

# *Marine Telepass*

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**Blue Thread** develops innovative solutions for marine applications, combining satellite, sensing and connectivity technologies in a way to fulfill the most severe reliability and safety needs.

*Founded June 2009, based in Rome, Italy*

*ESA Technology Transfer on EGNOS-GALILEO 2010-2011*



*Registered among European GNSS Enterprises (GSA dir) from May 2010*

*Winner of Italy prize at European Satellite Navigation Competition 2010 (Marine Telepass)*



# PRODUCTS

## *Space Compass*

**A next-generation compass based on satellite technology**



## *Marine Telepass*

**A modern and efficient automatic access control system for Marine Reserves safeguard**



**European Satellite  
Navigation  
Competition 2010**

# The MEDUSE Project

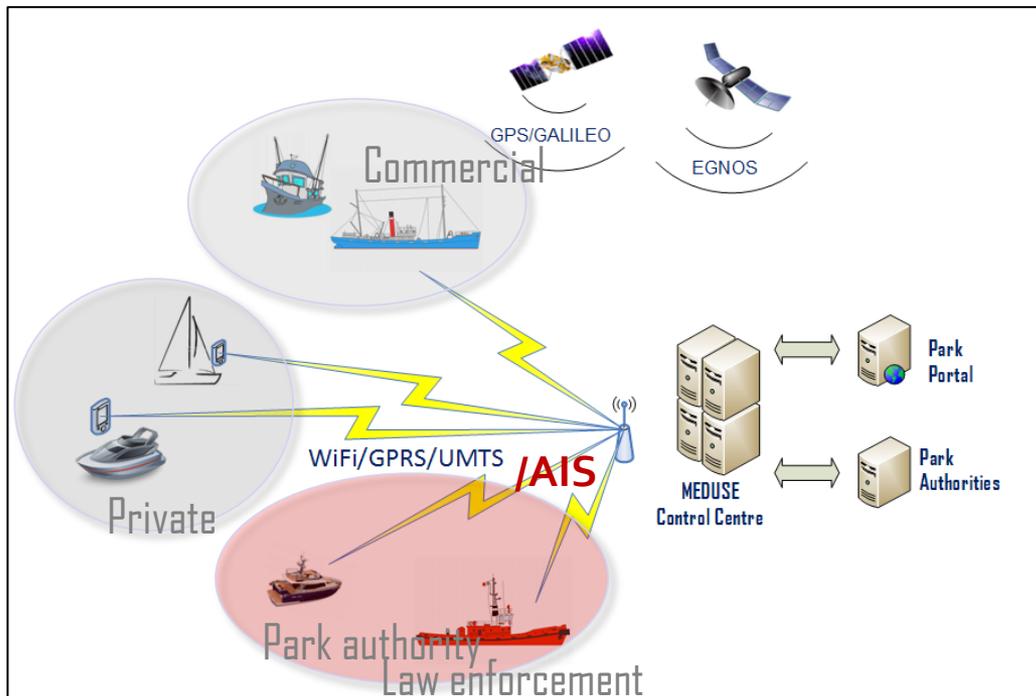


**BLUE THREAD**  
NAVIGATION TECHNOLOGY

Marine park Enhanced applications based on Use of integrated GNSS Services  
(proposal 277665-2)

Call Identifier: FP7-GALILEO-2011-GSA-1

Topic: GALILEO.2011.1.7-1 (Use of Galileo and EGNOS services for mass market and in niche sectors)



