

VOLVO

Challenges Ahead in Purchasing/Logistics *Emerging Market Sourcing*

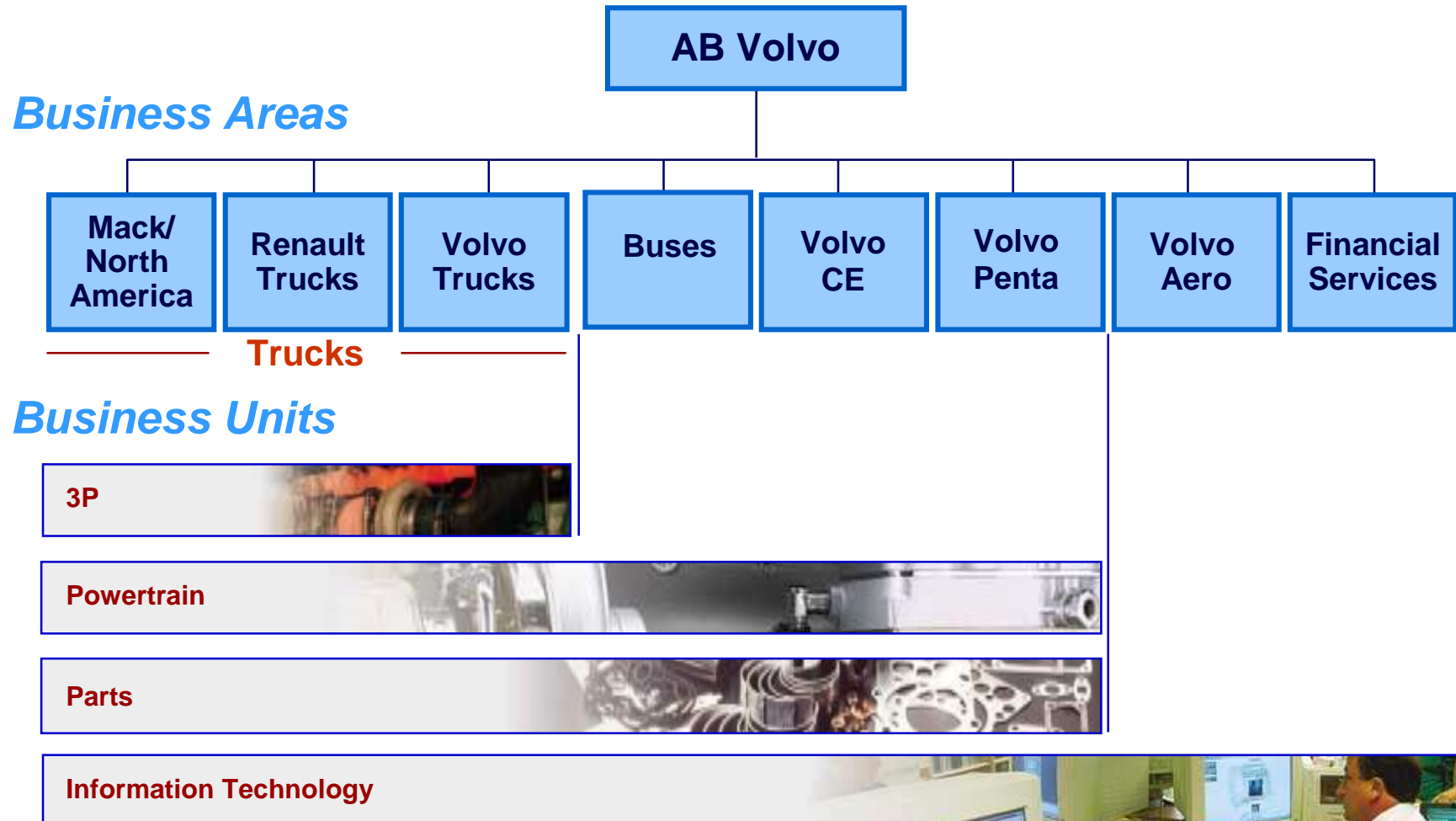
Klas Sandrén

Vice President Purchasing
Volvo Powertrain Corporation

VOLVO

The Volvo Group

The Volvo Group Organisation



Maintaining Strong Positions



DCX

Volvo Group

FAW

Dongfeng

Paccar

> 16 ton



Evobus*

Volvo Buses

Irisbus

VW Brazil

Neoman

*Mercedes & Setra
> 12 ton



Caterpillar

Komatsu

Volvo CE

Case & New Holland

Deere



Brunswick

Volvo Penta

Yanmar

Cummins

Caterpillar



Volvo Group

DCX

Caterpillar

Cummins

Scania

9-18 lit

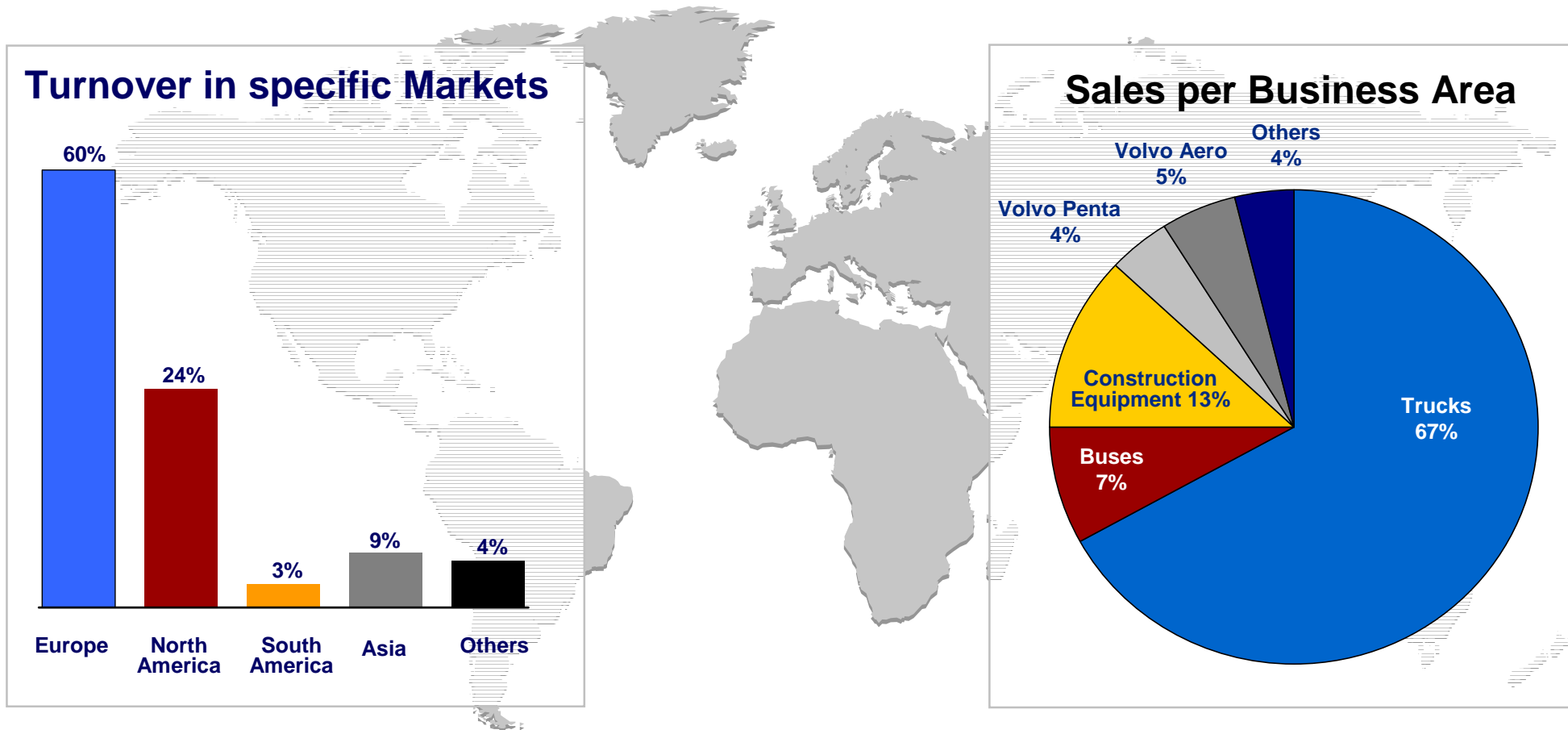


Volvo Aero

- World leading in development and production of selected engine components.
- Engine components from Volvo Aero is included in 80% of all new larger civil aircrafts.

