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# Capacity constraints at Polish airports, with particular emphasis on the environmental aspects

Civil Aviation Authority of the Republic of Poland

**Brussels, 12th December 2014**



## LEGAL BASIS

From the airport perspective there are two major directives regulating noise mitigation

**DIRECTIVE 2002/30/EC** of the European Parliament and of the Council of 26 March 2002 on the establishment of rules and procedures with regard to the introduction of noise-related operating restrictions at Community airports

**Directive 2002/49/EC** of the European Parliament and of the Council of 25 June 2002 relating to the assessment and management of environmental noise

The Directives are implemented into two separate acts in Polish law

**Act of 3 July 2002 r. Aviation Act**

**Act of 27 April 2001 – Environment Protection Law**



# RESTRICTED USE AREA AT WARSAW CHOPIN AIRPORT

## Act of 27.04.2001 – Environment Protection Law:

- Operation of an airport may not affect the environmental quality limits outside the area to which an airport operator holds a legal title
- If, despite the application of available technical, technological, and organizational solutions, the environment quality standards outside an airport area cannot be met, a restricted use area shall be established for such airport
- If the restricted use area is established for an airport, the airport operation may not affect the environment quality limits outside such restricted use area
- RUA was established by Mazovia Voivodeship Parliament Regulation No 76/11 of 20.06.2011 (entered into force on 04.08.2011)
- The external boundaries of RUA were determined by the 24h-average environment noise levels applied to determine and control the environment use conditions
- The environmental capacity of Chopin Airport results from the capacity of the Restricted Use Area and is determined by the aviation noise range

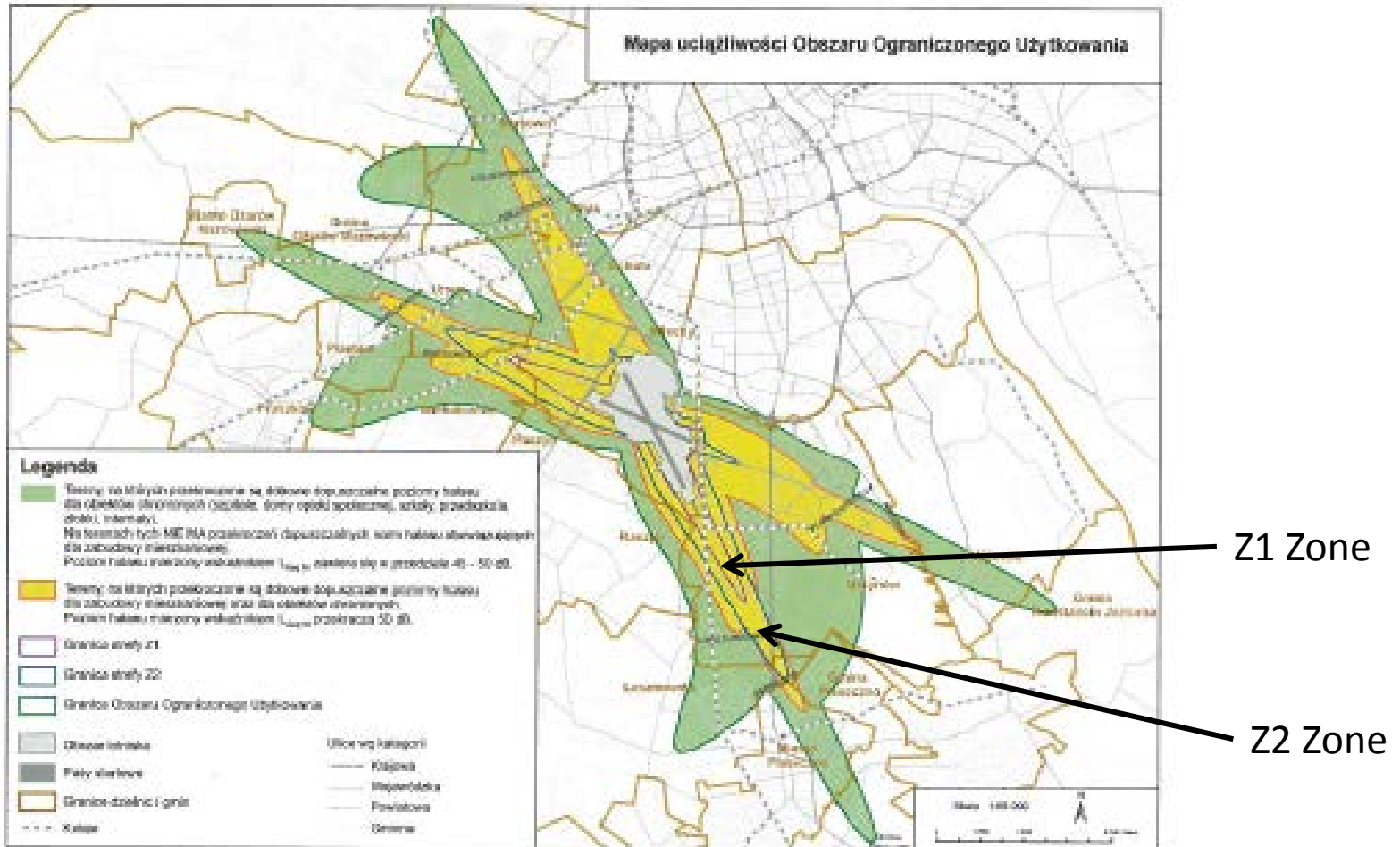
	Description	Permitted noise level in dB	
		Take-offs, landings and overflights	
		$L_{Aeq,D}$ 16 h reference time	$L_{Aeq,N}$ 8 h reference time
1	a) "A" zone of spas b) hospital, nursing home sites c) development sites designed for permanent or temporary stay of children and youth	<b>55</b>	<b>45</b>
2	a) single and multi-family residential buildings, farmsteads, housing developments b) recreational areas c) residential and service areas d) land in centers of cities of over 100 thousand residents	<b>60</b>	<b>50</b>



