SF 68: Innovative delivery concepts for city centres

Fr	B	C	NY	S	T	Total
4	8	7	6	5	9	39

Beispiel:
In **Berlin,** as part of various research projects (CityLog, E-City-Logistik, Ich-ersetze-ein-Auto [„I replace a car"], DisLog, Nanu!) concepts are being developed and implemented in demonstration scenarios, including transfer stations for CEP services, cargo bikes, electric lorries, concepts for night-time deliveries. In the urban development plans, innovative delivery concepts and the use of alternative vehicle technologies represent an important component of the sustainable design of urban freight transport.

In **Tokyo,** many innovative solutions already work under real operating conditions, such as the transfer stations of the Yamato courier service at underground stations, mobile depots, and the use of various electric, hybrid and micro-distribution vehicles.

The new One World Trade Centre in **New York** is equipped with an underground delivery system (tunnel).
Arriva in Freiburg is developing a fuel cell cargo bike.

1. Differentiated description of the key field

Urban freight transport fulfils an essential delivery function for the urban population as well as for local businesses. At the same time, the „last-mile" distribution of goods in particular is responsible for a not insignificant share of the traffic and pollution in urban areas. Since it is only possible to reduce the supply and waste disposal quantities to a limited extent, the logistics systems required for sustainable urban development must be made more efficient and more environmentally friendly.
Due to current processes of social transformation (changing consumer behaviour, individualisation, increasing e-commerce and home deliveries) and the economy (global division of labour, just-in-time concepts, high service demands), ever smaller-scale quantities and higher delivery frequencies must be coped with in the future. This requires an adaptation of conventional logistic structures and the development of new delivery concepts. Especially in inner cities, because of the high population density, the busy transport infrastructure as well as possible regulation on the part the cities (e.g. by restricting entry to the town based on the time of day or kind of vehicle), flexible and small-scale delivery solutions are a prerequisite for a functioning delivery system
Innovative delivery concepts are based on the following elements, which can be combined to produce specific solutions for the logistics task and the urban system in question:
- Principles of goods bundling, small-scale dispersion, collaborative use of transport and logistics infrastructure, concepts for night deliveries, ordering and home delivery services, and the combining of various supply and waste disposal services, appropriate business models
- Physical components and infrastructures: transhipment hubs, goods transfer stations, low-noise and low-emission vehicles, carriers
- Information systems and IT platforms for data exchange between the actors involved as well as the control, monitoring and optimisation of the flows of goods.

2. Reference to sustainability:

Contribution to the sustainable design of urban freight transport, reduction in freight transport and the environmental burdens caused by it, ensuring the supply of citizens and businesses also in a future framework -> Preservation of urban life and the existence of trade and commerce in cities
Risk if ignored:
Supply and waste disposal services for individuals, trade and commerce within the existing logistics structures may possibly no longer take place in a city-friendly way □ Risk of supply shortages or an increase in freight traffic leading to congestion of the urban transport infrastructure with a negative impact on quality of life, the environment and the economy.

3. Relevance to industrial sectors?

Mobility:	High
Energy:	Low
Production & logistics:	High
Security:	Low
ICT:	Medium
Water infrastructure:	None
Buildings:	None
Governance:	Medium

Brief description of the high level of importance:
The supplying of the urban population can be done either by logistic services or individual mobility; in this respect, these sectors are highly interdependent. Especially when it comes to road traffic, private transport and freight transport share the use of urban infrastructure. Any increase in freight transport will, therefore, result in restrictions for private mobility – and vice versa.

4. Impact (positive & negative)

- Integration of local delivery concepts into the neighbourhood structures of a town or district
- The city may have an influence on the logistics industry
- Locational advantages for the local economy

5. Implementation measures:

- Requirements analysis – Which solution is needed for which logistics task? What quantities and shipment structures must be tackled? What services are needed?
- Development of delivery concepts together with stakeholders, adapting solutions to the actual needs
- Development of appropriate business and operating models
- Performing field tests or pilot projects to prepare for the actual implementation
- Integrating the solution into real systems, and adapting existing logistics processes
- The city creates possible incentives

6. Actors: Who can shape things?

- Logistics service providers: must have the appropriate shipment structures and be willing to adapt their logistics processes if need be
- Shipper/client/company: provide transport volumes, decide on the logistic solution used, service level, determine the activities of the service providers
- End users/urban population: have supply needs and exert influence on logistical services through their consumer and mobility behaviour
- City administration: is not actively involved in the execution of transport or distribution in the city, but can have massive influence on the adoption and use of innovative delivery concepts through regulation and/or incentives.
- Research facilities: can support the introduction of innovative delivery concepts by developing new technologies and concepts

7. Prerequisites:

High spatial density benefits the small-scale distribution concepts („short distances"), but in general no specific prerequisites are needed.

8. Obstacles/barriers:

- High level of standardization of logistics chains, low flexibility towards new solutions
- Lack of willingness to make changes or cooperate on the part of the actors (logistics companies and their clients from trade and industry, customers)
- Lack of cost effectiveness due to insufficient volume of shipments; Achievement of a critical mass e.g. to realise pooling potential
- Technologies lack maturity (e.g. electric lorries, IT solutions),

9. Indicators:

- Transport modes and logistics systems, which supply the town
- Supply quantities for industry, trade and commerce
- Logistical requirements of the shipper and receiver, possibly specific to individual industries, as well as the requirements of end-users
- High-density neighbourhoods, suitable for small-scale distribution concepts
- Providers of logistic services
- Existing infrastructures and logistics hubs
- Existing disposal systems
- Environmental regulations, regulation, standards

10. Special features/remarks: