



# THE VOLVO GROUP TODAY

*and tomorrow*

**VOLVO**

# SHAPING

*another future*

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This presentation is also available at  
<http://presentation.volvogroup.com>



The Volvo Group's vision is to become the world leader in sustainable transport solutions by:

- creating value for customers in selected segments
- pioneering products and services for the transport and infrastructure industries
- driving quality, safety and environmental care
- working with energy, passion and respect for the individual.



## TOWARDS THE FULL POTENTIAL

**W**elcome to the Volvo Group. We aim to become the world leader in sustainable transport solutions.

Our products and services act as the circulatory system of the society. Our trucks, buses, engines and construction equipment are key to a functioning everyday life for most of us.

The Volvo Group has sales in more than 190 countries worldwide, both in mature and new markets, and employs about 115,000 people. Quite simply, we are where you are!

The reason for our broad presence is that our products and services are required throughout the world, to construct and develop communities.

“Commitment comes with being such a major player.”

Our trucks are used to transport the food we eat and the refuse we generate. We assist in removing snow from the roads, so that communication can function in all types of weather. People are able to travel within the city or longer distances on our buses. The fire department and rescue services use our specially built vehicles and we provide hospitals with gen sets – thus allowing their operations to function even during power failures. Our construction equipment is used to develop communities and construct buildings and roads. Our products operate in the forests and in mines. In brief, without our products and services, modern society would come to a standstill.

Commitment comes with being such a major player. We take our assignment seriously and understand the role we play in people's everyday lives. We realize that we impact society in many ways and want to be part of the solution to the challenges facing the world.

Our corporate core values are quality, safety and environmental care; three key components in our respect for society on various levels. We demonstrate care for the customer by offering the highest quality in products, services and interaction.

Respect for people working with and around our vehicles is fueled by our passion for safety; a core value that has existed in the Volvo Group since its foundation. We are proud of our many safety inventions and how they have contributed to a safer world. When we invented the three-point safety belt we refused to register a patent, to make safety available to everyone. Some of our newer safety solutions assist the driver in the event of fatigue and distractions.

Care for the environment is the corporate core value that has received most focus in the past decade. Here, we are spearheading the development of engines adapted for alternative fuels. We are also involved in developing infrastructure such as city planning and efficient bus routes.

This brochure is about how we at the Volvo Group are prepared to take on the challenges of the future as a global player. It focuses on what we already do today and some of what we are planning for the future. We hope you will find it interesting, regardless of whether you are a customer, a prospective employee or just curious about our products.

If you would like to know more, you will find us at [volvogroup.com](http://volvogroup.com). Welcome to our world!



Olof Persson  
President and CEO



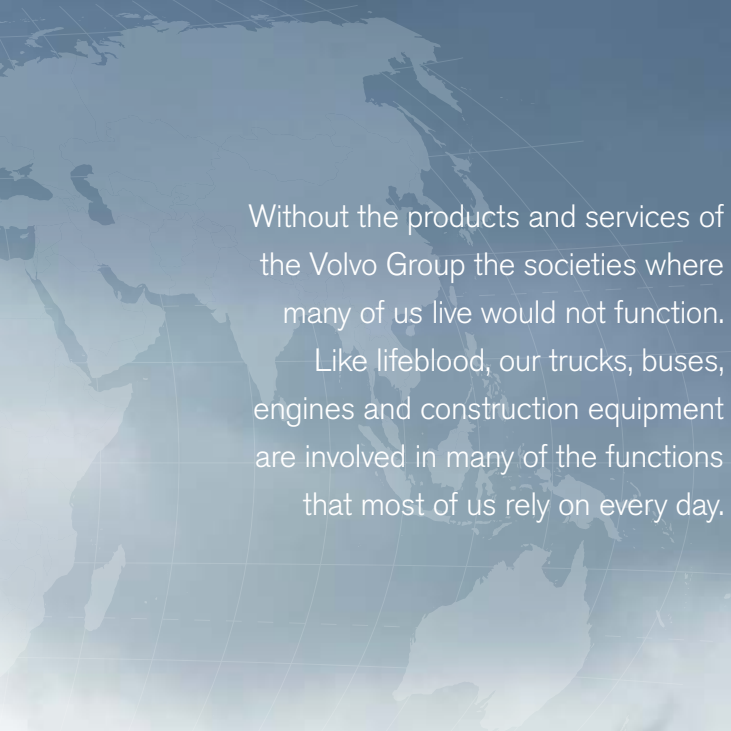




# *Together we* **MOVE** *the world*

Imagine a normal day. You get up in the morning and the fridge is empty. You wait for the bus to take you to work but it doesn't come. Even if the bus had turned up it would have been hard to get to your destination since the roads are blocked with garbage and snow.

