Fostering e-mobility solutions in urban areas in the Baltic Sea Region

Introducing the EU INTERREG VB project BSR electric

BSSSC Annual Conference 2020 - Strong and Inclusive Cooperation in the Baltic Sea Region Now More than Ever!

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Background

- **Urban areas** have to address the problems of congestion, noise, emissions of greenhouse gases, NOx and particulate matter to provide sustainable transport modes for increasing urban populations and increasing goods traffic within the next decades.

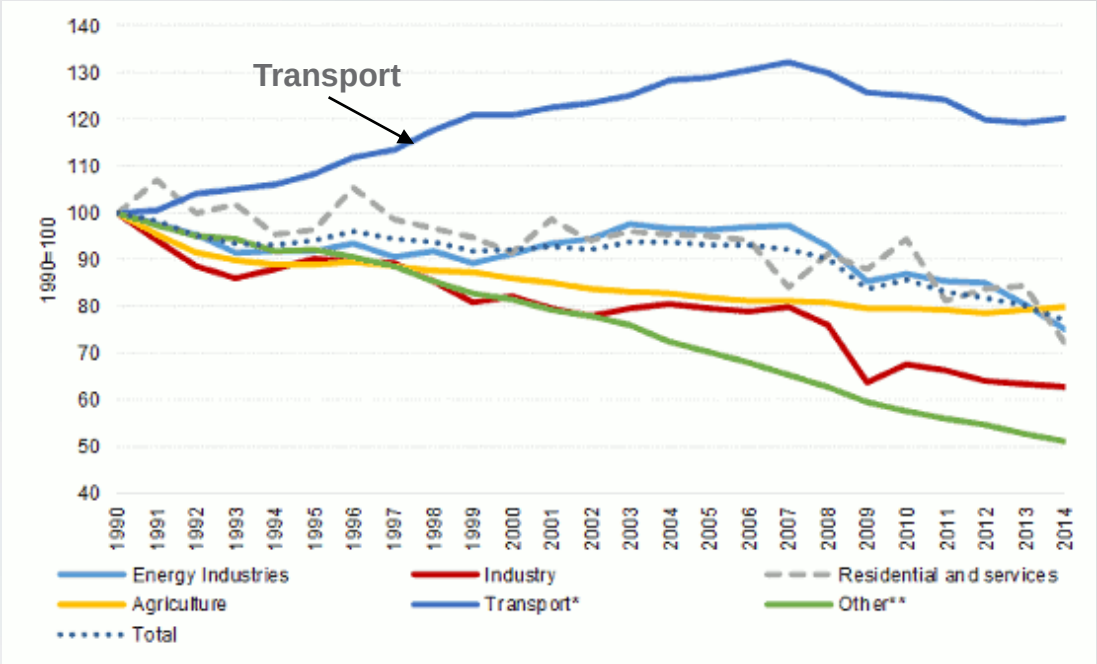
- Such a **challenging transition** within the given time frame requires a combination of comprehensive strategies, pilots and initiatives and joint collaboration on multiple levels and across sectors.

- This presentation offers a **case study of the Interreg-funded project BSR electric** that illustrates how the close interaction of European municipalities with further agents within their urban transport systems play a key role in achieving this transformation within the frame of the EU's low-emission strategy.

The challenge

- Transport represents **almost 1/4** of GHG emissions in the EU
- Within this sector, **road transport** is by far the biggest emitter, accounting for more than 70% of all GHG emissions from transport in 2014.

→ Main cause of air pollutions in cities!



Source: EEA 2014, https://ec.europa.eu/clima/policies/transport_en

Note: * Transport includes international aviation but excludes international maritime; ** Other include fugitive emissions from fuels, waste management and indirect CO2 emissions.

