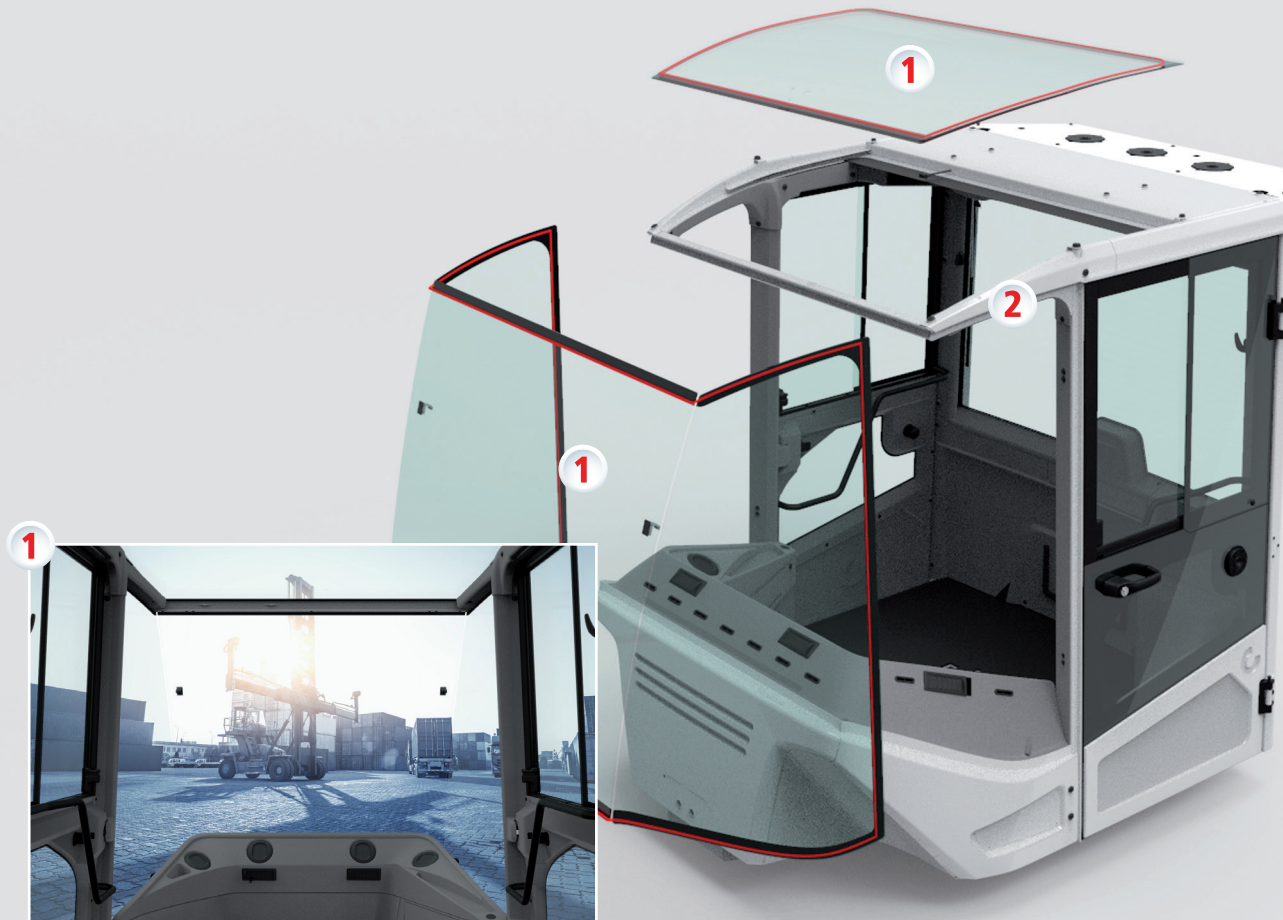




THE BIG PICTURE, AND THE DETAILS.  
FRITZMEIER – YOUR PREMIUM PARTNER FOR CAB CONSTRUCTION.

