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ICT tool in use at the Port of Trieste: the Port Community System Sinfomar

Valentina Boschian

European Regional Development Fund

Autorità di Sistema Portuale
del Mare Adriatico Orientale
Porti di Trieste e Monfalcone

Dott. Ing. Valentina Boschian, Ph.D.

- I am working at the Port Network Authority of the Eastern Adriatic Sea – Port of Trieste, in the Digital Port Area.
- Since 2008, my expertise is focused on consultancy activities related to the analysis of ICT impact on new business cases, mainly in the field of transport and logistics. After obtaining a degree in Management Engineering and a PhD in Computer Science Engineering, I worked as a project manager in several international research projects. I am also expert in business model innovation.

Main skills: Analysis and modelling of processes; Assessment analysis (based on KPIs definition); Management of complex systems with analytical models; Analysis of business scenarios, Use Case identification and User Requirement definition; Project management, ICT applications in logistics and transportation management.

EDUCATION

- Dottorato (Ph.D.) in Information Technology Engineering, University of Trieste (2012)
- Degree in Management Engineering and Integrated Logistics (graduation with first class honours, "110/110 e lode"), University of Trieste (2008)
- Degree in Management Engineering (graduation with first class honours, "110/110 e lode"), University of Trieste (2003)

Agenda

- Importance of ICT tools in Ports
- Definition of Port Community System - PCS
- Sinfomar: the PCS of the Port of Trieste
- Main modules and components of Sinfomar
- Next steps and further developments

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The Importance of ICT tools in Ports

- The European Commission defines the **Port Authority** as the entity which has as its objective under national law or regulation, the **administration and management of the port infrastructures and the coordination and control of the activities of the different operators present in the port**.
- However we can find **different types of port authorities** depending on their size, the kind of traffic they manage, their political, social and geographical environment, what is their main objective, the way they approach their functions and the role and strategies they adopt, their governance model, …
- In Italy: law n.84/94 (D.lgs.169/2016) – art.4 Port Classification

The Importance of ICT tools in Ports

- **Information and communications technology** (ICT) tools have an **important role** in the governance and efficiency in the flow of goods at ports. A key element in the application of ICTs in ports is the interconnection of different actors of the supply chain that makes possible a better information flow.
- Recent developments in international trade and transport have led to an **increased use of ICT in ports**.
- **ICT solutions are playing an increasing role** in the design and implementation of trade and transport facilitation measures. These applications can reduce waiting times at border crossings and at ports, secure processing of data, simplify formalities, and provide timely information to transport operators.

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What is a PCS?

- Its development starts in the '70s and' 80s in Germany, France and Great Britain.
- It is an electronic open platform connecting multiple ICT based networks/systems operated by different seaport organisations.
- Its main objective is the optimization and harmonization of all port logistic processes through a ‘single window system’ concept.

➡ The system components are designed to enable a single data submission.

PCS definition

The **Port Community System** (PCS) is a **neutral and open electronic platform** enabling intelligent and secure exchange of information between public and private stakeholders in order to improve the competitive position of the sea and air ports.

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Reasons for implementing the PCS Sinfomar

- As key nodes in international transport chains providing access to global markets, ports are more and more under constant competitive pressure to face the challenge of changes in the economic, institutional, regulatory and operational domains.

