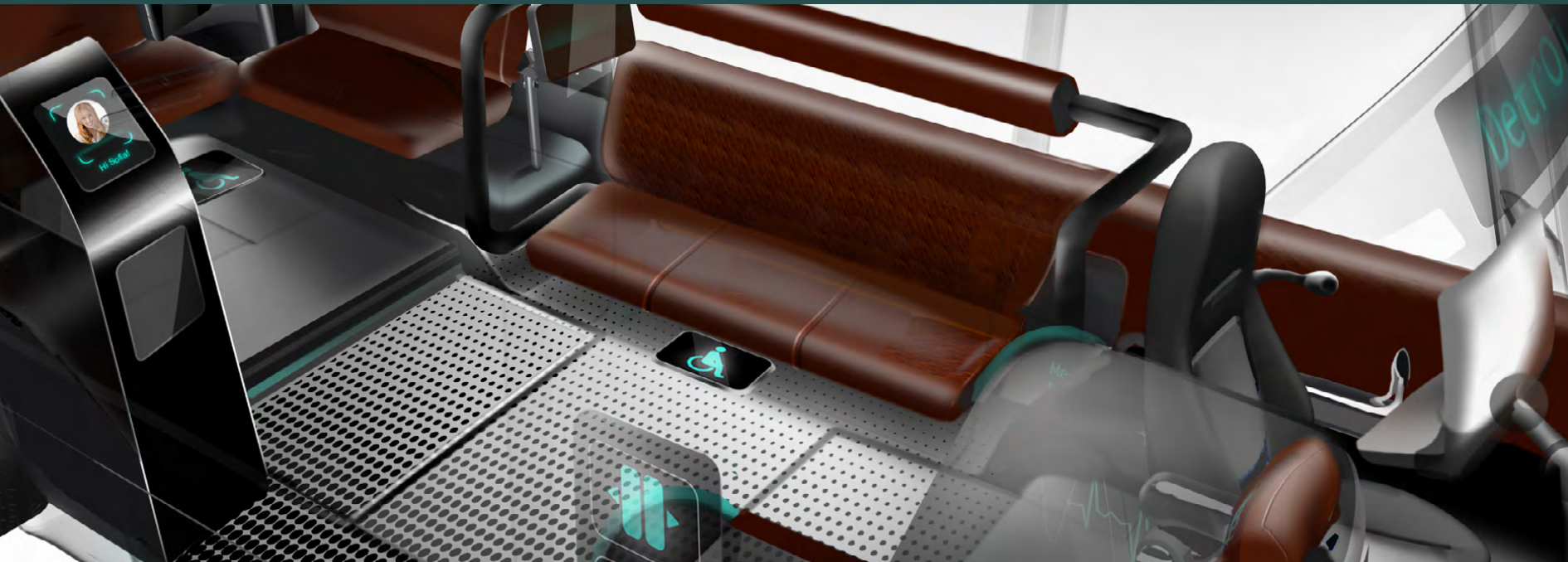
HFM

Motionboard Interior Designs

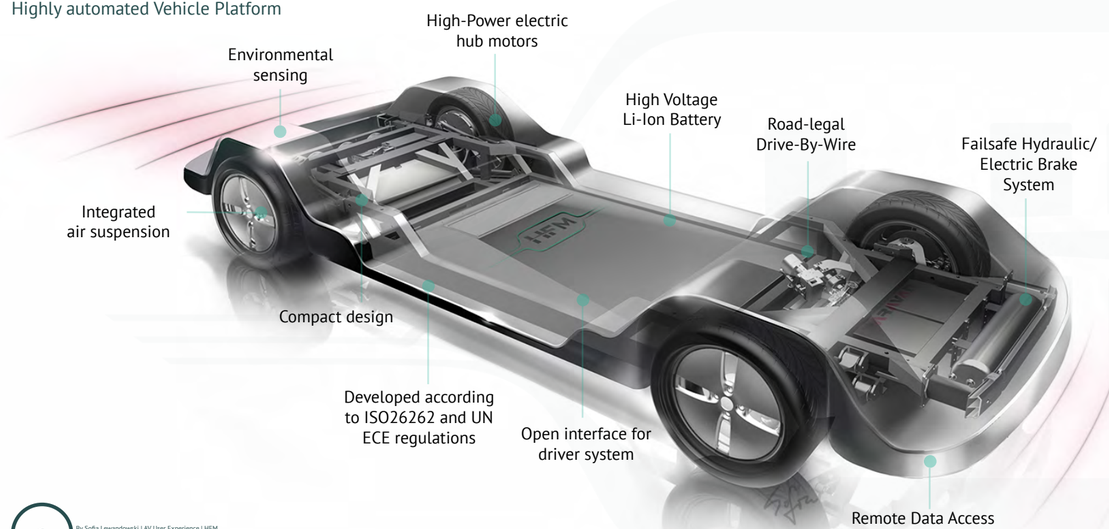
By Sofia Lewandowski

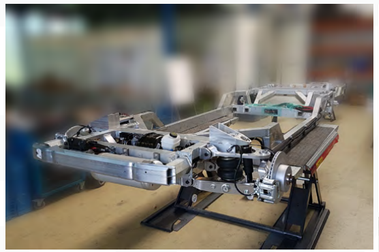


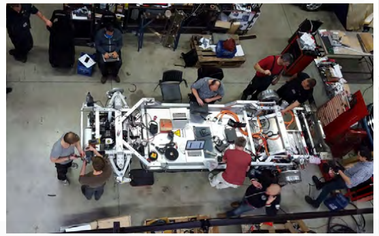
Hanseatische Fahrzeug Manufaktur GmbH

Motionboard

Highly automated Vehicle Platform







Motionboard

By HFM

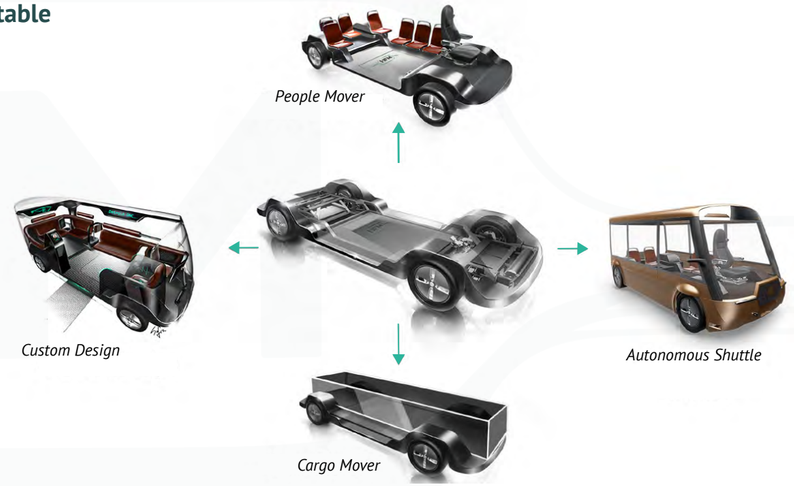
HFM has developed a proprietary product named "Motionboard®." This flexibly adaptable vehicle platform from HFM demonstrates how HFM's safety concept with multiple redundancy can be integrated and realized in existing and future automated or autonomous vehicles under practical aspects. The scalability of this modular Motionboard® platform allows adapting the vehicle to existing needs, both in terms of length and width as well as with regard to the battery capacity. What sets the Motionboard® platform clearly apart is the fact that it meets the requirements for homologation in Europe as an M1 class vehicle.

By Sofia Lewandowski | AV User Experience | HFM

User Centered Design
Identifying needs

We identify current mobility gaps, users' problems, needs, their thoughts, behavior, missions and interests. Users' research studies enable us to provide best user experience, interior designs and interaction between passengers and artificial intelligence. We enable people to achieve their goals, businesses to be sustainable and successful, and cities /institutions/companies to provide best and innovative ways of transportation. Our targeted audience are Institutions, Universities, Airports, Hospitals, Companies, Public Transportation Providers and others.

