

VOLVO

Volvo Logistics Corporation

Logistic efficiency and environmental focus goes hand in hand

November 29, 2006

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Vice President

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Environment – European Congestion

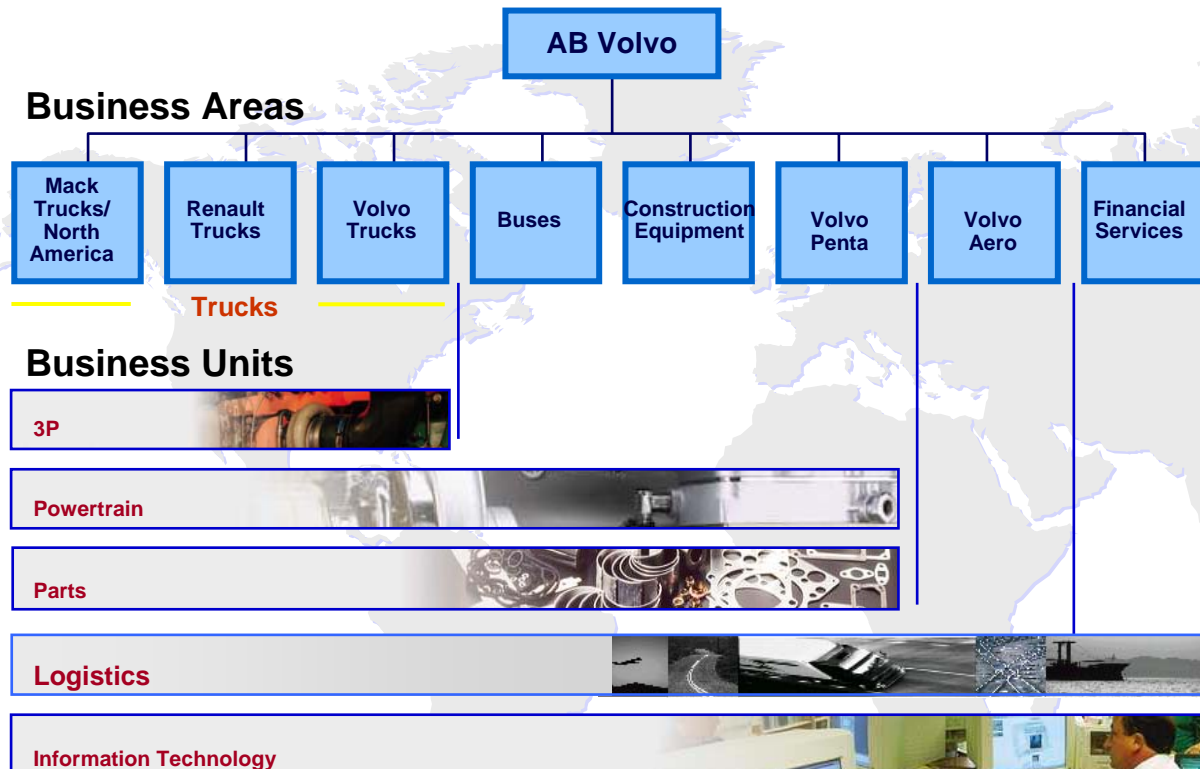
Intermodality

Euro Module System 25.25

Environmental demands

Environmental assessment

Volvo Logistics is the appointed lead logistics provider for the companies in the Volvo Group



Volvo Logistics' Mission Statement

We deliver complete supply chain solutions that add value for our customers worldwide