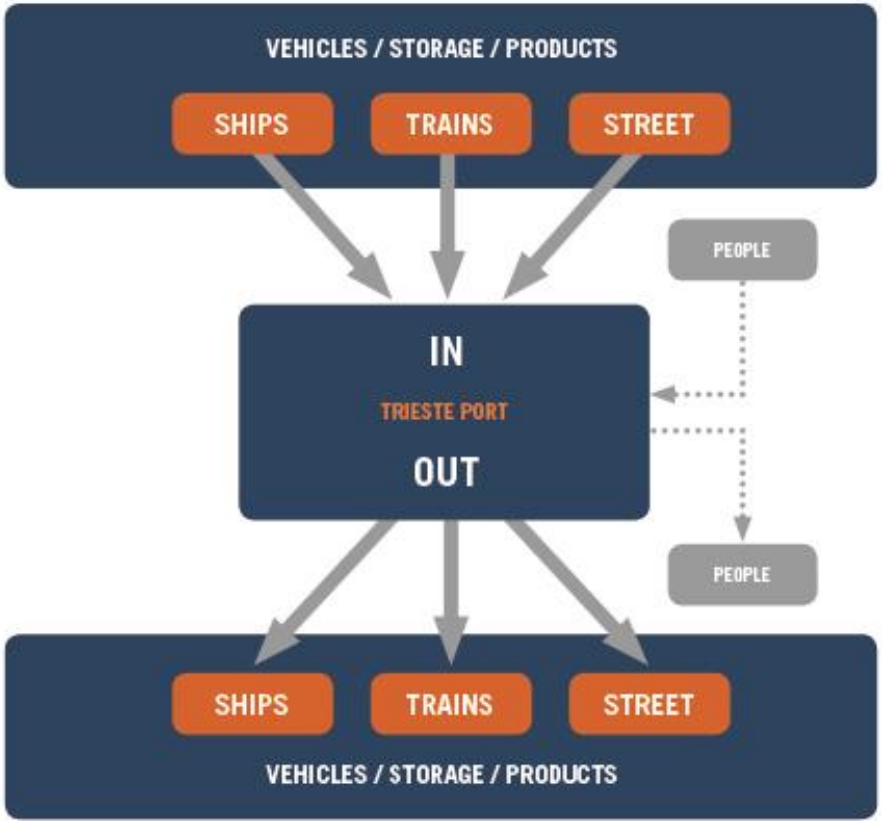
- EU and international port freight transport main protagonists recognize the deployment of web-based ICT solutions as key drivers to optimize the overall logistics processes providing operators, both from public and private sectors, with a reliable, effective and efficient real time information management system.

In 2014, within a co-financed EU TEN-T Programme project named ITS Adriatic Multiport Gateway, the Authority launched the implementation of a dedicated ICT platform reaching the definition of the PCS Sinfomar.