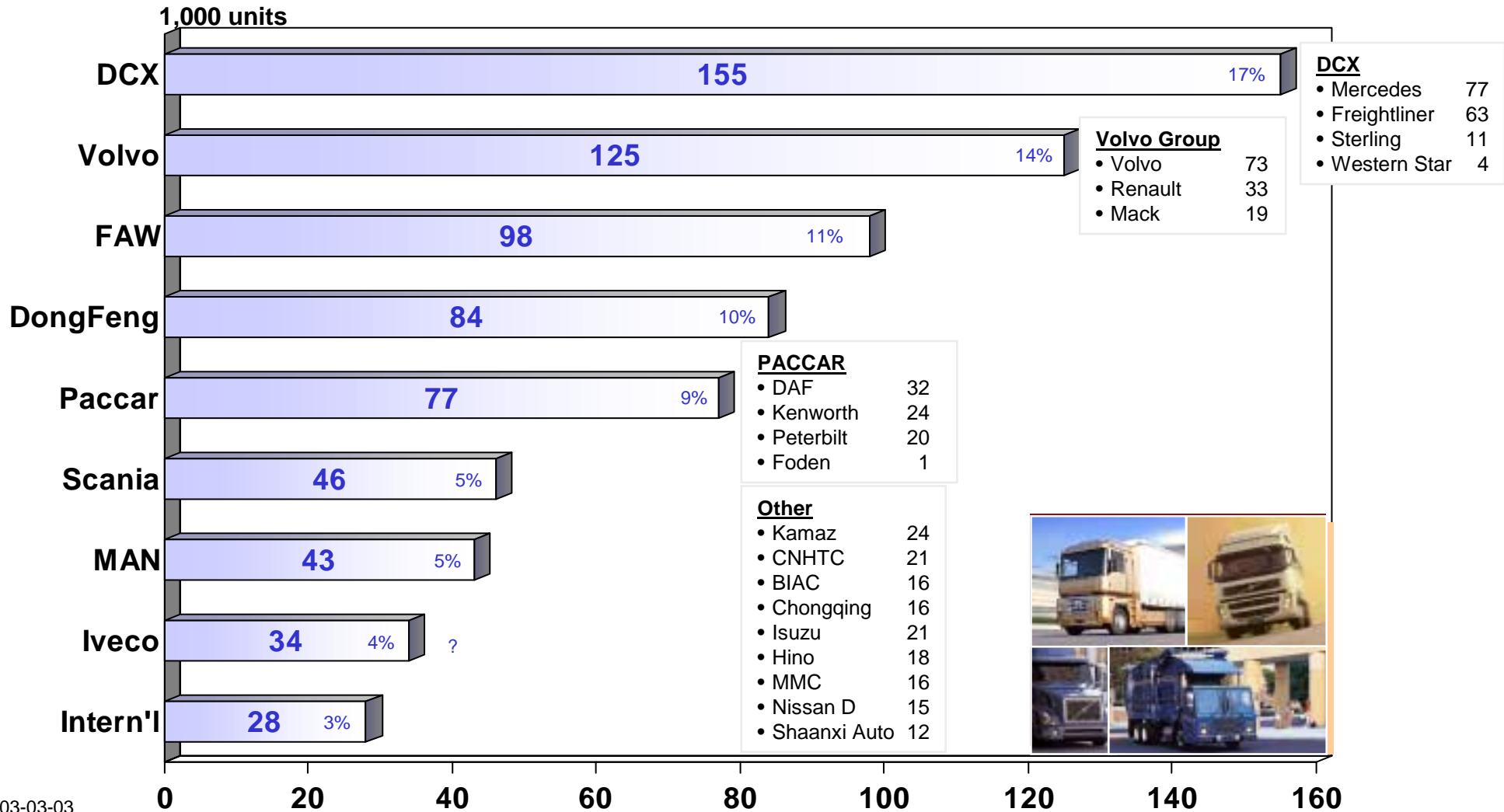
Turnover in specific Markets and Relative Sizes of Business Areas 2003

Total Sales SEK 175 bln



“Global” Market Position

Heavy Duty Vehicles – 2003 (preliminary)

