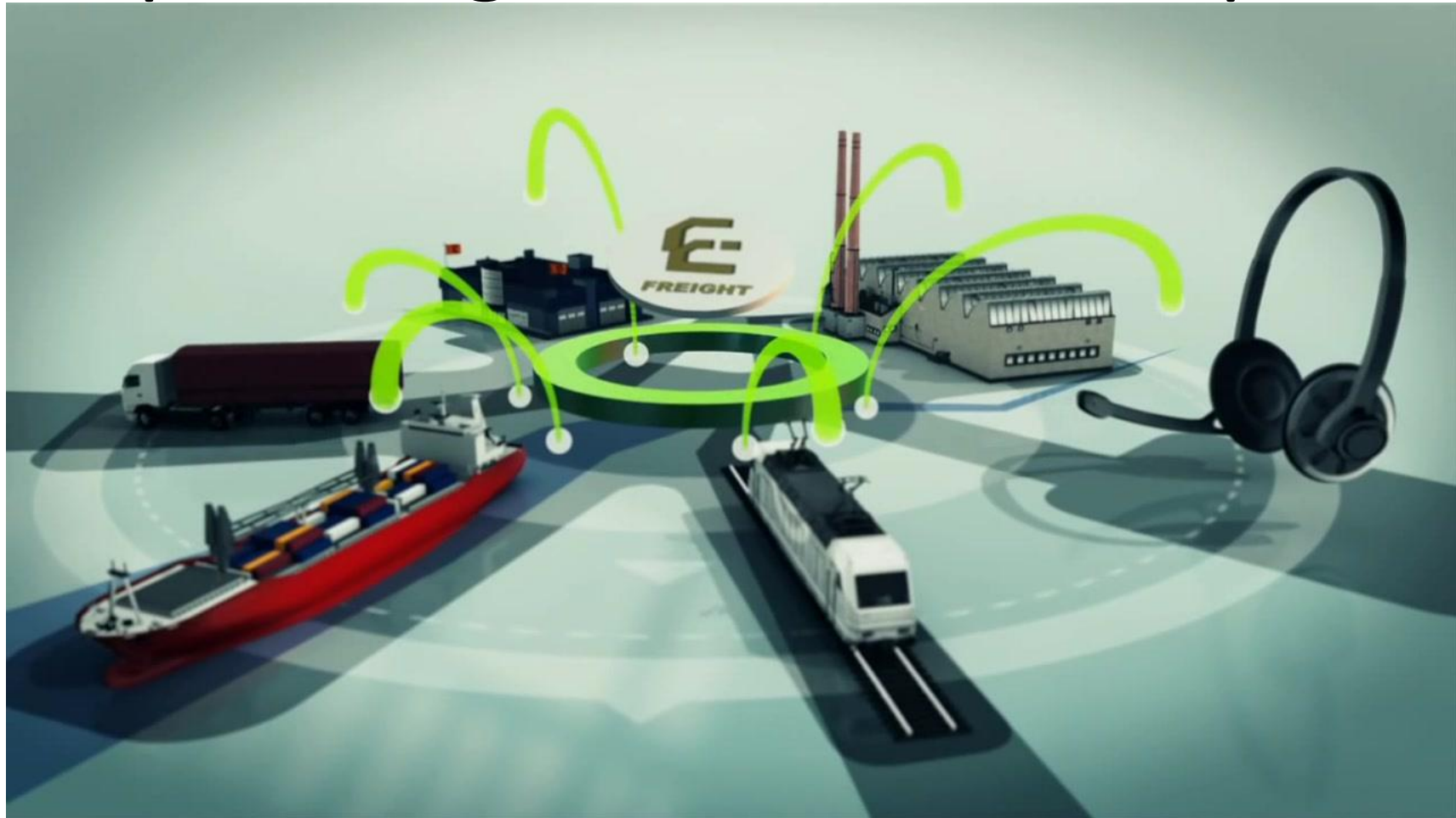




Optimizing intermodal transport
by combining GS1 Standards and the e-Freight Framework