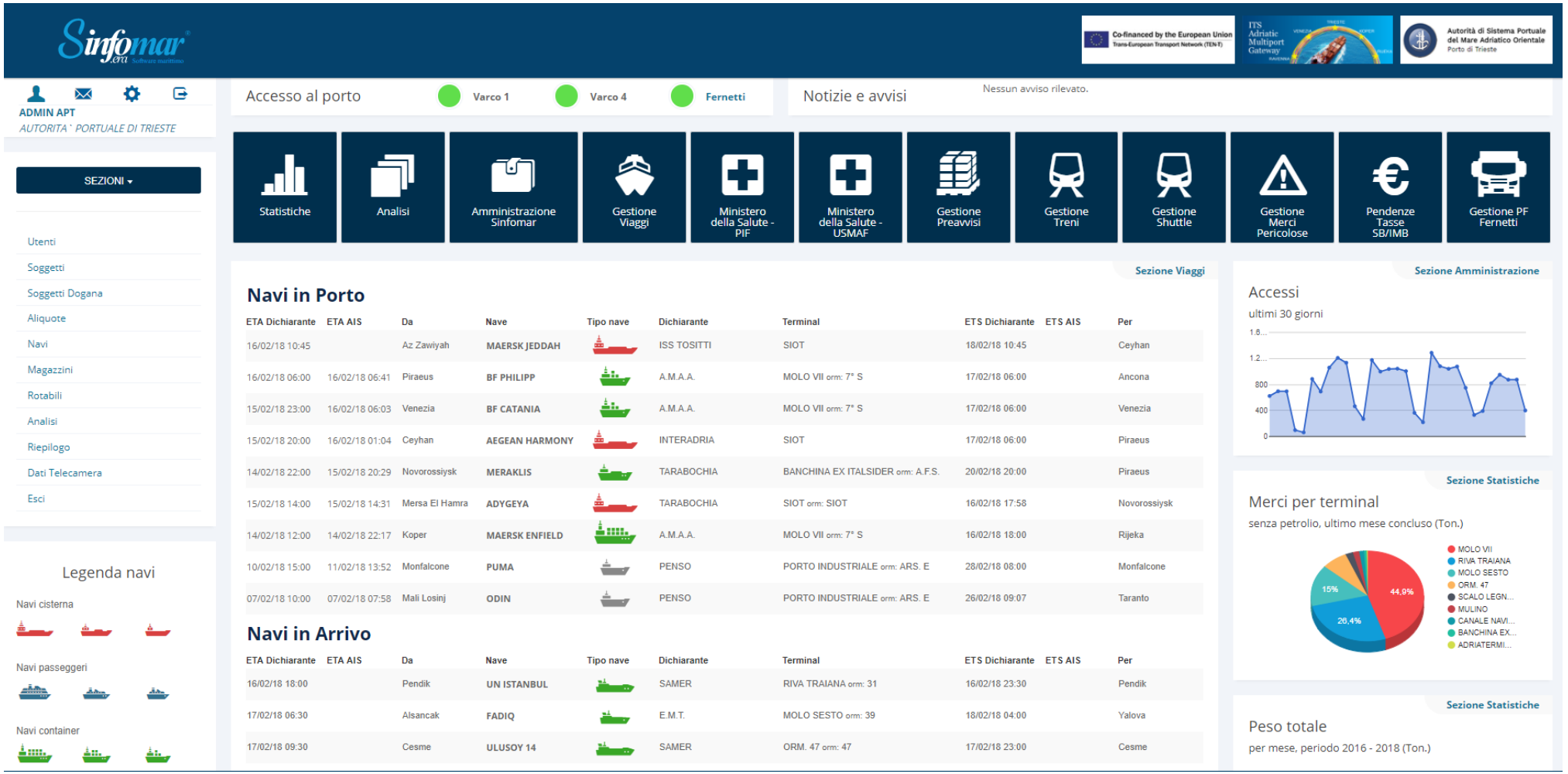
Main stakeholders involved

The Overall System Architecture Framework

- Focus on intelligent and secure exchange of information between both private and public organizations with the primary goal to create the most favourable conditions to constantly improve the competitiveness of the Port Authority



Home Page


Sinfomar era
Co-financed by the European Union
Trans-European Transport Network (TEN-T)
ITS Adriatic Multiport Gateway
Autorità di Sistema Portuale del Mare Adriatico Orientale
Porto di Trieste
ADMIN APT
AUTORITA` PORTUALE DI TRIESTE
SEZIONI
Utenti
Soggetti
Soggetti Dogana
Aliquote
Navi
Magazzini
Rotabili
Analisi
Riepilogo
Dati Telecamera
Esci
Legenda navi
Navi cisterna
Navi passeggeri
Navi container
Accesso al porto
Varco 1
Varco 4
Fernetti
Notizie e avvisi
Nessun avviso rilevato.
Statistiche
Analisi
Amministrazione Sinfomar
Gestione Viaggi
Ministero della Salute - PIF
Ministero della Salute - USMAF
Gestione Preavvisi
Gestione Treni
Gestione Shuttle
Gestione Merci Pericolose
Pendenze Tasse SB/IMB
Gestione PF Fernetti
Sezione Viaggi
Navi in Porto
ETA Dichiarante | ETA AIS | Da | Nave | Tipo nave | Dichiarante | Terminal | ETS Dichiarante | ETS AIS | Per
16/02/18 10:45 | | Az Zawiyah | MAERSK JEDDAH | | ISS TOSITTI | SIOT | 18/02/18 10:45 | | Ceyhan
16/02/18 06:00 | 16/02/18 06:41 | Piraeus | BF PHILIPP | | A.M.A.A. | MOLO VII orm: 7° S | 17/02/18 06:00 | | Ancona
15/02/18 23:00 | 16/02/18 06:03 | Venezia | BF CATANIA | | A.M.A.A. | MOLO VII orm: 7° S | 17/02/18 06:00 | | Venezia
15/02/18 20:00 | 16/02/18 01:04 | Ceyhan | AEGEAN HARMONY | | INTERADRIA | SIOT | 17/02/18 06:00 | | Piraeus
14/02/18 22:00 | 15/02/18 20:29 | Novorossiysk | MERAKLIS | | TARABOCHIA | BANCHINA EX ITALSIDER orm: A.F.S. | 20/02/18 20:00 | | Piraeus
15/02/18 14:00 | 15/02/18 14:31 | Mersa El Hamra | ADYGEYA | | TARABOCHIA | SIOT orm: SIOT | 16/02/18 17:58 | | Novorossiysk
14/02/18 12:00 | 14/02/18 22:17 | Koper | MAERSK ENFIELD | | A.M.A.A. | MOLO VII orm: 7° S | 16/02/18 18:00 | | Rijeka
10/02/18 15:00 | 11/02/18 13:52 | Monfalcone | PUMA | | PENSO | PORTO INDUSTRIALE orm: ARS. E | 28/02/18 08:00 | | Monfalcone
07/02/18 10:00 | 07/02/18 07:58 | Mali Losinj | ODIN | | PENSO | PORTO INDUSTRIALE orm: ARS. E | 26/02/18 09:07 | | Taranto
Navi in Arrivo
ETA Dichiarante | ETA AIS | Da | Nave | Tipo nave | Dichiarante | Terminal | ETS Dichiarante | ETS AIS | Per
16/02/18 18:00 | | Pendik | UN ISTANBUL | | SAMER | RIVA TRAIANA orm: 31 | 16/02/18 23:30 | | Pendik
17/02/18 06:30 | | Alsancak | FADIQ | | E.M.T. | MOLO SESTO orm: 39 | 18/02/18 04:00 | | Yalova
17/02/18 09:30 | | Cesme | ULUSOY 14 | | SAMER | ORM. 47 orm: 47 | 17/02/18 23:00 | | Cesme
Sezione Amministrazione
Accessi
ultimi 30 giorni
1.6...
1.2...
800
400
0
Sezione Statistiche
Merci per terminal
senza petrolio, ultimo mese concluso (Ton.)
15%
44,9%
26,4%
MOLO VII
RIVA TRAIANA
MOLO SESTO
ORM. 47
SCALO LEGN...
MULINO
CANALE NAVI...
BANCHINA EX...
ADRIATERMI...
Sezione Statistiche
Peso totale
per mese, periodo 2016 - 2018 (Ton.)

