: = * LCC´s > SAVE TIME!
(cfr. ibid., 2006 p. 349)

Due to * **AVOIDING AIR TRAFFIC** = responsible for **DELAYS** as well as
KEEPING aircraft ON GROUND/ IN AIR WAITING TO LAND AND TAKE OFF,
QUEUING aircraft FOR A OPEN GATE,
TAXIING aircraft LONG DISTANCES
(cfr. ibid., 2006 p. 349)

> ALL OF THIS = causes **COSTS**!

Further, sidestepping COSTS by:
LCC´s *** CUT THEIR TURNAROUND TIME ON GROUND TO A MINIMUM OF 25 MINUTES**, in comparison to the more typical **HOUR** for regular carriers. (cfr. ibid., 2006 p. 350)

Further LCC´s **COST-REDUCING STRATEGIES >**
*** NO EXPENSIVE GROUND FACILITY RENTS!** >LCC´s use OLDER, LESS EXPENSIVE FACILITIES + much * **MORE INTENSE USAGE OF THEIR SPACE,** so they **require less**! Even if they pay comparable rents per square meter, * **THEY PAY FAR LESS PER PASSENGER SERVED.**(cfr. ibid., 2006 p. 350)

In consequence of * **SECONDARY AIRPORTS USAGE**, the LCC´s * **OFFER its PASSENGERS FINANCIAL GOODIES** by (cfr. ibid., 2006 p. 350)

*** LOWER COSTS FOR PARKING** (cfr. ibid., 2006 p. 350)
*** REDUCTION OF OTHER AIRPORT FEES**(cfr. ibid., 2006 p. 350)
*** possible >LOWER COSTS PASSENGERS INCUR TRAVELLING TO THE AIRPORT depends on Airline** (cfr. ibid., 2006 p. 350)

REFERENCES:_
Wikipedia: Ryanair. last update: 21.03.2012. URL: http://en.wikipedia.org/wiki/Ryanair- downloaded /)
De Neufville, Richard: Planning airport access in an era of **low-cost airlines**. In: Journal of the American Planning Association, (year´s) issues 35 / 2006, no. 3, p. 347 - 356.)

_> RYANAIR PASSENGER DISPATCH SCHEME

PASSENGER DISPATCH:_ **DETAILED**

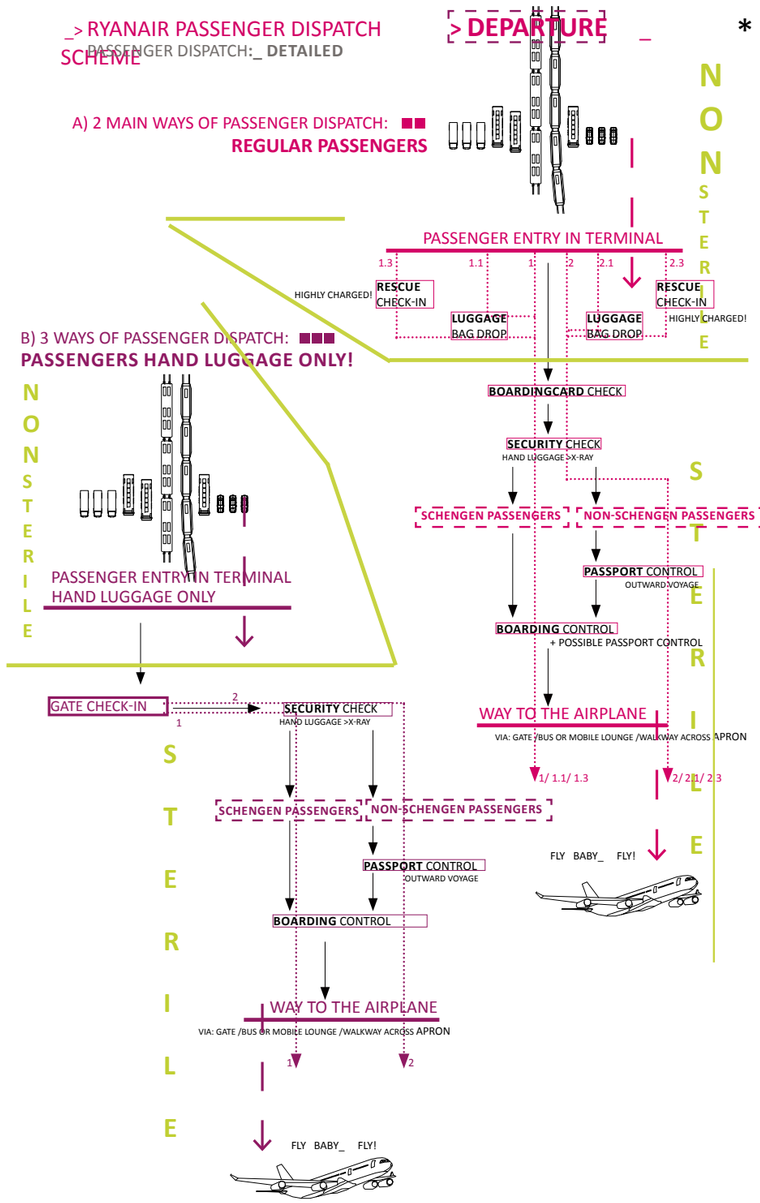


figure31: Passenger Dispatch Departure_Low Cost Airline (cfr. Mensen, 2007 p.275; author´s translation; F.H.)

* ***AUTHORS´S NOTE****: THE FOLLOWING TITLE AND ITS CONTENT:*
Reductions concerning Terminalside. Page 55. ***IS NOT BASED ON ACADEMIC SOURCES!***
NO GUARANTEE OF ACCURACY! *authoritative source: Wikipedia - free encyclopedia*

*

* **REDUCTIONS** concerning **TERMINALSIDE:_**
RYANAIR -

***ONLINE BOOKING OR..** (cutting flight prices by direct selling to passengers, far less employees
.. BOOKING VIA RYANAIR DIRECT CALL CENTER
***NO MORE CHECK-IN DESK by start of 2010**
> far less labour costs for Ryanair
***Passengers have to PRINT THEIR OWN BOARDING PASS, BAGGAGE TAGS...** passengers with no online check-in pay an additional fair for their boarding pass being reissued.
***Passengers find a *RYANAIR* LUGGAGE BAG DROP to dispatch their luggage**
***FASTER CHECK IN for passengers with HAND LUGGAGE ONLY**
***Ryanair is a straight point - to - point Carrier, NO TRANSFERFLIGHTS!**
(cfr. Wikipedia)

Following the interests of Ryanair, the **TERMINAL - CONCEPTION** is easily comparable to the proposed NEW-STRUCTURING OF Ryanairs aircraft = ----->

EMACIATION !
TO THE URGENT NEEDS ONLY ! =
> INFRASTRUCTURAL SKELETON TERMINAL !

TARGET: >>>>>

EMACIATION TO THE:_

INFRASTRUCTURAL SKELETON TERMINAL !

REFERENCES:_
Wikipedia: Ryanair. last update: 21.03.2012. URL: http://en.wikipedia.org/wiki/Ryanair- downloaded /)
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)

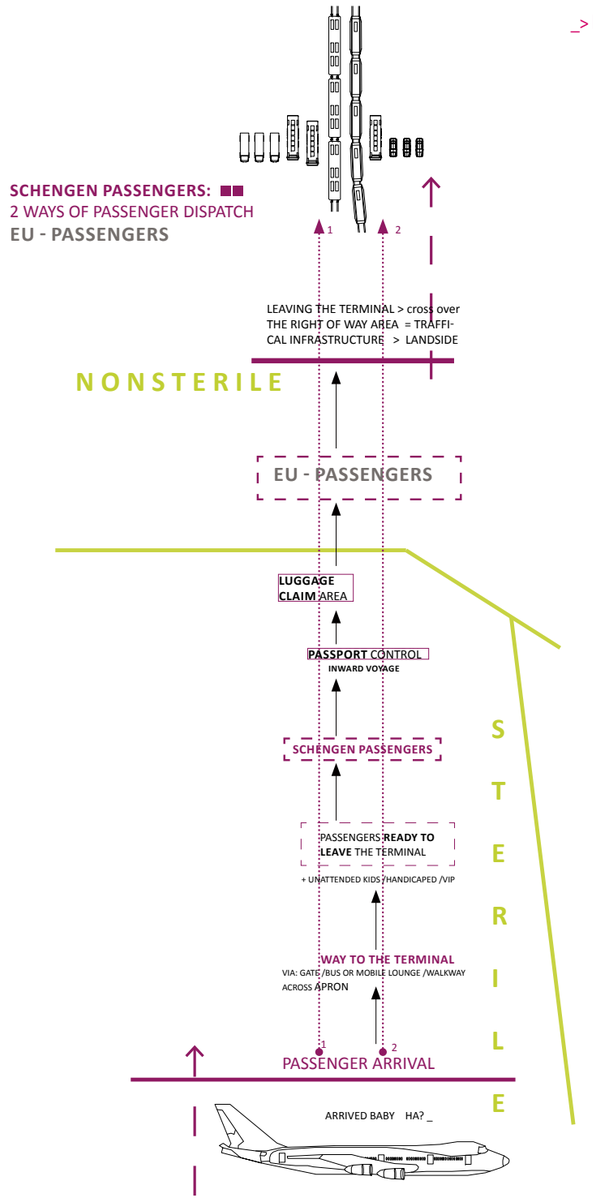


figure33: Passenger Dispatch Arrival >SCHENGEN PAX _Low Cost Airline (cfr. Mensen, 2007 p.275; author´s translation; F.H.)

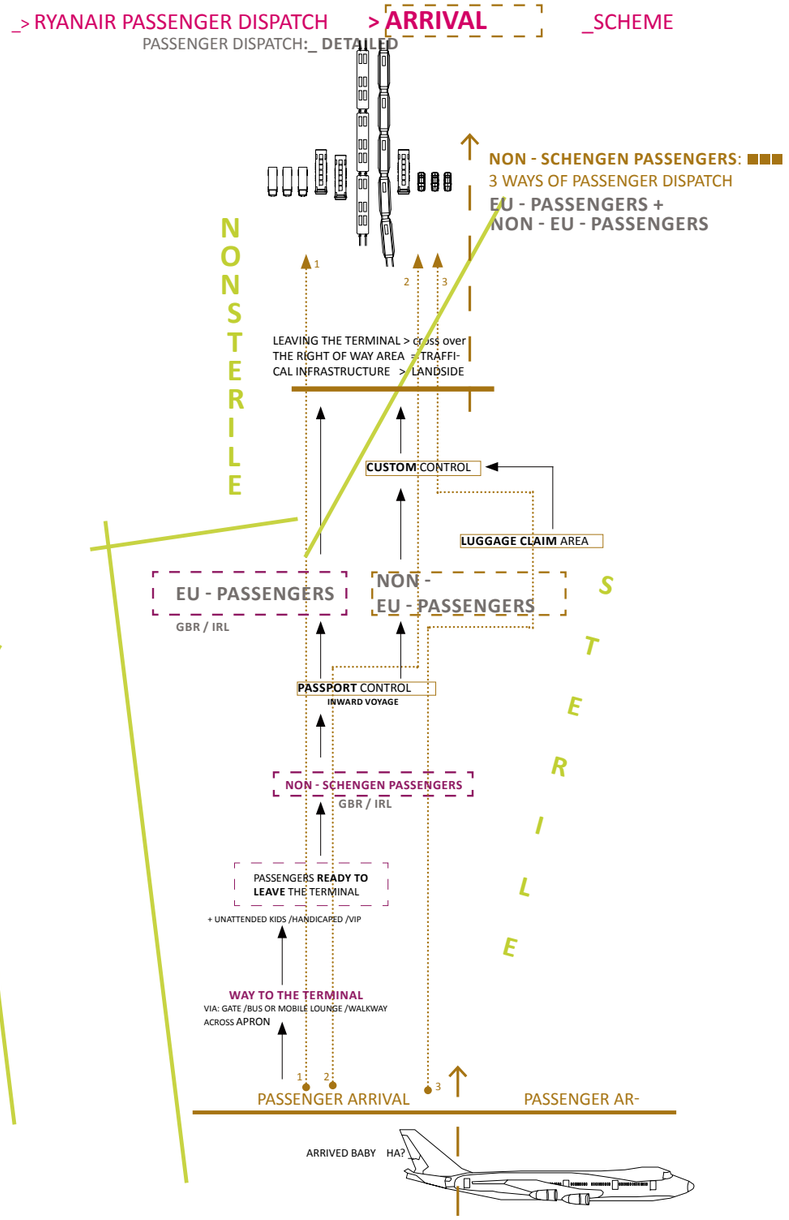


figure32: Passenger Dispatch Arrival >NON SCHENGEN PAX _Low Cost Airline (cfr. Mensen, 2007 p.275; author´s translation; F.H.)

REFERENCES:_
Mensen, Heinrich: Planung, Anlage und Betrieb von Flughäfen. Planung von Flugplätzen. Berlin-Heidelberg: Springer 2007.)

DIAGRAMMATIC INFORMATIONS: _> **BRATISLAVA AIRPORT:_ INFORMATIONS** concerning the **AIRPORT TRAFFICS** >DIAGRAMS

DIAGRAM01:_ **BRATISLAVA AIRPORT TRAFFIC from 2001-2010**

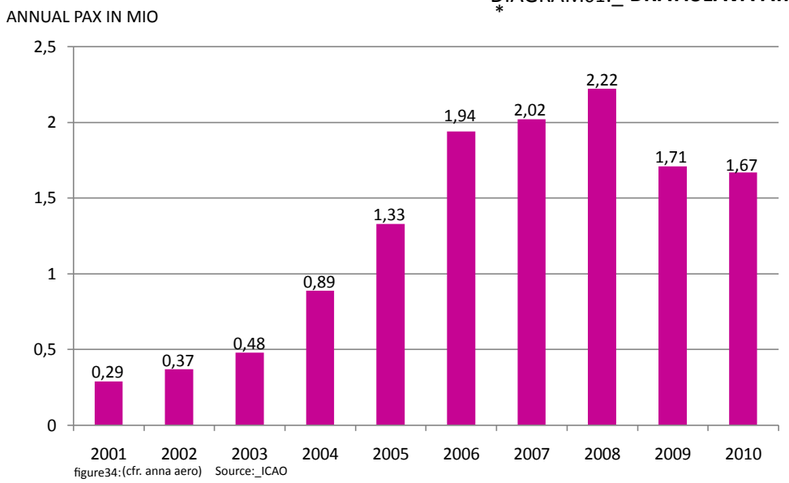


figure34:(cfr. anna aero) Source:_ICAO

*

SEASONALITY at **BRATISLAVA AIRPORT year 2010**:_

7 MONTHS of **BUSY SEASON** >
BUSY SEASON **TIME WINDOW** =
MIDST OF APRIL TO MIDST OF NOVEMBER
MONTHLY PAX = starting with approx. **90.000 PAX** in **APR** up to approx. **240.000 PAX** in the Months **JUL** and **AUG** and ending with approx. **90.000 PAX** in **NOV**.
DAILY PAX = 90.000 PAX a Month, corresponds approx. **3.000 PAX a DAY (250-200PAX/HOUR** with 12h-15h WORKING DAY**)**, 240.000 PAX a Month correspond approx. **8.000 PAX a DAY (670-530PAX/HOUR** with 12h-15h WORKING DAY**)**, which means approx. **15** up to **40.5 FLIGHTS a Day**.
BEYOND SEASONALITY monthly PAX-Number concentrates around **90.000 PAX a Month and LESS (example 80.000 PAX)**, what means a **DAILY PAX - NUMBER** of approx. **2.500 (210-170PAX/HOUR** with 12h-15h WORKING DAY**) up to 3.000 PAX a Day**, which means approx. **15** up to **40.5 FLIGHTS a DAY**.

*These assumptions are based on the illustrated Bratislava-Airport-Seasonality-Diagram 2006-2010 and DO NOT!
provide ANY GUARANTEE OF ACCURACY!

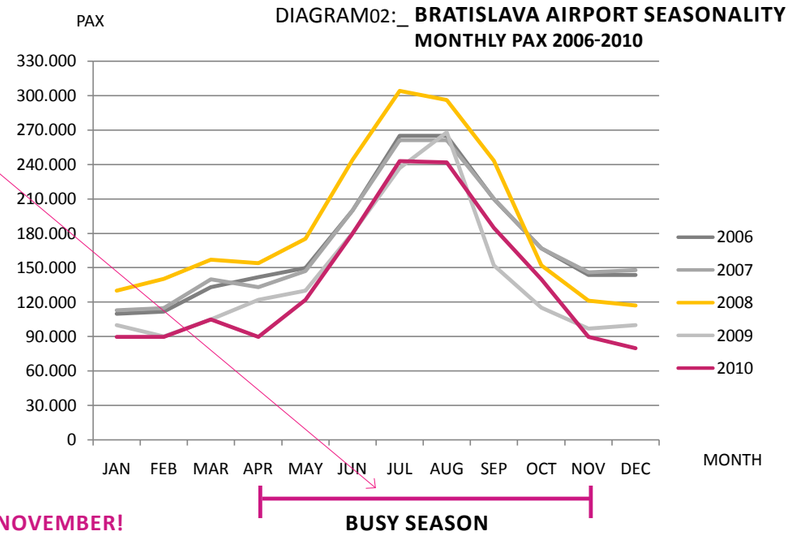
*BRATISLAVA AIRPORT - PASSENGER VOLUME:_
year 2009 - A TOTAL OF **1.710.000 PAX** (cfr. anna aero)

year 2010 - A TOTAL OF **1.670.000 PAX** (cfr. anna aero)
thereof **2/3** served by **RYANAIR** with **1.025.000 PAX** (cfr. bloomberg)

* **1.025.000 PAX** served by RYANAIR within the **year 2010** correspond approx. **5.180 RYANAIR-FLIGHTS** at Bratislava Airport during 2010, with an **AVERAGE-FLIGHT-NUMBER** a **DAY** of approx. **14 RYANAIR FLIGHTS a DAY** at Bratislava Airport. This corresponds to a **DAILY RYANAIR-PAX NUMBER** for the **year 2010** of approx. **2.800 PAX a DAY (230-190PAX/HOUR** with 12h-15h WORKINGDAY**)** at Bratislava Airport.

*These assumptions are based on bloomberg - references and DO NOT!
provide ANY GUARANTEE OF ACCURACY!

DIAGRAM02:_ **BRATISLAVA AIRPORT SEASONALITY MONTHLY PAX 2006-2010**



BUSY SEASON > 8 MONTHS - APRIL TO NOVEMBER!

figure35:(cfr. anna aero) Source:_BRATISLAVA AIRPORT

REFERENCES:_
anna aero - airline network news and analysis: Slovakian airport traffic 2001-2010. Source ICAO. last update: / . URL: http://www.anna.aero/2011/03/16/
ryanair-serves-19-destinations-from-slovakia/- downloaded /)
anna aero - airline network news and analysis: Bratislava Airport. last update: / . URL: http://www.anna.aero/2011/03/16/
ryanair-serves-19-destinations-from-slovakia/- downloaded /)
Bloomberg Next; Radoslav Tomek: Bratislava Airport Traffic Decline Slowed to 3 Percent in 2010. last update: 26.01.2011. URL: http://www.bloomberg.com/news/2011-01-26/
bratislava-airport-traffic-decline-slowed-to-3-percent-in-2010.html- downloaded /)

*

> **BRATISLAVA AIRPORT: RYANAIR - FLIGHT SCHEDULE:_ DEPARTURES FROM BRATISLAVA** concerning the

01 FLIGHT SCHEDULE:_ **PERIOD 27.03.11 - 29.10.11**

RYANAIR - DEPARTURES *from* **BTS - LETISKO M.R. STEFANIKA AIRPORT BRATISLAVA**

FLIGHT SCHEDULE **_PERIOD 27.03.11 - 29.10.11**

Destination	from	to	frequency	departure	arrival	flight	aircraft
ALGHERO	27.03.11	27.10.11	. . . 4 . . 7	15:30	17:30	FR8226	738
ALICANTE	27.03.11	02.06.11	. 2 . 4 . . 7	21:20	23:50	FR5564	738
ALICANTE	07.06.11	27.10.11	. 2 . 4 . . .	21:20	00:10	FR5564	738
ALICANTE	05.06.11	23.10.11	 7	21:30	00:20	FR5564	738
BARCELONA-GIRONA	27.03.11	27.10.11	. . . 4 . . 7	20:20	22:40	FR9027	738
BIRMINGHAM	29.03.11	29.10.11	. 2 . 4 . 6 .	22:20	23:50	FR 735	738
BRUSSELS-CHARLEROI	03.07.11	26.10.11	1 . 3 . . . 7	14:45	16:45	FR2832	738
BRUSSELS-CHARLEROI	27.03.11	29.06.11	1 . 3 . 5 . 7	14:45	16:45	FR2832	738
BRUSSELS-CHARLEROI	01.07.11	28.10.11	. . . . 5 . .	15:25	17:25	FR2832	738
DUBLIN	04.09.11	27.10.11	1 . 3 4 . . 7	10:45	12:35	FR4283	738
DUBLIN	27.03.11	02.09.11	1 . 3 4 5 . 7	10:45	12:35	FR4283	738
DUBLIN	09.09.11	28.10.11	. . . . 5 . .	13:40	15:30	FR4283	738
EDINBURGH	02.04.11	29.10.11	. . . . . 6 .	10:55	12:45	FR6643	738
EDINBURGH	29.03.11	27.10.11	. 2 . 4 . . .	11:10	13:00	FR6643	738
GRAN CANARIA	29.03.11	25.10.11	. 2	12:25	16:25	FR3587	738
GRAN CANARIA	01.04.11	28.10.11	. . . . 5 . .	13:15	17:15	FR3587	738
LIVERPOOL	29.03.11	25.10.11	. 2	10:35	12:15	FR4024	738
LIVERPOOL	02.04.11	29.10.11	. . . . . 6 .	11:40	13:20	FR4024	738
LONDON-LUTON	27.03.11	29.10.11	1 2 3 4 5 6 7	21:50	23:05	FR2307	738
LONDON-STANSTED	27.03.11	29.10.11	1 2 3 4 5 6 7	10:00	11:15	FR2315	738
LONDON-STANSTED	27.03.11	29.10.11	1 2 3 4 5 6 7	21:00	22:15	FR2319	738
MALAGA	10.04.11	23.10.11	 7	10:05	13:35	FR2536	738
MALAGA	13.04.11	26.10.11	. . 3	10:10	13:40	FR2536	738
MALAGA	27.03.11	06.04.11	. . 3 . . . 7	10:25	13:55	FR2536	738
MILAN-BERGAMO	28.03.11	24.10.11	1	08:05	09:25	FR4643	738
MILAN-BERGAMO	01.04.11	28.10.11	. . . . 5 . .	14:40	16:00	FR4643	738
MILAN-BERGAMO	29.03.11	29.10.11	. 2 . 4 . 6 .	18:55	20:15	FR4643	738
PALMA DE MALLORCA	29.03.11	29.10.11	. 2 . 4 5 6 .	19:45	22:15	FR9512	738
PARIS-BEAUVAIS	27.03.11	28.10.11	1 . 3 . 5 . 7	19:25	21:35	FR9117	738
ROME-CIAMPINO	27.03.11	28.10.11	. . 3 . 5 . 7	18:00	19:45	FR9823	738
TRAPANI	28.03.11	28.10.11	1 . . . 5 . .	09:15	11:15	FR8004	738
BRISTOL START 30 OCT 11							

figure36: (cfr. bts airport bratislava)

>SCHEDULE

ADDITIONAL INFORMATION
TO FLIGHT SCHEDULE:_

AIRLINE:_

FR Ryanair

FLIGHT DAYS:_ weekly frequency

1 Monday
2 Tuesday
3 Wednesday
4 Thursday
5 Friday
6 Saturday
7 Sunday

*
DATA: >
NO GUARANTEE
OF ACCURACY!!