**BLUE THREAD**  
NAVIGATION TECHNOLOGY



ENTE PARCO NAZIONALE  
ARCIPELAGO DI LA MADDALENA



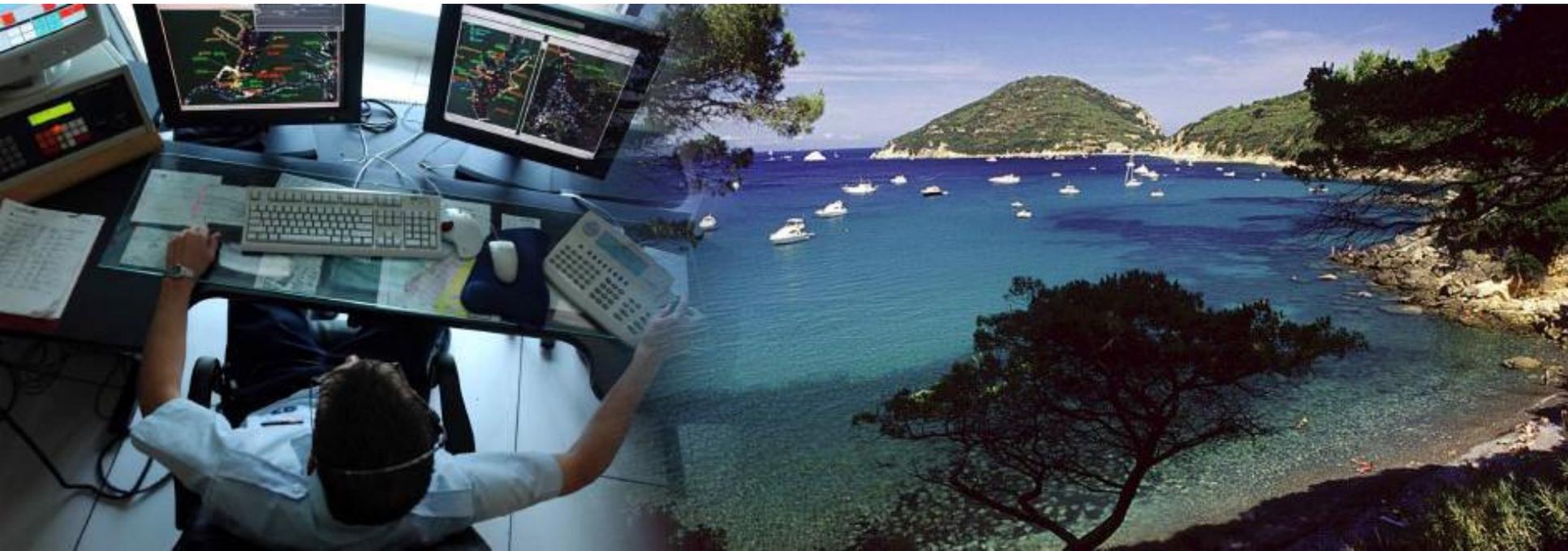
[www.meduse-project.eu](http://www.meduse-project.eu)

## *Applications:*

- Access Control to Marine Parks and Reserves, and to touristic seaports
- Fleets management (park flows, chartering, sailing competitions,..)
- Implementation of pay-per-use services (content/time)