Adaptable

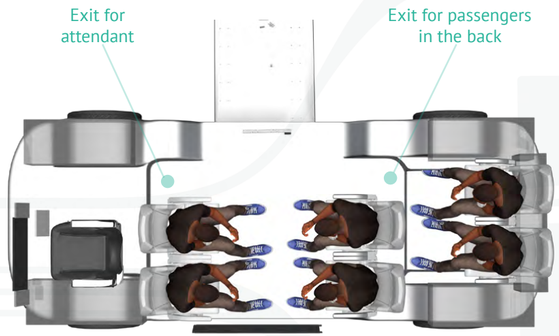


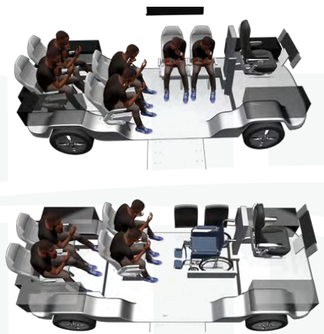
Engineering
Ready to use

The first Motionboard® was built by a passionate team in Aichelau, Germany in December 2017 and had its first autonomous voyage in February 2018. Production has since moved from prototype build to consolidated production process. It is able to provide a street legal basis for a wide array of concepts which require a safe and functional, electrically driven chassis. Developed according to ISO26262 and applicable vehicle certification standards, the Motionboard® is the fastest way to bring your idea of an electric vehicle to life. Motionboard® is road legal and completely ready to use.

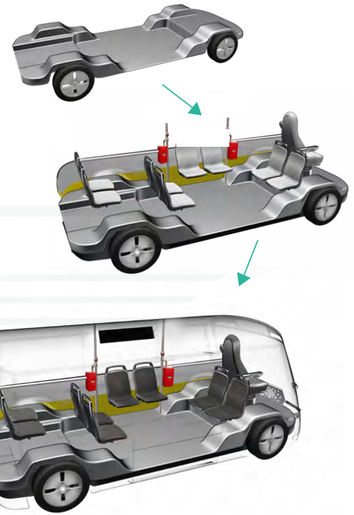
Package
Development Process

Another main focus in connection with autonomous mobility is the development of accessible vehicle packages including people with physical disabilities, elderly and people with temporary limited abilities, who will particularly benefit from the introduction of self-driving vehicles. We think about the accessibility from the beginning including accessible solutions in vehicle packages and proposing them to our customers. We consider accessibility of vital importance for self-driving vehicles. Highly automated vehicles will enable the access to many customers and increase the number of users of accessible selfdriving transportation.
.