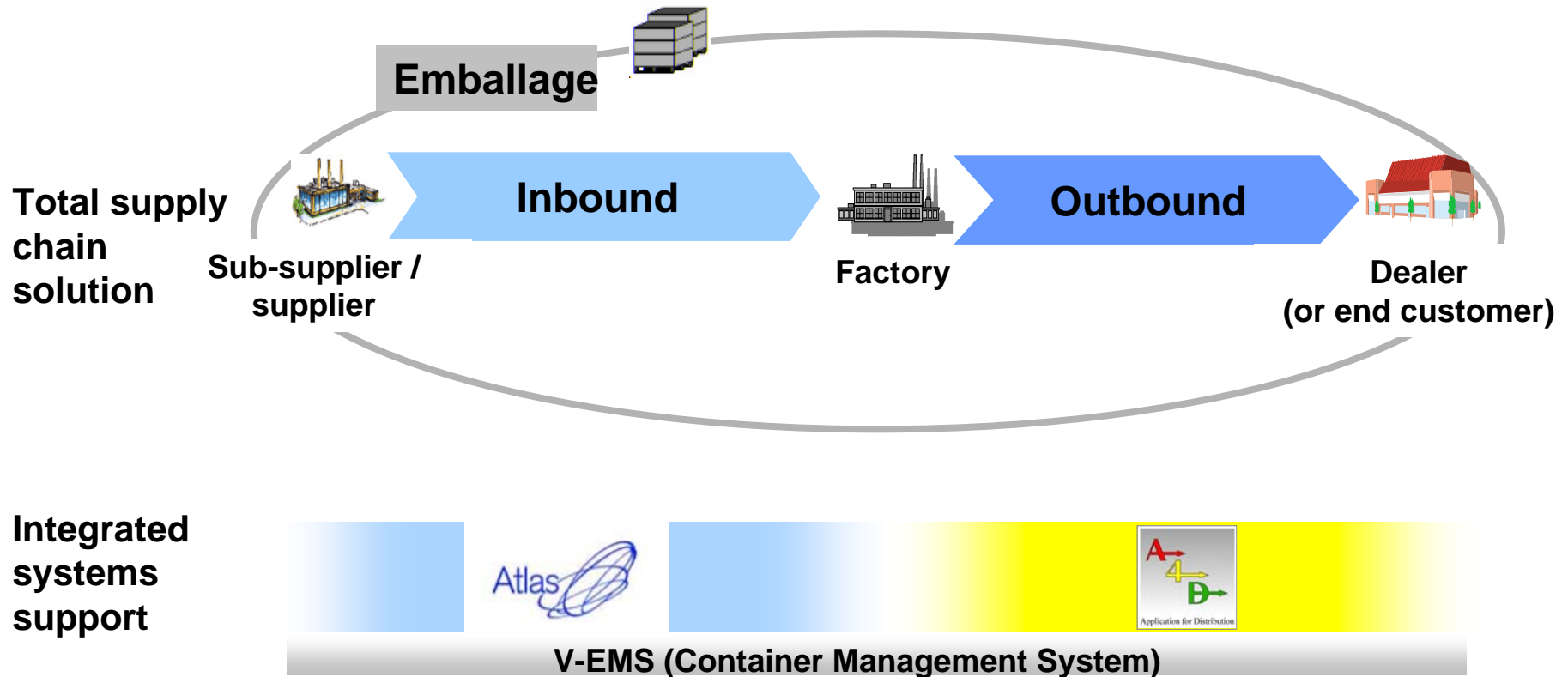
Volvo Logistics' Vision Statement

To be recognized as the leading logistics partner within the automotive, commercial transport, and aviation industries

Throughout the world



Our concept is complete supply chain responsibility, supported by an emballage pool and integrated systems support



Volvo Logistics key figures and customer base

YE 2005

Controlled turnover

~1000 Million Euro

Customer savings

33,6 Million Euro

Employees

~900

Offices

27

By customer base

External
43%

Whereof
VCC is the
biggest



AB Volvo
57%

Customer Base

Volvo Group

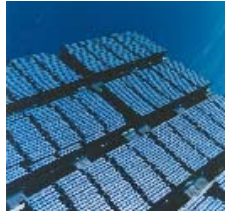
EXAMPLES



External

VOLVO
Volvo Car Corporation





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Environment – European Congestion