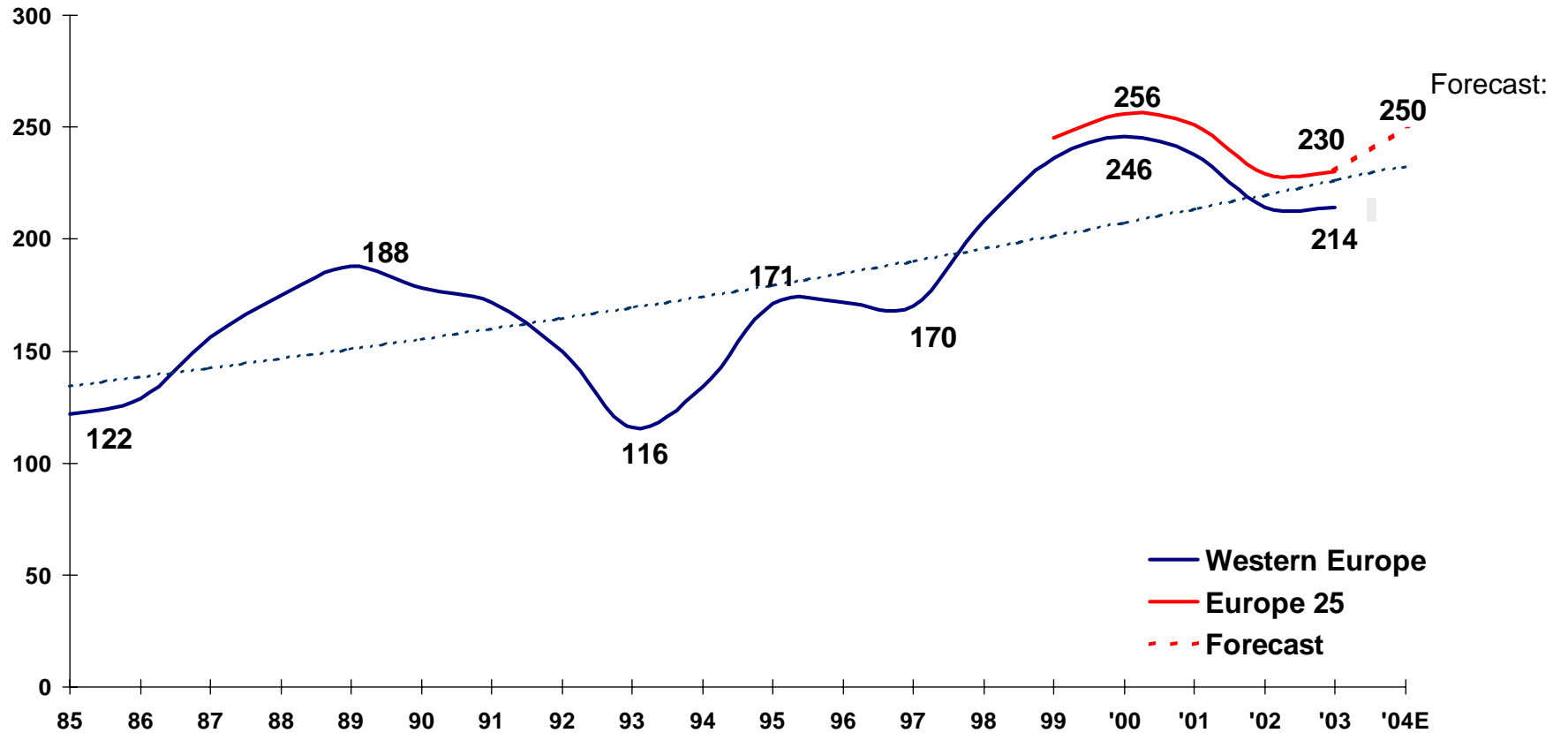


1) Updated 2003-03-03

Heavy Duty Truck Market Europe 25



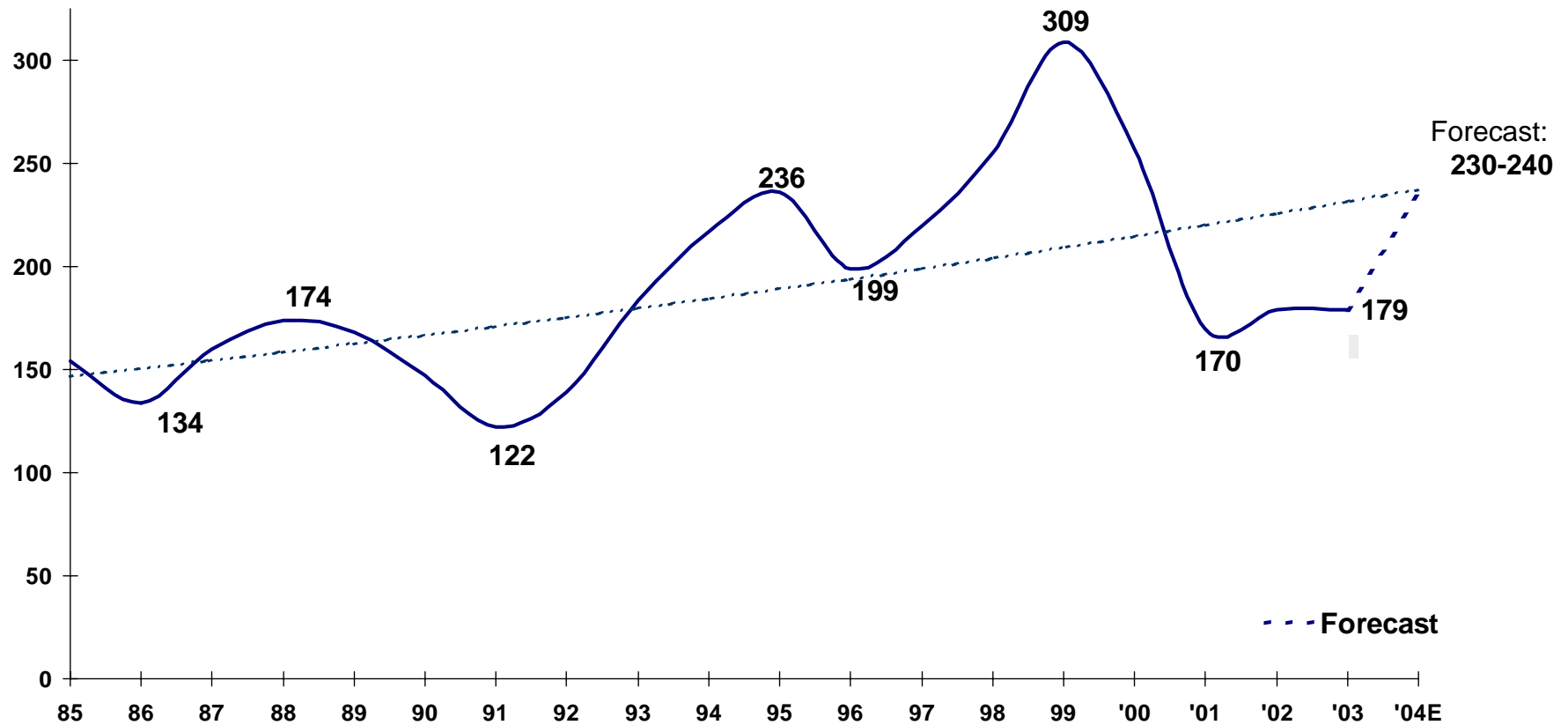
Units, Thousands (heavy trucks)



Heavy Duty Truck Market North America



Units, Thousands (heavy trucks)



VOLVO

Volvo Group Expansion in China

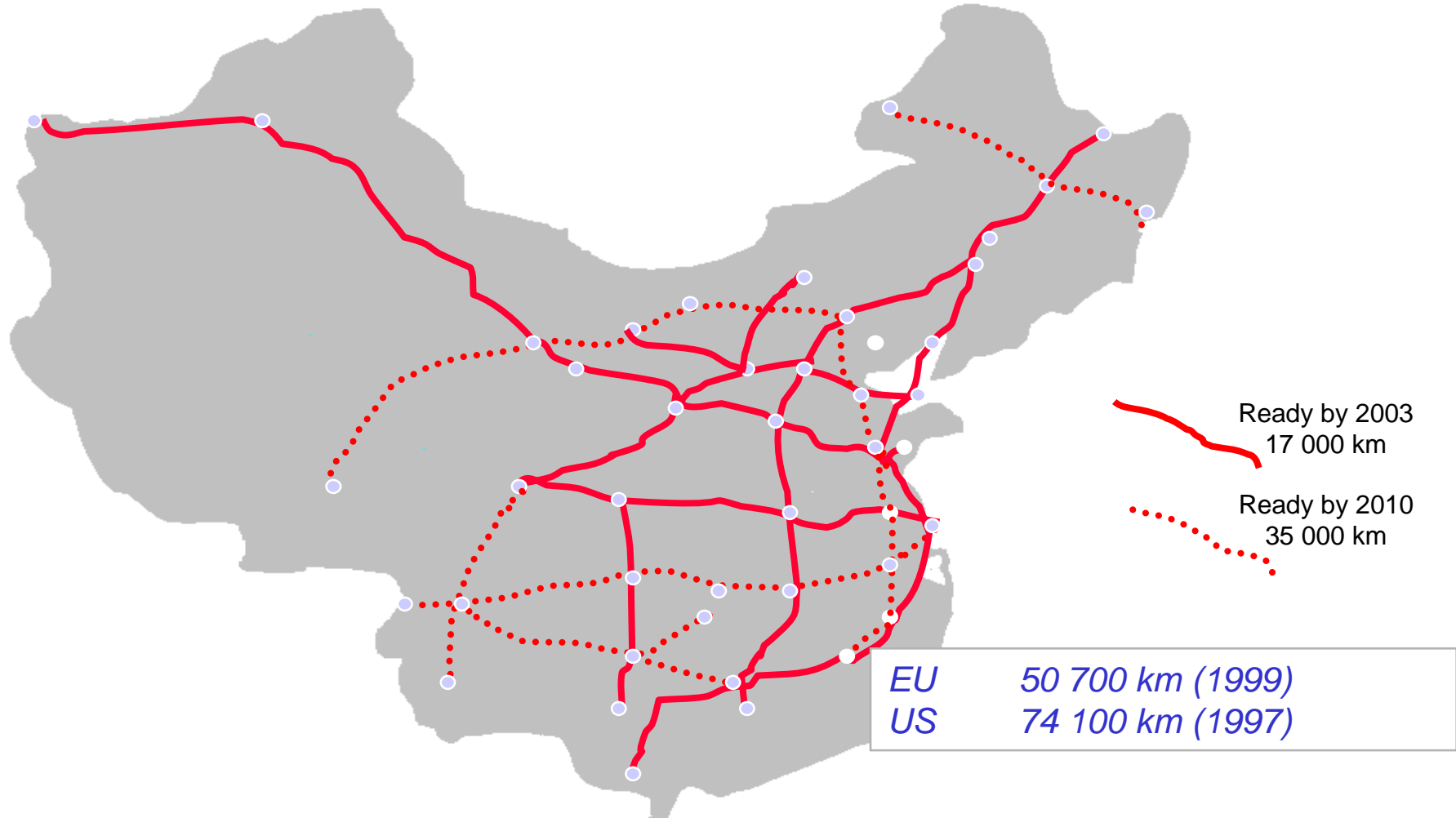
Volvo Group Invests in China

- Substantial market potential

- Extensive expansion of the expressway system
- Substantial sourcing opportunities
- GDP growth rate: 8% over four years
- Chinese entrance in WTO opens up for business opportunities with mutual development
- Some 90 cities with more than one million inhabitants
- 20% of the earth's population



China's Expressway System by 2010



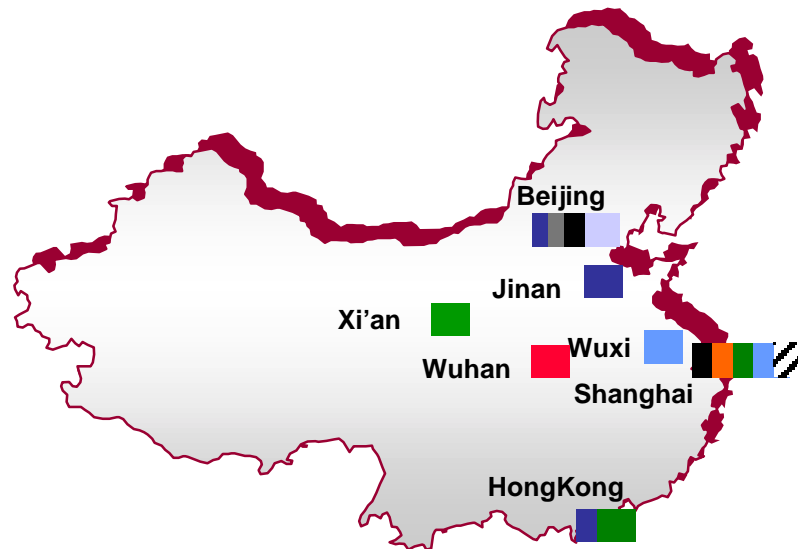
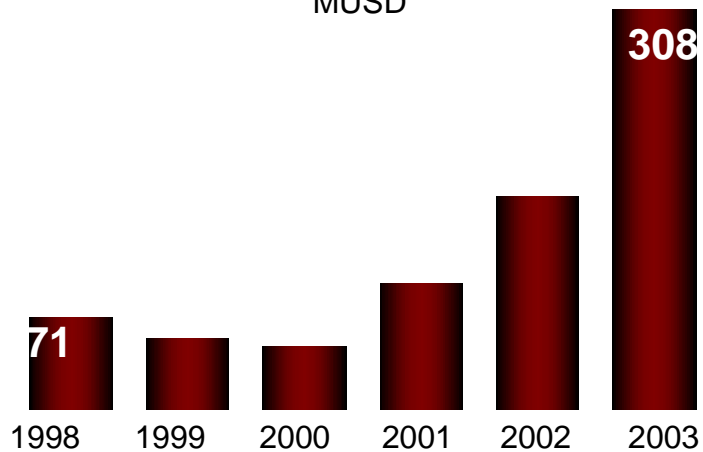
Source: The world factbook, EU Energy & Transport in Figures 2002, VCIC

