MEDIA INFORMATION

Safer, lighter, and more efficient – BENTELER introduces new highly integrated crash management system

- **New all-in-one crash beams from BENTELER: One-piece design reduces the number of components, joining operations, and costs**
- **Maximum safety: Tests confirm outstanding crash performance**
- **Series production and sustainability: Efficient, resource-saving manufacturing in Europe and China**

Paderborn, October 13, 2026. With its all-in-one crash management system, BENTELER is setting new standards for safety, lightweight construction, and cost efficiency. In this new generation of crash management systems (crash beams), BENTELER has replaced the previous multi-part structure with a one-piece design.

The upper and lower crash sections are integrated into a single structure. The innovative design, which integrates two cross members and several functional parts, significantly reduces the number of individual parts required. It also requires fewer joining operations, such as welding. This minimizes heat-affected zones and significantly improves the structural integrity of the cross member. The result is greater strength and stability combined with lower manufacturing costs.

“Safety and cost efficiency are the benchmarks for the development of every component in modern automotive engineering,” says Stephan Rabl, Development Engineer for crash management systems at BENTELER. “This all-in-one crash management system proves that both goals can be achieved in a single design.”

Highest standards in passenger protection

As an integral component, the new crash beams from BENTELER make a decisive contribution to energy absorption and occupant protection. Despite weighing less than conventional designs, the aluminum components meet the highest crash safety requirements. This is made possible by the targeted combination of material selection, geometry, and manufacturing technology.

BENTELER Group
Stephan Knüttel
Vice President
Communications/Marketing
Paderborn, Germany
Tel.: +49 5254 81 307 610
Mobile: +49 172 5727 257
Email:
public.relations@benteler.com

Eike Dalhoff
Spokesperson
Paderborn, Germany
Mobile: +49 151 233 138 86
Email:
public.relations@benteler.com

www.benteler.com

public

In crash tests, the new system delivers outstanding performance at both low and high impact speeds. BENTELER's new crash beams achieve particularly impressive results in the demanding MPDB (Mobile Progressive Deformable Barrier) front impact test, which is standard in Europe and China.

Fig. 1: One component instead of eleven: The new all-in-one crash management system

Investments in production and sustainability

Since 2024, BENTELER has been producing the new aluminum crash management systems for two vehicle variants of a German OEM in Europe and China. Additional crash management systems are already in development.

In 2024, BENTELER made a targeted investment in a highly automated aluminum forming line at its site in China. In addition to strengthening supply reliability, the line enables particularly resource-efficient production. Sustainability is also a priority in Europe, where BENTELER operates its own casthouse, allowing process scrap to be remelted directly and reused in the manufacturing process.

Innovative design for maximum component integration

The innovative aluminum crash beams are formed and cut to size from a single extrusion on a dedicated forming line. Instead of the previous eleven individual parts, the cross member now consists of just one component, with no thermal joining required. This eliminates heat-affected zones that could compromise crash performance.

The all-in-one bumper system therefore enables a highly integrated component design that not only optimizes crash safety but also increases manufacturing efficiency by eliminating additional assembly and joining operations.

public

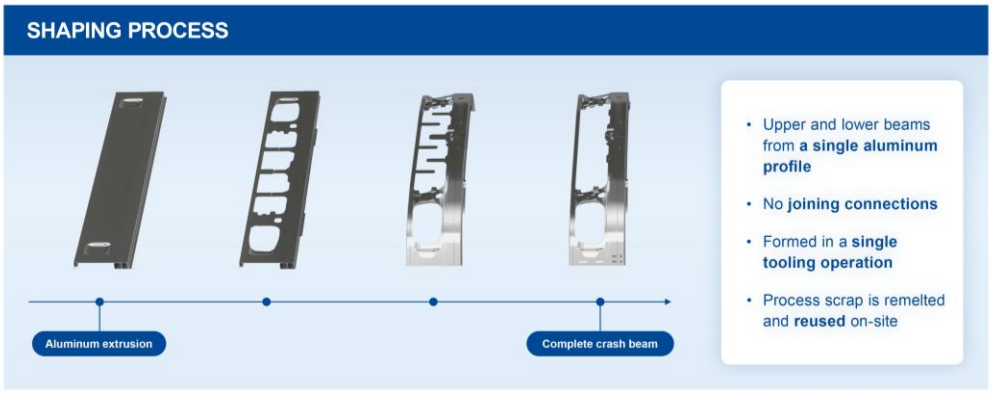

Fig. 2: Shaping process for the new all-in-one crash management system

About BENTELER

BENTELER is a global group of companies serving customers in automotive technology, the energy sector and mechanical engineering. As a globally active specialist in the field of metal processing, we develop, produce and distribute safety-related products, systems and services worldwide.
In the 2025 financial year, Group revenues were around €8.0 billion.
The BENTELER Group is managed by BENTELER International Austria GmbH, which is headquartered in Salzburg, Austria. Our more than 20,000 employees at around 90 locations worldwide offer first-class manufacturing and distribution expertise – passionately and close to our customers.

www.benteler.com

About BENTELER Automotive Components

The BENTELER Automotive Components division consolidates our activities in component manufacturing. As a development partner for the world's leading automotive manufacturers, we create tailored solutions for our customers. The product portfolio includes components for chassis, bodywork, engine and exhaust systems.

public