Your mobile phone rings. Your mother, who is coming to visit, tells you that all flights are delayed because of a power outage at the airport. You may not have given it much thought, but the Volvo Group contributes to many important functions in society. Every day. Throughout the world.



Without the products and services of the Volvo Group the societies where many of us live would not function.

Like lifeblood, our trucks, buses, engines and construction equipment are involved in many of the functions that most of us rely on every day.

**15%** of all food in Europe reaches the consumer by a truck from the Volvo Group.

If all the Volvo buses in the whole world start at the same time, they can transport **10.6** million people.

Every day, 300,000 units of construction equipment from Volvo are used to build and maintain roads, airports, farms and mines.

There are 200,000 industrial engines from Volvo Penta worldwide, that secure the supply of electricity to hospitals, industries, irrigation installations and other electricity-dependent functions.

**8** million tons of waste, transported every week in the US by Volvo Group vehicles, you could form a line of filled-up garbage cans and reach the moon.

# PRODUCTS AND SERVICES

The Volvo Group is one of the world's leading manufacturers of trucks, buses, construction equipment and drive systems for marine and industrial applications. The Volvo Group also provides complete solutions for financing and service.

Many customers demand complete solutions and, in addition to product quality, supplementary services are decisive. Accordingly, the Volvo Group offers such services as financing and insurance, various forms of service agreements, IT and assistance services, as well as accessories and spare parts. The range of services and aftermarket products is becoming increasingly important to the Group's competitiveness.

Share of Volvo Group net sales 2012

## Complete products

### Complete vehicles

Trucks, buses and construction equipment.



### Bus chassis





# 73%



## Power systems

Engines and drivelines for boats and industrial equipment.



# 27%

## Aftermarket products and services

### Aftermarket products

Spare parts, accessories, software, service products, etc.



### Services

Financing and insurance, leasing, maintenance and repairs, training, etc.





# SOLVE



The Earth's population is increasing. By about 2050, the population is expected to exceed nine billion.

The number of megacities and megaregions with populations in excess of ten million is growing throughout the world.

Half the world's population live in cities. In fifty years that figure is expected to have risen to two-thirds. The most intensive pace of urbanization is ongoing in Africa and Asia.

This trend is leading to an increased need for transportation as well as city and traffic planning. In addition, congestion, air pollution and noise solutions are required.





**Moving a mountain.**

Mack Trucks transports the North American mountain of waste. A stack of waste containers that would stretch to the moon could be made from the eight million tons of waste that are transported by the Volvo Group's vehicles every week.







**BRT in the world.**  
Volvo buses are on the road in BRT systems throughout the world.

### Efficient public transport with Bus Rapid Transit

Public transport plays a decisive role in solving congestion and air pollution in major cities. Bus Rapid Transit (BRT) is an effective public transport solution for transporting many people quickly, simply and comfortably. Volvo Buses supplies chassis, buses and telematics systems and was involved in building the world's first BRT system in Curitiba in Brazil in the 1970s.

BRT not only involves long, bi-articulated high-capacity buses, but also exclusive bus lanes, traffic management and passenger information. Travel times for passengers are significantly shorter due to high service frequencies, an efficient ticket system and easy boarding and debarking from platforms between lanes.

Almost 140 cities in the world have already introduced BRT. Many more view the system as a promising solution, particularly because BRT can be quickly implemented at a fraction of the cost of a subway system.

### Mountain of waste

More than two billion tons of waste is produced on the planet every year. The world's cities would soon be overflowing if the waste was not collected.

