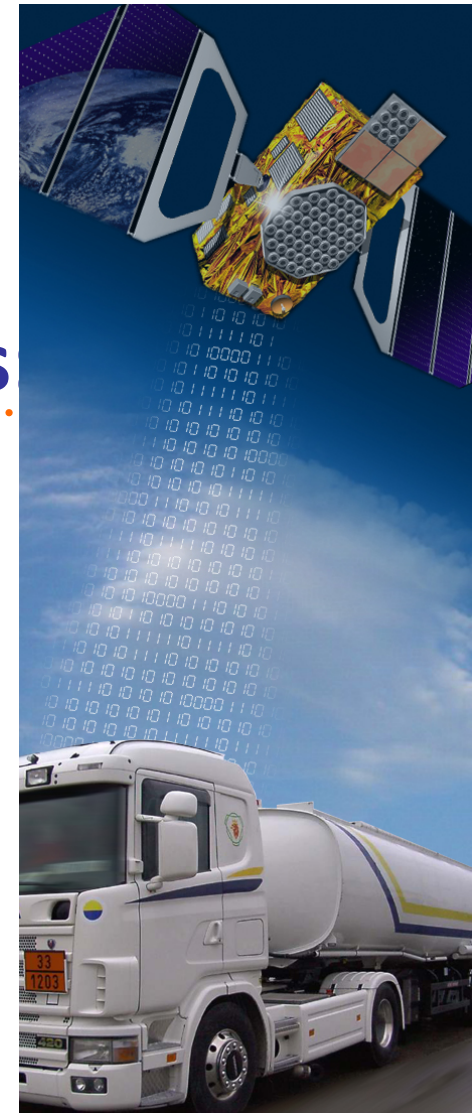


EGNOS use for road transport of dangerous goods the SCUTUM project

Antonella Di Fazio, Telespazio



- EGNOS for dangerous goods transports
- EGNOS CS/EDAS
- MENTORE: EGNOS OS for dangerous goods transports
- SCUTUM: EGNOS OS + CS for dangerous goods transports
- The CEN Workshop SCUTUM
- Facts and next objectives

- **E**uropean **G**eostationary **N**avigation **O**verlay **S**ervice
- **S**atellite **B**ased **A**ugmentation **S**ystem
- Services **over Europe**
- Services **interoperable with GPS and improving its performances:**
 - EGNOS improves GPS position accuracy down to one metre
 - EGNOS provides integrity information (i.e. information if the GPS satellite navigation signals are “genuine “)

