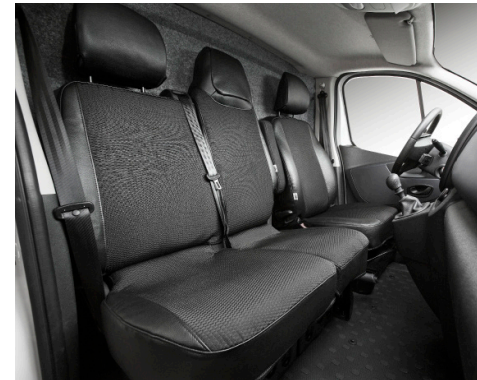


# CalixKlippan

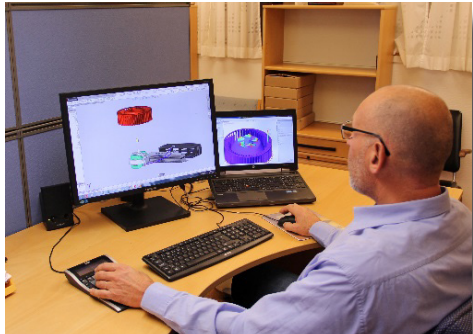
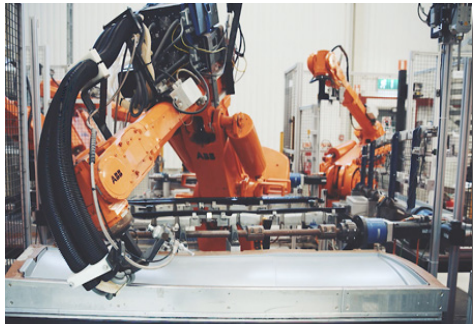


# **Welcome to CalixKlippan AB**

**- A Swedish company group for the global automotive industry -**

## This is CalixKlippan AB (CKAB)

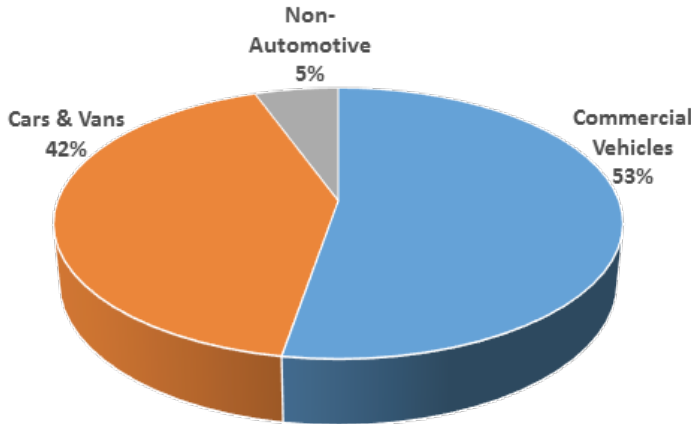
CKAB provides the automotive industry with products and systems improving safety, comfort and styling. CKAB is a privately owned Swedish group with customers all over the world. The major part of our business is directed to the automotive OEM industry, supplemented with aftermarket accessories and products. The OEM projects are carried out from a product development phase via industrialization and manufacturing to delivery. In the aftermarket, the accessories and products are mainly distributed under the Calix brand. We support our customers with skill, experience and state-of-the-art production facilities which result in quality supplies.



### Facts about CKAB

Sites in the world:

- Eskilstuna, Sweden
- Gothenburg, Sweden
- Kaluga, Russia
- Klippan, Sweden
- Malung, Sweden
- Munich, Germany
- Oslo, Norway
- Sao Paulo, Brazil
- Stargard, Poland
- Veddige, Sweden



Market split:

- Automotive, cars and vans: 42%
- Automotive, commercial vehicles: 53%
- Non-automotive: 5%

Quality and environmental systems:

ISO/TS 16949 and ISO 14001

## BEDS AND CARGO STORAGE SYSTEMS

### Comfort and safety

Klippan Safety is a system partner for the automobile manufacturers with highly unique competence in the fields of safety and comfort.

The company develops and manufactures complete bed and cargo storage systems as integrated occupant restraint systems for truck cabs. For passenger cars and vans, the products consist of various cargo storage solutions, restraint systems and seat belts. The organization is a strong global partner for OEM's and Tier 1's in safety and comfort solutions for automotive applications.