AIRCRAFT TYPE:_

738 Boeing 737-800
max. seat capacity =
189 PAX
Basis Calculation =
198 PAX +9PAX

*These assumptions are based on the illustrated Ryanair-Bratislava-Flight- Schedule-DEPARTURES for the period 27.03.11 - 29.10.11 and DO NOT! provide ANY GUARANTEE OF ACCURACY!

*AVERAGE PAX/HOUR = 130 PAX/HOUR_ 15h WORKING DAY!
assumptions for designated time!

HANDLING ASSUMPTIONS FOR
_PERIOD 27.03.11 - 29.20.11

* **RYANAIR SERVED FLIGHTS PER DAY** at Bratislava Airport:_

1	Monday	>approx. 8 FLIGHTS
2	Tuesday	>approx. 10 FLIGHTS
3	Wednesday	>approx. 8 FLIGHTS
4	Thursday	>approx. 11 FLIGHTS
5	Friday	>approx. 11 FLIGHTS
6	Saturday	>approx. 8 FLIGHTS
7	Sunday	>approx. 11 FLIGHTS

* **RYANAIR SERVED FLIGHTS PER WEEK** at Bratislava Airport:_
approximately **67 FLIGHTS A WEEK**

* **RYANAIR SERVED PASSENGERS PER WEEK** at Bratislava Airport:_
approximately **13.266 PAX A WEEK**

* **RYANAIR SERVED FLIGHTS PER DAY [**AVERAGE**]** at Bratislava Airport:_
approximately **9.6 FLIGHTS A DAY**

* **RYANAIR SERVED PASSENGERS PER DAY [**AVERAGE**]** at Bratislava Airport:_
approximately **1900 PAX A DAY**

*

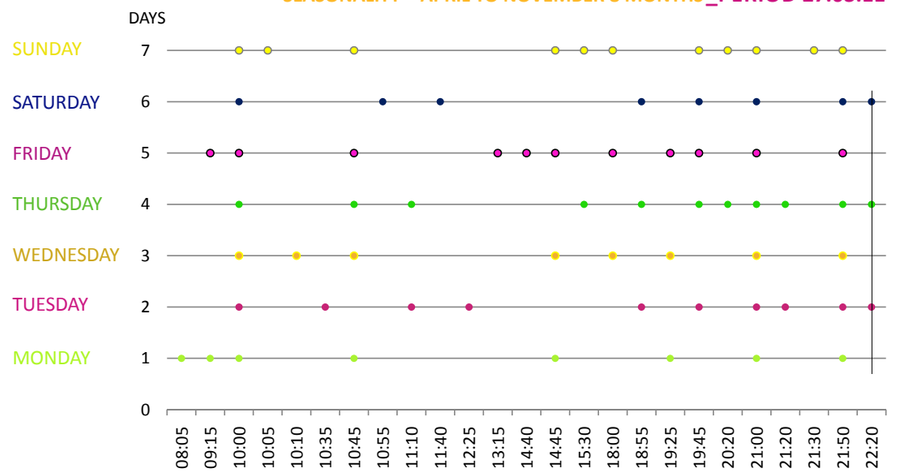
> **BRATISLAVA AIRPORT: RYANAIR - DIAGRAMS based on the PRECEDING PAGE 61 ILLUSTRATED FLIGHT SCHEDULE**
concerning the **PERIOD 27.03.11 - 29.10.11**

02 DIAGRAM:_ *

>DIAGRAM

RYANAIR - DEPARTURES *from* **BTS - LETISKO M.R. STEFANIKA AIRPORT BRATISLAVA**
DIAGRAM:_ FLIGHTS A DAY/WEEK during **SEASONALITY** regarding **TIME**
SEASONALITY = APRIL TO NOVEMBER 8 MONTHS_PERIOD 27.03.11 - 29.10.11

HANDLING ASSUMPTIONS FOR
_PERIOD 27.03.11 - 29.10.11
approximately:_



Sunday	11 Flights	
Saturday	8 Flights	
Friday	11 Flights	
Thursday	11 Flights	
Wednesday	8 Flights	
Tuesday	10 Flights	
Monday	8 Flights	

* **AVERAGE FLIGHTS A DAY =**
approx. **9.6 FLIGHTS** a day
served by RYANAIR
from Bratislava Airport

*These assumptions are based on at page 59 illustrated Ryanair-Bratislava-Flight-Schedule-DEPATURES for the period 27.03.11 - 29.10.11 and DO NOT! provide ANY GUARANTEE OF ACCURACY!

* **FLIGHTS A WEEK =**
approx. **67 FLIGHTS A WEEK**
served by RYANAIR
from Bratislava Airport for the designated period of time.

PAX A WEEK =
approx. **13.266 PAX A WEEK**
served by RYANAIR
from Bratislava Airport for the designated period of time.

* **AVERAGE PAX A DAY =**
approx. **1.900 PAX A DAY**
served by RYANAIR
from Bratislava Airport for the designated period of time.

* **AVERAGE PAX/HOUR =**
approx. 158-**130PAX/HOUR**
with 12h-15h WORKING DAY) served by RYANAIR
from Bratislava Airport for the designated period of time.

* **DATA: >**
NO GUARANTEE OF ACCURACY!!

* **OVERVIEW - FLIGHTS A WEEK**
regarding **DAY TIME:_**

AIRCRAFT TYPE:_
738 Boeing 737-800
max. seat capacity = 189 PAX
Basis Calculation = 198 PAX +9PAX

DAY TIME:_	09:15	10:05	10:35	10:55	11:40	13:15	14:45	18:00	19:25	20:20	21:20	21:50
FLIGHTS A WEEK:_	2	1	1	1	1	1	4	3	3	2	2	7

DAY TIME:_	08:05	10:00	10:10	10:45	11:10	12:25	14:40	15:30	18:55	19:45	21:00	21:30	22:20
FLIGHTS A WEEK:_	1	7	1	5	2	1	1	2	3	5	7	1	3

* **TOTAL FLIGHTS A WEEK = 67**

BUSIEST HOURS A WEEK:_

AM	PM
10:00	14:45
10:45	19:45
	21:00
	21:50

[figure37:_diagram: Flights a Day/Week during seasonality. regarding period 27/03/11-29/10/11; author F.H.]

REFERENCES:_
bts - airport bratislava: Flight Information. last update: 27/03/12. URL: http://www.airportbratislava.sk/en/passengers/flight-information/current-arrivals/- downloaded /)

> **BRATISLAVA AIRPORT: RYANAIR - DIAGRAM based on the PRECEDING PAGE 61 ILLUSTRATED FLIGHT SCHEDULE**

* concerning the **PERIOD 27.03.11 - 29.10.11**

03 DIAGRAM:_ >DIAGRAMS

RYANAIR - DEPARTURES from **BTS - LETISKO M.R. STEFANIKA AIRPORT BRATISLAVA**

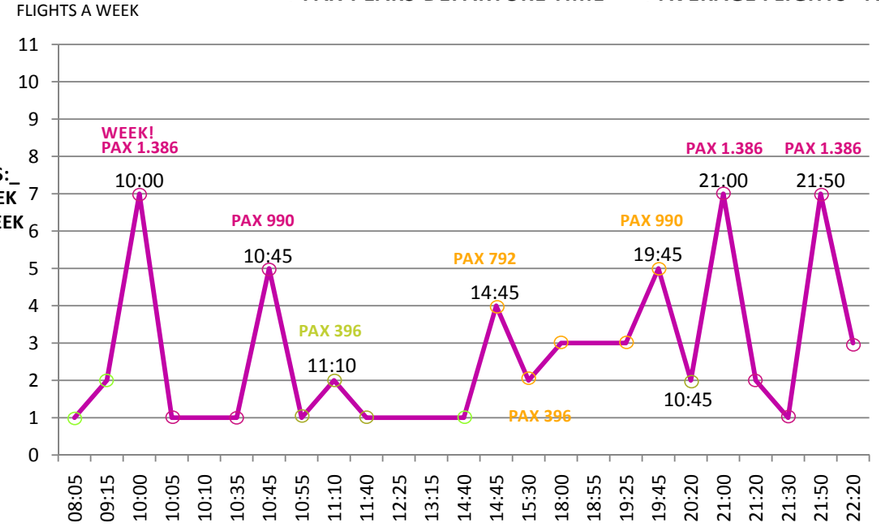
DEPARTURE

_PERIOD 27.03.11 - 29.20.11

DIAGRAM - **:_ PEAK HOURS PER WEEK DUE TO RYANAIR SERVICE - DEPARTURES** concerning designated time.

+ PAX-PEAKS-DEPARTURE TIME + AVERAGE FLIGHTS - AVERAGE PAX

PAX-PEAKS AT DEPARTURE TIMES:_ for 13.320 PAX/WEEK and 67 FLIGHTS/WEEK



HANDLING ASSUMPTIONS FOR
_PERIOD 27.03.11 - 29.20.11

*These assumptions are based on at page 61 illustrated Ryanair-Bratislava-Flight-Schedule-DEPARTURES for the period 27.03.11 - 29.10.11 and DO NOT! provide ANY GUARANTEE OF ACCURACY!

AIRCRAFT TYPE:_
738 Boeing 737-800
max. seat capacity = 189 PAX
Basis Calculation = 198 PAX +9PAX

*
approximately:_ *
RYANAIR PEAK TIME at Bratislava Airport:_

AVERAGE FLIGHTS: _

AVERAGE PAX: _

10:00 - 11:00
PEAK TIME
1 hour
AVERAGE FLIGHTS:
3,5 FLIGHTS/HOUR
AVERAGE PAX:
693 PAX/HOUR

15:00 - 20:00
BUSY TIME
5 hours
AVERAGE FLIGHTS:
3,4 FLIGHTS/5 HOURS
AVERAGE PAX:
135 PAX/HOUR

21:00 - 22:20
PEAK TIME
1 hour
AVERAGE FLIGHTS:
4 FLIGHTS/HOUR
AVERAGE PAX:
792 PAX/HOUR

*
DATA: >
NO GUARANTEE OF ACCURACY!!

AM ante meridiem
PM post meridiem

AM

AM - PM

PM

approximately:_
RYANAIR CALM TIME at Bratislava Airport:_

AVERAGE FLIGHTS: _

AVERAGE PAX: _

08:00 - 10:00
CALM TIME
2 hour
AVERAGE FLIGHTS:
1,5 FLIGHTS/2 HOURS
AVERAGE PAX:
148 PAX/HOUR
DEPARTURE TIMES:
08:05 09:15

11:00 - 15:00
CALM TIME
4 hours
AVERAGE FLIGHTS:
1,25 FLIGHTS/4 HOURS
AVERAGE PAX:
62 PAX/HOUR

20:00 - 21:00
CALM TIME
1 hour
AVERAGE FLIGHTS:
2 FLIGHTS/HOUR
AVERAGE PAX:
396 PAX/HOUR
DEPARTURE TIME:
20:20

AM **PM**

[figure38:_diagram: Peak hours per Week due to Ryanair service. Departure. regarding period 27/03/11-29/10/11; author F.H.]

*

> **BRATISLAVA AIRPORT: RYANAIR - ASSUMED FLIGHT SCHEDULE:_ ARRIVALS AT BRATISLAVA** concerning the
04 FLIGHT SCHEDULE: *INFORMATIONS ASSUMED REFERRING TO RYANAIR-BRATISLAVA-FLIGHT- SCHEDULE -DEPARTURES (page 61) **_PERIOD 27.03.11 - 29.10.11**
RYANAIR - ARRIVALS *at* BTS - LETISKO M.R. STEFANIKA AIRPORT BRATISLAVA >SCHEDULE
* **_PERIOD 27.03.11 - 29.10.11**

Destination	from	to	frequency	departure	arrival	flight	aircraft
ALGHERO	27.03.11	27.10.11	. . . 4 . . 7	- : -	15:05	FR8227	738
ALICANTE	27.03.11	02.06.11	. 2 . 4 . . 7	- : -	20:55	FR5565	738
ALICANTE	07.06.11	27.10.11	. 2 . 4 . . .	- : -	20:55	FR5565	738
ALICANTE	05.06.11	23.10.11	 7	- : -	21:05	FR5565	738
BARCELONA-GIRONA	27.03.11	27.10.11	. . . 4 . . 7	- : -	19:55	FR9026	738
BIRMINGHAM	29.03.11	29.10.11	. 2 . 4 . 6 .	- : -	21:55	FR 734	738
BRUSSELS-CHARLEROI	03.07.11	26.10.11	1 . 3 . . . 7	- : -	14:20	FR2831	738
BRUSSELS-CHARLEROI	27.03.11	29.06.11	1 . 3 . 5 . 7	- : -	14:20	FR2831	738
BRUSSELS-CHARLEROI	01.07.11	28.10.11	. . . . 5 . .	- : -	15:00	FR2831	738
DUBLIN	04.09.11	27.10.11	1 . 3 4 . . 7	- : -	10:20	FR4282	738
DUBLIN	27.03.11	02.09.11	1 . 3 4 5 . 7	- : -	10:20	FR4282	738
DUBLIN	09.09.11	28.10.11	. . . . 5 . .	- : -	13:25	FR4282	738
EDINBURGH	02.04.11	29.10.11	. . . . . 6 .	- : -	10:30	FR6642	738
EDINBURGH	29.03.11	27.10.11	. 2 . 4 . . .	- : -	10:45	FR6642	738
GRAN CANARIA	29.03.11	25.10.11	. 2	- : -	12:00	FR3586	738
GRAN CANARIA	01.04.11	28.10.11	. . . . 5 . .	- : -	12:50	FR3586	738
LIVERPOOL	29.03.11	25.10.11	. 2	- : -	10:10	FR4023	738
LIVERPOOL	02.04.11	29.10.11	. . . . . 6 .	- : -	11:15	FR4023	738
LONDON-LUTON	27.03.11	29.10.11	1 2 3 4 5 6 7	- : -	21:25	FR2306	738
LONDON-STANSTED	27.03.11	29.10.11	1 2 3 4 5 6 7	- : -	09:35	FR2314	738
LONDON-STANSTED	27.03.11	29.10.11	1 2 3 4 5 6 7	- : -	20:35	FR2318	738
MALAGA	10.04.11	23.10.11	 7	- : -	09:40	FR2535	738
MALAGA	13.04.11	26.10.11	. . 3	- : -	09:45	FR2535	738
MALAGA	27.03.11	06.04.11	. . 3 . . . 7	- : -	10:00	FR2535	738
MILAN-BERGAMO	28.03.11	24.10.11	1	- : -	07:40	FR4642	738
MILAN-BERGAMO	01.04.11	28.10.11	. . . . 5 . .	- : -	14:15	FR4642	738
MILAN-BERGAMO	29.03.11	29.10.11	. 2 . 4 . 6 .	- : -	18:30	FR4642	738
PALMA DE MALLORCA	29.03.11	29.10.11	. 2 . 4 5 6 .	- : -	19:20	FR9511	738
PARIS-BEAUVAIS	27.03.11	28.10.11	1 . 3 . 5 . 7	- : -	19:00	FR9116	738
ROME-CIAMPINO	27.03.11	28.10.11	. . 3 . 5 . 7	- : -	17:35	FR9822	738
TRAPANI	28.03.11	28.10.11	1 . . . 5 . .	- : -	08:50	FR8003	738
BRISTOL START 30 OCT 11							

[figure39:_diagram: Flights a Day/Week during seasonality. regarding period 27/03/11-29/10/11; author F.H.]

ADDITIONAL INFORMATION
TO FLIGHT SCHEDULE:_

AIRLINE:_
FR Ryanair

FLIGHT DAYS:_ weekly frequency
1 Monday
2 Tuesday
3 Wednesday
4 Thursday
5 Friday
6 Saturday
7 Sunday

* **DATA: > NO GUARANTEE OF ACCURACY!!**

AIRCRAFT TYPE:_
738 Boeing 737-800
max. seat capacity =
189 PAX
Basis Calculation =
198 PAX +9PAX

*The informations Ryanair-Bratislava-Flight-Schedule-ARRIVALS IS AN ASSUMPTION REFERRING TO THE RYANAIR- BRATISLAVA FLIGHT SCHEDULE-DEPARTURES (page 61) for the period 27.03.11 - 29.09.11 and DO NOT! provide ANY GUARANTEE OF ACCURACY!

HANDLING ASSUMPTIONS FOR
_PERIOD 27.03.11 - 29.20.11

* **RYANAIR ARRIVING FLIGHTS PER DAY** at Bratislava Airport:_

1	Monday	>approx. 8 FLIGHTS
2	Tuesday	>approx. 10 FLIGHTS
3	Wednesday	>approx. 8 FLIGHTS
4	Thursday	>approx. 11 FLIGHTS
5	Friday	>approx. 11 FLIGHTS
6	Saturday	>approx. 8 FLIGHTS
7	Sunday	>approx. 11 FLIGHTS

* **RYANAIR SERVED FLIGHTS PER WEEK** at Bratislava Airport:_
approximately **67 FLIGHTS A WEEK**

* **RYANAIR SERVED PASSENGERS PER WEEK** at Bratislava Airport:_
approximately **13.266 PAX A WEEK**

* **RYANAIR SERVED FLIGHTS PER DAY [**AVERAGE**]** at Bratislava Airport:_
approximately **9.6 FLIGHTS A DAY**

* **RYANAIR SERVED PASSENGERS PER DAY [**AVERAGE**]** at Bratislava Airport:_
approximately **1900 FLIGHTS A DAY**

> **BRATISLAVA AIRPORT: RYANAIR - DIAGRAMS based on the PRECEDING PAGE 64 ASSUMED, ILLUSTRATED FLIGHT SCHEDULE**

* concerning the **PERIOD 27.03.11 - 29.10.11**

05 DIAGRAM:_ >DIAGRAM

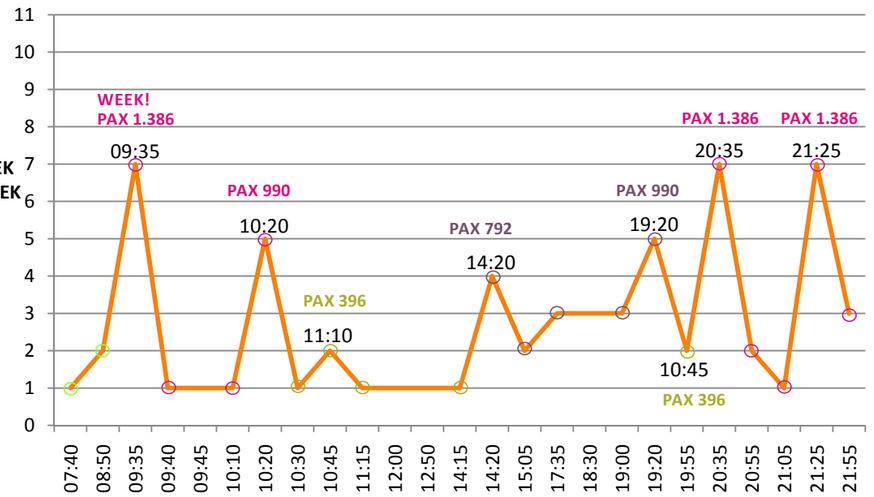
RYANAIR - ARRIVALS from BTS - LETISKO M.R. STEFANIKA AIRPORT BRATISLAVA

_PERIOD 27.03.11 - 29.20.11

ARRIVALS

DIAGRAM - :_ PEAK HOURS PER WEEK DUE TO RYANAIR ARRIVALS concerning designated time.
+ PAX-PEAKS-DEPARTURE TIME + AVERAGE FLIGHTS - AVERAGE PAX

PAX-PEAKS AT ARRIVAL TIMES:_ for 13.320 PAX/WEEK and 67 FLIGHTS/WEEK



HANDLING ASSUMPTIONS FOR
_PERIOD 27.03.11 - 29.20.11

*These assumptions are based on the at page 64 illustrated-ASSUMED Ryanair-Bratislava-Flight-Schedule-ARRIVALS for the period 27.03.11 - 29.10.11 and DO NOT! provide ANY GUARANTEE OF ACCURACY!