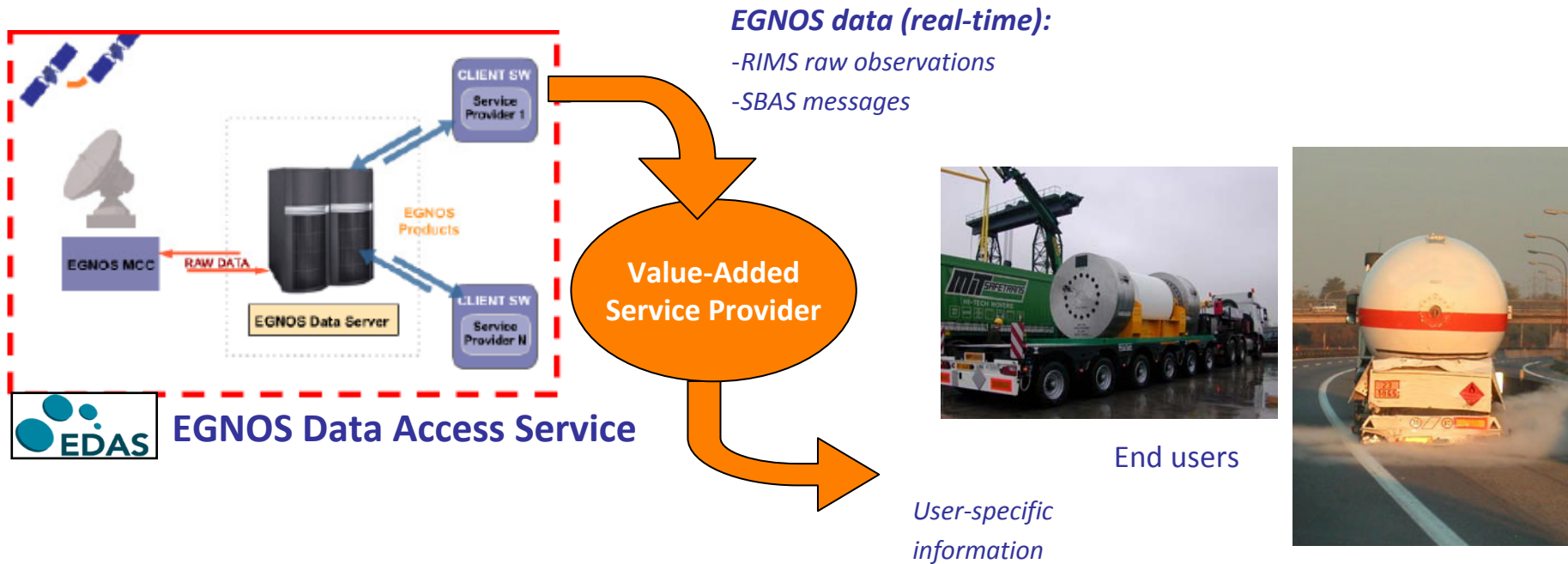
Services	Open	Free to air; mass market; better than GPS		Operational
	Commercial	High accuracy; encrypted; professional market		Test since April 2009
	Safety of Life	Integrity and authentication of the signal		Under certification

EGNOS for land and mobility applications (including freight transports):

***EGNOS OS* (from SiS) → Position accuracy improvement**

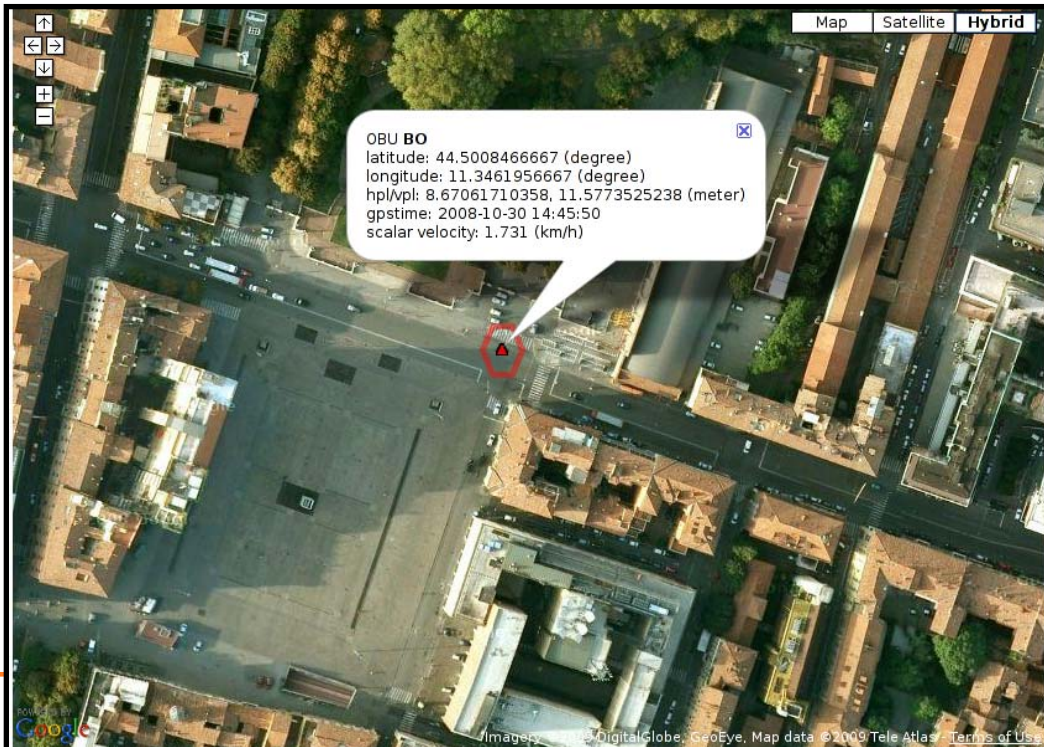
***EGNOS CS* (form EDAS) → Position accuracy improvement also in difficult environments + integrity →making it suitable for applications requiring very accurate and guaranteed positioning**