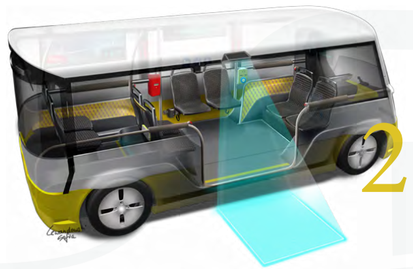


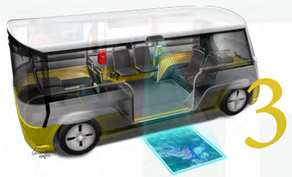
Package
Development Process

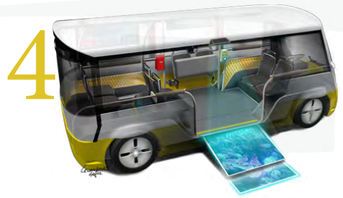


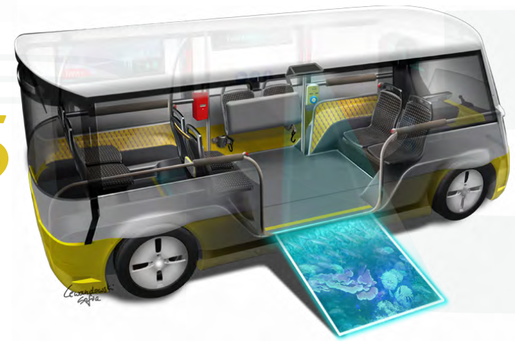
Accessible and interactive

Concept development



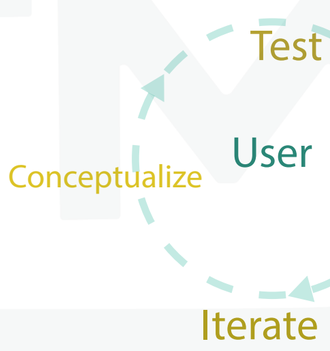


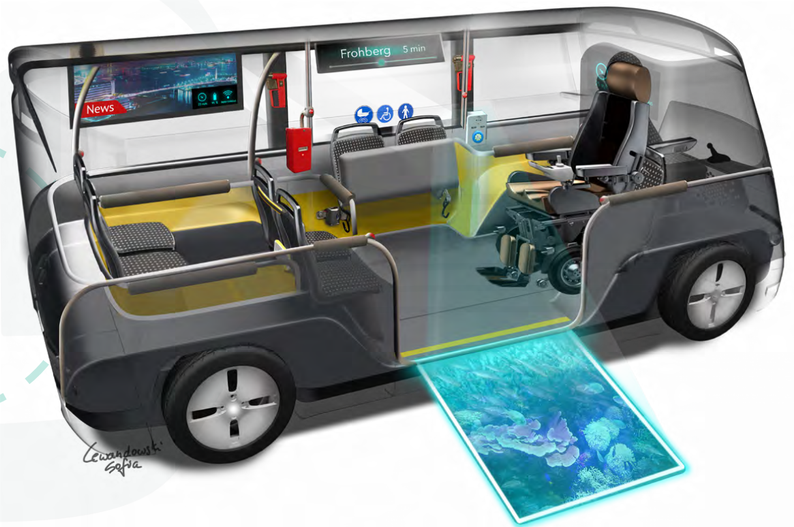




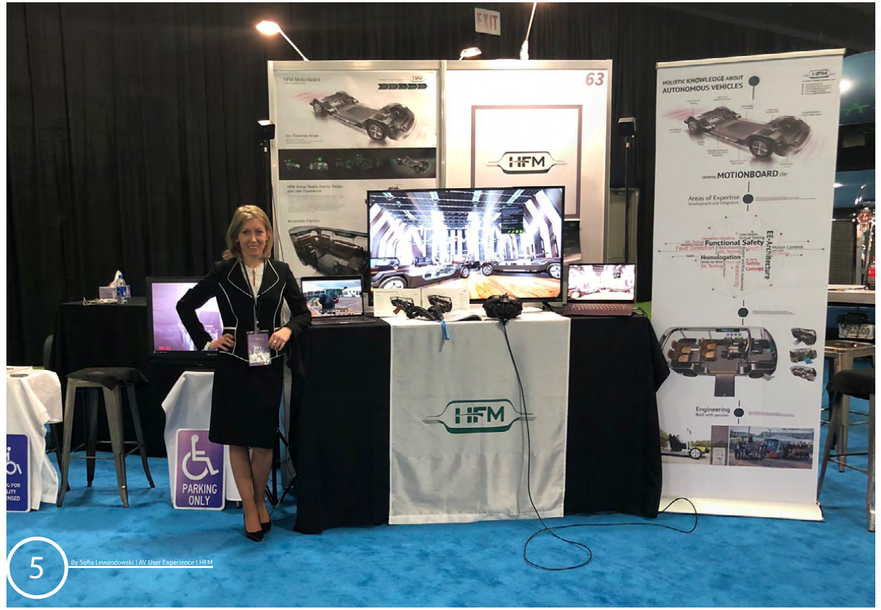
Accessible concepts can and will be exciting and interactive. Once the driver will be eliminated in a selfdriving vehicle people will board the vehicles on their own without any assistance. The ramp will automatically deploy and a warning projection mapping in front of the door will alarm to step back by showing the ramp area on the floor.