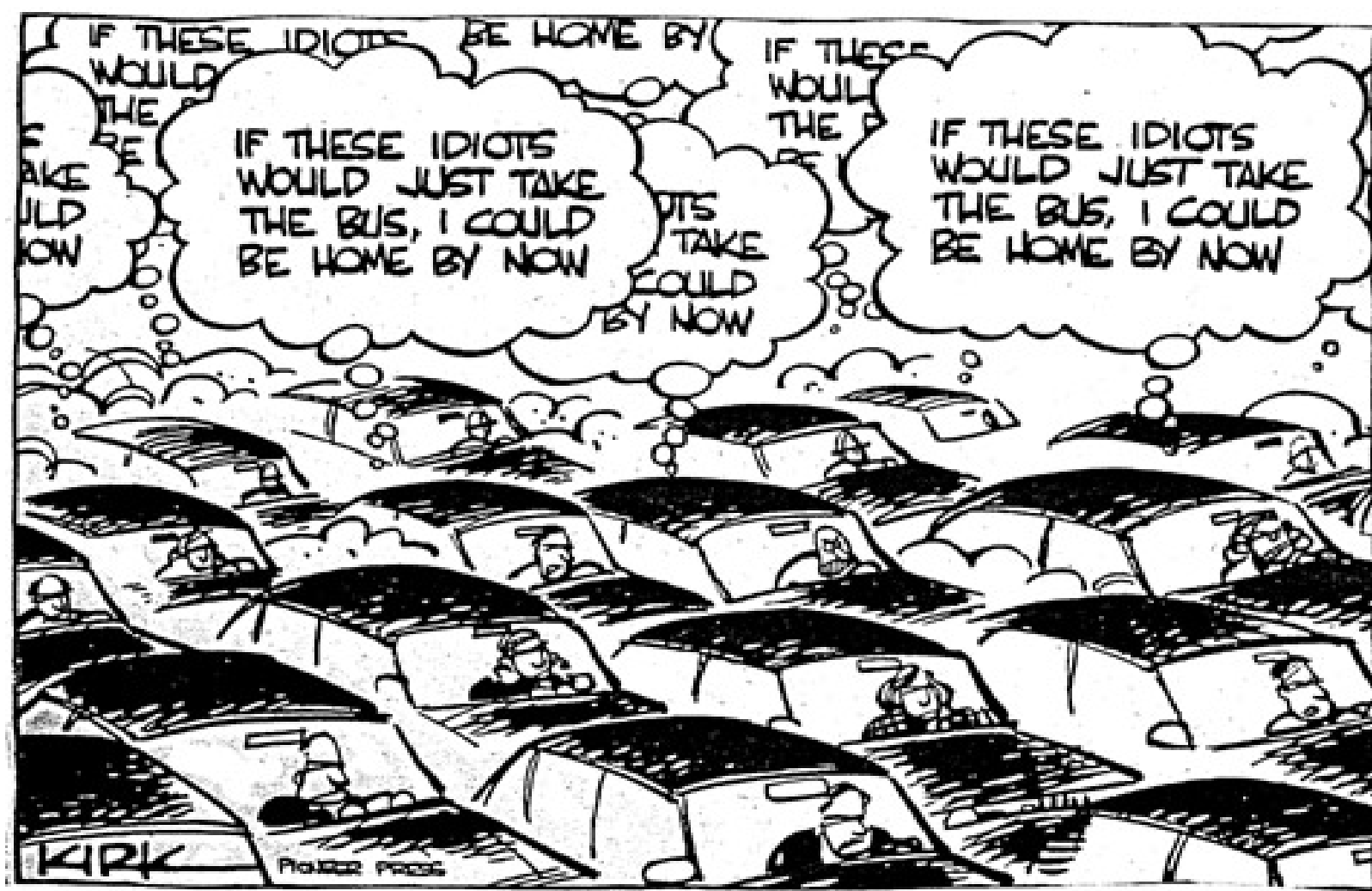
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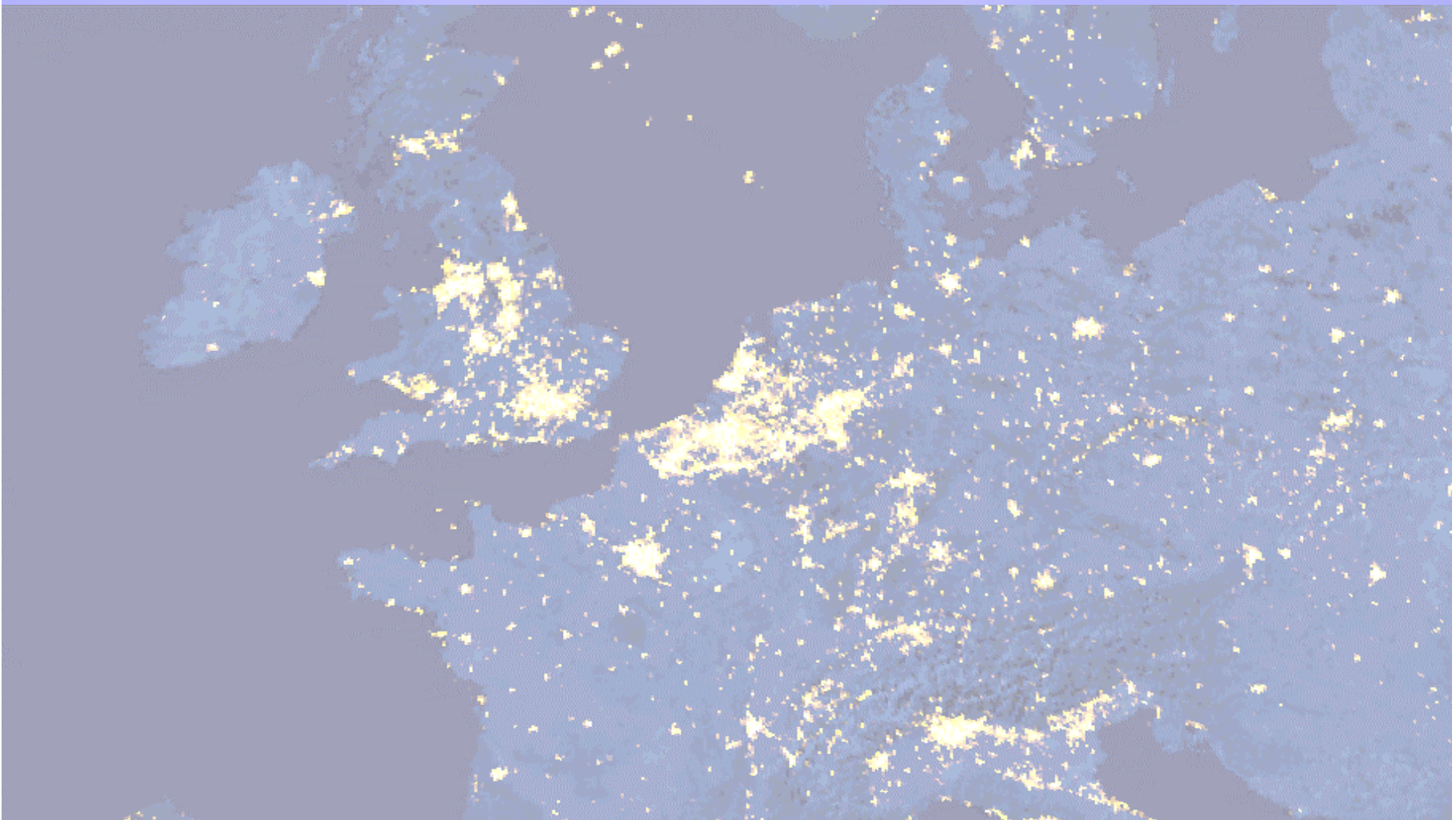