# RESTRICTED USE AREA AT WARSAW CHOPIN AIRPORT

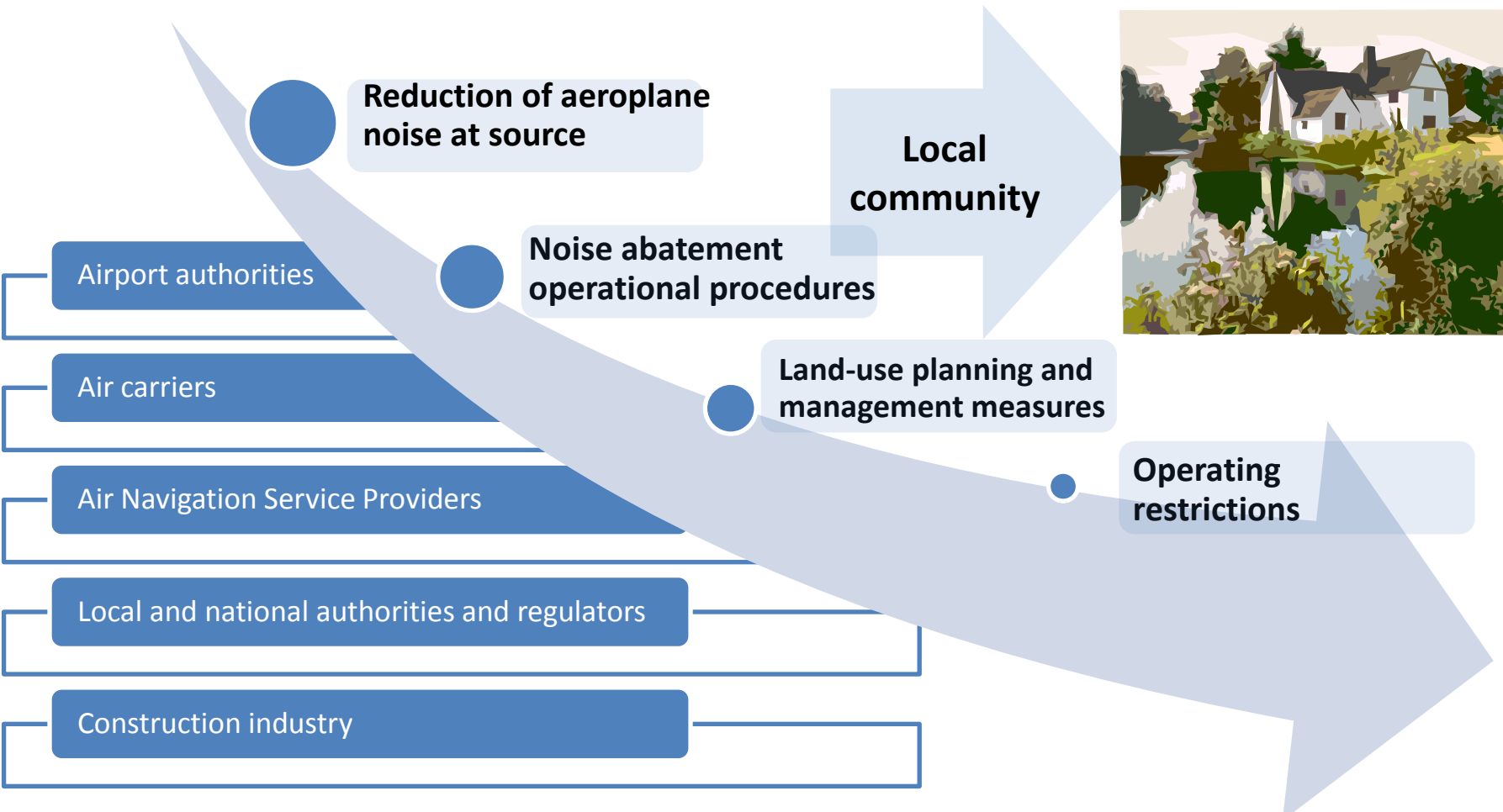
Number of aircraft movements (for a given fleet weight structure):

