

Information model –  
Ship/Shore Communication  
ISLK

- NFR Project no. 174191

# Members of the project group

Det Norske Veritas AS

Høgskolen i Agder (University of Agder)

Shipnet AS

Dualog AS

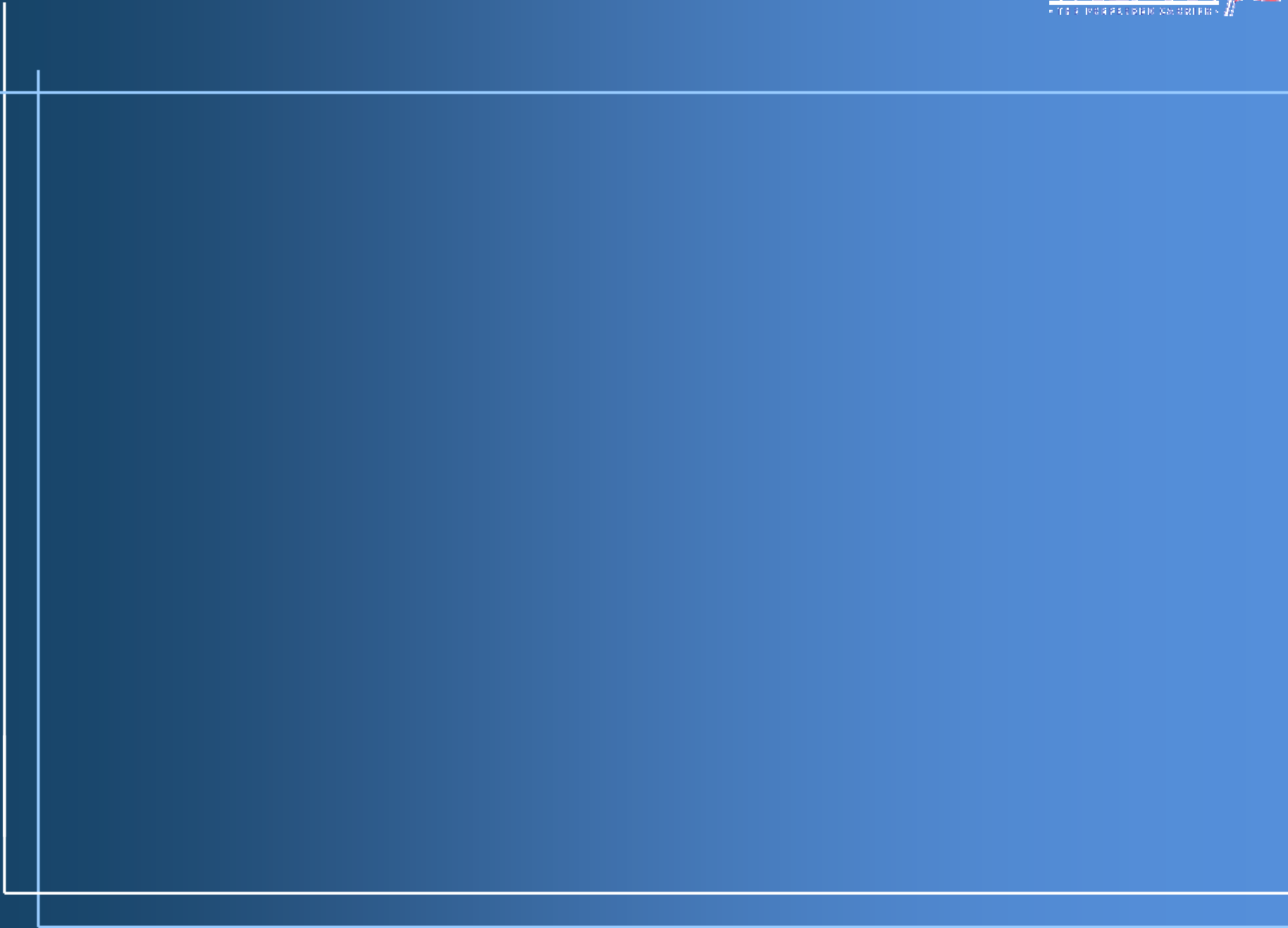
Kystverket (Norwegian Coastal Administration)

Norges Rederiforbund (Norwegian Shipowners Assosiation)