Optimizing Intermodal Transport

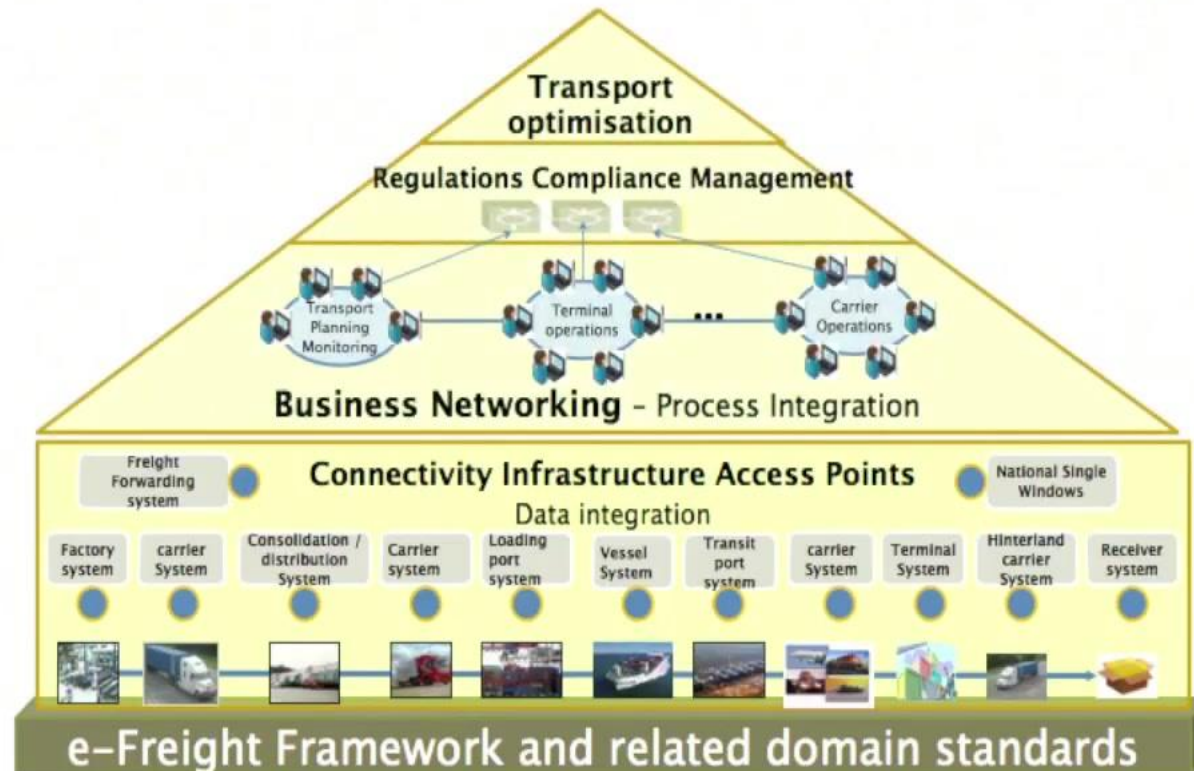


e-Freight

e-Freight denotes the electronic flow of information, associating the **physical flow of goods to regulatory or commercial decision support systems**. It includes the ability to **track and trace** freight along its journey across transport modes and to **automate the exchange of cargo-related data between stakeholders**.



Value Proposition



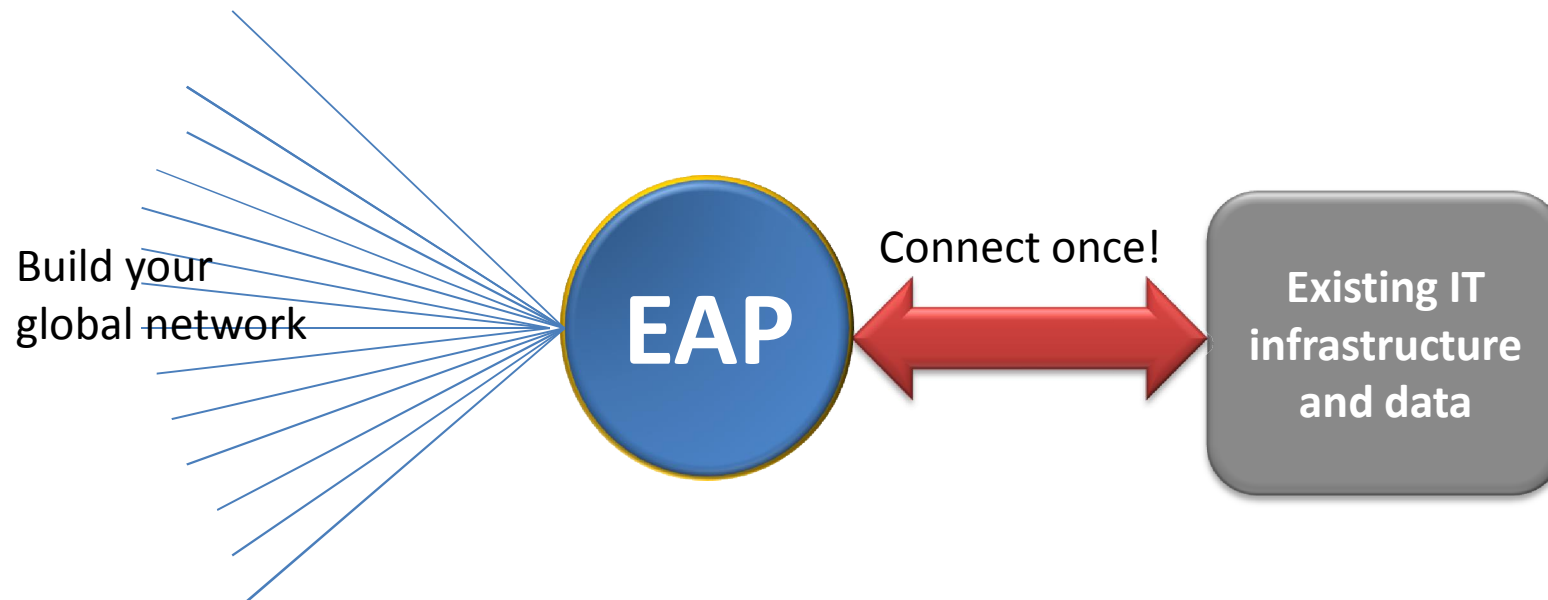
Unique Value Propositions

- “ **Connectivity Infrastructure** offering *for the first time ever* the possibility to transport stakeholder to connect together without use of centralised platforms
- “ **Process integration** based on e-Freight reference processes
- “ **Automated compliance** for shippers, freight forwarders, port and terminal operators and carriers
- “ **Solution Building Blocks** so that end users can *choose what they need* from simple connectivity to full optimisation of their operations

