The Use of Technology in Intermodal Transport

Apostolos Bizakis,
MD, TREDIT S.A.

Athens, 29 March 2009

Intermodal Transport

- Intermodal transport: Freight transport that serves the differing modalities (transport modes) and one and the same load unit.
- Benefits of intermodal transport:
  - utilises the inherent advantages of modes
  - minimises impact of modes' disadvantages
  - creates cost and operating efficiencies
  - reduces duplicate functions
  - improves global access

Benefits of using ICT in intermodal transport

- Integration of the various transport modes
- Continuous door-to-door services
- Better use of modes to guarantee the service
- Liberalisation of the transport market
- Development of the TEN networks
- Promotion of fair and efficient pricing
- Bringing the information society to the transport industry

ICT solutions developed by TREDIT for intermodal transport

Mode	Functionality	Application
Road	Fleet (trucks) management	ERMIS
Rail	Train composition and tracking	RTMS
Deep Sea	Container identification and monitoring	CSD and AIS information
Terminal	Terminal operations management	FRETIS IFT
Delivery	Proof of cargo delivery	POD

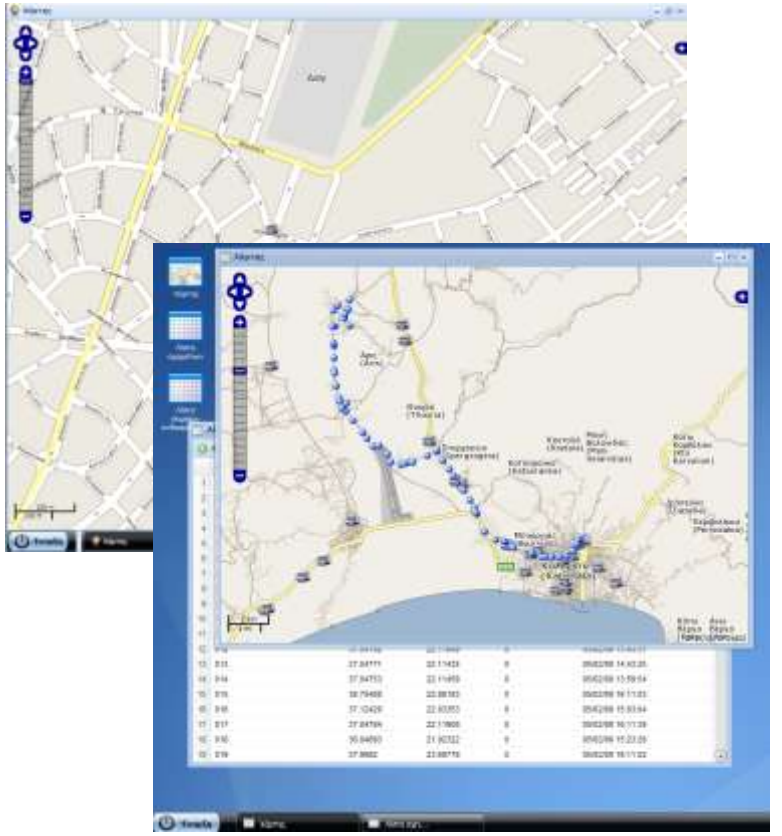
Road transport

ERMIS Fleet Management System

- **ERMIS** platform is an Integrated Fleet Management System which uses reliable technologies (**GPS** - Global Positioning System and **GSM** - Mobile Telephony System) in order to provide users with the means that are needed for the effective management of vehicles' fleet, emphasizing the reduction of operational cost and improved customer services.

ERMIS: Features of the system

- **Vehicle tracking** in real time
- **Representation of fleet** in satellite maps
- **History Report of vehicle's travel** regarding the customer list or points of interest
- **Travel times, travel distance,** stop duration, exact route, speed, etc.
- **Nearest vehicle tracking** from selective **point of interest**
- Tracking of **nearest point of interest** from selective vehicle
- **Control of vehicle's situation** (cargo temperature, deviation from scheduled route, excess speed etc.)