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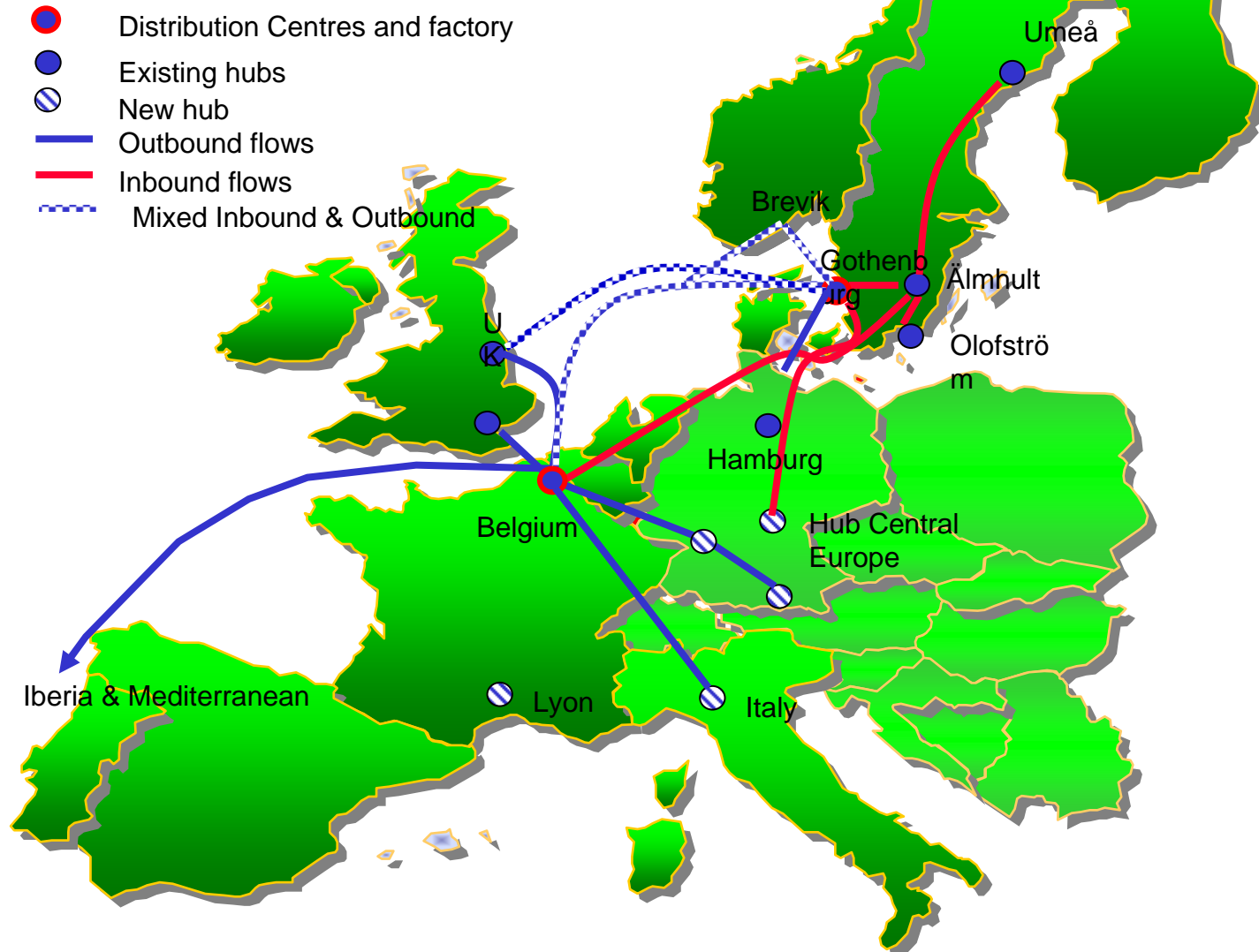
Most of us dislike traffic