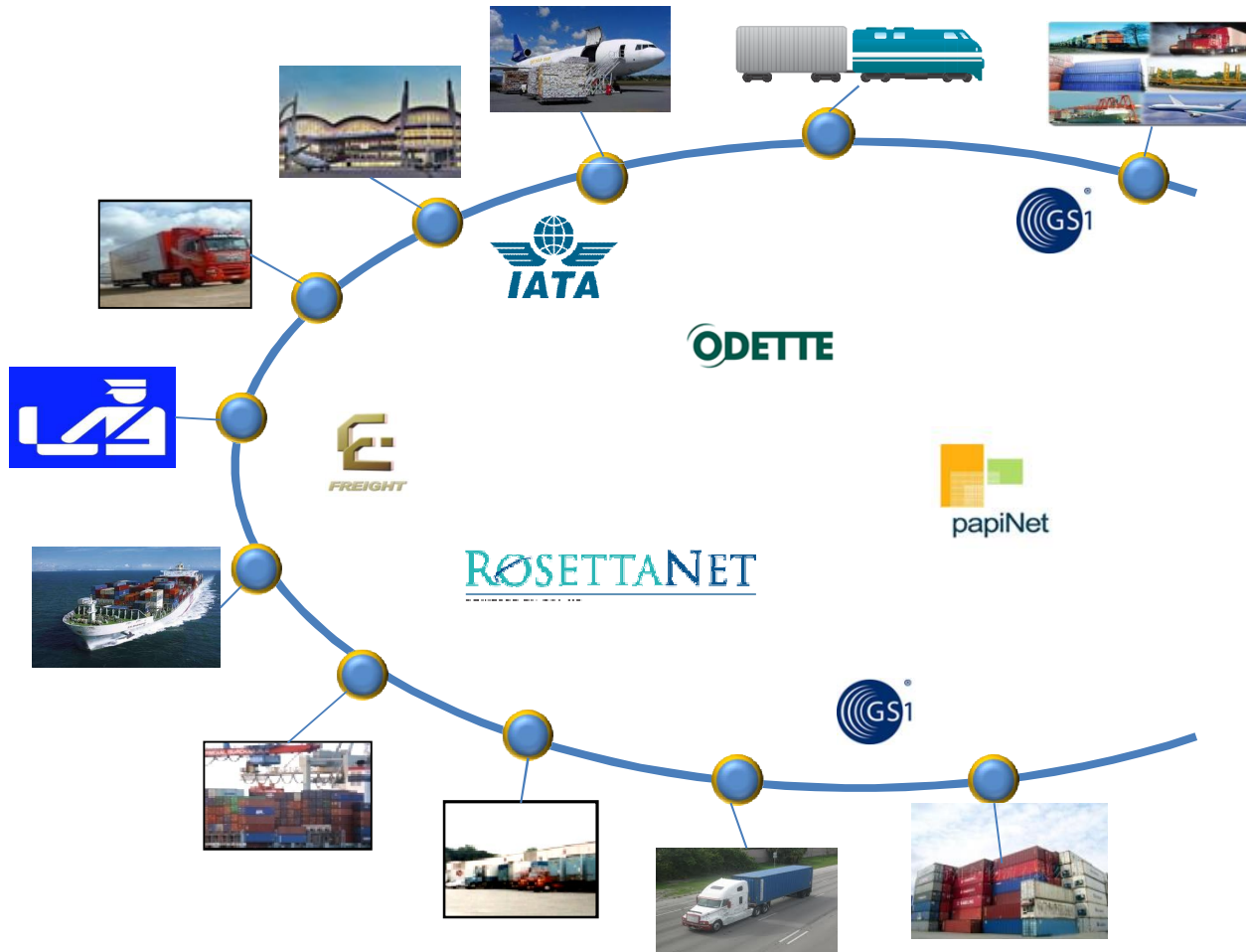


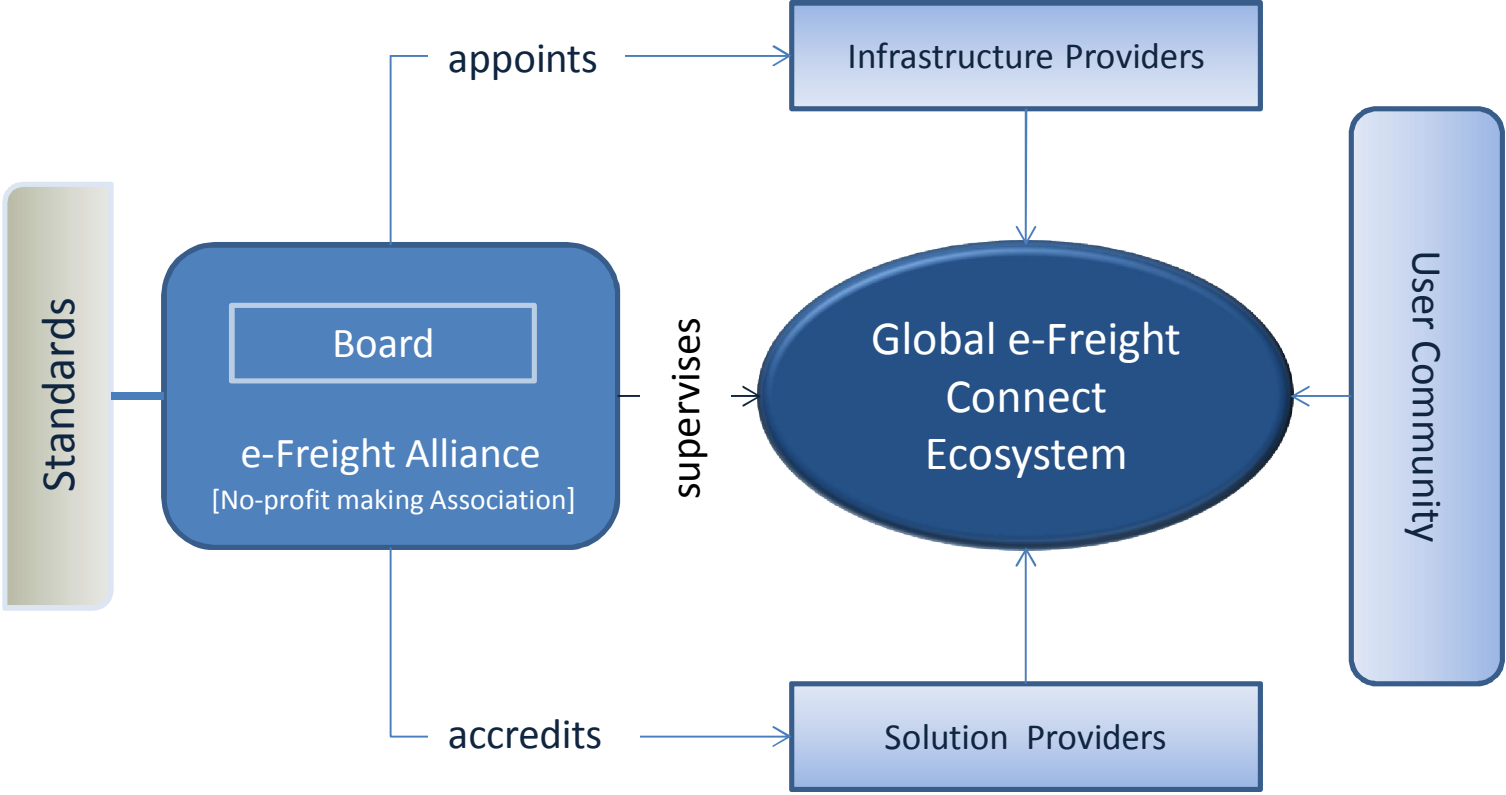
Connectivity Infrastructure e-Freight Assess Points (EAPs)

