

VOSS

VOSS Automotive



Line and connection systems for vehicle construction



Viral  
passion.





You do not want to talk about the future? You want to experience the future here and now, on your vehicles? It's possible. Assuming you are using the right technology. At times, the key to getting ahead is hidden in detail. But to improve on these key details, one must first understand the big picture. For this reason, at VOSS Automotive, we always pay a little more attention to your needs, your plans and your objectives. The result: In the line and connection technology field for **SCR, fuel, pneumatics** and other applications, we have developed into specialists who do not take "No" for an answer. Your work deserves unique thinking – not off-the-shelf solutions. At VOSS Automotive we call this: viral passion. You can see it – even after an 80-year company history – in our dogged desire to bring your product just one small step closer toward perfection. To do so, we thrive by thinking outside of the box; ultimately we end up knowing your vehicle better than the back of our hands.



## To live the system means to be passionate about the detail.

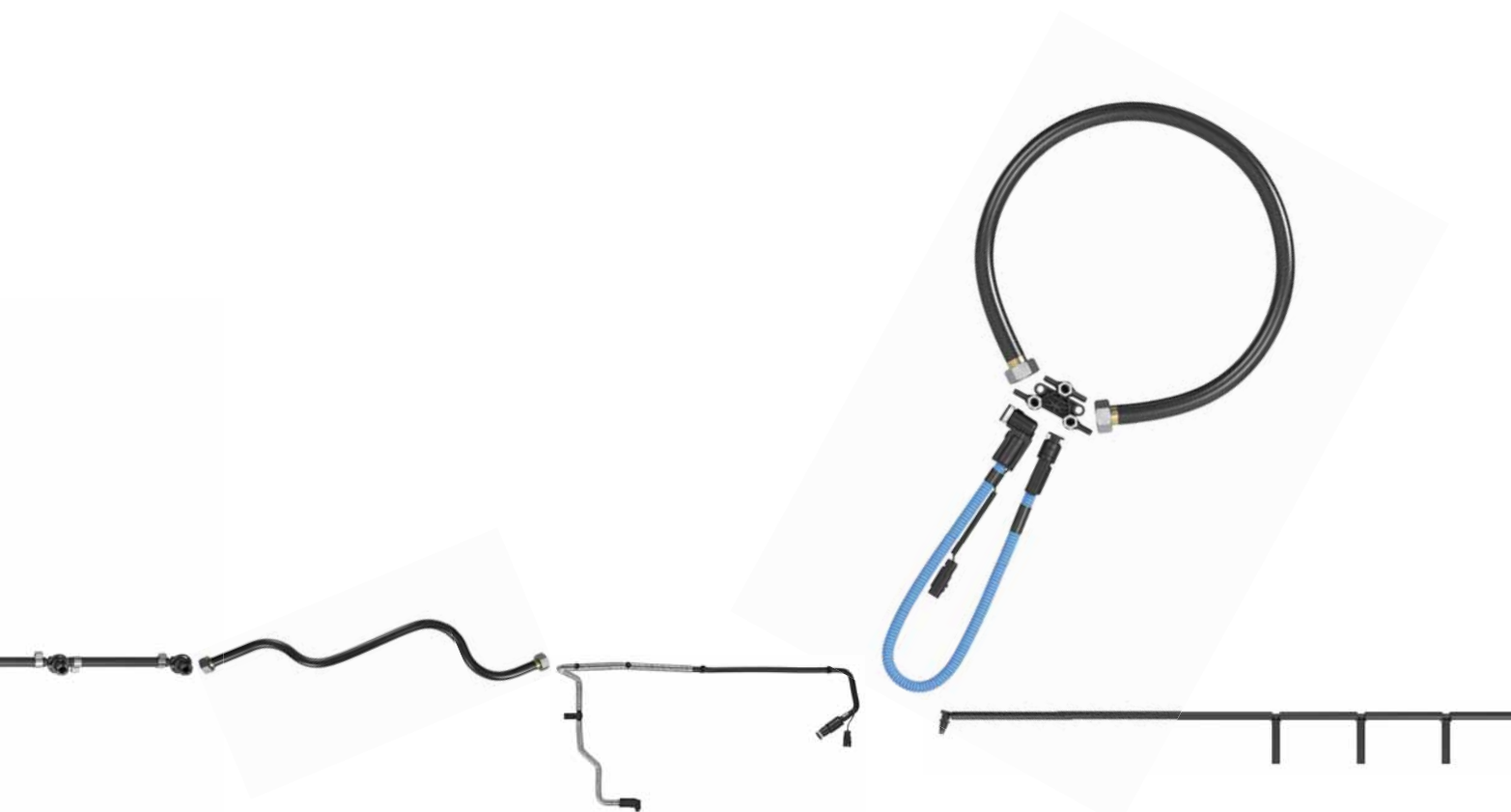
Future-proof solutions must primarily do one thing: bring benefits during daily use. Only those who think beyond the individual components can deliver on the time savings essential for your production, or develop a low-maintenance fluid layout. To ensure that the daily profitability measurements remain sustainable, we always think and act with you in mind. We are where you are, and, if called upon, we will even be so close that we can hear the grass grow on your factory grounds. This is our understanding of being passionate about progressive thinking.