Upper bed in truck cab



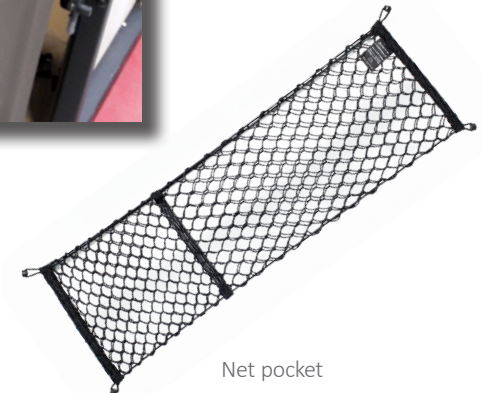
Seat belt



Truck cab interior



Storage system in truck cab



Net pocket



Luggage room divider



Luggage room divider installed



Divider net



Safety net

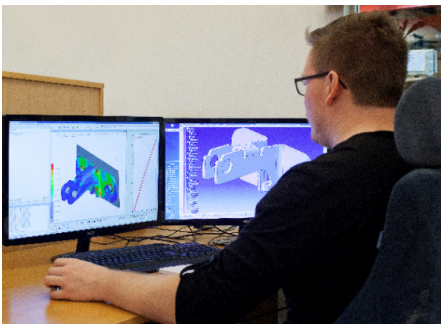
## Development and pre-production

The design process creates the best possible solution optimizing cost efficiency and attractive styling while meeting all technical demands on the system. System performance is verified by CAE analyses and functional testing, including full scale testing in our own crash test track. This facility is also used by external customers.

The Product Development System is a well-defined and structured methodology to take products from the design phase all the way to implementation of the industrial manufacturing process.

## Manufacturing

The manufacturing process is trimmed to meet all expectations from the automotive industry as a zero failure rate regarding quality and a high delivery precision. This is achieved by engaging highly skilled employees in combination with substantial investments in modern production methods.



CAE station



Crash test track



Factory interiors

## METAL PROCESSING AND PLASTIC MOULDING

### Products and applications

Preciform's major activities are metal sheet processing, injection moulding, surface treatment and assembly. Preciform is a specialist in combining these processes in order to create the most cost-effective components for its customers, especially when there is also a demand for decorative and sustainable surfaces.

### Tread and Scuff plates

Decorative Tread and Scuff plates for passenger vehicles are fitted on the sill. Tread and Scuff plates typically consist of an injection moulded plastic carrier and a metal plate assembled on top of the carrier. A logotype or text can be applied on the metal plate and surface treatment ensures the correct appearance of the product.



Tread plate



Side scuff plates



Side scuff plates

### Skid plates and door styling

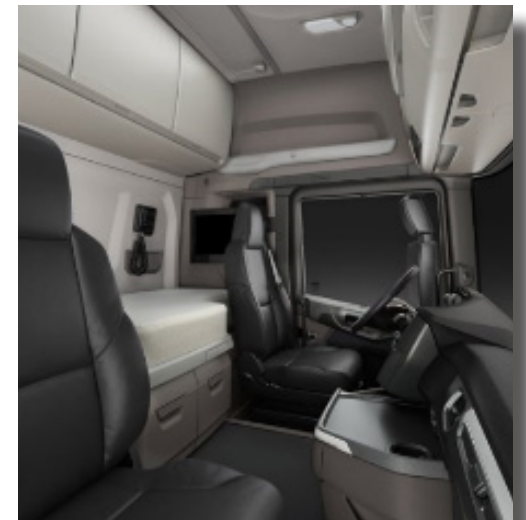
Skid plates for passenger vehicles are fitted in the front and in the rear of the car and consist mainly of injection moulded parts and decorative stainless steel plates. Door styling components are injection moulded and assembled mostly using vibration or ultrasonic welding. A door styling part can have a grained, painted or chrome surface or be covered with a decorative stainless steel plate.



Skid plates

### Storage systems and cab components

Preciform is a system partner regarding storage solutions and interior cab components. In general the projects include technical development, testing, validation, component production and system assembly. Cab components include applications as cup holders, trays, tables, covers, speaker grills, hatches, sun-visors etc.



Truck interior

## Injection moulding

Thermoplastic components are produced in machines with a clamping force from 50mt to 1300mt. All machines are equipped with robotized cells for component handling and assembly. The vibration and ultrasonic welding machines create thin shell-formed and rigid components.