- “ Analogous to email between actors using standard messages defined in the e-Freight Framework or other standard and enhanced security



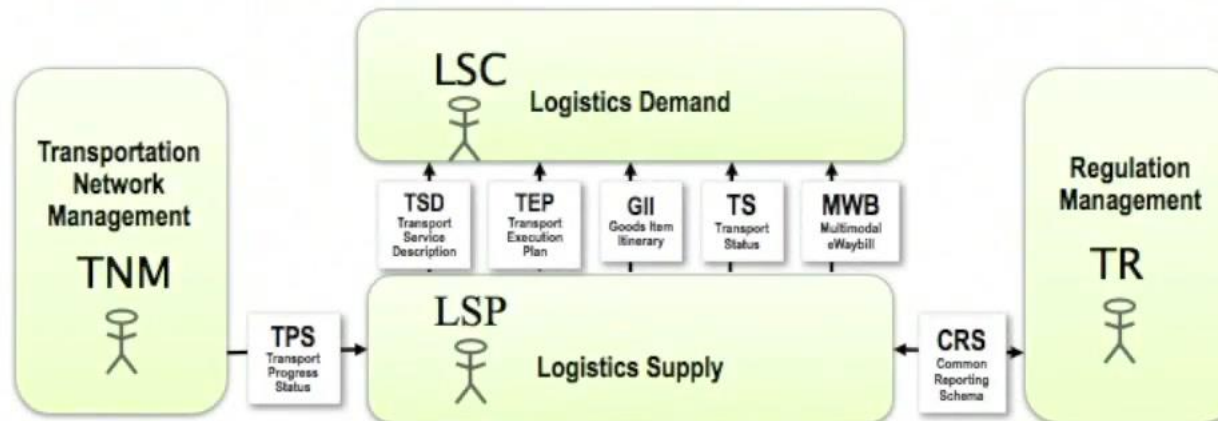
Connectivity through the main standards

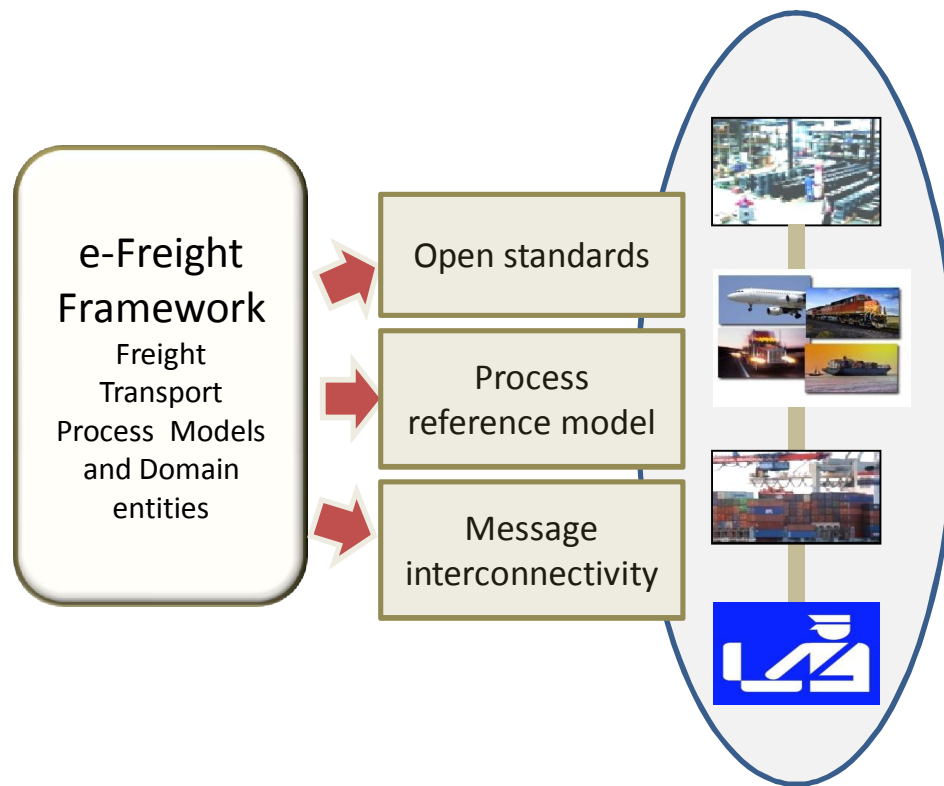




The Blueprint for e-Freight Solutions is the e-Freight Framework

- **A Reference Model** de-composing the transport and logistics domain into manageable subdomains
- **Functions** performed by roles pertinent to each sub-domain
- **Processes** of the key functions in the transport and logistics domain
- **Information models** structuring the information being exchanged into standardised messages