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Main Modules

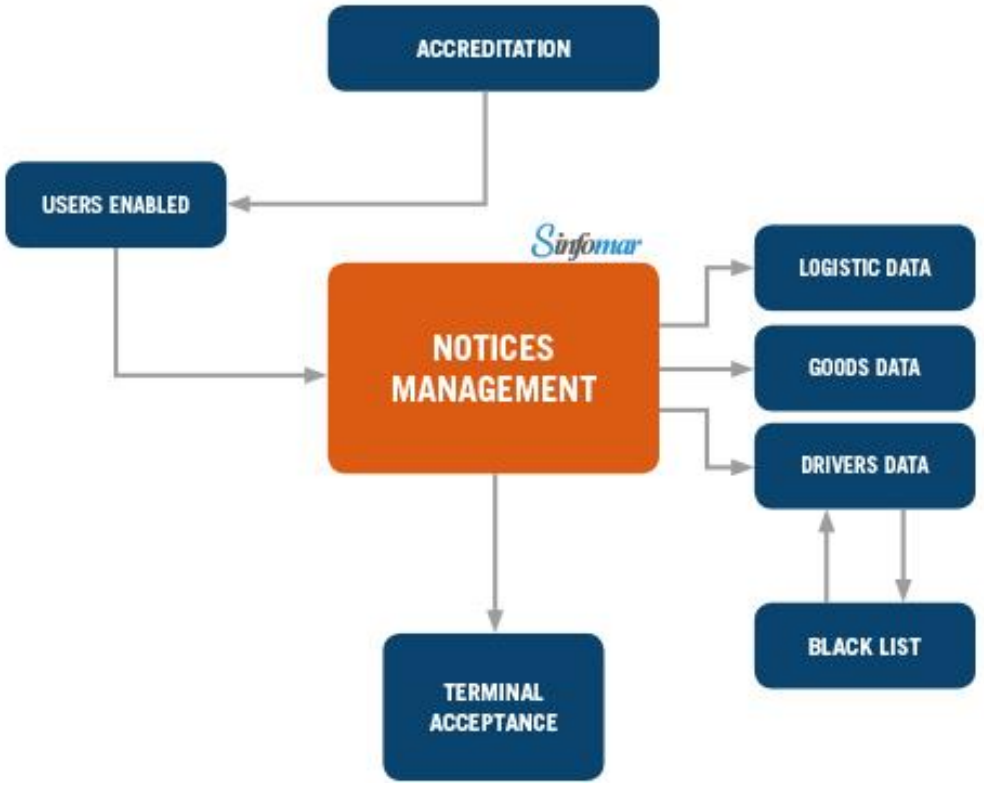
1. **Pre-Arrival/Departure Notifications**
2. **Ships**
3. **Cargo**
4. **Vehicle**
5. **Trains**
6. **Statistics/Analysis**
7. **People**
8. **Maritime Health Authority**
9. **Dangerous Goods**
10. **Taxes on Loading/Unloading**
11. **External Free Zone Terminal-Area**