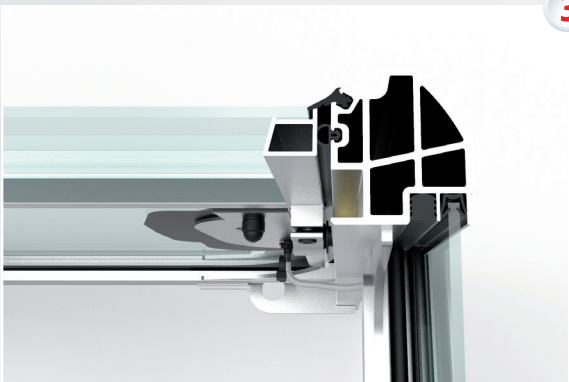
# WHETHER FORKLIFT, CONSTRUCTION MACHINE OR AGRICULTURAL MACHINE, THE CAB MAKES THE DIFFERENCE.



- 1** Clear view through elimination of both A-pillars, 3-piece front windshield and large PC roof panel
- 2** Tested FOPS structure of steel



- 3** One-piece bent side aluminium section with integrated sliding windshield
- 4** Tested ROPS and FOPS structure of aluminium



- 5 Plastic rotation components with integrated air conditioner and air channel
- 6 Clear view through large glass roof panel

# WHAT MATTERS TO YOU: SAFETY.

In cab construction, the challenge today is to combine safety with reduced use of materials, high functional integration, and modern, sometimes very lean designs. Fritzmeier continuously works on new technologies and materials on order to meet this challenge. At the same time, we keep track of all standards and regulations so that we can fill all safety mandates.

## **A GREAT VIEW:**

Slim cab made of glass and completely safe.

The best possible view is a fundamental factor contributing to safe and effective working. This can be achieved with carefully designed steel sectional frames and large glass panels. All ROPS and FOPS safety test requirements must be met; we can accomplish this through proper design and the right glass materials.

In applications where weight is an issue we can use aluminium safety cabs or structures which likewise pass ROPS and FOPS safety testing. In addition to saving weight, aluminium allows considerably more design leeway.

## **EVERYTHING IN VIEW:**

System support for human and object recognition.

Driver assistance systems are coming into increased use to reduce accident risks. Thus, safety design includes the integration of components like Birdview, mirror replacement systems and ultrasonic sensors, data processing and in-cab presentation. We can also integrate multisensor warning systems.

## **PUT THROUGH THEIR PACES:**

Dependable simulations.

CAD cab developments are repeatedly tested by FE calculations from an early stage. This ensures that subsequently in actual operation the cab will meet all prescribed ISO tests for ROPS/FOPS while also having a cost-effective design.

With years of experience and comparing real test results with simulated results, Fritzmeier is able to make very accurate calculations upfront. This reduces the costs of testing and shortens development time immensely.

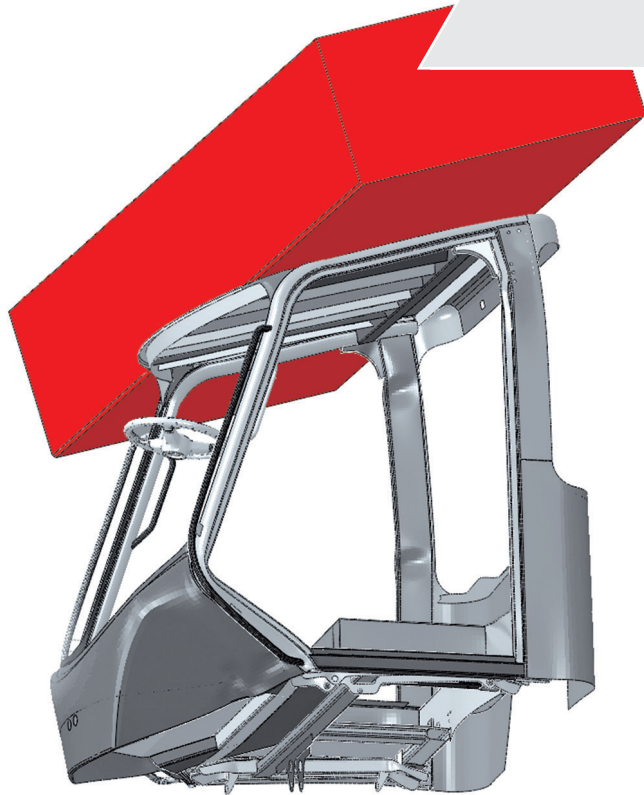


ISO tests for ROPS/FOPS safety structures

## THE FRITZMEIER-DETAIL

Stacker cab with a view.

In order to offer an unhindered upwards view from a stacker cab, we used a large polycarbonate roof panel with scratch-proof coating that requires no extra protection and is tested to ISO 6055.