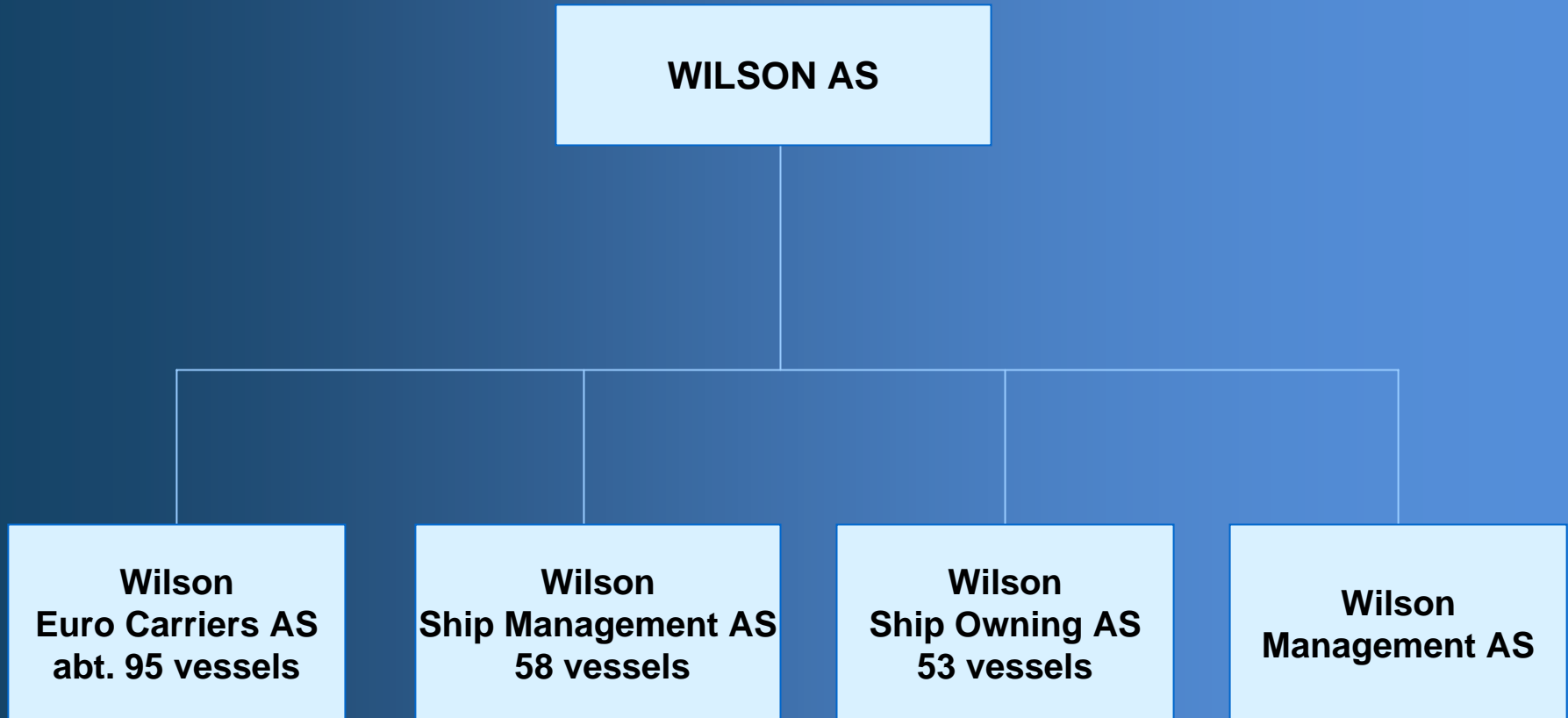
Torvald Klaveness Konsern AS

Barwil Agencies AS

Wilson Management AS



# The Wilson Group



# Wilson Group Area of operation



# Statistic 2004 - 2005

	2004	2005
➔ Number of vessels	85 - 90	89 - 92
➔ Voyages	4.478	4.488
➔ Port calls	10.277	10.210
➔ Average days per voyage		4 - 5