### Measured by inner values, designed to customer expectations.

Our interests naturally focus on the inner values of your vehicle. As a manufacturer of line and connection systems, we are equally enthusiastic about commercial and off-road vehicles,

cars and engine assembly. With an eye for precision and details, we will develop the ideal fluid handling solutions in close cooperation with you. Equipped with eagle eyes and leading-edge technology, we shed light on the unique interior space geometry and properties of your vehicle, and leverage our class-leading know-how during the review phase. Our objective is to directly home in on the smallest detail. In order to rigorously design the layout of your customized system, to boost your dependability and to provide you with real savings in installation time, weight and costs. Down to the specifics.

After 80 years of success, our commitment to you is: Our love for details continues to thrive. We have added a passion for the big picture.





## Avoiding “No” leaves more space to “Yes.”

You have the right to demand perfection. Our approach to getting there? Systematically. By turning your requirements into our challenges, right from the get-go. Whatever the task you may confront us with, you will never hear us say, “that can’t be done.” We call this process-oriented project management – when we fully tap into our potential from the analysis of your vehicle to series production. This process begins at our in-house test and prototype shop and is far from over even at the quality control phase. Processes that are standardized worldwide across all factories facilitate condensed development periods and ultimately the desired level of perfection. In short: we can not only hear your grass grow, for you we would also like to make it a little greener.



Timeless passion.

1931

VOSS founded – production of domestic plumbing fittings

1953

Rollout of tube connections for mechanical engineering and vehicle construction (initial components for compressed-air brakes in commercial vehicles)

