



# How MAN eTrucks will change urban logistics

**A3PS**

Felix Kybart, Vienna, November 10, 2017

# Mega Trends with influence on future urban mobility - Society

## Urbanization



- Fast growing cities
- Increasing suburban areas
- Congestion of infrastructure
- Air pollution / Noise

## Environmental Awareness



- Paris Climate Target
- More restrictive legislations (air pollution, noise, etc.)
- Society awareness for sustainability

## Aging Society



- Different use patterns old versus young
- More older and handicapped passengers

## Limited Resources



- Shift from limited to renewable resources

## Mobility



- Multimodal mobility systems will develop
- Individual, collective and on-demand transport

# Mega Trends with influence on future urban mobility - Technology

## Electrification



## Automated Driving

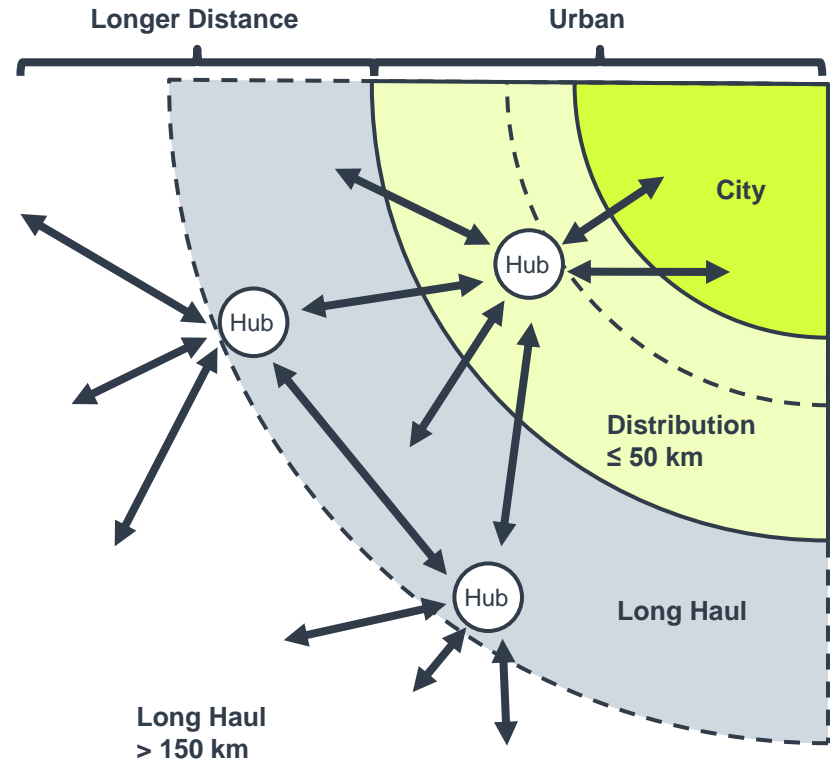


## Connectivity



# We know the challenge

- Alternative drives are more than eMobility
- Different use cases require individually suitable solutions
- Efficiency / range
- Reliability / availability
- Total Cost of Ownership



# Urban logistics today – partially contradictory public attitudes

Inner city logistics is often received as annoying or obstruction

Services und delivery of goods and merchandise of all kinds shall be realized within short term and most convenient

- Online shopping with unlimited right of return shall be served in an optimal way
- Groceries fresh on the shelves at any time
- Home delivery services reliably supply beverages and deep frozen food

Requirements:

- **Avoidance of noise and environment pollution**
- **Holistic approaches to be provided**
  - Ensure quality for the supply for urban areas
  - Minimize congestion
  - Simplify handling





# MAN collaborates early with key customers

**CNL** Council for Sustainable Logistics

**BRALIONION** ÖSTERREICH

**cargo-partner**

**dm**

**dpd**

**Gebürder Weiss**

**Hofer**

**Lagermax**

**MAGNA**

**METRO**

**Post**

**Quehenberger** logistics

**REWE** GROUP

**SCHACHINGER** LOGISTIK

**SPAR**

**Spitz**

**Stiegl**

**TRANSFOURM**

The image shows a green MAN TGM eMobility truck in a factory setting. A group of men in suits are standing in front of a backdrop featuring various logos, including those of the truck's partners and the Council for Sustainable Logistics (CNL). The truck has "eMobility" and "WIR FAHREN DANN SCHON MAL VOR." written on the front. The backdrop also features logos for cargo-partner, dm, dpd, Gebürder Weiss, Hofer, Lagermax, MAGNA, METRO, Post, Quehenberger, REWE, SCHACHINGER LOGISTIK, SPAR, Spitz, Stiegl, TRANSFOURM, and CNL.

|                |                  |                  |
|----------------|------------------|------------------|
| <b>MAN TGM</b> | <b>4x2</b> (N28) | <b>6x2</b> (N44) |
| Battery:       | 149 kWh          | 223 kWh          |
| Range:         | up to 130 km     | up to 200 km     |

# Opportunities and Potentials for Urban Logistics

4:00 a.m.



8:00 a.m.



# Priority Depot Charging

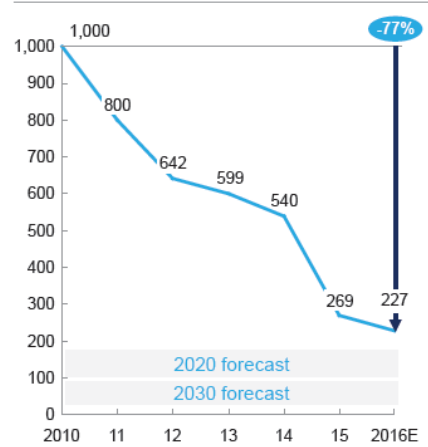


Depot charging



Opportunity charg.

Average battery pack price  
\$ per kWh



⇒ Decreasing battery prices

⇒ Increasing energy density

## Calculation of opportunity charging:

- 20 km range
- 3-5 min charging time at 2-2.5 kWh/km

⇒ Charging power 480 - 1000 kW

⇒ Impact on infrastructure and battery lifetime



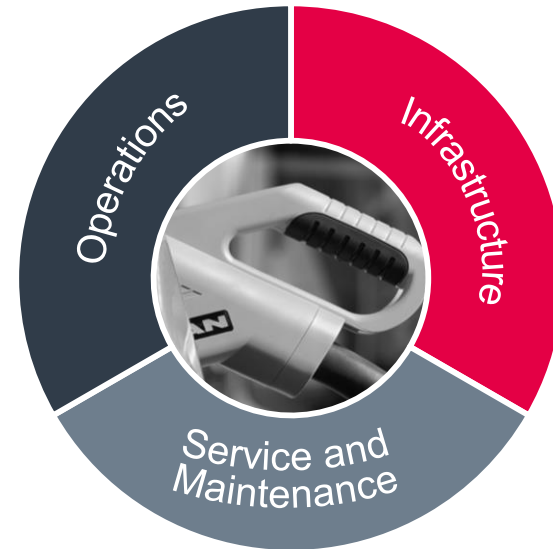


## Manage the change - **MAN Transport Solutions**

Customer-specific Solutions regarding vehicle & operation, infrastructure & energy management, service & maintenance

### Individual Consulting:

- Simulation of route planning
- Operation concepts
- Energy demand
- Battery- & Charging management
- Charging infrastructure concepts
- Repair & Maintenance concepts
- Customer Business-Case



Q&A