# Background / Driving force

- Electronic port clearance of ships is in the process of being a reality. The 6th of June 2005 US implemented their system (eNOA/D), which all ships above 300 GRT have to use for in/out clearance in the US.
- In Europe SafeSeaNet (SSN) is developed as an internet based system. This system is mainly used for exchange of information between different authorities (countries).
- Regarding electronic reporting from ship to shore we expect to see several different national solutions in Europe, and gradually in the rest of the world. There is nothing that indicates that we will have a common standard worldwide.
- As a counter balance to the above mentioned "chaos"/ trend this project's aim is to find a unifying method and standardized routines for ship/shore reporting

# Challenges

- Regulations and demands for reporting to authorities is a big expense for the shipping industry and increase workload for crew.
- Long working hours and lots of paperwork can take focus from safety related tasks as navigation and look out
- Mistakes in reporting can lead to large fines, delays and ruin the shipping company's reputation
- The development seems to head in a direction of different reporting systems for each country and the shipping industry must prepare for this situation

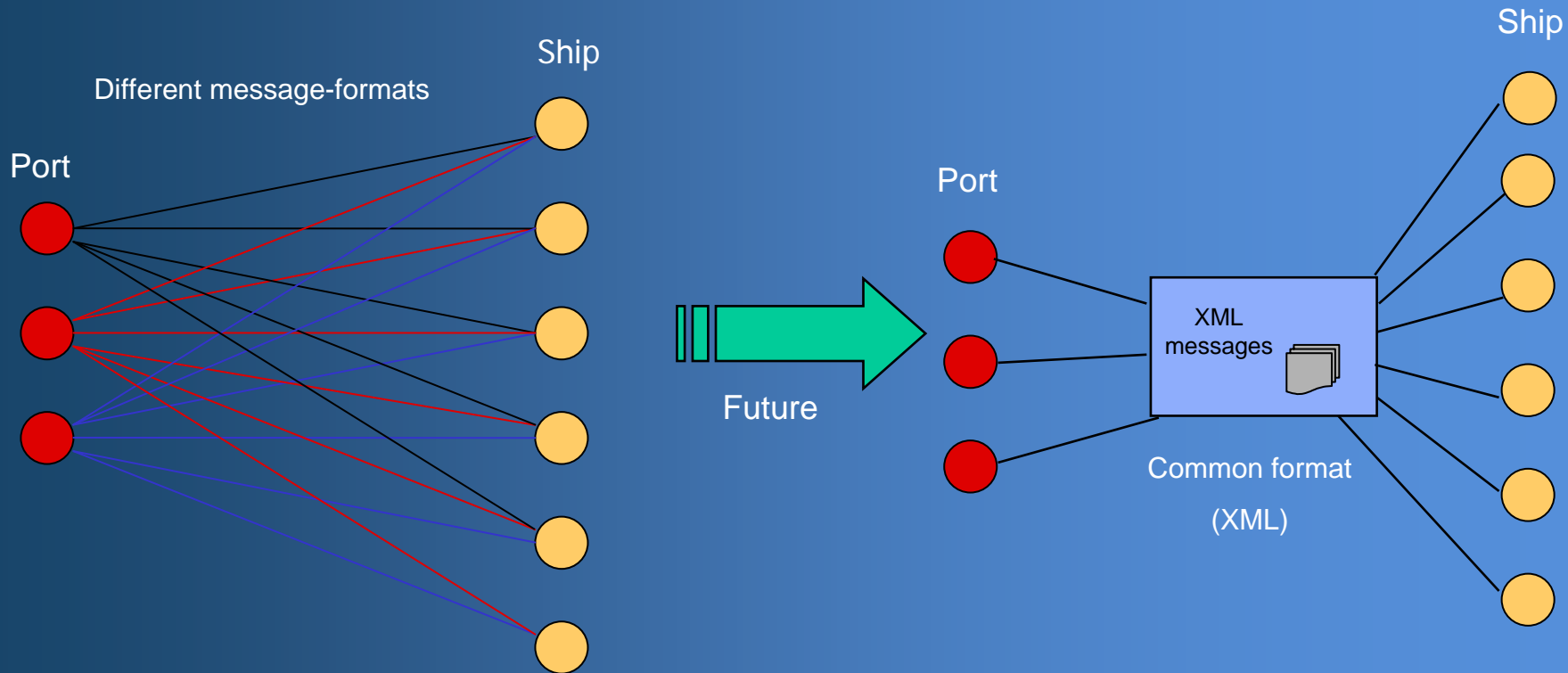
# Goals

- An information model will be developed. This can be used both for ship/shore communication and for sharing of information between different data systems both onboard and ashore
- This will contribute to better working conditions for Norwegian shipping industry and let our maritime ICT business follow development trends and constraints for international shipping.
- A short-term goal is to meet the need for a solution to be used towards Norwegian Coastal Administration (Kystverket/SSN) and then to expand this towards Scandinavian countries and the rest of Europe.
- On longer terms the primary goal is to make a foundation for a more robust solution for data integration
- Experience and results from earlier projects will be used