Injection moulding machine



Plastic components

## Sheet metal processing

Sheet metal components are made in mechanical and hydraulic presses in a range from 60mt - 500mt press force. The degree of automation depends on the complexity and serial volume of the final products.

Deep drawing enables thin sheet casings to be produced without welding. The method allows manufacturing of products with an advantageous relation between strength and weight. Sheet metal manufacture is carried out with either progressive or single punch tools. Post-treatment processes for metal components include welding, blasting, grinding, polishing, washing and laser marking.



Metal components

## VACUUM-FORMED PLASTIC COMPONENTS

### System partner

Andrénplast is a specialist in vacuum-forming of thermoplastic parts that facilitates the design of multi-functional and high quality components used in trucks, buses, cars and many other fields. Large area components are particularly well suited for the process.

Cost and design objectives are achieved for example by using multilayer or reinforced materials. We can meet highest requirements regarding complex shapes, structural strength at low weight, a high surface quality with small gaps and easy assembly by combining our experience and advanced engineering tools.

As an example we supply to bus manufacturers pillar trims, driver's doors, ceilings, walls for the driver area and instrument panel structures.

Exterior parts for automobiles include liners for all kinds of vehicles, bonnets and roofs for construction vehicles and aerodynamic elements on truck cabs.



Dash board- bus



Aerodynamic front- truck



Front wall- caravan



Housing- lawn mower



Drivers door- bus



Bonnet- construction vehicle



Vacuum-forming

First and foremost vacuum-forming provides significantly lower tooling costs compared to other methods. In addition, this process saves cost thanks to quick tool changes.

The method also gives the end product outstanding finish, high quality and strength. The products receive a high precision and an aesthetic appearance.

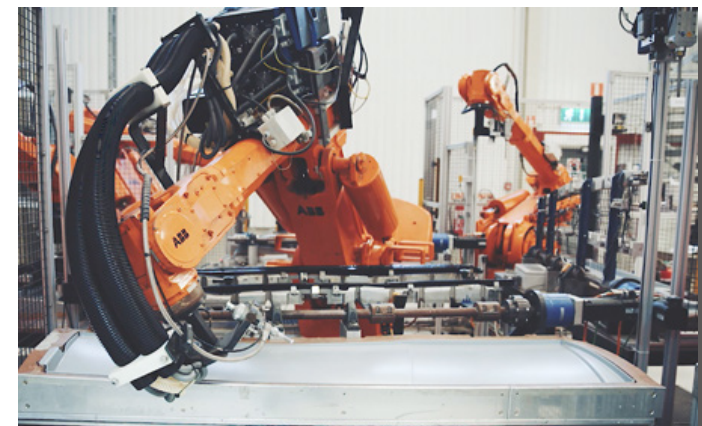
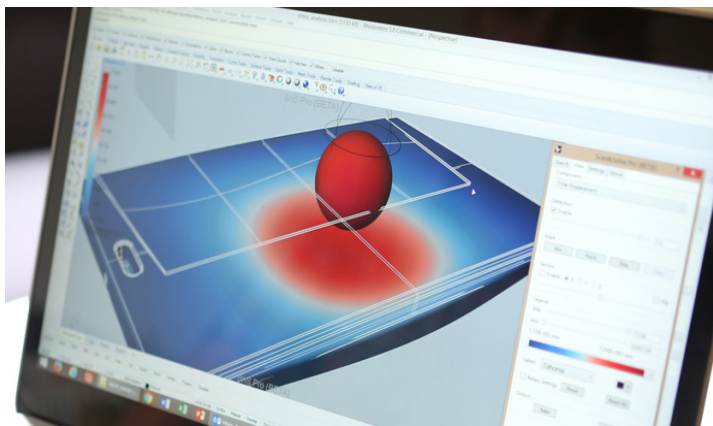
Using pre-coloured or multi-layer materials are just some of the process opportunities. We use 100% recyclable materials, reuse all waste and have a fast, cost-effective and environmentally sustainable process.

Our leading position in vacuum-forming has been achieved by an optimum combination of material use, design and manufacturing process.

Our innovative technical team takes the product ideas from our customers all the way to the best solution via design, prototyping, validation and industrial production.