Pre-Arrival/Departure Notification

Key Features

It elaborates up to 63 different basic data concerning logistics, Customs and security requirements. Specific types of processed data are related to:

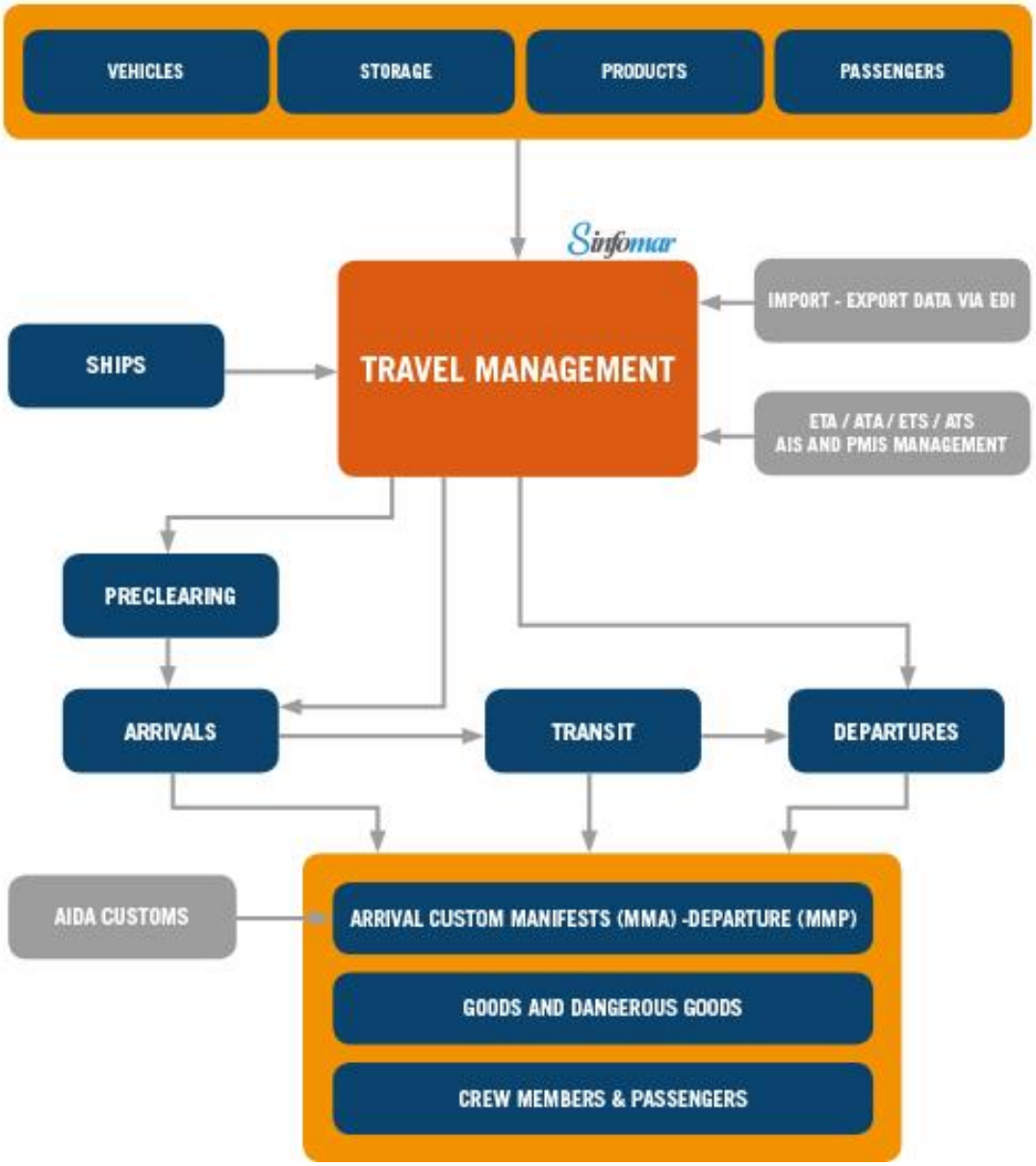
- The arrival and departure of vehicles/containers
- The detailed specification of transported cargo
- The relevant data on ship crew / haulers



The Ship Module

Key Features

- It collects all ship data and relevant information on cargo / logistic units to be loaded or unloaded.
- It elaborates all data needed for the “ship formalities” and related to Customs procedure requirements.

