



Port of Zadar  
Authority



## The New Zadar Ferry Terminal

Third Mediterranean Days of  
Coastal and Port Engineering  
MARSEILLE 2013





- ▶ **Introduction**
- ▶ Background
- ▶ Cruise traffic studies
- ▶ Main project components
- ▶ Project implementation



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# The Port of Zadar Authority

- ▶ The Zadar Port Authority has been founded in 1997 by Decision of Government of Republic of Croatia managing, building and using of port open for public transport that is of special international interest for Republic of Croatia. Zadar Port Authority is non-profit legal entity.
- ▶ The Ministry in charge of PZA is the Ministry of Maritime Affairs, Transport and Infrastructure, Minister: Mr. Sinisa Hajdas Doncic.
- ▶ The PZA is managed by the Administrative Board with constitution and authorities prescribed by the law (Maritime Demesne and Seaports Act).



# The Port of Zadar Authority

- ▶ The existing port comprises one ferry terminal located along the historical city of Zadar, and fishing and cargo facilities located in Gaženica, about 3.5 km south of Zadar



# The Egis group

## Key Figures



Consolidated Turnover > €858 M

of which 50 % abroad

in over 100 countries

12,000 employees

7,400 in engineering

including 2,900 international employees

**Shareholding: unique capital structure for the engineering sector.**

75 %



25 %

**Iosis Partenaires**

Iosis Partenaires: 440 Egis – Iosis executive partners and the Company Investment Fund “FCPE”(employees)



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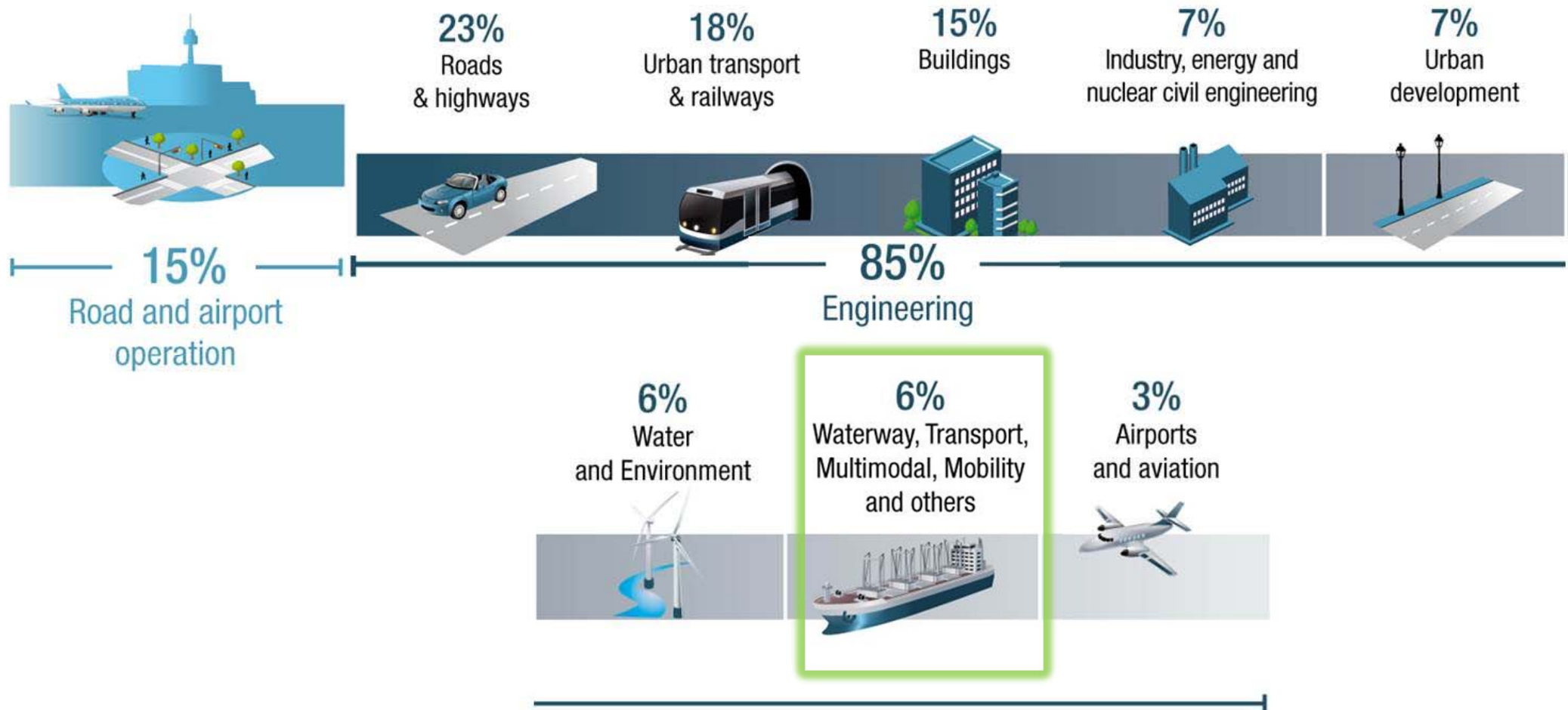
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# The Egis group