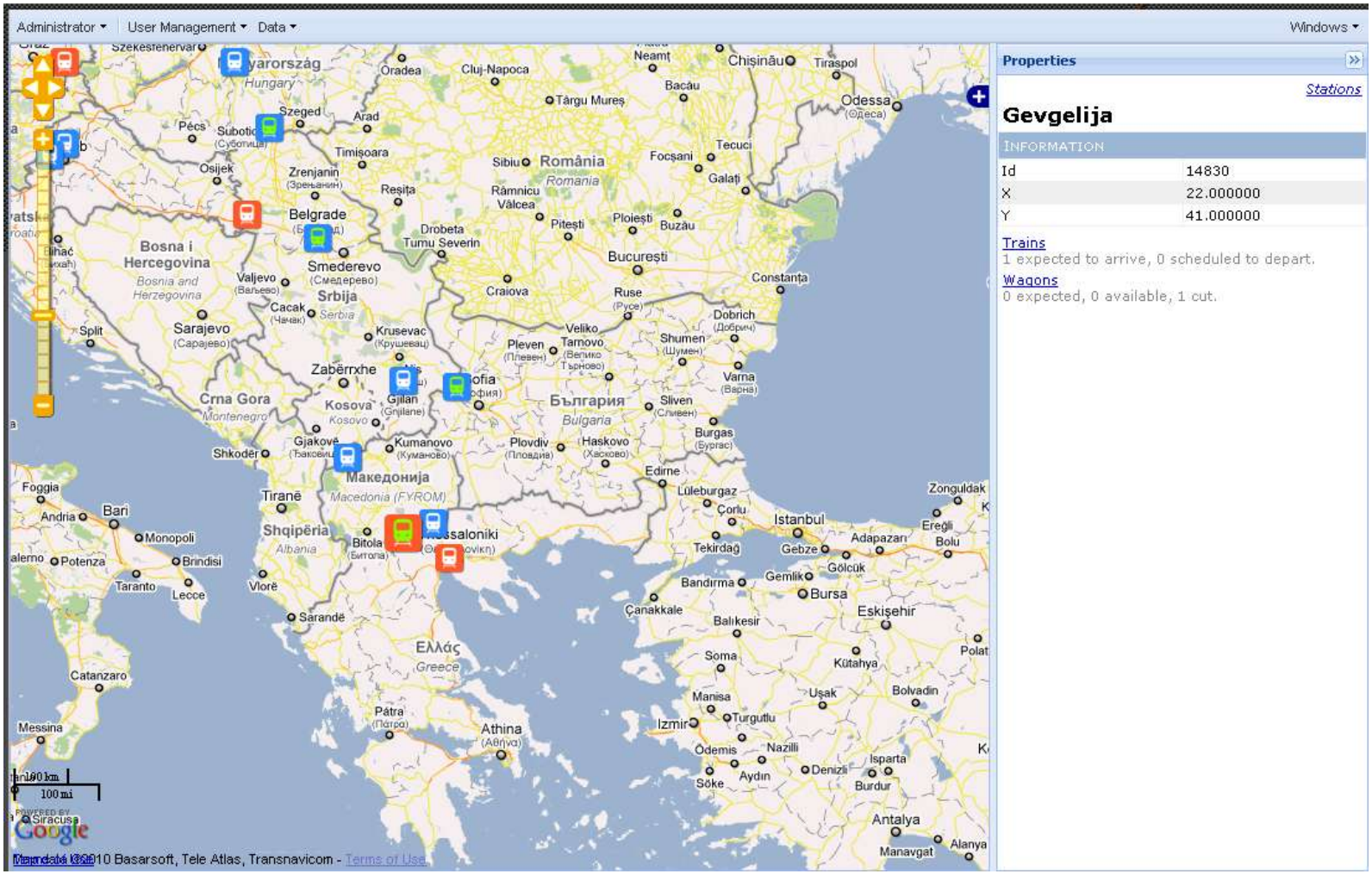


Rail transport

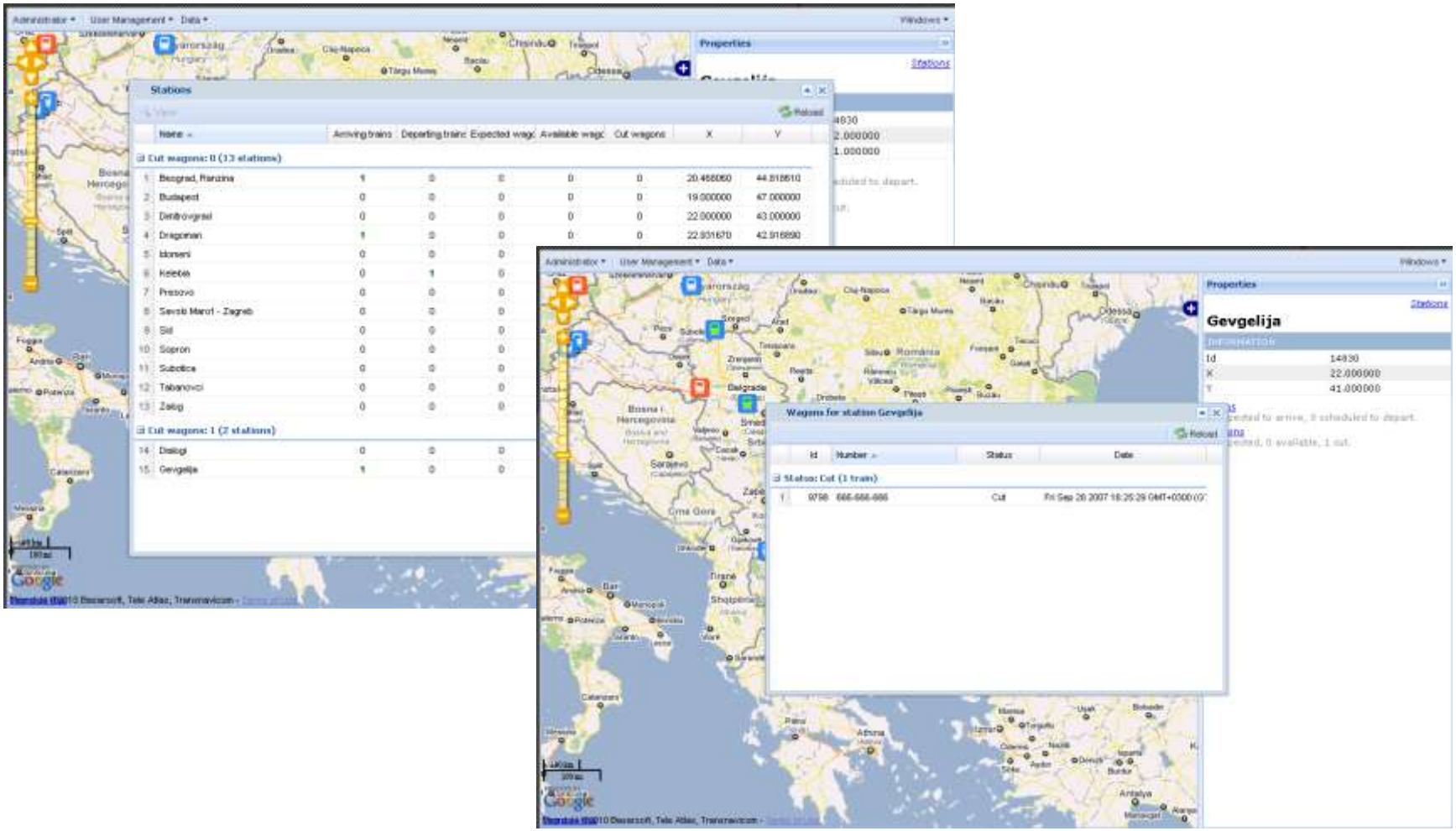
Rail Transport Management System (RTMS)

- **RTMS** is used for planning and monitoring (Tracking and Tracing) the transport procedure of cargo, wagons and complete trains along a rail corridor. By getting information from any of the available types of recognition and communication technologies the system enables the full and user friendly monitoring of the position of train and cargo along their route.