Volvo Group in China 2003



Group Sales Development

MUSD



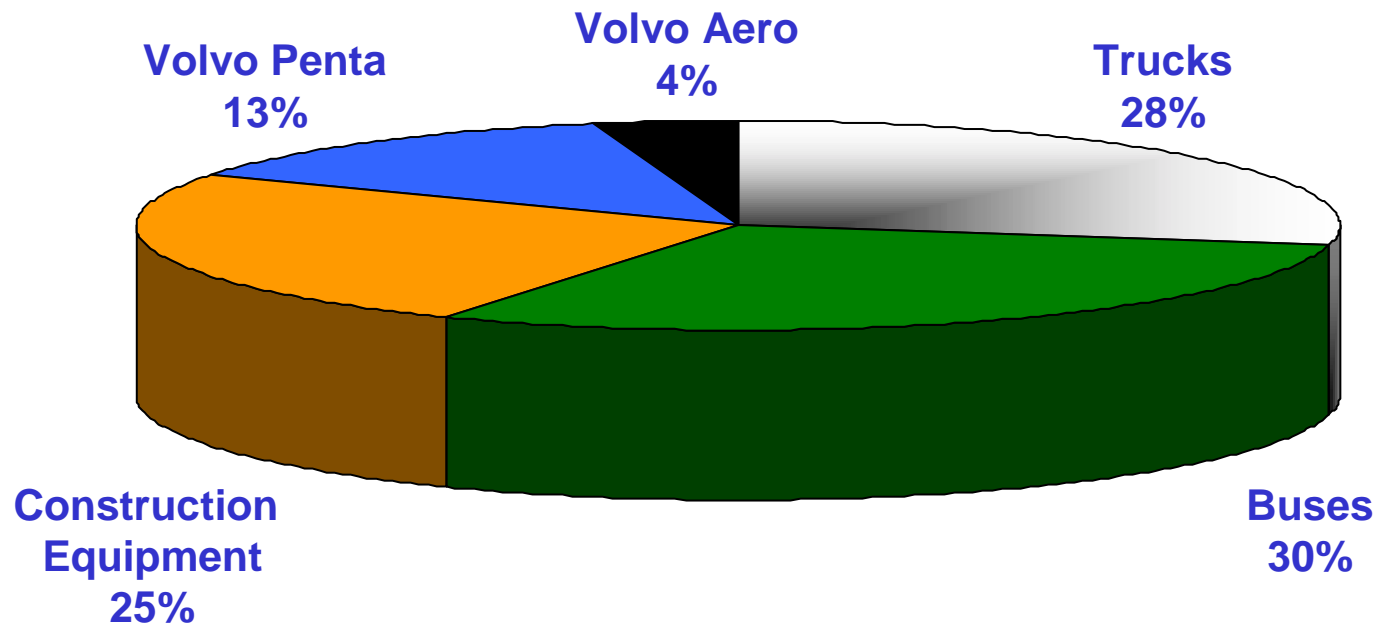
- Volvo Group
- Volvo Trucks
- Renault Trucks / DFMC
- Volvo Buses
- Volvo Construction Equipment
- Volvo Penta
- Volvo Aero
- /// Volvo Parts

Employees incl. J/V: 1900

Source: VCIC, VEGA

Volvo Group Sales in China

Per Business



Total Sales 308 MUSD

Source: VEGA

Beijing March 29 2004

AB Volvo

Press Information

Volvo signs Engine Cooperation Frame Agreement covering engine manufacture in China

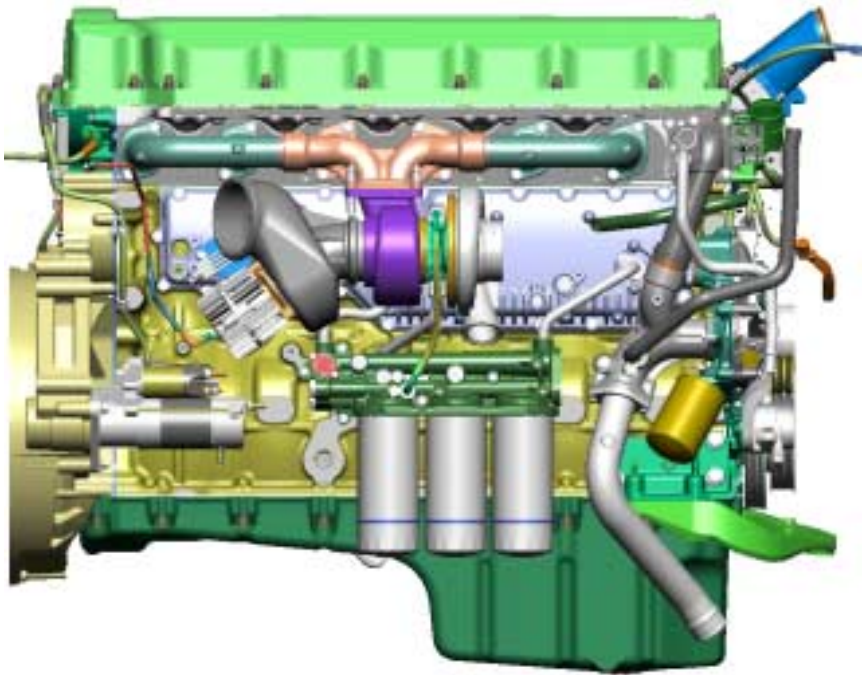
Volvo CEO Leif Johansson signed a Engine Cooperation Frame Agreement today in Beijing with the truck manufacturers China National Heavy Truck Corporation (CNHTC), and First Automotive Works (FAW) covering the establishment of a jointly owned engine plant in China. The plant will manufacture complete engines for Volvo's various business areas in China and for CNHTC's and FAW's trucks.



Volvo Powertrain in China

Co-operation for Engine Production

Volvo Powertrain



Frame agreement for a J/V between Volvo, CNHTC and FAW

- Ownership: 52% for Volvo; 24% for FAW; 24% for CNHTC
- Produce future engines based on Volvo platform and technology
- Total investment USD 200 million; Volvo ~USD 105 million
- Annual production 50,000 engines
- Production start in 2006

Jinan March 30 2004

Volvo Truck Corporation

Press Information

Volvo Trucks inaugurates factory in China

Volvo Truck Corporation is today inaugurating a new factory in Jinan together with its Chinese partner, China National Heavy Truck Corporation (CNHTC). The new factory will build Volvo trucks for the growing Chinese market. The factory has initially a capacity of about 1,200 trucks a year.



