

eVOLUTION

# The Shuttle System



[evolution-mobility.com](http://evolution-mobility.com)



# Mobility revolution demands for new mobility systems

We want to inspire people to embrace a new kind of mobility and co-create the user experience. The desire for emission-free transportation has long become a matter of course.

Although our individually independent mobility is restricted by traffic jams, road closures, delays and search for parking, today, our need for personal flexibility remains, even if we – not necessarily – want to be the driver of our own car in the future.

Facing this challenge, we as e.Volution want to electrify, reduce and bundle commuter traffic. In doing so, the driving experience has to become individualized, comfortable and attractive.

# The e.Volution Shuttle-System



1. Meta Utility Vehicle
2. Mobility subscription
3. IT platform META Ride
4. Integration into e.Mobility-Hubs

# Making a major difference together

More mobility with less traffic

The multitude of our plannable trips, such as work or school commutes, can already be operated battery-electrically and experienced as usable travel time. Employers and fleet operators may facilitate ride pooling or ridesharing services.

With the Shuttle META, we have developed a vehicle for this purpose and to significantly increase user benefits and ride time experience. The technical interior can be used for entertainment or work applications and is future-proof and metaverse-ready.

At e.Volution, we believe that the bundling of traffic flows must be individually attractive, holistically sustainable and economically efficient.

Therefore, we have developed our Shuttle META – a Meta Utility Vehicle.

More mobility with less traffic, by transporting more passengers per kilometer with fewer vehicles per kilometer.



# The META Utility Vehicle

The Shuttle META is an MUV (Meta Utility Vehicle), a comfortable space wonder for up to 7 people. It is perfectly fitted with innovative media equipment and can be flexibly reconfigured – from multiscreen digital workstations to fascinating Metaverse applications for its passengers.

The vehicle can be entered comfortably standing up. Wheelchair access is provided without barriers.

The Shuttle META features a unique architecture and modularity made of an aluminum profile spaceframe and a premium thermoplast exterior that enable it for circular economy.



**Purpose design**  
Unique appearance to be recognized as the corporate shuttle

**Passenger cabin**  
Comfortable working and entertainment cabin for up to 6 passengers and their luggage

**Connectivity**  
Large main screen and additional personal screens paired with high-speed Internet connection for maximum comfort and connectivity while driving

**Driver's cabin**  
Driver in sovereign middle position with high comfort features

**Air suspension**  
Lowering Shuttle by 9 cm for easy entrance

**Powertrain**  
Four-wheel drive with two electrical axles

**Battery**  
High-performance battery with 80 kWh from standard modules

**Access**  
Easily accessible with wheelchairs

# Technical information



## Powertrain

The Shuttle META is a battery electric vehicle with all-wheel drive. Its two electric axles, long wheelbase and extremely low center of gravity, caused by the very flat underfloor battery, ensure best driving comfort and highest safety.

## Battery

The battery installed in the vehicle is made of standard modules, has a capacity of 80 kWh and covers a large number of typical commutes. After their responsible use in the Shuttle META, the battery modules will be exchanged every five years as part of a major product upgrade.

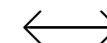
They will continue to be sufficiently powerful to remain in a stationary energy storage application for photovoltaic solutions for another 20 years.