GIS visualisation of rail stations and trains

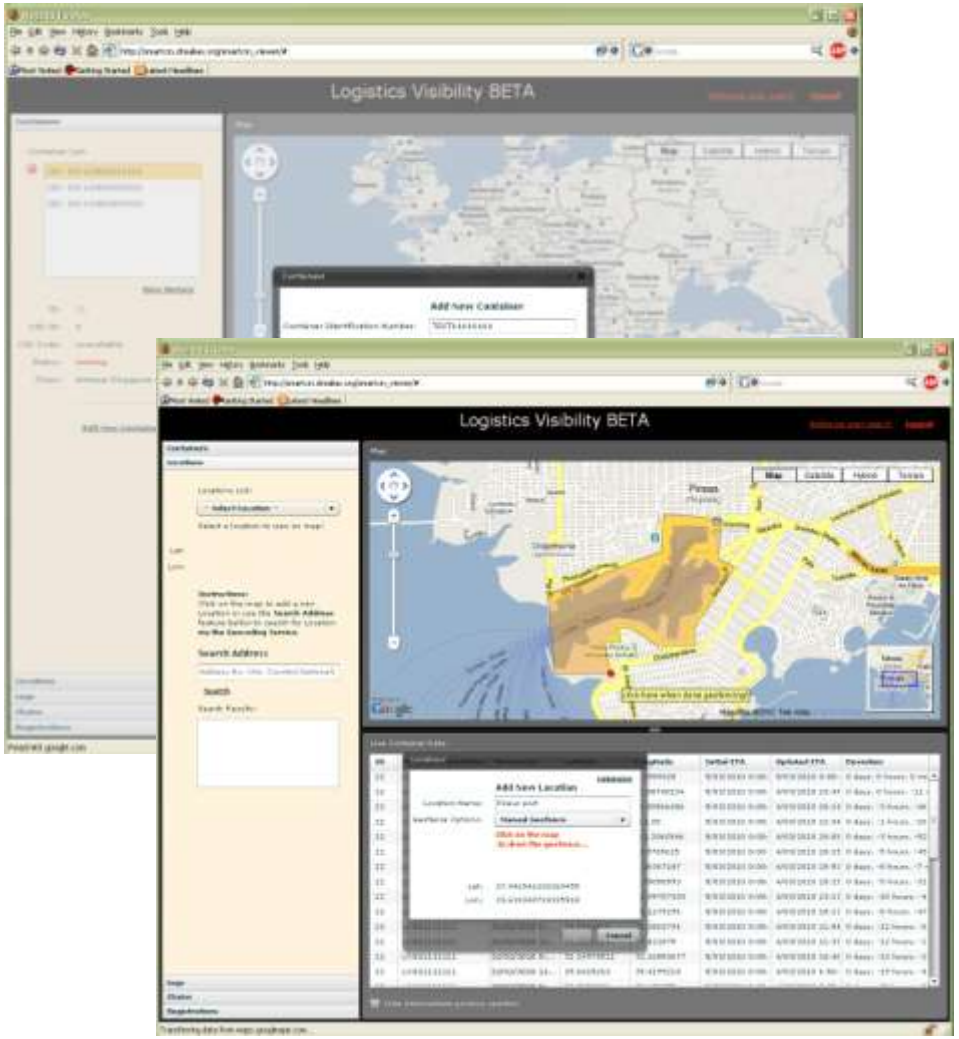


Composition of trains (identification of wagons)



Deep Sea transport

- Global container chain management and operation:
  - dynamic scheduling of containers
  - identification of security issues with the use of Container Security Devices (CSD) or Automatic Identification System (AIS) infromation

