U-Shift
Modular, automated vehicle concept for passenger and cargo transport

The concept
The autonomous, driverless, electric vehicle concept U-Shift enables a new kind of modularity through the separation of driving module and transport capsule and thus also a new intermodality, new products and business models. The driving module can be used in combination with various capsule - types for transporting people and goods. Application examples are e.g. autonomous, electromobile overnight delivery, autonomous intra-logistics and barrier-free passenger transport.

Goals
- proof of feasibility of a demonstration- and industrialization project
- detailing the overall vehicle concept from the feasibility study ModECAp
- identify an economic use case for the demonstration
- stakeholder consultation from industry, business, research and society

Driveboard
The autonomous driving module integrates all components and systems required for driving. It can use a lifting system to transport all types of capsules and switch them “on-the-road”.
- highly autonomous, flexible, standardizable
- electric drive system
- high utilization (24/7) and quiet night operation

Capsules
The capsules are only equipped with the most necessary technical systems and can thus be produced cost-effectively.
- individualized and flexible
- needs-based - use of various capsules in passenger transport (people mover, private capsule) and in commercial transport (delivery traffic, service, recycling pod)
- “simple”, light and cost-efficient

Driveboard (large)
- dimensions: 5000x2500x1000 mm³
- power: 2x45kW
- range: ca. 200km

Buscapsule
- 10 seats + wheelchair place
- ground level entry

Logisticcapsule
- loading capacity: 4400x1700x2000mm³
- ground level loading

The new vehicle and its application was designed by DLR under the name MAUDE.
In the ModECAp project, the concept will be further developed together with several research partners and a feasibility study will be prepared.

Funded by:

Research partner:

The construction of the concept vehicle is in planning.
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