Volvo Trucks in China

JV agreement with CNHTC

Volvo Trucks



Jinan Huawo Truck Co. Ltd

- Ownership 50/50%
- Registered capital 72.3 MUSD

Status

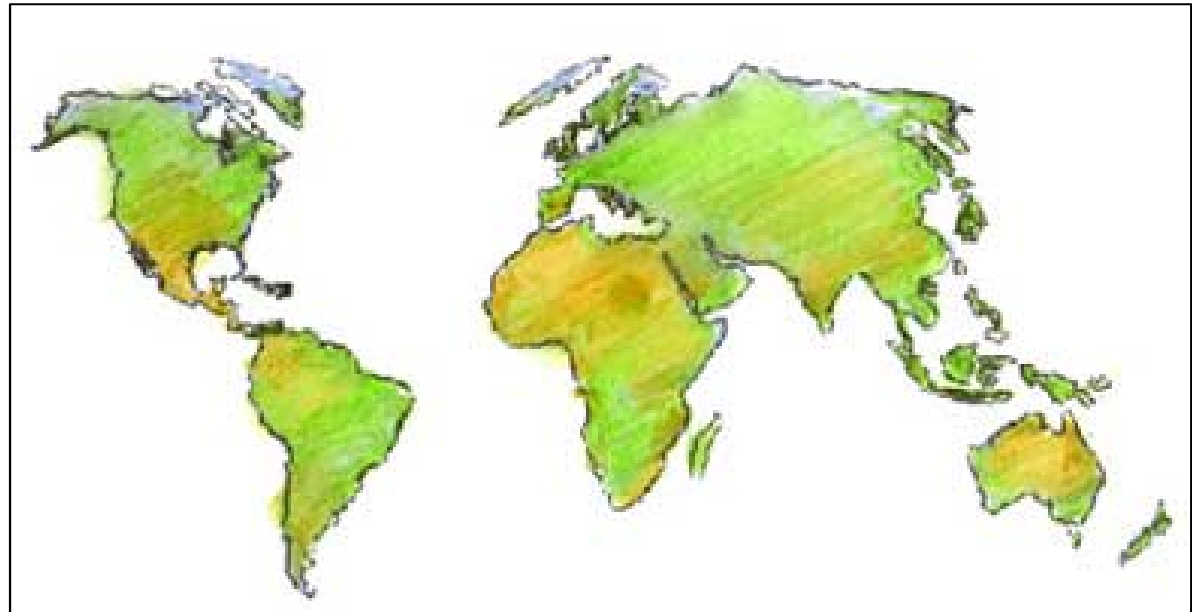
- Business license and company registration in place
- Import license received
- Inauguration March 31, 2004

VOLVO

Logistic Challenges and Guidelines *To prepare for Emerging Market Sourcing*

Main EMS countries of origin

- ✓ INDIA
- ✓ TURKEY
- ✓ MEXICO
- ✓ CHINA
- ✓ POLAND
- ✓ KOREA
- ✓ BRASIL



Logistics Golden Rules

- 1) Support the plants logistics requirements.**
- 2) Target lowest Total acquisition cost.
- 3) Integrate logistics starting with the inception of projects
- 4) Optimize communication with suppliers**
- 5) Use the packaging system to support the work station and to be a factor towards the lowest Total Acquisition Cost
- 6) Perform logistics evaluations and Monitor supplier performance**
- 7) Follow the 3M Flow Strategy
- 8) Request all suppliers to deliver from a point where the reaction and lead time demands can be met.**

1) Support the plants logistics requirements

- ✓ Ensure product/part quality from supplier to point of use.
- ✓ Deliver the right material to the right place at the right time in the right quantity.
 - ✓ **Delivery methods must support the plants requirements** e.g: Line-sequence, Kan-Ban, Batch delivery; direct to line where suitable, Kitting, Vendor Managed Inventory ...
- ✓ Support a modular product concept.
 - ✓ A short main assembly line and variation taken in pre.-assemblies.
 - ✓ **Diversity and volume should occur at the end of the process.**
 - ✓ Sub-assembly should be done as close to point of use as possible.
- ✓ **Support the work station ergonomics and efficiency.**
 - ✓ Respect the weight, height and packaging recommendations
 - ✓ Support the 100% Face Ratio objective

4) Optimise Communication with suppliers

- ✓ **Target 100% Electronic communications (EDI / Web EDI)**
 - ✓ Efficient communication “from business application to business application” of relevant and accurate information, with appropriate frequency,
 - ✓ **Request EDI communication between tier 1 and next tier suppliers**

- ✓ **Manage supplier relationship to become the preferred customer** (ref. to rule #6)

- ✓ **Aim at a common way of working and common IT-solutions within 3M,**

- ✓ **Firm production schedule** should be the base for final material release and delivery instruction.

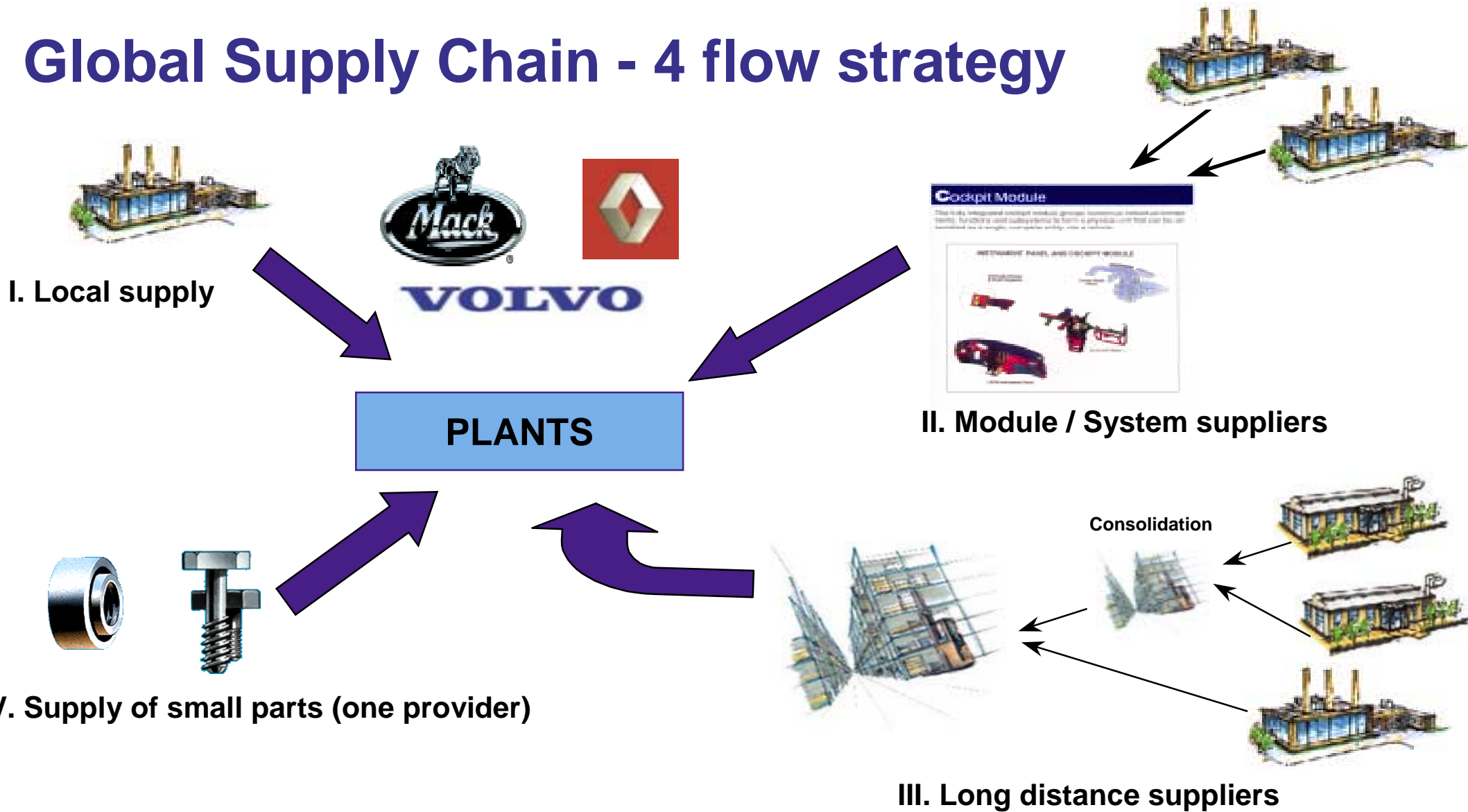
6) Perform logistics evaluations and Monitor supplier performance

- ✓ Verify suppliers **self-assessment and/or perform Logistics evaluation according to the AIAG and ODETTE document** (i.e. MMOG/LE, part of the SEM). See Purchasing Quality Procedures #12
- ✓ **Perform continuous measurement of dispatch precision** (right quantity, right time) and provide result to purchasing systems, and to suppliers if required,
- ✓ Use supplier performance and logistics evaluation results for supplier relationship management with the **target to improve total performance**
- ✓ Monitor suppliers progress on agreed improvement areas,

8) All suppliers must deliver from a point where the reaction and lead time demands can be met

- ✓ **Long distance suppliers must meet prescribed requirements regarding support and reaction time**
 - ✓ They must deliver from a Pick-up Point if a normal transport time is more than 3 days, or a rush transportation time is more than 24 hours
 - ✓ The Pick-up point should be as close to the production process as possible
- ✓ The supplier takes full responsibility and ownership up-to and including the pick-up point
 - ✓ All logistics costs (e.g. transportation, packaging, warehousing...), up-to and including the pick-up point shall be included in the parts price
- ✓ Delivery conditions shall refer to the pick-up point Purchase orders should mention “2000 Incoterm FCA agreed platform and site” (buying Incoterm) and state that customs will be cleared by the goods receiver.
 - ✓ Purchase order should mention “2000 Incoterm DDU agreed platform and site” (buying Incoterm) if the supplier is delivering up to the factory/use point.

