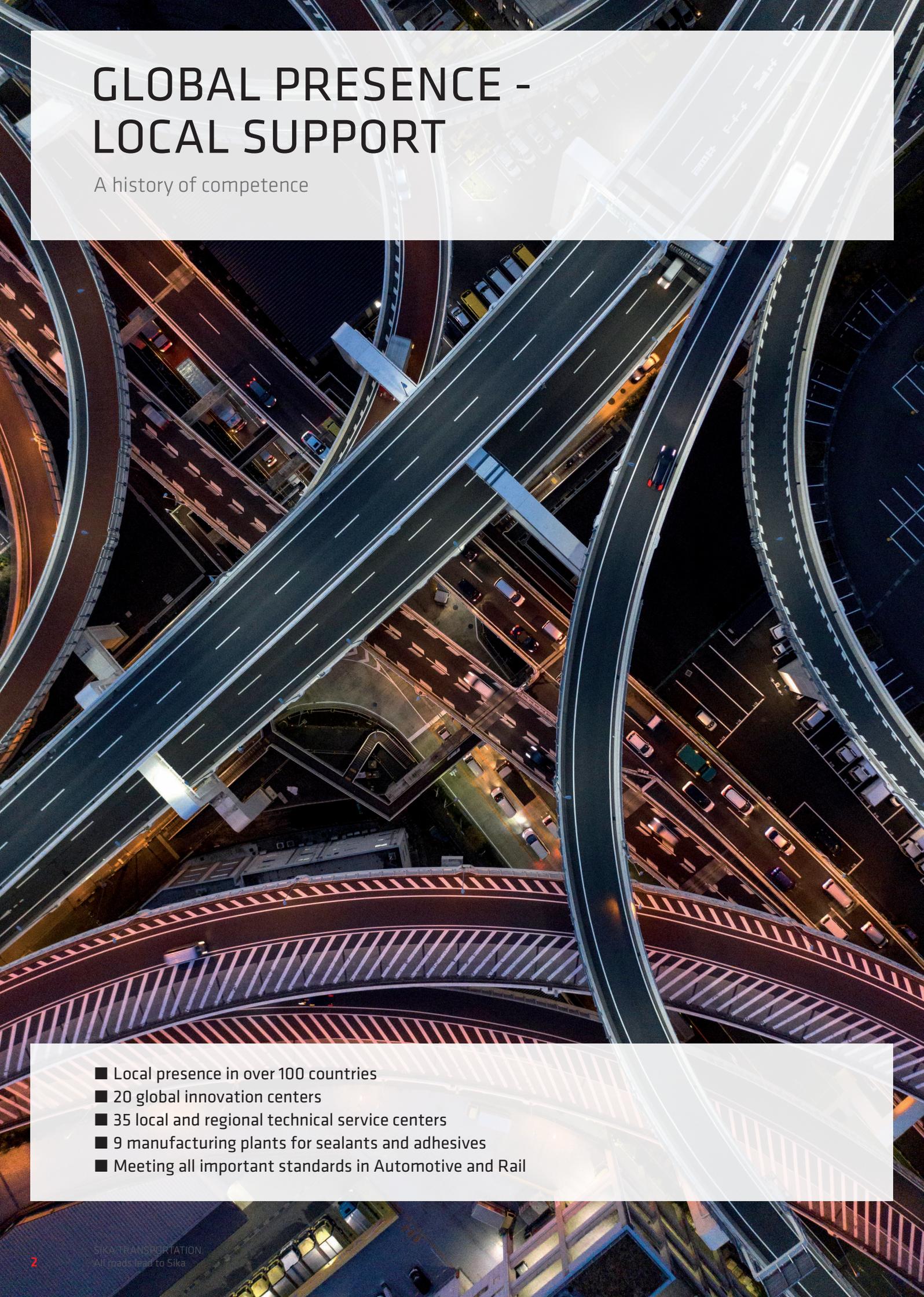




# SIKA TRANSPORTATION ALL ROADS LEAD TO SIKA

**BUILDING TRUST**





# GLOBAL PRESENCE - LOCAL SUPPORT

A history of competence

- Local presence in over 100 countries
- 20 global innovation centers
- 35 local and regional technical service centers
- 9 manufacturing plants for sealants and adhesives
- Meeting all important standards in Automotive and Rail

# TRANSPORTATION

Customer satisfaction leads to success

Quieter Truck cabins

## 25% NOISE REDUCTION

With SikaBaffle® and SikaDamp® acoustic systems

## 150,000 BUSES

Produced every year containing  
Sika products

## 3,500,000 KG

Sika products used every year  
to build trains

## 35% OF GLOBAL RAIL FLEET

Made stronger and safer with Sika solutions

## 30 MILLION KG SIKA PRODUCTS

Purchased by the transportation market  
every year

## 250,000 TRUCK CABINS

Produced with Sika solutions  
annually

## 25,000

Trailers and RVs equipped with laminated sandwich panels using SikaForce® and SikaMelt®  
products each year

# TRANSPORTATION

Your challenge - our ambition

MACHINERY



BUS



TRUCK



CARAVAN



RAIL



SPECIALTY VEHICLE



TRAILER



CONVERTERS



#### PROCESS EFFICIENCY

Sika's innovative, **fast cure adhesive bonding solutions** and technical support help the transportation industry world-wide to **increase output and lower cost of production.**



#### DURABILITY

Structural adhesive systems from Sika for demanding environment where highest levels of **resistance to constant dynamic loads** (fatigue resistant) are required help to produce commercial vehicles with **higher durability.**



#### LIGHTWEIGHT

Reduction of weight in transport vehicles result in higher payload and better fuel efficiency. Sika provides solutions to **join dissimilar materials.**



#### SAFETY

**Crash resistance** and stability in case of a roll over are of vital importance. **Fire safety** together with heat protection are key topics for public transportation operators and is becoming a major concern with the development of e-mobility.



#### FREEDOM OF DESIGN

Optimized vehicle architecture, **improved fuel efficiency** and **flexibility in design** are key success factors and supported by Sika. Our solutions enable manufacturers to enhance overall vehicle performance through integrating lightweight and design components.



#### SUSTAINABILITY

Innovative bonding and coating solutions from Sika help to **reduce health impact** for staff in production environment and lead to **less indoor pollution** for improved passenger comfort.



"Sika's strong presence in the industry is the result of our firm commitment to the transportation industry. For more than 35 years, Sika's technical and sales experts have proven that our service and solutions enabled producers of buses, trains, and other vehicles to make their products better, lighter, safer, and produce them more efficiently. Our latest innovations, PowerCure and SikaForce® Curing by Design, are proof of our continuous endeavor to go further than others."

**DAVID TOBLER**  
HEAD TRANSPORTATION  
SIKA SERVICES AG

# LEVERAGE AUTOMOTIVE COMPETENCE

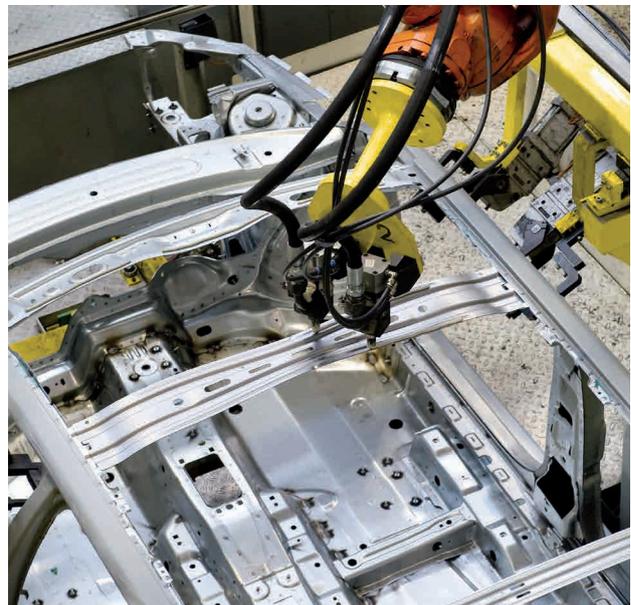
Experience in Automotive generates benefits for Transportation