E m p h a s i z e
C o n c e p t u a l i z e
Listen to the Feedback
I t e r a t e





Hanseatische Fahrzeug Manufaktur GmbH



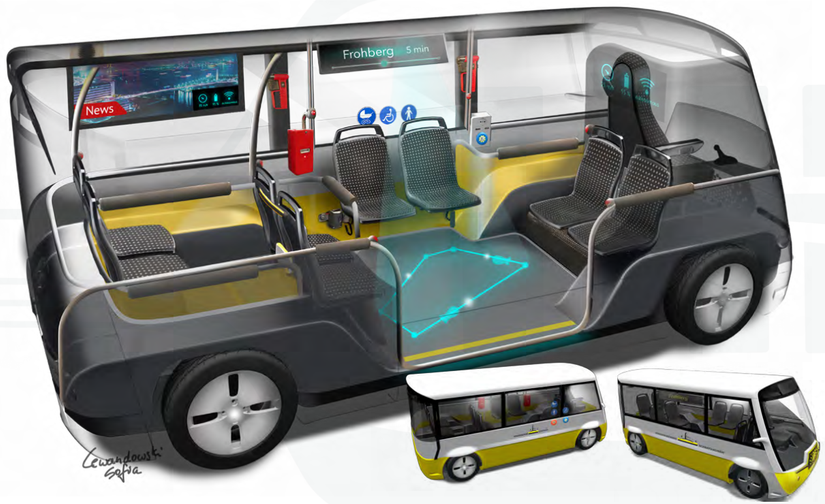
Virtual Reality

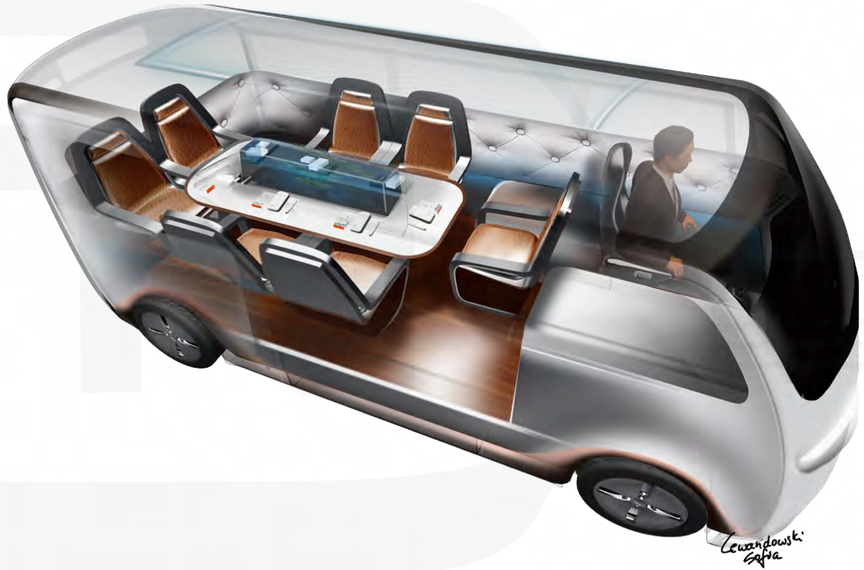
Interior Designs

The Virtual Reality (VR) Concept is about a demonstration of HFM Interior designs as well as different Motionboard shapes and it's technology. The HFM Virtual Reality Tool enables the users, potential HFM customers as well as other stakeholders to review some predefined interior as well as exterior samples created for special use cases. The customers evaluate and discuss together with designers, engineers and other in the project involved stakeholders if the predetermined definition meets customers' expectations and what should be changed in the existing interior prototype. The evaluator in VR is able to move the elements around and to define new packages.

Interactive
Communication

The communication concepts in the innovative AV interior concepts will help users to spend time in the transportation in a fun way. The passengers will play interactive games with each other. The position of the feet will be tracked and the projection mapping will visualize the game field. The projection floor can be used for any king of entertainment and infotainment. The weather and temperature outside as well as news or vehicle state can be projected on the floor. The projection can also be an entertaining animation that will allow users to see the same contents and have a common topic of a discussion.