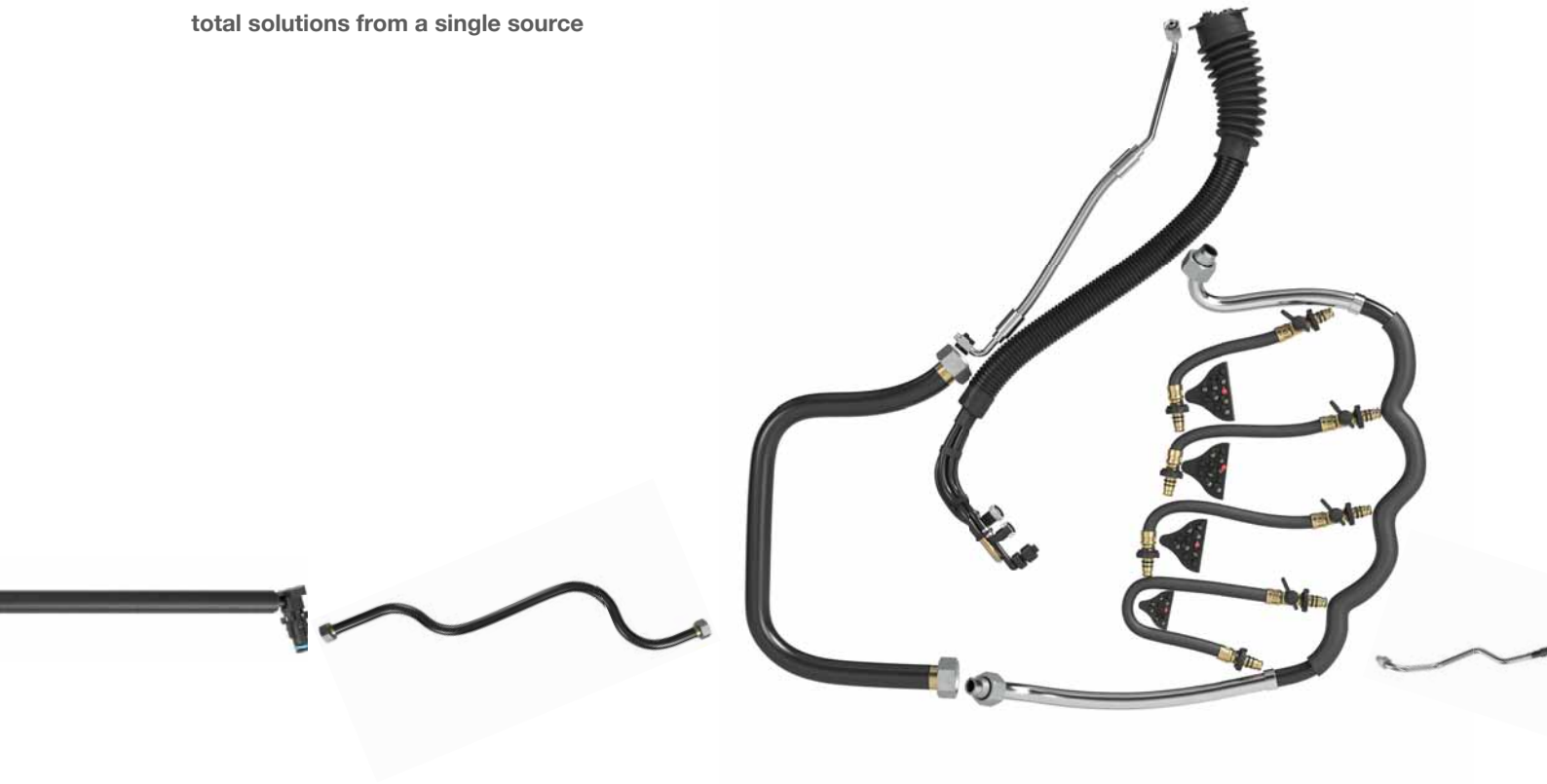
1972-76

VOSS expands into France, Italy, Spain and Great Britain

## Quality and long service life are not products of chance.

Bringing even more value to your work – this is our attitude when we open our factory gates each morning. We leave nothing to chance when we convert your advantage into our declared objective, but rely on our passion instead. This is also the reason why we are at our best when we are measured against our deliverables:

- **Development of custom solutions with the help of leading-edge tools and technologies**
- **Close cooperation between customers and our professionally seasoned teams**
- **Time and cost savings with high-end total solutions from a single source**



1975

Market introduction of the quick connect system 240 for compressed-air brakes in commercial vehicles

1993

Initial use of VOSS components in cars:  
quick connect system 203

1996

Founding of the sales subsidiary in the United States; start of production in Brazil (specialization on the extrusion of nylon tubes)

# Innovation is a time-tested way to reinvent the wheel.

Global technology leaders are not born overnight. Pioneering innovations need bold visions and customers who recognize the added value this vision brings. These are the driving forces that provide a roadmap for the future. Any time and anywhere that you need us. Globally. Based on this modest objective, we will spare no effort to sustainably remain Number 1 into the future as well – for you and all our other customers.



2001

Installation of an in-house test and prototype workshop

2004

Start of production at the VOSS Automotive Polska facility for the production of line assemblies/Start of the development of SCR lines to reduce nitrogen oxides in exhaust gases

2006 - 08

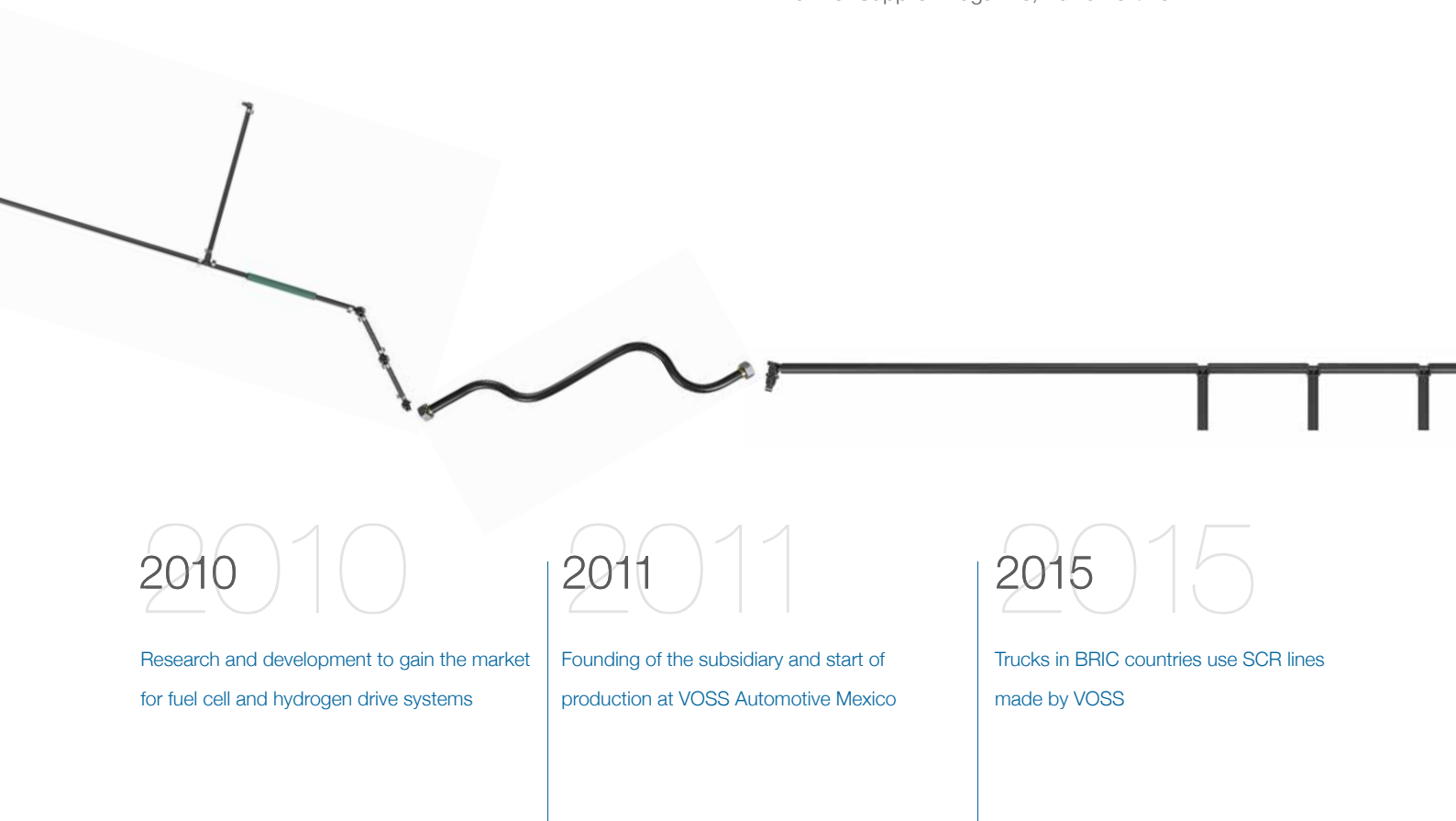
VOSS expansion into Asia: Start of production in China (VOSS subsidiary) and India (joint venture) for the production of compressed-air brake components; founding of a sales office in Japan