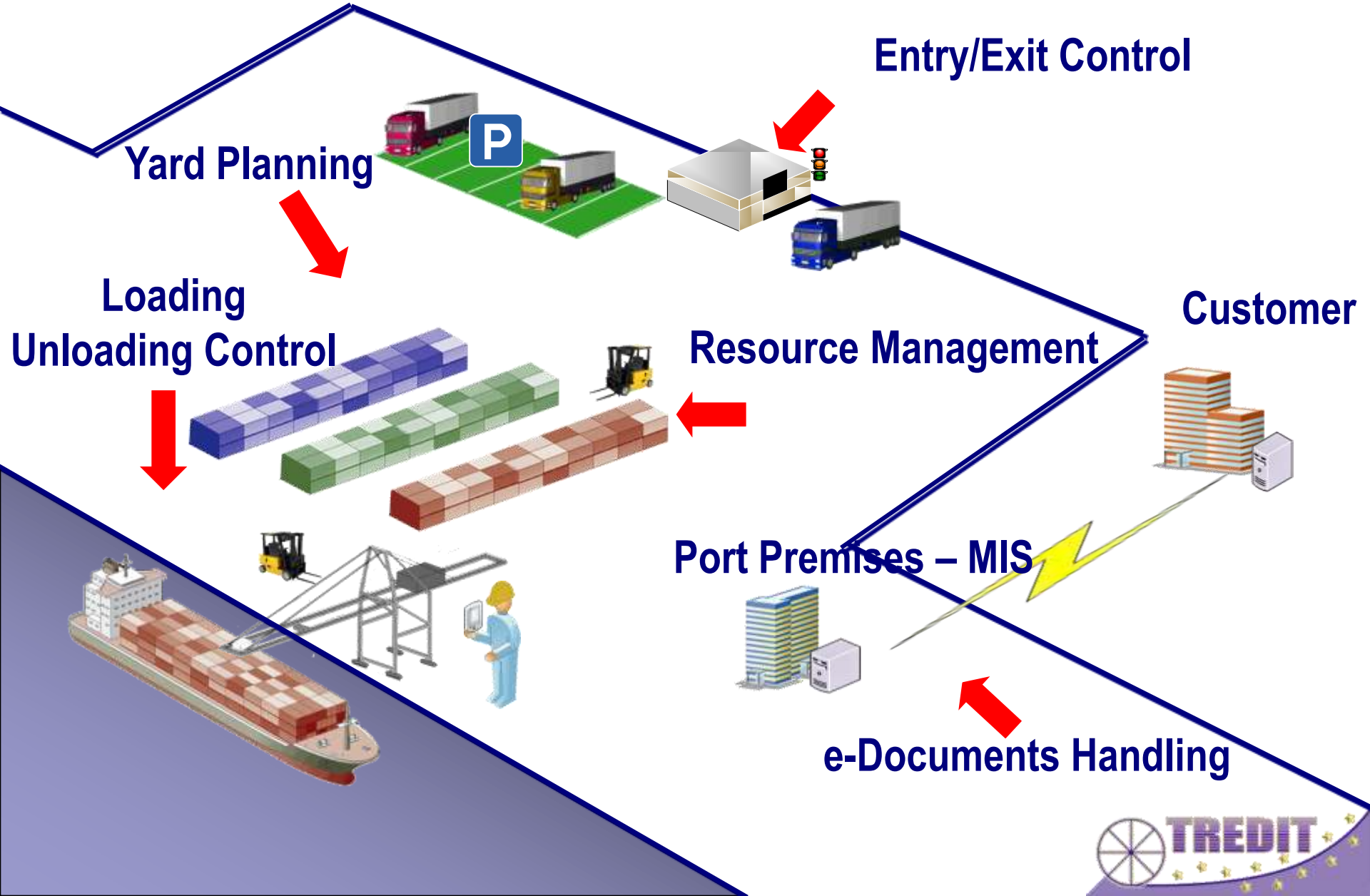


Terminal operations

Intermodal Freight Terminal System (IFT)

The modularity of FRETIS - IFT

Container Terminal Overview

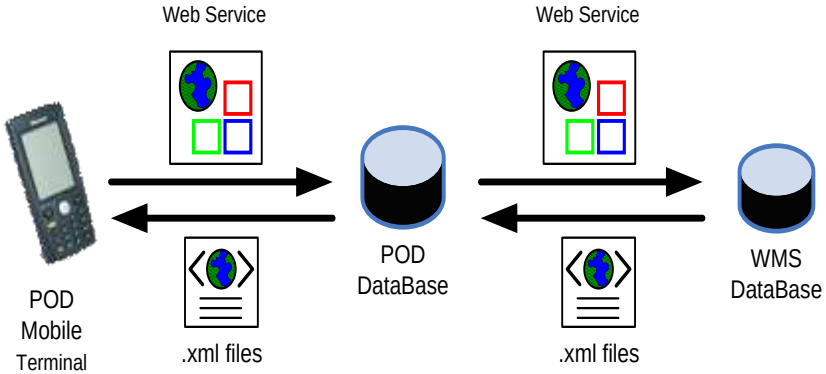


Proof of Delivery

- "**Proof of Delivery - POD**", is an integrated monitoring system of deliveries, aiming at providing electronic delivery receipt in real time, based on the philosophy of **track and trace** that is the tracking of the transport mean executing deliveries.
- **GPS** systems and the **GPRS** services can be used for localisation of the vehicle during the transfer.
- Advantages of using POD:
  - Optimisation of routes and freighting
  - Reduction of the transfer time
  - Increase of the customers level of service (they are able to monitor their cargo during transport)
  - Reduction of the transfer cost

POD - Operation of the system

- PDA with embedded Barcode Reader and easy to use interface
- Connection possibility via mobile technology (GPRS/3G)
- Use of web services for communication with the control center as well as WMS apps
- Possibility for future communication with third party systems.



Intermodal chain integration:
FREight Transport Information Technology Solutions (FRETIS)

- **FRETIS** is a software package that provides the user with a complete and comprehensive tool for the management of freight transport operations in a fully intermodal environment. It provides the most cost effective solution for the ***management and control of all intermodal freight transport related operations either in terminals or along the physical transport chain.***

Intermodal chain management

- Intermodal Chain management includes:
  - Design of the transport chain legs
  - Monitoring of the execution of the transport chain
  - Reporting on exceptions and anomalies by sending relevant notifications
- Systems included in FRETIS (overall chain management system)
  - **IFT**, the Intermodal Freight Terminal system
  - **ICM**, the Intermodal Chain Management system
  - **FPC**, the Fleet Planning and Control system
  - **RTM**, the Rail Transport Management system
  - **e-DOCS**, the electronic DOCument Submission system

Thank you

Apostolos Bizakis,
TREDIT S.A.
abizakis@tredit.gr