EU low-emission mobility strategy

- Adopted in July 2016
- Ensure Europe stays competitive and able to respond to the increasing mobility needs of people and goods
- Broad set of measures to support Europe's transition to a low-carbon economy
- Supports jobs, growth, investment and innovation

3 priority areas for action:

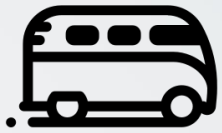
a) Increase the efficiency of the transport system
b) Speed up deployment of low-emission alternative energy
c) Move towards zero-emission vehicles

→ **Cities and local authorities** to play a **crucial role** in delivering this strategy (e.g. by incentivizing alternative solutions; encouraging active travel, public transport, bike and care sharing systems etc.)

What is BSR electric all about?

- INSPIRE: enhance utilization of e-mobility in urban transport
- SHOWCASE: piloting real-life use cases of new urban e-mobility
- CONTRIBUTE: support EU targets (reduction of transport sector emissions, climate-neutral urban transport by 2050)

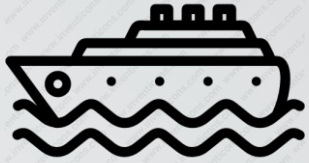
E-Logistics (last mile)



E-Buses (public service)

E-Bikes + Cargo E-Bikes

E-Scooters (public facilities)



E-Ferries (Commuters)