FEA (Finite Element Analysis) for safety structures



Durability tests for sliding windows and door stoppers

# WHAT MATTERS TO YOU: ERGONOMICS AND COMFORT.



Modern ergonomics and perfect HMI, boost operator control

Over the last few years, the comfort standard for utility vehicle operators has steadily risen. In some cases it comes up to automotive levels. With solid design, pleasing colours and optimized ergonomics appropriate to a workplace, our cabs help long shifts of eight or more hours go smoothly.

## **A PLEASANT WORKING ENVIRONMENT:**

### **From materials to HVAC.**

Industrial designers lay out our interiors. There are very few limits to the choices of interior cladding – from rotational parts with integrated ventilation to sound-insulating pressed fibre components to high-end ABS moulded parts with soft-touch surfaces, we can outfit cabs to order. Signature lighting in the customer's corporate design rounds off the look.

A good working climate plays an increasingly important role, and we ensure it with optimized interior air distribution. In high temperature environments this results in effective air conditioning, and in cold weather it means good cab heating and efficient window deicing.

### **RAMSIS MAKES IT POSSIBLE:**

#### **Ergonomics for all.**

Whether armrest, operating console or seat position, the better everything fits the operator, the better the ergonomics and the less physically fatiguing the work. With the RAMSIS 3D-CAD human model from Human Solutions, Fritzmeier can simulate any kind of operator. This results both in faster product readiness and in ideal ergonomics.



### **THE FRITZMEIER-DETAIL**

Service & maintenance made easy.

A cab with every comfort doesn't help the operator if service and maintenance are a major effort. So our strategy is to make access for all maintenance and service work in the cab as easy as possible.

Easy service and maintenance work via service flap

# WHAT MATTERS TO YOU: ECONOMY AND INTEGRATION CAPABILITY.



Welding robot for welding sub-groups e.g. side frames



Full-automated grinding robot for cabin structures





### THE FRITZMEIER-DETAIL

New processes, new potential.

Automated process, new potential – during the development process Fritzmeier focus on automation-friendly design, enabling later cost efficient manufacturing.

Whether construction machine, agricultural machine or forklift, manufacturers of off-highway vehicles are usually under high cost pressure. So it is very important for cab projects to be cost-effective.

Fritzmeier offers solutions aligned to the product and planned unit quantity. Based on the available budget, the implementation possibilities are detailed out without losing sight of quality or safety.

### STANDARDIZATION, AUTOMATION, NEW PROCESSES:

#### Cost-awareness has many names.

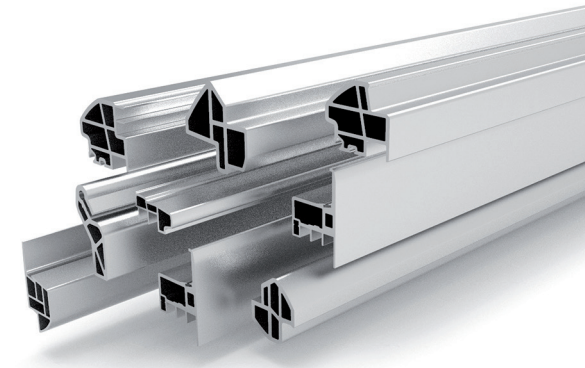
Thanks to our long experience, we can offer customers a wide range of existing components that can be incorporated into new cab designs. Thus, not everything has to be designed from the start for each cab, which reduces investment costs. Naturally many of these are non-variable items like metal sectional frames, wiper motors and gaskets. But many are also our own customer-neutral developments based on general customer needs; these include lock systems, coverings, handles, hinges and door stays.

Our cost optimization also goes much farther, to include automation-friendly design from the development phase, enabling later cost-efficient manufacturing.

### INTEGRATION CAPABILITY BRINGS BENEFITS:

#### Lower costs through thoughtful design.

Intelligent function integration has two advantages. It reduces the number of individual parts and so cuts costs, while making cab exterior and interior design much more appealing. Fritzmeier has a wide range of variants to choose from – integrated headlights and signal lights, guide and seal systems in aluminium, multifunctional cladding components, HVAC incorporated into the cab structure, and much more.



