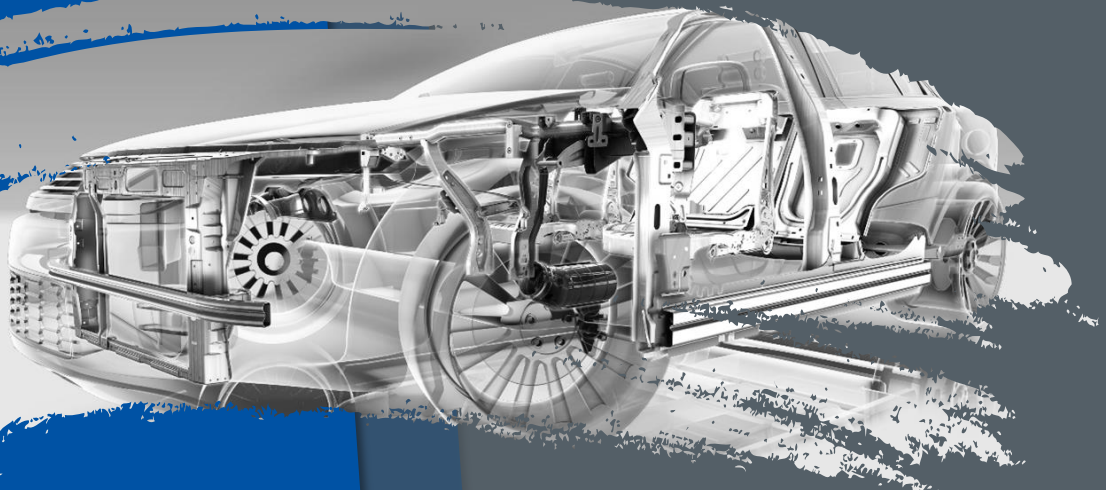


WE  
SPECIALIZE IN

# DEVELOPMENT OF CRASH RELEVANT COMPONENTS



LINDE + WIEMANN Group is a leading German tier one automotive supplier for safety and crash relevant structural system components for automotive OEMs, operating worldwide.

About 2500 employees worldwide, operates from 19 production sites in 9 different countries with headquarter right in the heart of Germany.

## OUR SERVICES



Product + Process  
Development



Prototypes



State-of-the-Art  
Technologies



Equipment Center

20  
25

## Building strong development partnerships

In order to be the preferred strategic supplier and development partner, we intensify the close cooperation with our customers through our product development and our excellent manufacturing capacities.

CREATE



MEASURE



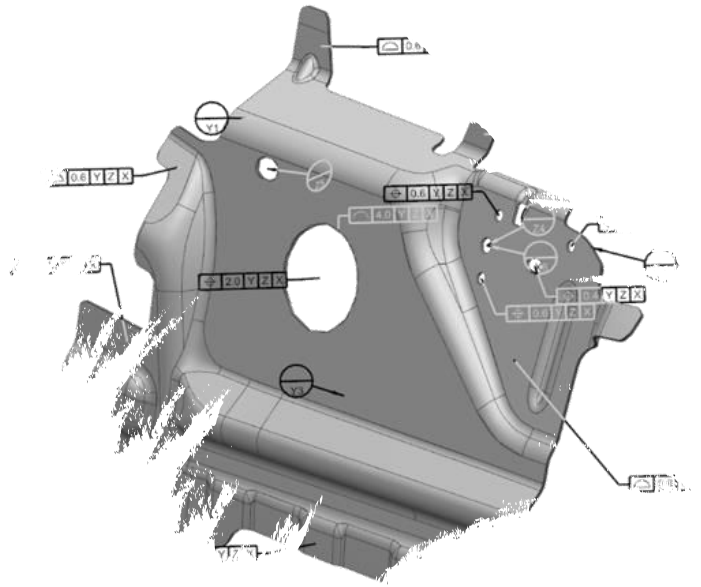
**LINDE + WIEMANN** strives for maximum precision, weight optimization and resource conservation.

Attributes to which we orient ourselves. Continuously.

- Examination of shape design, dimensions and tolerances according to drafts.
- Elaboration of designs considering specific manufacturing technologies, given materials and technical standards.
- Editing of design changes / implemented change management.

# DFMEA, creation of BOM and drawing checks

We are focusing our global presence on serving our valued customers in the relevant growth markets and regions in the long term.