For more than 25 years, Sika has been a reliable technology partner for the automotive industry globally. Sika has integrated automotive-style processes in development, production, and quality for many years. Our competence in automotive goes beyond the development of new technologies. We are also providing strong technical support in vehicle engineering, product qualification, as well as the integration of Sika solutions to production plants from manual to highly automated processing. **Rely on our global network of experts.**

The automotive industry is the benchmark for highly efficient production processes: Modular assembly is allowing endless variations for the final customer, or the just in time assembly are two well-known examples. These methods are also widely adopted in the truck and off-highway machinery industry. Modular assembly in rail, bus and caravan is often limited to interior components, but also offers further possibilities for process optimization or cost and weight savings if considered in the body structure - **Sika has the solutions.**

## METAL BONDING AND BODY SHOP SOLUTIONS

Today's cars are built on bonded structures; car manufacturers all over the world use highly crash-resistant SikaPower® adhesives. Only adhesive bonding allowed the combination of various materials to achieve significant weight savings required to improve fuel efficiency or extend reach for e-Vehicles. Bonding also enabled a further step in the automation of production and made the vehicles safer - **Sika supports customers from engineering to integration in production.**



Passenger comfort  
with SikaDamp®  
Sound Deadening

## Modular Assembly

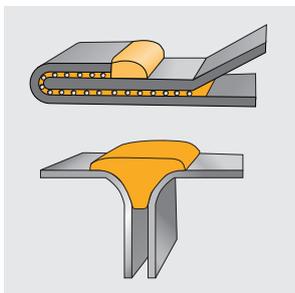
Process improvement  
with metal bonding **IATF 16949**

## Process Automation

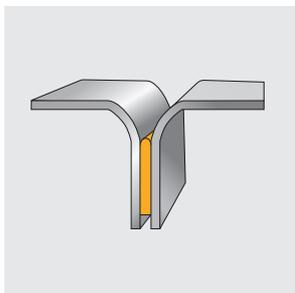


Sika provides a wide range of body shop solutions to the automotive industry. Typical applications are:

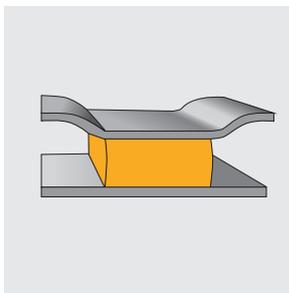
SEALING



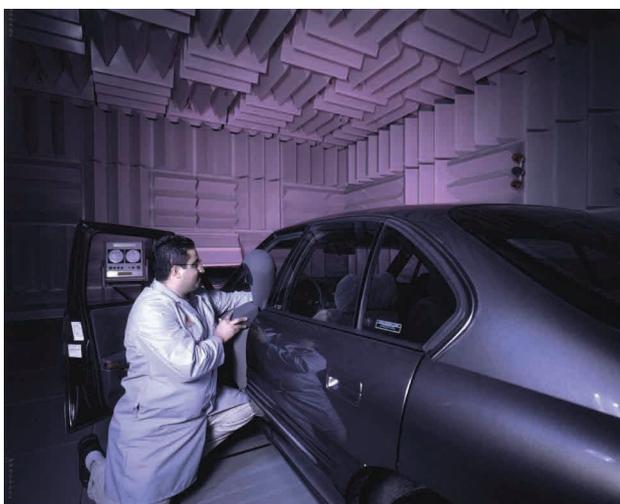
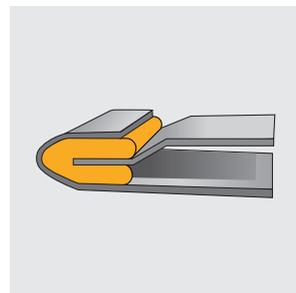
STRUCTURAL BONDING