Europe by night



VLC's strategical highways





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EnvCalc



Rail - the “8”

2 trains per day

- Olofström – Göteborg - Olofström
- Olofström / Umeå – Gent – Olofström/Umeå



- **Distribution Centers and factories**
- **Hubs**
- **Rail**
- **Short sea**



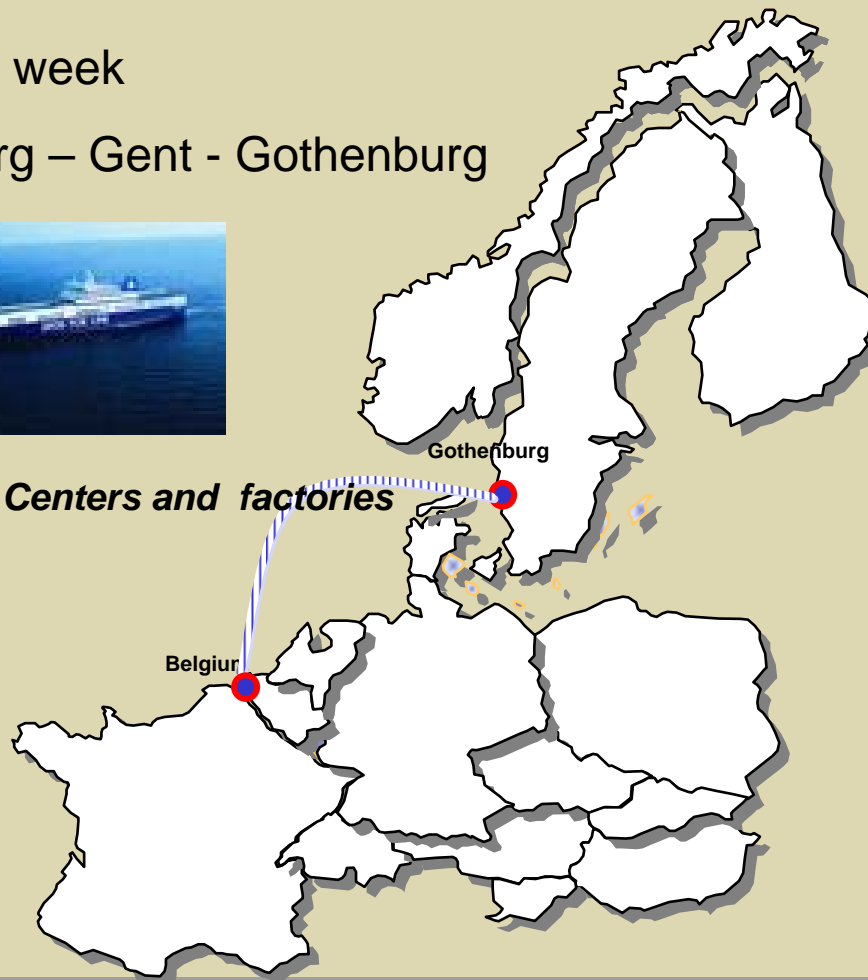
Short sea - Eurobridge

6 ships per week

•Gothenburg – Gent - Gothenburg

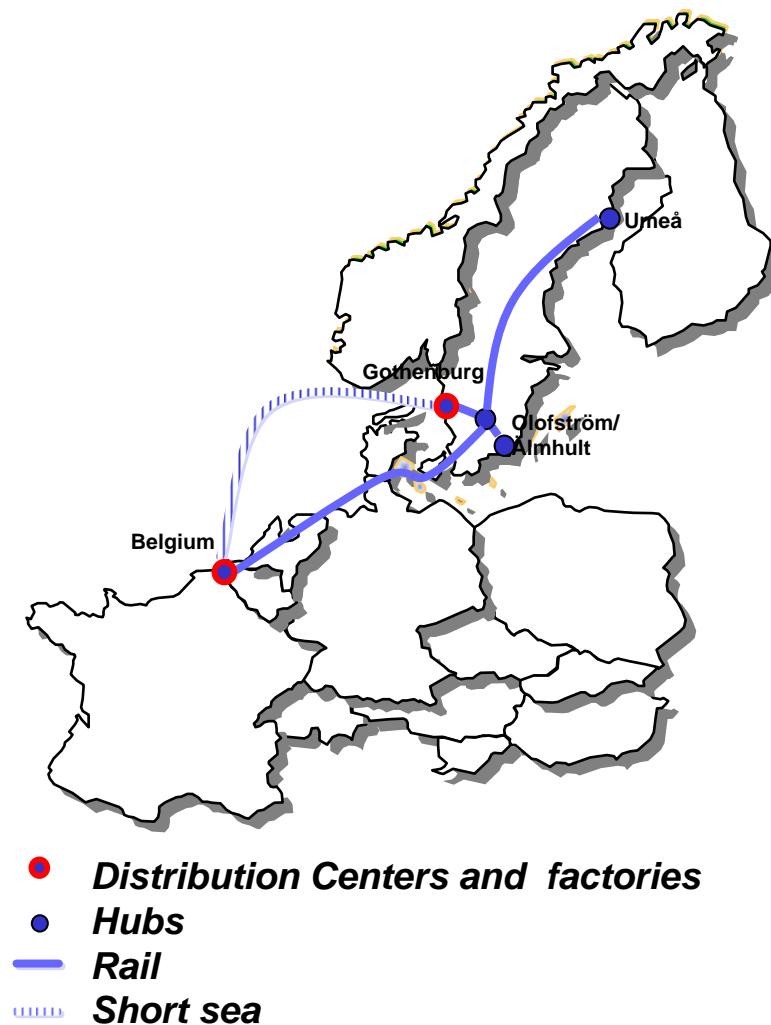


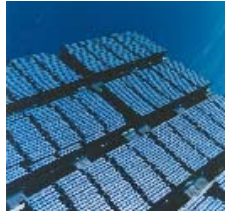
- **Distribution Centers and factories**
- **Hubs**
- **Rail**
- **Short sea**



Results

- Yearly take away from congested roads in Europe:
 - ~14 100 car trailers
 - ~29 000 ordinary trailers
 - ~1 760 km containers
- Reliable set-up with transport precision of >95%
- Environmental friendly compared to road transports
- Flexible being able to handle fluctuations in volumes
- Good case to show that intermodal solutions can be handled
- Large potentials for further development