## Our Markets

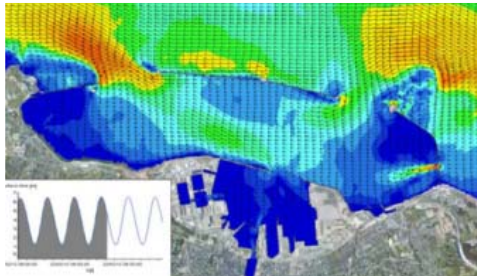


*Egis-Ports activity covers **all stages from feasibility studies to works supervision**, including conceptual and detailed design, in the following fields:*

- ▶ Ports, marine terminals and marinas:
  - ▶ **General studies** (institutional, economical and financial aspects, master planning)
  - ▶ **Layout definition and infrastructures design** (breakwaters and berthing structures)
  - ▶ **Superstructures and handling equipment**
  
- ▶ Navigable waterways:
  - ▶ **Navigability studies and master planning**
  - ▶ **Berthing structures and river ports**
  
- ▶ Coastal engineering:
  - ▶ **Shore protection** against erosion and marine submersion
  - ▶ **Water quality and outfall dispersion**
  - ▶ **Artificial beaches**
  - ▶ **Marine structures** (outfalls, reclamation for urban extensions ...)

The following disciplines constitute Egis-Ports' core competences:

- ▶ **Harbor and marine structures design** (berths, jetties, breakwaters, ...), with a global approach integrating functional, structural, geotechnical and environmental aspects, taking also into account constructability and cost.
  
- ▶ **Marine and coastal hydraulics**, including waves and currents engineering, dispersion and water quality, sedimentology, ship behavior and navigability, wave – structure interaction.
  
- ▶ **Expertise on harbor context**
  - ▶ Port operations and handling equipment
  - ▶ Institutional, economic and financial aspects





- ▶ Introduction
- ▶ **Background**
- ▶ Cruise traffic studies
- ▶ Main project components
- ▶ Project implementation



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# Background

- ▶ Croatia is a country with 4 440 000 inhabitants, covering 56 542 km<sup>2</sup>. It is at the crossroads leading from West and Central Europe toward the South-eastern European countries and the Middle East, and from the countries of the Mid Danube region and their hinterland to the Adriatic Sea ports.
- ▶ Zadar is a very significant traffic centre of Croatia, where the northern continental traffic routes meet the Adriatic Sea and connect to the sea routes, the motorway (A1), railway, ports and airports. The port facilitates all the needs of traffic and transport at the international, national and local level.
- ▶ With its unique geographical position, Zadar presents the closest point to the opposite Italian coast (Ancona, Italy) and makes an excellent base for reaching numerous potential markets in nearby central European and east European countries (Italy, Slovenia, Austria, Hungary, Serbia, Bosnia and Herzegovina, Montenegro, Albania etc.)



# Background

## Zadar in the centre of Adriatic Sea and the Mediterranean



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# Background

## Ferry lines calling at Zadar



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# Background

## *The Existing Ferry port in the Old Town of Zadar*



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# Background

## *The Existing Ferry port in the Old Town of Zadar*



# Background

## *Reasons for relocation of the ferry terminal*

- ▶ Traffic congestions: 350 000 cars annually for the ferry traffic in the Old Town
- ▶ Over 2 000 000 passengers per year
- ▶ Landside: Absence of infrastructure for handling of such traffic, and inadequate conditions for the operation of customs, police, port authority and harbormasters' office
- ▶ Seaside: Inability to operate large cruise and ferry ships (limitation of draft and LOA)
- ▶ Constant growth in traffic, especially in the number of cruise passengers
- ▶ Impossibility for a further development of the port which has a big potential due to its geo-strategic location
- ▶ Inability of a town to develop on such a valuable space
  - ▶ ***The construction of the New Ferry Port Zadar has been foreseen in the Urban Plan from 1998 on the location of the today's construction in Gaženica.***