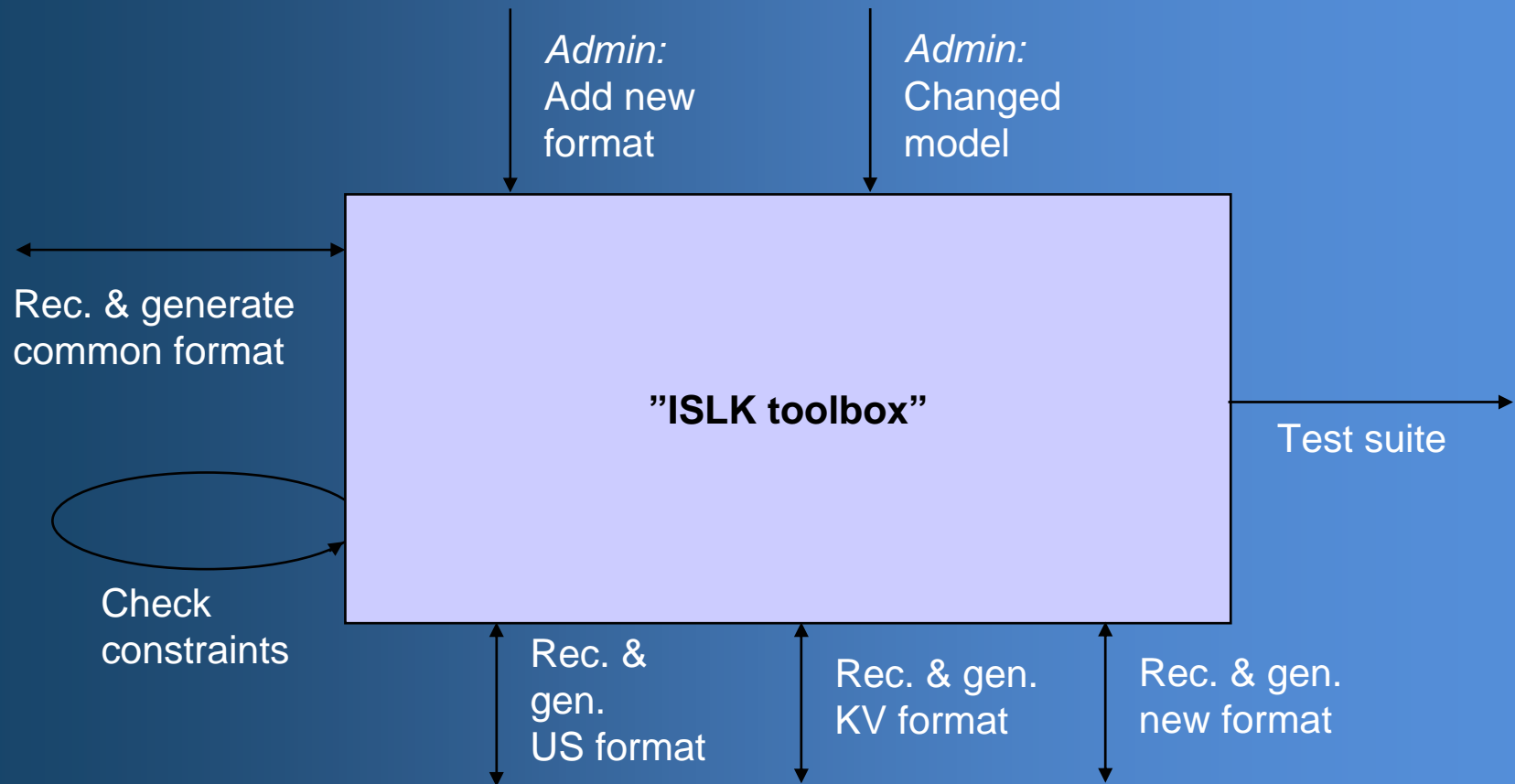
# Some earlier projects :