## *Benefits:*

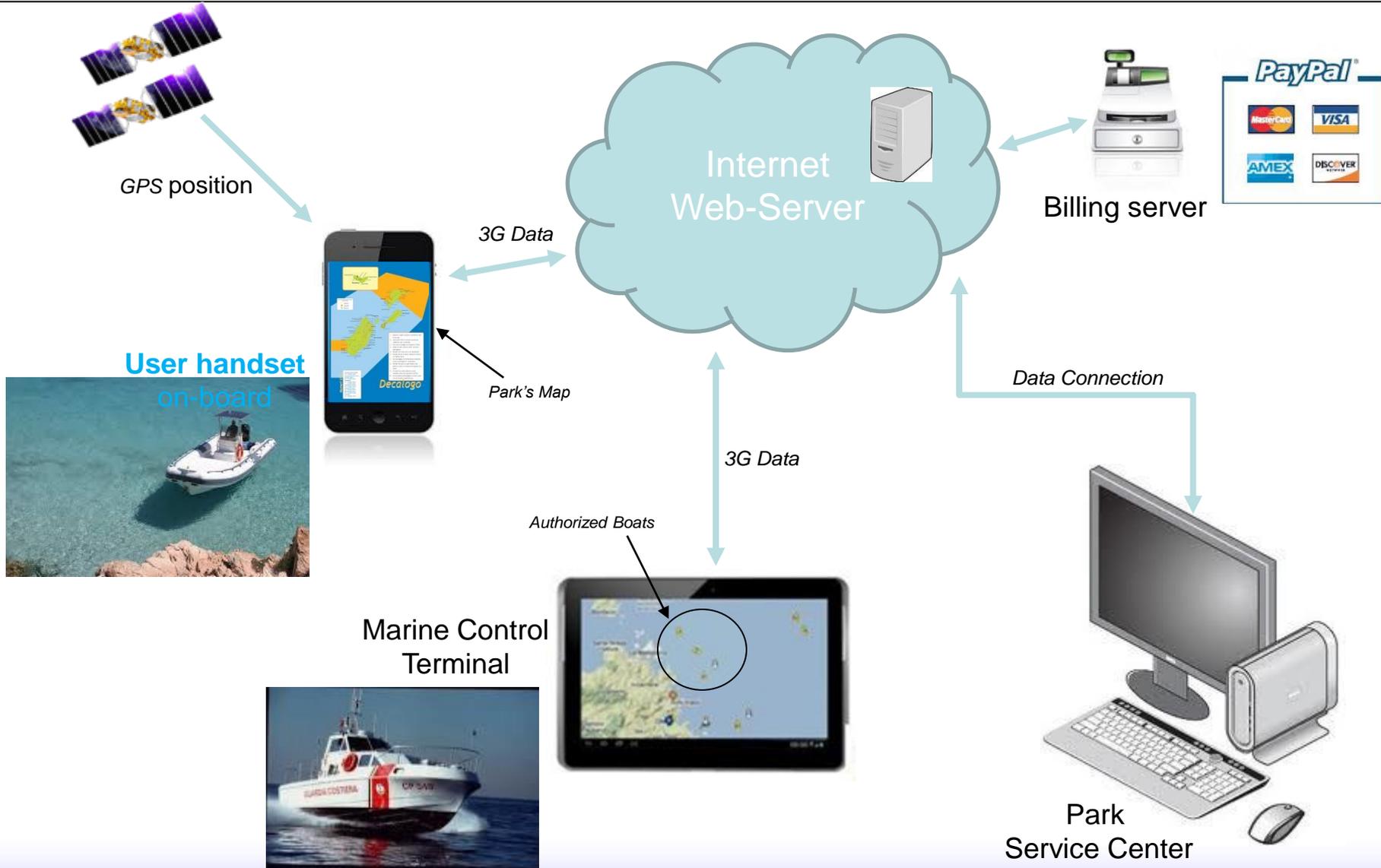
- Significant operation cost savings (Park)
- Increased efficiency in operations & productivity (resources)
- Easy & Efficient access (Visitor)
- Natural environmental monitoring and safeguard
- Enabler for a fast provisioning of new services (info, maps, meteo,..)



- Marine Parks /MPAs
- Monitoring of professional fishing activities
- Touristic Ports
- Maritime Environment Authorities (ISPRA, LaMMA)
- Non-marine Natural Parks (potential side market)

- **Institutional:** Marine Parks /MPAs
- **Private:** Marine parks and restricted marine areas users (leisure boats)
- **Commercial:** Operators acting within restricted areas (e.g. cruise boats, charter/rental companies, mooring buoys areas mgmt); professional fishermen
- **Law Enforcement:** Marine police authorities (Coast Guard, Police, Park Marine Control body)

# BASIC ARCHITECTURE ('Mobile App')



- **Different Users**
  - End-users (park visitors, fishermen,..) – use their own mobile device
  - Surveillance staff at sea (Marine Control Terminal – MCT)
  - Park Service Center (Management Dashboard)
  
- **Monitoring rules**
  - Users are monitored only internal to the Park Area and its internal Zones (with different access rights & permits)

- **Institutional Users (Parks/MPAs)**
  - Remote Monitoring of restricted areas accesses
  - Remote control of permits and management of different access levels
  - Automatic tolling&billing capability
  - Planning and monitoring the entire itinerary of Tourist boats
  - Monitoring of fishing (professional/recreational fishermen)
- **Commercial Users (Touristic Ports, Charter Companies, Fishermen, Cargo Fleets,..)**
  - Touristic/Commercial/Meteo info
  - Location based weather alerts
  - Fleet tracking
- **Private Users (Leisure yachting & sailing)**
  - Location-based tourist information and services
  - Park rules and recommendations (fishing, anchorages, warnings, dangers and prohibitions,..)
  - Link to Port services (commercial, touristic, booking of a dock,..)
  - Location based weather alerts and weather routing (e.g. navigation to protected coves)
  - Social network ('*find your friends*')

Mobile devices might not follow the boat (e.g. might be on the ground, or on another boat,..), may be switched off, or out of coverage (quite usual situation in remote marine areas).