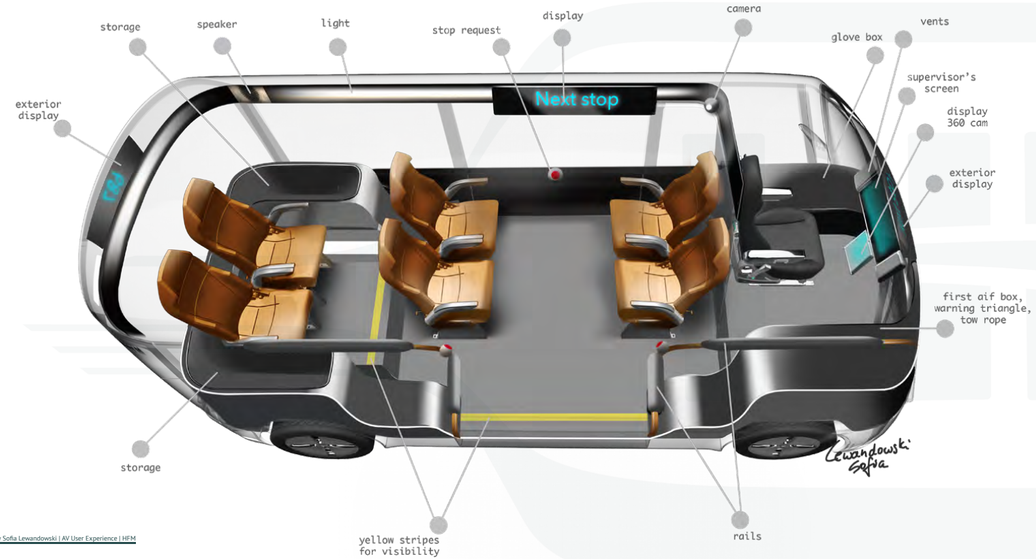




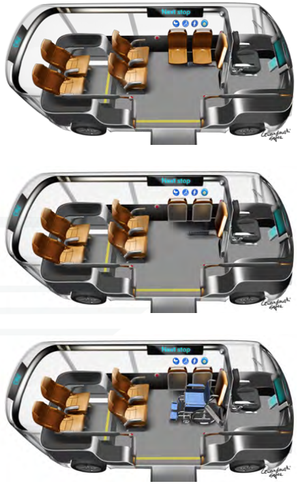
Workshop
Interior Design Concept

While one person is reviewing the samples in VR other participants review the same scene on a big screen and are involved in the discussion. The person in VR leads the conversation while pointing at objects and changing the interior. Virtual Reality is an engaging tool that enables people to be involved into the design process in 4D and not just in 2D on early stages, to review products in real time, to prove the proximity, functions and to simulate behaviors.

A workshop room on wheels for different specific company purposes to promote their products while riding in a highly automated Shuttle from one to another destination.


storage
speaker
light
stop request
display
camera
vents
glove box
supervisor's screen
display 360 cam
exterior display
exterior display
Next stop
first aif box, warning triangle, tow rope
storage
yellow stripes for visibility
rails
Lewandowski Sofia