Powertrain  
2 electrical axles



Battery capacity  
80 kWh



Length  
5078 mm



Width  
1988 mm



Height  
1990 mm

# Equipped for the future

Extra time for employees and quality time throughout the ride

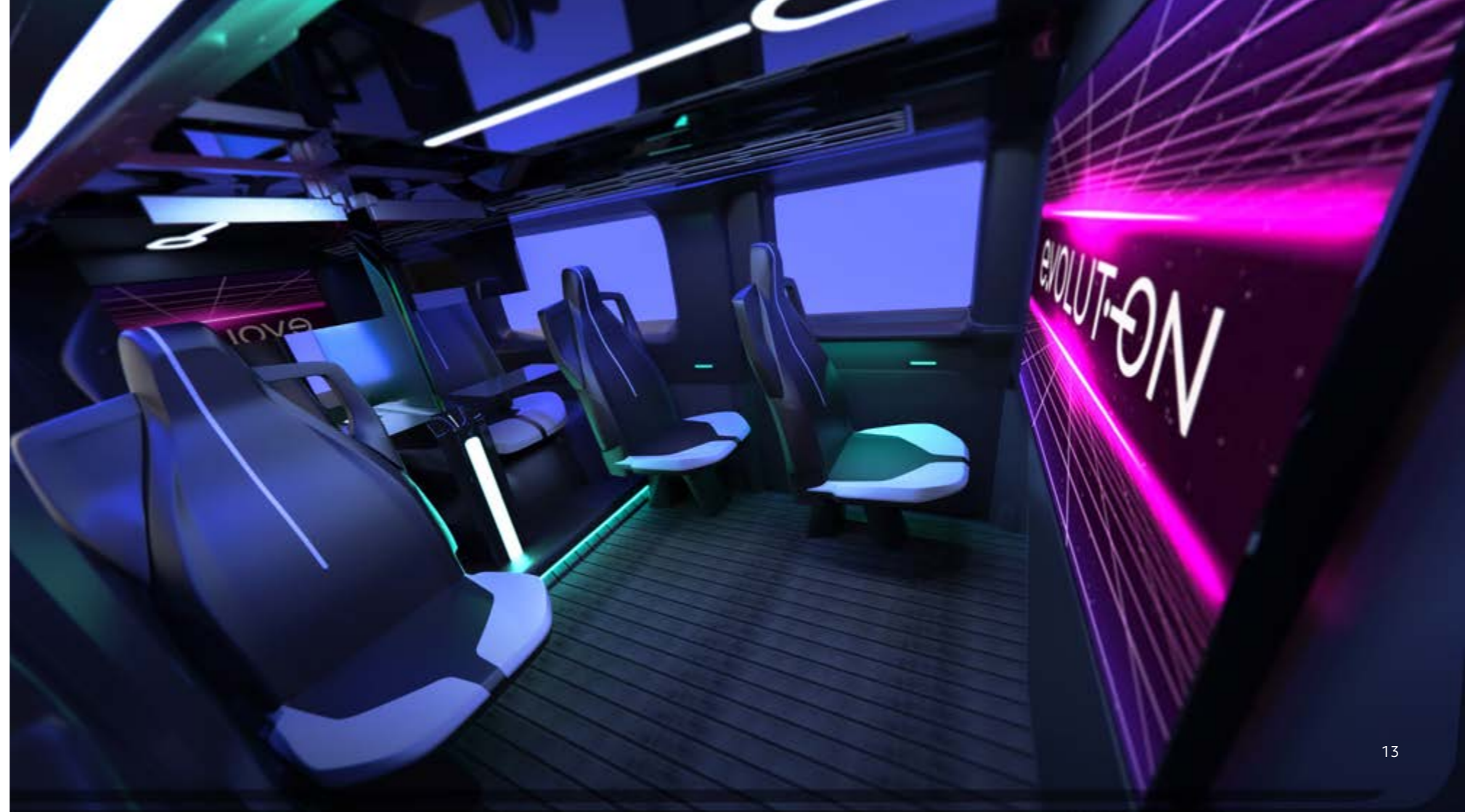
## Interior

In the Meta Utility Vehicle physical mobility meets a fully connected work and experience space. This also radiates from the futuristic interior where passengers experience real privacy when they want to focus on work. Or they can convert the vehicle into a traveling conference room with just a few simple adjustments.

Depending on the configuration, the interior comes equipped with an office-level conference system and a powerful portal to the Metaverse.

## Connectivity

On the move and yet connected? Focused working or calls with the team require a stable connection – no matter where the journey leads. This is why the Shuttle META is equipped with a strong 5G connection and an integrated, high-performance computer enabling 300 Mbit/s connection speed. This allows powerful applications both for advanced vehicle functions and the passengers who use the vehicles. In this way, the vehicle serves as a portal to digital user applications and their communities.



# Corporate Solutions

## Reducing corporate CO<sub>2</sub>-Footprint while increasing employer attractiveness

One of our contributions to more sustainable mobility is characterized by the potential for efficient bundling of daily and plannable routes. In doing so, sustainability transported per kilometer.

Therefore, companies and fleet operators not only make an important contribution to reducing their own CO<sub>2</sub> footprint, but also increase their attractiveness as an employer through mobility benefits for employees.

Up to 25% of the carbon footprint of a typical mid-sized manufacturing company with 1,500 employees is caused by employee commutes.

The CO<sub>2</sub> emissions of such companies can be permanently reduced by over 12% by using approx. 100 META-Shuttles.



## Subscribe to an all-inclusive package

e.Volution offers mobility subscription as part of its holistic mobility solutions. The Shuttle META is primarily used as a corporate shuttle, provided by an organization to its employees.

The purposes range from commuting (driven by the employees themselves or by a driver) and using the vehicles for business trips and appointments (conference travel) to providing the vehicles to employees for private use outside working hours as part of a corporate benefits program.

The Shuttle is subscribed by an employer for a fixed monthly fee. This contains a full-service rental including insurance, maintenance and wear parts.