- **Develop technology**
- **Prepare the market (validate business models/ possibly create new ones, create awareness towards user community)**
- **Turn proven demonstration into adoption, starting from nation operational best cases**
- **Contribute to the creation of necessary standards to lead researches into fruition**
- **Support institutions in the regulatory process**



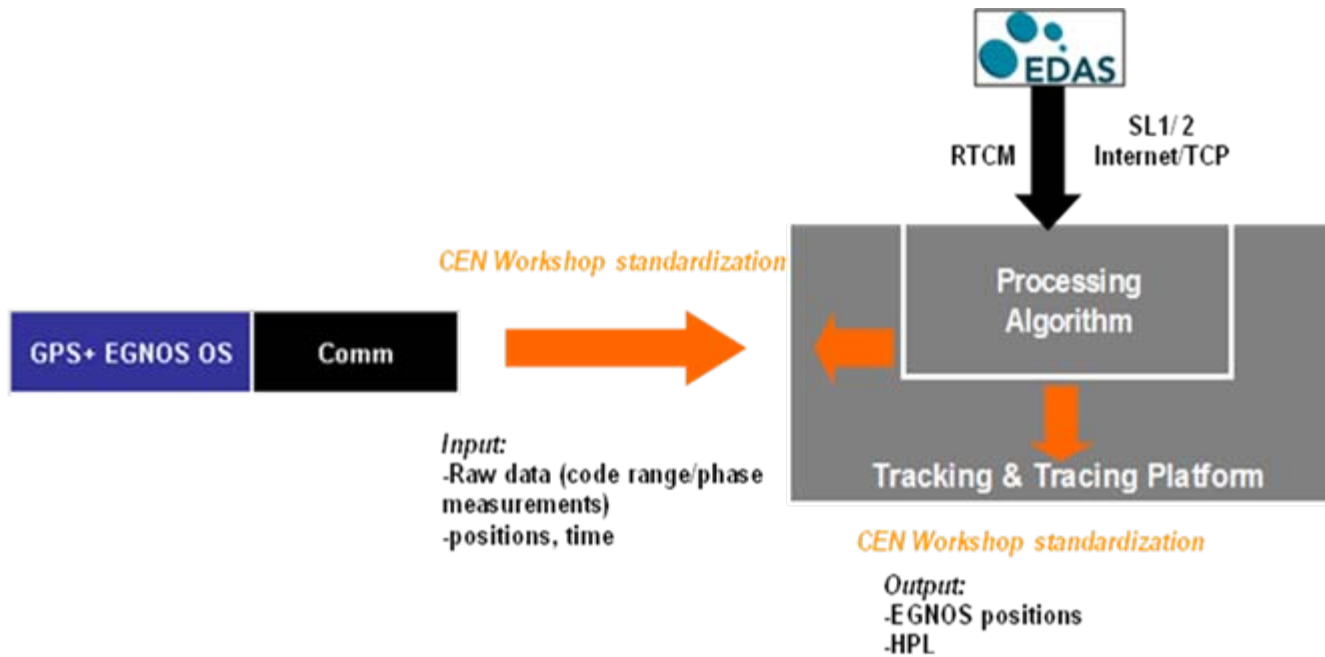
- EDAS distributes EGNOS raw data to VAS SPs connected to it, in real-time, within guaranteed delay and controlled access
- VAS SPs implement solutions/ create products built on EGNOS data (such as delivering of EGNOS data via different telecommunication means and value added services exploiting EGNOS integrity)