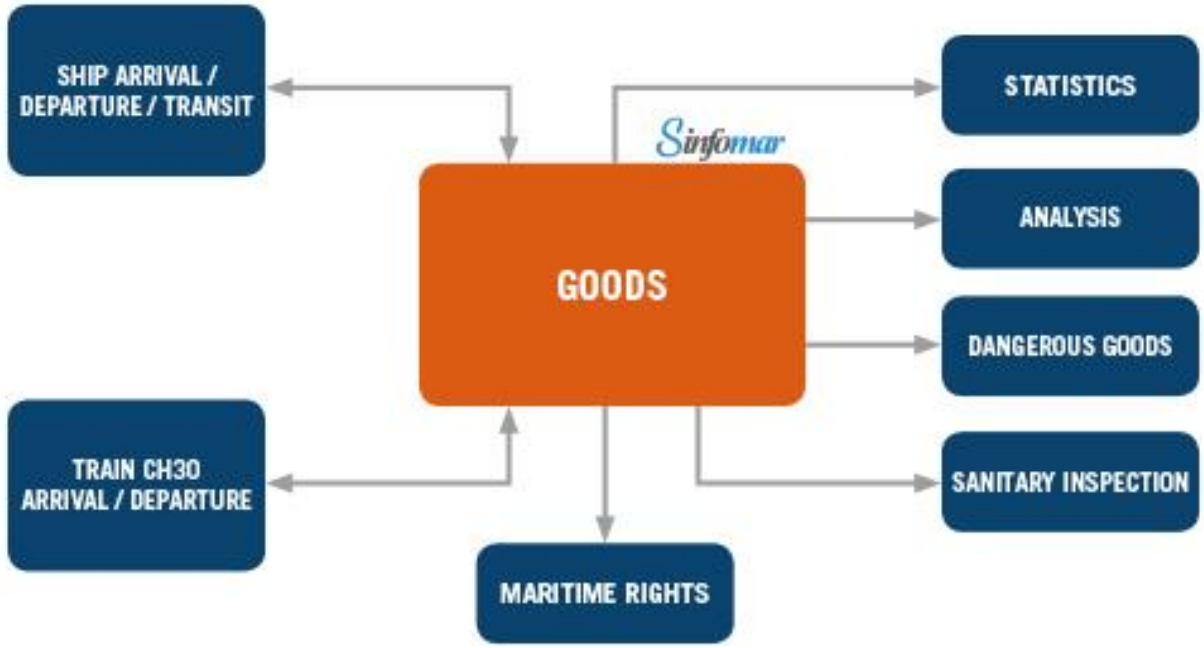


Cargo Module

Key Features

It allows:

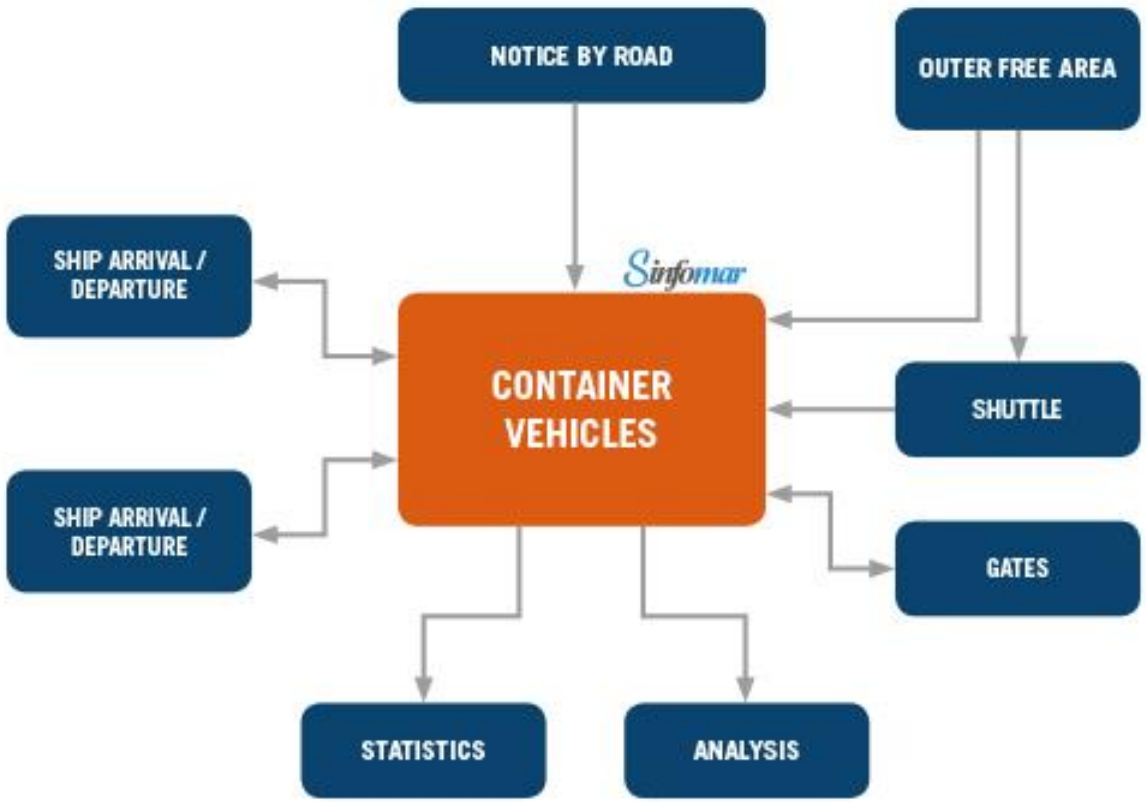
- the management of the entry and exit of cargo from/to the port areas by ship, train or road with the digitalization of the Rail Cargo Manifest and the Pre-Arrival/Departure Declaration Module procedures;
- the digitalization of the loading and unloading operations related to the Entry Summary Declaration (ENS) and export declarations (MRN);
- automatic calculation of the precise amount of duties/taxes related to maritime accounting.



Vehicles

Key Features

- It allows the identification and tracking of the vehicle landed or embarked by ship or the train / vehicle that enters or leaves the port area.
- It also allows the tracking of any type of cargo/containers carried by a vehicle, including the identification of the type of goods.