# META Ride

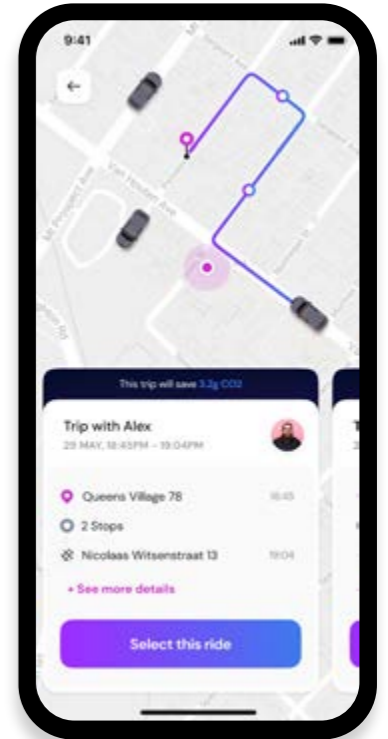
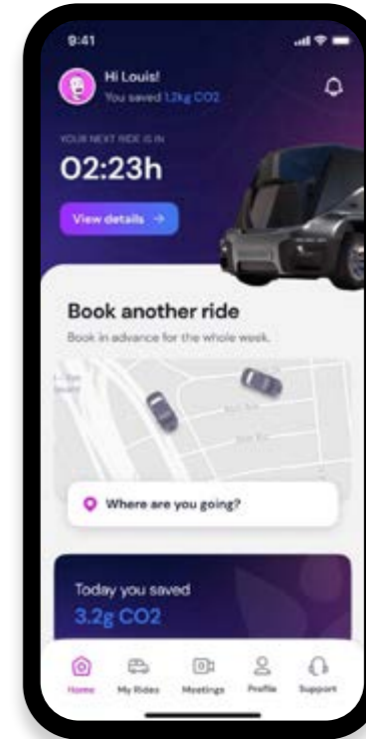
Intelligent booking and tracking platform



## As easy as using your own car key

As a passenger in the Shuttle META, riding is an experience. Trips with colleagues can be booked in the META Ride app. The visualization and booking of relevant rides and the real-time view of pick-up and arrival times go alongside a, alongside a variety of communication features, like booking a purely virtual ride.

Every kilometer traveled in the Shuttle META protects the environment, relieves the road system and saves parking spaces on the employer's premises.





# Multifunctional Mobility-Hubs

Besides the vehicle development, we are pursuing a holistic mobility approach on how to integrate our vehicles efficiently, ecologically and sustainably into a mobility ecosystem. The overall attractiveness of the system encourages switching from driving personal cars to riding in shuttles. Here, multifunctional Mobility-Hubs play an essential role.

Mobility-Hubs are not only transit points but also places of interaction. Besides providing access to individual two- and four-wheeled mobility services, a Mobility-Hub also offers a range of services for co-working, logistics and shopping. The time spent at a Mobility-Hub is enjoyable and a great experience.



# Sustainability

In order to ensure high sustainability and individual availability, not only the utilization of the Shuttle META is maximized, but also its life cycle. With its modular vehicle concept, the Shuttle META will be the first series-produced vehicle in the Circular Economy. The thermoplastic exterior in combination with the aluminum profile spaceframe enables small-series production in low capital MicroFactories and efficient re-assembly plants. Every five years, the Shuttle META is re-assembled, updated and thus remains in operation for decades.

Our contribution to a consistently sustainable and holistic concept of mobility is based on the approach of value preservation and circular economy. This is where the concept of a durable, modularly renewable vehicle is key. The significant four-times increase of service life over a conventional combustion engine vehicle causes massive resource preservation within the circular system.

In addition to the vehicle concept and the low-capital and energy-efficient production in MicroFactories, we offer a completely new and innovative remanufacturing process in our Re-Assembly Factory.

The modular vehicle concept and the Re-Assembly Factory enable a vehicle lifetime of up to 50 years, making the Shuttle META a truly sustainable passenger car. It also allows for significantly lower total cost of operation than other electric vehicles. The depreciation of the Shuttle META is minimized by a regular and on-demand Re-Assembly process every five years with material and software upgrades. Ecology and economy harmonize in a completely new manner. That is yet to be found in the automotive industry.

That is how e.Volution establishes the most sustainable mobility system in harmony with the current state of research.

# About us

e.Volution GmbH, based on the RWTH Aachen Campus, is a provider of holistic mobility solutions and a developer and manufacturer of purpose-dedicated electric vehicles. Currently, the company designs and develops the Shuttle META, which incorporates new digital mobility experiences. For the production concept of the Shuttle META, e.Volution GmbH is highly experienced in MicroFactories and Re-Assembly Factories as well as vehicle homologation.

e.Volution was founded in 2021 by Prof. Günther Schuh (CEO).



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