- *Protection level (exploitation of the integrity)* → confidence on the position to be used in applications driven by stringent constraints, in terms of safety and liability
- *SBAS corrections in case of difficult environment* → enhanced availability of the EGNOS augmentation



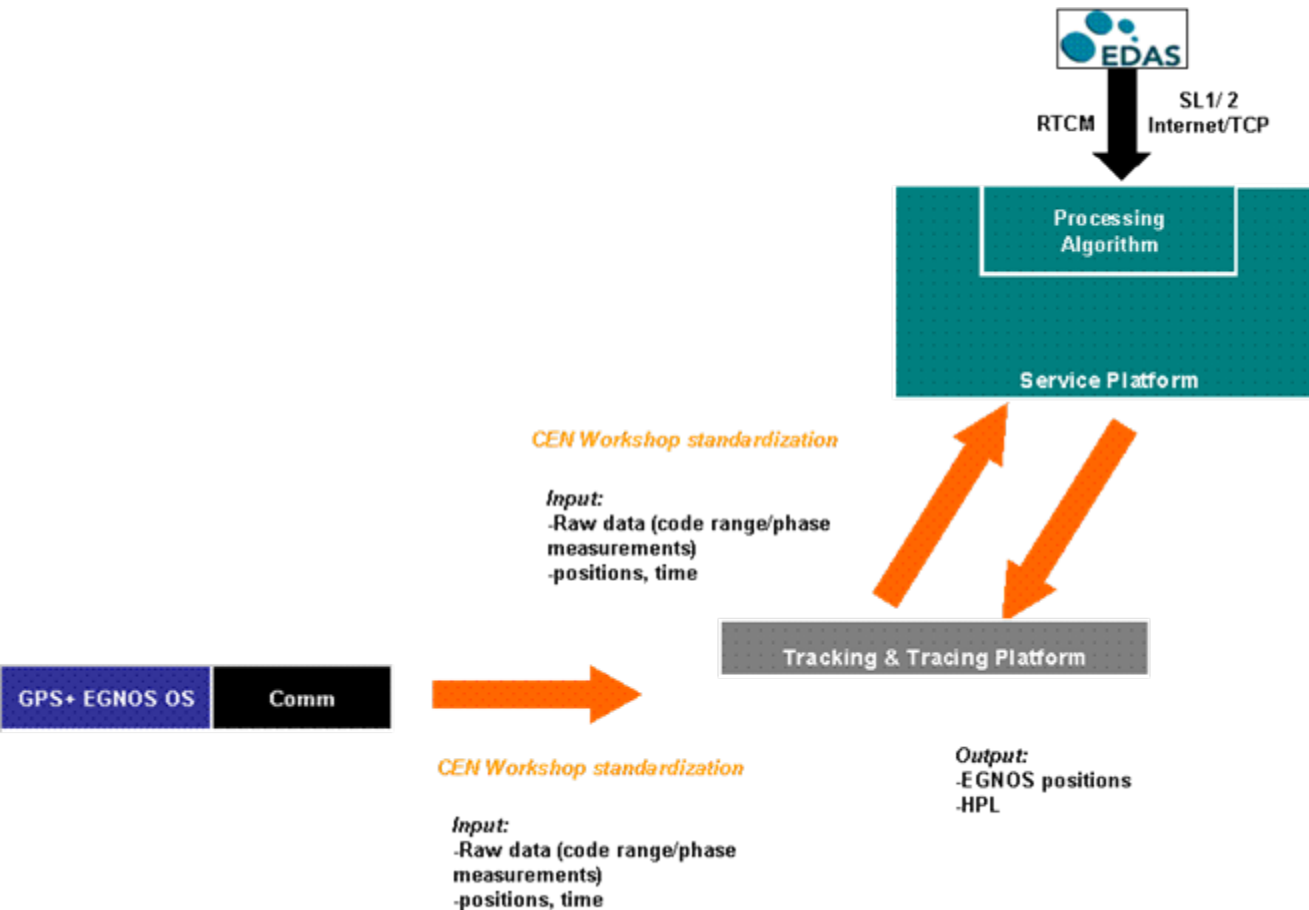
*availability and
performances
enhancement*