Every second refuse truck in the US comes from Mack Trucks and, in New York City alone, 2,500 Mack trucks collect 11,000 tons of garbage every day. These vehicles need to be reliable and be able to cope with a congested city environment and broken

ground outside the city. Low steps make it easy for drivers to climb in and out of the truck hundreds of times a day. Future refuse trucks will be even quieter and cleaner. Volvo Trucks' hybrid refuse trucks are currently operating in London and Mack's hybrid trucks in New York City.

*...and tomorrow*

### Green Corridors

Together with the EU and various authorities, the Volvo Group is developing the concept of Green Corridors. The aim is to concentrate freight traffic to transport routes specially adapted for heavy transports between major centers on efficient motorways, sea routes and railways that complement each other. IT systems aid drivers to drive in a fuel-efficient manner and to communicate with each other. Tests are also being conducted with very long vehicles with larger freight capacity, leading to fewer trucks and a lower impact on the environment.



**Less congestion.**  
Future Green Corridors will have separate lanes for heavy vehicles, which will provide safer and efficient transportation with a lower environmental impact.



Climate change is one of the most important and challenging issues of our time. Fossil fuels such as oil and coal are the largest source of greenhouse-gas emissions, which, in turn, are deemed responsible for climate change.

Out of care about the globe, major efforts are being made in the world to develop the use of alternative, renewable-energy sources. The development of alternative fuels differs widely in different regions depending on the natural resources available.



As one of the world's largest manufacturers of commercial vehicles, the Volvo Group works actively to reduce emissions from its products when in use.

Research and development focuses on energy efficient drivelines (engines, gearboxes, etc that propel the vehicles) and on hybrid technology and vehicles that are operated on renewable fuels.

### Energy efficient drivelines

40 years ago, one truck emitted as much particles and nitrogen oxide as 33 trucks today.



Lower fuel consumption means, in turn, a reduced environmental impact and lower operating costs for the customer.

Expectations are that consumption can be further reduced by adapting the design, weight and tires.

In the marine sector, Volvo Penta has developed the Inboard Performance System (IPS) drive system with forward facing propellers and steerable pods which can reduce fuel consumption by up to 30%.

### Hybrid technology

The new competitive Volvo hybrid technology is a combination of an electric motor and a diesel engine. Volvo Buses has globally delivered a total of more than 1,600 hybrid buses. A hybrid bus from Volvo can lower fuel consumption by 37 percent and halve the emissions of nitrogen oxides and particles.



**Carbon neutral.** When society makes its decision, the Group stands ready. As early as 2007 the Volvo Group presented seven demonstration trucks operated by the same number of different renewable fuels.

### Electric power

Renault Trucks' environmentally adapted vehicles include electrically driven vehicles, hybrids and trucks operated using alternative fuels. Electrically driven vehicles do not release emissions, are soundless and are well-suited to urban operations. During 2012, a Renault Midlum, the world's largest electrically driven concept truck, was tested in Lyon, France.

*...and tomorrow*

### New fuels

The Group's research on renewable fuels is mainly focused on DME (dimethyl ether) and methane diesel.

DME, which can be extracted from waste, biofuel and agricultural waste, is energy efficient and has a low environmental impact. Compared with diesel, carbon emissions are expected to be reduced by up to 95%.

Methane diesel is based on natural gas and has the advantage of being already available as a fuel. Volvo Trucks is the first manufacturer in Europe to start selling gas-powered trucks for long-haul operations.

### Efficiency.

The fuel consumption of a diesel-powered Volvo truck was reduced by 40% between 1975 and 2011. Emissions of nitrogen oxide and particles fell by 90%.







**Quiet in the city.**  
Renault Maxity  
Electric can run  
for 100 km on a  
single charge.



# CHANGE



Population growth and a rapidly growing middle class with increased purchasing power leads to a rapid increase in global consumption. Mankind is utilizing an increasing amount of land and resources. More efficient use of resources is required.

Accordingly, material recovery and research are becoming increasingly important to the production of completely new materials.





**From plastic to wood.**

Certain plastic fittings in future truck cabs will be replaced by renewable cellulose materials.