e-Freight Framework

Freight
Transport
Process Models
and Domain
entities

Open standards

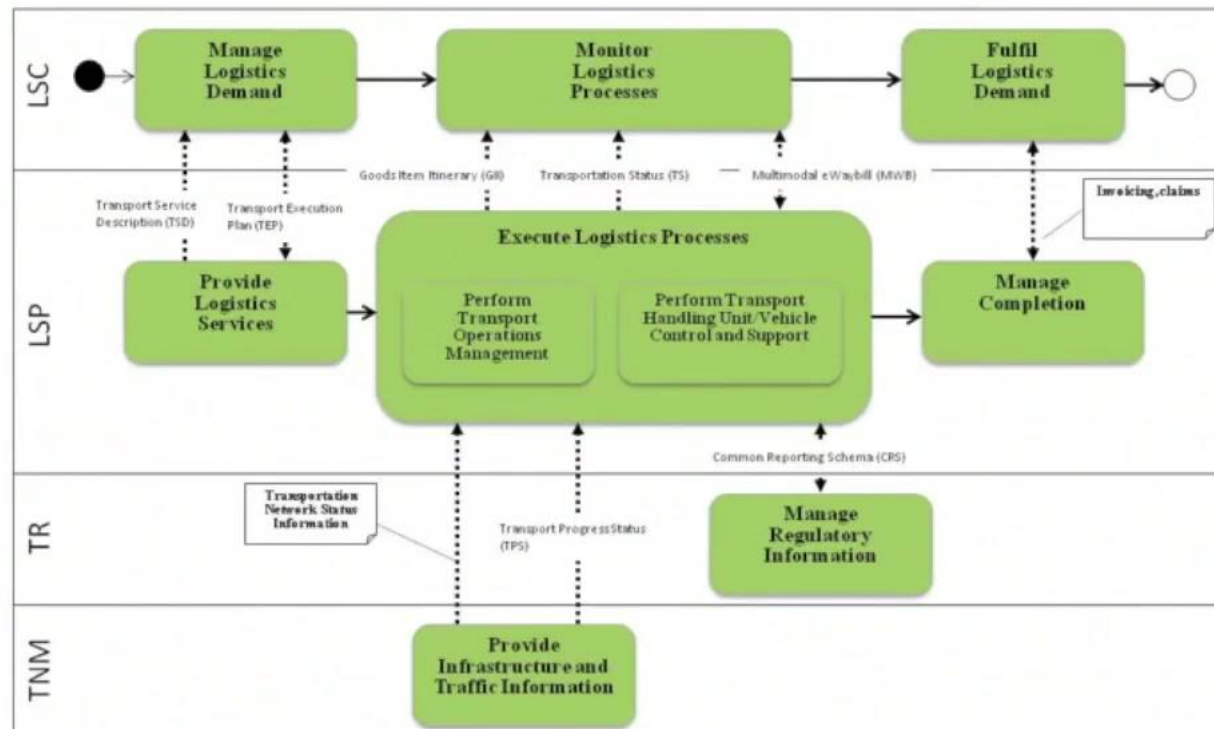
Process
reference model

Message
interconnectivity

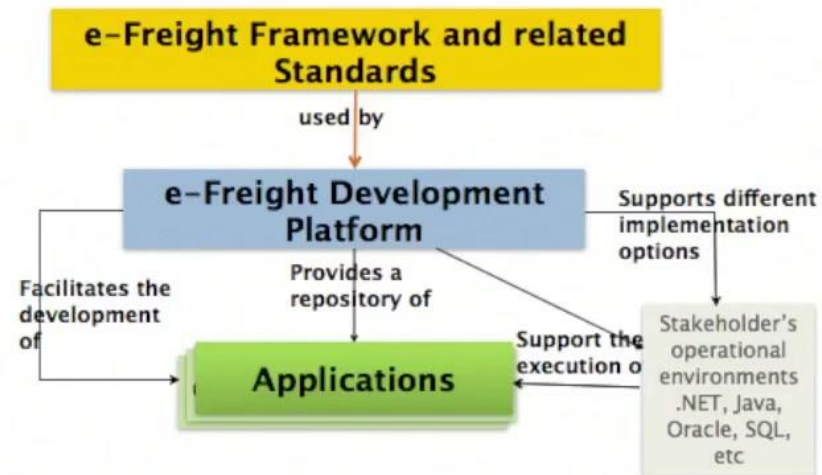




e-Freight Framework



A method for developing e-Freight Solutions

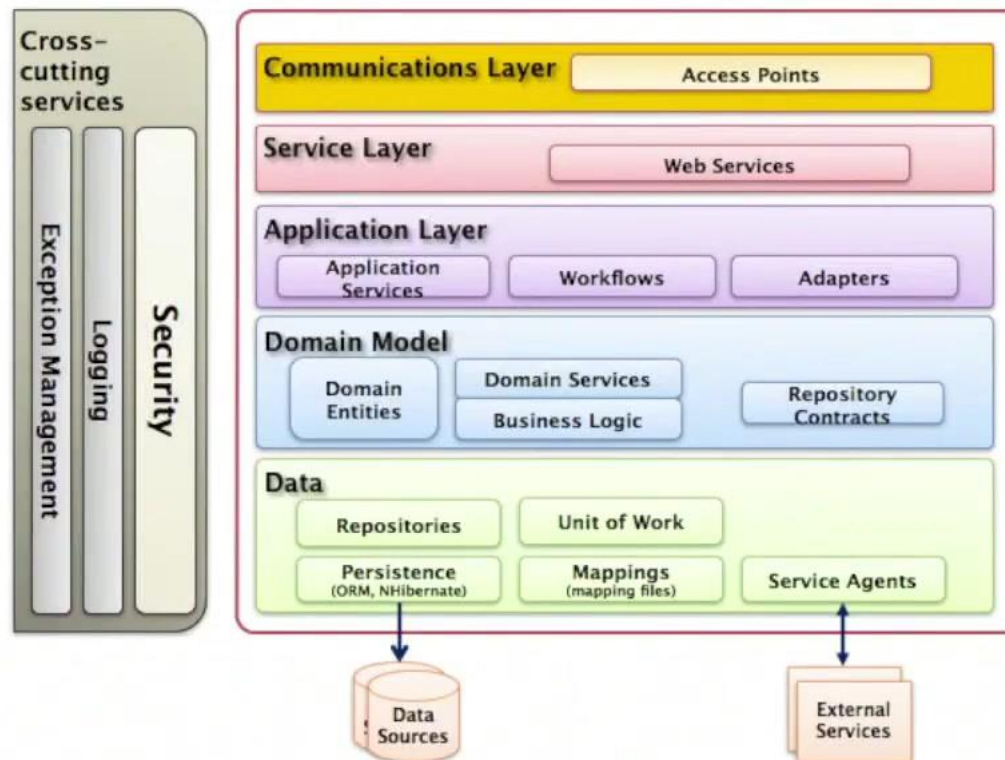




Solutions Development



Solutions Development: e-Freight Applications Architecture



e-Freight Development Portal

The screenshot displays the e-FreightWorks development environment. At the top, the title bar reads "Application Design: eFreight Version: 1_0 Implementation Strategy: Three-Tier Web Application" and "Welcome CLMS-pda". The main interface features a search bar, a toolbar with icons for Save, Save As, Model Properties, Export, Refresh, Build, Build & Deploy, Undo, Redo, Class, Association, DB Wizard, XML Wizard, and Map to Database. Below the toolbar is a grid workspace containing two class diagrams: "Claim (StateClass)" and "AddressLine1 (ValueClass)".

Claim (StateClass) Attributes:

- Id: int
- CreatedOn: DateTime
- CreatedBy: DateTime
- Heading: string
- Description: string

