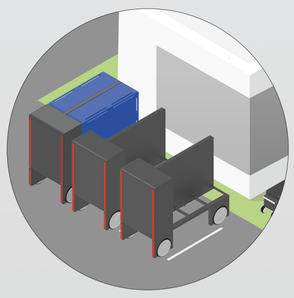
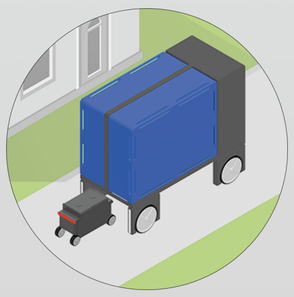
An autonomous urban delivery concept for Ford

Ordering things online is increasing in popularity. This causes logistical problems in the urban space, such as congestion, emissions and other irritations. As autonomous vehicle technology is becoming mature, a new opportunity arises: autonomous parcel delivery. During this graduation assignment with Ford, an autonomous delivery system was conceptualized for European cities, integrating technological-, user- and business aspects. After performing thorough research and analysis, a set of conceptual vehicles and other elements was developed, prototyped and tested with users. The resulting concept is explained below.

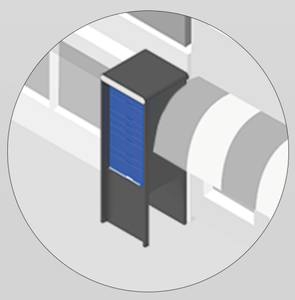
Autonomous urban logistics



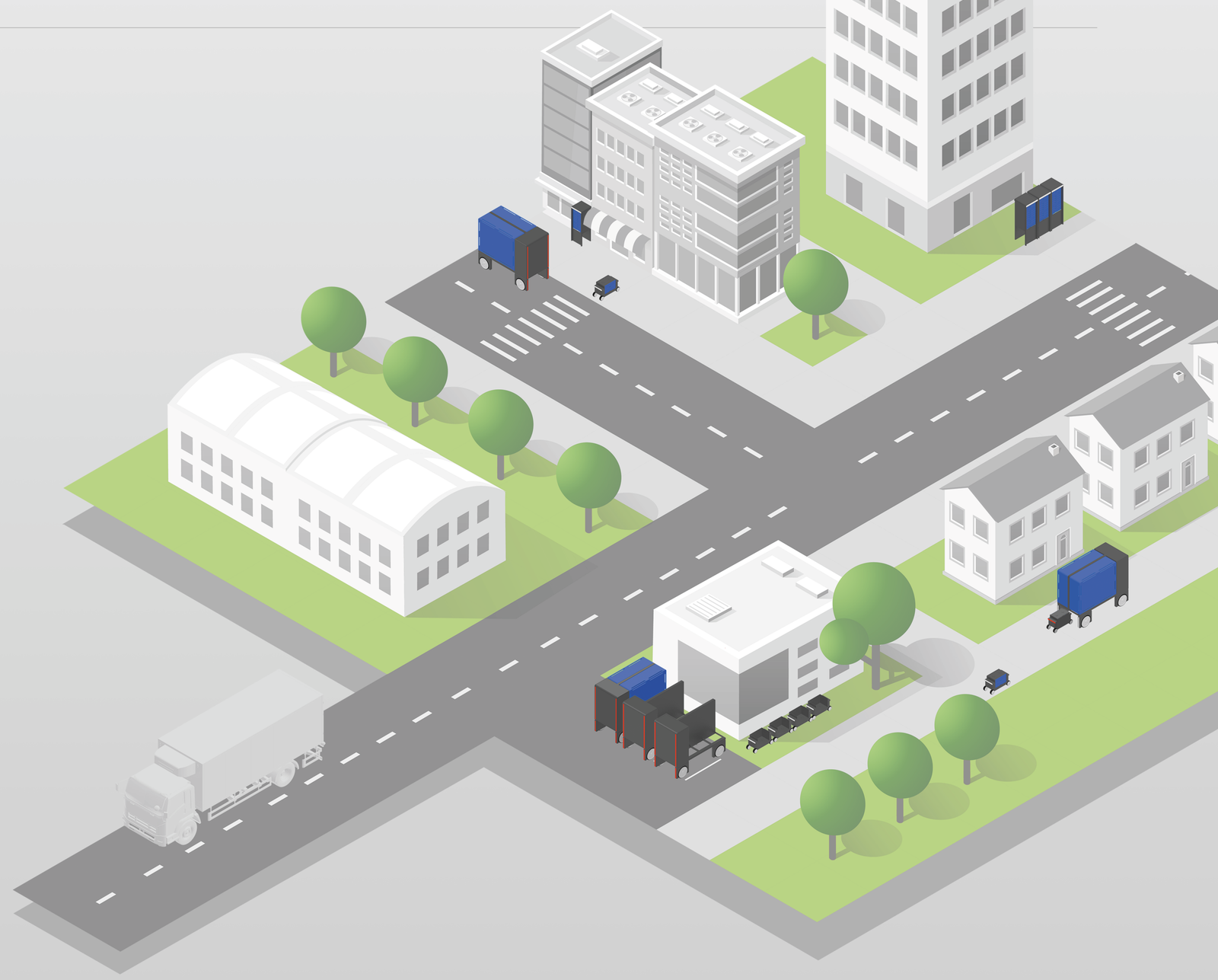
Urban hub
Parcels entering the city arrive at the urban hub, from where they are transshiped onto motherships.



Pods & Mothership
Typical home deliveries are made by pods, which are suplied by driving underneath the mothership.



Kiosk
If customers are not at home, the pods can take the parcel to a kiosk in the neighbourhood for pickup.



Three key components

Selling points

Feasible technology
The system is designed to be a technically feasible one at heart. No new and complex technology has to be developed to make this concept work - apart from the unavoidable autonomous manouvring.

Livable city
The concept keeps the urban space livable, by minimizing the area that is occupied by delivery vehicles per unit of time. Customer research has preliminarily found a positive attitude towards the small robots of the system.

Scalable system
A timeline is suggested for Ford to implement this new system. This could start with introducing just pods, working towards a 'pod + kiosk' system, before eventualy introducing the full system including the autonomous mothership.

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