# Background

## Relocation of the ferry terminal



Existing Ferry port  
Old town

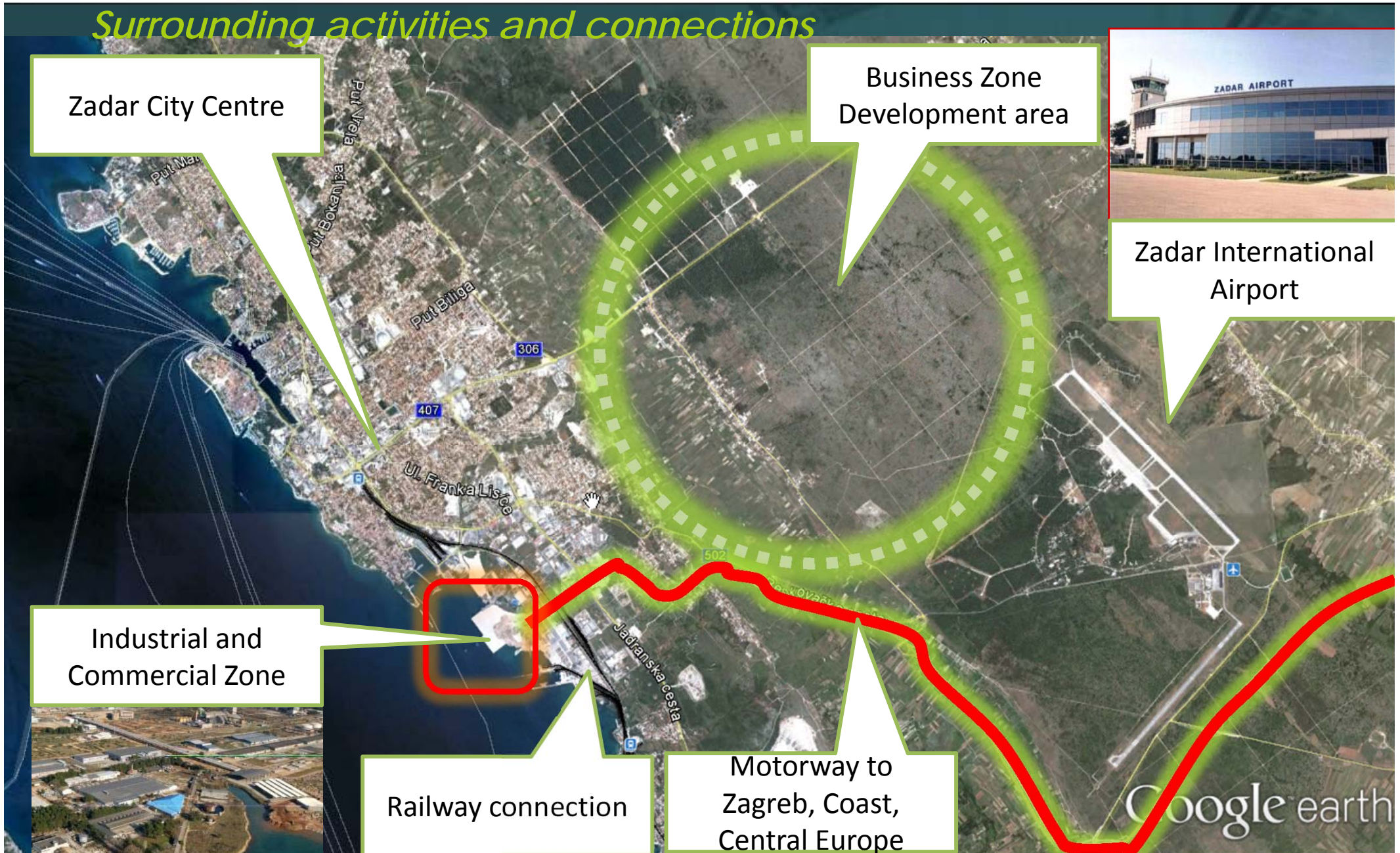
New Ferry Port  
Gaženica





# Background

## Surrounding activities and connections







- ▶ Introduction
- ▶ Background
- ▶ **Cruise traffic studies**
- ▶ Main project components
- ▶ Project implementation