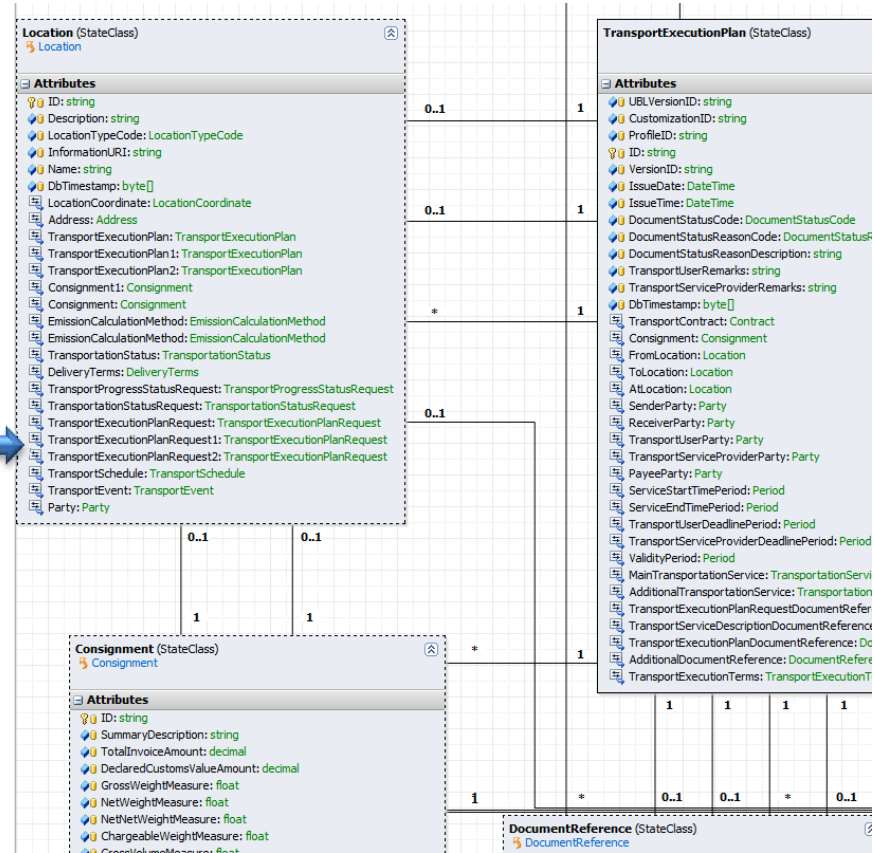
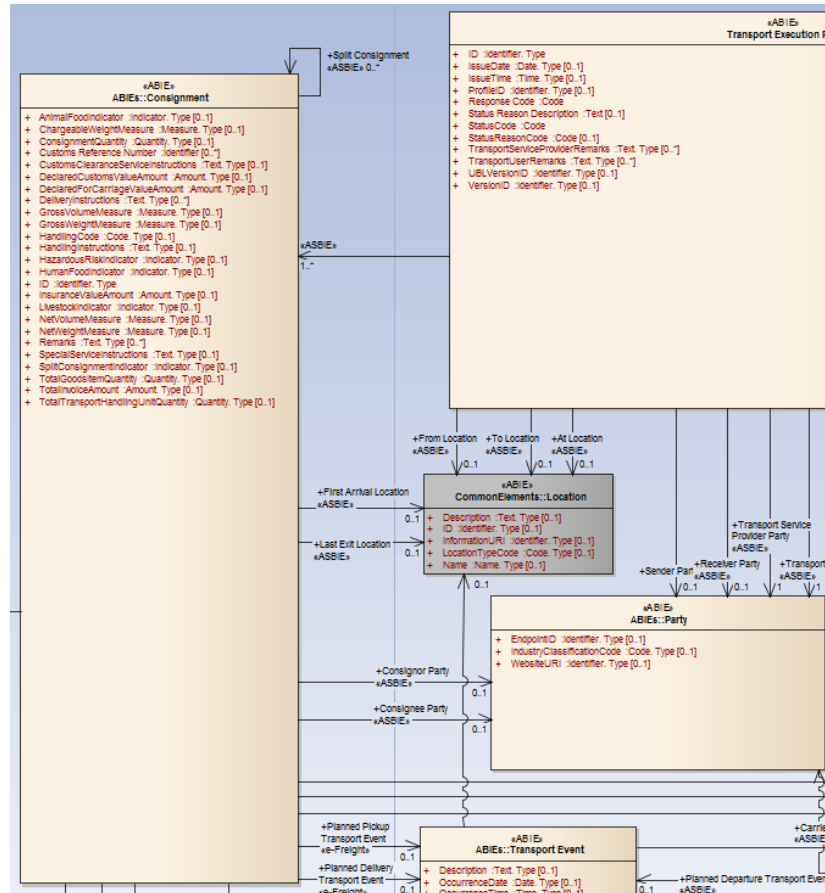
AddressLine1 (ValueClass) Attributes:

- (Attributes list is currently empty)

The left sidebar shows a "SOLUTION" tree with "DATA FOUNDATION" and "DOMAIN MODEL" sections. Under "DOMAIN MODEL", "Business Objects" are listed, including Address, AuthorityInformationPackage, BorderGuardInfoPackage, Claim, CommonReportingPackage, CommonReportingResponse, Consignment