# CONCEPT – DESIGN – PROTOTYPING – TESTING – PRODUCTION: WE STAY WITH YOU THE WHOLE WAY.

## 1 INDUSTRIAL DESIGN

Fritzmeier offers customers complete cabs, cladding parts and system modules by the plug & play principle. To have the right answer for any customer request, we offer the entire value creation chain from concept and design, to prototyping and testing, to production. This is the only way to supply customers reliably with high-quality products.

In styling, development and construction Fritzmeier sees itself as an expert partner for its customers. Customers can get form, function and ergonomics to order. Our large and coordinated pool of injection moulded plastic parts, extruded aluminium section and rolled steel tubing is a special plus.

Development includes comprehensive simulations by the latest methods, reducing the outlay for physical testing. Prototypes go through an extensive test phase including endurance, shake and shower tests as well as customer-defined analyses. Standards-pursuant testing is done by the Deutschen Landwirtschafts-Gesellschaft (DLG).

Once series production starts, customers benefit from our in-house tool and jig production, which ensures that everything

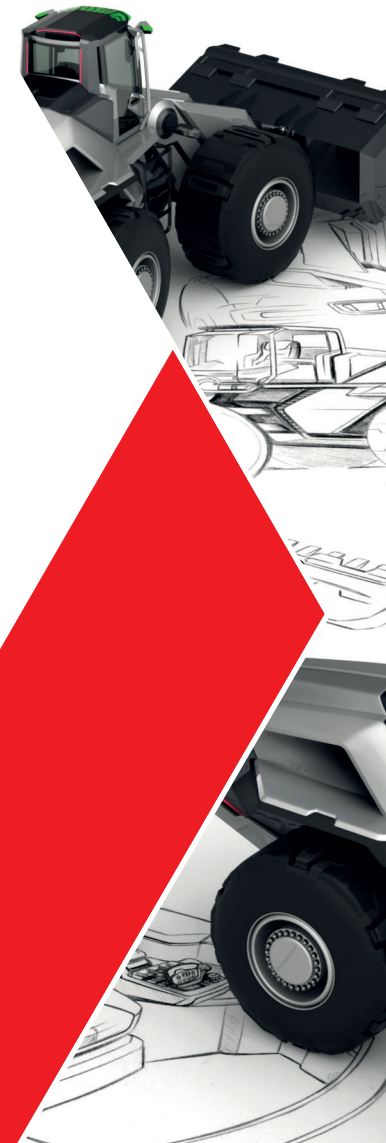
is tailored to the project and the production line. Expertise in many different manufacturing technologies is needed to build the enormous diversity that over 80 different OEM cabs involve. We accomplish this with highly skilled employees and continuous investment in new systems.

### FOR EXAMPLE:

- New pipe lasers cut pipe sections and drill holes in the designated positions. The system then passes the pipes on to bending machines.
- Automated laser systems take in parts, laser them, and send them on for further processing with little human involvement, 24 hours a day. Another advantage is the fact that the cutting gas used is nitrogen, so cut edges are ready for coating without further work.
- A robotic metal bending system works fully automatically, using a laser measurement system for high precision. It makes even small lot sizes efficient.

- Robot welding stations deliver a wide range of product variants at top quality.
- A new robot does grinding. In upcoming projects this innovation will boost capacity and quality, and reduce the burden on staff.

To make processes even smoother and eliminate sources of faults, we are increasingly digitizing and automating our intralogistics. A computer-assisted central warehouse improves material availability at the production lines. When materials are needed at a line, a transport order automatically goes to the forklift driver, who can track and confirm all orders on a tablet PC. For complex systems, in the kitting zone supply cars are loaded per cab, which further saves time and storage space in production.