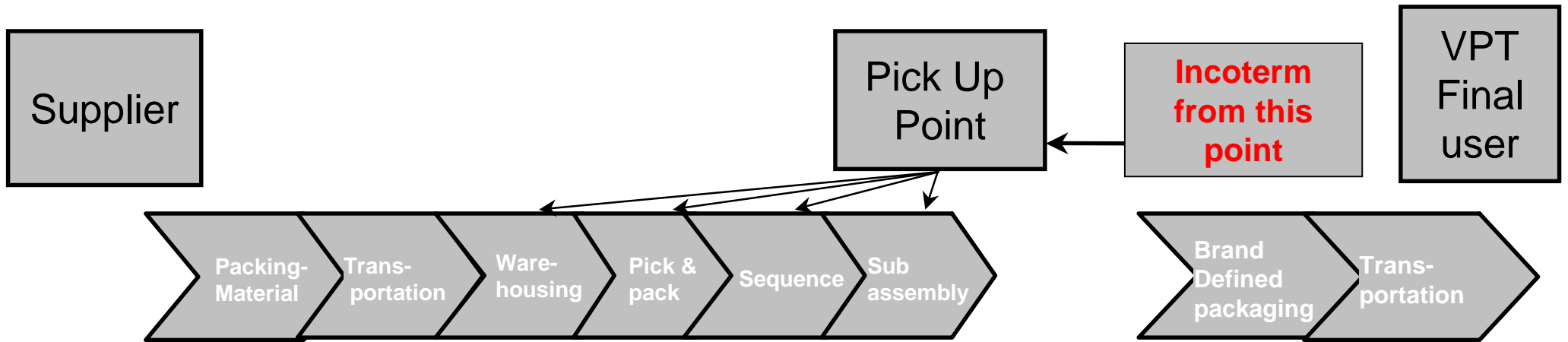
Global Supply Chain - 4 flow strategy



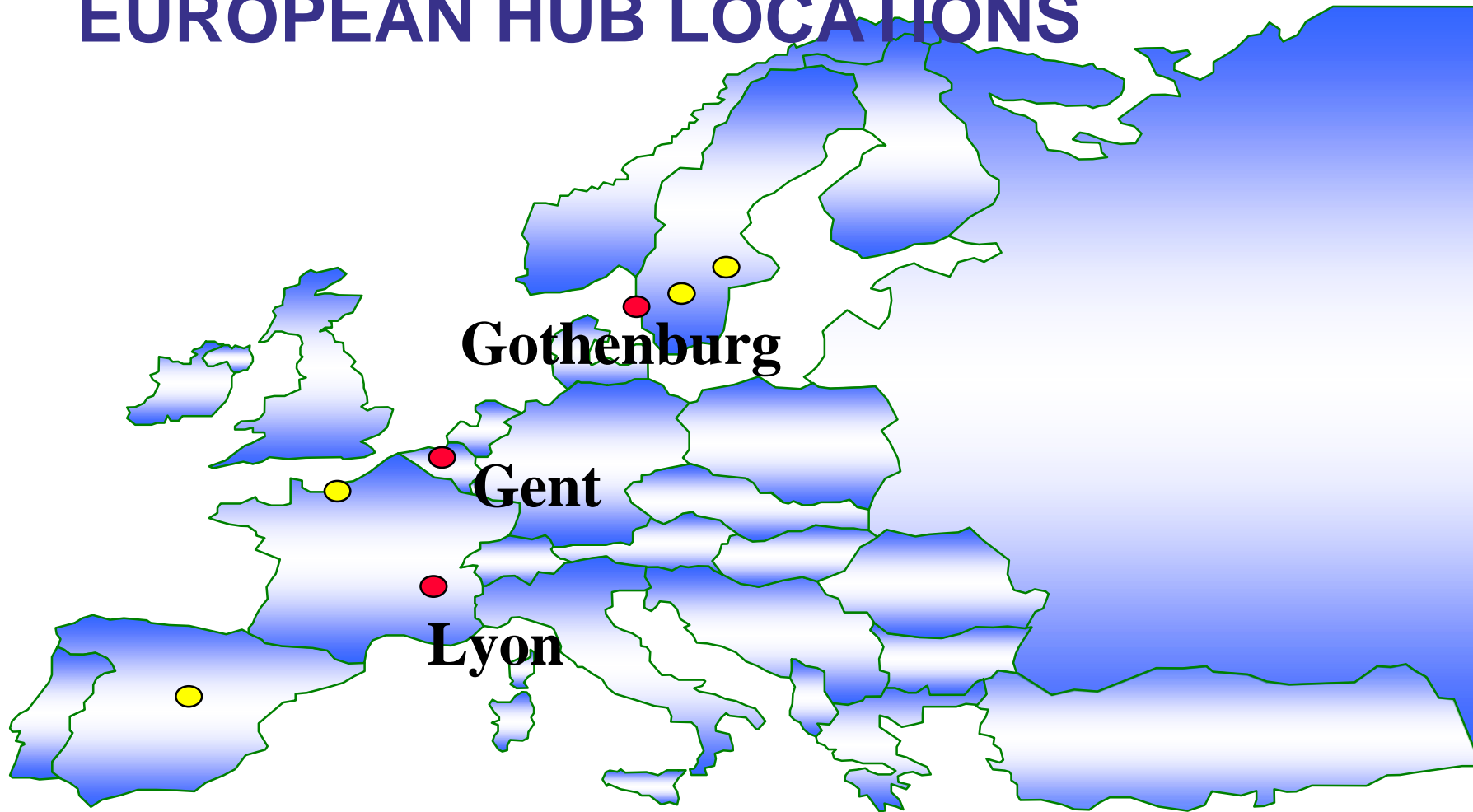
Long distance suppliers must deliver from a pick-up point where the reaction demands can be met

Supplier responsibility and ownership

Brand responsibility and ownership



EUROPEAN HUB LOCATIONS



- Main hubs
- Potential satellites

LOGISTICS SERVICE PROVIDER GENERAL DEMANDS

- ✓ Global representation Offices
- ✓ Pick up point in domestic Europe (preferable France and Sweden)and US
- ✓ **Customer experience from automotive industry or other major business**
- ✓ Warehouse facilities
- ✓ Possibility to deliver same product to different VPT locations
- ✓ **EDI / WEB EDI**
- ✓ Delivery call-off fulfilled in a very short time
- ✓ **100 % delivery precision**
- ✓ Proactive material controlling : close co-operation with the supplier
- ✓ WEB stock tracking tool
- ✓ Customs agreements (CBW, Fiscal representation...)
- ✓ **Repacking, picking, sequencing operations**
- ✓ Final assembly and customer modified

Logistics service providers long distance suppliers

delivering to European PT plants

EXEL

Geo-logistics

Kuhne & Nagel

Pan-alpina

Schenker

Volvo Logistics

VOLVO

Volvo Supplier Integration

<http://suppliers.volvo.com/>

PURCHASING **VOLVO**

VIOLIN << Applications << Supplier Portal

Help Webmap

Quick search:

Search

News
Performance
Strategic Issues
Organisation
Processes
Forums
Human Resources
Events & Presentations
Tools
Applications
Library

Other sites
Purchasing Intranet

Informaster:
[Martin de Jerphanion](#)

APPLICATIONS

Wednesday, 09 Jun 2004 at 16:36:58

VOLVO GROUP SUPPLIER PORTAL

The purpose of the Supplier Portal is:
This website dedicated to all AB Volvo suppliers is a basement of an E-business strategy driven by the Volvo Group Purchasing Council. The site is the single source for information and a dedicated working tool for today's and tomorrow's Volvo partners.

Volvo 3P, Volvo Aero, Volvo Buses, Volvo Construction Equipment, Volvo Parts, Volvo Penta and Volvo Powertrain introduced a Volvo Group Supplier Portal in January 2003 : <http://www.volvo.com/suppliers>

There are two levels in this platform :

- Public Level :
The aim is to introduce the Volvo Group purchasing organisations. Also, through this website, any potential suppliers can fill in a form that will be sent to different Volvo Group Sourcing teams. The form is based on short SEM (Supplier Evaluation Model) and aims at evaluating a new supplier.