Vacuum-formed interior component



Engineering and production capabilities

## VACUUM-FORMED ROOF BOXES AND TRUNK LINERS

### Calix roof boxes

A roof box is the very best way to increase a vehicle's loading capacity. Calix roof boxes, produced by Autoform, are available in various models from short city boxes to long ski boxes, to suit all possible requirements. All our roof boxes are developed and manufactured in Sweden by 100 % recyclable material.

The roof boxes are made from durable, temperature and UV resistant ABS plastic and are fitted with side opening from both sides (Dual Opening) and central locking.

All our roof boxes are City Crash Tested at SP (Technical Research Institute of Sweden). Urban Loader and Zafe are also tested, approved and certified by TÜV in Germany.

You can easily expand your cargo space with our Urban Loader, which is a new, innovative product that is suitable for transporting grocery shopping bags, suitcases, child carriages, golf bags etc. This roof box is perfect for your everyday needs. In the compact position, the Urban Loader is so slim and stylish that there is no need to remove it. When it is expanded you get 500 liters extra space.

The Nordic Loader has a streamlined design that follows the car's contours and creates the impression of a roof box integrated with the car. The box has Dual Opening, an integrated handle and low load edges. The Nordic Loader is equipped with our proprietary, patented Safety Nose at the front for maximum load restraint.

We recommend our smart, slim-line Quick Grip which makes the mounting quick and easy.



Customized roof box



Nordic Loader



Urban Loader

## Calix trunk liners

Autoform is the leading manufacturer of trunk liners for the European automotive OEMs. We also provide the independent aftermarket with a wide range of vehicle specific trunk liners. Our trunk liners have a perfect fit and are designed for each vehicle model. All trunk liners are light weight, durable and laminated with an anti-slip rubber surface. A trunk liner contributes to keep car interiors clean.

The trunk liners are made of 100% recyclable polypropylene.



Trunk liner



Trunk liner installed



Trunk liner with dividers

## ENGINE HEATING AND POWER SUPPLY

### Calix cable system

Calix plug & play cable system is the interface for a combination of our products such as battery chargers, engine heaters, cab heaters and inverters. We have a suitable set-up for almost all vehicles on the market.

Calix plug & play cable system is approved for permanent installations in cars, buses, trucks, off-road, agriculture and construction machinery.

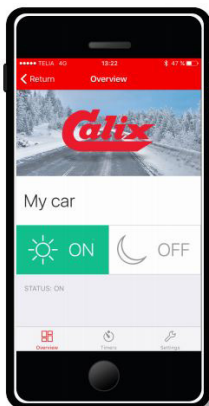
The system is also widely used as interface for high voltage systems (230V/115V) in for example emergency and military vehicles. There is also a possibility to add the Calix app by which the customer via the mobile can set a timer to start and/or stop the Calix system.



System overview- truck



Connecting cable connected to the installed Calix system



App-solution



Calix Dual cables are approved for both EU and North America

**Calix battery chargers**

Calix battery chargers are designed for quick installation and easy connection.

Modern vehicles contain a great deal of electronic equipment constantly consuming small quantities of electricity, even when the engine is switched off. This continuous discharge of batteries requires a charger installation.

If a power source is disrupted because the battery is completely discharged, important vehicle settings may disappear, often leading to expensive, unplanned workshop visits. The charging also extends battery life and secures that you always have power for the engine start.

A permanently installed battery charger from Calix is extremely useful - quick and easy for the user – just plug in to a wall socket and let the charger do the rest, fully automatically.

Calix battery chargers function under tough conditions and all the chargers are designed for lead acid, AGM and Gel batteries.

The broad range of Calix battery chargers and the Calix cable systems meet all legal requirements.

Battery Charger, BC 60



Battery Charger, BC 1205

**Calix heaters**

If you preheat an engine prior to start, its life is prolonged. By elimination of cold starts you reduce considerably emissions of carbon dioxide and NOX (nitrogenous gases). Thus you can contribute to a better environment by installing engine heaters.

Calix develops and manufactures electric heaters of various designs to meet all needs for different vehicles. Preheating the engine block by warming up the cooling water results in improved starting capacity and reduced emissions.

The recommendation table on Calix website guides you to the desirable engine heater set-up. The website is regularly updated with the latest products and installation instructions.

The Calix cab heaters create a warm and comfortable feeling inside your vehicle directly from the start.