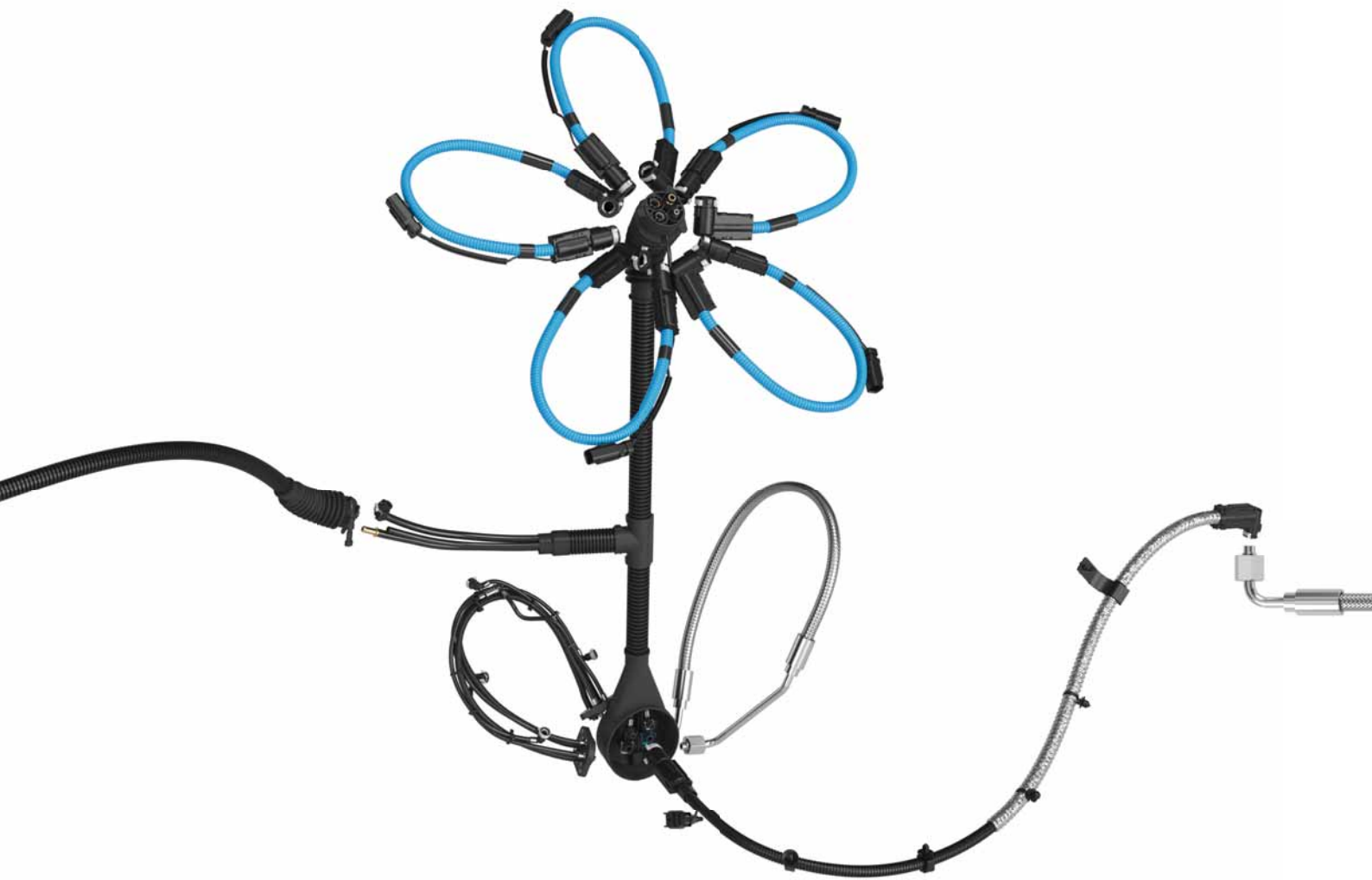


“With its nine production facilities in Europe, China, India, North and South America, VOSS is a truly global player and has been Daimler’s quality gatekeeper for decades.”