EGNOS CS/EDAS based architectures (present 1)



- Processing in the end-users tracking & tracing platform

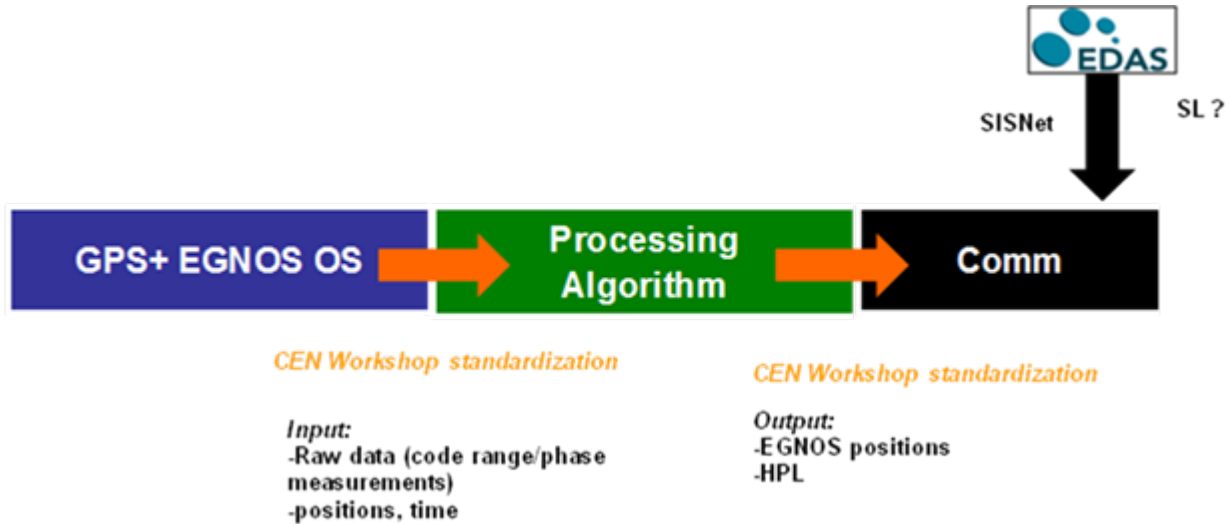
EGNOS CS/EDAS based architectures (present 2)