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# Cruise traffic studies

## *Past trends in Zadar*

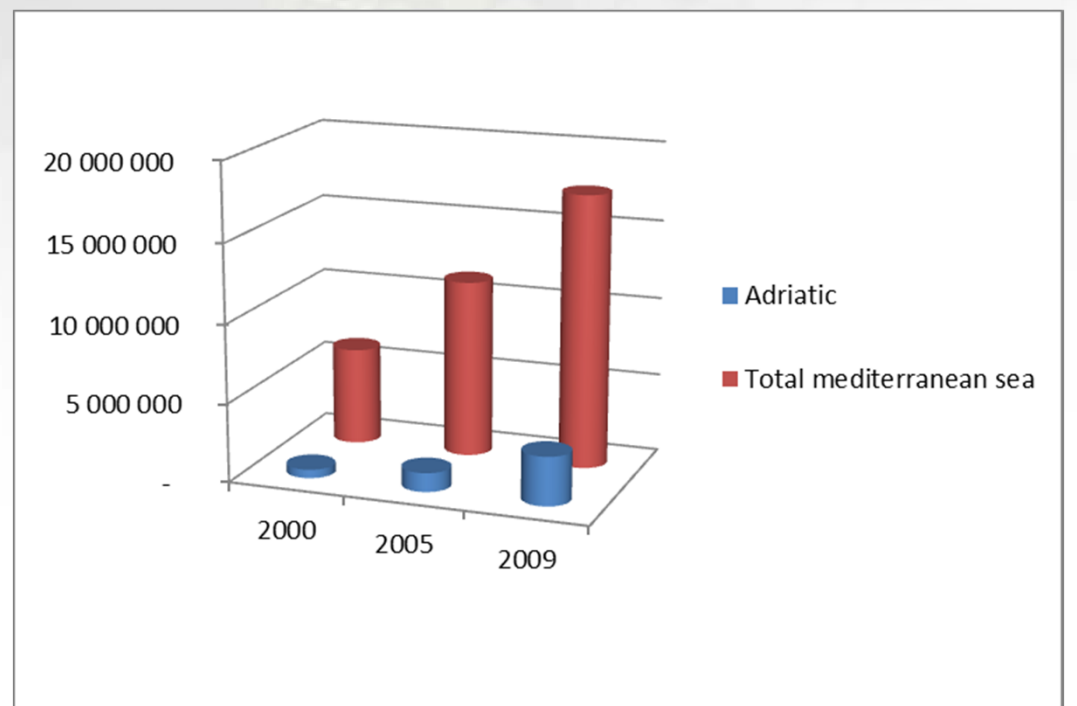
- ▶ Total traffic in 2010: 2.3 million pax and 320,000 vehicles
- ▶ Strongly dominated by domestic traffic (inter-islands): 97% of total pax traffic & 96% of total vehicles traffic
- ▶ International ferry limited to line Ancona – Zadar (~70,000 pax / 20,000 vehicles)
- ▶ Cruise traffic
  - Has started developing recently in Zadar (2005)
  - Dramatic increase since 2005 but traffic still modest (max 25,000 pax in 2007)
  - Development hampered by draft limitations (8 m): small cruisers only (average 400 pax / ship) – no significant 'home port' activity (Zadar no 'head of line')
  - Huge prospects for development which would generate high benefits for the port and the regional economy

# Cruise traffic studies

## Recent trends for cruise market in Adriatic

- ▶ Cruise market booming in Adriatic:
  - Market share of Mediterranean x 2 (9% to 18%)
  - Traffic x 6 (+21% pa) (2000-2009)
  - Still +10% 2009/2010
  
- ▶ Increasing size of cruisers:
  - Average ship capacity: 840 pax in 2000 / 1,700 pax in 2009
  - Large/mega cruisers (2,000 – 3,000 pax) 35% of cruisers calling in Adriatic
  
- ▶ 90% of cruise traffic in 3 ports (Venice 45%, Dubrovnik 30%, Bari 15%)
  
- ▶ Zadar's share insignificant (<1% and only small cruisers)

Cruise traffic in Mediterranean sea and Adriatic				Average annual growth rate
	2000	2005	2009	
Adriatic	540 000	1 200 000	3 100 000	21%
Total mediterranean sea	6 185 000	11 275 000	17 385 000	12%
Adriatic in % mediterranean	9%	11%	18%	
Average capacity cruisers	840	1200	1716	



# Cruise traffic studies

## Adriatic cruise ports and market segments

### 8 cruise ports in Adriatic

- ▶ 8 'ports of call' (Venice, Dubrovnik, Bari, Split, Ancona, Koper, Trieste & Zadar)
- ▶ of which 2 'heads of lines' with significant 'home port traffic' (Venice & Bari)

	Total cruise traffic (pax)		Home port activity
	2007	2010	
Venice	1 000 000	1 600 000	80%
Dubrovnik	680 000	920 000	2%
Bari	350 000	510 000	40%
Split	100 000	172 000	~0%
Ancona	50 000	135 000	~0%
Koper	0	37 000	~0%
Trieste	55 000	n.a.	~0%
Zadar	25 000	17 000	~0%

### 3 market segments in Adriatic

- ▶ 'Short cruise'
- ▶ 'Medium cruise'
- ▶ 'Long cruise'

Type	Region	Duration	Number of ports of call in Adriatic		Typical capacity of cruisers
			total	except for Venice and Dubrovnik (compulsory)	
Short	Adriatic only	~7 days	4-5	2-3	200-500 pax
Medium	To Sicilia, Malta, Corfu	7-10 days	3-4	1-2	800 - 2,000 pax
Long	To Greece and Turkey	10-14 days	3-4	1-2	1,500-2,000 pax



# Cruise traffic studies

## *Prospects for Zadar new ferry and cruise terminal*

- ▶ Excellent port infrastructures (5 international berths 1,100 m-long/depth 10-13 m)
- ▶ Excellent road and air connections (direct access from motorway to Zagreb / Dubrovnik / Central Europe; Zadar International Airport)
- ▶ Major tourist attractions in the vicinity of Zadar (Plitvice National Park; Kornati archipelago, etc.)



- ▶ Good geographical situation (halfway between Venice and Dubrovnik)
- ▶ Booming traffic in Adriatic resulting in port capacity constraints

***Objective: increase Zadar's share in Adriatic cruise market - Zadar to become significant player in cruise market in Adriatic***

# Cruise traffic studies

## *Projections for cruise traffic*

- ▶ Hypotheses for future growth rates in Adriatic
  - Low 1% yearly growth rate till 2015 (crisis)
  - Recover with robust 4.5% - 4.6% yearly growth rate during the following decade (2015-2025) (substantially lower than pre-crisis level)
  - For the long term: growth rate steadily decreases to reach 3% after 2030
  
- ▶ Targets for Zadar's future market shares (medium scenario)

Segment	Share of Zadar	
	Present	Target
Short	10%	33%
Medium	0%	15%
Long	0%	15%

*The Home port traffic increases very progressively*

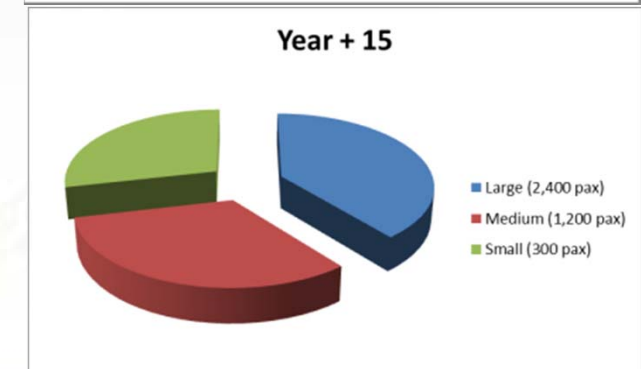
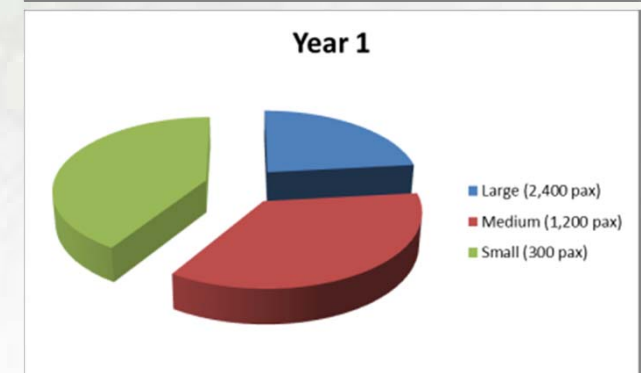
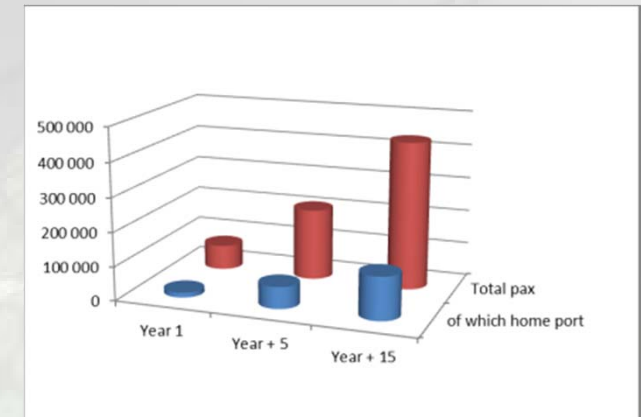
*Realistic considering 8 competing ports and 3-5 port of call per cruise*

# Cruise traffic studies

## Projections for cruise traffic

### Projections for cruise traffic at Zadar new ferry and cruise terminal (medium scenario)

	Year 1	Year + 5	Year +15
<b>Total</b>			
Pax	73 000	210 000	434 000
<i>of which home port</i>	14 000	64 000	126 000
Number of calls	186	424	828
<b>Large cruisers (~2,400 pax)</b>			
Pax	17 000	65 000	170 000
<i>of which home port</i>	4 200	25 000	63 000
Number of calls	7	22	59
<b>Medium cruisers (~1,200 pax)</b>			
Pax	26 000	80 000	140 000
<i>of which home port</i>	6 300	31 000	51 000
Number of calls	20	54	95
<b>Small cruisers (~300 pax)</b>			
Pax	30 000	65 000	124 000
<i>of which home port</i>	3 500	8 000	12 000
Number of calls	159	348	674





# Summary



- ▶ Introduction
- ▶ Background
- ▶ Cruise traffic studies
- ▶ **Main project components**
- ▶ Project implementation



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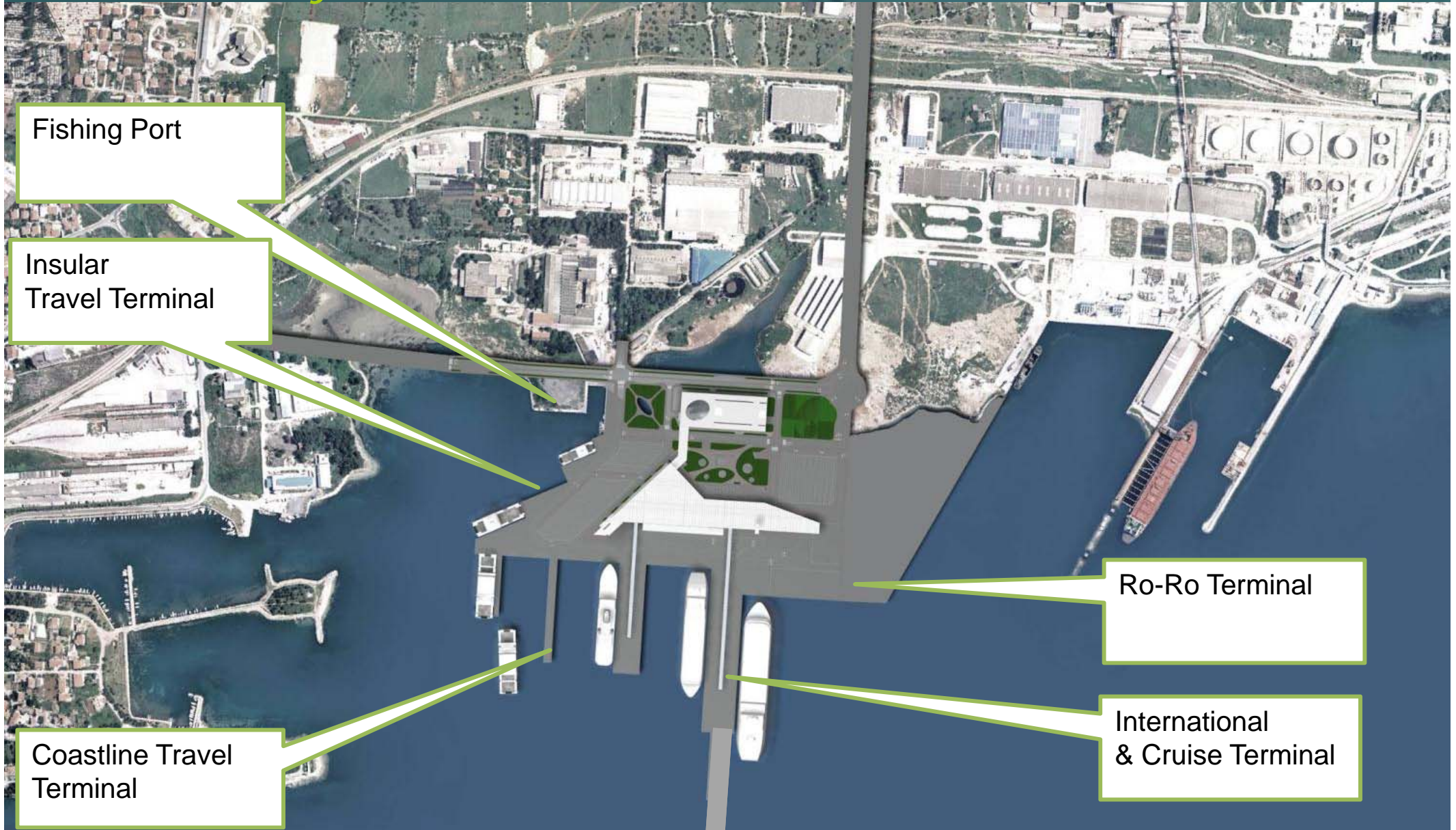
# Main project components

## *Ferries*

- ▶ By the construction of new ferry Port Zadar-Gaženica the conditions will be fulfilled for simultaneous loading and unloading of passengers and cars on:
  - ▶ ferries on local lines with length between 50-150 meters,
  - ▶ ferries on international lines with length between 150-200 meters
  - ▶ ships on cruise lines with length between 250-300 meters
- ▶ Additionally, berths for a fishing port will be built in the vicinity of the terminal and fishing industry zone

# Main project components

## Terminal Layout



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# Main project components

## *Waterfront structures*



The marine facilities consist of twelve berths totalling 1 851 m in length with depths ranging from 5 m to 13 m, including:

- ▶ one terminal for international traffic (cruise and ferries) with five berths totalling 1 146 m with depths ranging from 10 m to 13 m, and
- ▶ one terminal for domestic traffic (ferry, ships and speed boats) fitted with seven berths totalling 705 m in length with depths ranging from 5 m to 10 m.

# Main project components

## *New port yard*

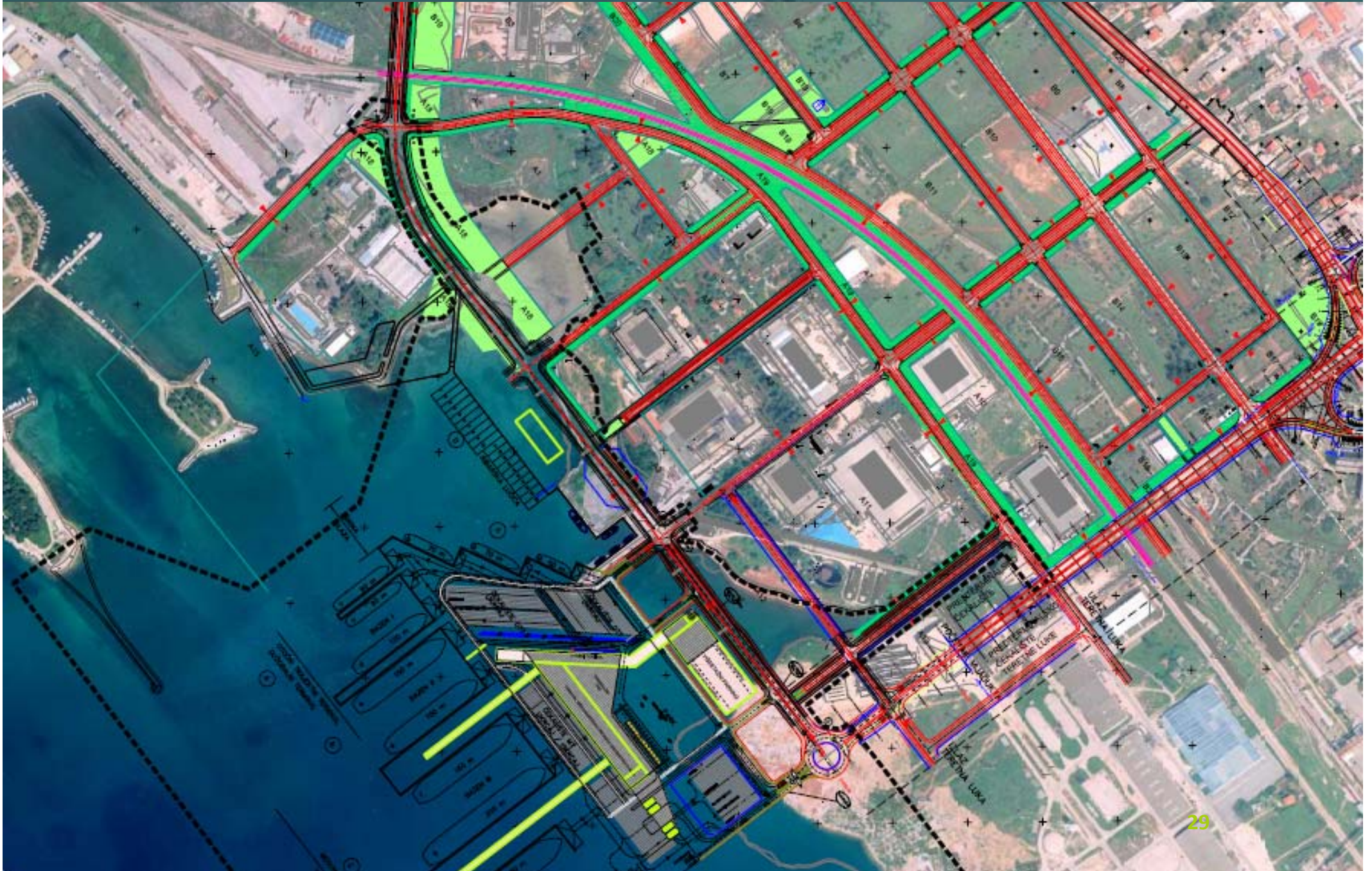
- ▶ The total New Ferry Port Zadar area is about 13.5 ha (135 000 m<sup>2</sup>) including
  - ▶ The wharf and pier areas;
  - ▶ The traffic processing areas (internal roads, waiting areas, loading and unloading lanes, pedestrian areas), and
  - ▶ The platform for the terminal building.
  
- ▶ The general arrangement of the new port yards and road accesses allows for the separation of flows, other for operational reasons or for the requirements of the Schengen and ISPS:
  - ▶ Embarking / disembarking flows;
  - ▶ Customs-controlled flows;
  - ▶ Non-embarking flows;
  - ▶ Pedestrians flows;
  - ▶ Public transports.
  
- ▶ The primary role of the central terminal building is to support the international and local island ferry traffic, and house
  - ▶ The Regional port authority, harbour master's office and control tower;
  - ▶ Several commercial areas serving to the traffic function, such as auxiliary facilities intended for the staff and for the visitors of the ferry port;
  - ▶ The Home Port area for cruise liners, with the areas for luggage, customs service, police area and arrivals/departures hall.





# Main project components

## *Connection to road networks*







- ▶ Introduction
- ▶ Background
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- ▶ **Project implementation**



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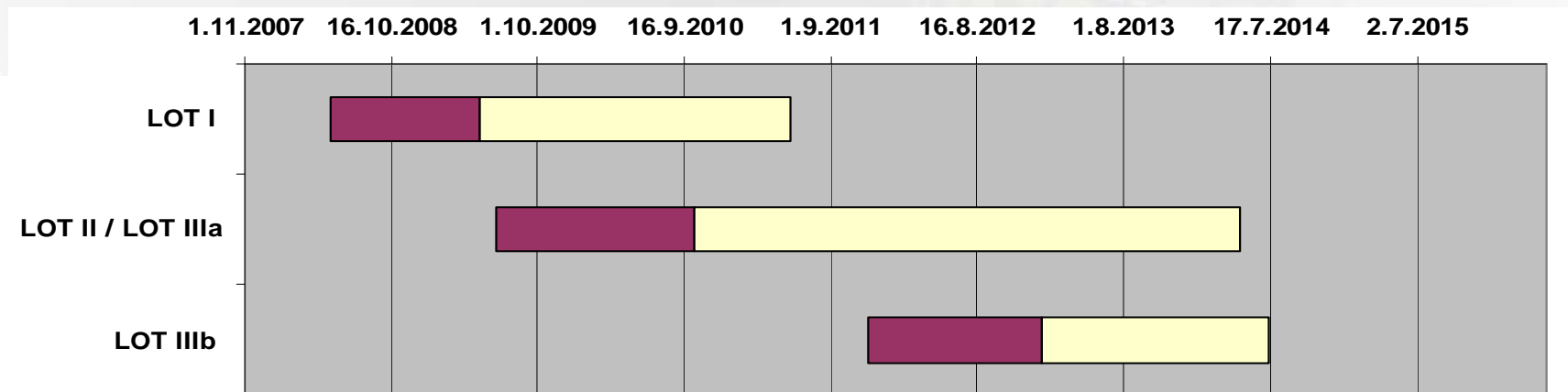
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# Project Implementation

## Schedule

- ▶ Construction in three Lots:
  - ▶ Lot I -Reclamation, dredging
  - ▶ Lot II/IIIa - Maritime structures, infrastructure
  - ▶ Lot IIIb - Terminal Building
- ▶ The construction started in 2009 with the dredging and reclamation works, and shall be completed in 2014



- ▶ The estimated project cost is 236 million euro financed through loans from EIB and KfW

# Project implementation

*At completion of Lot I (2011)*



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# Project implementation

*Lot II/IIIa - 2013*



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# Project implementation

*Lot II/IIIa - 2013*



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# New Ferry Terminal – at completion



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*Thank you*  
**Hvala !**



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