Cab heater Slim Line



Example of different models of engine heaters

## CALIX SEAT COVERS

### Tailor made solutions

There might be a need for a protection of the seats in a vehicle. Dirty working cloths, tools, etc, and high frequency of usage, wear hard on the upholstery. When the original seat cover is under tough conditions, it gets dirty and maybe also tears apart, the padding in the seat may even be destroyed whereby both comfort and value of the vehicle will decrease.

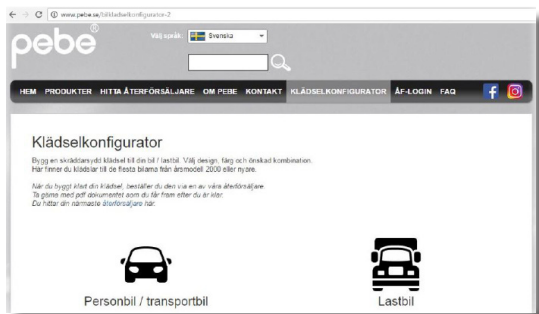
The solution is tailor made seat covers, mounted in the vehicle preferably when the vehicle is brand new. In addition to the protective effect our seat covers frequently improve the interior look of a vehicle! There are many different types and designs of seat covers in our portfolio.

You can easily find the right seat cover solution to your vehicle by using our digital tool, "Seat Cover Configurator".

We develop customer and vehicle specific solutions for the OEMs, all according to the specifications and needs from our customer as regards material, design, function and other requirements.

### Perfect fit

The fit of the cover is extremely important if it is to stand tough conditions for many years. Our protective seat covers have a precise fitting to each seat in almost all vehicles. Each seat model also needs specific mounting solutions, and we present smart instructions for all applications to save time and reduce costs.



Seat Cover Configurator



Design GT, four colour combinations



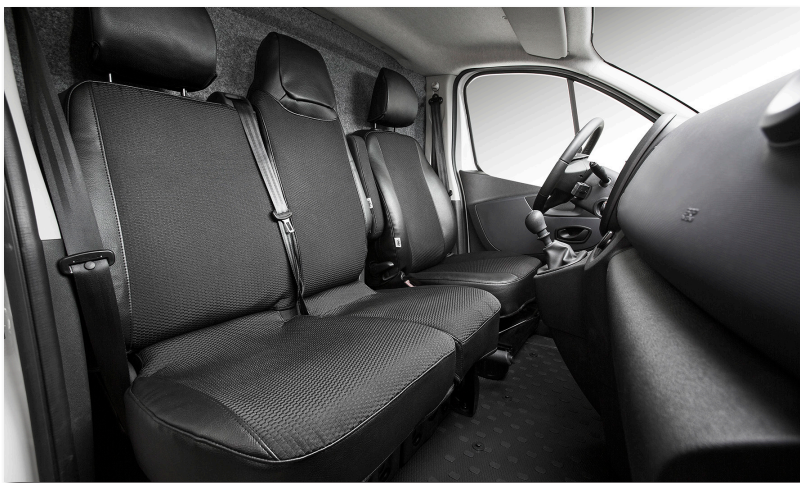
Without seat cover

With seat cover, Transport 3.0

### How to select

There are seat covers in many different designs and colours, but we make it easy and propose some first choices. For light commercial vehicles we recommend either Transport 3.0 or the Stark-range. These covers meet your requirements whether you wish the comfort of sitting on fabrics or if you prefer a seat cover in leather or artificial leather (which is easy to clean and wipe off). For cars we recommend design GT, which you can get in 4 different colours. For trucks design Formata 3.0 is as a practical and attractive first choice.

Of course you can also choose between all our other designs, vehicle type does not matter.



Interior, seat cover, design Transport 3.0

### Quality

Our company has more than 35 years of experience of manufacturing protective seat covers. Owners of vehicles for professional use never compromise regarding quality. The seat covers have high quality fabrics which are laminated for best comfort and fit, and produced with strong seams to last for many years.

Our solutions permit the side-airbags in the seats to function properly.

Pattern preparation, specifications of material and sewing are performed by our design experts.

The feeling of increased comfort gives a happy driver.



Design Stark-range

### Accessories

We produce and market a range of various accessories in textile, artificial leather or leather, for protection, storage and safety. We present tailor made solutions, all according to your needs.



Temporary cover and kick protection

# WELCOME TO CONTACT US AT THE CALIXKLIPPAN GROUP

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