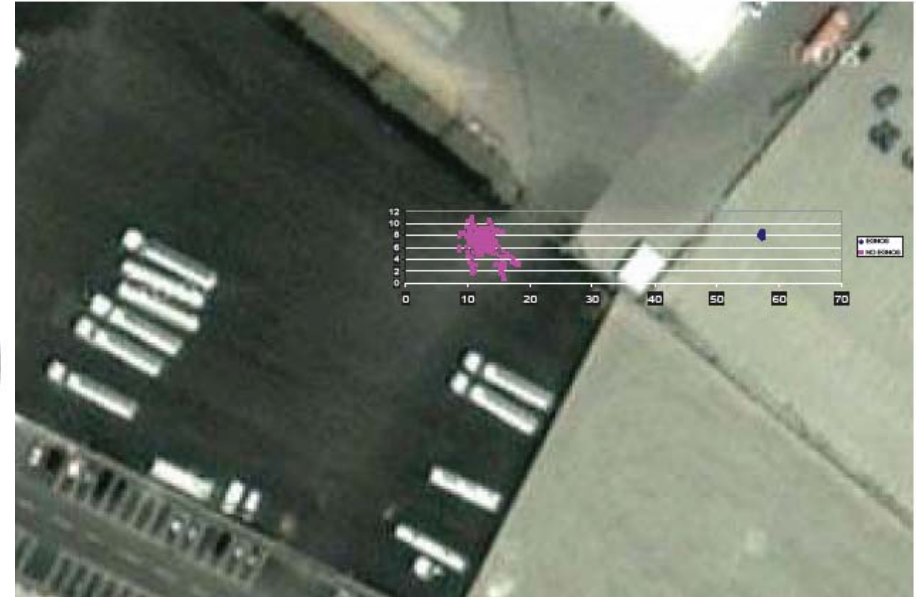
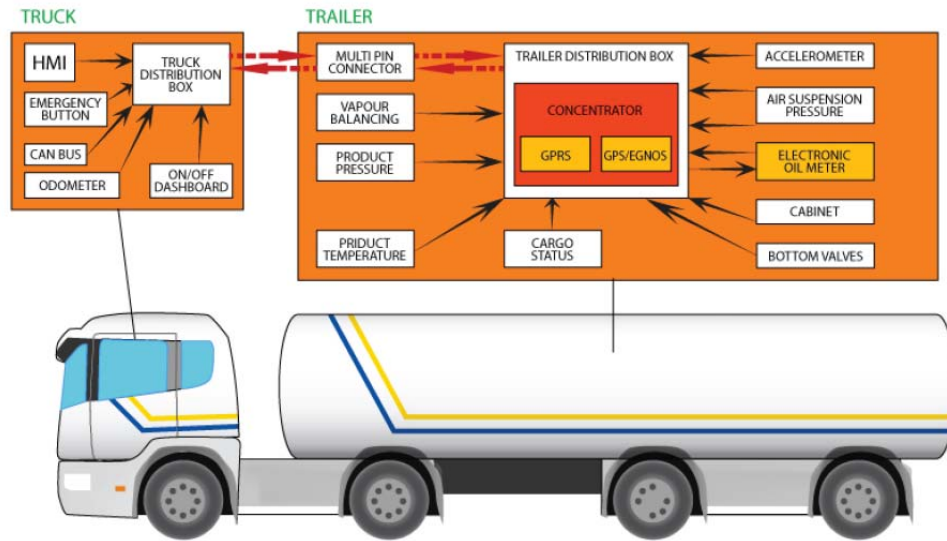


- Processing in the VAS SPs that deliver value added services to end-users tracking & tracing platform

EGNOS CS/EDAS based architectures (future)

- Processing in the OBU (SL? TBD)





eni considered **EGNOS enhanced stability and accuracy**

interesting features for operational uses

→ eni decided to upgrade its GPS system into EGNOS OS (on more than 400 tankers in Italy, France, Austria)

MENTORE: EGNOS OS for dangerous goods transports (2/2)



A clear need from a specific niche market

EGNOS benefits for dangerous goods transports:

- Better accuracy
- Higher confidence/guarantee on position
- Enhanced availability
- Adding value to GPS now, and preparation to Galileo



+



CEN Workshop SCUTUM: launching a technical standardization



SCUTUM:

- Upgrades eni operational system from EGNOS OS to EGNOS OS + CS/EDAS
- Extends it on a cross-border basis (France and Austria)
- Starts a EU-wide technical standardization for EGNOS CS/EDAS based services (CEN Workshop SCUTUM)

CEN Workshop SCUTUM

- Outcome: technical specification of the interfaces
- Timing:
 - September 2010/ KO
 - December 2011/ approval of CEN Workshop Agreement/end of project

Open the market, making available the raw data

SCUTUM identified the CEN Workshop as appropriate its purposes: the CEN Workshop is a flexible and structured tool to enable a set of stakeholders to elaborate a standard and share with any interested party.

For this reason, SUCUTM launches a CEN Workshop with the goal to initiate the standardization of the EGNOS CS/EDAS based services for tracking & tracing of the transport of goods, starting from the dangerous goods/road and to be extended to other freight types/modes of transport.

