



e-mobility NSR



## ***Electrifying Urban Freight Transport for Cleaner Cities and Efficient Logistics***

**E-Mobility NSR Workshop in London**

**April 11<sup>th</sup> 2014**

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**FDT – Association of Danish Transport and Logistics Centres**



# FDT – Association of Danish Transport and Logistics Centres



e-mobility NSR

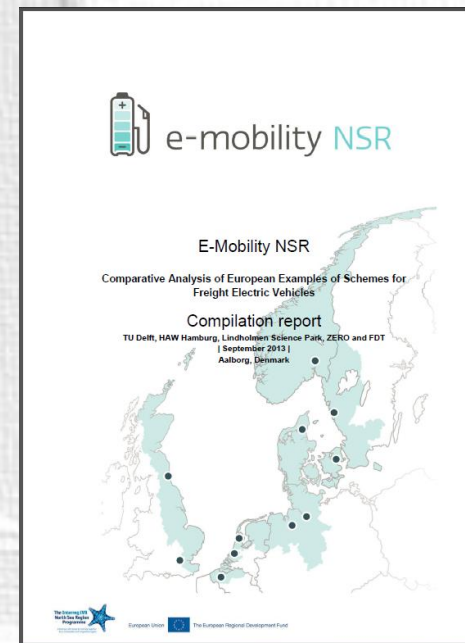
- Is a non-profit public similar organisation approved by the Danish Ministry of Transport.
- Encompass seven Transport and Logistics Centres located in Denmark.
- Works with added value logistics services.
- Performs research and tests on freight Electric Vehicles.
- Has its headquarter in Aalborg in the northern part of Jutland.



# Background

When developing solutions for electric vehicles, a **combined focus on both electrified car solutions and electrified urban freight solutions** is an obvious opportunity, which is researched and tested in the E-Mobility NSR project by FDT and associated partners around the North Sea Region.

Electrified urban freight solutions can be offered in many ways e.g. by **consolidating goods in Logistics Centres** and transport hubs outside the core area of the city, where **transshipment onto electric vehicles** can be performed. Hereby **more silent, clean and efficient distribution methods are introduced**, for the benefit of both the inhabitants of the cities and the transport companies performing the service.





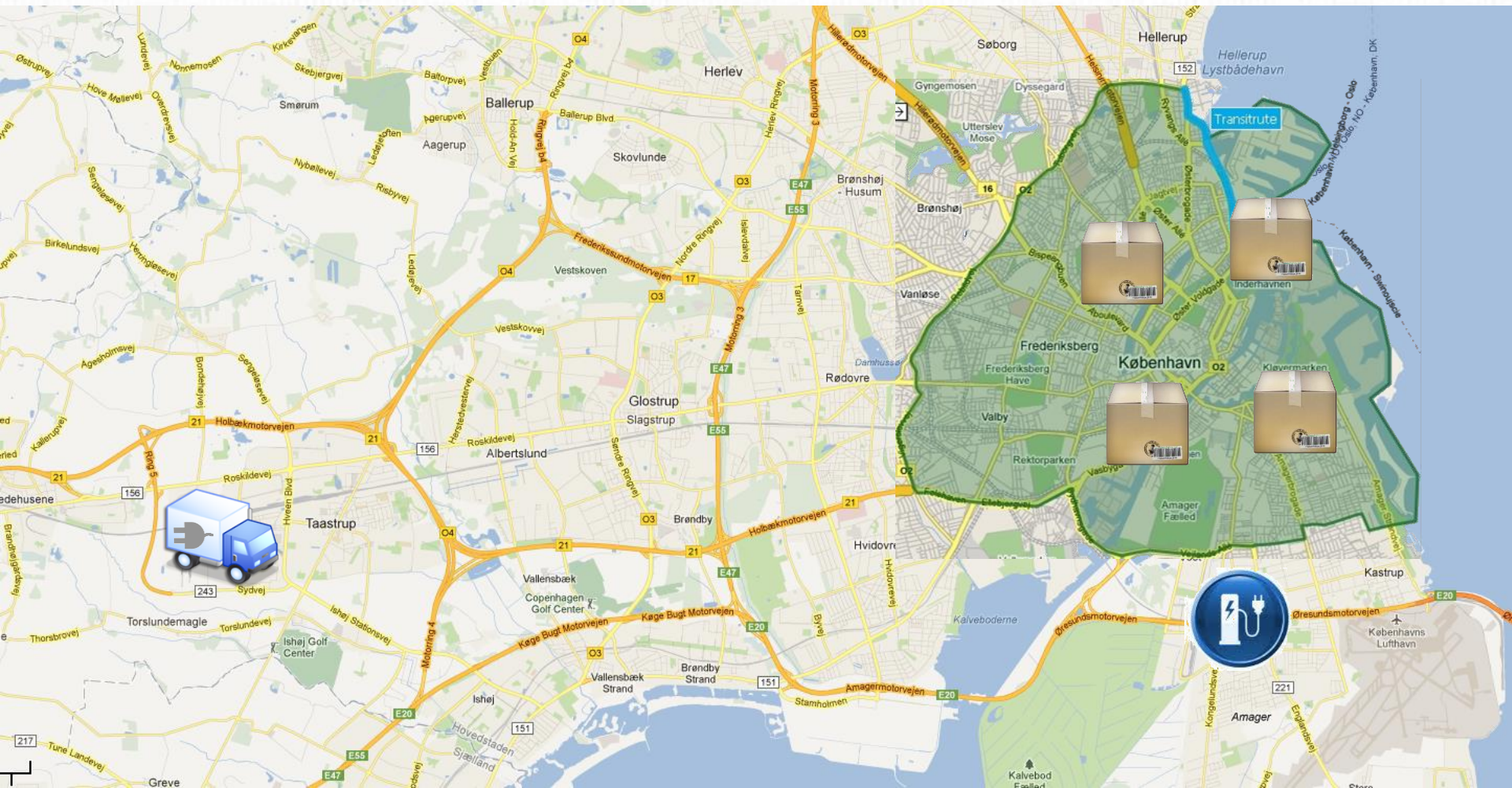
# Why this focus?