ANTI-FLUTTER



HEM-FLANGE



#### SOUND DEADENING AND REINFORCEMENT

The interior acoustics of a vehicle has been a significant concern of car manufacturers for many years. Also, in heavy truck and off-highway industries, interior acoustics are a concern driven by work safety legislation. Sika is a full solution provider for acoustic challenges. SikaDamp® and SikaReinforcer® solutions, eliminate structure-borne noise. SikaBaffle® parts are sealing off vehicle body cavities and efficiently block noise transmission paths. Sika is a reliable partner to optimize vehicle acoustics from testing and simulation to the development of a tailor-made solution for individual acoustic challenges.

# BUS / COACH / RAIL

Highest requirements for durability and reliability



- Enhanced reliability
- Large variety of materials and process requirements
- Highest expectations on longevity and durability
- Extensive demands on process control and traceability



reddot award 2018  
winner



DESIGN  
AWARD  
2016

# FASTER ASSEMBLY WITH SikaBooster® / PowerCure

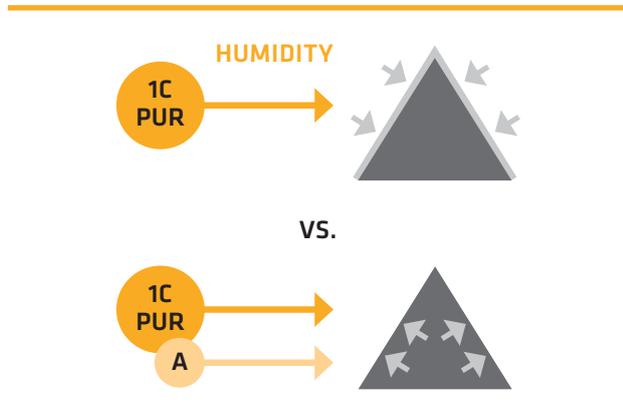
Depending on customer needs Sika provides solutions tailored for the Bus, Coach and Rail market. It starts with highly elastic Sikaflex® polyurethanes and ends with structural SikaForce® and SikaPower® solutions. A vast range of options are available to cover customer demands for side window and windshield bonding.

## INNOVATION FROM SIKA – SikaBooster® SYSTEM PRODUCTS SAME FINAL ADHESIVE PERFORMANCE AT VARIABLE PROCESSING SPEEDS FROM INDUSTRIAL MANUFACTURING TO REPAIR.

Sika is offering product systems based on SikaBooster® technology to provide customers with uniformly high strength but different curing speed. SikaBooster® is a curing accelerator that can be turned on or off, changing the curing speed but not the final mechanical product properties. With the PowerCure Dispensing system, Sika is offering SikaBooster® adhesives also in sausage packaging; not requiring bulk dispensing equipment.

## SikaBooster® / PowerCure BENEFITS AT A GLANCE

- **Same final properties:** Final properties remain the same independently if cured with air-moisture or SikaBooster®
- **Cost effective:** Benefit from accelerated curing adhesives only where needed (SikaBooster® can be turned on/off)
- **Reliable performance:** Sikaflex® adhesives for SikaBooster® are highly reliable and proven in hundreds of use cases
- **Available from small pack size:** SikaBooster® is available in environmentally friendly sausage packaging for application with Sika's PowerCure Dispenser