### Remanufacturing

Remanufacturing involves taking apart, renovating and reusing engines, gearboxes, filters and other components. The parts are offered as an alternative to new components and save resources and costs for the customer. The parts must meet strict quality requirements before they are reused.

The Volvo Group renovates components for Renault Trucks, Mack Trucks, Volvo Trucks, Volvo Buses and Volvo CE in such countries as France, Sweden, Brazil and the US.

### Life Cycle Analysis and recycling

Each new product from the Volvo Group should have less environmental impact than the product it replaces. The Group uses Life Cycle Analysis to map a product's environmental impact in order to make better informed decisions in the development process. Today, large parts of a truck can be recycled since up to 85% of the vehicle is metal; mainly iron, steel and aluminum. As much as a third of the Group's newly manufactured trucks is recycled material.



### New materials

The Volvo Group carries out research into new materials. One of the aims is to find replacements for the metal in batteries and catalysts.

Tests are currently underway on replacing plastic fittings with cellulose-based materials in truck cabs. Several projects involve producing plastics by using renewable raw materials and waste products instead of oil.

The structure of various materials can be changed and given new properties by using nanotechnology, for example, a material could be created that repairs itself or is dirt-repellant. Future scenarios are windshields on which ice does not stick and self-repairing paint.



#### Concept seat.

A concept seat inspired by modern robotic technology, with removable controls, massage system and built-in heater and cooler.



**Future materials.** Materials can be given new properties by using nanotechnology, for example, for self-repairing paint and dirt-repellant surfaces.



# ALERT



Traffic accidents are a large problem in the world. According to the World Health Organization (WHO) 1.3 million people die in traffic accidents every year, and more than 50 million people are injured.

Traffic safety becomes increasingly important as transportation increases. The subject is a high priority for governments and institutions the world over. In the future, focus on safety in a broader sense will continue to increase because of military conflicts, crime and natural disasters, which will impact the security of drivers, vehicles and goods.



Nine of ten accidents are due to human error, often due to incorrect assessments of the traffic situation. As a result, the Volvo Group is prioritizing solutions that help drivers to avoid accidents.

### Safety from two perspectives

There are two types of safety on the road; preventive and protective. Preventive safety includes the various systems that remind or warn the driver, for instance, if the vehicle is about to move out of its lane, if there is a vehicle in the driver's blind spot, or if it is time to take a break. Protective safety includes, for example, seat belts and underrun protection bars on trucks.

### In society



The Volvo Group works together with the emergency services and manufactures trucks customized for fire prevention, such as Renault Midlum and Volvo FH and FM.

Volvo Penta's industrial engines form part of systems for hospitals, chemical facilities, airports and data processing centers that rely on emergency power in the event of power failures. Snow clearing is also needed for society to function. The Group has several types of trucks and haulers adapted for clearing snow. UD Trucks has 80% of the snow-clearing market in Japan.



**Prevents accidents.** Since 1969, the Volvo Truck Accident Research Team has been studying traffic accidents around the world to prevent them from reoccurring.

### Ergonomics provides safety



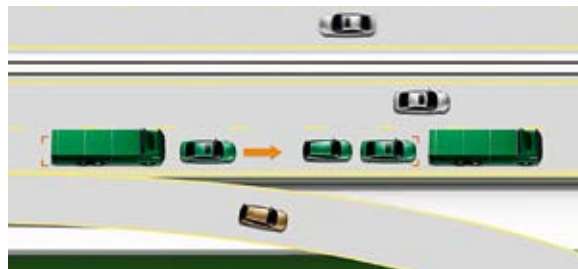
Volvo's construction equipment is used at thousands of construction sites across the world. The CareCab concept optimizes the operator's working environment. Less noise and

vibrations, high visibility, comfort and a suitable climate make the operator less tired and thus safer. This is part of Volvo CE's safety concept. The customer is also offered operator training – in the field and in advanced simulators.

*...and tomorrow*

### Platooning

Vehicle platooning is a convoy of vehicles where a professional driver in a lead vehicle: truck or bus, drives a line of up to ten other vehicles. The vehicles measure their distance, speed and direction and automatically make adjustments according to the vehicle in front. Drivers can relax and do something else while the train continues rolling. Road trains are a way of enhancing traffic safety and better utilizing road capacity, while fuel consumption and thus carbon emissions are reduced.