AIRCRAFT TYPE:_
738 Boeing 737-800
max. seat capacity = 198 PAX
Basis Calculation = 198 PAX +9PAX

*

approximately:_*
RYANAIR PEAK TIME at Bratislava Airport:_

AVERAGE FLIGHTS: _
AVERAGE PAX: _

09:30 - 10:30
PEAK TIME
1 hour
AVERAGE FLIGHTS:
3,5 FLIGHTS/HOUR
AVERAGE PAX:
693 PAX/HOUR

14:30 - 19:30
BUSY TIME
5 hours
AVERAGE FLIGHTS:
3,4 FLIGHTS/5 HOURS
AVERAGE PAX:
135 PAX/HOUR

20:30 - 22:00
PEAK TIME
1 hour
AVERAGE FLIGHTS:
4 FLIGHTS/HOUR
AVERAGE PAX:
792 PAX/HOUR

*
DATA: >
NO GUARANTEE OF ACCURACY!!

AM ante meridiem
PM post meridiem

approximately:_
RYANAIR CALM TIME at Bratislava Airport:_

AVERAGE FLIGHTS: _
AVERAGE PAX: _

AM
07:30 - 09:30
CALM TIME
2 hour
AVERAGE FLIGHTS:
1,5 FLIGHTS/2 HOURS
AVERAGE PAX:
148 PAX/HOUR
ARRIVAL TIMES:
07:40 08:50

AM - PM
10:30 - 14:30
CALM TIME
4 hours
AVERAGE FLIGHTS:
1,25 FLIGHTS/4 HOURS
AVERAGE PAX:
62 PAX/HOUR

PM
19:30 - 20:30
CALM TIME
1 hour
AVERAGE FLIGHTS:
2 FLIGHTS/HOUR
AVERAGE PAX:
396 PAX/HOUR
ARRIVAL TIME:
19:55

AM **PM**

[figure40:_diagram: Peak hours per Week due to Ryanair service. Arrivals. regarding period 27/03/11-29/10/11; author F.H.]

> **BRATISLAVA AIRPORT: RYANAIR - DIAGRAMS based on the PRECEDING PAGES 61 + 64 ILLUSTRATED FLIGHT SCHEDULES** concerning the **PERIOD 27.03.11 - 29.10.11**

06 DIAGRAM:_ *

>DIAGRAM

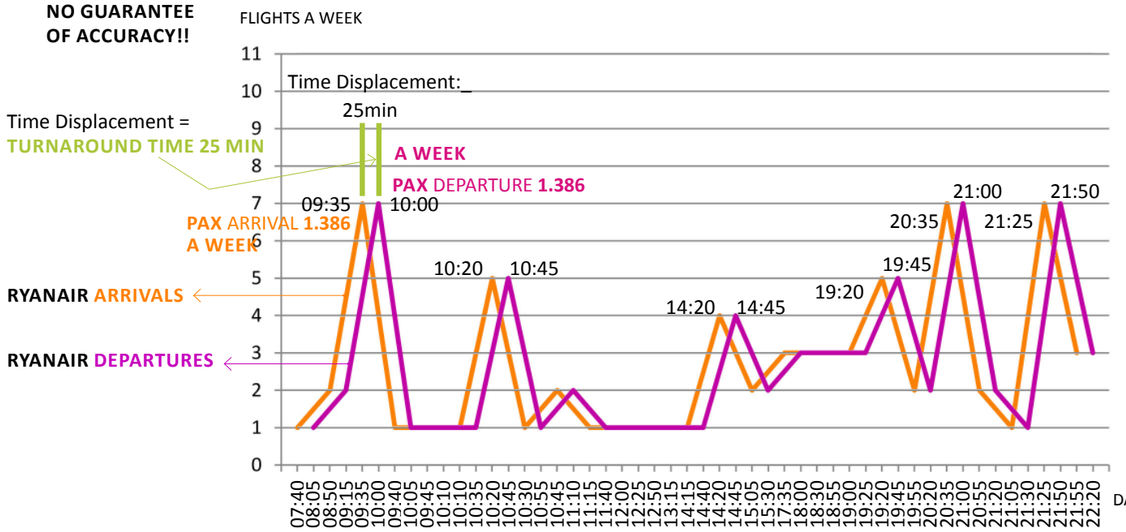
RYANAIR - DEPARTURES + ARRIVALS > COMPARISON from **BTS - LETISKO M.R. STEFANIKA AIRPORT BRATISLAVA** for the designated time

DEPARTURES + ARRIVALS COMPARISON

_PERIOD 27.03.11 - 29.20.11

DIAGRAM - DEPARTURES + ARRIVALS:_ DEPARTURES + ARRIVALS > COMPARISON concerning designated time.

*****
DATA: >
NO GUARANTEE
OF ACCURACY!!



HANDLING ASSUMPTIONS FOR
_PERIOD 27.03.11 - 29.20.11

*These assumptions are based on the at page 61 illustrated Ryanair-Bratislava-Flight-Schedule for the period 27.03.11 - 29.10.11 and DO NOT! provide ANY GUARANTEE OF ACCURACY!

AIRCRAFT TYPE:_
738 Boeing 737-800
max. seat capacity = 189 PAX
Basis Calculation = 198 PAX +9PAX

THE LINEAR FUNCTIONS ARE THE SAME FOR BOTH_ DEPARTURES AND ARRIVALS_ ONLY DISTINCTION:_ > A TIME DISPLACEMENT OF 25 MIN DUE TO TURNAROUND TIME!

*

Comparison01: Arrival + Departure > PEAK - BUSY - CALM TIME

ARRIVALS: AM ante meridiem PM post meridiem

RYANAIR PEAK TIME:_	09:30 - 10:30 (1 hour)		20:30 - 21:30 (1 hour)
RYANAIR BUSY TIME:_		14:30 - 19:30 (5 hours)	
RYANAIR CALM TIME:_	07:30 - 09:30 (1 hour)	10:30 - 14:30 (4 hours)	19:30 - 20:30 (1 hour)

DEPARTURES:

RYANAIR PEAK TIME:_	10:00 - 11:00 (1 hour)		21:00 - 22:00 (1 hour)
RYANAIR BUSY TIME:_		15:00 - 20:00 (5 hours)	
RYANAIR CALM TIME:_	08:00 - 10:00 (1 hour)	11:00 - 15:00 (4 hours)	20:00 - 21:00 (1 hour)

Comparison02: Arrival + Departure > PAX + FLIGHTS for PEAK - BUSY - CALM TIME

	AM	PM
ARRIVALS:		
FLIGHT PEAK TIME:_	average 3.5 FLIGHTS/HOUR	average 4 FLIGHTS/HOUR
PAX PEAK TIME:_	average 693 PAX/HOUR	average 792 PAX/HOUR
FLIGHT BUSY TIME:_	Rest pages 61 / 63	average 3,4 FLIGHTS/HOUR
PAX BUSY TIME:_		average 135 PAX/HOUR
FLIGHT CALM TIME:_		average 1,25 FLIGHTS/4HOUR
PAX CALM TIME:_		average 62 PAX/HOUR
DEPARTURES:		
FLIGHT PEAK TIME:_	average 3.5 FLIGHTS/HOUR	average 4 FLIGHTS/HOUR
PAX PEAK TIME:_	average 662 PAX/HOUR	average 792 PAX/HOUR
FLIGHT BUSY TIME:_	Rest pages 61 / 63	average 3,4 FLIGHTS/HOUR
PAX BUSY TIME:_		average 135 PAX/HOUR
FLIGHT CALM TIME:_		average 1,25 FLIGHTS/4HOUR
PAX CALM TIME:_		average 62 PAX/HOUR

[figure41:_diagram: Ryanair Comparison Departure - Arrival. regarding period 27/03/11-29/10/11; author F.H.]

REFERENCES:_
bts - airport bratislava: Flight Information. last update: 27/03/12. URL: http://www.airportbratislava.sk/en/passengers/flight-information/current-arrivals/- downloaded /)

AIRCRAFT TYPE:_
738 Boeing 737-800
max. seat capacity = 189 PAX
Basis Calculation = 198 PAX +9PAX

> **SCHEDULAR CALCULATORY OVERVIEW** FOR **RYANAIR - AIR TRAFFIC:** FOCUSING ON THE DESIGNATED YEARS **2010 / 2011 / 2020 - 2030**

>SCHEDULE

01 SCHEDULE:_ **RYANAIR - AIR TRAFFIC** at **BTS - LETISKO M.R. STEFANIKA AIRPORT BRATISLAVA**
YEARS 2010 / 2011 / 2020-2030 [authors assumption]
SEASONALITY = from APR to NOV
BEYOND SEASON = from DEC to MAR

AIRCRAFT CAPACITY:_
Boeing 737-800 >
max. seat capacity=189 PAX

	YEAR	WEEK		DAY		HOUR		
YEAR	PAX/YEAR	FLIGHTS/YEAR	PAX/WEEK	FLIGHTS/WEEK	PAX/DAY	FLIGHTS/DAY	PAX/HOUR	FLIGHTS/HOUR	WORKING HOURS/DAY
2010	(cfr. bloomberg) **1.025.000** PAX/YEAR =(*2/3 of BTS - total served flights > 1.660.000 PAX in 2010)	approx. **5.180** FLIGHTS/ YEAR	approx. **19.712** PAX/WEEK	approx. **100** FLIGHTS/ YEAR + 9 PAX Basis Calculation =198	approx. **2.850** PAX/DAY	approx. **14** FLIGHTS/ DAY	approx. **190** PAX/HOUR	approx. **1** FLIGHTS/ HOUR (NON- significant due to PEAK - BUSY - CALM TIMES)	**15 h / Day** (08:00- 23:00) * **DATA: > NO GUARANTEE OF ACCURACY!!**
2011 (Information referring to designated Ryanair -Summer -Flight- Schedule 2011, check page 61.)	approx. **618.948** PAX/YEAR	approx. **3.126** FLIGHTS/ YEAR	average! **11.096** PAX/ WEEK	average! **56** FLIGHTS/ WEEK	average ! **1.580** PAX/DAY	average! **8** FLIGHTS/ DAY	average! **106** PAX/HOUR	average! **1,07** FLIGHTS/ HOUR (NON- significant due to PEAK - BUSY - CALM TIMES)	**15 h / Day** (08:00- 23:00)
BEYOND SEASON	PAX/YEAR	FLIGHTS/YEAR	PAX/WEEK	FLIGHTS/WEEK	PAX/DAY	FLIGHTS/DAY	PAX/HOUR	FLIGHTS/HOUR	**SEASONALITY**
	464.310 PAX during seasonality = 8 Months, check page 60. 154.638 PAX beyond season = 4 Months #	2.345 FLIGHTS during seasonality = 8 Months 781 FLIGHTS beyond season = 4 Months	13.320 PAX during seasonality = 8 Months 8.873 PAX beyond season = 4 Months	67 FLIGHTS during seasonality = 8 Months 45 FLIGHTS beyond season = 4 Months	1.900 PAX during seasonality = 8 Months 1.267 PAX beyond season = 4 Months	9,6 FLIGHTS during seasonality = 8 Months 6,4 FLIGHTS beyond season = 4 Months	127 PAX during seasonality = 8 Months 85 PAX beyond season = 4 Months	0,64 FLIGHTS during seasonality = 8 Months 0,43 FLIGHTS beyond season = 4 Months	*data for year 2011 relates to the Ryanair-Flight-Schedule-2011, page 61. # beyond season data = assumed with approx. 25% of the ANNUAL PAX according to BEYOND SEASONALITY DIAGRAM page 60.
2020-2030 [authors assumption]	approx. **3.000.000 - 3.500.000** PAX/ YEAR	approx. **15.150 - 17.680** FLIGHTS/ YEAR	approx. **57.690 - 67.300** PAX/ WEEK	approx. **291 - 340** FLIGHTS/ WEEK	approx. **8.241 - 9.614** PAX/DAY	approx. **41,6 - 48,5** FLIGHTS/ DAY	approx. **549 - 641** PAX/HOUR	approx. **2,77 - 3,23** FLIGHTS/ HOUR (NON- significant due to PEAK - BUSY - CALM TIMES)	**15 h / Day** (08:00- 23:00)

NOTE! ASSUMPTIONS 2011 _PERIOD 27.03.11 - 29.10.11!

AIR TRAFFIC 2020 - 2030 = ASSUMED ALMOST 3-TIMES TRAFFIC OF THE YEAR 2010

[figure42:_schedular calculation: Ryanair - Air Traffic at BTS - Letisko M.R. Stefanika Airport Bratislava. years 2010 / 2011 / 2020-2030 ; author F.H.]

AIRCRAFT TYPE:_
738 Boeing 737-800
max. seat capacity = 189 PAX
Basis Calculation = 198 PAX +9PAX

> **RYANAIR - AIR TRAFFIC 2020 - 2030: ASSUMPTION FOR SEASONALITY:_** with the Diagram Bratislava - Airport Seasonality serving as model! [Reference page 60]

>SCHEDULE

02 SCHEDULE:_ **RYANAIR - AIR TRAFFIC at BTS - LETISKO M.R. STEFANIKA AIRPORT BRATISLAVA**
*
YEARS 2020-2030 :_ ASSUMPTION - AIR TRAFFIC SEASONALITY

Calculating **SEASONALITY = 8 MONTHS** with **75% OF THE ANNUAL PAX**
Calculating **BEYOND SEASONALITY = 4 MONTHS** with **25% OF THE ANNUAL PAX**

SEASONALITY = from APR to NOV
BEYOND SEASON = from DEC to MAR

AIRCRAFT CAPACITY:_
Boeing 737-800 >
max. seat capacity=189 PAX

*
DATA: >
NO GUARANTEE OF ACCURACY!!

*

	YEAR		WEEK		DAY		HOUR		
YEAR	PAX/YEAR	FLIGHTS/YEAR	PAX/WEEK	FLIGHTS/WEEK	PAX/DAY	FLIGHTS/DAY	PAX/HOUR	FLIGHTS/HOUR	WORKING HOURS/DAY
2020-2030 [authors assumption]	approx. **3.000.000** PAX/YEAR	approx. **15.152** FLIGHTS/ YEAR	**average!** **53.790** PAX/ WEEK	**average!** **272** FLIGHTS/ WEEK	**average!** **7.684** PAX/DAY	**average!** **39** FLIGHTS/ DAY	**average!** **512** PAX/HOUR	**average!** **2,6** FLIGHTS/ HOUR (NON- significant due to PEAK - BUSY - CALM TIMES)	**15 h / Day** (08:00- 23:00)
SEASONALITY	PAX/YEAR	FLIGHTS/YEAR	PAX/WEEK	FLIGHTS/WEEK	PAX/DAY	FLIGHTS/DAY	PAX/HOUR	FLIGHTS/HOUR	
	2.250.000 PAX during seasonality = 8 Months,	11.364 FLIGHTS during seasonality = 8 Months	64.549 PAX during seasonality = 8 Months	326 FLIGHTS during seasonality = 8 Months	9.221 PAX during seasonality = 8 Months	47 FLIGHTS during seasonality = 8 Months	615 PAX during seasonality = 8 Months	3,1 FLIGHTS during seasonality = 8 Months	
BEYOND SEASON	750.000 PAX beyond season = 4 Months	3.788 FLIGHTS beyond season = 4 Months	43.032 PAX beyond season = 4 Months	217 FLIGHTS beyond season = 4 Months	6.148 PAX beyond season = 4 Months	31 FLIGHTS beyond season = 4 Months	410 PAX beyond season = 4 Months	2,07 FLIGHTS beyond season = 4 Months	

*

2020-2030 [authors assumption]	approx. **3.500.000** PAX/YEAR	approx. **17.677** FLIGHTS/ YEAR	**average!** **62.765** PAX/ WEEK	**average!** **317** FLIGHTS/ WEEK	**average!** **8.965** PAX/DAY	**average!** **45** FLIGHTS/ DAY	**average!** **597** PAX/HOUR	**average!** **3** FLIGHTS/ HOUR (NON- significant due to PEAK - BUSY - CALM TIMES)	**15 h / Day** (08:00- 23:00)
SEASONALITY	PAX/YEAR	FLIGHTS/YEAR	PAX/WEEK	FLIGHTS/WEEK	PAX/DAY	FLIGHTS/DAY	PAX/HOUR	FLIGHTS/HOUR	
	2.625.000 PAX during seasonality = 8 Months,	13.258 FLIGHTS during seasonality = 8 Months	75.307 PAX during seasonality = 8 Months	380 FLIGHTS during seasonality = 8 Months	10.758 PAX during seasonality = 8 Months	54 FLIGHTS during seasonality = 8 Months	717 PAX during seasonality = 8 Months	3,6 FLIGHTS during seasonality = 8 Months	
BEYOND SEASON	875.000 PAX beyond season = 4 Months	4.420 FLIGHTS beyond season = 4 Months	50.205 PAX beyond season = 4 Months	254 FLIGHTS beyond season = 4 Months	7.172 PAX beyond season = 4 Months	36 FLIGHTS beyond season = 4 Months	478 PAX beyond season = 4 Months	2,4 FLIGHTS beyond season = 4 Months	

[figure43:_schedular calculation: Ryanair - Air Traffic at BTS - Letisko M.R. Stefanika Airport Bratislava. years 2020-2030 :_ Assumption - Air Traffic Seasonality; author F.H.]

AIRCRAFT TYPE:_
738 Boeing 737-800
max. seat capacity = 189 PAX
Basis Calculation = 198 PAX +9PAX

> **RYANAIR - AIR TRAFFIC 2020 - 2030: ASSUMPTION FOR SEASONALITY:_** with the Diagram Bratislava - Airport Seasonality serving as model! [Reference page 60]

03 SCHEDULE:_ **RYANAIR - AIR TRAFFIC at BTS - LETISKO M.R. STEFANIKA AIRPORT BRATISLAVA**
*
COMPARISON YEAR 2011 with the FORECAST for THE PERIOD 2020 - 2030

>SCHEDULE

AIRCRAFT CAPACITY:_
Boeing 737-800 >
max. seat capacity=189 PAX

YEAR 2011:_ approx. **618.948 PAX/YEAR 3.126 FLIGHTS/YEAR**
PERIOD 2020 - 2030:_ approx. **3.500.000 PAX/YEAR 17.677 FLIGHTS/YEAR**
Means an PAX-INCREASE for the period **2020 - 2030** up to approx. **5.7 -TIMES** higher than the designated PAX-VOLUME for the year **2011.**

SEASONALITY = from APR to NOV
BEYOND SEASON = from DEC to MAR

*
DATA: >
NO GUARANTEE OF ACCURACY!!

	YEAR		WEEK		DAY		HOUR		
YEAR	PAX/YEAR	FLIGHTS/YEAR	PAX/WEEK	FLIGHTS/WEEK	PAX/DAY	FLIGHTS/DAY	PAX/HOUR	FLIGHTS/HOUR	WORKING HOURS/DAY
2011 (Information referring to designated Ryanair -Summer -Flight- Schedule 2011, check page 61.)	approx. **618.948** PAX/YEAR	approx. **3.126** FLIGHTS/ YEAR	average! **11.096** PAX/ WEEK	average! **56** FLIGHTS/ WEEK	average! **1.580** PAX/DAY	average! **8** FLIGHTS/ DAY	average! **106** PAX/HOUR	average! **1,07** FLIGHTS/ HOUR (NON- significant due to PEAK - BUSY - CALM TIMES)	**15 h / Day** (08:00- 23:00)
	PAX/YEAR	FLIGHTS/YEAR	PAX/WEEK	FLIGHTS/WEEK	PAX/DAY	FLIGHTS/DAY	PAX/HOUR	FLIGHTS/HOUR	SEASONALITY
	464.310 PAX during seasonality = 8 Months, check page 60.	2.345 FLIGHTS during seasonality = 8 Months	13.320 PAX during seasonality = 8 Months	67 FLIGHTS during seasonality = 8 Months	1.900 PAX during seasonality = 8 Months	9,6 FLIGHTS during seasonality = 8 Months	127 PAX during seasonality = 8 Months	0,64 FLIGHTS during seasonality = 8 Months	
	154.638 PAX beyond season = 4 Months	781 FLIGHTS beyond season = 4 Months	8.873 PAX beyond season = 4 Months	45 FLIGHTS beyond season = 4 Months	1.267 PAX beyond season = 4 Months	6,4 FLIGHTS beyond season = 4 Months	85 PAX beyond season = 4 Months	0,43 FLIGHTS beyond season = 4 Months	BEYOND SEASON
2011									
NOTE! ASSUMPTIONS 2011 _PERIOD 27.03.11 - 29.10.11!									
2020-2030 [authors assumption]	approx. **3.500.000** PAX/YEAR	approx. **17.677** FLIGHTS/ YEAR	average! **62.765** PAX/ WEEK	average! **317** FLIGHTS/ WEEK	average! **8.965** PAX/DAY	average! **45** FLIGHTS/ DAY	average! **597** PAX/HOUR	average! **3** FLIGHTS/ HOUR (NON- significant due to PEAK - BUSY - CALM TIMES)	**15 h / Day** (08:00- 23:00)
	PAX/YEAR	FLIGHTS/YEAR	PAX/WEEK	FLIGHTS/WEEK	PAX/DAY	FLIGHTS/DAY	PAX/HOUR	FLIGHTS/HOUR	
SEASONALITY	2.625.000 PAX during seasonality = 8 Months,	13.258 FLIGHTS during seasonality = 8 Months	75.307 PAX during seasonality = 8 Months	380 FLIGHTS during seasonality = 8 Months	10.758 PAX during seasonality = 8 Months	54 FLIGHTS during seasonality = 8 Months	717 PAX during seasonality = 8 Months	3,6 FLIGHTS during seasonality = 8 Months	
BEYOND SEASON	875.000 PAX beyond season = 4 Months	4.420 FLIGHTS beyond season = 4 Months	50.205 PAX beyond season = 4 Months	254 FLIGHTS beyond season = 4 Months	7.172 PAX beyond season = 4 Months	36 FLIGHTS beyond season = 4 Months	478 PAX beyond season = 4 Months	2,4 FLIGHTS beyond season = 4 Months	
2020-2030 = 5.7 times higher than 2011									

[figure44:_schedular calculation: Ryanair - Air Traffic at BTS - Letisko M.R. Stefanika Airport Bratislava. years 2011 /2020-2030 :_ Assumption - Air Traffic Seasonality; author F.H.]