Daimler Supplier Magazine, Edition 01/2012



The only objective  
where we're minimalists.



## SCR – good for you and the environment.

The exhaust gas standards Euro IV and V have resulted in a radical change of thinking in the area of diesel engines and reduced pollution emissions. An impulse that the rest of the world has since not been able to escape. The exhaust gas standard Euro VI is already waiting in the wings with even stricter emission threshold values in 2014. Now is the time to think about intelligent fluid handling solutions. VOSS provides these.

As an international partner with pioneering solutions for SCR systems, we are a key step ahead with the introduction of the new environmental technology and that much more tied into the installation space of your vehicle. Depending on the application, this applies in three different ways for unheated, electrically heated and coolant-heated SCR systems. In the form of custom-made total solutions, from quick connections to PA or hose lines for on-road and off-road applications. This unlocks

efficiency for your product, prestige for your brand and added value for the climate.

As the world market leader for SCR line and connection systems, each action we take in our production and inspection facilities is directed toward your solution – customized down to the last nut; guaranteed to include:

- **Reliability**
- **De-freezing performance and energy efficiency**
- **Weight, time and cost savings**
- **Worldwide support for development, installation and validation**
- **Customer-specific fluid handling solutions**

SCR kicked off yet another success story that we plan to continue into the future jointly with you. In all modesty.



Unlimited passion for your  
clearly limited braking distance.





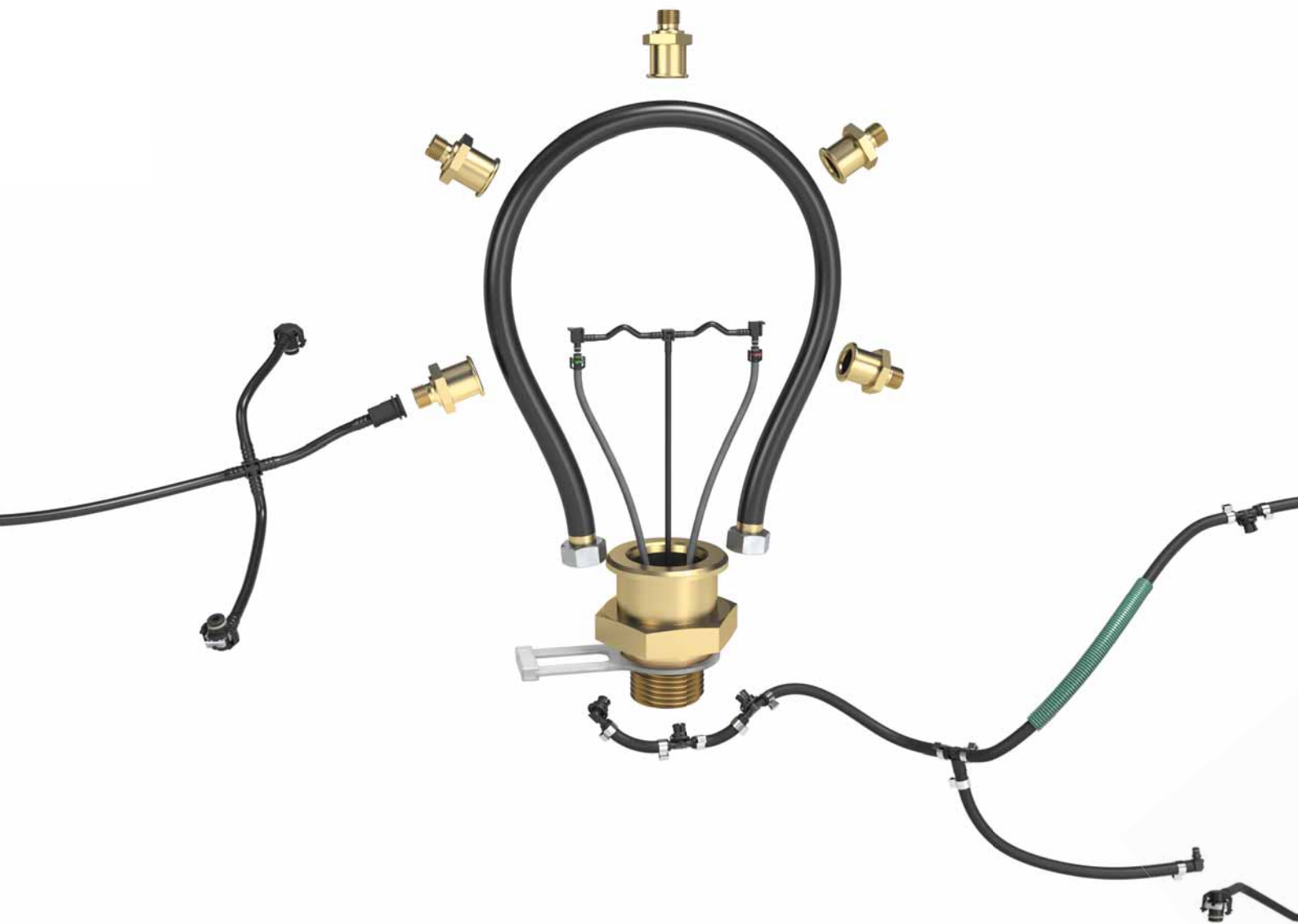
## Pneumatics – competence to back your safety needs.