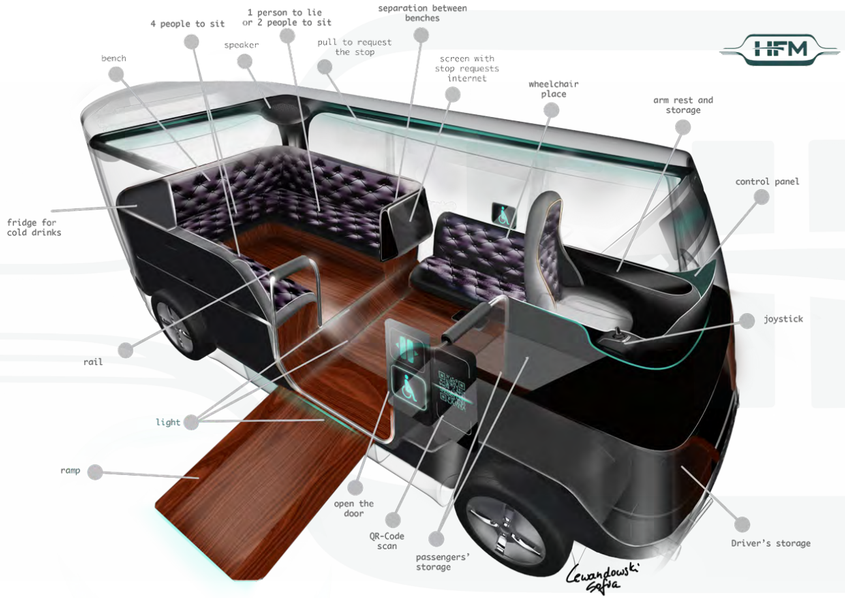
Next stop
Lewandowski Sofia

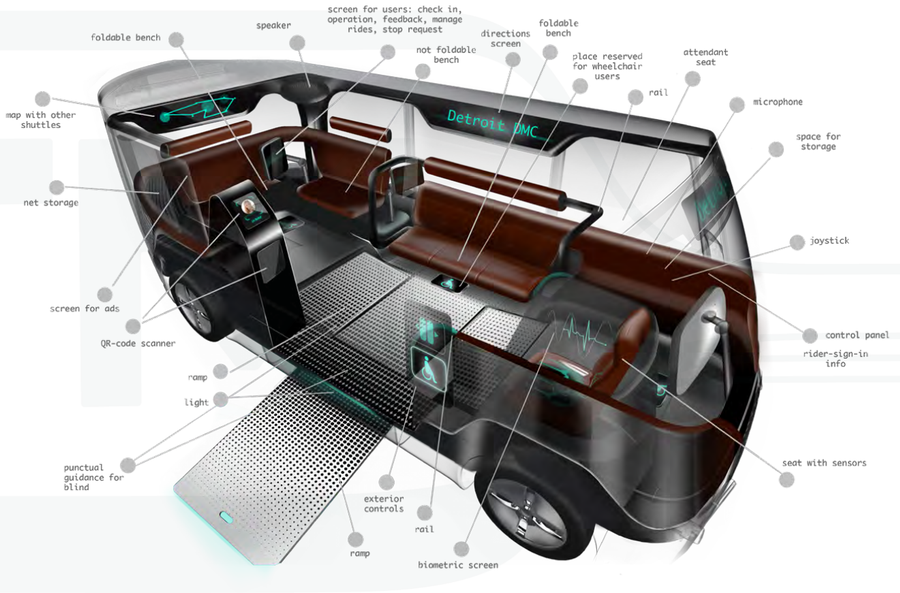


Luxurious
Interior Design Concept

The luxurious concept of an employee mover enables companies/institutions and entities to move their employees from Point A to Point B providing access to cool drinks in the fridge, storage place right next to the board supervisor, a lounge area and a wheelchair accessible place with a digital assistance.

The concept also includes rails and stop request string for more accessibility. It is possible to have a horizontal position in the lounge area. The lounge area and the wheelchair/buggy accessible place are separated from each other for more privacy and convenience.





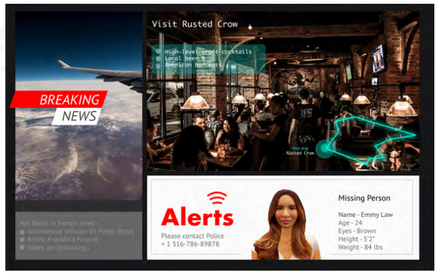
Accessible
Interior Design Concept

Based on User Research, Customer Requirements and Use Case Scenarios HFM develops Interior Design Proposals for customers to demonstrate, evaluate and redesign in Virtual Reality. Flappable benches enable wheelchair users to access the vehicle in the most convenient way. The accessible spaces can be used by blind people with dogs, people with bicycles or items to store on the floor during the ride. This particular interior concept enables up to three wheelchair users to board the highly automated shuttle. The places in the back and in the front on the higher levels showcase accessibility via ramps to lift in case of boarding.

