



Everyday Extraordinary

How Scania commercial vehicles and Porsche sports cars fit together

_____ The commercial vehicle manufacturer Scania and Porsche Engineering have been working together on truck development issues for more than ten years. Following several smaller projects, the two have been collaborating on the development of a new Scania truck cabin generation since 2010. At Scania, we met with Dr.-Ing. Harald Ludanek, Executive Vice President – Research and Development, Ms. Catharina Modahl Nilsson, Engineering Director – Cab Development, and Mr. Sven-Åke Edström, Senior Vice President – Truck, Cab and Bus Chassis Development.

Interview by Frederic Damköhler and Nadine Gubl Photos by Dan Boman

Dr. Ludanek, at first glance it would appear that Scania commercial vehicles and Porsche sports cars are not a natural fit...

Dr. Ludanek: It's true that we are dealing with two products with completely different requirements. A Porsche sports car is prized by customers for its perfection and the excitement that it engenders, its power, its performance on the road, and its quality. A truck, by contrast, is a working machine that primarily distinguishes itself through reliability, durability, uptime, and practicality. While a passenger car meets customer expectations with an average service life of 5,000 hours of operation and a total mileage of around 150,000 km, a truck must be designed to achieve ten times this in both categories.

From your perspective, why does working together with Porsche Engineering make sense?

Dr. Ludanek: The design principles, physical principles, and many requirements of the body structures are the same. In working together with the engineers at Porsche Engineering, we can profit in particular from their experience in design and manufacturing processes. After all, lightweight construction and fuel consumption reduction play a major role for commercial vehicles as well. And the transfer goes in both directions: for example, in recent years high-strength materials and hot-stamped structural components such as those used in trucks have been increasingly used in car bodies to save weight and reduce fuel consumption.

Mr. Edström, how did the cooperation for the development of the next cabin generation come about?

Edström: Scania and Porsche Engineering had already been successfully cooperating in the field of truck development for several years before this project. It was important for Scania to find a partner with expertise in multiple areas, such as body-in-white structures, new methods in simulations and production planning, as well as a strong connection to prototype workshops. It is quite natural that the time frame for the development process in the commercial vehicle industry is much longer than in the passenger car industry. We expect to benefit from new methods from the automotive industry and achieve quicker turnaround and better results. >



Every successful business relationship thrives on a lively exchange based on mutual trust: the cooperation of Scania and Porsche Engineering is no exception.

In your experience, what distinguishes Porsche Engineering from other engineering service providers?

Dr. Ludanek: Porsche Engineering has the advantage of being directly connected to the automobile manufacturer Porsche. Their explicit awareness of customer requirements and understanding of the peripheral issues that play a role in completing the job economically are hugely beneficial in our project work. In particular, their differentiated view from the various car development perspectives and transferring this experience to truck development projects often results in completely new solution approaches. The experience and knowledge gained through procedures and methods that have become standard practice in the car sector combined with the specific requirements of the commercial vehicle sector generate new ideas and solutions that benefit our customers.

Ms. Modahl Nilsson, what is so special about a Scania truck compared to those of competitors?

Modahl Nilsson: Scania is very customer-oriented. The main focus is on operating performance in line with profitability. Low fuel consumption, optimal uptime, and low service costs are decisive factors for logistics companies. The truck

driver should be able to easily operate the truck without being stressed or overtaxed in the process. In terms of the person-to-machine interface, the driver receives excellent feedback on driving performance.

What overall challenges will the commercial vehicle industry face in the future?

Edström: Future developments in the commercial vehicles sector will no longer be characterized by a *single* improvement. The aim is to substantially improve efficiency in the field of logistics through a range of enhancements. Just as in the automotive industry, commercial vehicles are faced with the challenges of lightweight construction, energy efficiency, reduction of fuel consumption and emissions, and the use of trucks with alternative fuels as well as more stringent passive and active safety requirements. Moreover, this additional technical equipment will only find acceptance if it is economically viable. In the future, linking vehicles in the logistics network will create enormous potential for advancement in this area.

Considering these challenges, where do you see further potential for collaboration with engineering service providers?

Edström: A variety of collaborative models are possible. Beyond the traditional issues of cabin and component design, there is also a push to improve existing work methods; here, the expertise of development service providers can definitely be very useful.

Dr. Ludanek: In the future, we will be forced to accept shorter service lifetimes for electrical and electronic developments, as the trends and methods in this area are changing in ever faster cycles. Driver assistance systems, which are increasingly prevalent in the car sector, will soon be introduced in the commercial vehicle sector as well—here again, we can benefit from others' experience. A lot of the advanced technologies will first reach the customer through the car sector. That also goes for advanced materials.

How about the other way around? In your opinion, is there potential for the automotive industry to learn from the commercial vehicle industry?

Dr. Ludanek: Collaborative projects should always generate synergies for both parties. Truck development focuses on fuel consumption and operating costs. Many development >

Porsche Engineering regularly puts its knowledge to use for other industries and projects in different technical fields. Scania relies on Porsche expertise and both sides profit from a fruitful exchange of ideas.





