



# Software Solution for the Carriage of Dangerous Goods

Bruxelles, October 4th 2016

# Project Background



- Plan Marshall 2.vert - 2012 - 2015 (45 months)
- Logistics In Wallonia
- Partners
  - DN&T (project leader)
  - OSL Namur (division of Canon)
  - CETIC (research center)
  - Prayon (chemical industry)
  - University of Liege
  - Beyers Transport & Joassin (transporters)

**Object: Support for safety advisors for dangerous goods and carriers in their daily tasks.**

- Three integrated components
  - TDG codes
  - Management of TDG related activities
  - Onboard alert system



# TDG Codes



- Consultation of carriage codes for dangerous goods
  - Road - ADR, (Rail - RID, Inland navigation - ADN, Maritime – IMDG)
  - List of dangerous goods with exhaustive information condensed into product sheets
  - National Amendments (Belgium, France, Germany, the Netherlands)
  - Verifications (exemptions, mixed loading)



# Management of TDG related activities



Production of  
the annual  
activity reports

Encoding of dangerous  
goods related activities,  
personnel, equipments,  
companies, tasks



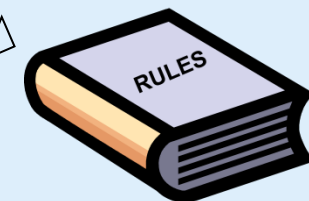
Printing of reports  
on occurrences



Printing of  
transport  
documents



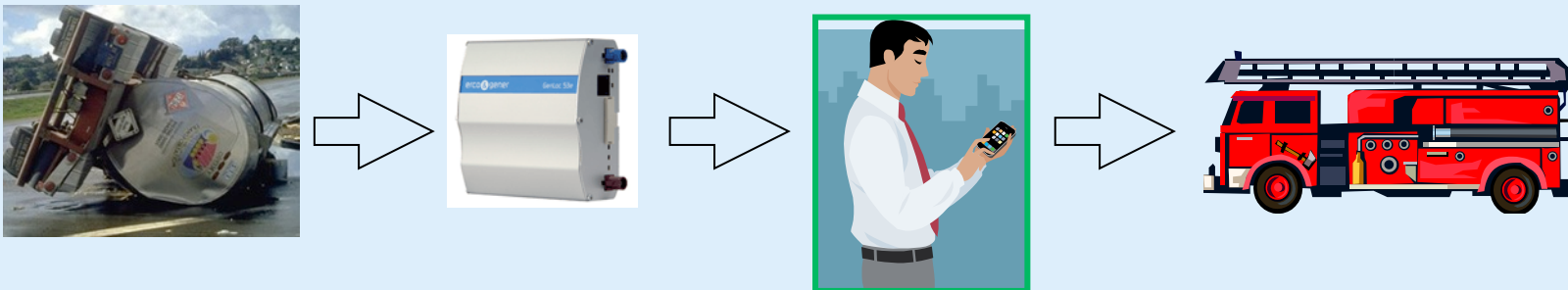
Verification for  
exemptions and  
mixed loading



# Onboard alert system



- Onboard equipment:
  - Android tablet + Embedded module (GPS, GPRS, Bluetooth, motion sensors)
- When an alert is triggered, the system sends important information to a set of predefined actors:
  - Identification and quantities of the carried products
  - GPS location of the incident
  - Severity of the impact and lose of horizontality



# Other Products

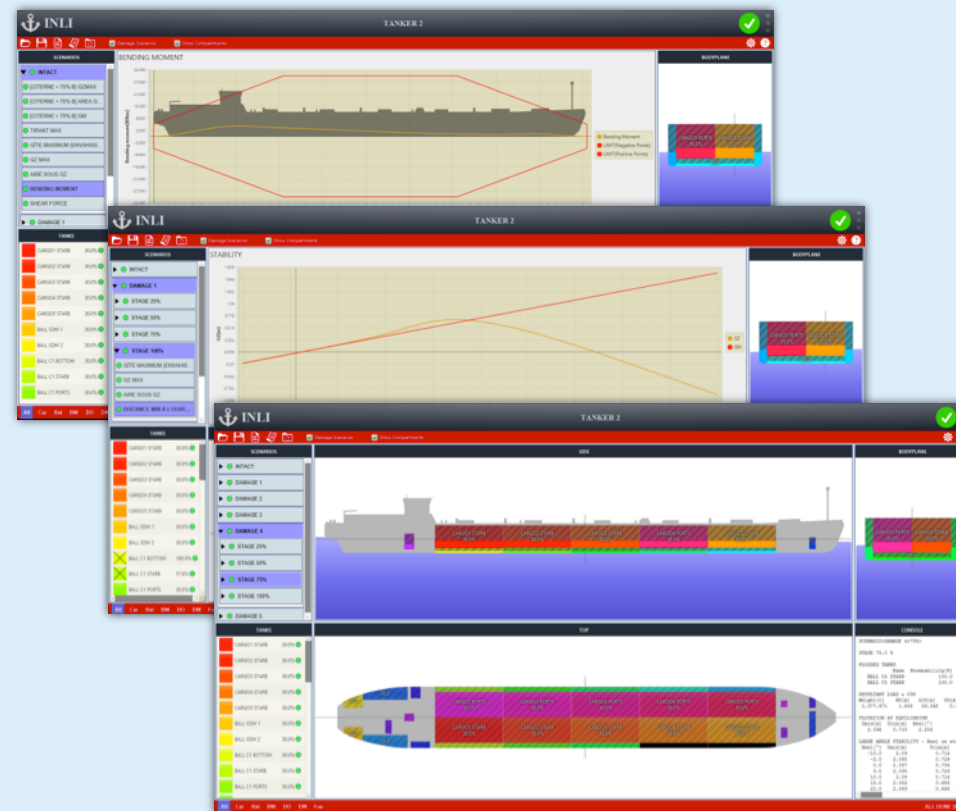
**INLI** Inland Navigation Loading Instrument