REFERENCES:_
bts - airport bratislava: Flight Information. last update: 27/03/12. URL: http://www.airportbratislava.sk/en/passengers/flight-information/current-arrivals/- downloaded /)

chapter 03

INTRO:_

NEW TERMINAL RYANAIR AT BTS - M.R. STEFANIK AIRPORT BRATISLAVA

As a matter of fact Ryanair and LC-Airlines in general, are to be seen as enablers for regional Airports, reasoning an increasing development by affording them to transform into leading infrastructure necessities. Whilst formerly being basically open to a specific clientele only, now a transformation into an equally used infrastructure is possible, regardless the social state of the Passenger, thus allowing regional Airports to become natural combatants to nowadays infrastructure. This new targeted position of regional Airports as well as LCC´s - Low Cost Carriers and their handled service - flying, becomes only possible due to the combination of attractive and economic service usage LC-Airports provide, and the to the majority allowable service usage LC-Airlines provide, by offering their products on very low fairs Hence, the door LEARN PEOPLE HOW TO FLY opens up. Nowadays no regional Airport could ever disclaim not being in need of LC-Airlines anymore.

NEW TERMINAL RYANAIR

Ryanair up to now is the leading Low Cost Airline in Europe. Founded in 1985 by Christopher Ryan, Liam Lonergan and Tony Ryan, after whom the company is named, being reconstructed beginning with the year 1991 by the actual head of the company, Michael O'Leary.(cfr. Wikipedia) Under the leadership of Michael O´Leary, the Airline Ryanair initiated the Low Cost Aviation Business in Europe by strictly following a determined low cost business plan, along the lines of the US - Airline Southwest. (cfr. Flottau, Oldag 2011 p. 18)
According to the Index:_ Intra European Market Share. Page 46. (cfr. CAPA-CENTER FOR AVIATION) last update. 27/05/10
The Intra European Market Share lays with 34% for Low Cost Carriers, before Star Alliance Members(25%), Skyteam Members(16%), Oneworld Members(9%). (cfr. CAPA-CENTER FOR AVIATION) last update. 27/05/10
Low Cost Carriers represent magnetic attractors within the aviation business regarding short and middle haul flights, and state an important and vital development in handling aviation business foresighted, regarding short and middle haul flights. Up to date Low Cost Carriers operate mostly from Terminals for Regular Airlines, due to Only Starting Manoeuvres regarding construction of specifically conceived Terminals for Low - Cost -Airlines.
Concerning Bratislava Airport and its leading Airline Ryanair, in terms of revenue(check Page 58. Index: Bratislava Airport - Passenger Volume), it results highly interesting to focus on a Terminal building, specifically adjusted and conceived to the emaciated needs of a Low Cost Airline.
With this Low Cost Airline being Ryanair, the INITIATOR and most EXTREME VERSION regarding Low Cost Business in European aviation, a conception for a Terminal, along the lines of Ryanair AND FOR Ryanair, means an architectural response to the driven Low Cost Business of the Airline, as well as an foresighted input, taking the fact of the highly competitive market within Low Cost Airlines.
From a Michael O´Leary interview in the german daily newspaper "Suddeutsche Zeitung" issue february 2011:_„Wenn Sie schnell wachsen, lassen Ihnen die Leute vieles durchgehen. […] Wenn die Airline langsam abbremst auf drei, vier oder fünf Prozent Wachstum pro Jahr und Ryanair zusammen mit Lufthansa, BA und Air France eine der vier großen eurpäischen Airlines ist, ist ein anderer Stil nötig, als der den ich in den vergangen 20 Jahren verfolgt habe.[…] In den nächsten zwei bis drei Jahren wird das wohl passieren." (cfr. Flottau, Oldag 2011 p. 18; adaptation and rearrangement; F.H.)
Basically stating that a high speeded annual growth increase allows providers to determine and rule the market. With the beginning of a constant reduction of the same, an alternative management style has to be adapted, in order to be able to responde adequately to the up to date-needs of the up to date-market.„We started with 20%, than 15%, last year it was 11% and this year possibly 9%. In the next 2 years it will decrease 7% down to 5%."(cfr. Flottau, Oldag 2011 p. 18; author´s translation; F.H.) According to these informations a redefined, amplified Corporate Identity, in terms of following emaciation principles as well as aspiring targets to maintain passengers and consequently increase passenger flow, by guaranteeing a certain attractiveness and competitiveness besides low fairs, in a highly competititve market with increasing similar quality approach of providers, is undoubtably needed.

INTRA EUROPEAN MARKET SHARE:_
LCCs:_ = 34%
STAR ALLIANCE-MEMBERS:_ = 25%
SKYTEAM-MEMBERS:_ = 16%
ONEWORLD-MEMBERS:_ = 9%
(cfr. CAPA-CENTER FOR AVIATION) last update. 27/05/10

THE TERMINAL RYANAIR AT BTS(BRATISLAVA AIRPORT)

The main issues of the Terminal Ryanair focus on:

>>> **EMACIATION**! = DRASTIC REDUCTION OF SPACE +
GUARANTEEING HIGH EFFICIENCY IN ITS GENERALITY,

means: HIGH EFFICIENCY REGARDING PASSENGER DISPATCH PROCESSES as well as OPERATIONAL PROCESSES CONCERNING TERMINAL ISSUES (administration, policing, retail, passenger services...)

The second focus of the Terminal Ryanair lays in the goal of:

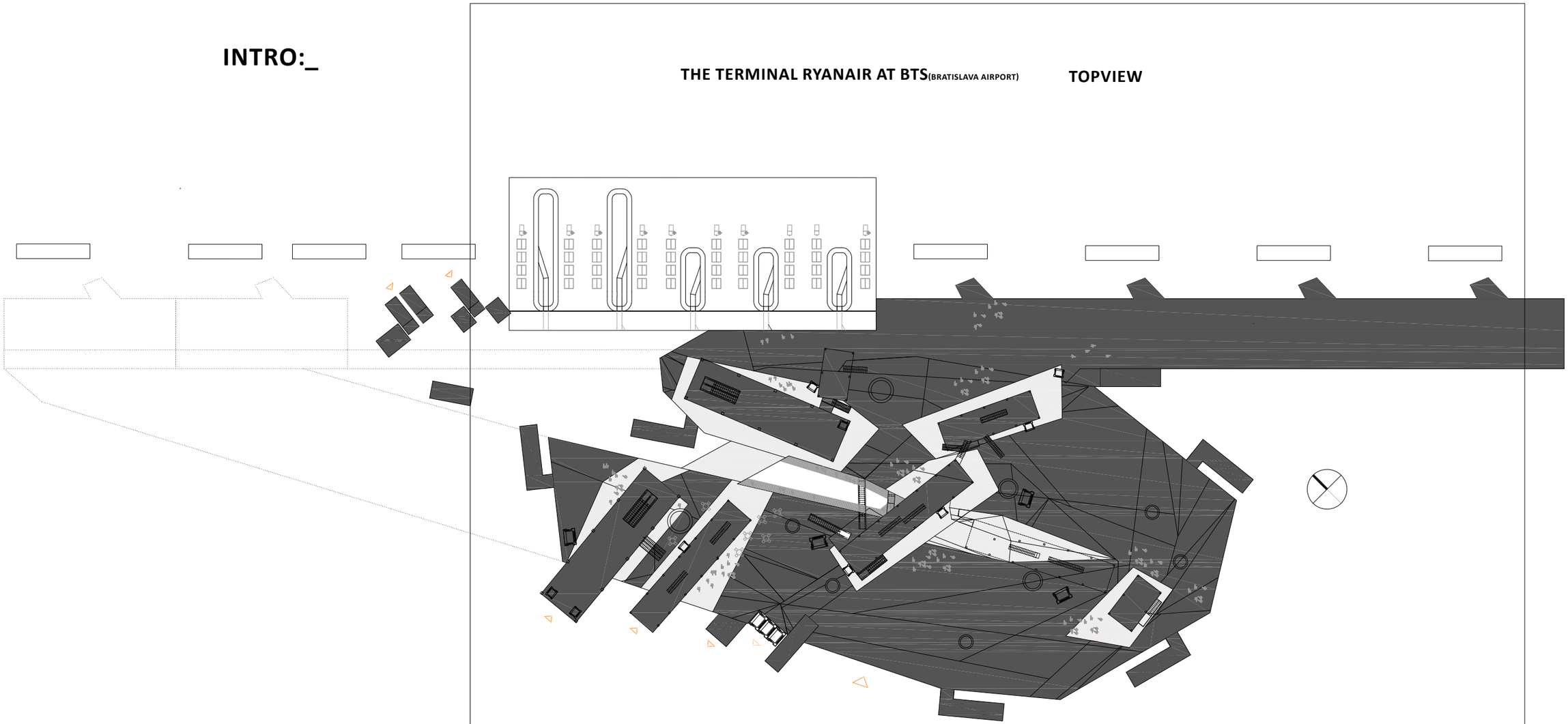
>>> TRANSPARENCY!
A Terminal is an incredibly interesting spot being nourished by NUMEROUS MUTUALLY DEPENDING, DIFFERING FUNCTIONS, allowing an enormous amount of COMPLEMENTARY INTERACTING PROCESSES, as well as being a UNIFYING ELEMENT between the 3 stakeholders of an Airport > AIRSIDE - TERMINAL - LANDSIDE, for making the aviation business actually happen.
Its undoubtably needed that these interactions can be seen.
As comparison a machine. Once you get rid of the outer shell, wonders open up and fantastic things can be seen, and in consequence a possible refinement of the organisation can take place, for the direct interaction with the actual contextuality. Reorganisations concerning for example the BHS - Baggage Handling System, or the administration-side, the employee- side, policing areas, areas guaranteeing high efficiency, actually being directly located on site. Thus enhancing a visible as well a physical interacting for both, employees as well as passengers, though the interacting possibilities differ in their dimensions. For safety reasons as well as guaranteeing a high efficiency in dispatch processes, the passengers, in comparison to the employees, are limited in their physical interactions. Though a synergistic experience and comprehension is still guaranteed to passengers. The new sense of access allowed, engender a new perception approach, nourished by transparent, synergistic holistic comprehension. The passenger perception of what a Terminal is or might be completely changes because of the unfolded and exhibited network a Terminal inherits. The employee enjoys a completely unrestricted physical as well as visible access regarding all directions.

REFERENCES:_
Wikipedia: Ryanair. last update: 21.03.2012. URL: http://en.wikipedia.org/wiki/Ryanair- downloaded /)
Flottau, Jens; Oldag Andreas: Die Umwelt interessiert mich einen Dreck. Ryanair - Chef Michael O´Leary über grünes Image, die Konkurrenz und seine eigene Zukunft.
In: Süddeutsche Zeitung (year´s) issues / 2011, no. 48, p.18.)

INTRO:_

THE TERMINAL RYANAIR AT BTS(BRATISLAVA AIRPORT)

TOPVIEW

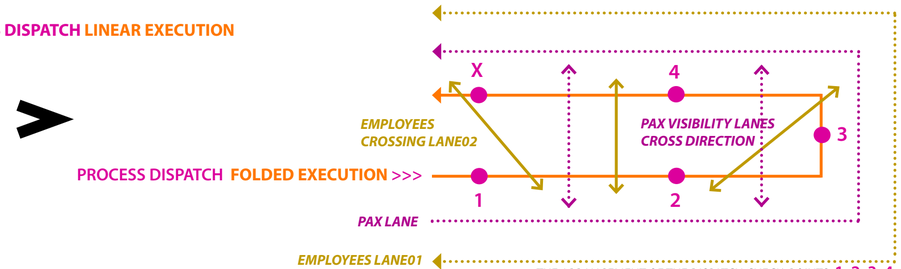


INTRO _ OVERVIEW DISPATCH EXECUTION

STEP01:_ DISPATCH > LINEAR ARRANGEMENT

THE SINGLE DISPATCH CHECK POINTS 1 2 3 4..... X
ARE ARRANGED ALONG ONE LEADING DIRECTION,
ONE CHECK POINT FOLLOWS THE OTHER. ONCE A CHECKPOINT IS PAST ITS PAST! NO WAY BACK,
IN A NEITHER PHYSICAL (excluding employees) NOR VISIBLE WAY(including pax),
THERE IS ONE MAIN DIRECTION > LEADING FORWARD.
THE HANDLING REGARDING PAX- AS WELL AS EMPLOYEES, IS COMPLETELY DEFINED
AND LIMITED BY EXACTLY THIS, SORT OF RESTRICTED ORIENTATION.
A ONE WAY -TWO WAY ORIENTATION.
ONE WAY FOR PAX LEADING STRICTLY FORWARD,
TWO WAYS FOR EMPLOYEES, - ONE DIRECTION, WITH THE POSSIBLE APPROACH OF FOR- AND BACKWARD.

STEP02:_ DISPATCH > FOLDED ARRANGEMENT



PAX LANES:_ **ONE WAY DISPATCH, MULTIPLE CROSSING SIGHT PERSPECTIVES, SYNERGISTIC TRANSPARENT PERCEPTION, PHYSICAL+VISIBLE EXPERIENCE.**
LANES EMPLOYEES:_ **COMPLETE INTERACTING POSSIBILITIES, ACCESS TO ALL POSSIBLE DIRECTIONS, CROSSING DIRECTIONS, DIAGONAL DIRECTIONS, HORIZONTAL /VERTICAL INTERSECTIONS and DIRECTIONS....**

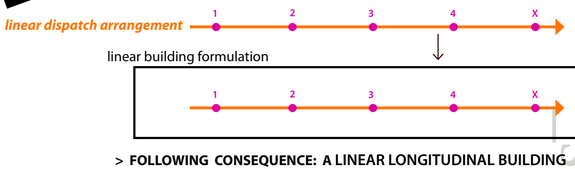
THE ARRANGEMENT OF THE DISPATCH CHECK POINTS 1 2 3 4..... X
FOLLOWS A ONE-DIRECTION ORGANISATION, IN TERMS, THERE IS ONE LEADING LINE. DUE TO FOLDING THIS DIRECTION LINE,
A COMPLETELY NEW COMPOSITION OF NEW MERGING POSSIBILITIES IS THE CONSEQUENCE!
A RESTRICTED PHYSICAL APPROACH FOR PAX, FOLLOWING THE DEFINED DISPATCH LINE, STILL PROVIDES THE OPPORTUNITY OF SYNERGISTIC EXPERIENCE. IN A RESTRICTED PHYSICAL BUT FULLY VISIBLE WAY. DUE TO THESE NEW SENSE OF ACCESS the PERCEPTION APPROACH COMPLETELY DIFFERS AND OPENS UP INTO A TRANSPARENT, SYNERGISTIC, HOLISTIC COMPREHENSION. WHAT MEANS, THAT THE PASSENGER PERCEPTION OF WHAT A TERMINAL IS COMPLETELY CHANGES, BECAUSE OF SUDDENLY GAINING NEW INFORMATIONS ABOUT THE HUGE NETWORKS BEING INHERITED BY A TERMINAL. THE PAX ACTUALLY FINDS HIMSELF BEING IN THE MIDDLE OF EVERYTHING!
WHILE THE PAX IS LIMITED IN ITS PHYSICALLY APPROACH, FOR GUARANTEEING A SECURE AND SAVE TERMINAL FUNCTIONALITY, THE EMPLOYEE ENJOYS A COMPLETE UNRESTRICTED PHYSICAL AS WELL AS VISIBLE ACCESS REGARDING ALL DIRECTIONS: LONGITUDINAL-, CROSS-, DIAGONAL-, HORIZONTAL- VERTICAL- ... DIRECTIONS.

STEP03:_ WHAT IS THE POSSIBLE CONSEQUENCE OF DIFFERING ARRANGEMENTS FOR A BUILDING ?

IN CASE THE DISPATCH PROCESS and PROCEDURE IS THE LEADING INPUT FOR THE BUILDING, CLEARLY THE BUILDINGS WOULD DIFFER TOTALLY IN THEIR FORMULATIONS AND STATEMENTS.

- EXAMPLE: NATURAL BUILDING FORMULATION FOR **STEP 01:_**

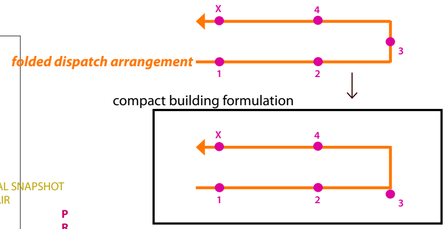
AS BASIS: >LINEAR DISPATCH ARRANGEMENT



> FOLLOWING CONSEQUENCE: A LINEAR LONGITUDINAL BUILDING FORMULATION

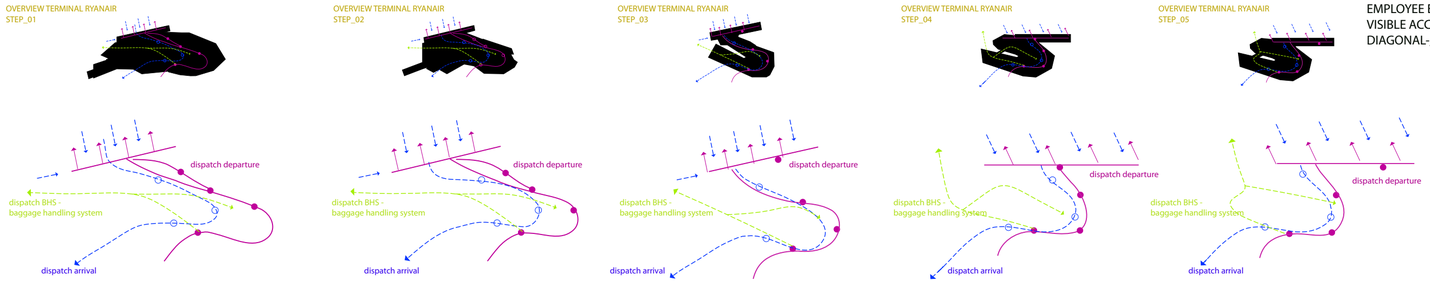
- EXAMPLE: NATURAL BUILDING FORMULATION FOR **STEP 02:_**

AS BASIS: >FOLDED DISPATCH ARRANGEMENT



> FOLLOWING CONSEQUENCE: A COMPACT BUILDING FORMULATION

STEP04:_ SINGLE STEPS REGARDING DISPATCH ARRANGEMENTS at TERMINAL RYANAIR



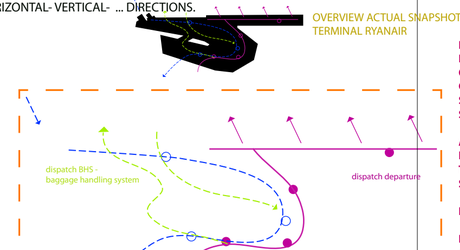
STEP01 - DISPATCH ARRANGEMENT START

STEP02 - DISPATCH TRANSFORMATION_01

STEP03- DISPATCH TRANSFORMATION_02

STEP04 - DISPATCH TRANSFORMATION_03

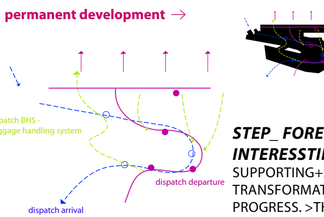
STEP05 - DISPATCH TRANSFORMATION_04



STEP06 - DISPATCH_**ACTUAL SNAPSHOT TERMINAL RYANAIR**

PROCESS AND ITS PROCEDURES

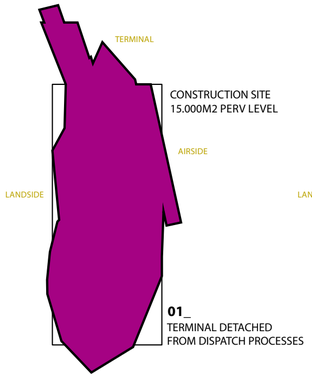
PROCESS and its PROCEDURES
permanent development →



STEP_ FORESIGHT REGARDING INTERESSTING FUTURE STEPS - SUPPORTING+STATING THE CONSTANT TRANSFORMATION and STEADY PROGRESS. >THE UNDENIABLE ESSENCES REGARDING PROCESS and DEVELOPMENT.