We started making the first brake components for Graubremse as early as 1953. It only took five years for VOSS to successfully increase its sales twentyfold with the matching tube fittings. Since then, we have made ongoing adjustments to meet the changing requirements; each line and every seemingly insignificant detail has been checked, re-checked, and checked yet again to fill it with new life.

1975 marks a key advancement for our customers, when we introduced the first quick connect systems for compressed-air brakes in commercial vehicles. A step forward for you, but also for VOSS: This advancement also secures our role as market leader in Western Europe for the pneumatics sector.

This puts us in the position to not only provide you with total solutions, but also a host of other capabilities. Before any line and connection systems leave our facilities, these must first pass a number of tests at our test lab. After all, we are committed to an unbridled effort to guarantee your safety. Because your customers need to feel safe, even with 40 tons in their backs.

When designing your fuel lines,  
we infuse intelligence into every last corner.

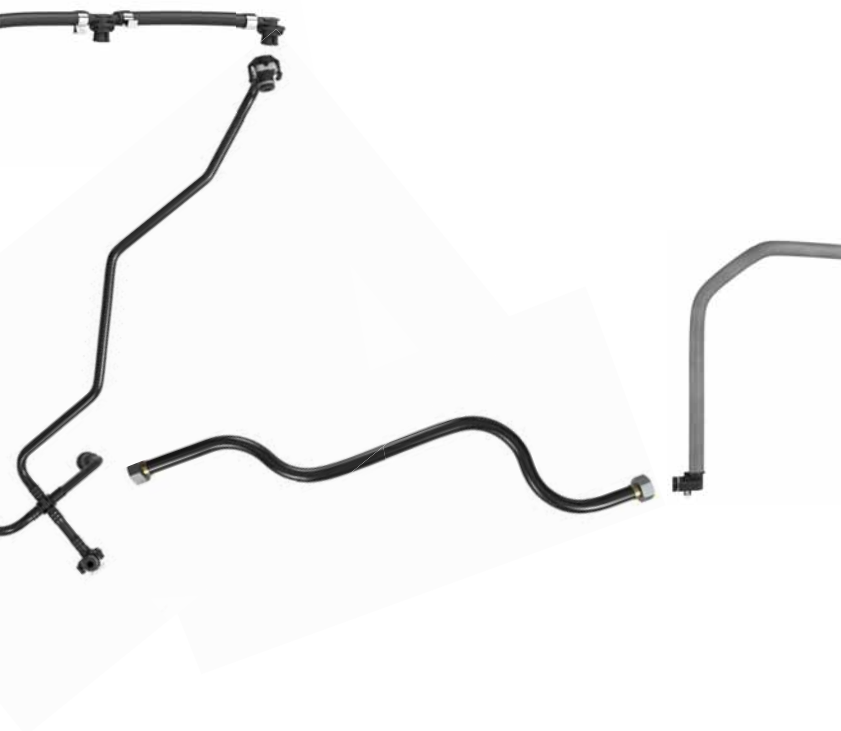




## Fuel lines – customized.

We are fully committed to our role as a system supplier. Committed enough to apply the passion unique to VOSS on fuel systems as well – to allow hidden details in your vehicle engineering to develop into true performance leaders. In addition to quick connections and valves, we can also provide total line layout concepts to optimize your fuel system. Valuable space can be saved in the engine bay with intelligent solutions, such as the VOSS low-pressure fuel line.

Component savings. Cost savings. Installation profile reductions. Weight savings. The thorough vehicle analysis performed in our test and prototype workshop allows us to comprehensively and whole-heartedly deliver on this claim. We even double over to provide a good match for any customer and any installation space. Into every last corner.