, Contact, Context, CrewMember, Dimension, DocumentReference, FALForm, FALForm1, FALForm2, FALForm3, FALForm4, FALForm5, GoodsItem, Location, MyBO, Package, and Party.

At the bottom, there is an "Output" window and a footer with the text "© 1998-2012 CLMS (UK) Limited. All rights reserved." and "powered by zAppDev2.0 beta".

Importing Domain Frameworks (e.g. GS1)

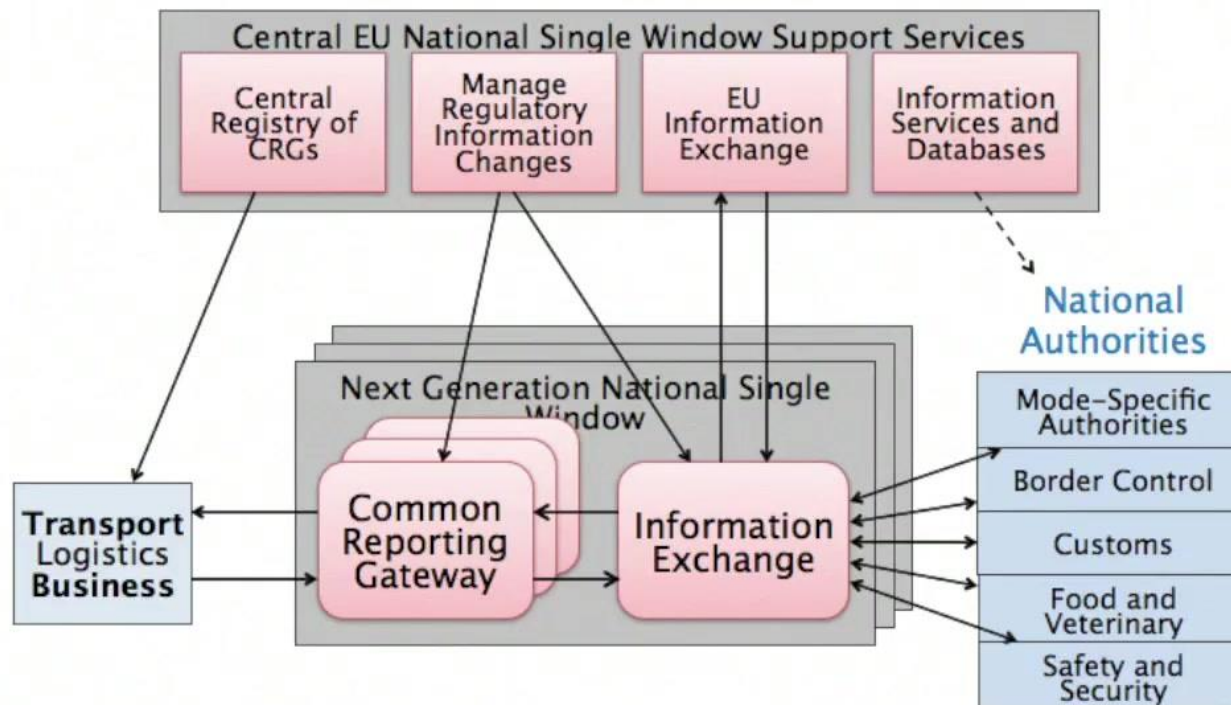


'Next Generation Single Window'