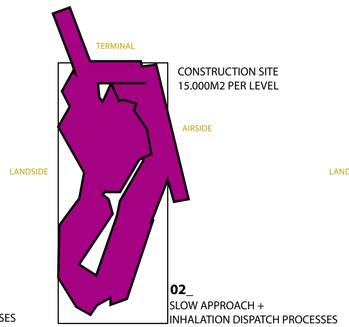
STEP05:_SINGLE TRANSFORMATION -STEPS REGARDING THE TERMINAL RYANAIR:_ >ITS APPROACH TO EMACIATION AND GROWING COHERENCE BETWEEN *BUILDING + DISPATCH* BEING STATED BY THE SINGLE SNAPHOTS TERMINAL

THE WHOLE PROCESS OF THIS **TERMINAL- TRANSFORMATION AND** THE **APPROACH TOWARDS EMACIATION AND OPTIMIZATION FOR THIS PROJECTION**, CLEARLY STATES THE ***MUTUAL DEPENDENCY*** AND ***FOLLOWING COHERENCY*** OF EITHER!!!, ***THE TERMINAL!*** AND ***THE DISPATCH-PROCESSES!*** IN A VERY VERY PHYSICAL WAY! EXACTLY THIS MUTUAL DEPENDENCY AND COHERENCE APPEARS WHILST PROCESSING, AS ACTUALLY STATING **THE ENGINE!**, FOR PRIMARY GENERATING AN UNDERSTANDING towards TREATED ISSUES, AND SUBSEQUENTLY ALLOWING TERMINAL DEVELOPMENT IN DIRECTION:_ >>> ***FORESIGHT PROSPECTIVE! FOR THE TERMINAL RYANAIR***



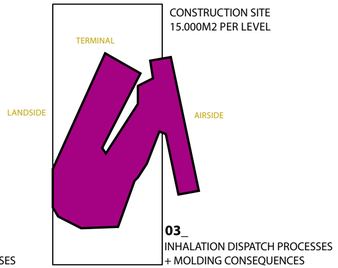
01_ TERMINAL DETACHED FROM DISPATCH PROCESSES

STEP01 - STARTING POINT TERMINAL RYANAIR



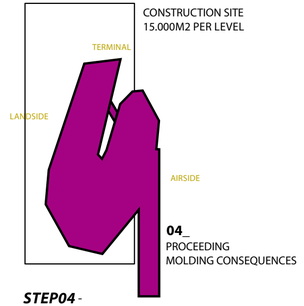
02_ SLOW APPROACH + INHALATION DISPATCH PROCESSES

STEP02 - EMACIATION+STARTING COHERENCE**01** TERMINAL RYANAIR



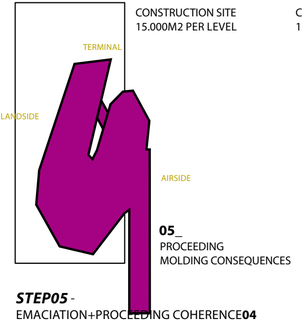
03_ INHALATION DISPATCH PROCESSES + MOLDING CONSEQUENCES

STEP03 - EMACIATION+PROCEEDING COHERENCE**02** TERMINAL RYANAIR



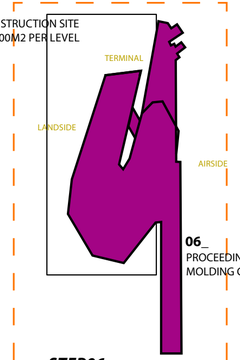
04_ PROCEEDING MOLDING CONSEQUENCES

STEP04 - EMACIATION+PROCEEDING COHERENCE**03** TERMINAL RYANAIR



05_ PROCEEDING MOLDING CONSEQUENCES

STEP05 - EMACIATION+PROCEEDING COHERENCE**04** TERMINAL RYANAIR



06_ PROCEEDING MOLDING CONSEQUENCES

STEP06 - **ACTUAL SNAPSHOT TERMINAL RYANAIR**

■ **benchmarks regarding** terminal projection:_
>TERMINALSPACE
approx. 9.000 - 10.000 m2/1MAP (million annual PAX)
>approx. 10% - 15% RETAIL
>approx. 10% - 15% ADMINISTRATION

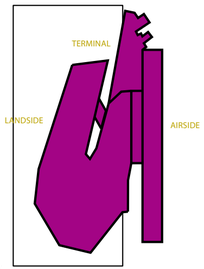
TERMINAL RYANAIR = PROJECTED FOR **3.5MAP**
>TWO STORY BUILDING
>ACCESSIBLE ROOF
>DESIGNATED 15.000m2/ LEVEL
regarding **benchmarks**

>TARGET = EMACIATION

>**TERMINAL STEP 06 = ACTUAL SNAPSHOT TERMINAL RYANAIR** REACHES APPROXIMATELY 20.000- 22.000 m2 in its dimension.

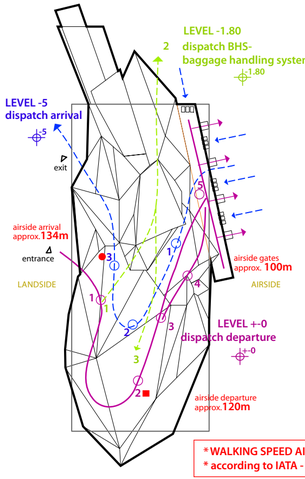
P R O C E S S AND I T S P R O C E D U R E S

permanent development

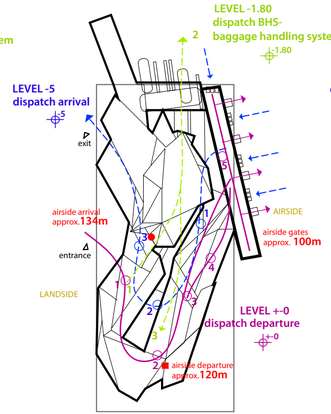


07_ ABSORPTION OF POSSIBLE CONSEQUENT TRANSFORMATION-STEPS

STEP06:_ ZOOM IN regarding the processes:_ >COMPLEMENTARY COMMUNICATION BETWEEN *DISPATCH* AND *TERMINAL* >TRANSFORMATION + >*EMACIATION*!



STEP01 - TERMINAL RYANAIR START

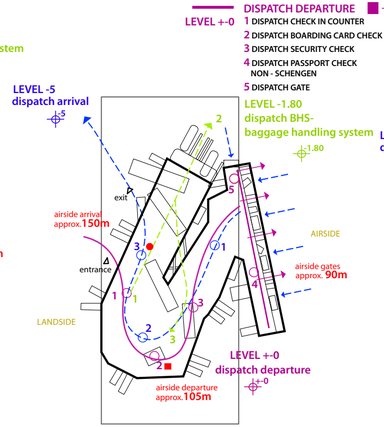


STEP02 - TRANSFORMATION_01

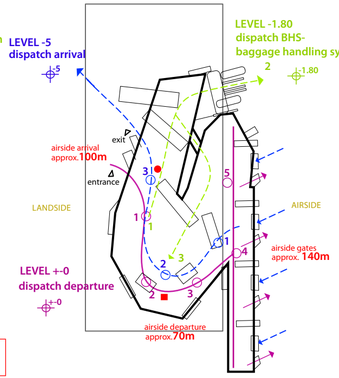
DISPATCH DEPARTURE LEVEL +-0
1 DISPATCH CHECK IN COUNTER
2 DISPATCH BOARDING CARD CHECK
3 DISPATCH SECURITY CHECK
4 DISPATCH PASSPORT CHECK NON - SCHENGEN
5 DISPATCH GATE

DISPATCH ARRIVAL LEVEL -5
1 DISPATCH PASSPORT CHECK - NON SCHENGEN
2 DISPATCH BAGGAGE CLAIM HALL
3 DISPATCH CUSTOM CONTROL GREEN/RED CHANNEL

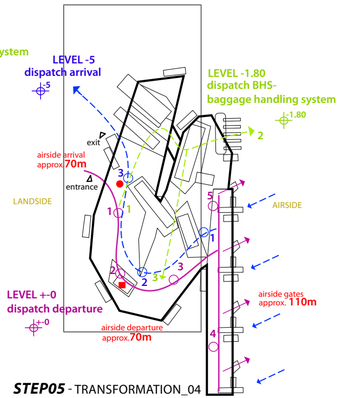
DISPATCH BHS- BAGGAGE HANDLING SYSTEM LEVEL -1.80
1 DISPATCH BAGGAGE CHECK IN
2 DISPATCH BAGGAGE DEPARTURE/ARRIAVAL
2A DISPATCH BAGGAGE DEPARTURE
2B DISPATCH BAGGAGE ARRIVAL
3 DISPATCH BAGGAGE CLAIM HALL



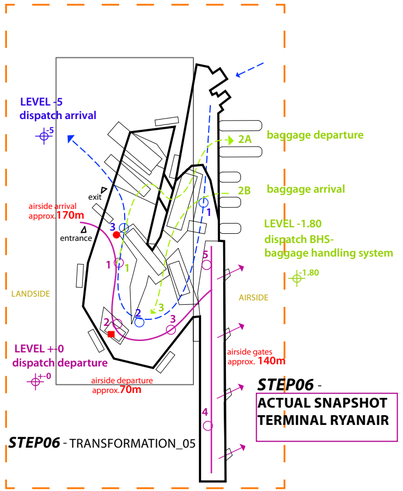
STEP03 - TRANSFORMATION_02



STEP04 - TRANSFORMATION_03



STEP05 - TRANSFORMATION_04



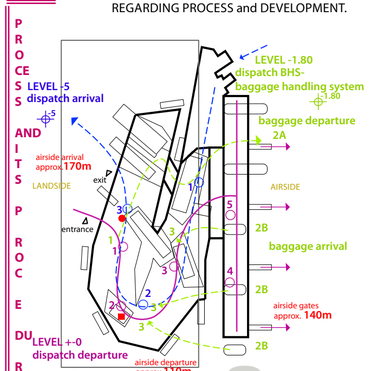
STEP06 - TRANSFORMATION_05

STEP06 - **ACTUAL SNAPSHOT TERMINAL RYANAIR**

*WALKING SPEED AIRSIDE = 1.1m/ sec >66m / minute
* according to IATA - International Air Transport Association

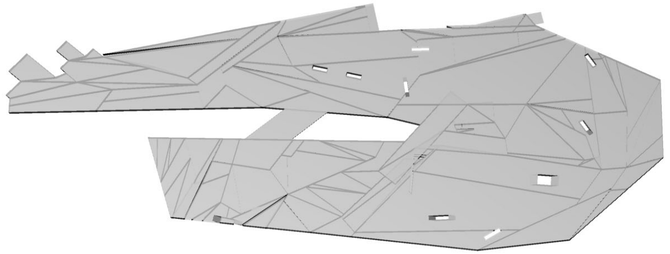
■ AIRSIDE starts with passing checkpoint 2 -BOARDING CARD CHECK (departure dispatch)
● AIRSIDE ends with passing checkpoint 3 -CUSTOM CHECK (arrival dispatch)

P R O C E S S AND I T S P R O C E D U R E S

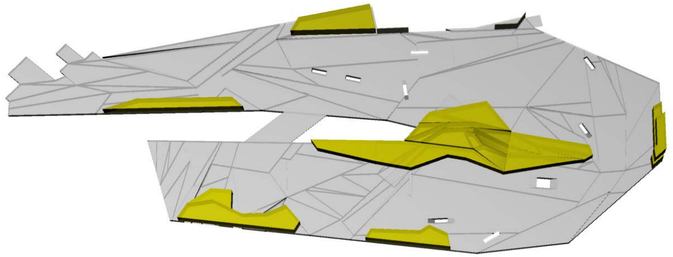


STEP_ FORESIGHT - ABSORPTION OF POSSIBLE CONSEQUENT TRANSFORMATION- STEPS _07

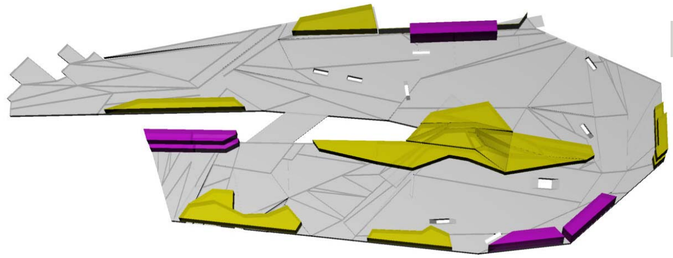
STEP_ FORESIGHT REGARDING INTERESSTING FUTURE STEPS - SUPPORTING+STATING THE CONSTANT TRANSFORMATION AND STEADY PROGRESS. >THE UNDENIABLE ESSENCES REGARDING PROCESS and DEVELOPMENT.



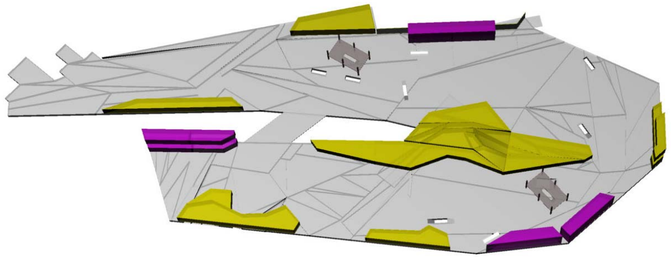
level -5



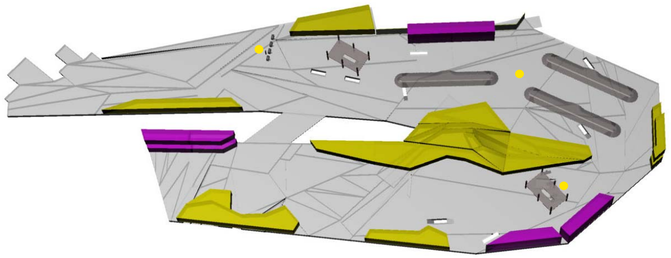
level -5
offices /PAX-services /storages



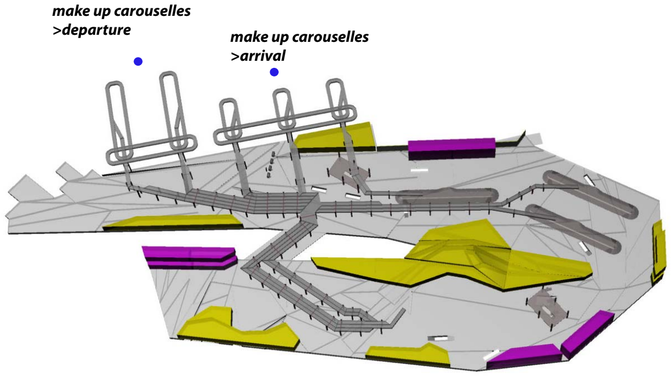
level -5
offices /PAX-services /storages
restrooms



level -5
offices /PAX-services /storages
restrooms
disptach offices >passport control >custom control

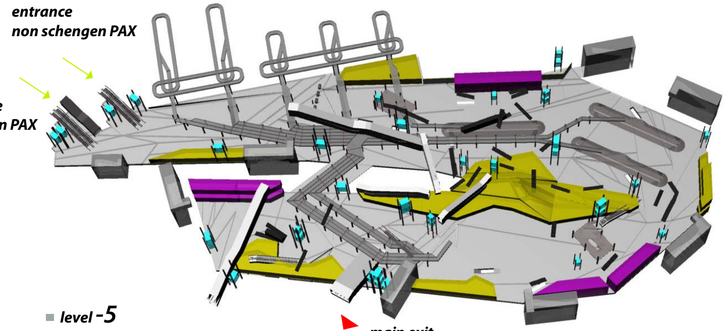


level -5
offices /PAX-services /storages
restrooms
disptach offices >passport control >custom control
disptach arrival >passport control >baggage claim hall >custom control

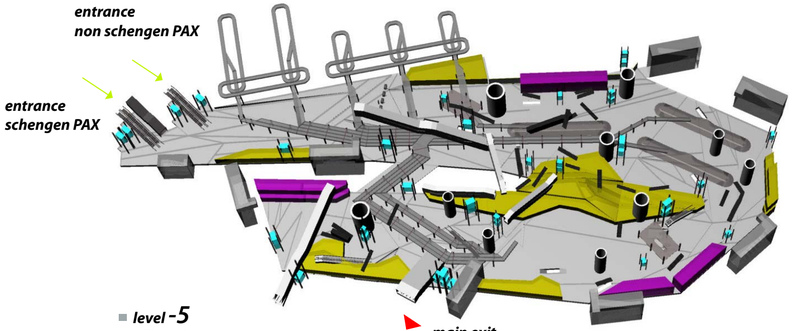


level -5
offices /PAX-services /storages
restrooms
disptach offices >passport control >custom control
disptach arrival >passport control >baggage claim hall >custom control
baggage handling system >tracks + >make up carouselles >departure >arrival

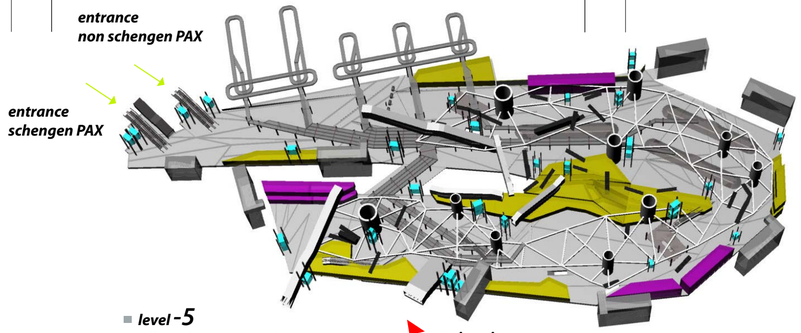
_informative illustrations 01-04



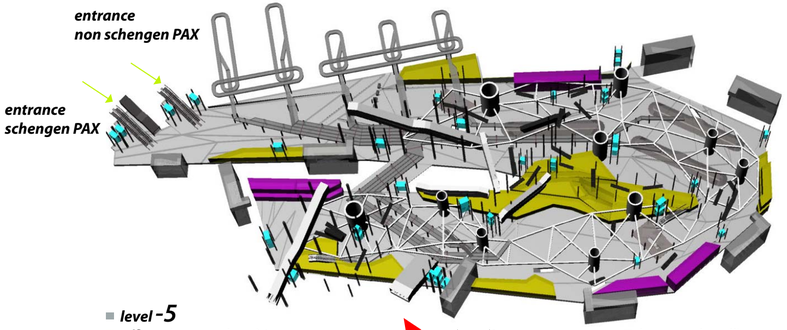
- **level -5**
- offices /pax-services /storages
- restrooms
- disptach offices >passport control >custom control
- disptach arrival >passport control >baggage claim hall >custom control
- baggage handling system >tracks + >make up carouselles
- vertical access/ development within the terminal /offices (staircases elevators) +external fire escalators



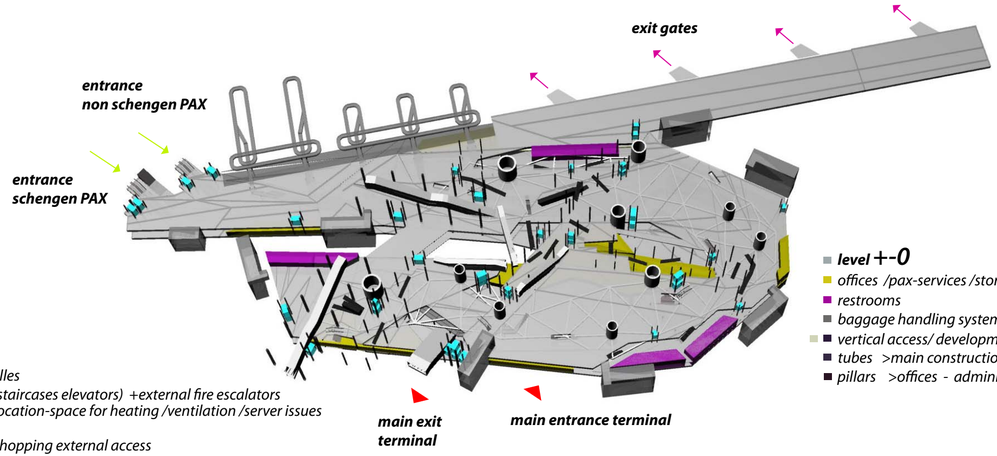
- **level -5**
- offices /pax-services /storages
- restrooms
- disptach offices >passport control >custom control
- disptach arrival >passport control >baggage claim hall >custom control
- baggage handling system >tracks + >make up carouselles
- vertical access/ development within the terminal /offices (staircases elevators) +external fire escalators
- tubes >main construction-elements for ceiling as well allocation-space for heating /ventilation /server issues