Ensured through cure of big joints



Easy access at difficult to reach areas



Short down time in repair



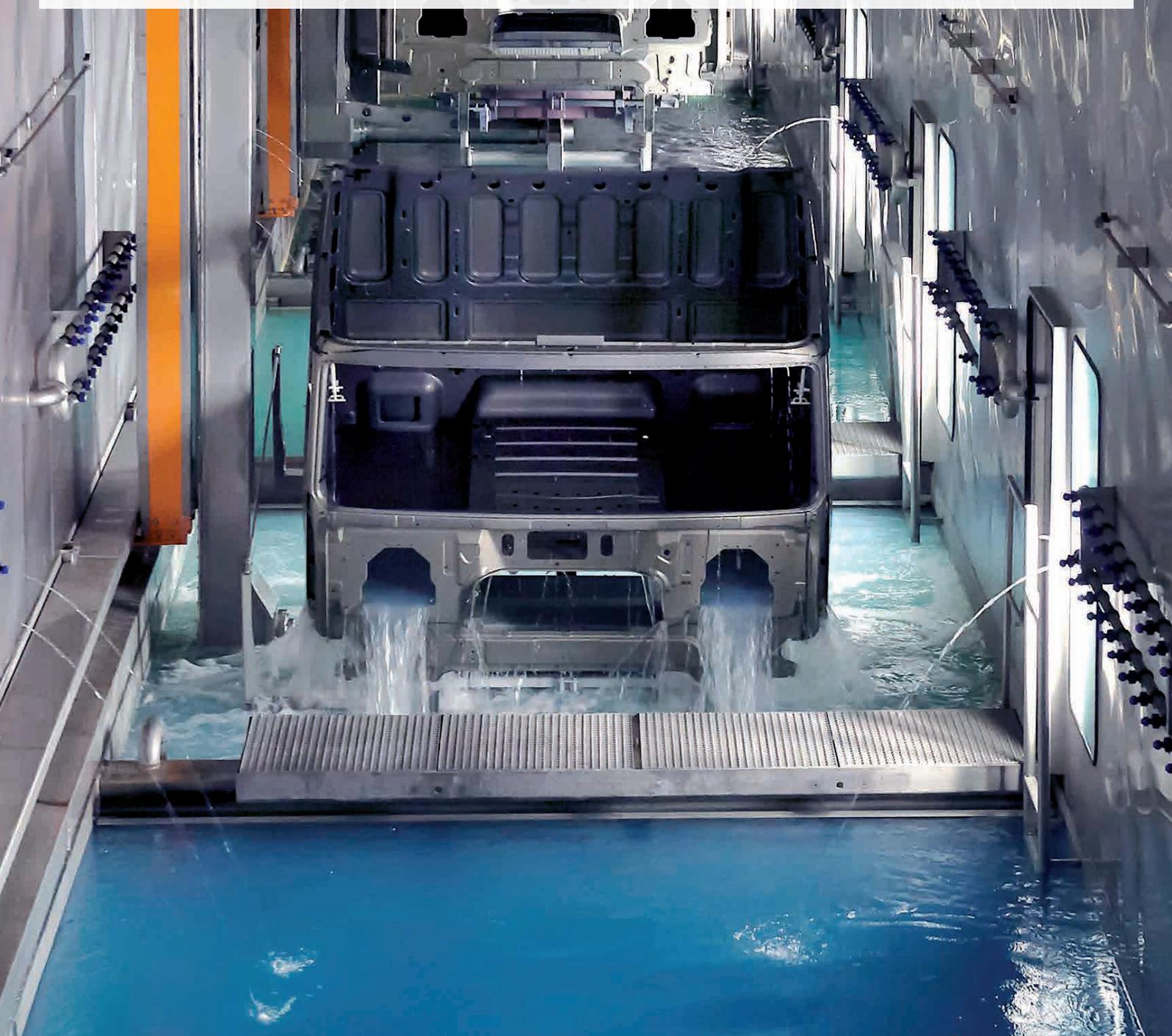
Proven solution



In use by all leading rail manufacturers

# HEAVY TRUCK / MACHINERY / SPECIALTY VEHICLES

Reduced welding leads to faster processes



- Improved durability and robustness
- Reduced running and maintenance cost
- Higher crash safety
- Lower noise

# FASTER PRODUCTION AND COST REDUCTION

Manufacturers of Trucks and off-Highway Machinery are improving their body shop operation by selectively replacing welding with structural adhesives. Sika as a leader in the automotive body shop is providing support from engineering to integration in production. Bonding not only allows increasing body stiffness and durability but offers also substantial cost saving potentials in the body shop.