- **Day time : 560**
- **Night: 40**





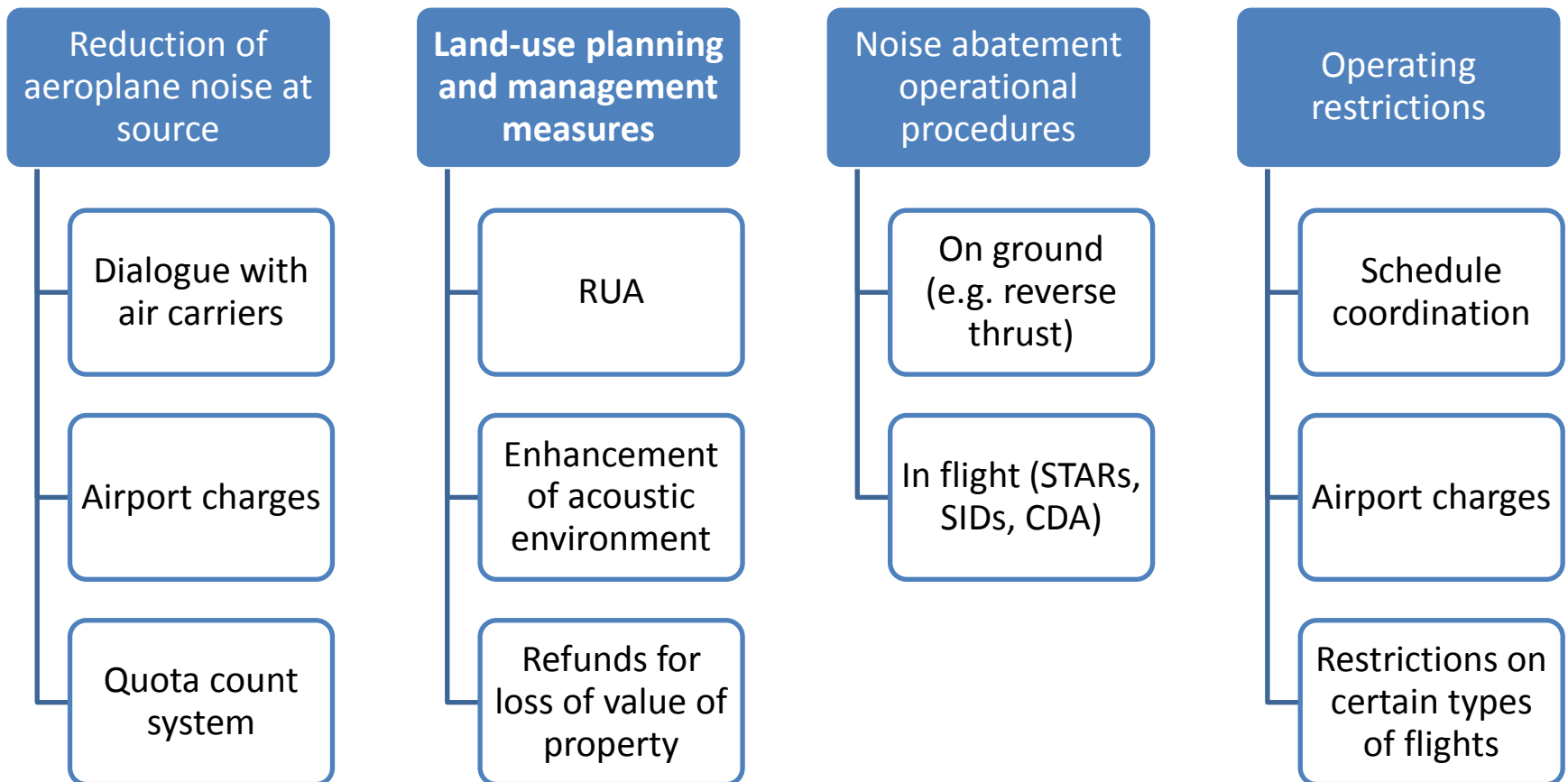
# BALANCED APPROACH





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## Noise monitoring





# SCHEDULE COORDINATION AT WARSAW CHOPIN AIRPORT

- Schedule coordination (Level – 3) at Warsaw Chopin Airport was introduced in summer season 2012.
  - The main reason - environmental restrictions.
  - The additional reason – physical capacity restrictions (construction works).
- Coordinator : Airport Coordination Limited (ACL) – British organization. Apart from Polish airports it coordinates airports in the UK, Ireland, UAE and Canada.
- Coordination committee.
- Local rules.

## Terminal capacity parameters

	Pax/h					
	Arrivals Schengen	Arrivals Non Schengen	Totals	Departures Non Schengen	Departures Schengen	Totals
Peaks	1900	1300	1900	1850	1500	1850
Non - peaks	1600	1300	1600	1700	1500	1700

## Coordination parameters for runways

Number of RWY in use	Mvt/h	
	Arrival	Departure
2	R60	R10
	26	6
	28	6
	<b>Total</b>	<b>8</b>



# QUOTA COUNT SYSTEM

- **Quota Count System introduced in the Winter 2013 scheduling season.**
- **The system facilitates flights coordination at night.**

## Basic assumptions of the system:

- The Quota Count system is implemented at Chopin Airport for planning the flight schedules at night time, i.e. from 22.00 to 06.00 hrs LT.
- Aircraft performing take-offs and landings at Chopin Airport receive a certain number of QC points within the range from 0.25 to 16 points depending on their acoustic parameters, which are determined on the basis of a noise certificate of a given aircraft.