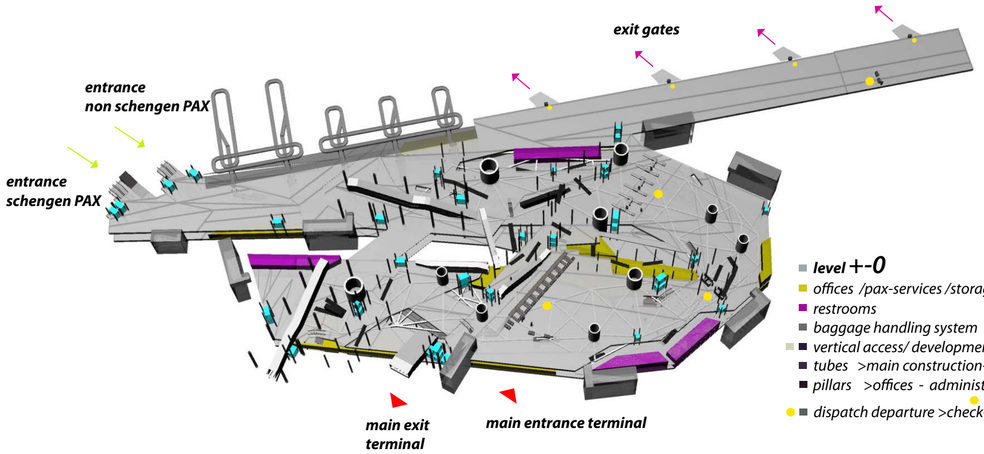
- **level -5**
- offices /pax-services /storages
- restrooms
- disptach offices >passport control >custom control
- disptach arrival >passport control >baggage claim hall >custom control
- baggage handling system >tracks + >make up carouselles
- vertical access/ development within the terminal /offices (staircases elevators) +external fire escalators
- tubes >main construction-elements for ceiling as well allocation-space for heating /ventilation /server issues
- beams -completing construction-elements for ceiling



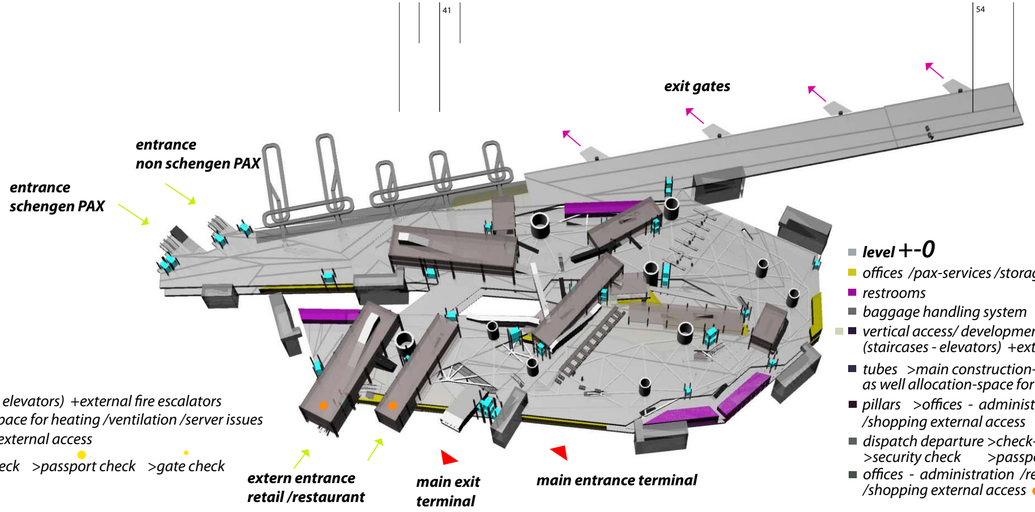
- **level -5**
- offices /pax-services /storages
- restrooms
- disptach offices >passport control >custom control
- disptach arrival >passport control >baggage claim hall >custom control
- baggage handling system >tracks + >make up carouselles
- vertical access/ development within the terminal /offices (staircases elevators) +external fire escalators
- tubes >main construction-elements for ceiling as well allocation-space for heating /ventilation /server issues
- beams -completing construction-elements for ceiling
- pillars >offices - administration /retail external access /shopping external access



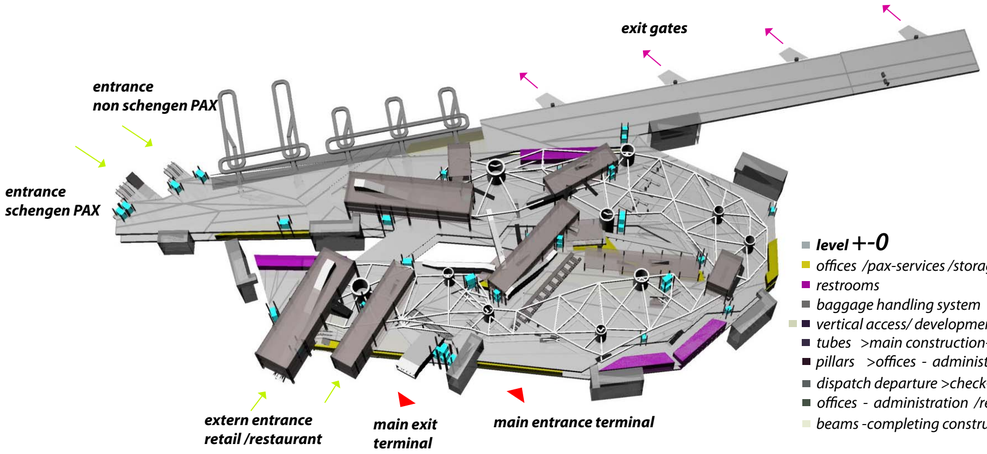
- **level +-0**
- offices /pax-services /storages
- restrooms
- baggage handling system >make up carouselles
- vertical access/ development within the terminal /offices (staircases elevators) +external fire escalators
- tubes >main construction-elements for ceiling as well allocation-space for heating /ventilation /server
- pillars >offices - administration /retail external access /shopping external access



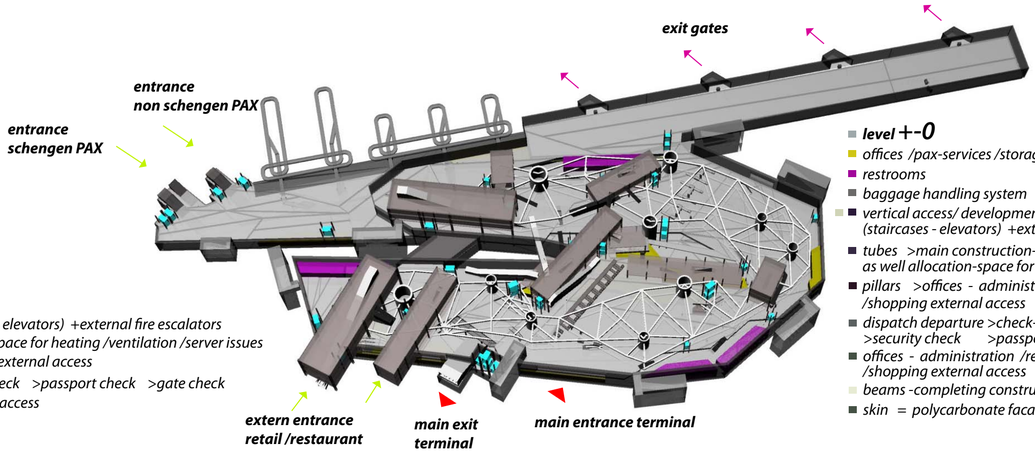
- **level +-0**
- offices /pax-services /storages
- restrooms
- baggage handling system >make up carouselles
- vertical access/ development within the terminal /offices (staircases elevators) +external fire escalators
- tubes >main construction-elements for ceiling as well allocation-space for heating /ventilation /server issues
- pillars >offices - administration /retail external access /shopping external access
- dispatch departure >check-in >boardingcard check >security check >passport check >gate check



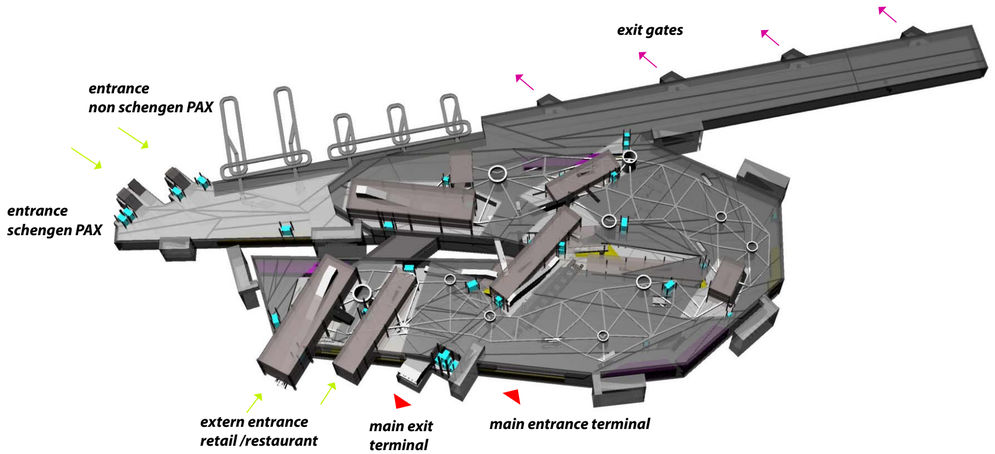
- **level +-0**
- offices /pax-services /storages
- restrooms
- baggage handling system >make up carouselles
- vertical access/ development within the terminal /offices (staircases - elevators) +external fire escalators
- tubes >main construction-elements for ceiling as well allocation-space for heating /ventilation /server issues
- pillars >offices - administration /retail external access /shopping external access
- dispatch departure >check-in >boardingcard check >security check >passport check >gate check
- offices - administration /retail external access /shopping external access



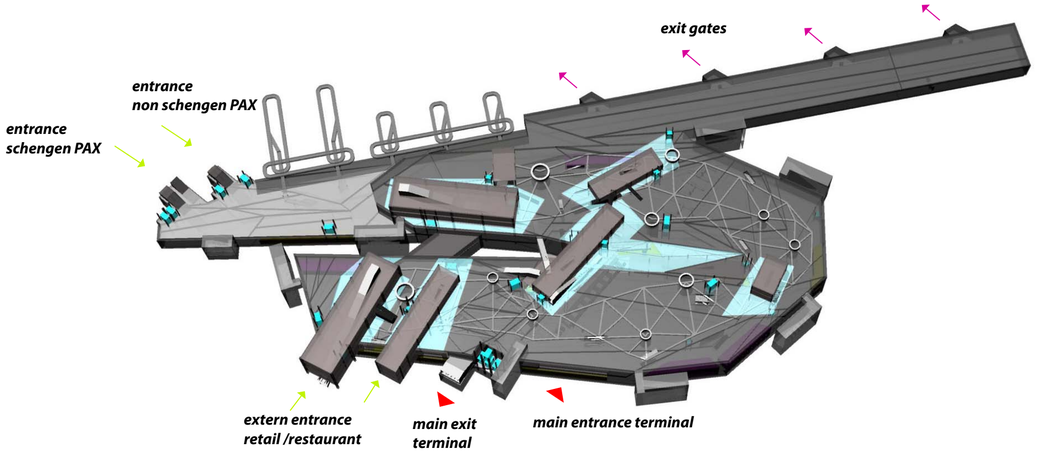
- **level +-0**
- offices /pax-services /storages
- restrooms
- baggage handling system >make up carouselles
- vertical access/ development within the terminal /offices (staircases elevators) +external fire escalators
- tubes >main construction-elements for ceiling as well allocation-space for heating /ventilation /server issues
- pillars >offices - administration /retail external access /shopping external access
- dispatch departure >check-in >boardingcard check >security check >passport check >gate check
- offices - administration /retail external access /shopping external access
- beams -completing construction-elements for ceiling



- **level +-0**
- offices /pax-services /storages
- restrooms
- baggage handling system >make up carouselles
- vertical access/ development within the terminal /offices (staircases - elevators) +external fire escalators
- tubes >main construction-elements for ceiling as well allocation-space for heating /ventilation /server issues
- pillars >offices - administration /retail external access /shopping external access
- dispatch departure >check-in >boardingcard check >security check >passport check >gate check
- offices - administration /retail external access /shopping external access
- beams -completing construction-elements for ceiling
- skin = polycarbonate facade >rippled ~~~



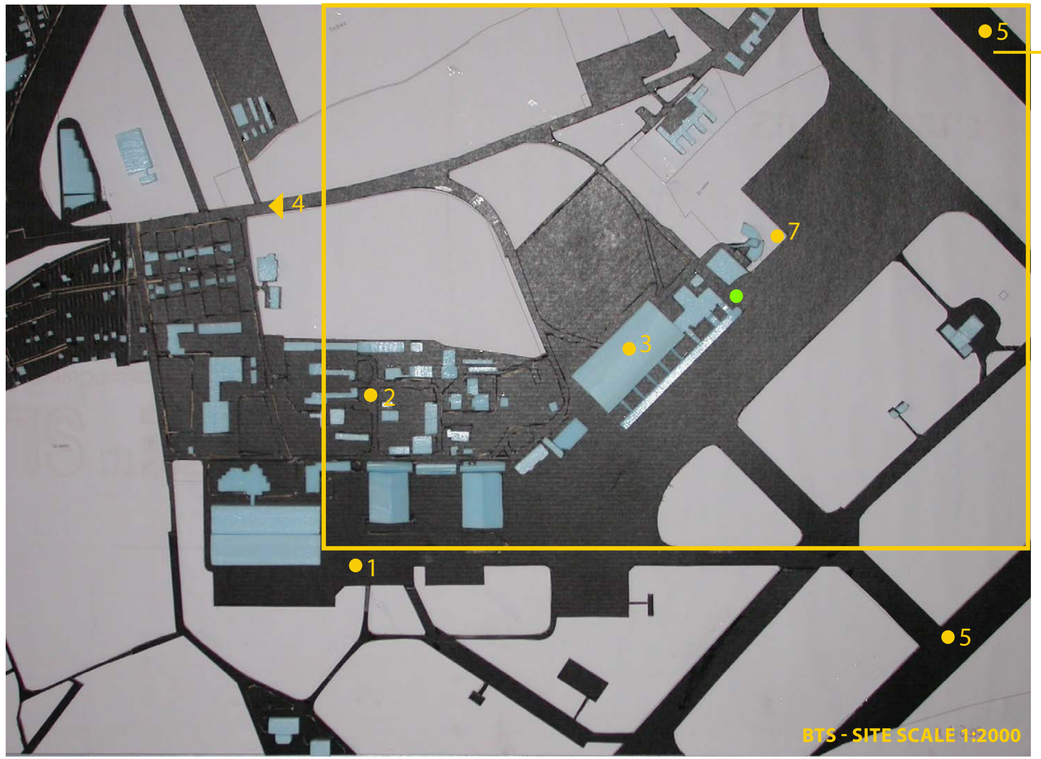
- **level +5**
- offices /pax-services /storages
- restrooms
- baggage handling system >make up carouselles
- vertical access/ development within the terminal /offices (staircases elevators) +external fire escalators
- tubes >main construction-elements for ceiling as well allocation-space for heating /ventilation /server issues
- pillars >offices - administration /retail external access /shopping external access
- dispatch departure >check-in >boardingcard check >security check >passport check >gate check
- offices - administration /retail external access /shopping external access
- beams -completing construction-elements for ceiling
- skin = polycarbonate facade >rippled ~~~
- roof = accesible for EMPLOYEES + PAX



- **level +5**
- offices /pax-services /storages
- restrooms
- baggage handling system >make up carouselles
- vertical access/ development within the terminal /offices (staircases elevators) +external fire escalators
- tubes >main construction-elements for ceiling as well allocation-space for heating /ventilation /server issues
- pillars >offices - administration /retail external access /shopping external access
- dispatch departure >check-in >boardingcard check >security check >passport check >gate check
- offices - administration /retail external access /shopping external access
- beams -completing construction-elements for ceiling
- skin = polycarbonate facade >rippled ~~~
- roof = accesible for EMPLOYEES + PAX
- roof glazing to enable NATURAL LIGHTING

INTRO _*MODELS*_ *SHOWING* *SITE - BTS _BRATISLAVA AIRPORT* *TERMINAL RYANAIR_*

1_ hangars and maintenance
2_ administration side airport, logistic center, cargo center, data center airport...
3_ new projected terminal for bts >terminal constructed to serve approx. 5 mio pax



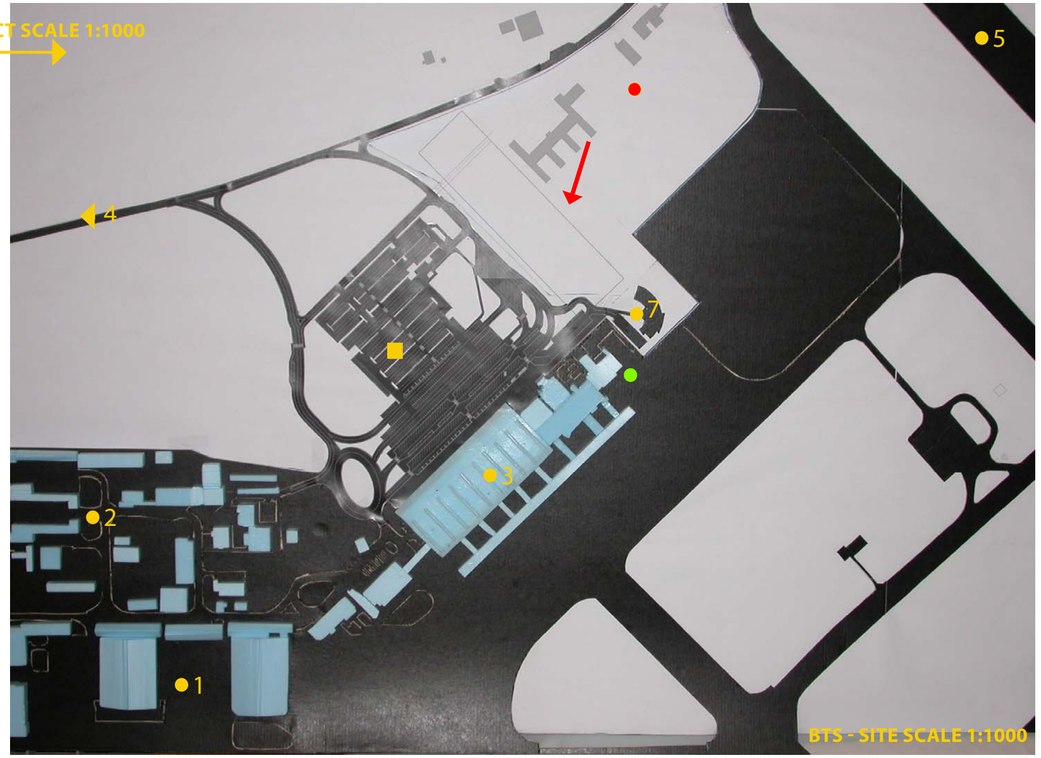
N

bratislava airport site _ model >scale 1:2000

4_ direction WEST leading to city center Bratislava
5_ runways BTS
7_ airport tower

● already existing terminal objects

EXTRACT SCALE 1:1000



N

bratislava airport site _model >scale 1:1000

■ up to date traffic approach *LANDSIDE* at *BTS - BRATISLAVA AIRPORT*
the terminal RYANAIR requires undoubtably an expansion of the traffic approach for guaranteeing access as well as a fluent traffic situation

→ the ***CONSTRUCTION SITE*** for the ***NEW TERMINAL RYANAIR***
RYANAIR TERMINAL will be able to serve ***3.5mio PAX***

● this whole area is in demand to transform into ***AIRSIDE-SPACE*** for aircraft Ryanair requires holding areas

1_ hangars and maintenance
2_ administration side airport, logistic center, cargo center, data center airport...
3_ new projected terminal for bts >terminal constructed to serve approx. 5 mio pax

● already existing terminal objects

4_ direction WEST leading to city center Bratislava
5_ runways BTS
7_ airport tower

INTRO _ *SHOWING SITE - BTS _BRATISLAVA AIRPORT + NEW TERMINAL RYANAIR AND ITS REQUIREMENTS_*

THIS SITE-PLAN SHOWS THE UP TO DATE BTS- BRATISLAVA AIRPORT CONFIGURATION, AS WELL AS THE ADDITIONAL INFORMATIONS REGARDING THE ***NEW TERMINAL RYANAIR***.

RYANAIR TERMINAL IS PROJECTED SERVING UP TO **3.5 MIO PAX ANNUAL**, POSSIBLE EXPANSION ISSUES ARE AS WELL INTEGRATED.
IN ORDER TO ENABLE AND GUARANTEE THE HANDLING OF THE PAX-CAPACITY >3.5 MAP, **4 AIRCRAFT OF TYPE BOEING 737 - 800** (actual aircraft type Ryaniar is dealing with) ARE REQUIRED, WHEREBY THE MAXIMUM SEAT-CAPACITY OF THE TYPE BOEING 737 - 800 IS LIMITED WITH 189 SEATS AT TIME PER AIRCRAFT.
SO AS TO ALLOCATE HOLDING- AS WELL AS MANEUVERING-AREAS FOR THE AIRCRAFT, THE **APRON - AIRSIDE_** EXPERIENCES AN ENLARGEMENT OF APPROX. 160.000 m2 > 16 HECTARE. TO ENSURE ACCESS AS WELL AS PARKING SPACE FOR THE TERMINAL RYANAIR, THE **TRAFFIC APPROACH SYSTEM - LANDSIDE_** NEEDS AS WELL AN EXPANSION, IN TERMS OF A PROLONGATION OF THE ALREADY EXISTING TRAFFIC SYSTEM.