Detroit DMC
Interior Design Concept

HFM demonstrates different technologies of vehicle access. The lift allows users to board the vehicle in a different way. The integration of the lift technology means additional height extension of the vehicle that will higher up the floor level helping to overcome different level barriers inside of the vehicle.

On-Board Advertisement will help companies, cities and local businesses to promote what they have to offer and to inform passengers about upcoming & special events. On-Board Advertisement will be the part of companies' sustainability plans to provide affordable or even free rides to citizens, newcomers and tourists.



Advertisement

Design Concept

Moving autonomous advertisement on wheels will help companies to promote their products. The QR-Codes on the products will enable non-driver's to scan the codes and order products right away.

The advertisement concepts can work in cooperation with the cities to collect data about road situations, emergencies, path holes and others.

Downtown entertainment and the cities tourist attraction to cruise around from disco bar to disco bar and to the public transportation main gathering points to bring party crowd safe home.

Hanseatische Fahrzeug Manufaktur GmbH

Special Event

Design Concept

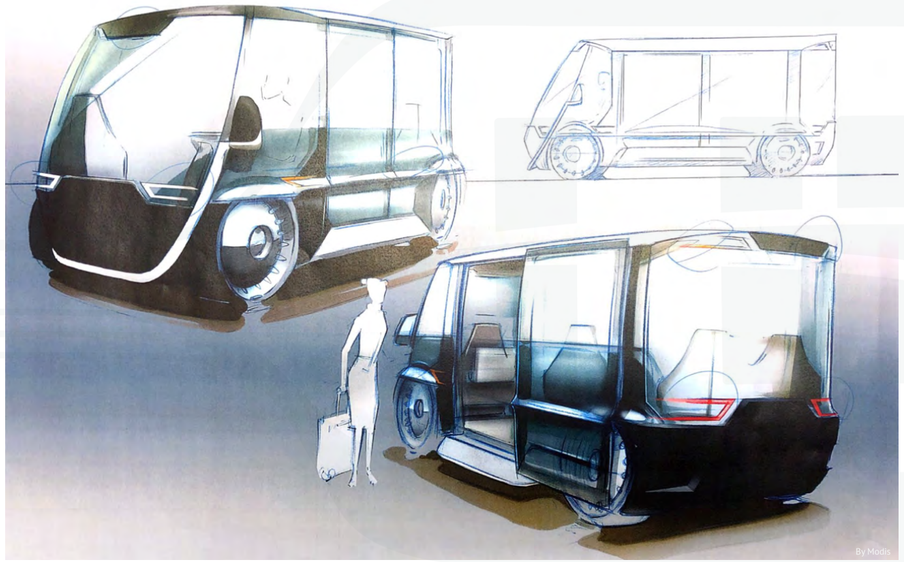
A fascinated concept for some special events was created to demonstrate the breath taking holistic design of an event location that includes innovative serving technology, The new interior concept showcases the utilization of the AV interior spaces in an exciting way. The event location reveals a party place with a moving bar on wheels, light show and socializing place. The show car which is a bar on wheels in the middle of the scene is placed on the inductive charging podestal. The ring lights on socializing places symbolize the electrification of the highly automated vehicles. The moving shuttle around the event location can be accessed only from the signed boarding place.

Hanseatische Fahrzeug Manufaktur GmbH

Busbee

The first prototype

As an element of future holistic mobility eco systems, autonomous people moving is one answer to challenges posed by the increase of traffic and mobility needs. The Motionboard® presents the perfect foundation for demand driven, autonomous fleets of innovative vehicle systems. As a proof, HFM and partners built Busbee, the first shared, connected and electric people mover based on the Motionboard®. Homologated under the M1 vehicle class, Busbee can comfortably accomodate 9 people including the safety steward. Together with the Motionboard®'s kneeling function, the wheelchair ramp guarantees barrier free access.



Hanseatische Fahrzeug Manufaktur GmbH
info@hfm-gmbh.de
04103 / 9020877

Pinneberger Str. 239-241,
25488 Holm, Germany

Bouchéstraße 12, Hall 20
12435 Berlin, Germany