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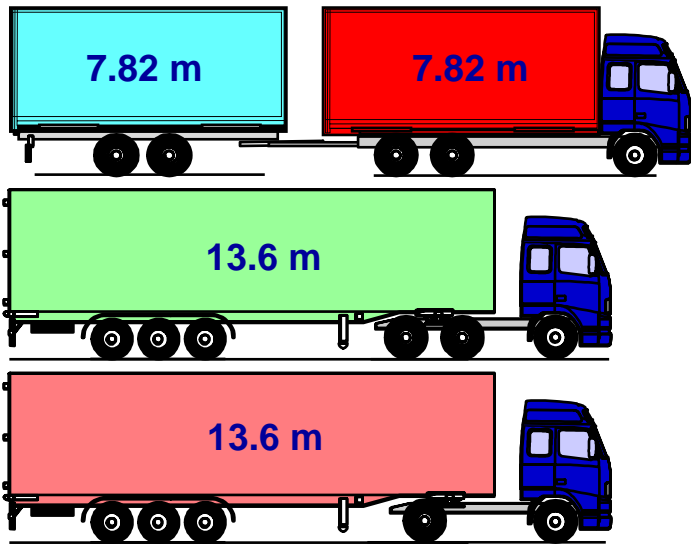
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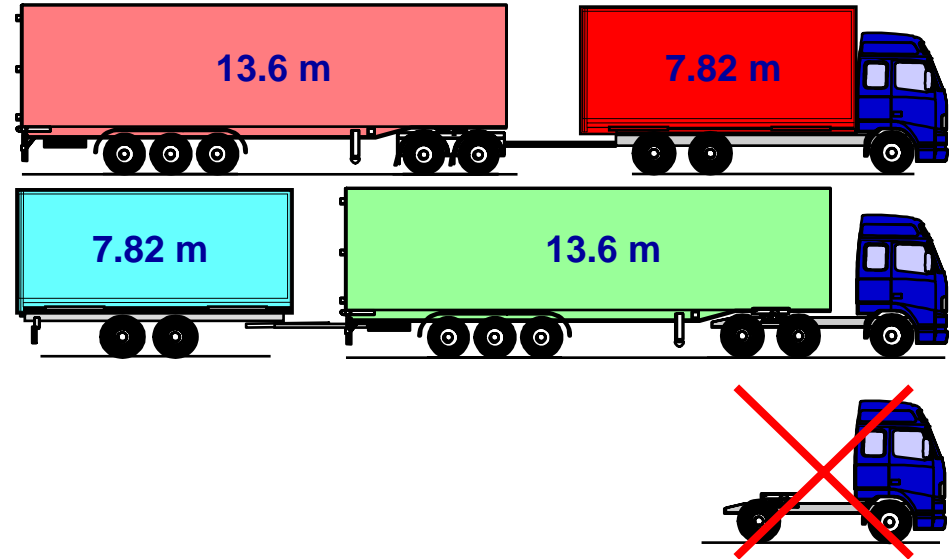
Environmental assessment

European Standard Vehicles vs. Module System

EU



SWE & FIN



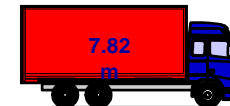
Two vehicles instead of three

- Possible to rearrange to shorter combinations
- Standard loading units
- Same volume of cargo
- Less total fuel consumption
- Less emissions per tonkm
- Less total room on road
- Lower cost per tonkm
- Less road damage

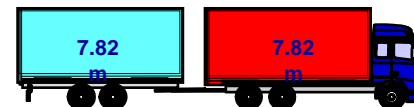
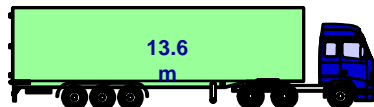
The Modular Concept and a Road Class System

The idea is to adapt vehicles to the local infrastructure

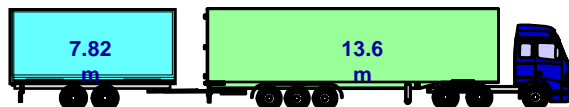
- Use small vehicles when needed
- Use the largest vehicles when possible
- Use a modular system that provides possibilities to rearrange and adapt vehicles to different kinds of infrastructure
- Use vehicle “modules” that are standardised
- “Make better use of what we already have”



