

# e-Green Last Mile Project – e-GLM

Zero emission – Innovative – Electric – Sustainable

## Goal

Positive business case for the exploitation of 100% electric trucks – Innovation and competitive strength for the region

## Participants/partnership

Cross border logistical cooperation with German and Dutch logistical companies

## Project plan

- Create a cooperation model between companies for sharing capacity (e-truck sharing)
- 9 electric trucks
- 5 fast chargers
- Bring different planned logistical scenarios in practice to find “best case scenario” for further out roll

## Application

- Short trips, clean, silent and environmental friendly
- 24/7 operational because low noise levels
- Low exploitation costs, use the low variable cost from electric transport

## Logistical innovation

- new, logistical cooperation
- Better utilisation of investments because optimisations of trips meaning higher competitive strength in the region

## E-truck

- Truck with optimal battery capacity (150 km range)
- Comparable to inner-city distribution
- Efficient fast charging on smart charging locations
- Safety and comfort equal to a modern truck
- Terminal trekker functionalities – solution for industrial area’s
- Development and stimulation of market of E-trucks. The project will be a start of the solution against hazardous emissions of diesel trucks. Because high potential for spin-off projects it will get a of high PR value.



## Business case

- Innovative logistical concept – optimising trips
- Low price per km because electric drivetrain – competitive advantage
- No CO2 emissions – appealing for customers with focus on lowering CO2 footprint
- No NOx or particle’s – no hazardous emissions and therefore improving the living environment in industrial area’s
- Low-noise motor – 24/7 operational, silent trucks offer solution for night distribution
- Cross border cooperation

## Project in figures:

- 3,5 years, period 2016-2020
- € 5.200.000 total budget
- € 3.900.000 – subsidy from Interreg + regional governments
- € 145.000 – Average cofounding per partner

## Contact details

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# e-GLM Project

Customer of partner

## What do you get from the project:

- 140.000 km per e-truck
- Charging infrastructure (fast and normal speed)
- Research for innovative concept for logistical planning

## e-GLM project

- 9 full electric trucks for short distances (zero emission and silent)
- Network of 5 fast charging stations on smart locations + 9 normal chargers
- Research for innovative logistical concepts tailored for e-trucks
- 3,5 years, period 2016-2020
- € 5.200.000 total budget

Positive business case for exploitation of electric trucks



e-GLM Partnership with German and Dutch companies



Project partners

## Investment per partner:

€ 145.000 contribution (for co-funding of trucks, charging infrastructure, electricity costs and central costs)

€ 3.900.000 Subsidy from Interreg + regional governments



Calculation is based on several expectations and assumptions

- 9 logistical organisations (aim for 50% German, 50% Dutch)
- +/- 5.500 km per month

# After the Project

Customer of partner

## Because of 100% depreciation in the project:

- Free electric truck
- Free charging stations

Operational costs: € 0,29/km at 330.000 km which totals € 97.000

## After the project

- Partners become owners of electric trucks and network charging stations for free
- Partners will still use innovative logistical systems
- 5 year (2020 – 2025)

# e-Green Last Mile

## Truck & Charging infrastructure specification

### E-Truck (requested specification)

- 100% electric battery vehicle
- Battery capacity 300 kW
- Driving range 150 km
- Fast charging up to 400 kW
- Night charging 22 kW / 44 kW
- Fifth wheel, optional lifting fifth wheel
- Maximum speed 85 km/h
  
- Truck weight max. 8.500 kg
  - Front axle 9.000 kg
  - Rear axle 11,500 kg
  
- Maximum trailer weight 39.000 kg
  - Maximum allowed king-pin weight 12.000 kg
  - 3 axle, 9.000 kg per axle, totals 27.000 kg

### E-truck

- Truck with optimal battery capacity (150 km range)
- Comparable to inner-city distribution
- Efficient fast charging on smart charging locations
- Safety and comfort equal to a modern truck
- Terminal trekker functionalities – solution for industrial area's by means of a lifting fifth wheel
- Development and stimulation of market of E-trucks. The project will be a start of the solution against hazardous emissions of diesel trucks. Because high potential for spin-off projects it will get a of high PR value.



### Charging infrastructure (requested specification)

#### Fast charging

- Up to 400 kW fast charging
- Pantograph charging system
- Strategic locations will be selected together with partnership and logistic experts



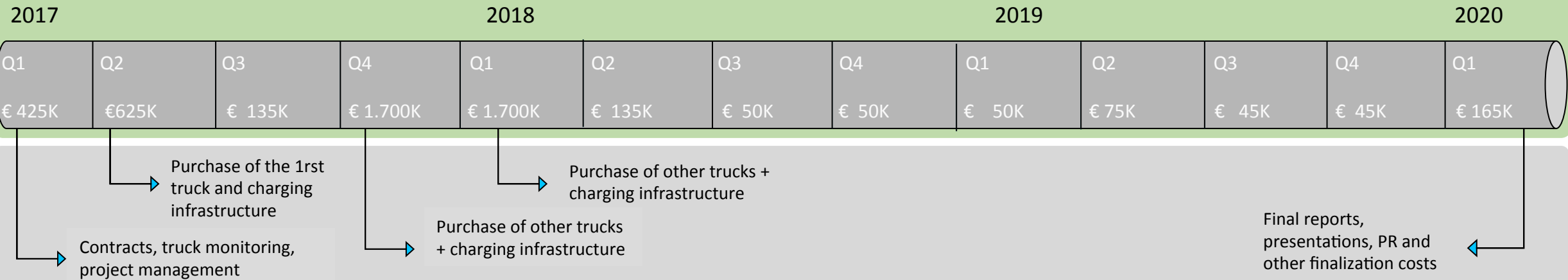
#### Night charging

- 22 kW – 44 kW night charging
- Plug-in connector (CCS standard)
- All partners with an electric will get a charging point on their location



# Cash flow planning

## Total project budget (including all logistical partners)



## Logistic partners (per truck)

### Cash flow at partner level

- The cash flow planning is based on a 75% subsidy (this is an average; the percentage can be more or less depending on the size of the company)
- Claims can be made every 3 months, so the subsidy of the previous 3 months can be claimed
- This results in the follow cash flow, based on 1 partner with 1 truck

Total overview per partner	Total costs (cash out)	Subsidy (75% of previous quarter, cash in)	Nett expense
2017q1	€ 48.000		€ 48.000
q2	€ 68.000	€ 36.000	€ 32.000
q3	€ 16.000	€ 51.000	€ -35.000
q4	€ 192.000	€ 12.000	€ 180.000
2018q1	€ 192.000	€ 144.000	€ 48.000
q2	€ 16.000	€ 144.000	€ -128.000
q3	€ 4.000	€ 12.000	€ -8.000
q4	€ 4.000	€ 3.000	€ 1.000
2019q1	€ 4.000	€ 3.000	€ 1.000
q2	€ 8.000	€ 3.000	€ 5.000
q3	€ 4.000	€ 6.000	€ -2.000
q4	€ 4.000	€ 3.000	€ 1.000
2020q1	€ 20.000	€ 3.000	€ 17.000
		€ 15.000	€ -15.000
som:	€ 580.000	€ 435.000	€ 145.000