Studies for the Development of the RIS Operability along the Northern Italy Waterway System: Project Overview

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Mantova 19 October 2012

Scope of the project

- Drafting of a plan for the implementation of RIS along the entire NIWS
- Testing and implementation of RIS pilot project along a defined stretch of the NIWS, that will be used for the future application of the RIS system along the entire NIWS
- Increase NIWS efficiency through vessels tracking and tracing, locks remote control
- Increase NIWS competitiveness and convenience for operators making navigation quicker and safer.
- Increase NIWS safety for barges and vessels by monitoring their locations, loads, journeys, reducing environmental hazards and improving transport sustainability
- Implement a training system for skilled operators in the use of RIS technology.

Global Project goals

- Developing the Northern-Italy waterway system as a part of a global multimodal network supporting and completing corridors I and V
- creation of a Trans-European multimodal axis including waterway and sea transport interconnected with road and rail transport reinforcing the east-west connection of Northern Italy and Balkan Area towards the Danube and Black sea
- Creation of an efficient and sustainable connection of continental Europe with the Mediterranean sea ports by rail (Brenner) – waterway – short-sea-shipping / Motorways of the sea
- reduction of road traffic congestion and CO_2 emissions in the Po Plain through a modal shift from road transport to the more environmentally friendly waterway transport

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Project Budget

ACTIVITY 1 PROJECT MANAGEMENT, COMMUNICATION AND DISSEMINATION

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ACTIVITY 4 RIS SHIP SIMULATOR DEVELOPMENT

AUTORITÀ PORTUALE DI VENEZIA

State Budget € 2 530 000.00
+
TEN-T financing € 2 530 000.00

Total Project Budget:
€ 5 060 000.00

ACTIVITY 2 TECHNICAL STUDY AND DESIGN

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ACTIVITY 5 PILOT IMPLEMENTATION

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ACTIVITY 3 ORGANIZATION – LEGAL INNOVATION – FEASIBILITY PLAN

provincia di mantova

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ACTIVITY 6 SYSTEM INTEGRATION AND VALIDATION

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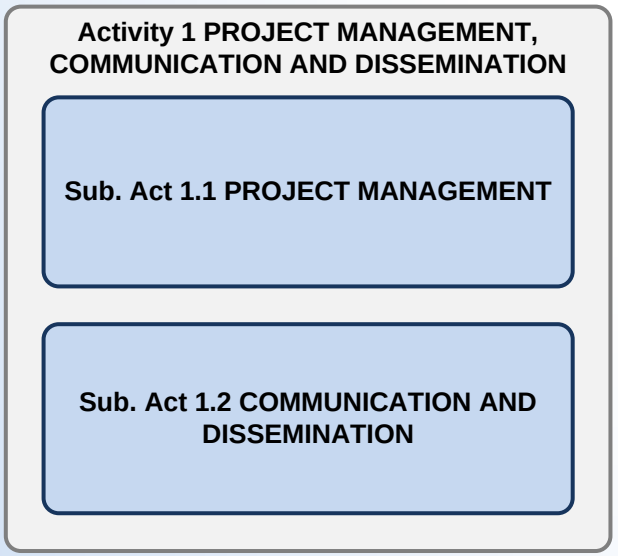
Trans-European Transport Network Executive Agency

Activity 1 Project Management, Communication & Dissemination



- **Coordinator: Sistemi Territoriali SpA**
  - Involvement of all partners

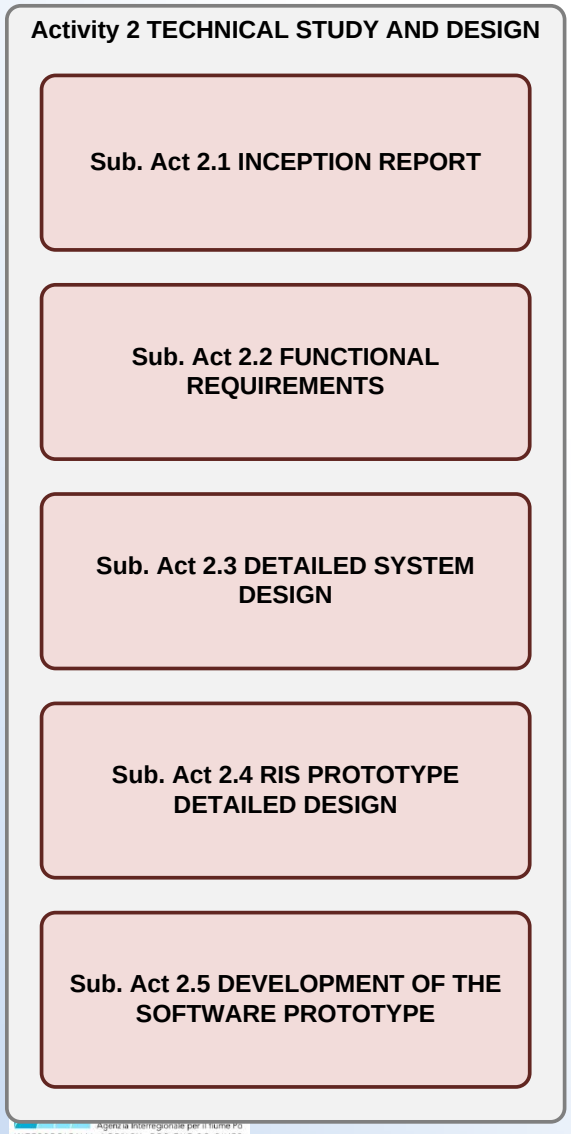
Tasks:

- Administrative management
- Financial management
- Dissemination strategy

Expected Results:

- Effective project management
- Effective Communication and dissemination strategy

Activity 2 Technical Study & Design



- **Coordinator: AIPO**
  - Involvement of all partners

Tasks:

- Definition and analysis of all relevant problems; identification of appropriate RIS tools to be implemented
- Definition of main system requirements
- Functional definition of RIS System for the Po River
- Interconnectivity of RIS System with port communication Systems
- Definition of RIS prototype

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Activity 2 Technical Study & Design

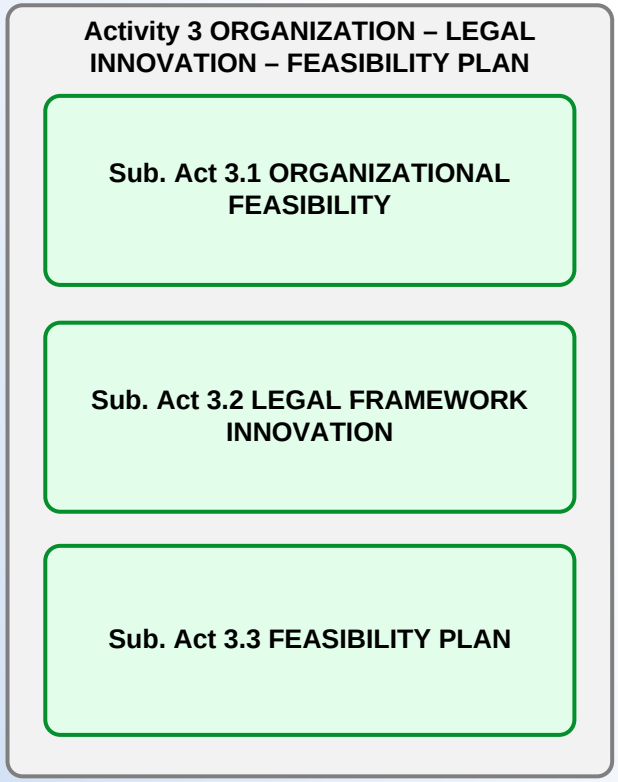
Activity 2 TECHNICAL STUDY AND DESIGN

- **Sub. Act 2.1 INCEPTION REPORT**
- **Sub. Act 2.2 FUNCTIONAL REQUIREMENTS**
- **Sub. Act 2.3 DETAILED SYSTEM DESIGN**
- **Sub. Act 2.4 RIS PROTOTYPE DETAILED DESIGN**
- **Sub. Act 2.5 DEVELOPMENT OF THE SOFTWARE PROTOTYPE**

Expected Results:

- Definition of the current state of the NIWS
- Final design of the RIS System
- Final design of RIS prototype
- Developed RIS System software requirements and Design

Activity 3 Organization – Legal Innovation – Feasibility Plan



- **Coordinator: Province of Mantova**
  - Involvement of all partners

Tasks:

- Definition of the governance and management schemes: legal, political, economic framework of the project, role of the authorities
- Study for the feasibility and development implementation of RIS

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Activity 3 Organization – Legal Innovation – Feasibility Plan

Activity 3 ORGANIZATION – LEGAL INNOVATION – FEASIBILITY PLAN

- **Sub. Act 3.1 ORGANIZATIONAL FEASIBILITY**
- **Sub. Act 3.2 LEGAL FRAMEWORK INNOVATION**
- **Sub. Act 3.3 FEASIBILITY PLAN**

Expected Results:

- Definition of governance and management schemes
- Defined legal framework for System implementation
- Defined proposal for the adoption of the RIS directive (2005/44/CE)
- Cost-benefit analysis for System implementation

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Activity 4 RIS Ship Simulator Development

Activity 4 RIS SHIP SIMULATOR DEVELOPMENT

- **Sub. Act 4.1 DATA COLLECTION AND MANAGEMENT**
- **Sub. Act 4.2 SOFTWARE DEVELOPMENT AND HARDWARE ACQUISITION**
- **Sub. Act 4.3 TESTING, MANAGEMENT PROCEDURES AND TRAINING MODULES**

- **Coordinator: Venice Port Authority**
  - Involvement of all partners

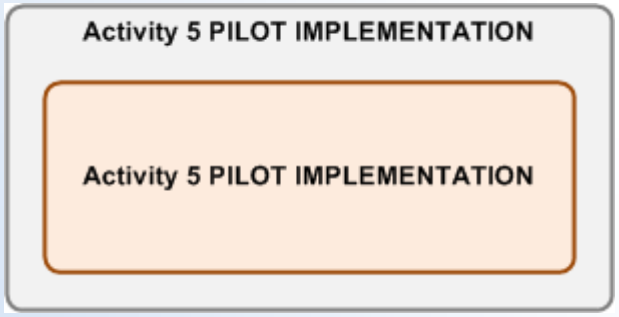
Tasks:

- Definition of the specifics for the RIS simulator to support skipper training in the use of the RIS System
- Implementation of the Simulator

Expected Results:

- Implemented RIS simulation software
- Defined training modules

Activity 5 Pilot Implementation



- **Coordinator: Sistemi Territoriali SpA**
  - Involvement of all partners

Tasks:

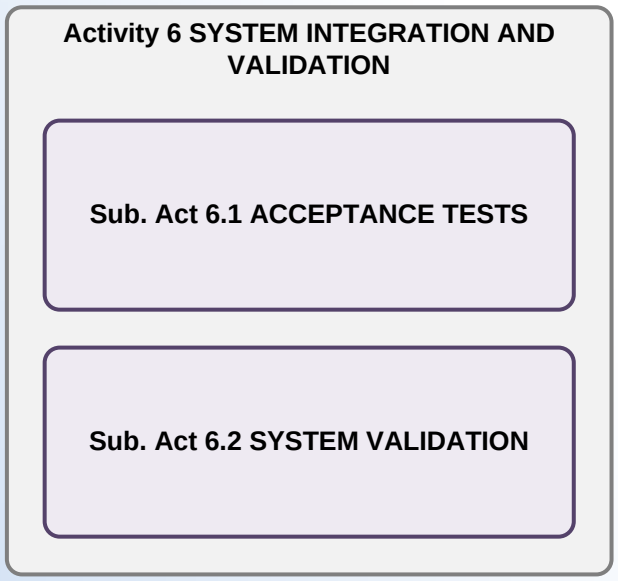
- RIS system implementation: translation of system requirements to technical solution
- Test site for implementation

Expected Results:

- Implementation of the RIS pilot system prototype

Activity 6 System Integration & Validation

- **Coordinator: Sistemi Territoriali SpA**
  - Involvement of all partners



Tasks:

- Evaluation of the RIS System functionality and its impact on NIWS
- Guideline definition for full RIS System implementation along the Po River

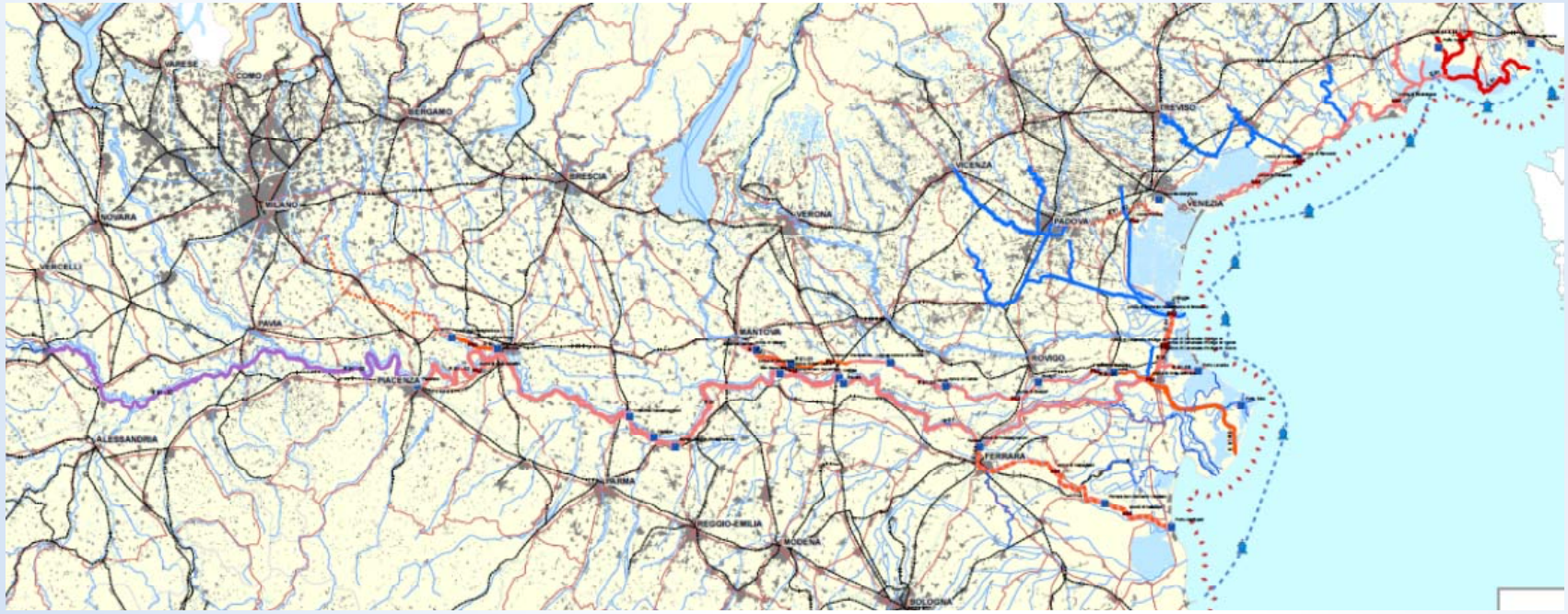
Expected Results:

- Functional integration and validation of the system
- Certified system functionality
- RIS impact evaluation report

RIS Prototype

Global RIS-AREA

Casale Monferrato – Ravenna - Trieste



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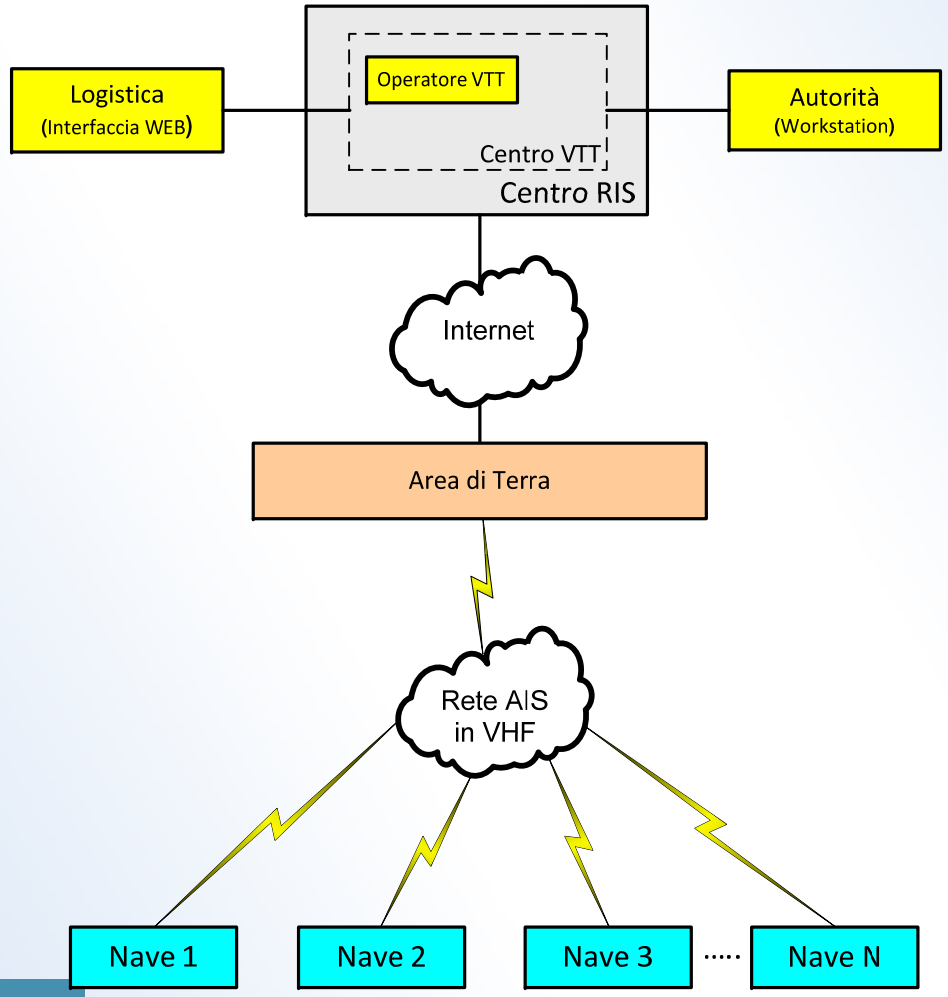
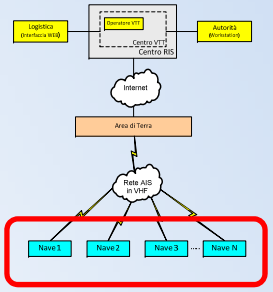
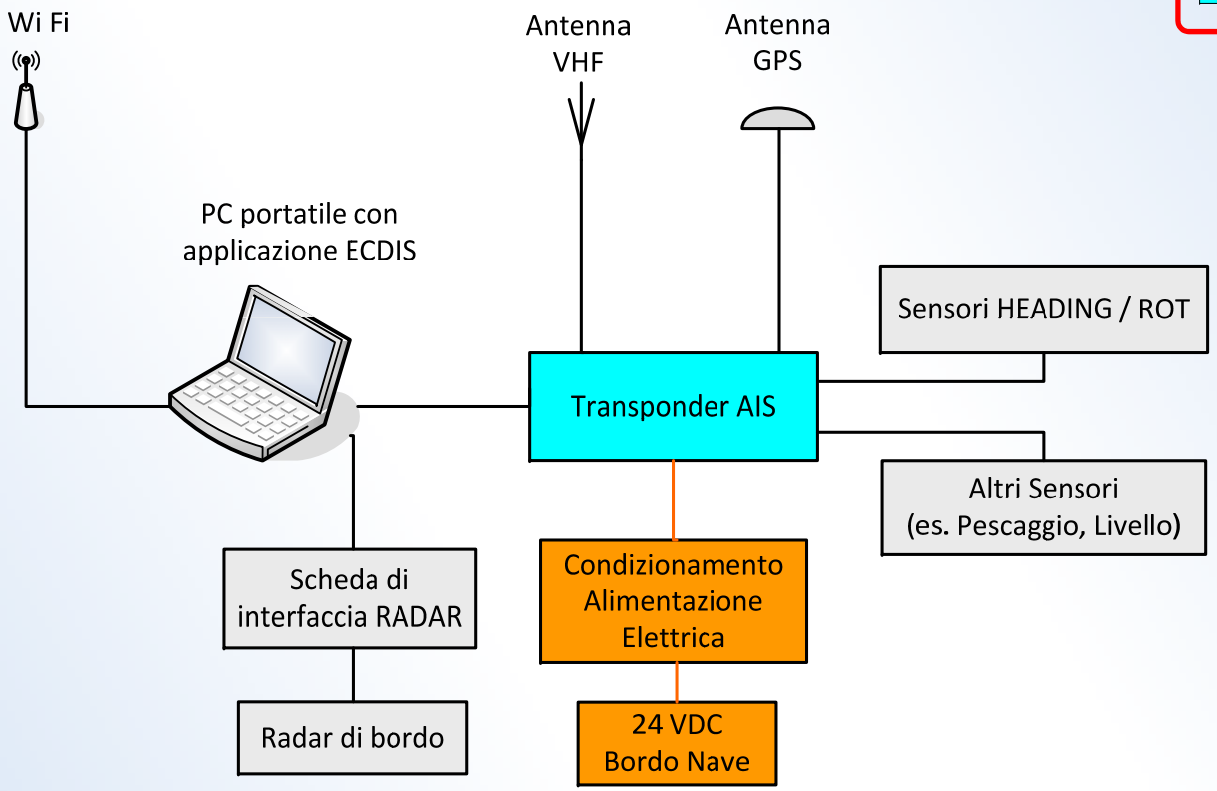
RIS Simplified Architecture



On Board Architecture





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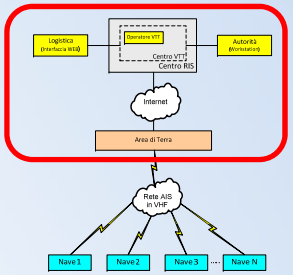
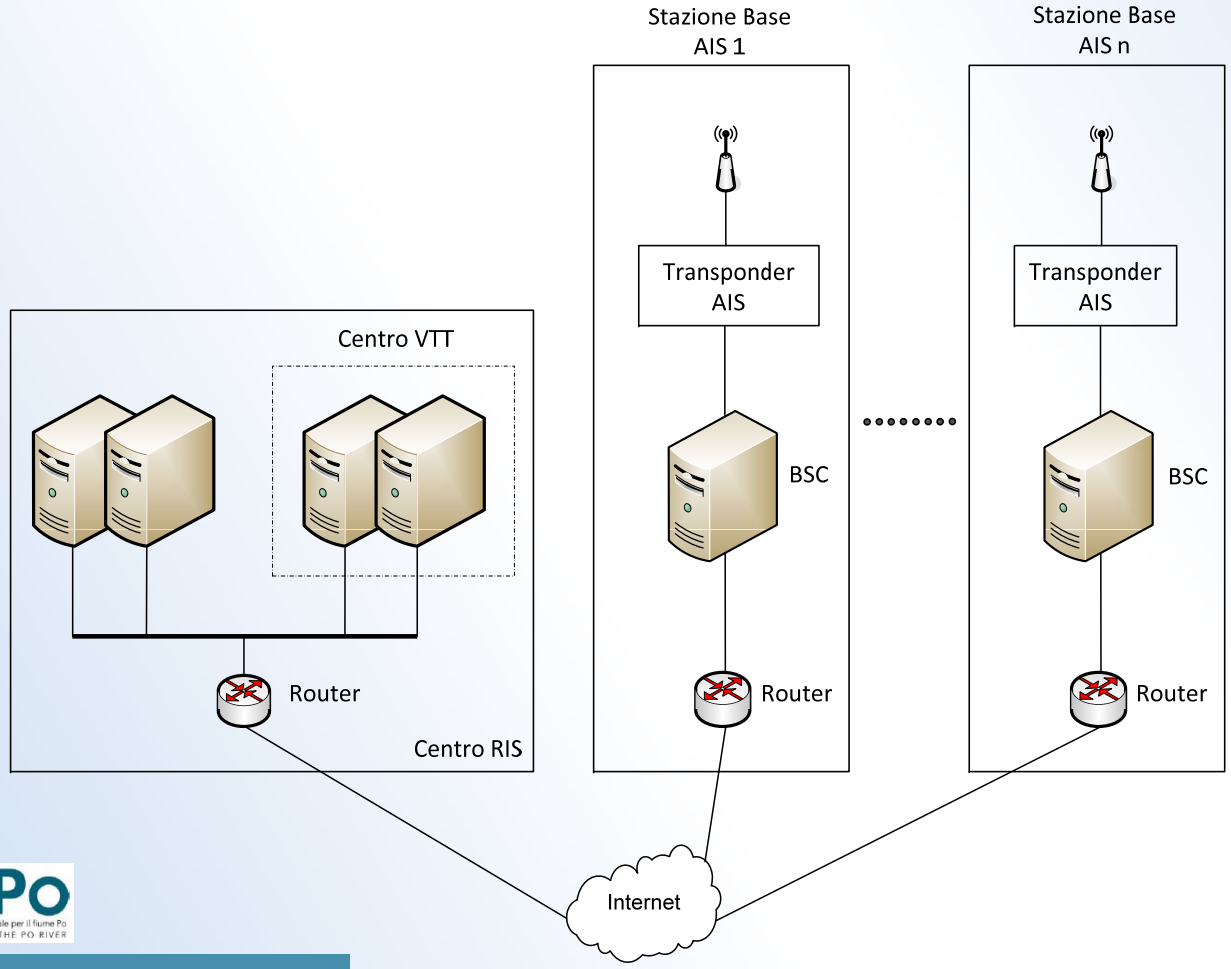
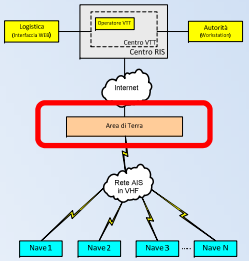
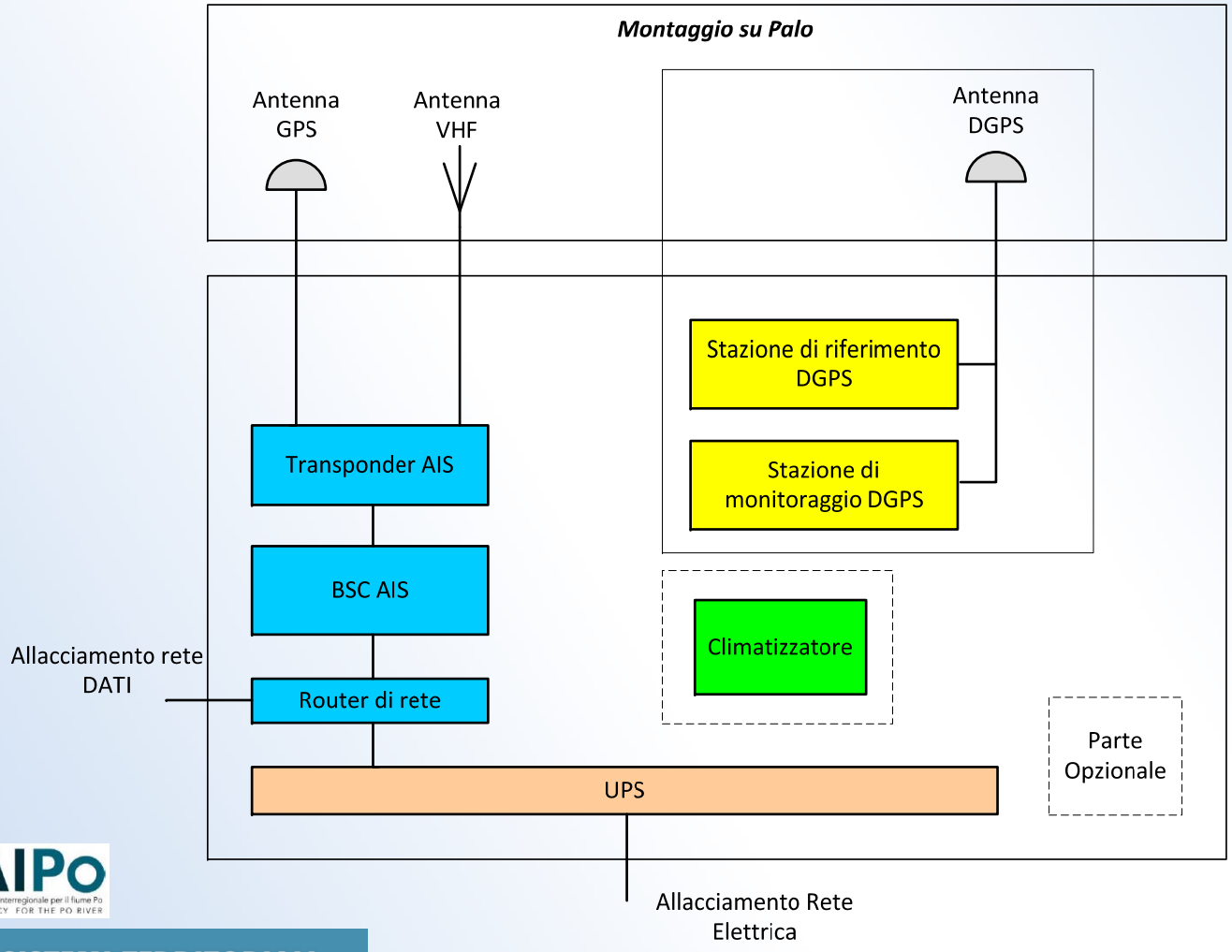
RIS Centre & Base Stations



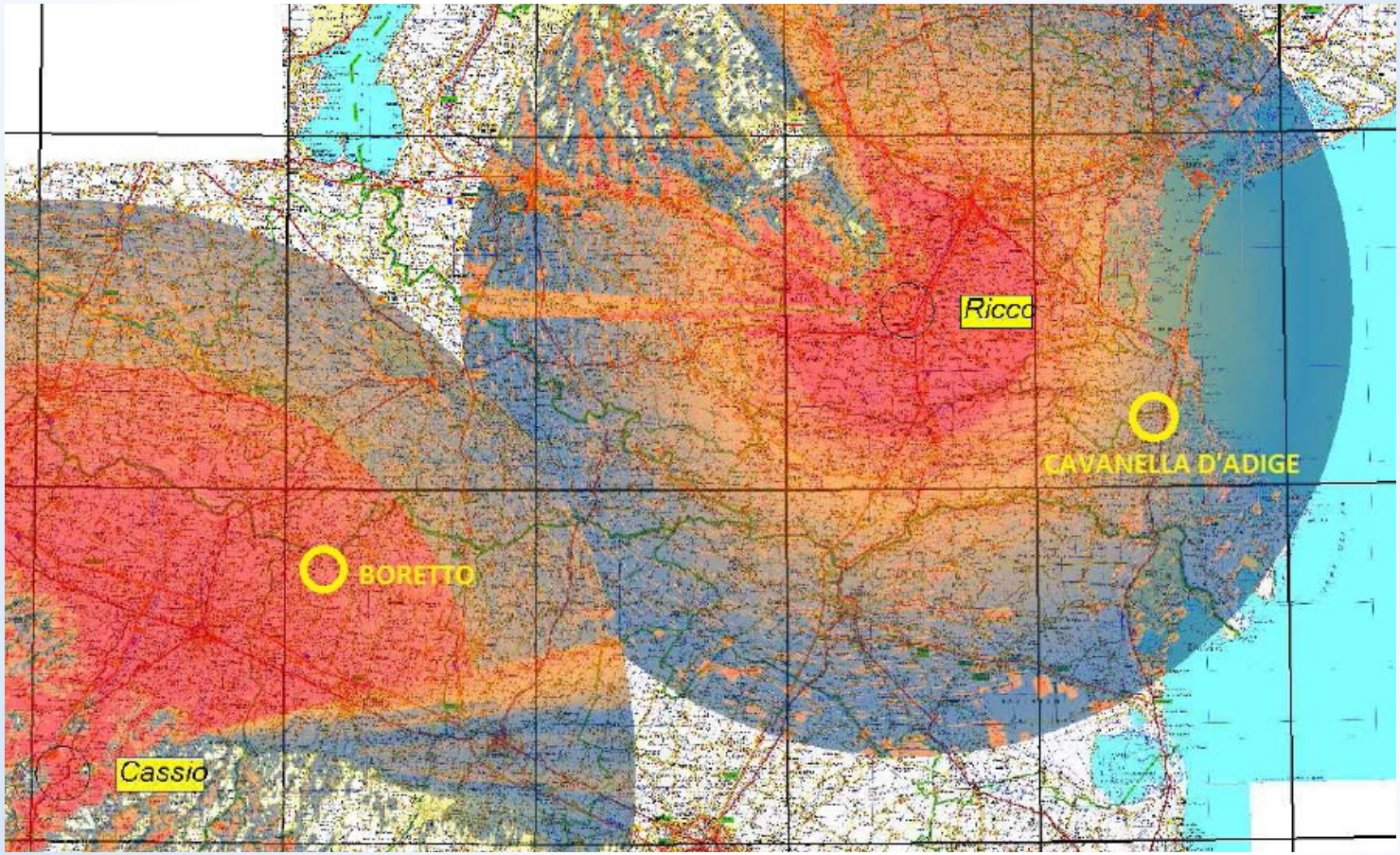


Base station





VHF existing infrastructure and coverage



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Prototype minimal item-list

Voce	Descrizione	Quantità
Hardware	Stazione base AIS e impianti ausiliari	2
	Access point Wifi	1
	Ponti radio per VHF tra base station e RIS Centre	2
	Sistemi di bordo full (AIS, laptop, heading, ROT)	10
	Sistemi di bordo basic (solo AIS)	10
	Server di centrale e licenze SO e DB	1
	Workstation	10
Software	Licenze SW ECDIS	25
	VTT di centro	1
	VTT di bordo	20
	Notices to Skipper	1
	HULL Database	1
	Lock Management System	1
	Ris Centre (Backup, Logging, ….) parziale	1
	Interfaccia sistemi esterni (solo controllo escavazioni)	1
Progetto	Project Management e ingegneria	
	Trasferte e trasporti	

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RIS - Services

8. CHD – waterway Charges and Harbour Dues
7. ST – Statistics
6. ILE – Information for Law Enforcement
5. ITL – Information for Transport Logistics
4. CAS – Calamity Abatement Support
3. TM – Traffic Management
2. TI – Traffic Information
1. FIS –Fairway Information Service

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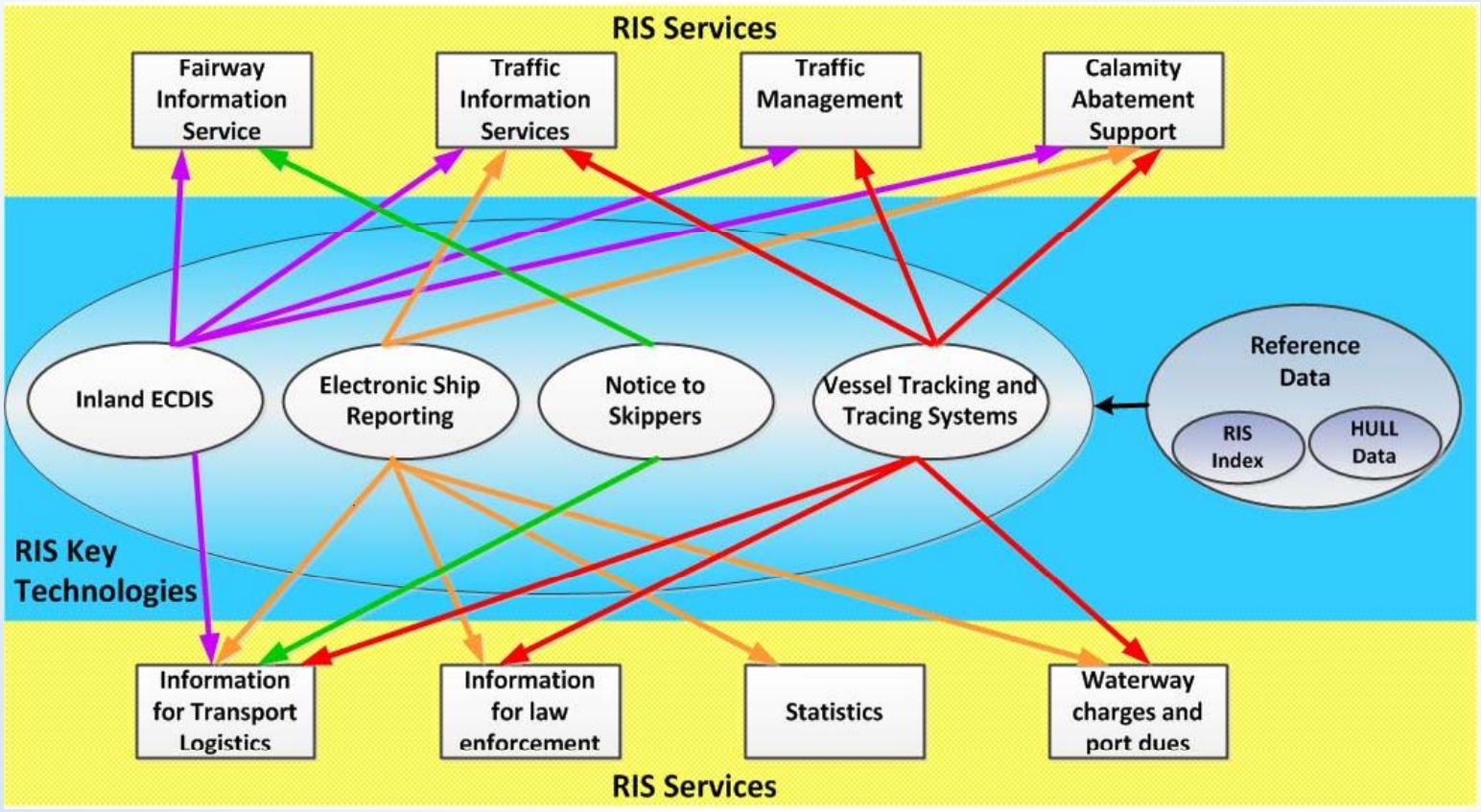
Key Technologies



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