Road Class 1



Road Class 2



Road Class 3

A Modular Concept vehicle; truck + dolly & semitrailer



A Modular Concept vehicle; semitrailer + centre axle trailer

Volume oriented, max 40 / 44 / 46 tonnes (EU) with 4x2 tractor

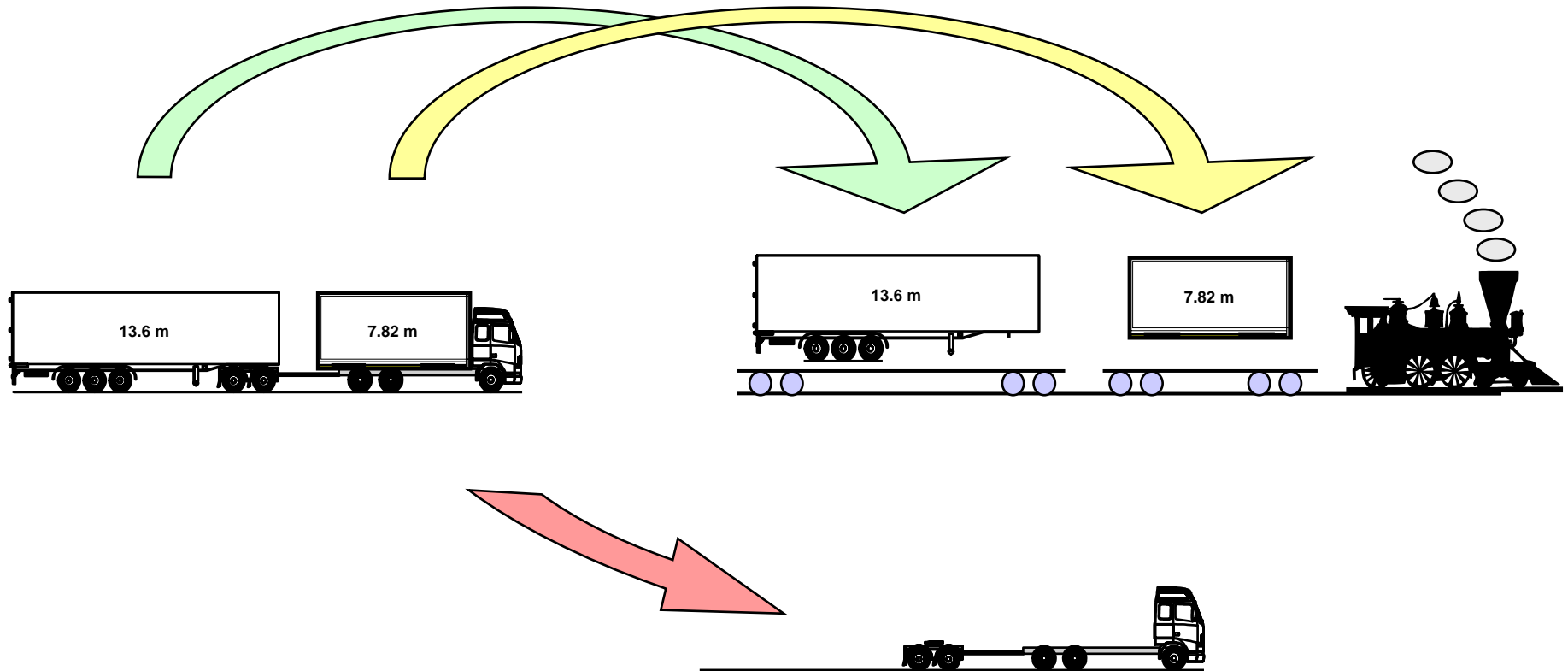


A Modular Concept vehicle; B-train & semitrailer



The Modular Concept favours Intermodality

when using semitrailer and swap body units or containers



The European Modular System - Conclusions

Strengths and Opportunities

- ✓ Increases European transport efficiency and economic competitiveness
- ✓ Reduces the number of vehicles for a given amount of goods
- ✓ Reduces global and local environmental impact
- ✓ Improves traffic safety
- ✓ Reduces congestion
- ✓ Reduces road wear
- ✓ Supports intermodal transport
- ✓ Included in EU Directive 96/53/EC
- ✓ Is based on existing load units and vehicles
- ✓ Possible to rearrange into shorter combinations
- ✓ Tested in the Netherlands and used for many years in Sweden and Finland with positive experience



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Environmental Care

Transport on land, at sea and in the air is harmful to the environment due to resource consumption and emissions. Volvo Logistics develops and manages efficient logistics, transport and packing material systems with minimised impact on the environment.



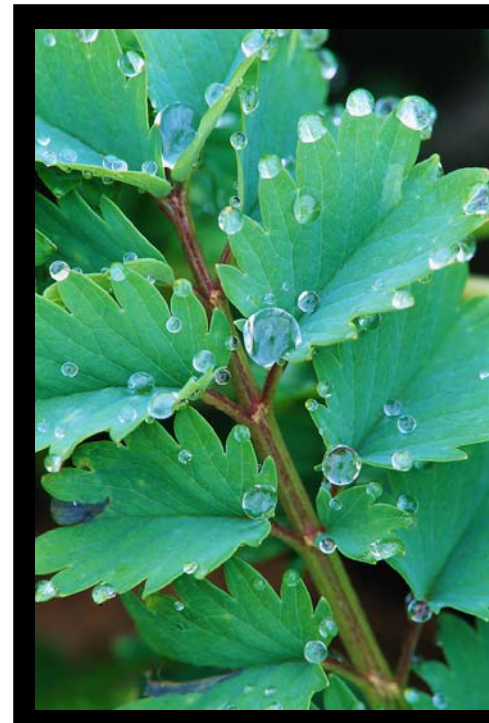
The Volvo Logistics Environmental Strategy

Our Environmental Objectives

Reductions in emissions of:

- CO₂ (carbon dioxide)
- NO_x (nitrogen oxides)
- SO_x (sulphur dioxide)
- PM (particle matters)

by at least **5%** per emission factor and tonkm between 2007 and 2009.



Euro-classes and demands

Euro-class legislation in Europe:

Euro 1	1993
Euro 2	1996
Euro 3	2001
Euro 4	2006
Euro 5	2009
Euro 6	2012



Our Demands

- ISO 14001 or SmartWay
- Sulphur content for sea transports

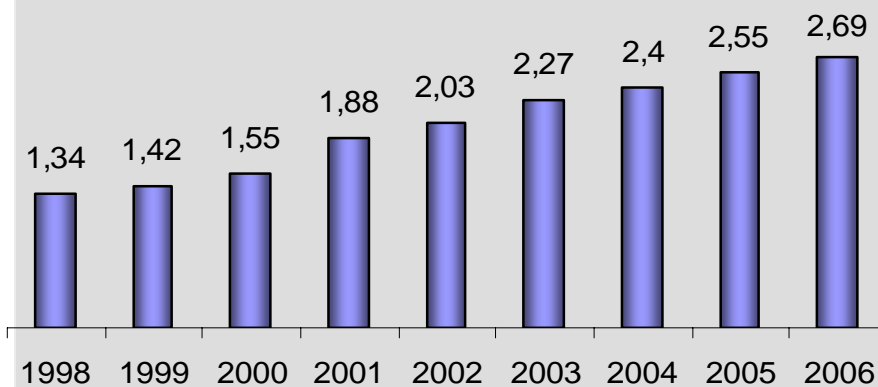
For road transports:

Year	Europe	US	South A	Asia
2007	Euro 2	US98	-	-
2009	Euro 3	US04	Euro 2	TBE
2012	Euro 4	US07	Euro 3	TBE
2015	Euro 5	US10	Euro 4	TBE