1_ hangars and maintenance
2_ administration side airport, logistic center, cargo center, data center airport...
3_ new projected terminal for BTS -BRATISLAVA AIRPORT
>terminal conceived to serve approx. 5 mio PAX
4_ direction WEST leading to CITY CENTER Bratislava
5_ runways BTS
6_ taxiways BTS
7_ airport tower

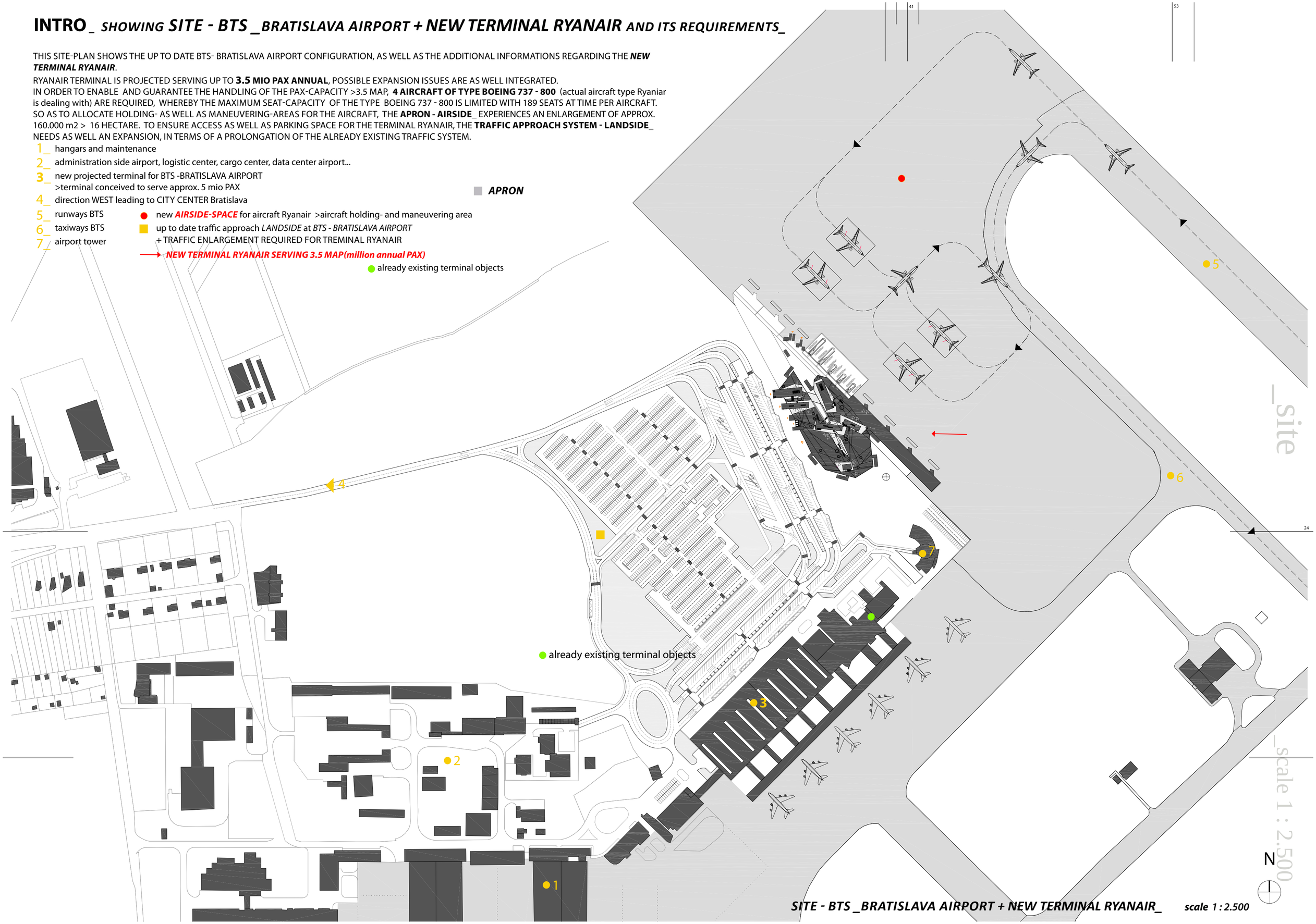
APRON

new ***AIRSIDE-SPACE*** for aircraft Ryanair >aircraft holding- and maneuvering area

up to date traffic approach *LANDSIDE* at *BTS - BRATISLAVA AIRPORT*
+ TRAFFIC ENLARGEMENT REQUIRED FOR TREMINAL RYANAIR

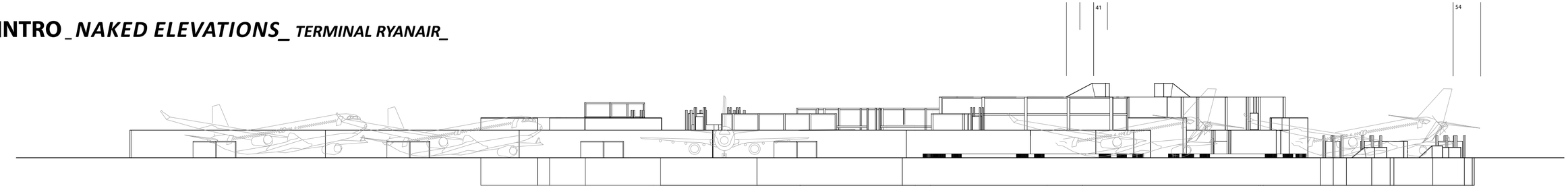
NEW TERMINAL RYANAIR SERVING 3.5 MAP(million annual PAX)

already existing terminal objects

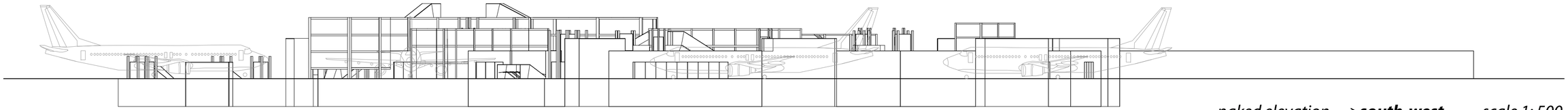


SITE - BTS _BRATISLAVA AIRPORT + NEW TERMINAL RYANAIR_ ***scale 1 : 2.500***

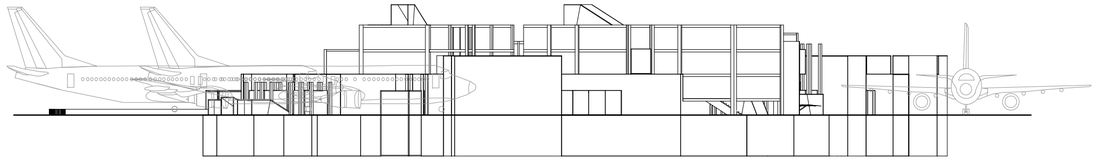
INTRO _*NAKED ELEVATIONS*_ *TERMINAL RYANAIR_*



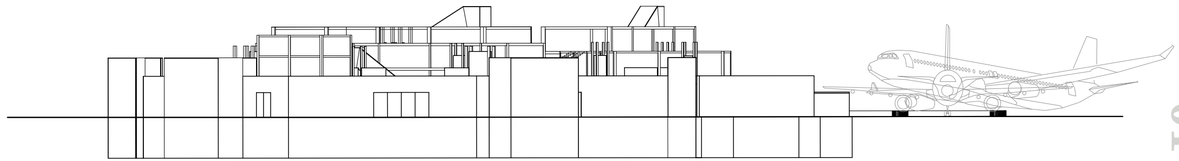
naked elevation >***north-east*** *scale 1: 500*



naked elevation >***south-west*** *scale 1: 500*



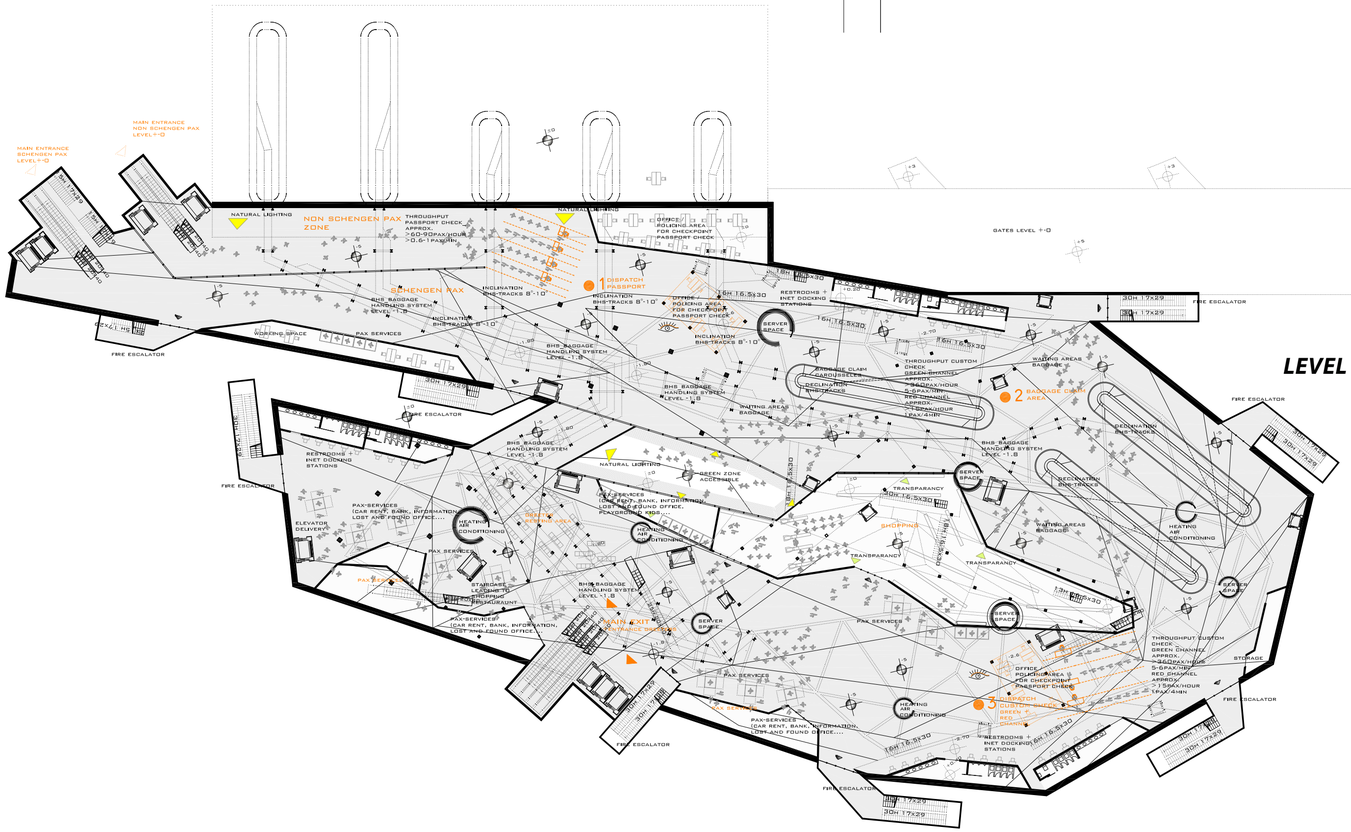
naked elevation >***north-west*** *scale 1: 500*



naked elevation >***south-east*** *scale 1: 500*

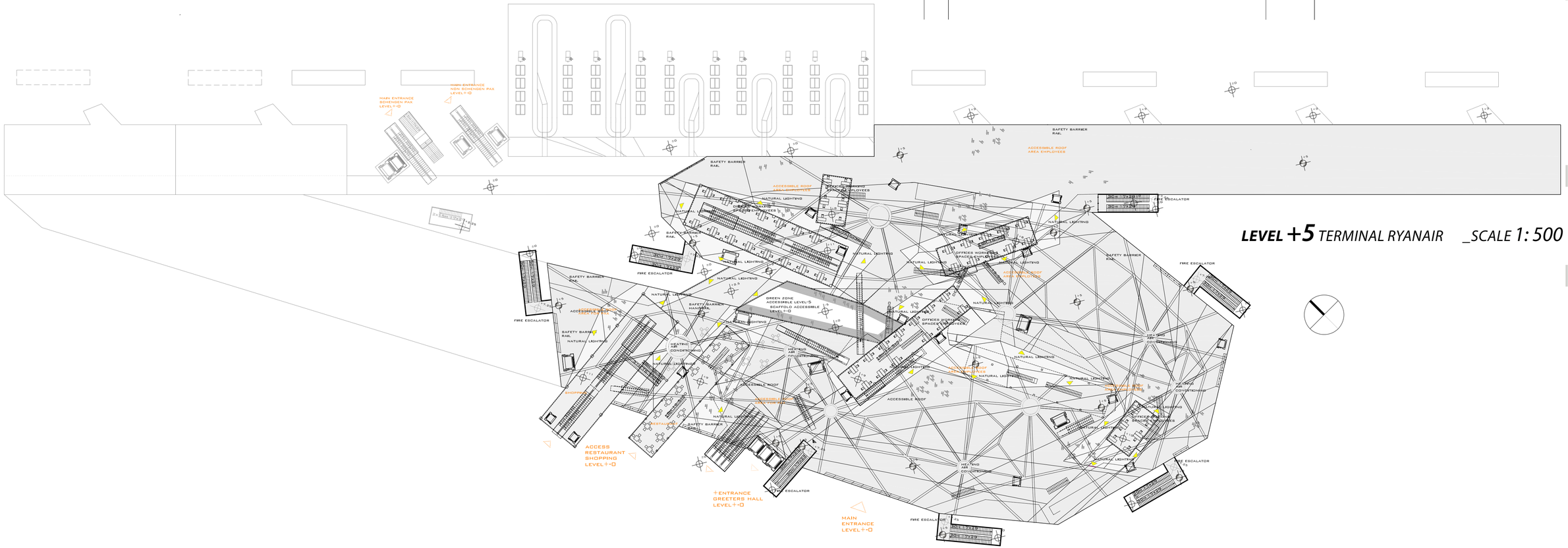
LEVEL +-0 _DEPARTURE_ *TERMINAL RYANAIR _SCALE 1: 500*

_level +-0_departure_ scale 1: 500



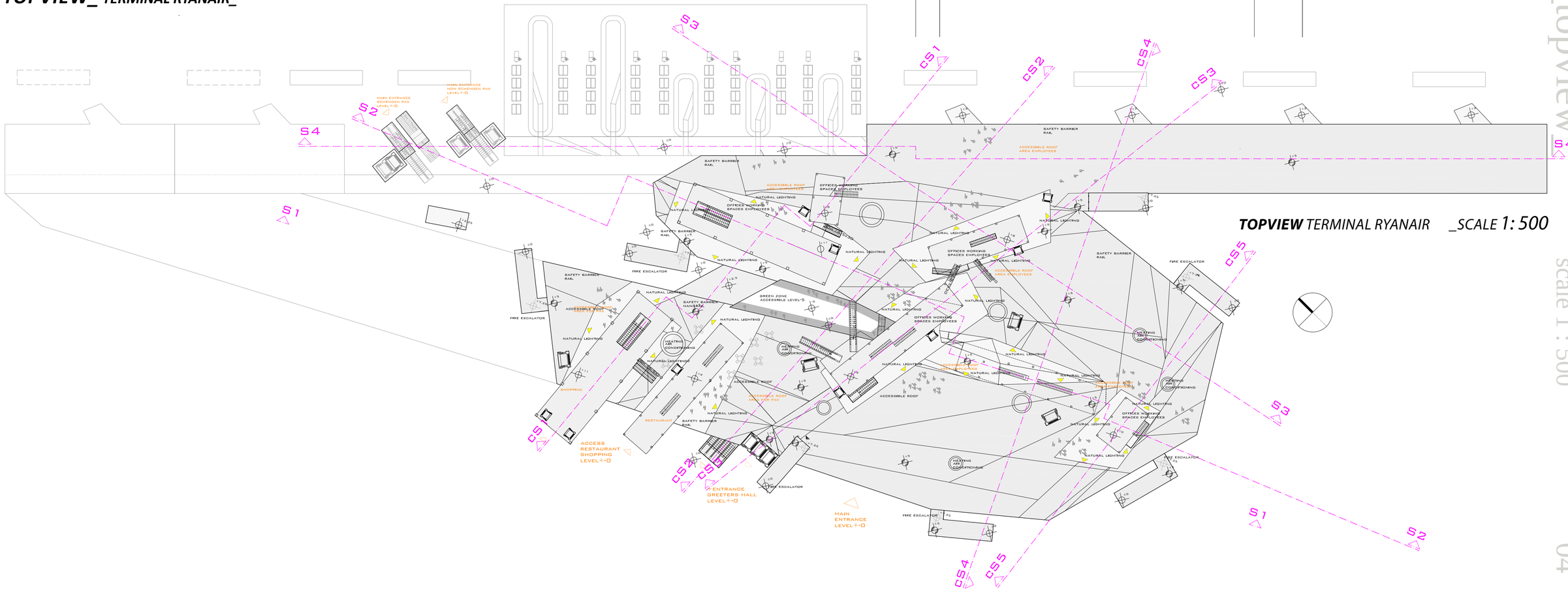
LEVEL -5 *TERMINAL RYANAIR* _SCALE *1: 500*

_LEVEL +5 >ROOF _ACCESSIBLE FOR PAX AND EMPLOYEES_TERMINAL RYANAIR_



LEVEL +5 *TERMINAL RYANAIR* *_SCALE 1: 500*

TOPVIEW TERMINAL RYANAIR_

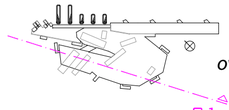


TOPVIEW TERMINAL RYANAIR _SCALE 1: 500

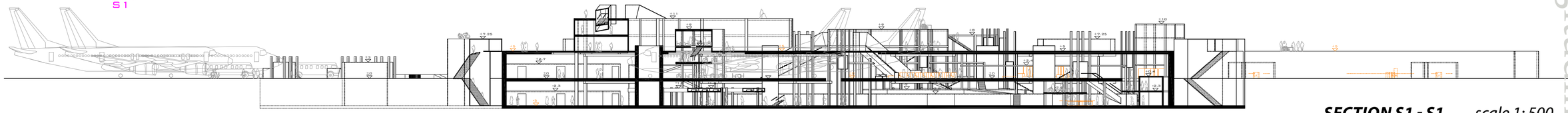
topview

scale 1 : 500

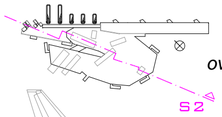
INTRO _*SECTIONS*_ *LONGITUDINAL- AND CROSS-SECTIONS TERMINAL RYANAIR*_



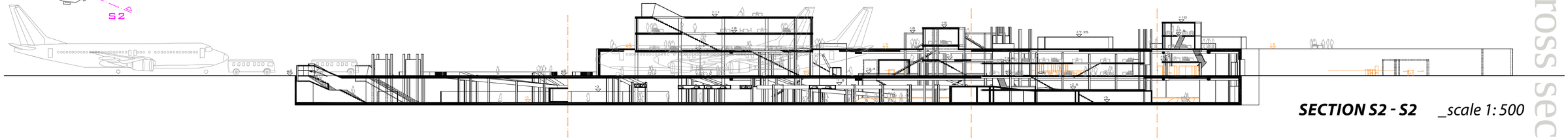
overview ***SECTION S1 - S1***



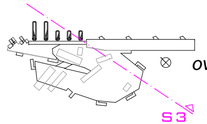
SECTION S1 - S1 *_scale 1: 500*



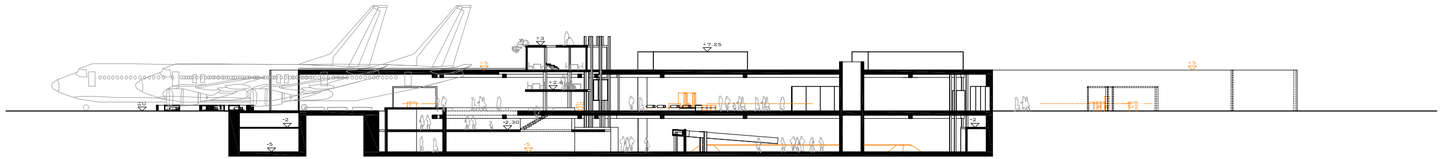
overview ***SECTION S2 - S2***



SECTION S2 - S2 *_scale 1: 500*



overview ***SECTION S3 - S3***

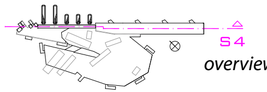


SECTION S3 - S3 *_scale 1: 500*

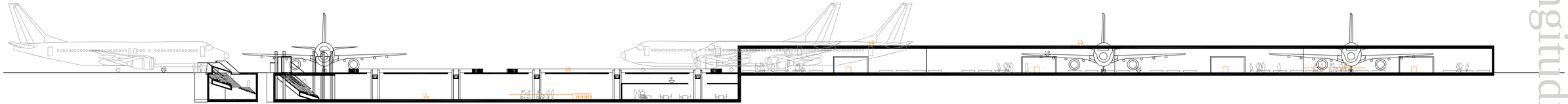
_longitudinal- cross sections — scale 1:500