- Secured Area :
This area is only accessible by current suppliers we have selected (user and password are needed). Through this secured area, selected suppliers can

More about the Project

- >> [Newsletter](#)
- >> [The Team](#)
- >> [Workshops](#)

Useful links

- >> [Public Level](#)
- >> [eLibrary](#)
- >> [Monaco](#)
- >> [ePS](#)
- >> [Volvo Group Standards](#)

Trusted sites

VPT Purchasing

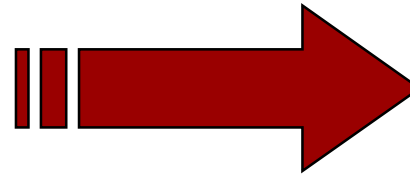
A World Class Supplier Base

Fewer suppliers, world class suppliers

- To leverage our new global dimension and volumes
- To lower development cost and investment cost
- To foster early supplier involvement, target costs, quality breakthrough



800 Suppliers,
3 different supplier bases



2007

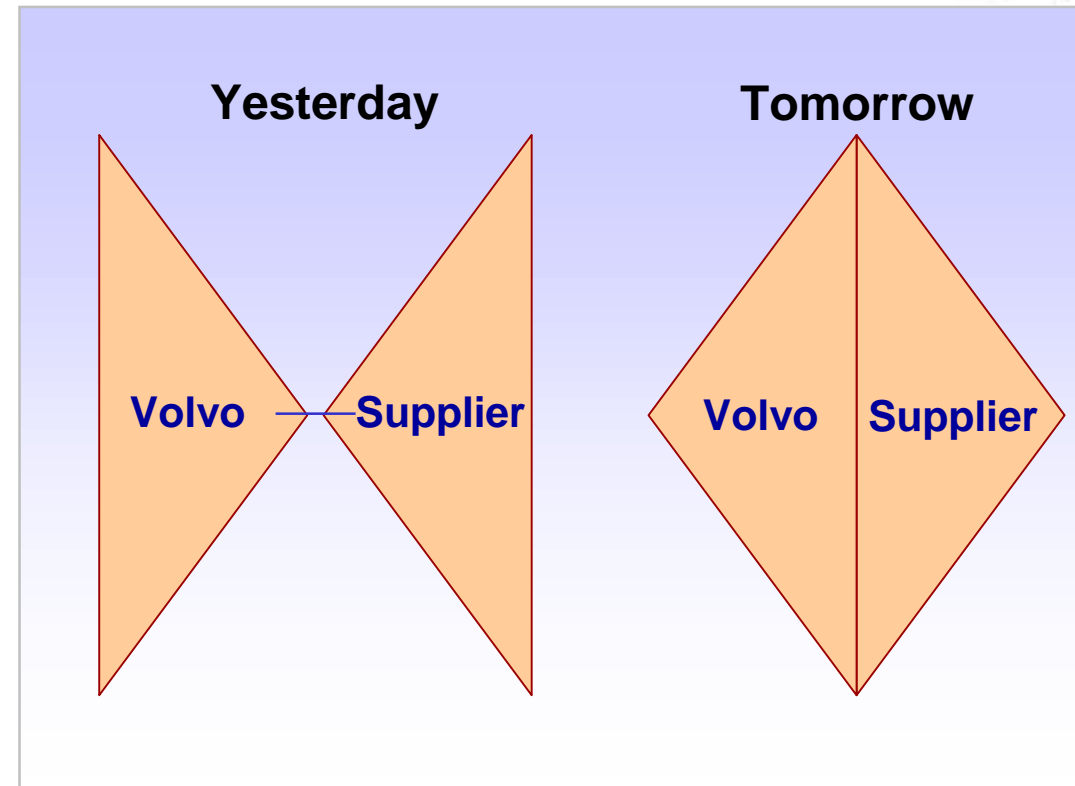


<300 Suppliers,
1 global supplier
base

Already done: <100 suppliers for HDEP
<50 Transmissions

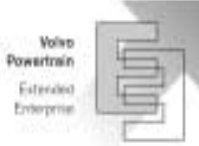
Second Step – Optimize collaboration with suppliers

- Our supplier base is accountable for a very large part of our product quality and cost
- Our supplier base represents also a tremendous power in terms of R&D, manufacturing, product knowledge and market presence (Some suppliers are even bigger than us)
- Getting the best out of our supplier base in all means, will allow us to build a unique competitive advantage



First condition of success – having a small world class supplier base – is achieved

Second step is to optimize the collaboration with our suppliers through VPT Extended Enterprise



Volvo Powertrain's Collaboration Vision

Turn our now small supplier base to an additional competitive advantage

- By optimizing our efficiency working together.
- Not only between Volvo Powertrain and suppliers, but also between suppliers.

Volvo Powertrain Extended Enterprise will be the structure behind this vision.

Thank You for listening!

Questions ?

Extra Slides

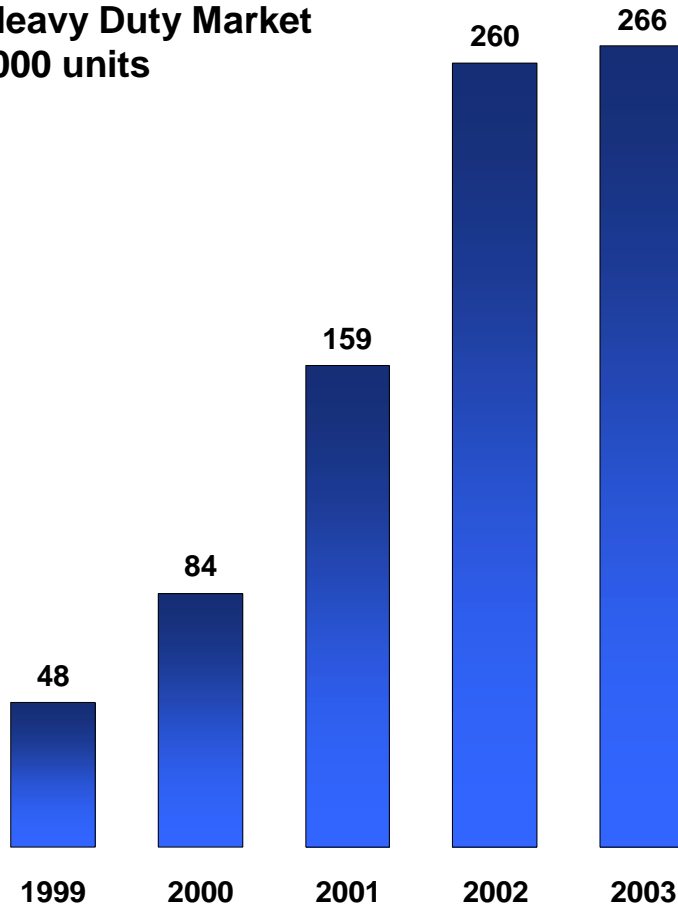
Conclusion

1. Few suppliers
2. Reinforced collaboration
3. Manage our common business with our suppliers
 - Supplier part of Cross Functional Teams
4. Regular meetings with supplier CEO:s and within teams
 - Deliver targets and synergies
 - Prepare together 2010 and beyond
 - Take value out of our supplier chain
5. Extended Enterprise Meetings and Newsletter

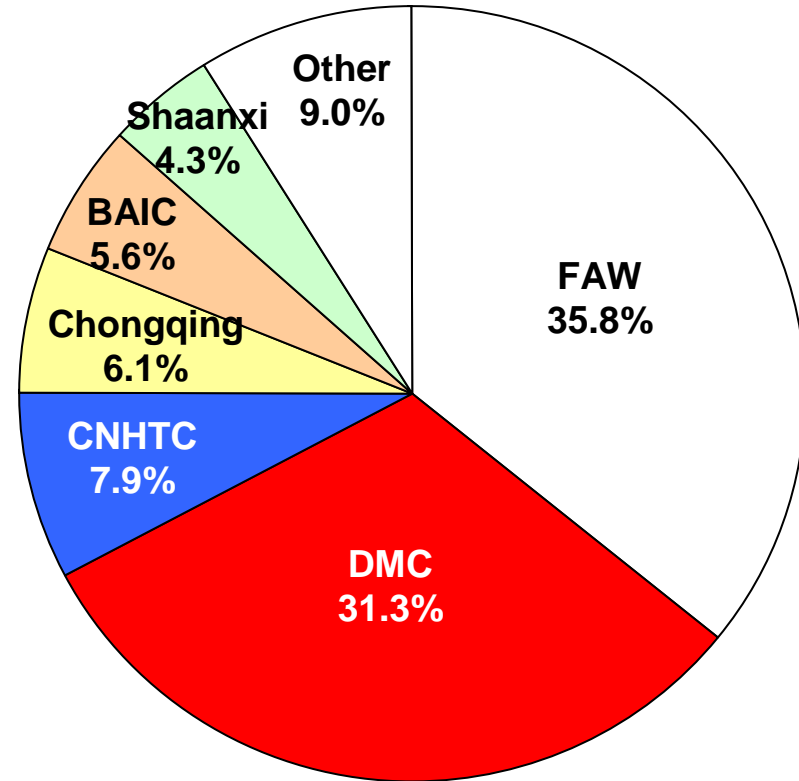
**Demanding but rewarding,
building a tremendous competitive advantage**