**Convoy ahead.** Platooning is a way of enhancing traffic safety. The technology is being developed in the EU's SARTRE project, Safe Road Trains for the Environment, in which the Volvo Group is involved.





**Clearing snow.**  
In many countries, the snow must be cleared away for the society to function. The Volvo Group has a variety of trucks and dumpers adapted for the task. In Japan, four out of five snow clearing vehicles come from UD Trucks.



# ENGAGE



Engaged employees, who are willing to take an active part in the company's development and future, are a prerequisite for pursuing the company's strategies. It is therefore important to attract the right expertise.

For many years, interest has waned for education and careers in the fields of mathematics, natural sciences and engineering in industrialized countries.

However, the need for competent employees with these types of specialist skills will increase as the products and services become increasingly sophisticated.

Nowadays, industrial companies are having to take increasing responsibility themselves for securing future personnel.





The Volvo Group regularly maps future competence needs. By offering interesting assignments and opportunities and a unique corporate culture the Group can attract and retain the best people.

### **Engaged employees**

The Volvo Group has proud and engaged employees.

The annual Volvo Group Attitude Survey revealed an Employee Engagement Index of a full 76%, compared with the global norm of 68%.

The Group's definition of engagement clearly states that engagement should provide advantages for both the company and the individual.

*“Employee engagement is the extent to which employees are committed and enabled to go the extra mile for the long-term success of the organization and themselves.”*

International research shows that engaged employees contribute to more satisfied customers and increased profitability.

### **The Volvo Way**

The key elements of the Volvo Group's culture are energy, passion and respect for the individual. The corporate culture is formulated in the Volvo Way, which describes the Group's values, what it stands for and aspires to be in the future.

“By focusing on the customers, we will create confidence and bring about change. Diversity, open dialogue and feedback are natural elements of our way of working.”

### **Academic cooperation**

The Volvo Group's Academic Partner Program, APP, is a long-term collaboration with selected universities and research institutes around the world. The program aims to increase the awareness of the Volvo Group among students and researchers and secure access to future competence. The Group has also collaborated with other organizations and academic institutions for many years.

### **Popular global employer**

The Volvo Group is a popular employer in many countries throughout the world. One example is Volvo do Brasil, which in 2011 was named Brazil's best employer for the second time. Volvo took first place in competition with 503 other companies from various sectors.

*...and tomorrow*

### **Technological advances**

The technological leap is a collaboration between the Swedish business sector and the Royal Swedish Academy of Engineering Sciences. Upper-secondary school students will be offered work experience at technology-intensive companies with the aim of encouraging more people to become engineers.

The Volvo Group is also launching a training program that will give 1,200 unemployed young people the chance to go on paid education courses. By mixing theory and practical sessions, young people will have the skills to work in production at or outside the Volvo Group.





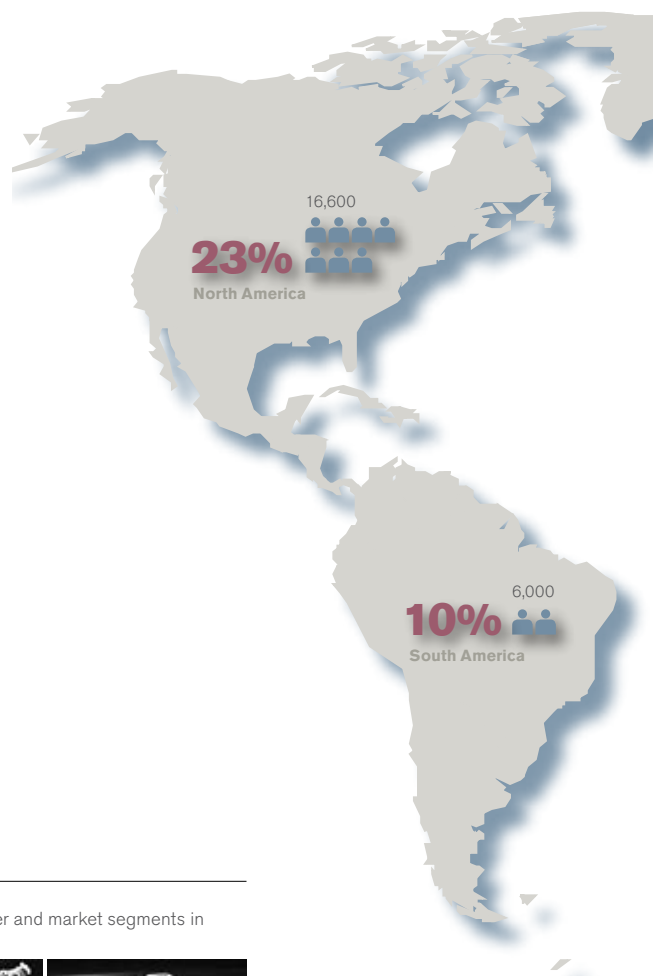
**Attractive employer.** Half of the Volvo Group's employees work in production.