_longitudinal- cross sections

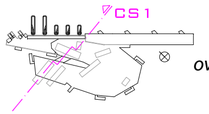
scale 1:500



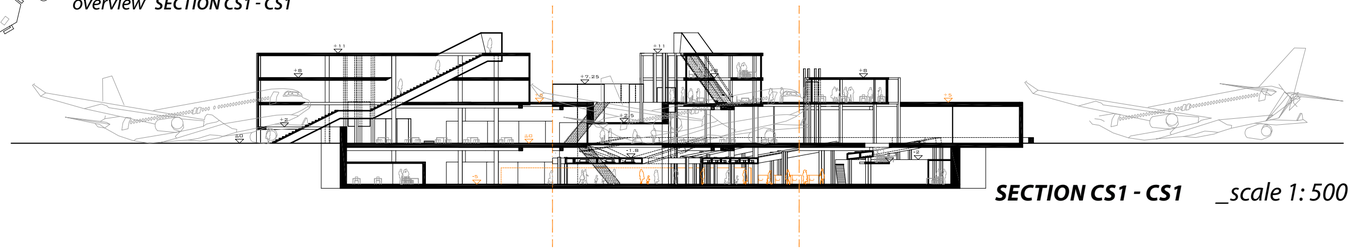
overview ***SECTION S4 - S4***



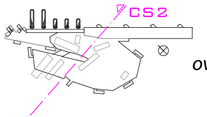
SECTION S4 - S4 *_scale 1: 500*



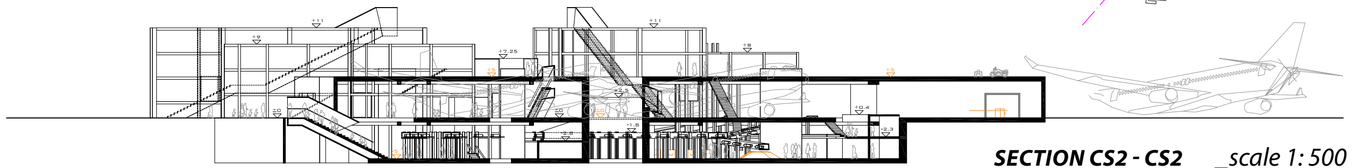
overview ***SECTION CS1 - CS1***



SECTION CS1 - CS1 *_scale 1: 500*



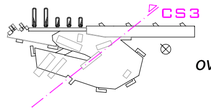
overview ***SECTION CS2 - CS2***



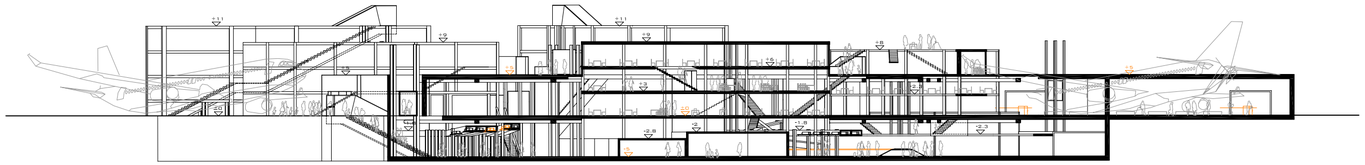
SECTION CS2 - CS2 *_scale 1: 500*

_longitudinal-cross sections

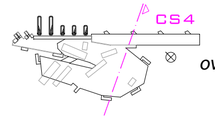
— scale 1:500



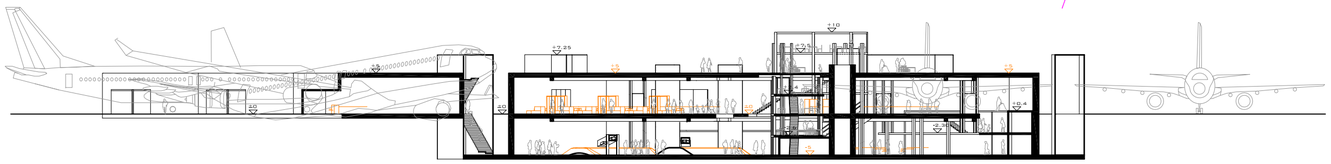
overview ***SECTION CS3 - CS3***



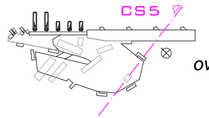
SECTION CS3- CS3 *_scale 1: 500*



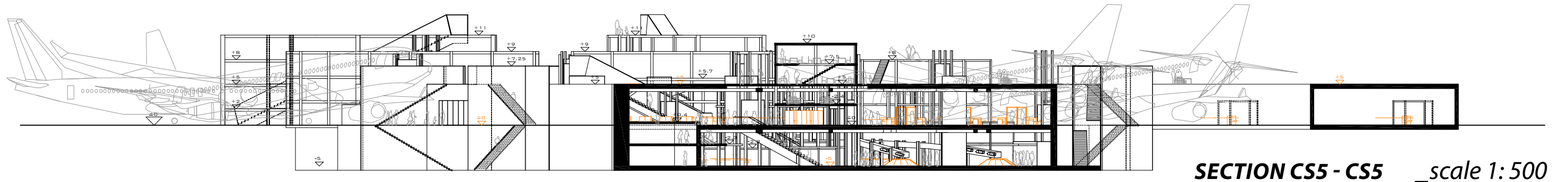
overview ***SECTION CS4 - CS4***



SECTION CS4 - CS4 *_scale 1: 500*

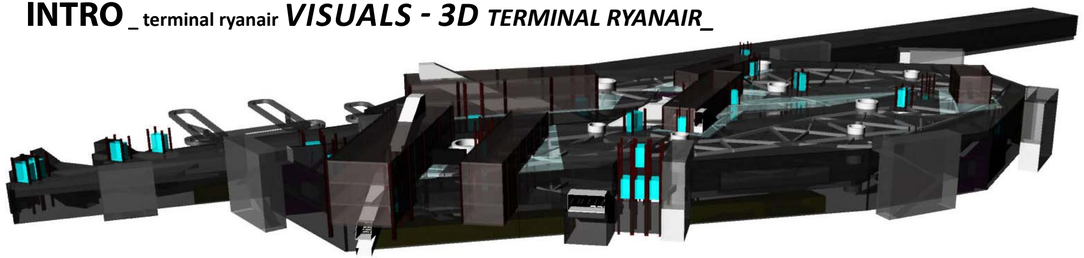


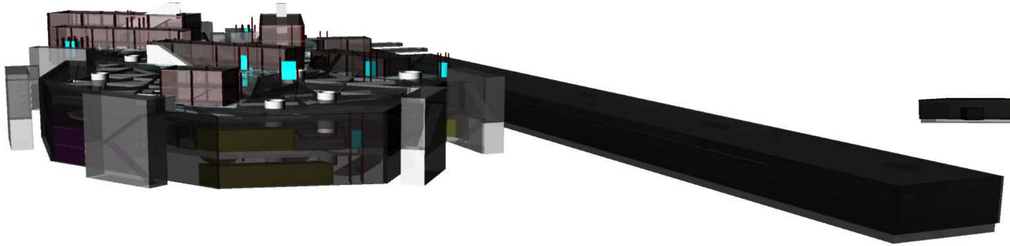
overview ***SECTION CS5 - CS5***

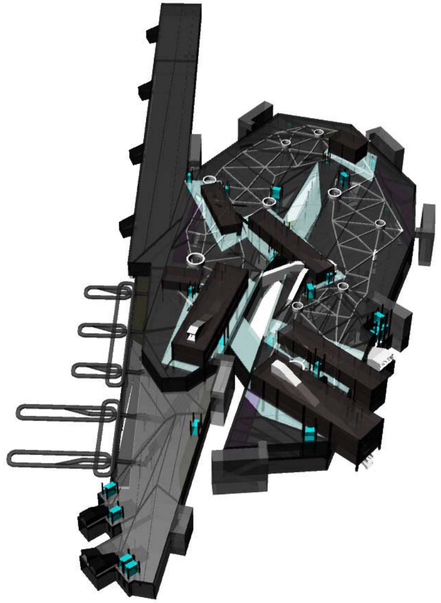


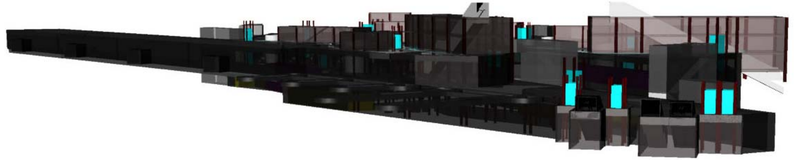
SECTION CS5 - CS5 *_scale 1: 500*

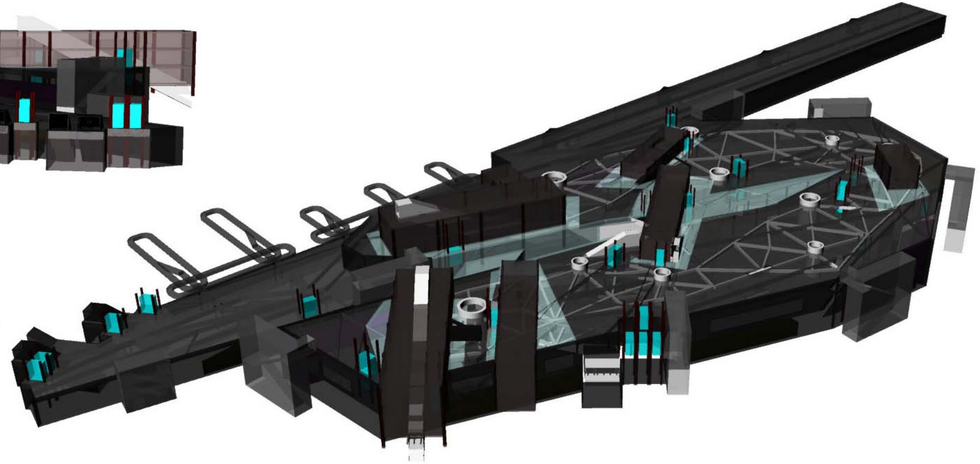
INTRO _ terminal ryanair *VISUALS - 3D TERMINAL RYANAIR_*

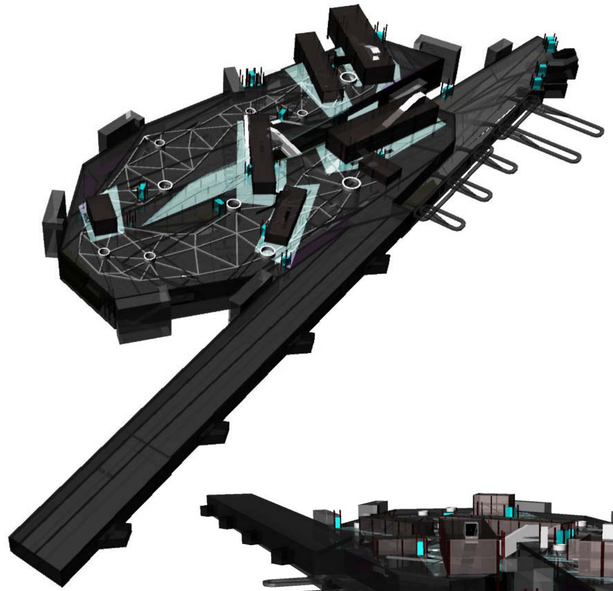


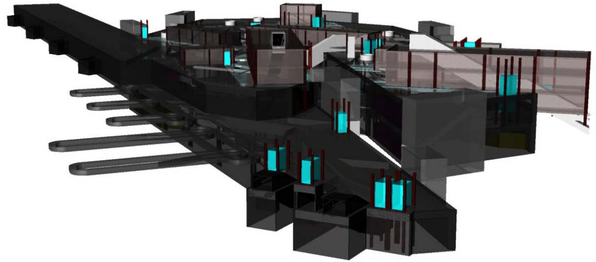


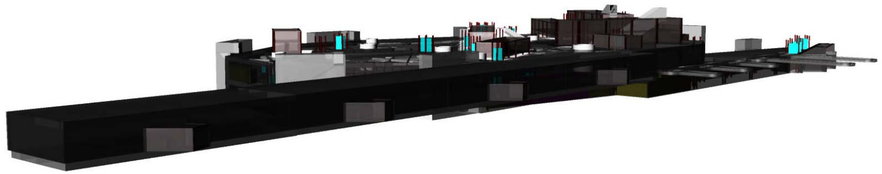


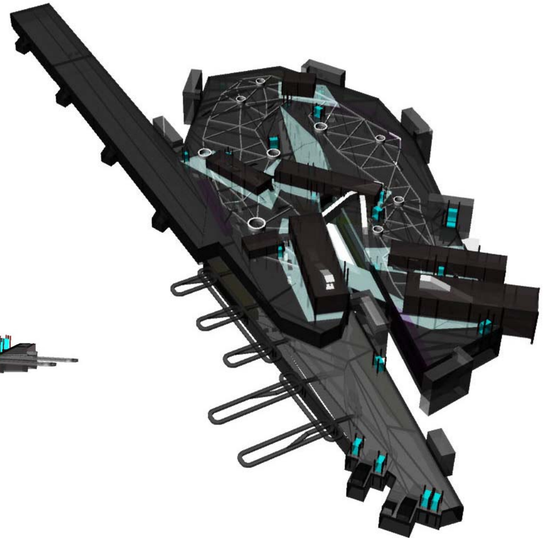


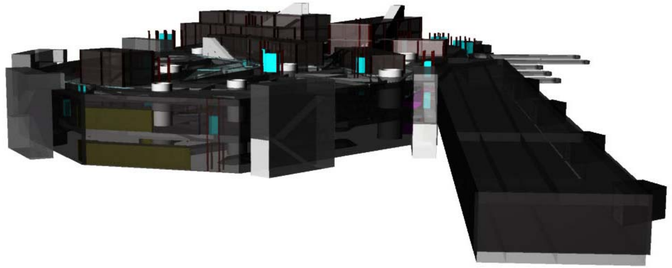


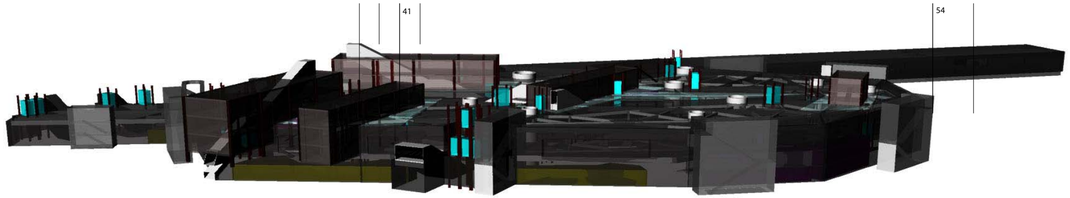


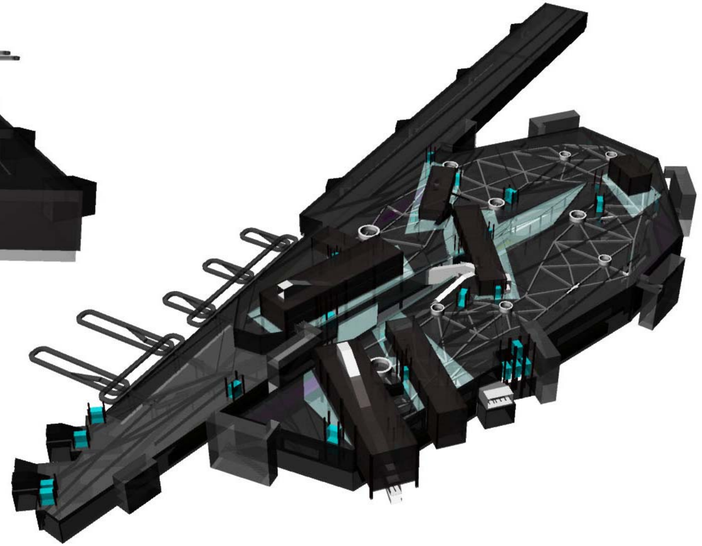


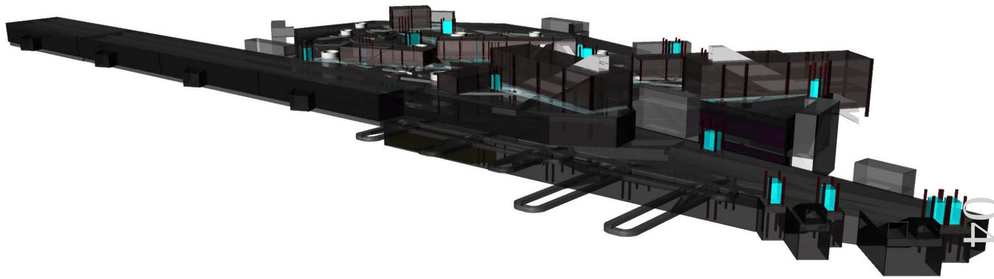












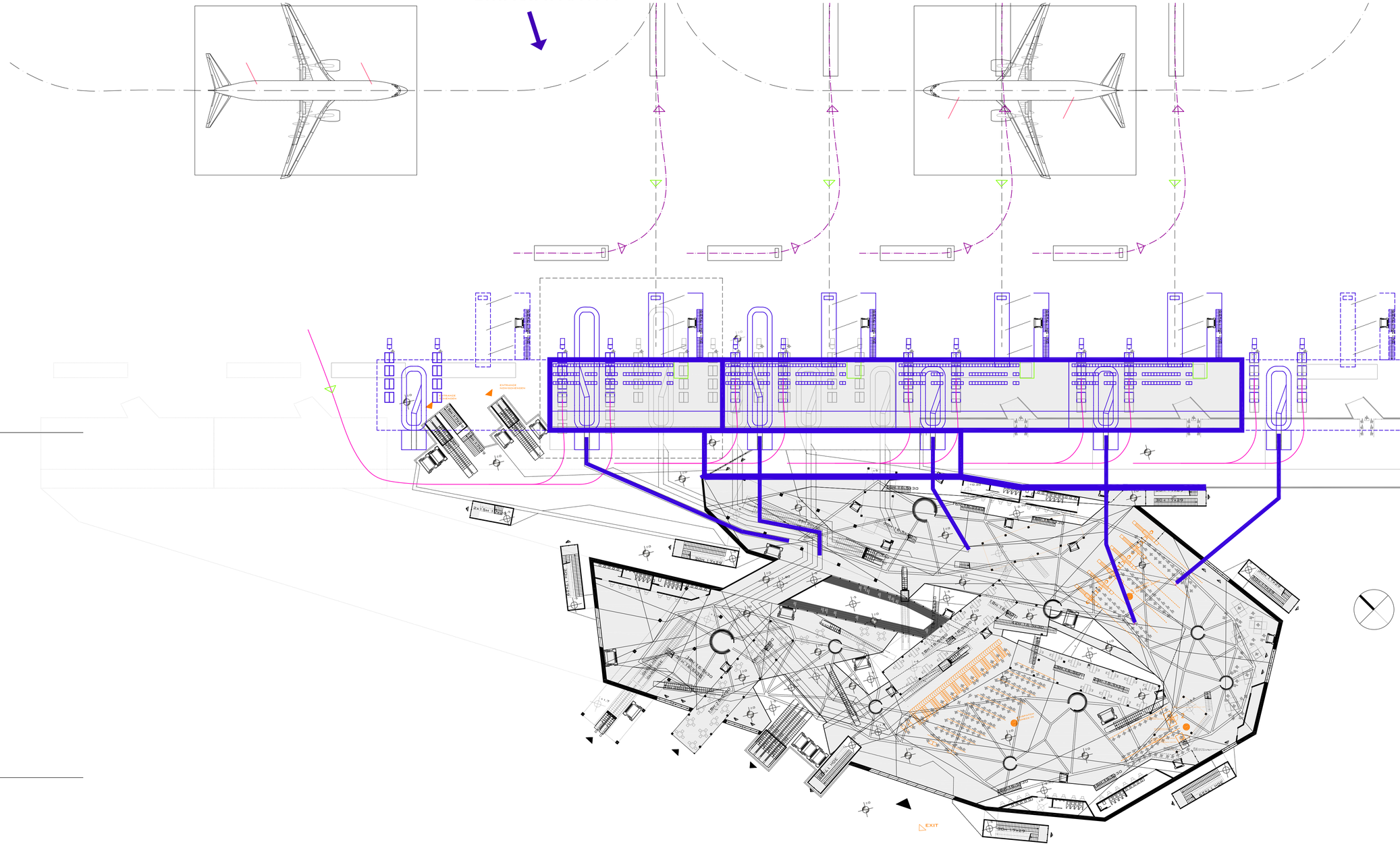
INTRO_ *FORESIGHT_ LEVEL +-0 DEPARTURE* _>

_> WHICH ONE COULD BE THE NEXT STEP IN THE PROCESS-LINE- *EMACIATION???*

SHOWING AND STATING THE CONSTANT TRANSFORMATION AND STEADY PROGESS. >UNDOUBTABLY THE ESSENCES REGARDING PROCESS AND DEVELOPMENT.

>THE INTERESTING EMACIATION STEPS FOR THE TERMINAL RYANAIR CONCENTRATE ON FURTHER SPACE REDUCTION, EFFICIENCY REGARDING PAX DISPATCHES, EFFICIENCY REGARDING GENERAL DISPATCHES IN CONJUNCTION TO THE TERMINAL. THE **STEP FORESIGHT** SHOWS IN A **SKETCHY** WAY THE DISPLACEMENT OF THE ***GATES*** FROM **LEVEL +- 0** _>UP TO ***LEVEL +5*** FINDING THEIR DIRECT POSITIONING ABOVE THE MAKE-UP CAROUSELLES-DEPARTURE/ARRIVAL. THIS DISPLACEMENT CONTAINS SPACE-REDUCTION ,SHORTAGE OF WALKING-DISTANCES >PAX, DIFFERENT ARRANGEMENT OF HANDLING-TRACKS-BAGGAGE... A MERGING OF DIFFERENT DISPATCH-PROCESSES, THE BAGGAGE-TRANSFER DEPARTURE/ARRIVAL, THE PAX-TRANSFER DEPARTURE/ARRIVAL, THE HANDLING OF BAGGAGE, THE LOCATION GATES AND ITS EXPANSION - PROSPECTIVES, NEW SIGHTS FOR PAX/EMPLOYEES.... THESE FORESIGHT STEPS CAUSE NATURALLY CONSEQUENCES TO ITS CONTEXT >APRON, >AIRCRAFT....

>A COLLABORATIVE-MUTUAL-DEPENDENCY-COORDINATION IS UNDOUBTABLY NEEDED!



STEP FORESIGHT _LEVE +-0 >DEPARTURE_ *TERMINAL RYANAIR _* ***SKETCHY CONSIDERATION*** *_SCALE 1: 500*