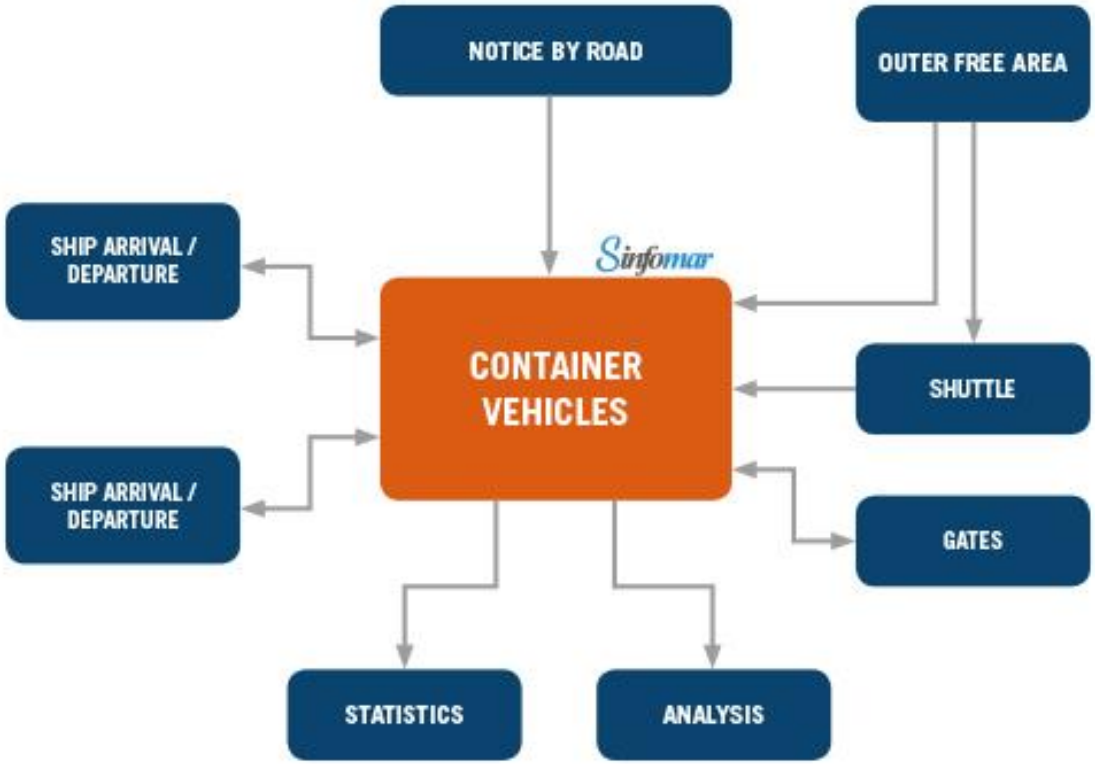


➢ **Integrated with the Pre-Arrival/Departure Module**

Trains 1/2

Key features

- It allows the management of trains arriving or departing from the Port.
- It uses standards as: ILU codes for rolling stock, BIC for containers, UIC for wagons.



➢ **Integrated with the other modules involved in railway traffic for the train entry and exit control operations**

Trains 2/2

Key features

It allows to generate a CH30 document (the Customs Agency required list for the formal declaration for train entering / leaving the port) in a single format, agreed with the private operators and the Customs Agency.

MMTP CH30 PF - TRENO IN PARTENZA

treno nr.: 41850 di data: 29/01/2018 ora: 04:50

spedizione: TRS.0301P agente: SAMER & CO SHIPPING SPA diretto a: Krefeld in arrivo da: SAMER SEAPORTS TERMINALS

allibramento Sinfomar 870204 del 28/01/2018

Pos.	Vagone	Targa n. container	Merce	Semirimorchio/Container			Sigilli	UNDG	Tipo documento	Numero documento doganale	Nr. Sinfomar
				Massa	Tara	M. lorda					
6	338549926412	ILU : NEDE1001444 Targa: /34 KJ 2868	GOMMA E LAVORI DI GOMMA HS: 4016 95 00	19.591	7.500	27.091	00723209		T1/MRN	T1/MRN: 18TR16010000027903	870199
		ILU : GBRA0000080 Targa: /34 PV 1764	FILATI SINTETICI HS: 5402	19.388	7.500	26.888	00660739		T1/MRN	T1/MRN: 18TR27010000071379	870195
7	318049536549	VAGONE VUOTO									
8	378049520455	VAGONE VUOTO									
9	378049563109	VAGONE VUOTO									
10	378049525280	CNTR : EIBB4508410	TESSUTI IMPREGNATI, SPALMATI HS: 5909 00 10	14.145	4.000	18.145	05118866		T1/MRN	T1/MRN: 18TR34120000085705	870196
		CNTR : EIBB4509612	LAVORI DI GHISA, FERRO HS: 7307 19 90	11.600	4.000	15.600	0518708		T1/MRN	T1/MRN: 18TR34120000085713	870189
11	318049610310	CNTR : SANU7966377	VETTURE AUTOMOBILI, TRATTORI HS: 8708 29 90	2.491	4.000	6.491	01472006		T1/MRN	T1/MRN: 18TR41030000023815	870192
		CNTR : EIBB4509443	LAVORI DI GHISA, FERRO HS: 7306 19 10	22.740	4.000	26.740	00739127		T1/MRN	T1/MRN: 18TR16040000017517	870190
12	318045563596	CNTR : SANU7960255	MACCHINE ED APPARECCHI ELETTRICI HS: 8516 79 20	9.300	4.000	13.300	05118410		T1/MRN	T1/MRN: 18TR34120000083476	870191
13	378049563000	VAGONE VUOTO									
14	378049563034	VAGONE VUOTO									
15	338549926248	VAGONE VUOTO									

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Autorità di Sistema Portuale del Mare Adriatico Orientale
Porto di Trieste

Sinfomar

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Perspectives on further developments

Several further developments and pilot activities are planned for the next future, e.g.:

- Interoperability with the Port of Monfalcone, as well as other logistic centres and inland terminals of the Friuli Venezia Giulia Region – i.e. Cervignano, Gorizia and Pordenone;
- Interoperability with core regional industrial zones of Friuli Venezia Giulia Region;
- Interoperability with other core transportation nodes in Italy and abroad;
- Evaluation and testing processes related to the 'blockchain' in collaboration with strategic international PCS platforms.

Thank you for your kind attention!

Valentina Boschian

valentina.boschian@gmail.com

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