**2** RESEARCH AND DEVELOPMENT



**3** SIMULATIONS AND TESTS



**4** PROTOTYPES, TOOLS AND JIGS



**5**

## STEEL AND ALUMINIUM PRODUCTION TECHNOLOGIES

**6**

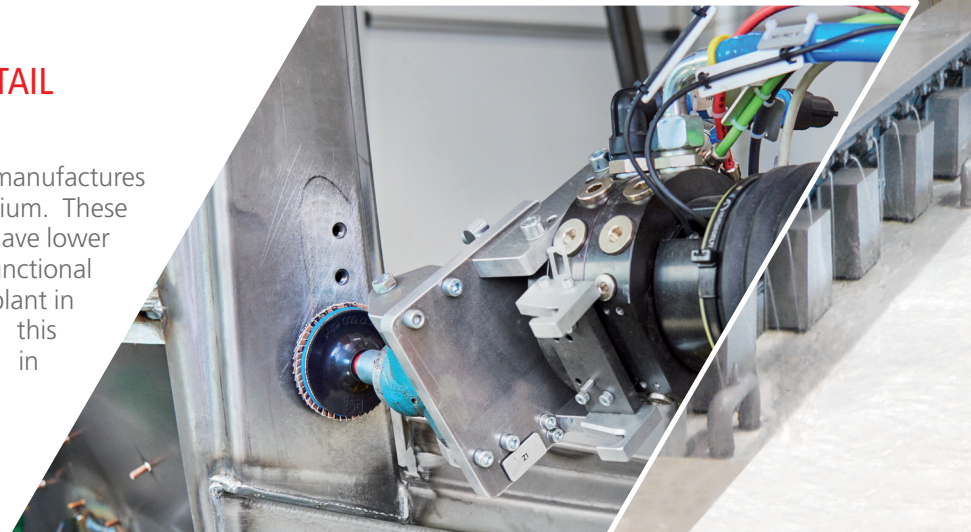
## E- AND TOP COATING



### THE FRITZMEIER-DETAIL

Experts in aluminium.

Fritzmeier also develops and manufactures cab safety structures in aluminium. These are 30 percent lighter than steel, have lower investment costs and improved functional integration. A dedicated production plant in Sibiu, Romania has been built for this purpose, with the requisite expertise in development and technology.



7

SERIAL ASSEMBLY



8

QUALITY CHECK



9

LOGISTIC AND SPARE PARTS



# LOCATIONS UND COOPERATIONS: AT FRITZMEIER WE KNOW WHAT IT TAKES.

Fritzmeier CABS is an OEM supplier for manufacturers of off-highway and utility vehicles, and produces complete cabs, cladding components and system modules. In development and production, Fritzmeier delivers the central customer benefits of safety, ergonomics, comfort, economy and integration capability.

For many years the company has been active globally, with multiple production facilities in Europe, a Joint Venture in India, and cooperation partners around the world. Fritzmeier is a major source of cabs for construction, agricultural vehicles and for forklifts.



GERMANY | HQ  
Großhelfendorf

Systems



CZECH REPUBLIC  
Vyškov

Vyškov



AUSTRIA  
Wels

Wels



GERMANY | Logistik  
Weyarn

Systems



SLOVAKIA  
Banovce

Banovce



ROMANIA  
Sibiu

Engineering



Cooperation partner  
in North America

Fritzmeier Group  
Cabs and Metal Construction  
in Europe



Cooperation partner in Asia



Cooperation partner in South America



FRITZMEIER  
MOTHERSON

Joint Venture in India

# A CENTURY OF EXPERIENCE AND COUNTLESS PRODUCTS: OUR REFERENCES.

MATERIAL HANDLING								
								
AGRICULTURAL MACHINERY								
UTILITY								
								
CONSTRUCTION MACHINERY								
								
FITNESS								



*Like Fritzmeier, our company has been in the market for many decades, and stands for innovative products and high quality. Based on the shared successes over the course of our long development partnership, we hope to continue this fruitful collaboration going forward. We greatly appreciate the reliable service we get from Fritzmeier, and consider them a valuable strategic development and production partner for all our cabs.*

**STEFAN LINDNER**

Managing Partner, Traktorenwerk Lindner GmbH

*As an internationally successful company in the Cargotec Group, we select our suppliers based to a large extent on delivery performance and quality. Since 2011 we have sourced the EGO-CAB from Fritzmeier. This cab is highly variable and complex. In recognition of their very good performance, we have given Fritzmeier our supplier award.*

**HANNA WIBERG**

Sourcing Category Manager, Kalmar, Cargotec Sweden AB

*Fritzmeier has been our supplier for many years. In the summer of 2014 we first decided to have an aluminium cab made. The weight reduction, form options and systems integration were clear advantages that we wanted to use for our new machine. With their great expertise in lightweight aluminium construction, Fritzmeier did an outstanding job. The cab adds another future-oriented element to our innovative machine design.*

**JOACHIM STEIN**

Leader Product Support, Construction Machinery, KUBOTA Corporation



Fritzmeier Systems GmbH  
Forststrasse 2  
85653 Großhelfendorf

**PRODUCTINFORMATION:**  
Telefon: +49 8095 - 60  
E-Mail: [cabs@fritzmeier.com](mailto:cabs@fritzmeier.com)