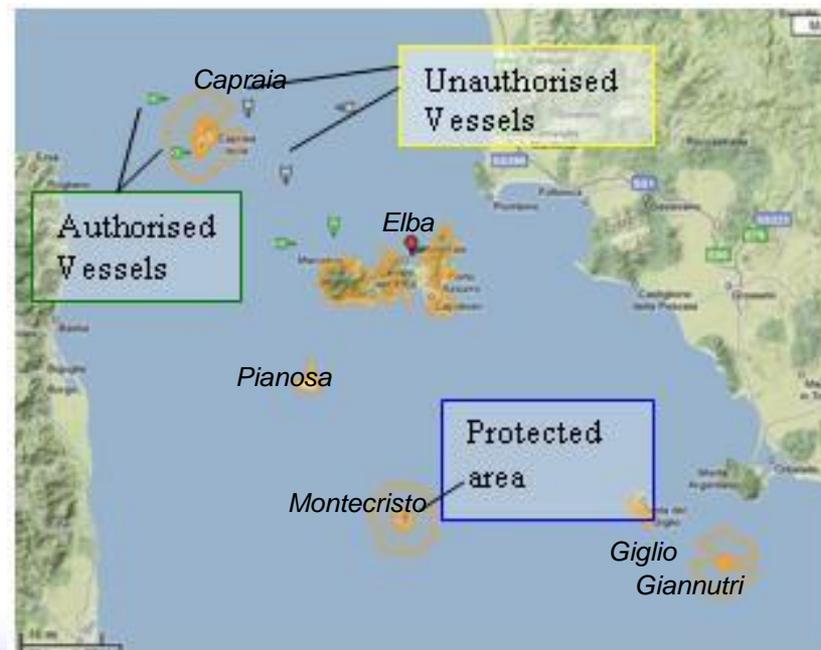
**Key requirement** for reliable control, statistics and analysis of accesses and traffic fluxes internal to the MPA is therefore:

- an identification tied to the boat (and not to the visitor)