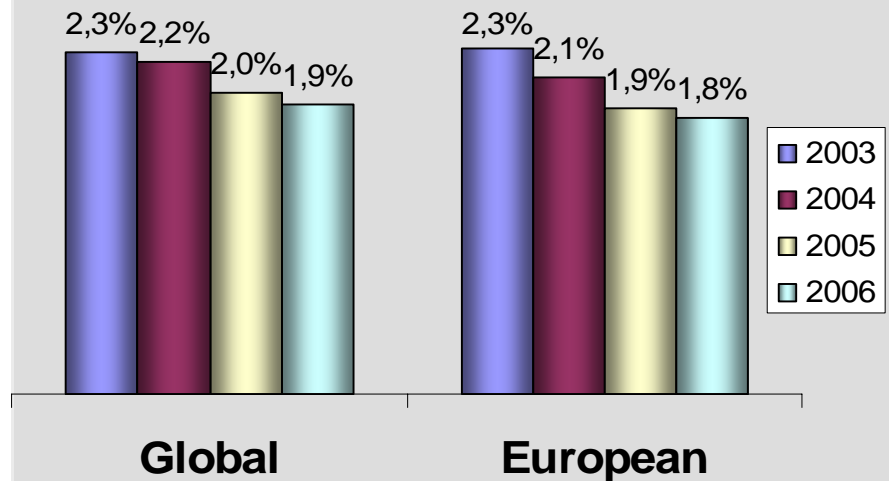
On request the Carrier is obliged to present data, documentation, policies and answer surveys.

Environmental Achievements 2006

Euro class index for road transports



Sulphur content in bunker oil





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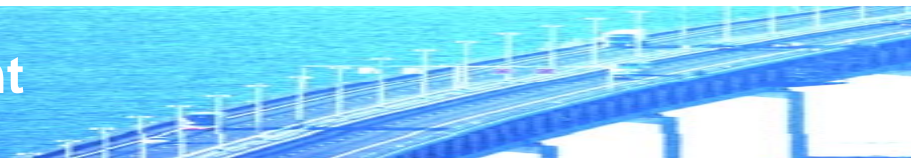
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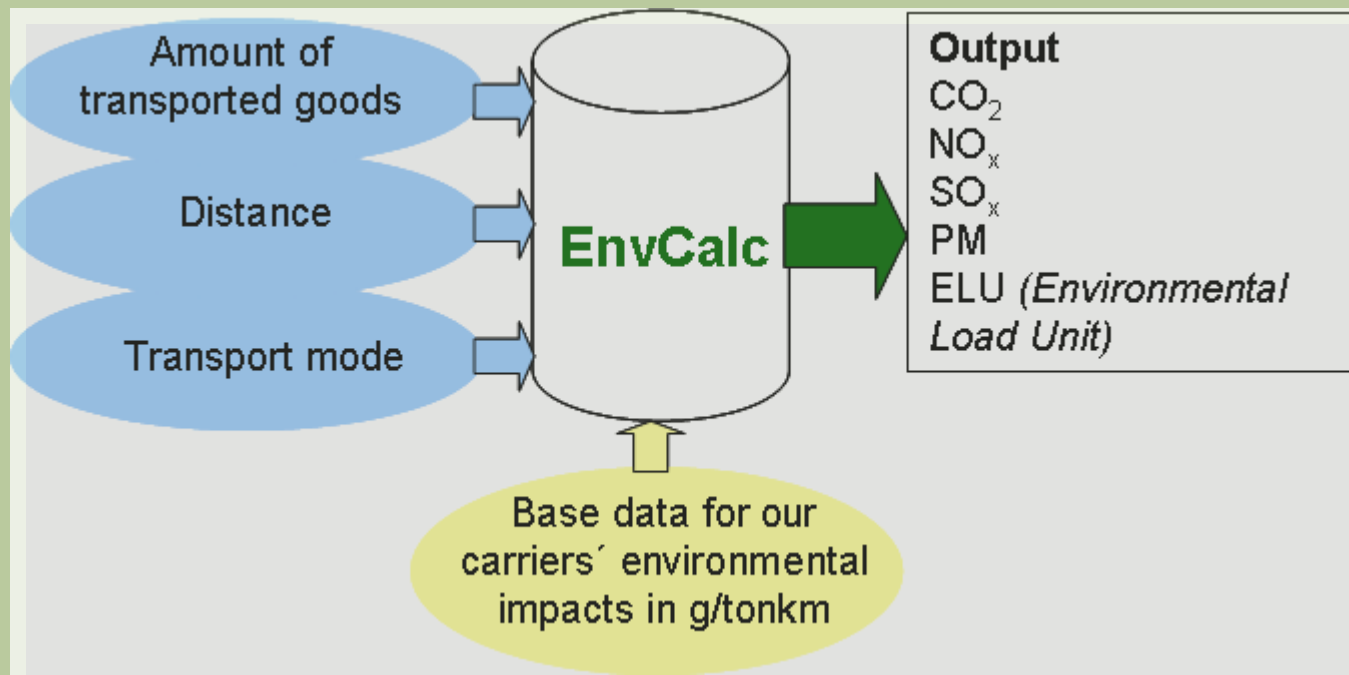
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EnvCalc – Volvo Logistics' tool for environmental assessment



Recognition

- Nomination to the EU Commissions **Clean Marine Award** 2004
- Award for our **intermodal transports**, November 2005
- The Swedish Society for Nature Conservation - **Diploma for Bra Miljöval** May, 2006



Volvo Logistics constantly works with..

- Developing and implementing smart logistic set ups
- Intermodal solutions
- Developing transportation solutions
- Environmental demands on carriers
- Calculating environmental impact

By doing this we achieve cost efficient solutions with a limited environmental Impact.



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Thank you for your attention!

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