SikaPower® structural adhesives enable vehicle manufacturers to reduce welding time and posttreatments of welded structures significantly. They also increase stiffness and durability of joined structures.

SikaReinforcer® technology helps to significantly increase the structural integrity where needed.

Our team of experts help you to identify the right solution at the right place for an optimum result.

## INNOVATION FROM SIKA –

### SmartCore FOR INCREASED DURABILITY

HIGH STRENGTH EPOXY ADHESIVES BASED ON SikaPower® SmartCore TECHNOLOGY WITH UNMATCHED FATIGUE AND IMPACT RESISTANCE ALLOW REPLACEMENT OF WELDING OR ENABLE HYBRID JOINING INCLUDING WELDING AND BONDING.

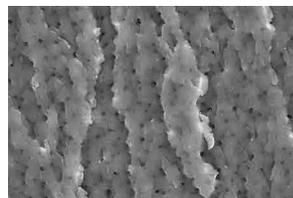
SikaPower® SmartCore Technology provides exceptional impact resistance designed to withstand dynamic stresses. It is part of selected heat curing SikaPower® adhesives, as well as room temperature curing two-component epoxies.



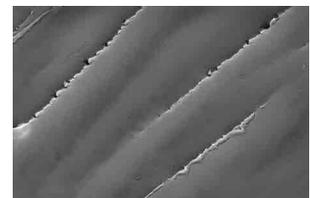
### SmartCore TECHNOLOGY BENEFITS AT A GLANCE

Key benefits of one- and two-component SikaPower® SmartCore adhesives

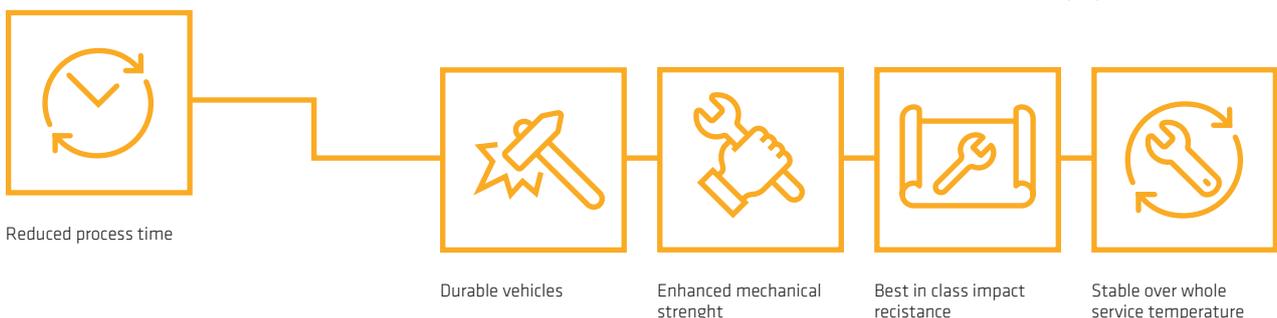
- Excellent load transfer due to high mechanical strength
- Superior durability and lifecycle of bonded components
- Enhanced mechanical strength at elevated temperatures
- No brittleness at freezing conditions
- Excellent capability to compensate tolerances in bond line thickness
- Designed to bond metals, composites and other materials



SmartCore



Standard Epoxy



# RECREATIONAL VEHICLES

Lighter weight and faster production speed



- Lower weight and enhanced durability
- Improved insulation and operational efficiency
- Faster production
- Higher rigidity and strength with optimum payload

# FASTER PROCESS FOR SANDWICH PANEL PRODUCTION

Manufacturers are continually striving to develop vehicles that meet and exceed targets for reduced weight and increased durability. At the same time, achieve faster build times to improve competitiveness, enhance rigidity and strength with optimum payload.