China Heavy Duty Truck Sales

Heavy Duty Market
'000 units



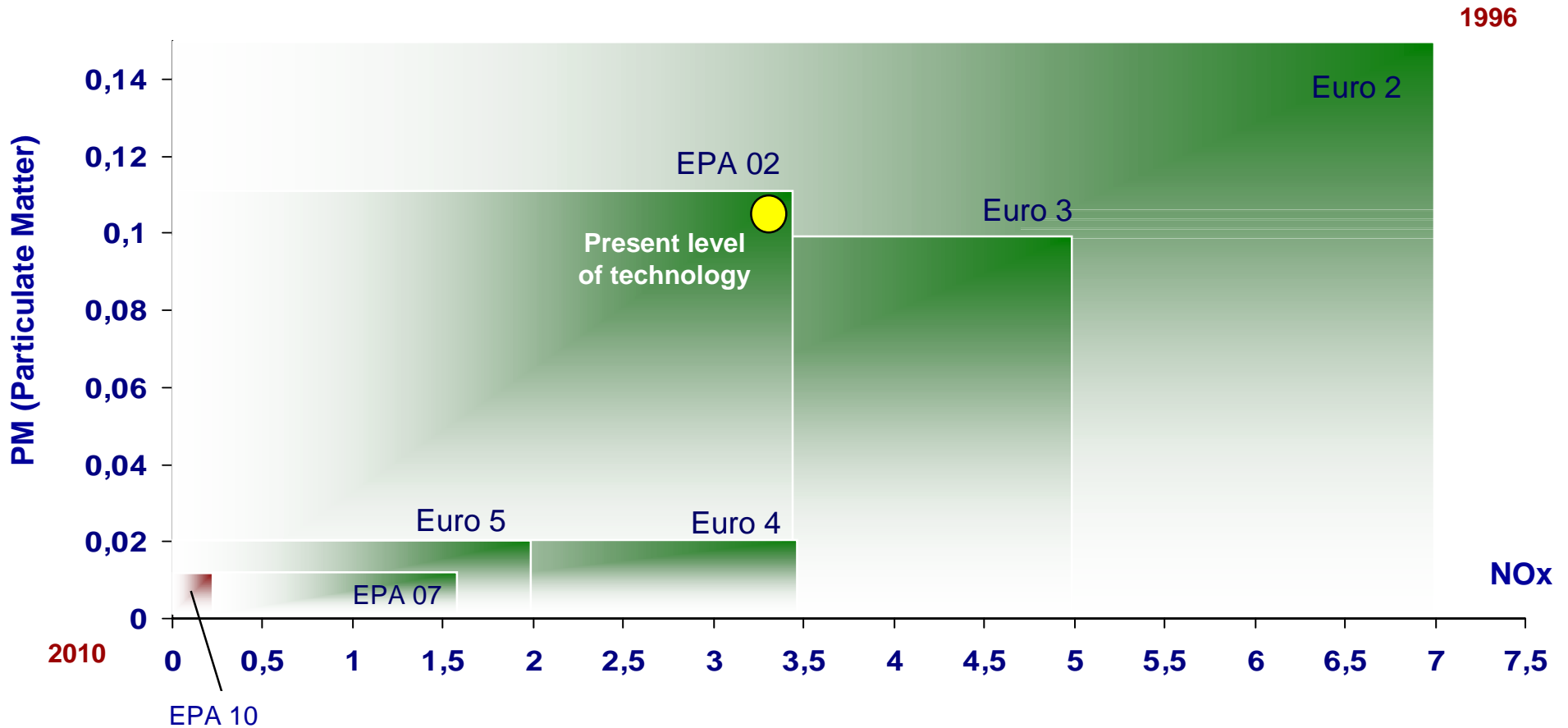
Market shares
2003



Volvo 1,100

Environment

Legislative Demands - Emission Standards



Alternative developments of 4PL-Providers

1. Further development of a 3PL-Provider

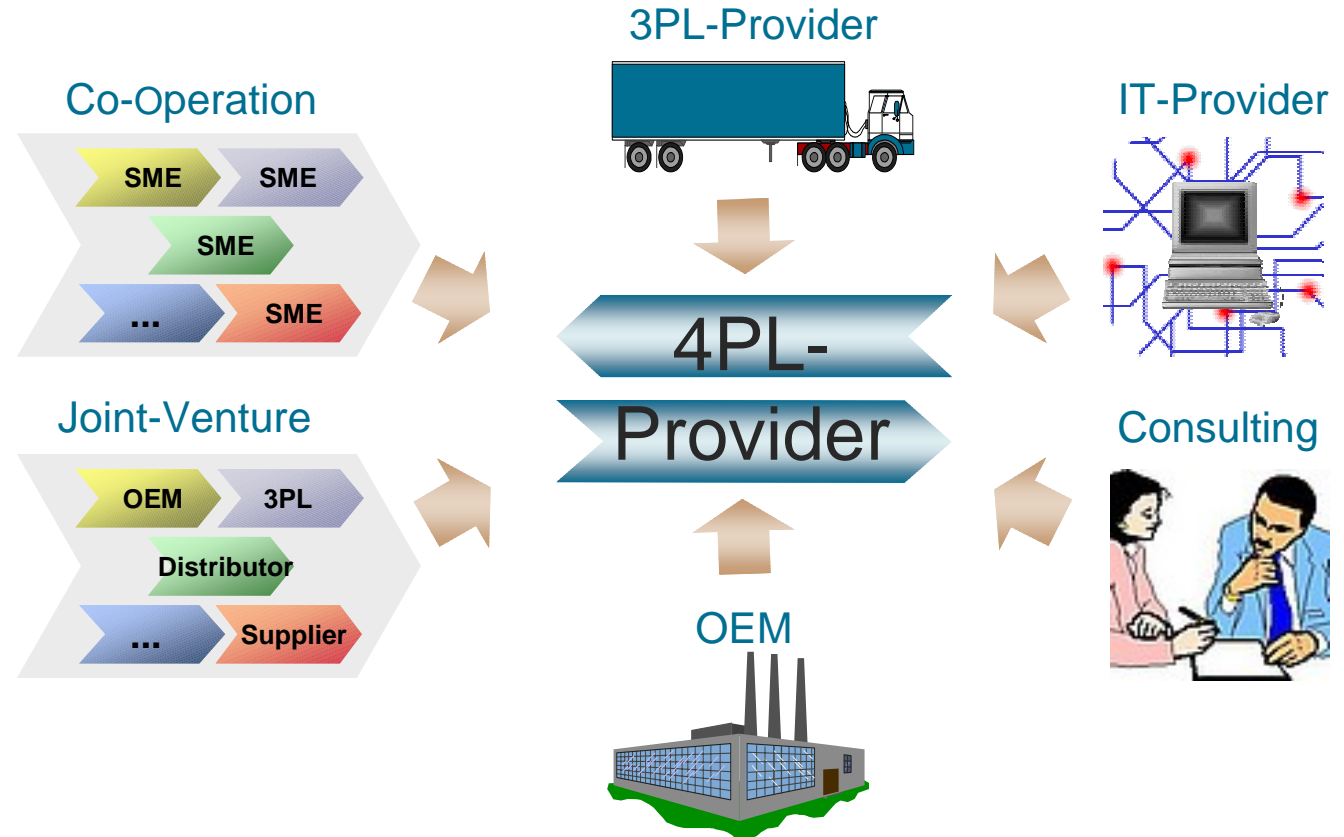
2. IT-Provider takes over 4PL functions

3. Consulting takes over 4PL functions

4. OEM establishes a 4PL sister company

5. Joint-Venture with channel partners

6. Co-operation of SME service companies



Business Areas

Mack Trucks



Renault Trucks



Volvo Trucks



Volvo Buses



Trucks



Volvo Construction Equipment



Volvo Penta



Volvo Aero



Volvo Financial Services