## THE VOLVO GROUP TODAY

The Volvo Group is one of the world's leading manufacturers of trucks, buses, construction equipment and marine and industrial engines. The Group also provides complete solutions for financing and service. The Volvo Group employs about 115,000 people, has production facilities in 18 countries and sells its products in more than 190 markets.

### Global strength

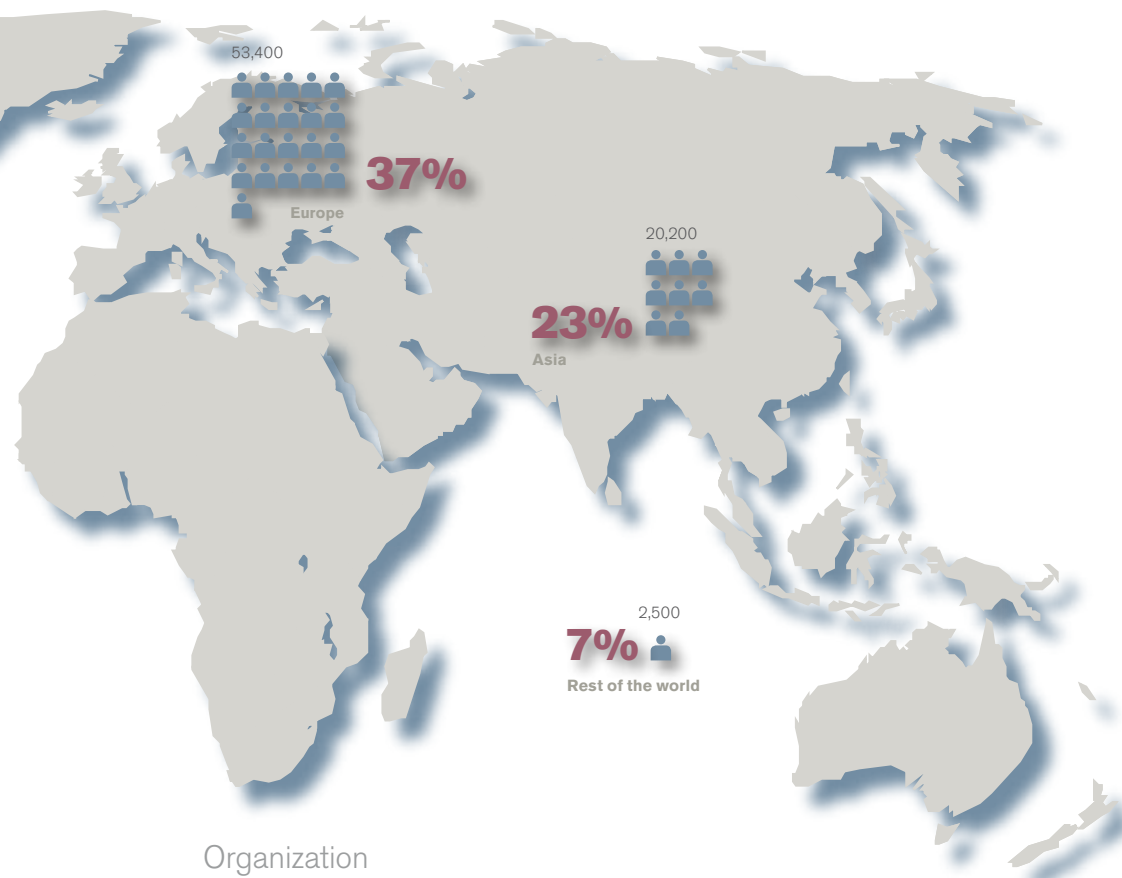
Since the streamlining towards commercial vehicles was initiated more than ten years ago, the Volvo Group has significantly strengthened its positions outside the traditionally big markets of Western Europe and North America. Positions have been moved forward by acquisitions in primarily Asia and expansion of the distribution and service networks in for instance Eastern Europe and South America.



### Strong brands

By selling products under different brands, the Volvo Group can penetrate many different customer and market segments in mature markets as well as growth markets.





% Share of net sales

Number of employees by market

The Volvo Group net sales amount to SEK 303.6 billion (2012). The Volvo share is listed on the Nasdaq OMX Nordic Exchange in Sweden.

## Organization

Volvo Group Trucks Sales & Marketing EMEA\*



Volvo Group Trucks Sales & Marketing Americas



Volvo Group Trucks Sales & Marketing and JVs\*\* APAC\*\*\*



Volvo Group Trucks Operations



Volvo Group Trucks Technology



Construction Equipment



Business Areas



Volvo Financial Services

\* EMEA – Europe, Middle East & Africa

\*\* JV – Joint Venture

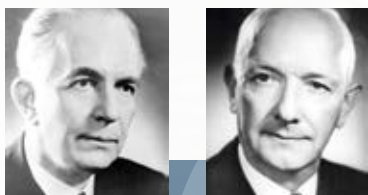
\*\*\* APAC – Asia & Pacific



## OUR JOURNEY 1900s

Ever since Volvo was incorporated in 1927 founders Assar Gabrielsson and Gustaf Larson decided to manufacture vehicles that could withstand tough conditions. Safety and quality have been features of the Volvo Group ever since. Environmental care became a major priority in the 1970s and became the Group's third core value.

The majority of the Group's customers are companies within the transportation or construction industries. Their productivity and profitability are the key focus when the Group develops solutions. The goal is that the Volvo Group companies shall be regarded as number one in customer satisfaction, in terms of both products and services.



**1927** Volvo was founded by Assar Gabrielsson and Gustaf Larson, who decided to manufacture safe, high-quality vehicles. The first passenger car was constructed in Gothenburg and a year later the first truck – it was an instant success.



**1936** Gustaf Larson coined the classic phrase about Volvo's safety: "A car is driven by a person. The basic principle for all design work is and must therefore be: safety."

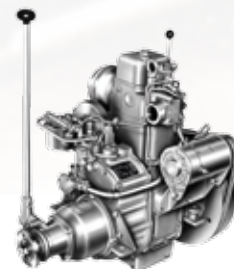


**1959** The three-point safety belt was developed by Volvo safety engineer Nils Bohlin. This belt is considered to be the all-time top safety feature that has saved most human lives.



**Over several decades**, Volvo grew into a Group and expanded into a number of business activities: manufacture of automobile, marine and industrial engines, buses, construction equipment and components for the aerospace industry.

**A series of acquisitions** of companies in various segments further strengthened the Group.





**1972** The United Nations Conference on the Human Environment was held in Stockholm. Volvo addressed the important role of the car in society and its environmental impact. Volvo formulated its first environmental policy.



**1993** The Volvo Group presented a new generation of trucks – the Volvo FH series. The safest, most ergonomic and profitable truck so far.



**1964** Volvo opened its first truck factory inside the EEC in Belgium. It marked Volvo's entry into the European market.

**1970s** The Volvo Group developed the BRT concept, Bus Rapid Transit, for public transport in Curitiba, Brazil. Dedicated lanes for buses, high service frequency, easy boarding and debarking and an efficient ticket system significantly shortened travel times.