The technologies include one-, two- or three-component SikaForce® lamination and structural assembly adhesives, high strength SikaPower® epoxies for cold and hot body shop or the latest elastic sealing and bonding Sikaflex® technologies for small and large assemblies.

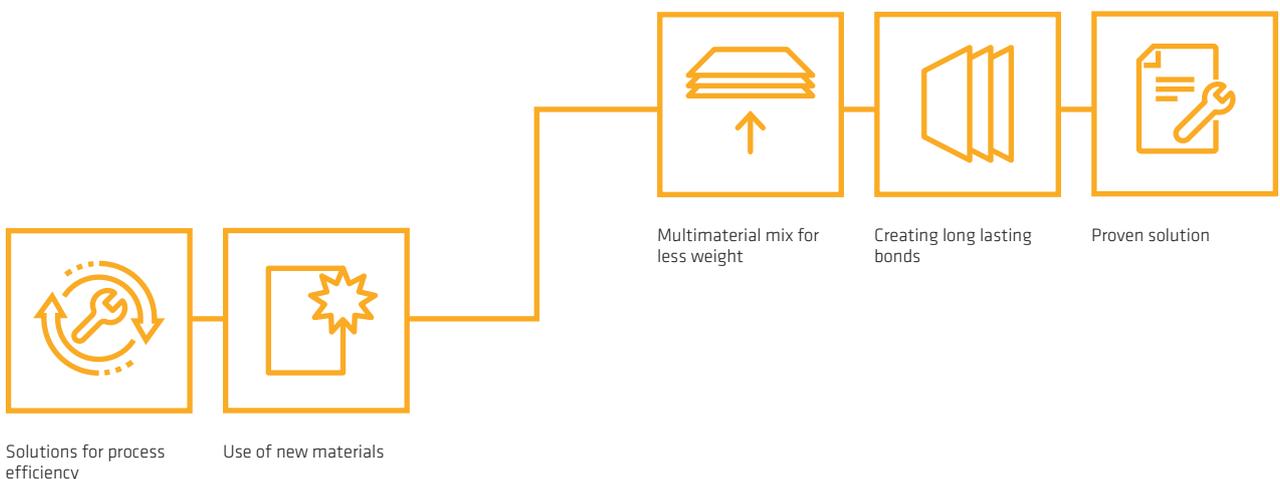
## INNOVATION FROM SIKA - SikaForce® 3-COMPONENT PUR ADHESIVE SOLUTION FOR SANDWICH PANELS

The solution allows adjustment of curing speed, open and press times by mixing two different A-components, one fast curing and one slow curing, with a B-component. The adjustment is done manually or automatically in the workshop and allows achieving the optimal panel production speed, regardless of the workshop ambient temperature, panel complexity and variations, leading to improved productivity and increased output of up to 30%.



### BENEFITS AT A GLANCE

- 30% faster production speed compared to conventional adhesive solutions
- Tuning of cure speed for each successive layer
- Shortest possible press time
- Compensation for temperature variation





DO YOU REQUIRE SUPPORT TO  
PRODUCE YOUR COMMERCIAL  
VEHICLES SAFER, MORE DURABLE,  
LIGHTHER AND FASTER?

# SIKA ADDED VALUE

Going beyond the supply of materials and products

Sika is dedicated to providing and maintaining the highest quality standards with its products and services. All Sika solutions are designed with the customers' success in mind and to establish long-lasting and mutually-beneficial relationships.