- EPC (Electronic port clearance)
- EPC2 This project was a cooperation between Norway and Singapore
- IPPA – The project developed a portable pilot unit (PPU).
- IP - Intermodal Portal (incl. converted EDIFACT-messages to XML format, that was included in EPC2 XML schema.)
- SSN – SafeSeaNet

# Reporting to ports



# ISLK applications



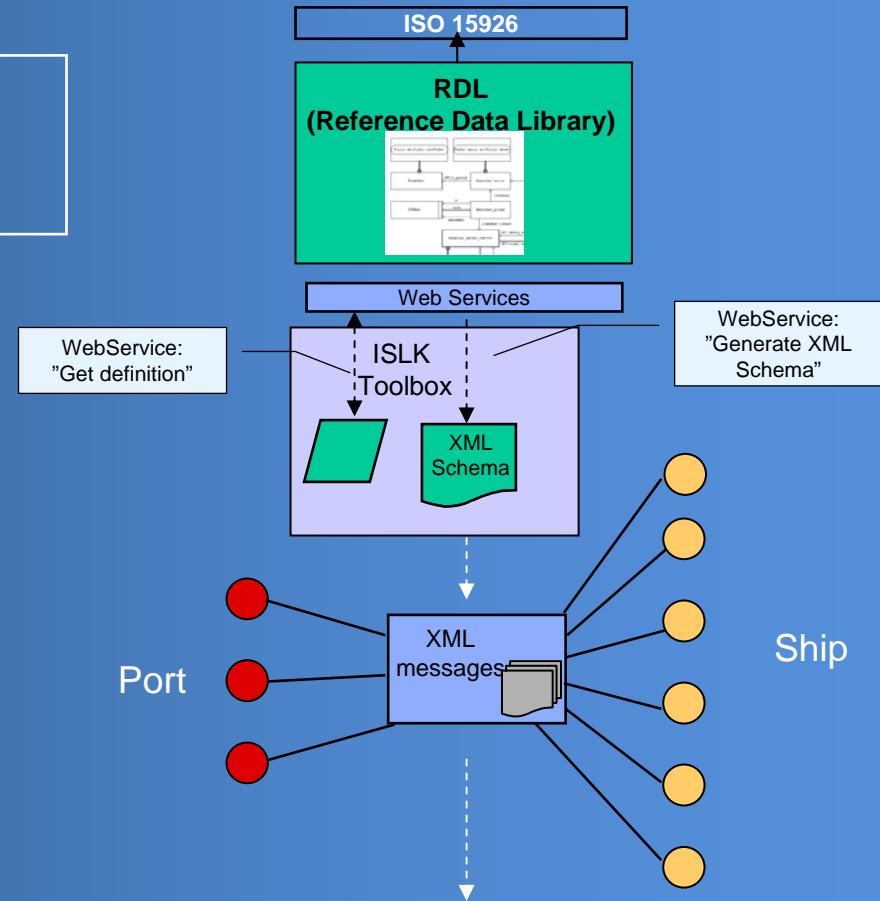
# RDL and XML

RDL is a database that contains standardized phrases, terms etc.  
 RDL defines the common metadata to be described as XML Schema  
 RDL is XML Schema neutral  
 One RDL can be the basis of several XML Schemas

XML Schema defines the syntax rules for XML representations.  
 XML Schema defines the vocabulary

XML is just syntax.  
 Data is represented in XML.  
 XML transports the data.