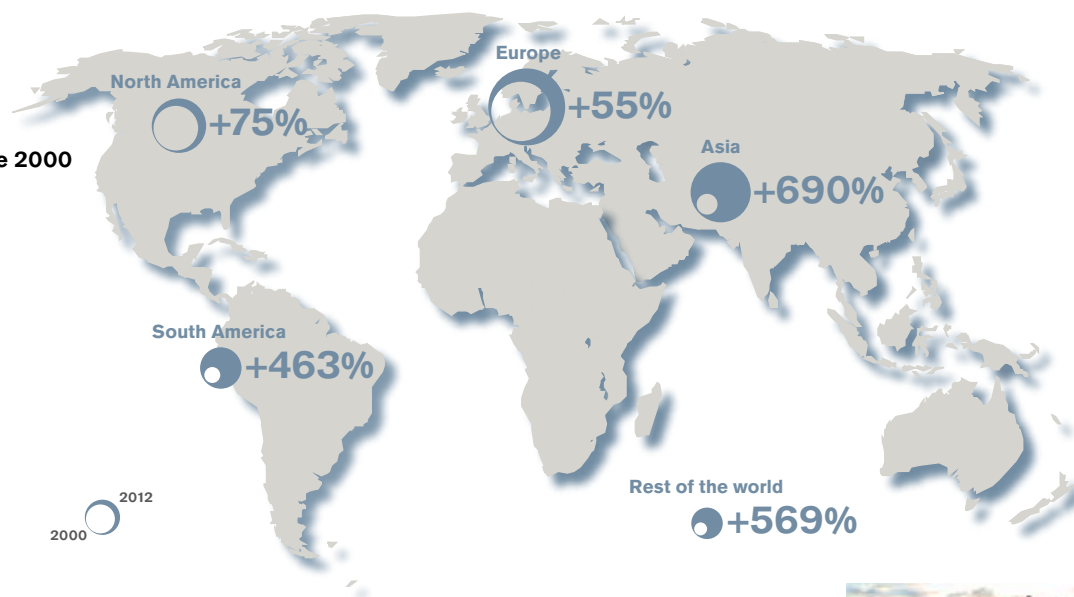


**1999** Volvo Cars was sold to the Ford Motor Company.



## OUR JOURNEY 2000s

Sales trend since 2000



**2001** The Volvo Group acquires Renault Trucks, France and Mack Trucks, US.



**2007** Volvo Construction Equipment acquires Lingong, a major Chinese construction machinery manufacturer and the road construction equipment division of Ingersoll-Rand.

The Volvo Group acquires Nissan Diesel, now UD Trucks, Japan.



**2008** Establishment of a joint venture company with Eicher Motors, India.

**2012** The aerospace component company Volvo Aero is sold to the British engineering group GKN.

The Volvo Group launches a new range of Volvo FH series trucks. Thus, the Group takes yet another stage into the future in terms of safety, driving comfort and fuel economy.



**2013** The Volvo Group agrees to acquire 45% of Dongfeng Commercial Vehicles which will include the major part of its medium- and heavy-duty commercial vehicles business\*. This will make the Volvo Group the world's largest manufacturer of heavy-duty trucks.

\*Subject to approval by relevant authorities.

# TOMORROW

*and beyond...*

Without products and services like those from the Volvo Group, a modern society would break down. Trucks, buses, engines and construction equipment are included in functions that most of us take for granted every day.

The future of the Volvo Group is closely linked with the development of new technology and services. Examples include new types of material, nanotechnology, connected vehicles, automated driving, energy efficiency and electrification. Vehicle design will also continue to play a key role, particularly in the areas of safety and fuel efficiency.

With a focus on meeting customer requirements, an efficient organization, flexibility, skilled and dedicated employees, favorable profitability and cutting-edge expertise in a range of areas, the Volvo Group is fully capable of realizing its vision – a world-leading provider of sustainable transport solutions.

2020



#### **Autonomous technology.**

Platooning means that a driver can rest or do other things as the lead vehicle drives the platoon to its destination.



#### **Designing the future.**

Vehicles designed with consideration for aerodynamic forces can reduce air resistance and improve fuel efficiency.

**Stay updated**



**VOLVO**

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