- Out of the total limit of 32 points, a separate coordination parameter is set, which is 29 QC points in the Winter 2013/2014 schedule season. The remaining 10% of the limit value is set aside for special operations excluded from the coordination process as referred to in Council Regulation (EEC) No 95/93 of 18 January 1993 on common rules for the allocation of slots at Community airports, but included in the environmental limit. The present reserve of 10% of the total QC limit is to ensure that the total limit of 32 QC points will not be exceeded.

Noise level in EPNdB	Number of points in the Quota Count System
Below 87 EPNdB	0.25
87 – 89.9 EPNdB	0.5
90 – 92.9 EPNdB	1
93 – 95.9 EPNdB	2
96 – 98.9 EPNdB	4
99 – 101.9 EPNdB	8
Over 101.9 EPNdB	16





# AIR TRAFFIC MANAGEMENT

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## Flight direction:

- Airport infrastructure – runways, radio navigation aids,
- Traffic flows – destinations/directions,
- Weather – wind directions, storms,
- Airspace management – airspace design (e.g. restricted, prohibited areas)
- Air traffic obstacles and safety regulations

## Flight path precision to accommodate environmental requirements:

- P-RNAV: SIDs (standard instrument departure) and STARs (standard terminal arrival route)
- CDA (Continuous Descent Approach)
- Human decisions:
  - Controllers
  - Pilots



## SCHEDULE COORDINATION AT POZNAN AIRPORT

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- Schedule coordination (Level – 3) at Poznan Airport was introduced in summer season 2013.
- Operating timeframes: June – September, between 22 and 6 LT.
  - The main reason - environmental restrictions.
- Coordinator : Airport Coordination Limited (ACL) – British organization.
- Coordination committee.
- Local rules.

Thank you for your attention!