Key facts

INTERREG VB BSR

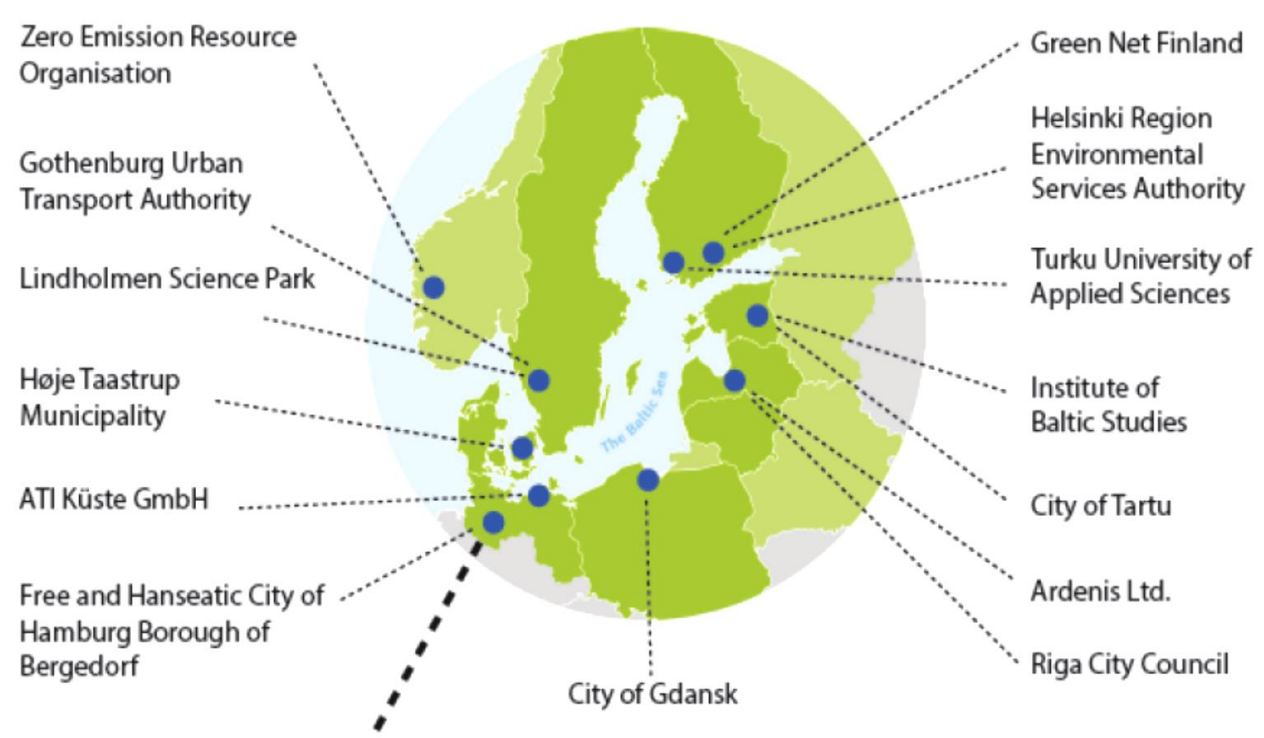
1/10-2017-30/9/2020

14 Partners, 8 countries

Budget: 3.831.591,40 €

ERDF: 2.792.973,57 €

Lead: HAW Hamburg

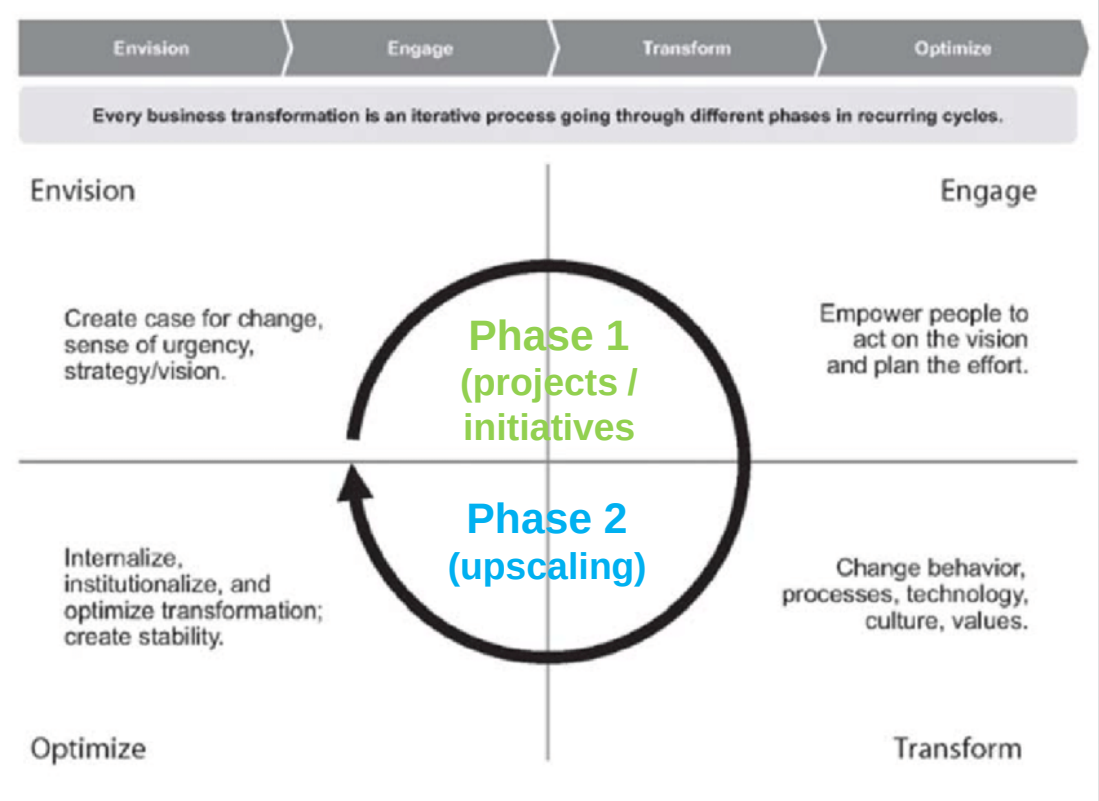


Consortium:

Universities
Research Institutes
Cities
NGOs

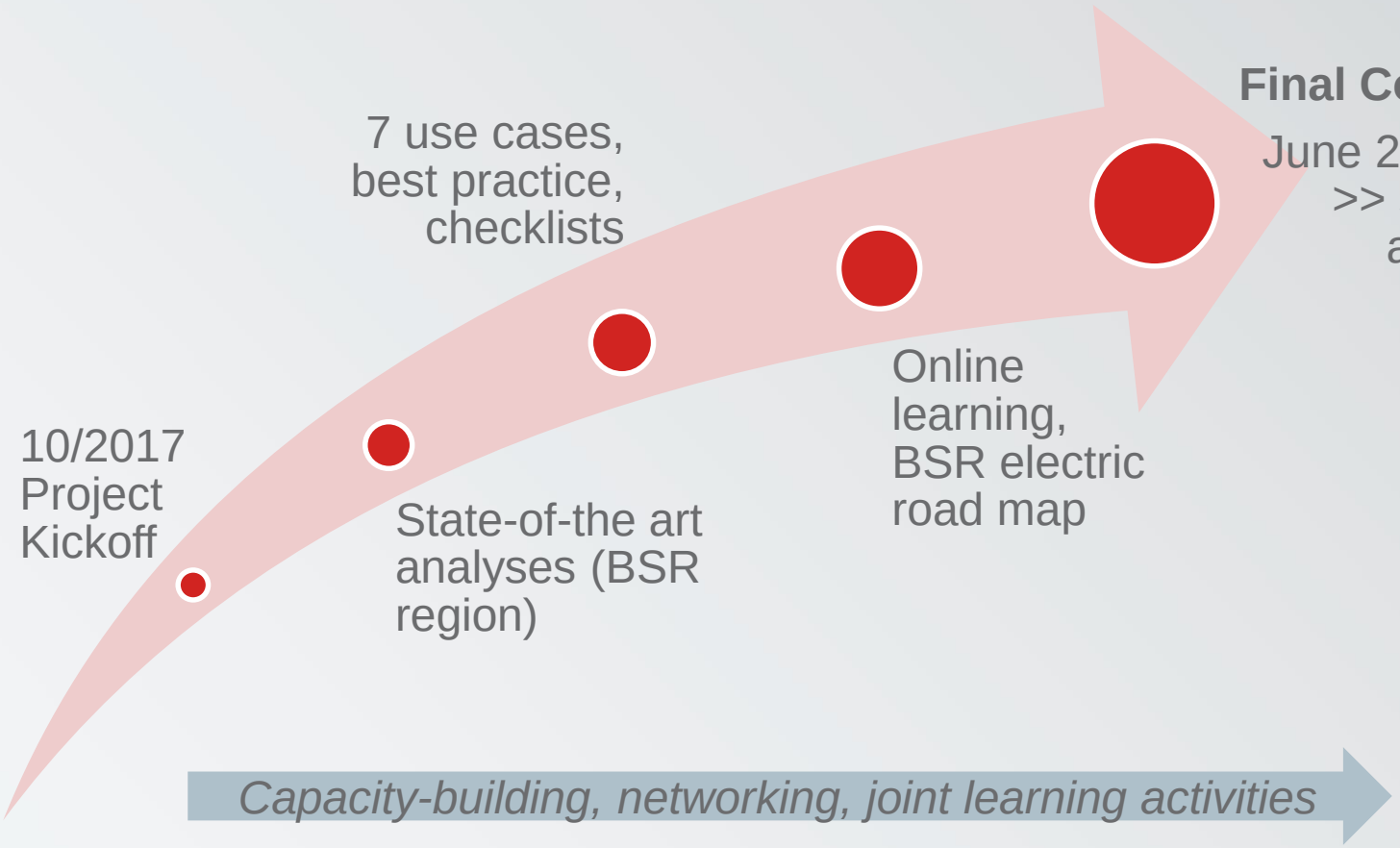
Triggering transformative change

- **Introducing** (sustainable) e-mobility solutions as a first step towards fundamental systemic change
- **Upscaling** linked with integrated, digital approaches (big data, KI) to outbalance demand and supply (energy).



Source: adapted from Llewellyn 2018, Business Transformation Management Methodology; amended by author

What we'll deliver in the BSR electric project



Do we really need a (2nd) car?

- FIN: ~ 500.000 families (many in Helsinki metropolitan region) owning two cars, second car often >10 years old

- Idea: Inspiring families to substitute use of 2nd cars in family households through e-bikes

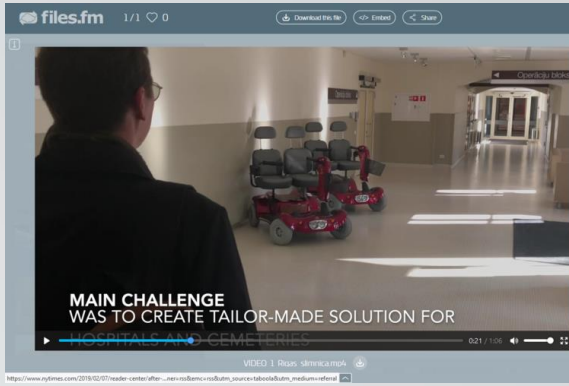
- Campaigns to inform families, housing companies; testing e-bikes and substitute second cars with bikes

Why can't we make delivery cleaner and less noisy?

- Air+noise pollution in cities linked to inner city freight transport (diesel vans)
- Idea: Real-life tests of zero-emission/ low noise last mile freight transport from suburban transport centre to CPH inner city, but lack of suitable vans and small trucks in market challenging
- Use case paves road for the creation of a new and sustainable business models for e-mobility city logistics (integrated model involving OEMs, charging infrastructure providers)

Wouldn’t your Grandma want to drive electric, too?

- Decrease social exclusion of senior and disabled residents, allow increased access to various 'restricted' environments



- Idea: Using e-scooters *by municipalities* to improve mobility for people with impaired mobility

- E-scooter pilots implemented at the largest municipal hospital in the City of Riga ->unique experience in facilitating patient movement on hospital grounds

Key results: BSR Roadmap I

Interactive map with contextual information on 7 use cases
https://bsr-electric.eu/results

Urban Logistics – Creating a winning circle in urban freight

Through municipal coordination and networking, the Municipality of Høje Taastrup (DK) tackled the chicken and egg problem and incentivized urban transport actors to feed-in e-mobility solutions into existing businesses.

Partners:

Høje-Taastrup Kommune

USE CASE DETAILS

WP4.4: BSR Roadmap II

Augmented Reality App

Access
Augmented Reality App

Weblink

WP4.4: Online learning module

What is it all about?

- Developed for **decision and policy makers** in public authorities as well as urban transport actors within the BSR region (and beyond) who are **faced with the task to implement sustainable urban mobility solutions in their cities**.

For whom:

- Those who are working with sustainable mobility will find helpful proven practices.
- Also, decision-makers of tomorrow, i.e. master students in related studies, find relevant information and knowledge, for example, as input for master theses or further research.

→ Visit www.dl4sd.org

Zooming into use case 3:
Implementation of e-buses in public transport

Hamburg:

- Setting up data acquisition system to enable performance analyses
- Dissemination of the findings and lessons learned
- Political decision to transform public bus fleet

Key user needs: Reliability, Punctuality (survey 2020)

Main impacts on range/reliability/puctuality:

- Ambient temperature (heating & cooling)
- Route characteristics (traffic, slope)
- Driving efficiency

Picture by Arjun Jamil (CC-BY-SA)

➔Data driven approach to e-bus operations essential for phase 2 (upscaling)

Conclusions

- The transport of goods and passengers within urban environments remains a major contributor to the emission of greenhouse gases (GHG) but also to noise, pollution and road congestion.
- The BSR electric project contributes to the overall transformation of transport systems by shedding a light on a set of urban mobility solutions.
- Some sustainable mobility technologies, e.g. e-bus operations or e-bikes, have already reached an upscaling phase whereas others are still driven forward by project-based initiatives, have to prove feasibility and/or practicability and win public acceptance.
- Such a challenging transition within the given time frame requires a combination of various initiatives at multiple levels, ideally involving all stakeholders and sectors along the value chain.

Join Us!

- Connect with professionals in the field and become part of the BSR electric community!

- www.bsr-electric.eu
- linkedin.com/groups/13561920/
- #@BSR_electric