**ITS** Inland Traffic Simulation



## Object: Loading instrument for inland navigation tankers

- Validation of load cases with respect to the stability and longitudinal strength criteria, according to ADN.

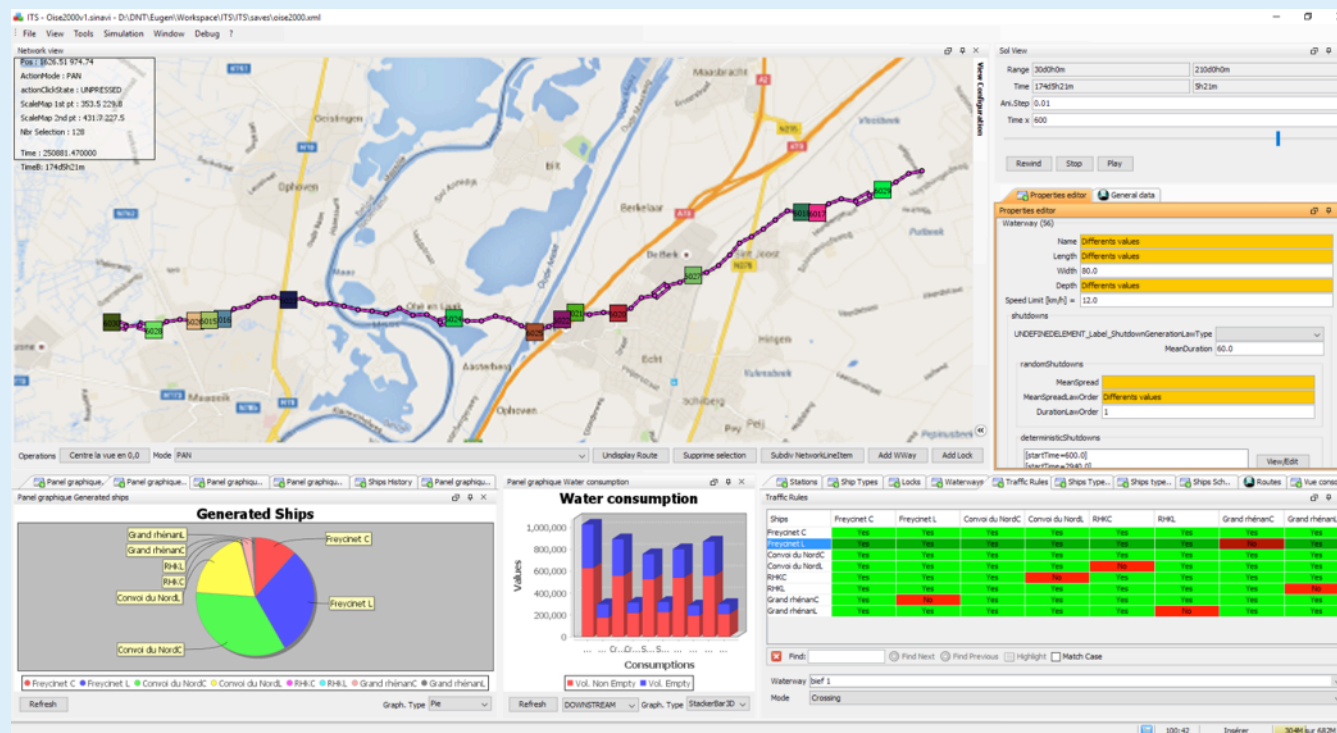






## Object: Simulation of inland traffic

- Analysis of the traffic fluidity, economical impact of changes in the infrastructure or the exploitation of the network
- Outputs: travel times, lock water consumption, waiting times due to shutdowns, working hours, traffic rules, lock occupation



# Thank You!