SCUTUM facts and next objectives

eni uses EGNOS OS to track operating fleet

SCUTUM enhances 225 (197 + 3 GPRS & Iridium + 25 Slim) OBUs to EGNOS CS

Italy, Austria, France

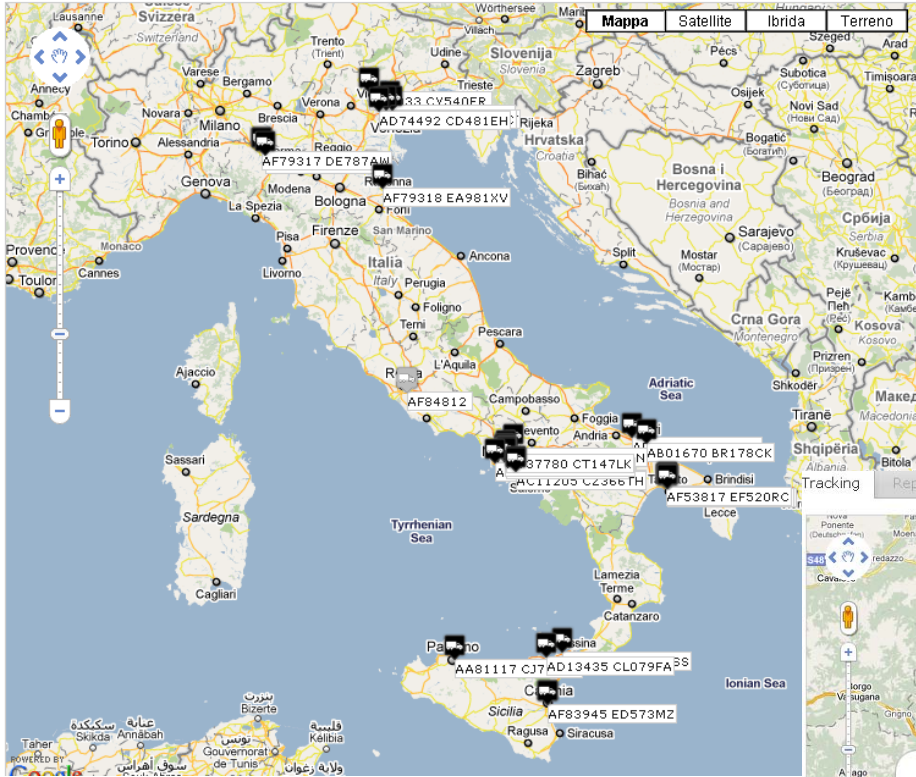
SCUTUM conceived on the basis of requirements from eni, Italy's and France's Ministries of Transport , playing fundamental role
Focus: neighbouring countries

The first 100 OBUs are already operational (1/3)