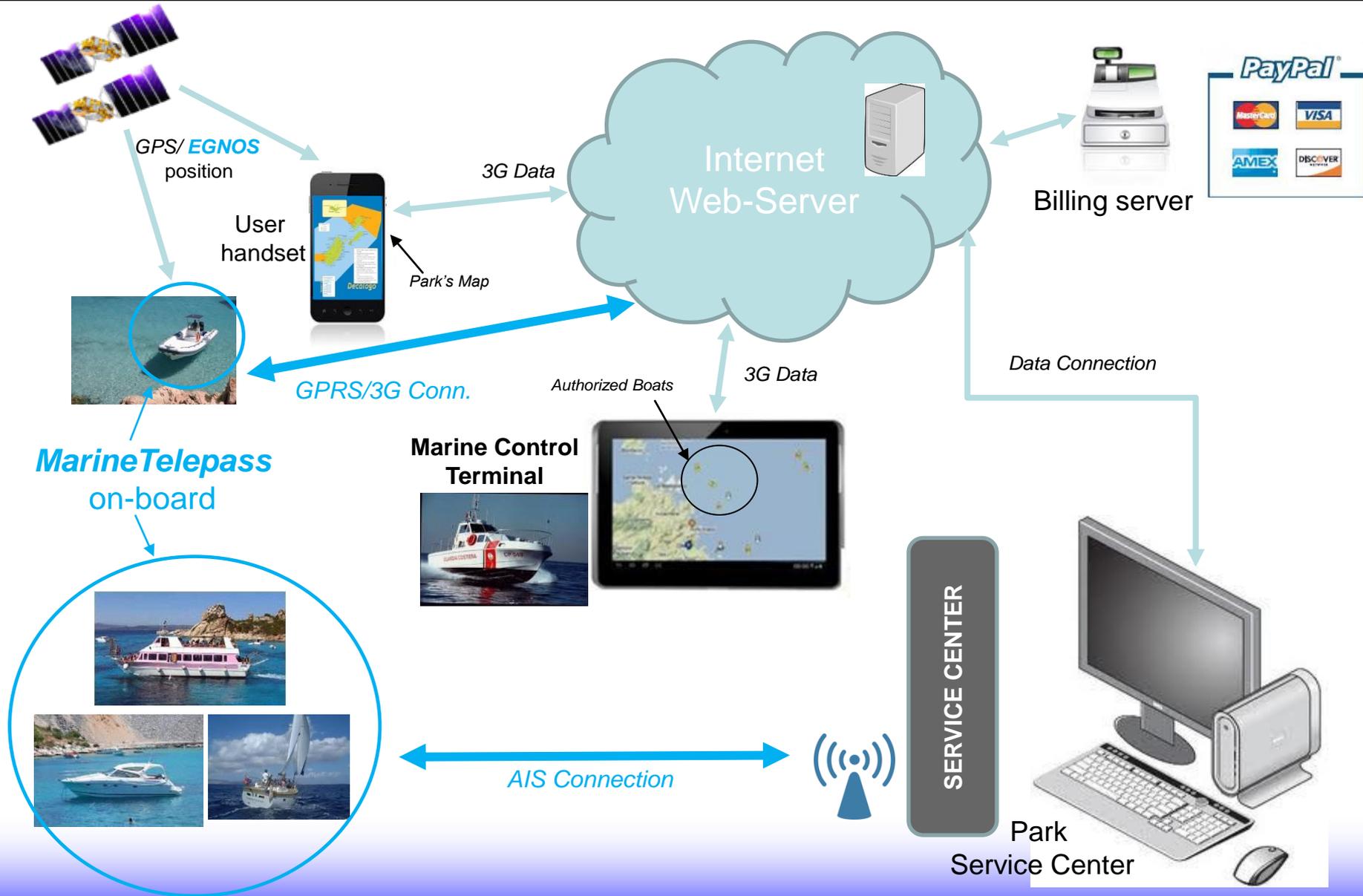
Also, **Key requirements** for a 'trusted' tolling & billing and for rules violation detection are:

- Data Integrity
- Certified positioning

This is possible using EGNOS



# 'ADVANCED' ARCHITECTURE

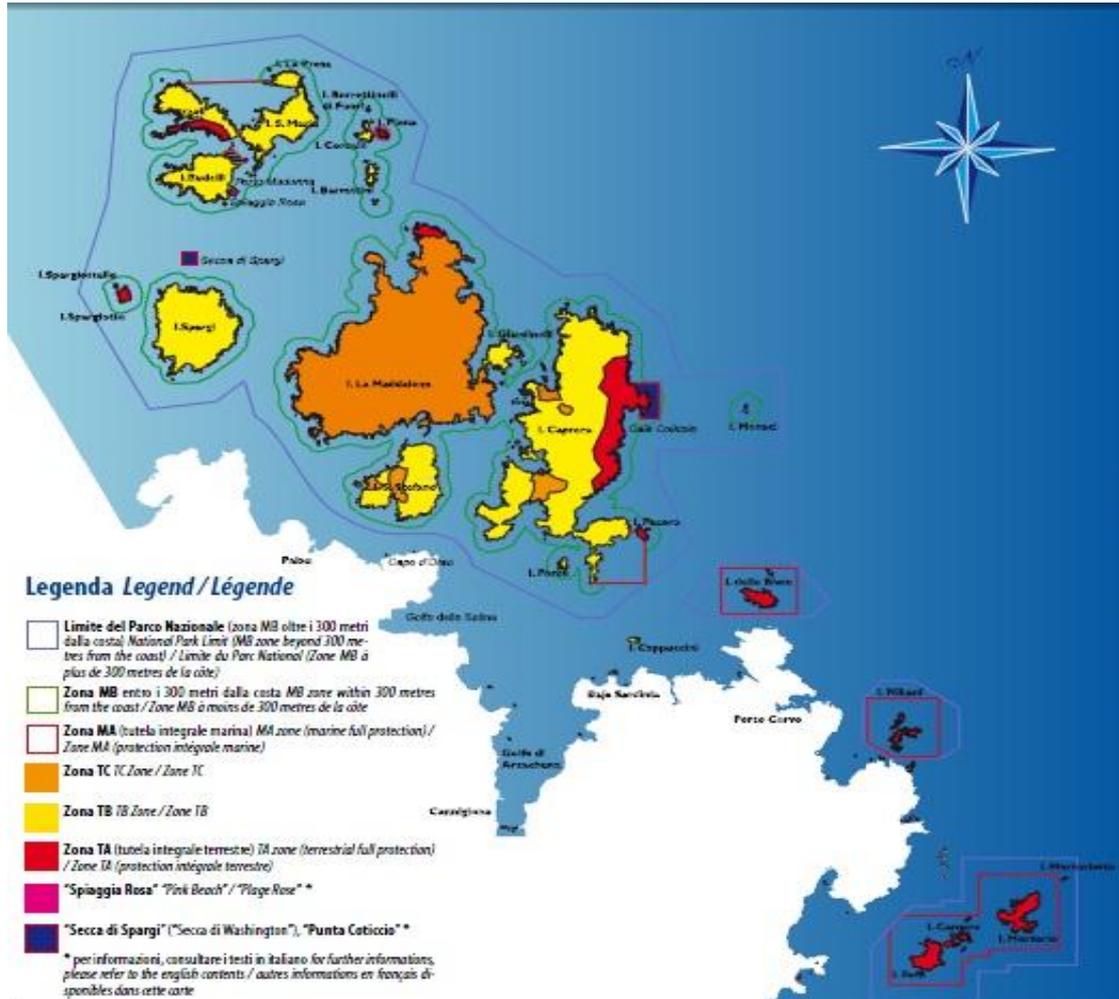




- **Institutional Users (Parks/MPAs)**
  - Implementation of a pay-per-use policy (duration/content of stay)
  - Monitoring violations via the analysis of user traces
  - Reception of special (environmental) information / warnings from cooperative users
  - Possibility to generate reliable statistics & implement a proper environmental strategy
  
- **Commercial Users (Touristic Ports, Charter Companies, Fishermen,..)**
  - Weather-based traffic routing (dynamic routing based on meteo situation – path/fuel optimization)
  - Safety/Emergency tool
  - Buoys/mooring spots booking service
  - Insurance services
  
- **Private Users (Leisure yachting & sailing)**
  - Booking and navigation to mooring buoys within coves
  - Warnings/Emergency tool

- **Law Enforcement (Enforcers Orgs.)**
  - Monitoring for infringement of navigation and Park rules, such as
    - speed limits exceeding
    - restricted areas violations
    - Illegal anchorage (not allowed zones and/or vs. minimum distance from the shore)
    - illegal fishing, illegal diving,..
  - Preventive warnings
  - Automatic charging of related fee (in case warnings not followed)
  
- **Fully customizable on Park/MPA's specific needs**

# Demonstrated at PNALM



**Place:** Parco Nazionale Arcipelago La Maddalena

**Period:** July 2013

**Objective:** demonstrate a significant set of the MEDUSE services in a operational scenario:

- Institutional services (all)
- Law enforcement (all)
- Private services:
  - Social community (e.g.: find my friends)
  - Location based hints from park managers

# NEXT STEPS (System Deployment)

- **AIS recommendation status (IMO)**
  - AIS equipments used for safety reasons (auto-identification and anti-collision)
  - AIS equipments mandatory on ships over 300 tons, and any commercial vessel (Tourist boats, professional fishermen boats,..)
  - International trend is to make it mandatory on leisure boats too (coming years)
  
- **System deployment (Parks/MPAs)**
  - First step: mobile App (cooperative users – no cost for them)
  - Second step (pilot project): start installing the ‘evolved’ AIS on-board terminal on
    - Tourist boats
    - Fishermen boats (local)
    - Charters/Rental fleets (based in the surroundings)
    - Regular visitors (cooperative users)
  - Prepared for Medium-term: once the regulation will impose AIS on leisure boats, installation will become mandatory on all kind of boats over a certain size
  
- **Leverages on Users**
  - Case by case, together with the Park/MPA, benefits should be proposed to the users in order to encourage them to install the MT on-board and make them ‘cooperative’ (added-value services, access ticket discount policy, lower cost frame-contracts,..)

***Thank You!***



[www.blue-thread.it](http://www.blue-thread.it)