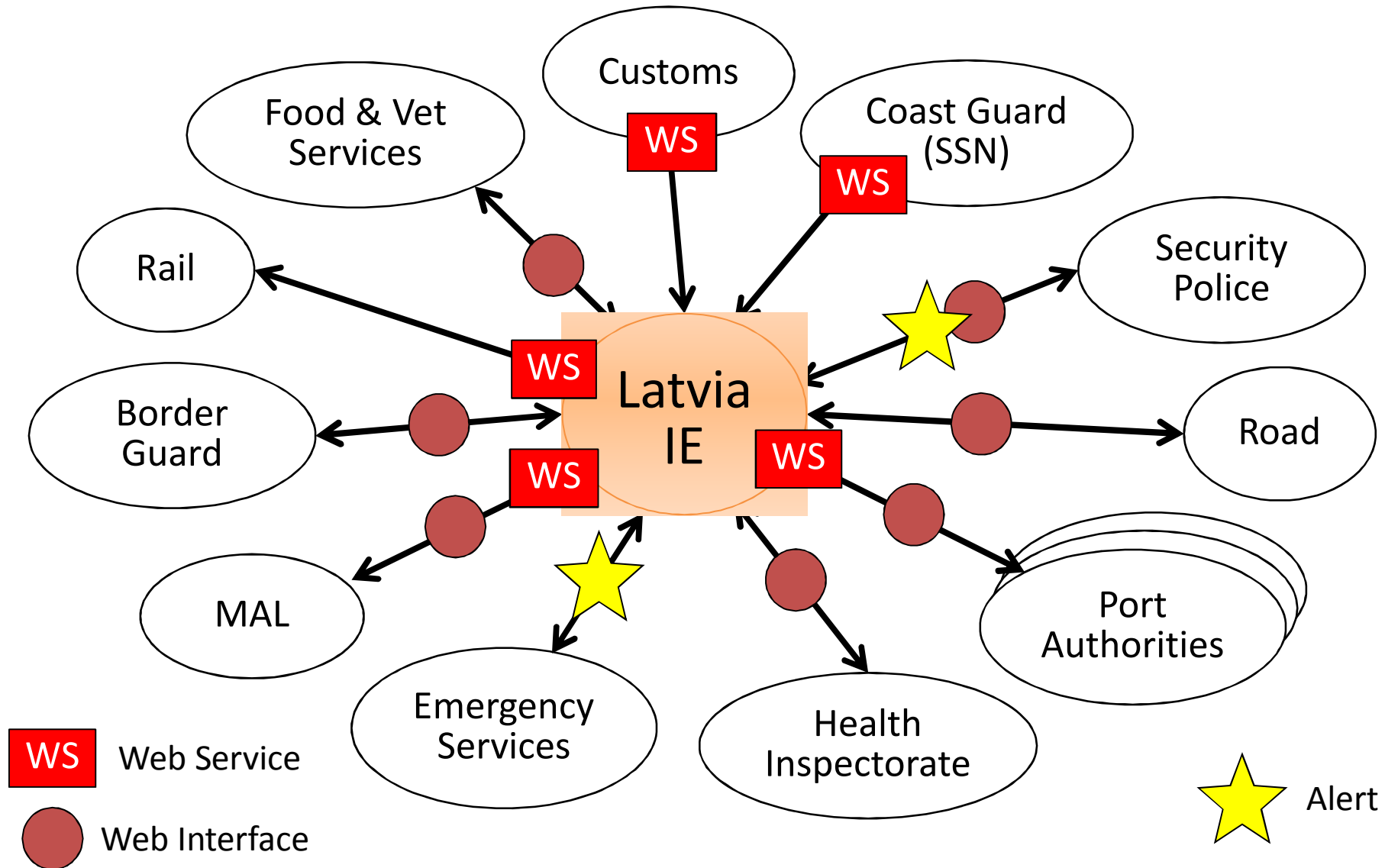


- Unified solution for regulatory information management at both National and EU levels
- Allowing:
 - Business to report using the **same form** to **all** authorities, independent of mode and transportation route, and
 - authorities to share information
 - ✓ policy implementation
 - ✓ co-operation in security, safety and environmental risk management.

'Next Generation Single Window'



Latvia Reference Solution



‘Next Generation Single Window’ Benefits

- “ Integrate and harmonise existing ‘Single Window’ systems and initiatives
- “ Multimodal “one-stop shopping” for all
- “ “Hard coded” policies, directives and standards
 - . change management support
- “ Support for Authorities
 - . communication, co-operation and information exchange
 - . safety, security and environmental risk management

Where we are today

- “ We have a robust mature methodology for developing e-Freight solutions with:
 - . Enhanced interoperability features
 - . Flexibility to extend and change
 - . Security
- “ We have core solutions and object inheritance enabling fast and efficient implementation of customised solutions
 - . NSW
 - . Multimodal eWaybill
 - . Transport planning



The near Future – An operational network of representative stakeholders

