

# Smart Solution for the Last Mile

## From Cargobike to Mobility Platform

Our Cargobike offers a multi-purpose connected solution for making deliveries in the urban setting. Food and medication, clothing and everyday necessities – today, nearly everything can be delivered to the door. But making the deliveries is a constant challenge for providers and delivery services as well as the recipients, particularly in cities. Growing pressure on time and costs, a lack of parking space, restricted flexibility and ever stricter regulations in terms of environmental demands are just some of the problems confronting the logistics sector on a daily basis.

As an efficient solution not just for the last mile, our Cargobike concept with its range of services supports the whole logistics chain, from fleet management, scheduling and route optimization to securing the goods being delivered. During delivery, couriers also benefit from the versatile follow-me function: after one single teach-in, the courier does not have to get on the bike or push it for every short distance. The bike automatically recognizes the courier and follows him or her at walking pace.

### **Mobility Made to Measure**

*Urban mobility is looking at a diverse future. As far as the vehicles are concerned, aspects such as electrification, increasing automation and vehicle connectivity with the surroundings are becoming ever more significant. But user behavior is also changing, characterized by a growing desire for individual mobility. With a view to these challenges, we develop mobility solutions for made-to-measure use as needed.*



# Our Contribution to Individual Mobility Needs



The fast-growing number of road users demands made-to-measure mobility solutions



Whether routing or cargo security: the Cargobike makes everyday deliveries easier for the courier



The online-based DiSA dashboard shows fleet operating and maintenance parameters

Many cities struggle to cope with the densification of living space and the constantly growing number of road users. Traffic problems cannot be solved quickly enough by urban planning measures alone. We are therefore working at various concepts to reconcile heavy traffic and limited traffic areas with the growing demand for mobility. Our focus is not on complex individual solutions: instead, our aspiration is to offer connected services that can be combined as modules in a comprehensive mobility platform.

## Convenient Delivery, Easy Use and Secure Transport

Our Cargobike is just one example of a possible solution for transportation in the (sub-) urban setting. The final user, in this case the courier, is at the heart of it all. The bike makes everyday deliveries easier for the user with a camera-based follow-me function which recognizes the previously registered courier and follows him or her autonomously. In the event of an obstacle, such as a pedestrian suddenly appearing in its path, it stops automatically and prevents a collision. Nor does the courier have to worry about securing the goods being delivered. The cargo is stored in a generous transport box that can only be opened when the courier is in the immediate vicinity, thus preventing unauthorized access.

The Cargobike platform is an end-to-end solution including a frontend application in the form of a smartphone app that shows the courier his or her individual route and relevant information about the vehicle. It is also connected to a backend server where all processes are computed and saved.

## The Whole Fleet at a Glance

DiSA (Digital Service Assistant) is a smart, clearly structured dashboard that makes it easy for car-sharing providers, logistics companies and fleet management to look after vehicle pools. The online service gives insights and evaluations of all vehicles from bike to truck including all key operating and maintenance parameters, at any time and on a global scale. When a limit value is detected, such as low tire pressure, the system automatically informs the driver and fleet operator so that remedial action can be taken. Where more serious problems are concerned, it is also possible to make a direct appointment with the service center.

The Cargobike platform is also used for scheduling. Routing and deployment planning help to save resources while ensuring time-saving, cost-efficient staff deployment. This optimization function is based on a smart algorithm that clusters orders and allocates them to suitable vehicle types and routes depending on scope and deadlines.