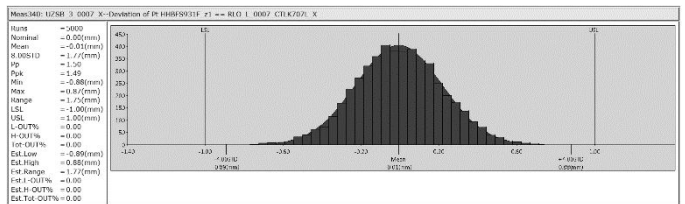


## DESIGN THINKING

- Ensuring function and manufacturability with required tolerances.
- Identification of improvement potential with regard to tolerances, RPS and geometry.
- Assurance of process capability in theory.

Key player Tier-1 supplier for technology solutions for crash and safety relevant structures for fast growing new BEV platforms.

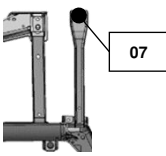
## TOLERANCE CONCEPTS



UZ58\_3\_0007\_X (Deviation of Pt HHBF5931F\_#1)

PLG\_L\_0007\_CTK707L\_X

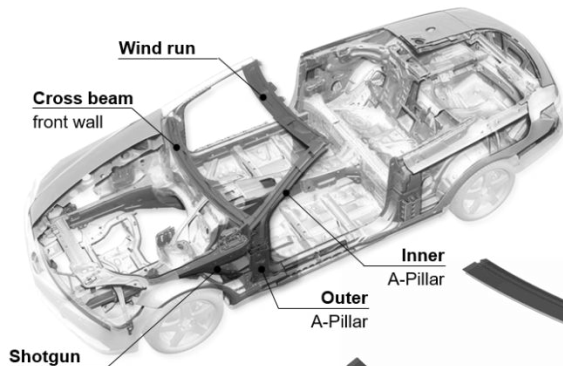
Index	Tolerance	Point	Part	Range	Offset	Percent	Graph
1	HHBF5_C.1.0.142	HHBF5931F_#1	1470031_E1517_15_HALTER_HUD_BFS_DLU_151109	M:1.000 (mm)	0.000 (mm)	68.64%	
2	HHBF5_C.0.5.147	HHBF59011	1470031_E1517_15_HALTER_HUD_BFS_DLU_151109	M:0.500 (mm)	0.000 (mm)	22.67%	
3	HHBF5_C.0.3.141	HHBF59027_2	1470031_E1517_15_HALTER_HUD_BFS_DLU_151109	M:0.300 (mm)	0.000 (mm)	0.17%	
4	HHBF5_C.0.2.145	HHBF59011	1470031_E1517_15_HALTER_HUD_BFS_DLU_151109	M:0.200 (mm)	0.000 (mm)	2.52%	
5	HHBF5_C.0.3.141	HHBF59027_2	1470031_E1517_15_HALTER_HUD_BFS_DLU_151109	M:0.300 (mm)	0.000 (mm)	0.17%	
6	HHBF5_C.0.3.141	HHBF59027_2	1470031_E1517_15_HALTER_HUD_BFS_DLU_151109	M:0.300 (mm)	0.000 (mm)	0.17%	



# Concept Know-How and Benchmarking

## BENCHMARKING

We position ourselves as a key player in technological solutions for crash and safety-related structures for non-conventional platforms.

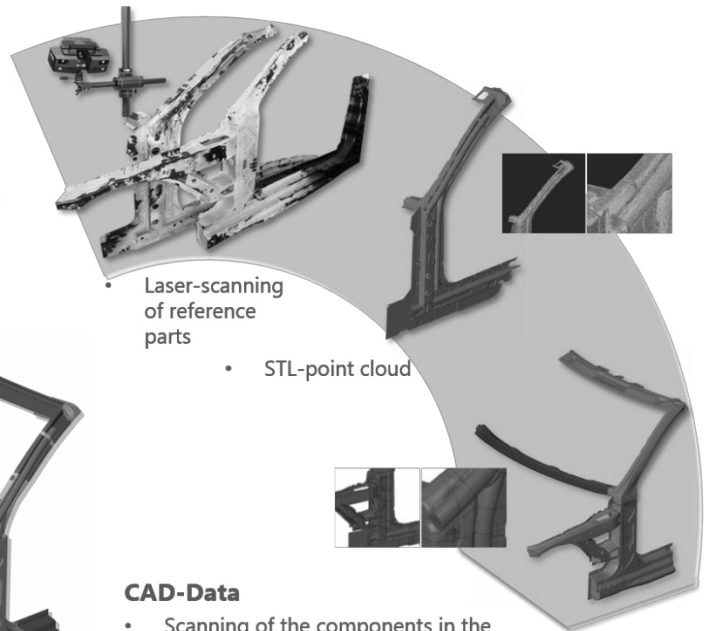


### Material Thickness and -type

- Sampling of reference components
- Hardness comparison measurement
- Estimation of materials based on measured hardness / strength values (conversion)



**CAD-Model**  
parametric

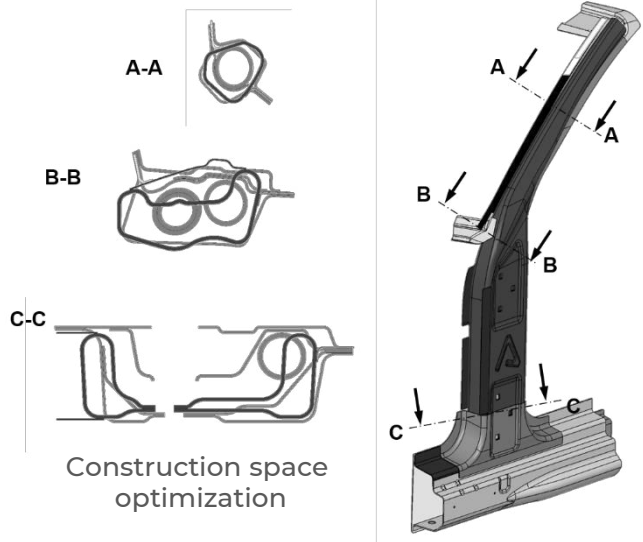


- Laser-scanning of reference parts
- STL-point cloud

### CAD-Data

- Scanning of the components in the GOM process
- NURBS reverse engineering
- CAD reverse engineering
- NURBS-surfaces

- We develop solutions for products within the framework of given concepts.
- Development projects and coordination with Centre of Competence.



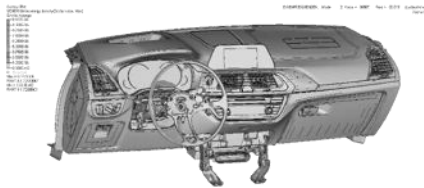


# CAE + Component Testing

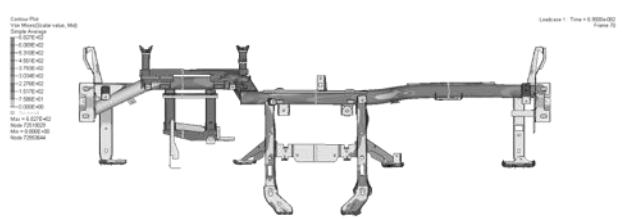
We strive to be at the forefront of sustainability and social responsibility in our competitive environment.

Contributing towards improving the safety of vehicles while reducing cost and weight for innovative Body-in-White, crash and safety relevant structural components and technology solutions.

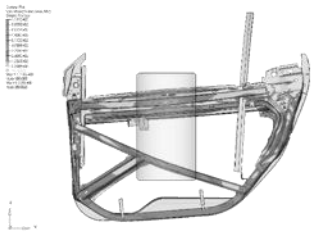
CCB / Modal- and Shaker Analysis:



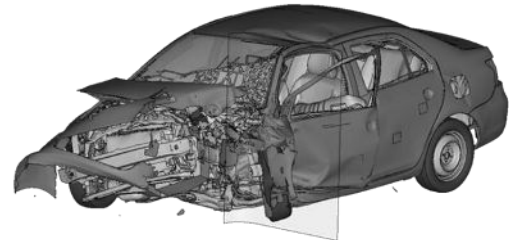
CCB / Lateral Stiffness Crash:



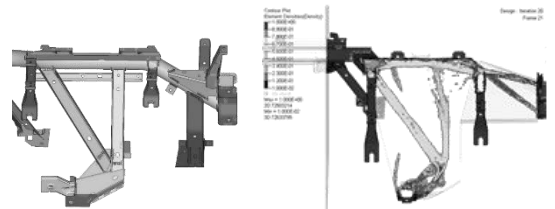
Door Identification/Impact:



Small-Overlap:



## OPTIMIZATION



Topology + Topography optimization

Implicit and explicit CAE-calculation such as various stiffness load cases (lateral, torsional etc.), frequency (NVH), radial elasticity, front intrusion etc. can be performed in-house at LINDE + WIEMANN.

## Prototypes

Are you looking for a reliable partner to turn your ideas into a (BIW-) prototype?

Interested? → Feel free to contact us!



Choose us when it comes to reviewing concepts in their entirety, finding new solutions and implementing them in a practicable way.