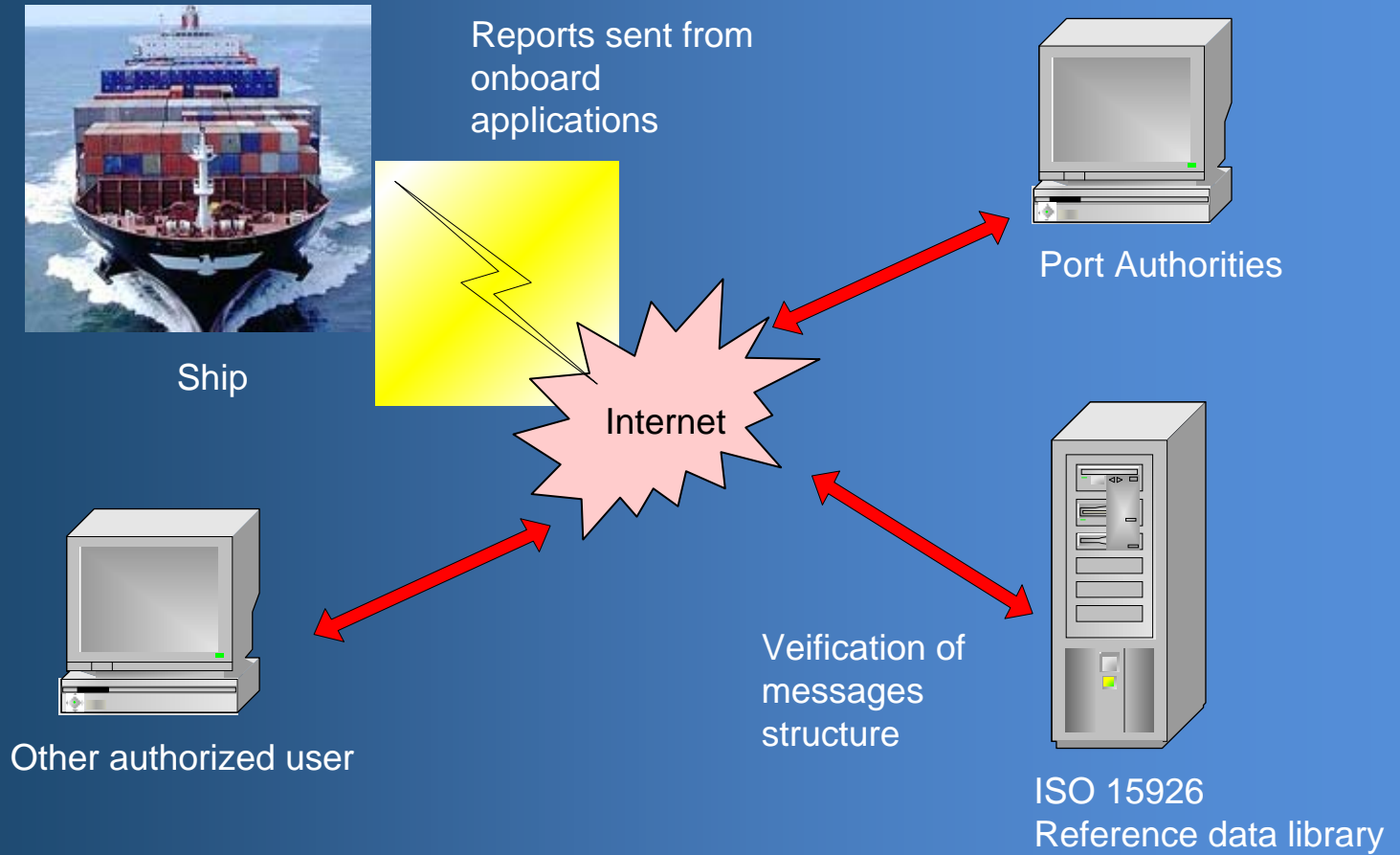
Connection to the RDL from XML instance.  
 Application A and B uses different terms for ship-name, but are tied together to the same ID no. in the RDL



```
<A:ShipName rdl:ref="100">APL Holland</A:ShipName>
```

```
<B:VesselName rdl:ref="100">Berge Arctic</B:VesselName>
```

# Verification of messages



# Summary

- The ISLK-project main objective is to make an information-model which can be used for ship/shore communication and for sharing of information between different applications both onboard and ashore
- The reference data in the information model will give a specific understanding of the actual terms and phrases. The corresponding elements from the sending and receiving applications can be linked together using common terms included in the information model. By using this model misunderstanding can be avoided
- To make a successful integration between different non-harmonized applications, one need a common "platform". This platform is the information model, which consists of reference data structured according to the data model in ISO 15926
- Data exchange based on this method will give a quality assurance according to the ISO-standard. The information model will also act as an integration model between interacting systems