tina

Tracking Reports Park monitoring Alarms Trips Communications Management



Tracking Reports Park monitoring Alarms Trips Communications Management

Mappa Satellite Ibrida Terreno

AD74492 CD481EH

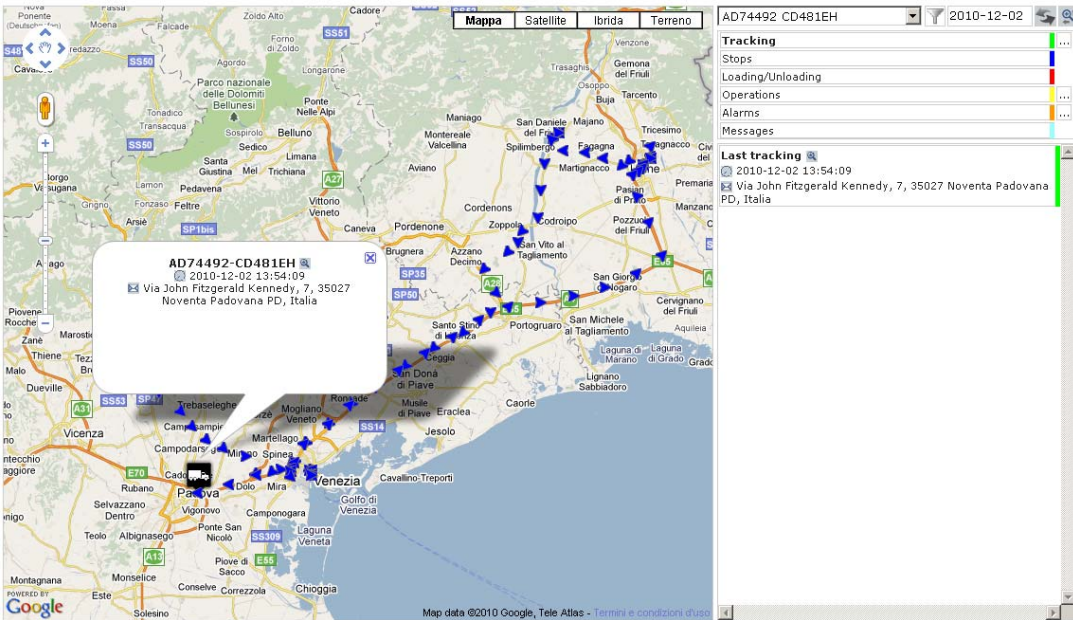
2010-12-02

Tracking

- Stops
- Loading/Unloading
- Operations
- Alarms
- Messages

Last tracking

- 2010-12-02 13:54:09
- Via John Fitzgerald Kennedy, 7, 35027 Noventa Padovana PD, Italia



SCI

The first 100 OBUs are already operational (2/3)



Tracking Reports Park monitoring Alarms Trips Communications Management

Mappa Satellite Ibrida Terreno

AD74492 CD481EH 2010-12-02

Tracking

- Stops
- Loading/Unloading
- Operations
- Alarms
- Messages

Last tracking

- 2010-12-02 13:57:42
- Corso Argentina, 35127 Padova PD, Italia

AD74492-CD481EH
2010-12-02 12:07:03
Autostrada Venezia-Trieste, 30020 Annone Veneto VE, Italia
ECS Correction

ECS Correction

Longitude	12.713972163010505
Height	53.34703112446823
HPL	8.995911

Visualization of lat-lon and HPL

CEN Workshop SCUTUM timing



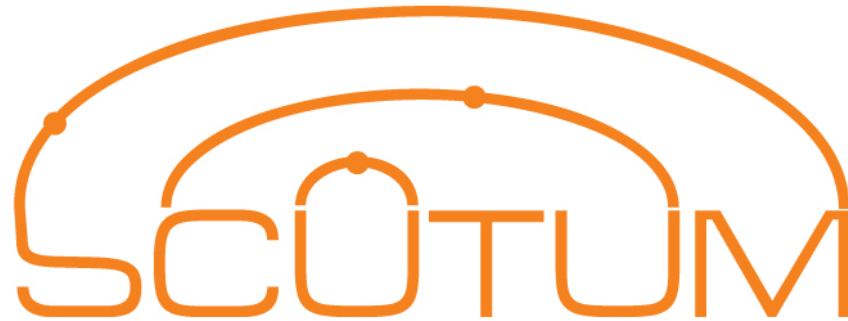
Meeting ID	Absolute Date	Place (Host)	Remark
Workshop Kick-Off meeting	28/09/2010	Brussels (CEN)	Approval of the Business Plan
Workshop Plenary Meeting	11/02/2011	Rome (Italia, TPZ)	First draft version of CWA deliverable
Workshop Plenary Meeting	27/07/2011 (tentative)	Brussels (ERF or TPZ)	Intermediate version of CWA deliverables
Workshop Final Meeting	10/11/2011 (tentative)	Brussels (ERF or TPZ or CEN)	Approval of CWA deliverable for the publication

A draft CWA already circulated

Membership on a voluntary basis
Registrations open to anyone willing to join
Deadline 9 February

*Lyon, 7 June 2011, Think Tank
on the use of advanced technologies for dangerous goods transport*

Questions?



www.scutumgnss.eu

email: antonella.difazio@telespazio.com