Dr.-Ing. Harald Ludanek

Executive Vice President, Head of Research and Development

Dr.-Ing. Harald Ludanek joined Scania in 2012. After graduation, he joined Volkswagen AG, where he held various positions. He also worked at Škoda Auto MIBoll/CZ. Before joining Scania, Harald Ludanek was Head of Vehicle Development at Volkswagen AG. At Scania, he was appointed Executive Vice President and Head of Research and Development.



Catharina Modahl Nilsson

Engineering Director for Cab Development

Catharina Modahl Nilsson joined Scania as a trainee and has held numerous positions within the company, mainly in research and development but also in marketing. Since 2012, she has held the position of Engineering Director for Cab Development at Scania.



Sven-Åke Edström

Senior Vice President Truck, Cab and Bus Chassis Development

Sven-Åke Edström, who joined Scania as a trainee, began his career with the company as a design engineer in the Industrial and Marine Engines Division, focusing on diesel engine design. Since then, he has held various positions at Scania, both in Sweden and abroad. In 2009 Sven-Åke Edström was appointed Senior Vice President for Truck, Cab and Bus Chassis Development.

concepts can be economically implemented in this area thanks to the very long service lives and high mileage. Individual measures frequently have to prove their usefulness in an integral interaction with regard to reliability, serviceability, and operational safety. Against the backdrop of CO₂ reductions and fleet operations, this holistic perspective can benefit the car sector as well.

Edström: The truck sector is also leading the technology development in terms of robust, durable technology.

How will e-mobility affect the commercial vehicle industry?

Modahl Nilsson: We have to take a differentiated look at the application cases. In local urban distribution and commuter traffic, hybrid drive systems will be phased in. Especially in stop/start scenarios, a hybridization of the drivetrain will

enable recuperation of braking energy and acceleration support. In contrast to cars, purely electric driving in trucks will remain the exception and will only be feasible on certain types of routes. In long-distance road haulage, purely electric, autonomous driving will struggle to gain acceptance due to the low storage density of the batteries. In Sweden, however, concepts for the electrification of major transportation routes to counteract the current deficiencies of battery technology are being considered.

What role does design play for Scania trucks?

Edström: At Scania, truck styling is important—and it secures the Scania brand identity. Scania has a strong exterior styling that resembles a helmet, highlighting essential characteristics of Scania trucks such as safety, uptime, robustness, and quality. Its importance is clear when one considers that the styling of

the interior must balance functionality with a living space for the driver. Of course, styling is not the main criterion, but it is essential to foster drivers' sense of identification with the brand, which induces better, more careful use of the truck—which in turn results in lower operating costs.

What will trucks look like in 20 years?

Dr. Ludanek: 20 years from now, trucks will have technical improvements for low fuel consumption, e.g. low drag coefficients, optimized aerodynamics, and easy access. In terms of functionality, the truck will be more closely connected to the logistics process. Driver assistance systems will ensure easier handling and operation. Service and maintenance will be monitored and detected by the operating system itself. The truck driver will have an office and a comfortable living space in one place.

If you could be a developer at Porsche for one day, what would you like to develop?

Dr. Ludanek: Porsche is a fascinating sports car company with emotional products. In the Porsche Cayenne, the Porsche engineers brilliantly succeeded in combining sporty characteristics with robustness and off-road-performance. Whenever you drive a Porsche Cayenne in rough off-road conditions, you are inevitably captivated by its performance. So I would love to develop the next generation of the Porsche Cayenne.

Edström: A Porsche Carrera's road stability and handling are very impressive as well. Why not participate in that development area to learn more about the secret to achieving that?

Modahl Nilsson: I'm impressed by the strong Porsche brand, the emotions, and the heritage connected to Porsche's identity. This seems to be deeply rooted not only in your customers' minds but also in the pride shown by every Porsche employee. As an engineer I would appreciate being part of the backbone of the Porsche lineup—and developing the next generation of the 911. ■

THE COOPERATION BETWEEN SCANIA AND PORSCHE ENGINEERING

Ever since the Swedish commercial vehicle manufacturer Scania and Porsche Engineering began working together to develop a new truck cabin generation in 2010, the focus always extended beyond typical Scania styling and first-rate functionality to include a continual effort to optimize the design of development and production processes. "Only when our developments smoothly plug into the Scania development process, can be efficiently produced, and create added value for Scania have we done our job successfully," says Malte Radmann, CEO of Porsche Engineering. "This is the standard that our engineers have been following with customers ever since Ferdinand Porsche founded his engineering firm over 80 years ago."

Porsche engineering services have always involved transferring experience and expertise from the automotive industry to related sectors. "We always put ourselves in the customer's position and try to combine an awareness of the industry-specific requirements, such as competing product and manufacturing cost pressures, with our special expertise from the sports car development process," says Helmut Fluhrer, head of the Scania cabin development project at Porsche Engineering. "To date, we have always succeeded in creating critical synergies for both sides in spite of all the challenges. That's what makes our project so exciting."

911 (TYPE 991) Fuel consumption (combined): 12.4–8.2 l/100 km; CO₂ emissions: 289–194 g/km

CAYENNE Fuel consumption (combined): 11.5–7.2 l/100 km; CO₂ emissions: 270–189 g/km