- **EU White Paper for Transport - *Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system***
- **Goals for a competitive and resource efficient transport system; benchmarks for achieving the 60% GHG emission reduction target compared to 1990 values**
  - *“Halve the use of ‘conventionally-fuelled’ cars in urban transport by 2030*
  - *Phase them out in cities by 2050;*
  - *Achieve essentially CO<sub>2</sub>-free city logistics in major urban centres by 2030.”*

COM (2011) 144 Final



# Distribution with EV's







# Distribution with EV's

**Total distance driven (50 km)**

**Zero gram of CO<sub>2</sub> emission**

**No noises and smells**

**Night distribution possible**

**A step towards achieving EU's CO<sub>2</sub> emission goals for major urban areas.**









# Crowdsourcing Platform -

## <http://forum.e-mobility-nsr.eu/>

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**e-mobility NSR**




The Interreg IVB  
North Sea Region  
Programme  
Investing in the future by working together  
for a sustainable and competitive region

### E Mobility NSR Forum

**Introducing Crowdsourcing**

The original idea behind crowdsourcing consists of gathering ideas/solutions from large groups of people usually through online media. Usually a party owning a challenge/issue/problem posts it on an online platform and “solvers” answer the challenge with their solution(s). Typically there is an incentive (price/reward) provided by the interested party for the solvers to get involved and provide innovative solutions. In the E-mobility NSR Forum, crowdsourcing has been adapted to the specific needs of the project. After the challenges have been posted, the solvers/users can choose which challenge to solve. The award criteria from each challenge gives guidelines in regards to what the solution should contain.


**Introducing Crowdsourcing**

By [Michael Laugesen](#) (Aug 23rd 2013, 3:12pm)


1 Thread  
1 Post

**Challenge 1: EV competing with ICE vehicles**

Maintaining the current technological status of EVs, what should be done to enable them to compete with ICE vehicles on the general market AND/OR what should be done if EV's compete with the ICEs on particular markets?


**Prerequisites for this challenge (1)**

The current developing/technological trend of EVs on the market is describing a race between ICE vehicles and EVs. While the ICE industry has reached a dominant design (a standardized model) and a constant growth, the EV industry hasn't. This progress is typical for new industries. The emergence of the dominant design can arise from a great consumer adoption of a specific model or from becoming a dominant design in a particular market followed by a general market adoption. Other reported emergences in new industries depict the intervention of the public authorities through public procurement of innovation. Regardless of the pathway, it is of interest that the process of dominant design emergence to increase its velocity so that the market uptake becomes standardized. In this challenge, a possible solution shall be provided considering the continuation of ICE and EV competition on the general market or to limit the market extension for the EV so that the competition is more focused and specialized.

**Award Criteria**

By [Michael Laugesen](#) (Sep 18th 2013, 3:07pm)

1 Thread  
1 Post

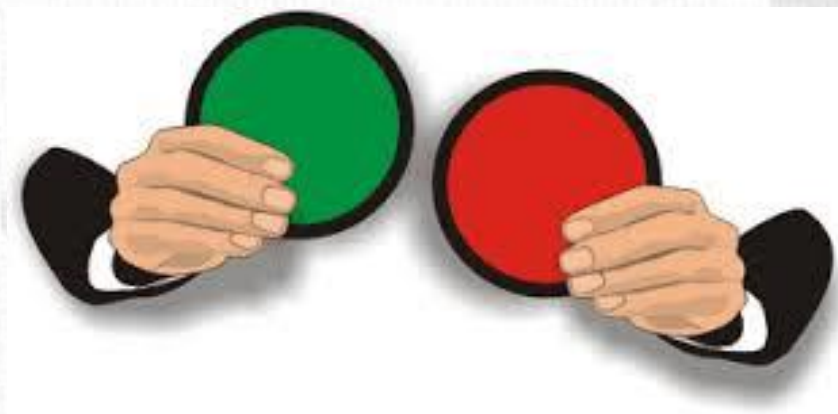
**Challenge 2: Needs for legislative support**

Which type of legislation actions can help electric freight vehicles to compete with conventional vehicles, given the condition that the legislative action is objective - it doesn't violate competition on the





# Explanation of the Method





# Intro First Question

- The current **developing/technological trend of EVs** on the market is describing a **race between low emission ICE vehicles and EVs**. While the ICE industry has reached a dominant design (a standardized model) and a constant growth, the EV industry hasn't. This progress is typical for new industries. **The emergence of the dominant design can arise from a great consumer adoption of a specific model or from becoming a dominant design in a particular market** followed by a general market adoption. Other reported emergences in new industries depict the **intervention of the public authorities through public procurement of innovation**. Regardless of the pathway, it is of interest that the process of dominant design emergence to increase its velocity so that the **market uptake becomes standardized**.

# First Question

*Maintaining the current technological level of EVs, are electric freight vehicles able to compete with ICE (internal combustion engine) vehicles on the urban freight logistics market?*

**YES or NO**



# Intro Second Question

- At the current state of the EV industry development, the **intervention of public authorities into the industry's growth is desired by most EV stakeholders**. Different means of intervention have different impacts, therefore in this challenge, we are looking towards **types of legislative actions that would focus on the strengths of the EV's** and not on their weaknesses (e.g. providing a direct advantage only for EVs). **An example of such legislative action that focuses on the strength of EV's is the EC Noise Directive** and its impact on the evening and night distribution - it embraces the strengths of electric vehicles, but doesn't give them a direct advantage over other types of vehicles.

## Second Question

Is legislative support required to help electric freight vehicles to compete with conventional vehicles, given the condition that the legislative action is objective - it doesn't violate competition on the market?

**YES or NO**



# Intro Third Question

- According to the EC Communication on Clean Power for Transport: A European alternative fuels strategy - "A consistent long-term strategy on alternative fuels has to meet the energy needs of all transport modes and be consistent with the EU 2020 strategy, including decarbonisation. However, the **alternatives available and their cost differ between modes**. The benefits of alternative fuels are initially larger in urban areas where pollutant emissions are of great concern and in freight transport where alternatives have reached a sufficient level of maturity. There **is no single fuel solution for the future of mobility and all main alternative fuel options must be pursued**, with a focus on the needs of each transport mode. A strategic approach for the Union to meet the long-term needs of all transport modes must therefore **build on a comprehensive mix of alternative fuels**.

# Third Question

Is it feasible to use electric vans and trucks for more than urban deliveries?

*YES or NO*



# Intro Fourth Question

- With Better Places Bankruptcy in May 2013, **numerous Battery Swap Stations, including 18 in Denmark are left un-used.** The Battery Swap Stations are all (technological ready) to be put in use again, but so far **no one has positioned themselves to overtake the management of the stations.** Many OEM's are now focusing on the fast charging technology instead, but also recognizes the benefits of the swapping technology.

# Fourth Question

Will there be a need for the battery swapping technology, or is the technology already overtaken by the fast charging technology?

***YES or NO***





# Info Fifth Question

- The increased demand for **effective flows of goods in growing urban areas is the result of urbanization, as well as the increased environmental focus from a political perspective.** Pick-up and delivery of goods in urban areas - city logistics, has a large impact on the economy, availability, life quality and attractiveness of a city. Information can be used as a mean to improve city logistics; **improved information systems can be a mean to reduce the range anxiety, trip time** and thereby release capacity in the system.



# Fifth Question

Can ICT make a difference for EVs in city logistics and e-commerce?

*YES or NO*

# For further information – Please contact

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