## Only honest sustainability during implementation leaves behind genuine footprints for the future.

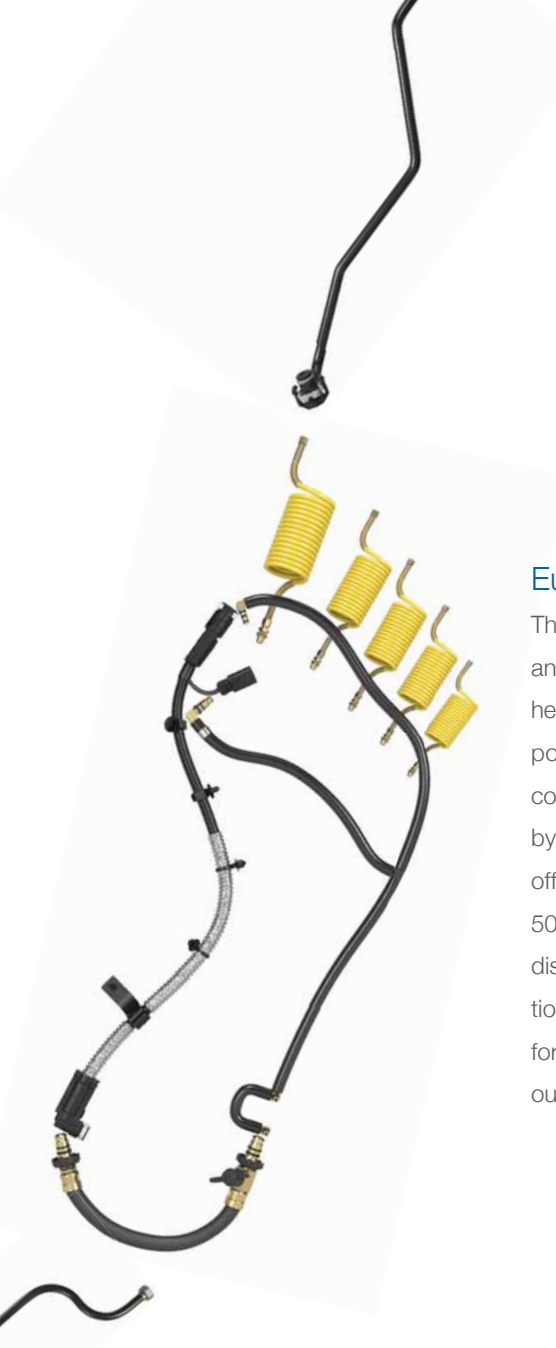
The most lofty quality and environmental management claims are only as good as their diligent execution in all areas. In our opinion, high-end and environmentally friendly technology is only part of the solution. We are of course proud of every certificate. But of even greater value to us is that we are able to apply our internationally applicable standards not only in Germany, but also in our production facilities in Brazil, China, India, Mexico, Poland, and the United States. All this is supported worldwide by motivated VOSS employees with demonstrated expertise and a well developed sense of responsibility – toward you, but also the environment.

For us, worldwide proximity to our customers and development collaboration, sustainable service and comprehensive support

are more than just empty words. Instead, it represents the claim against which we passionately deliver every day to be completely committed to your needs. While acknowledging an eventful past, we look forward to an even more eventful future by committing to our customers a maximum effort in allowing even the smallest valve to play its important role. As the world market leader, we wish to remain down-to-earth and to spend every day earning the trust that you can rightfully expect from a rock-solid partner. Allowing us to provide you with all the benefits that can only come from an independent company.







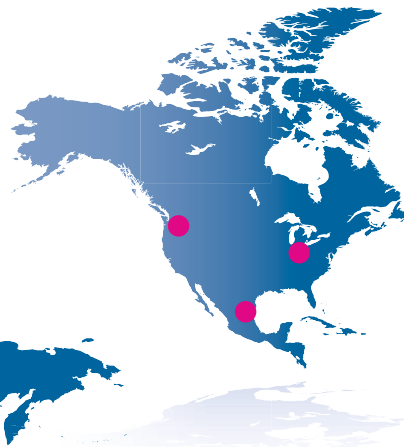
## Europe

The VOSS central facility for production and development is Germany. The headquarters in Wipperfürth is the central point from which we manage the company's business affairs – expanded by a number of subsidiaries and sales offices since the 70s. With more than 500 employees our plant in Poland is of distinguished importance in our production network. Manufacturing processes for line assemblies serve as a model for our plants in Mexico and China.



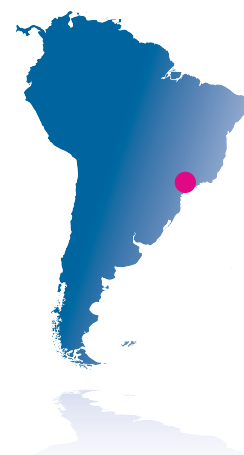
## North America

VOSS has been operating subsidiaries in Fort Wayne and Seattle, USA since 1996, and also in Saltillo, Mexico since 2011. These handle development, technical support and production of line assemblies, especially for SCR applications on trucks and off-road vehicles.



