



CARAVAN SALON DÜSSELDORF – September 2, 2021

CAPITAL MARKETS DAY 2021



INNOVATION

Leadership through innovation, technology and quality - an overall view

Already implemented, partly in series



- New frame technology
- Lightweight chassis
- Lightweight interior structures

are the base for new goals, new functions and added value for our customers

New processes



- Reliable robots
- New plant engineering
- Multiple functional integration

are key factors to reduce weight, prepare our products for upcoming necessities

Quality aspects



- Testing technology

Ensuring high standards, customer satisfaction as a permanent priority

Changing a square box into automotive design Frametechnology 2.0



- Flat sandwich parts, screwed and glued together, added with some deep-drawn plastic parts – this is what caravans today represents.
- In the upper class segment you will find some GRP-designed front and rear elements with significant weight problems – not a good base for the future.

CLASS A – SURFACES - DEFINED JOINTS - RELIABLE BONDING WITH ROBOTS

- Plastic, foam and a lot of know-how
- Freedom of design
- lightweight construction
- multidimensional parts
- Flexible use – inside and outside – vanishing borders - better, new opportunities



Crank Support – more security, more durable – less weight (and costs)

**Current status
(branch / business)**



- **Small Parts improved ...**
- **Easy handling**
- **Less than 3 KG**
- **(./ 4,8 to 7,8 KG)**
- **Sustainable through less weight and use of material**

**less turns and the caravan is well supported on a large contact area ...
material optimized
construction more than two words**

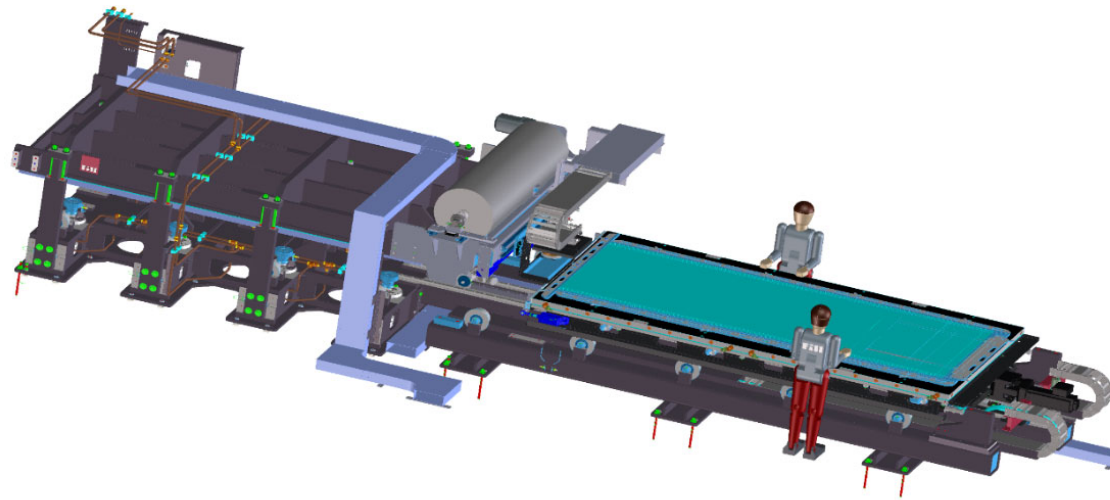
CUV – Insulation next level

One piece multiple layer insulation

Current status (branch / business)

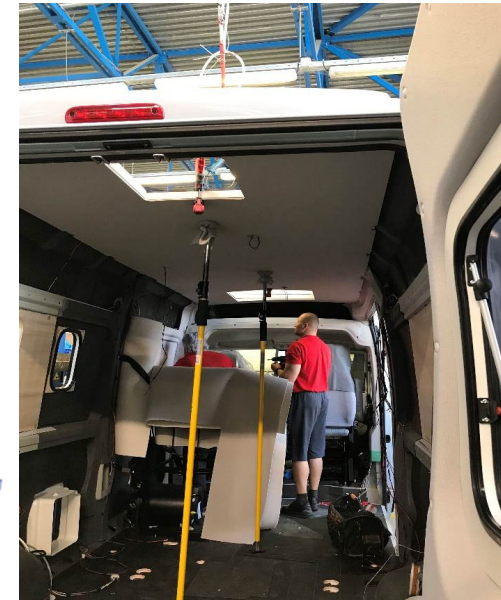


a multi-part puzzle ...



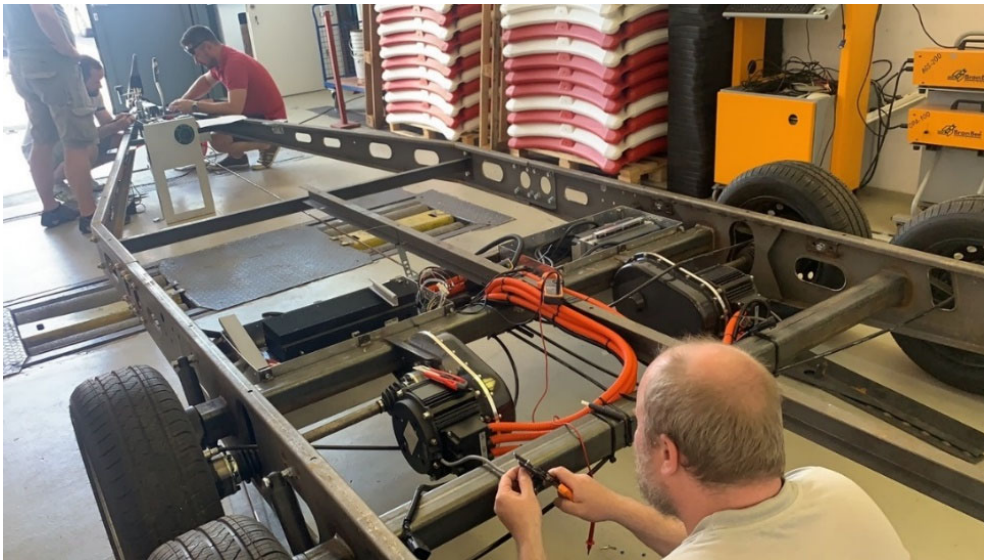
- **Better performance**
- **Passive climate-balancing**
- **Sustainable through less weight and use of material**

A combination of several complementary materials leads to easier assembly and in addition to improved noise- and temperature insulation, also to a qualitatively better surface



E-Mobility - keep the caravan moving, even with an electric-drive

- Current legal regulations do not provide powered caravans in Europe
- The number of electric driven cars increase all over the world.
- Nowadays the battery is the limiting factor, if you want to travel with a caravan, it will even enlarge the challenge



- Electrically-powered caravan
- Reducing emissions
- Greater safety
- More Comfort
- Autarc
- Gasfree environment

A lot of benefits and even more things to implement new functions a huge chance to define future-camping

Presently we are doing the pretesting on proving ground, we will have common tests with german authorities in September 2021

E-Mobility Designed for motorhome use

- E-Mobility for light commercial vehicles – is only of interest for urban target traffic
- A range of 100KM to 150KM, does not go along with distant traveling
- Our study - **E.Power Drive** handles this conflict by combining an electric drive system with a range-extender.



- Full electric drive
- Zero emission in restricted areas (up to 90 KM)
- „unlimited range“ (refuel or reload after 600KM)
- Maxspeed: 140km/h
- Peakpower: 180 KW
- Homologation - 3,5t total mass
- Autarc
- Gasfree environment