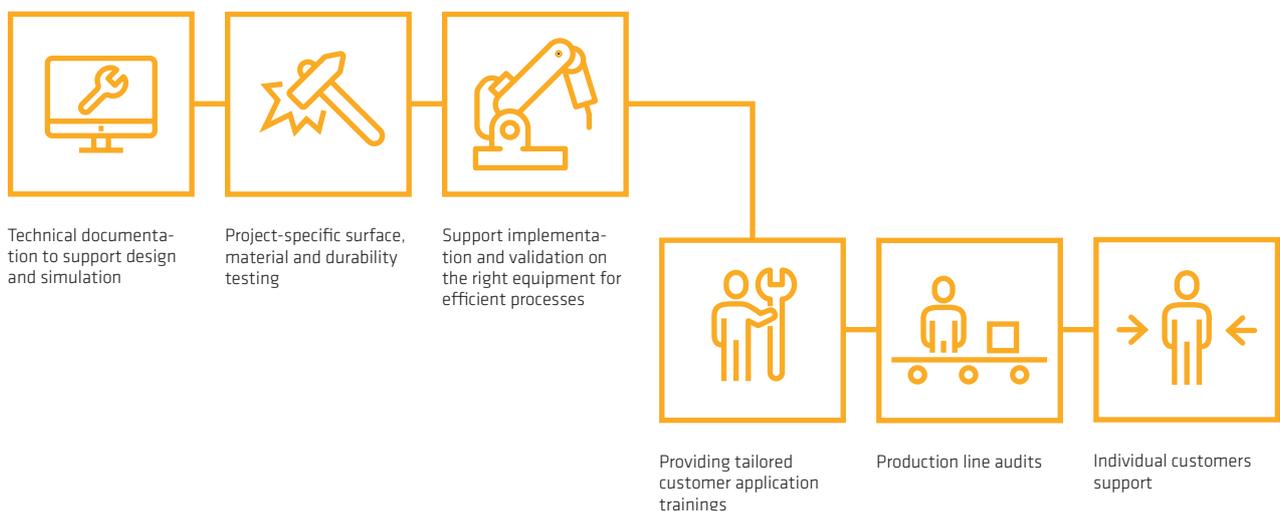
Sika Industry's well-proven solutions are equally complemented with an unmatched level of customer service and technical support. We aim to help customers to produce a better vehicle, improve processes, minimize emissions and support reduction of overall vehicle manufacturing cost.

For decades, Sika is present in the global Transportation industry and supports customers with solutions for sealing, assembly bonding, coatings as well as reinforcement and acoustic solutions. Owners and operators demand ever-lower vehicle running and repair costs combined with improved reliability and durability. Newly developed structural adhesives help to meet these requirements. Government legislation is pushing for lower vehicle emissions. Sika, as supplier and partner to the global Transportation industry, provides a range of state of the art technology solutions to assist manufacturers in meeting these challenges as well.

SIKA OFFERS ADDED VALUE SOLUTIONS THAT INCREASE YOUR PRODUCTIVITY, REDUCE YOUR COSTS, AND RESULT IN DIFFERENTIATED END PRODUCTS FOR YOUR CUSTOMER.



Our teams help from the idea through to the design stage and until the completion of a project with:



# GLOBAL BUT LOCAL PARTNER-



## WHO WE ARE

Sika is a globally active company supplying the specialty chemicals markets. It is a leader in processing materials used in sealing, bonding, damping, reinforcing and protecting load-bearing structures in construction (buildings and infrastructure construction) and in industry (vehicle, building components, equipment production, solar and wind power).

Sika's product lines feature high-quality concrete admixtures, specialty mortars, sealants and adhesives, damping and reinforcing materials, structural strengthening systems, industrial flooring and membranes. Subsidiaries in more than 101 countries worldwide and approximately 20,000 employees link customers directly to Sika.

## CONTACT US:

**Sika Industry**  
**30800 Stephenson Highway, Madison Heights, MI 48071**  
Phone: 800-688-7452

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within shelf life. User determines suitability of product for intended use and assumes all risks. Buyer's sole remedy shall be limited to the purchase price or replacement of product exclusive of labor or cost of labor. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.** Sale of Sika products are subject Sika's Terms and Conditions of Sale available at <http://usa.sika.com/> or by calling 201-933-8800.

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