## South America

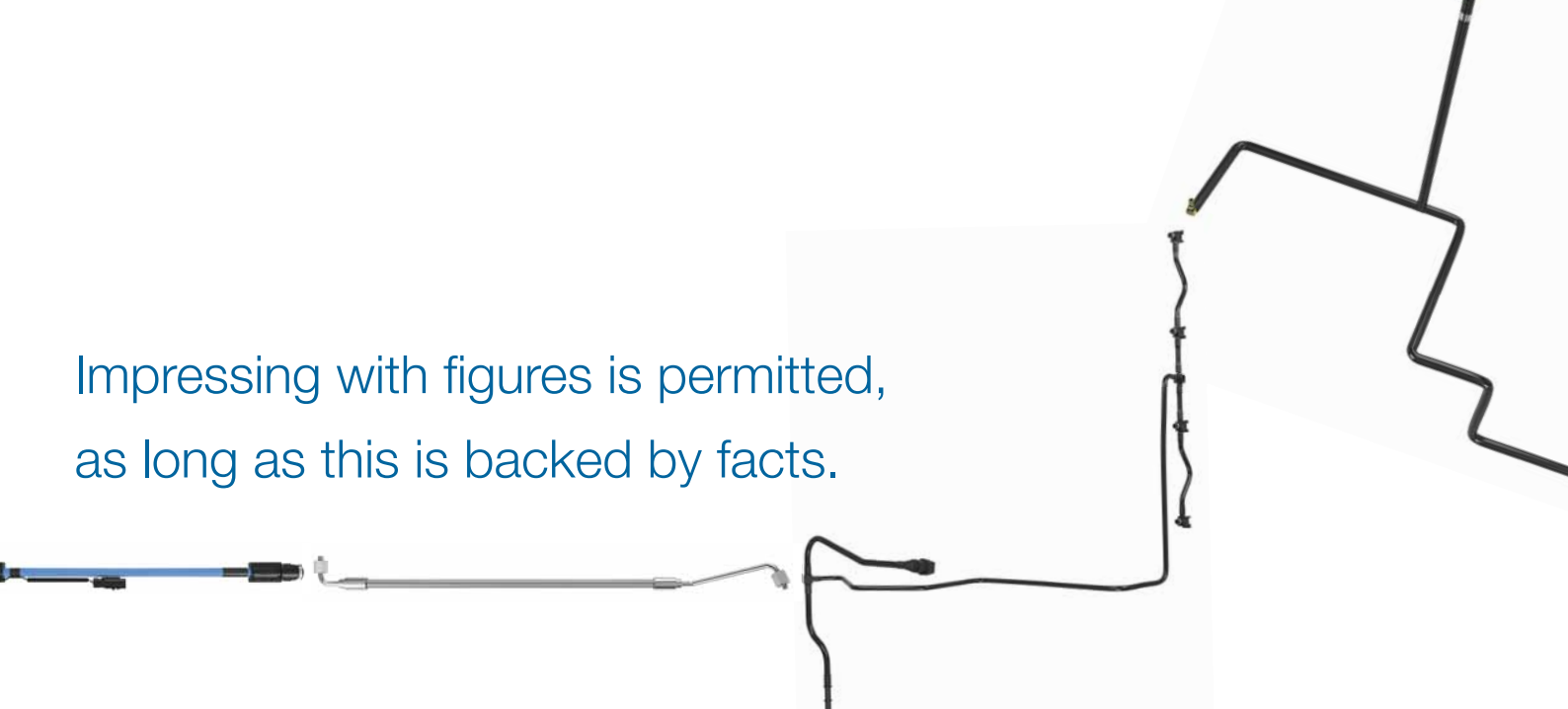
The competence center for extrusion of nylon tubes is situated in São Paulo. Two factories produce line assemblies and quick connect systems for pneumatic, fuel and SCR applications.



## Asia

In 2007, VOSS started a factory and development center in Jinan, and a sales center in Shanghai. These cover the entire product spectrum. Going forward, SCR technology will be a primary focus. VOSS is represented in Japan by way of a sales center with technical support for the entire product range. VOSS has been represented in India for years by way of a joint venture. All Indian truck manufacturers use VOSS products in their compressed-air brakes.





Impressing with figures is permitted,  
as long as this is backed by facts.

## 0-DEFECT POLICY

Repeatedly certified production perfection at VOSS is ensured with fully automatic machines that are self-monitoring using high-performance cameras.

*<6ppm*

Fewer than 6 complaints per million sold, electrically heated SCR lines exemplify the advanced quality level of our systems.

8% of the turnover

is reinvested annually.

## 16 locations worldwide

VOSS guarantees customer proximity, and, as part of an ongoing expansion, is already in place at 16 locations. A presence that will be incrementally expanded in the future.

*43 % of the employees*

at VOSS regularly participate in internal and external seminars, trainings and workshops. They therefore provide an invaluable contribution to the ongoing advancement of the company and to our technology leadership.

80 % OF THE EMPLOYEES

would not hesitate to recommend VOSS as an exemplary employer.

**2,300 full-time employees**

work for the VOSS Group, competently and passionately supporting the company's physical presence and customer proximity around the globe.

**1,500,000 vehicles**

Today, more than 1.5 million vehicles are equipped with VOSS line and connection technology for SCR systems.

*4,000,000 SCR lines sold*

The foundation for the system success of VOSS is based on individual components that have been proven millions of times, and that form the basis for the innovative VOSS line and connection technology (electrically heated and coolant-heated in equal shares).



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