Electric Infrastructure for Goods Transport

- Concept analysis before demonstration
Why ELinGO?

• Norwegian road freight transport expected to increase with 65% towards 2050
  — Institute of Transport Economics: Forecasts for Norwegian freight transport – NTP 2018-2029

• All means of transport need to become climate friendly
  — Gunnar Lindberg, Managing Director, Institute of Transport Economics

• The infrastructure requirement for new low-carbon transport fuels is poorly understood
  — IPCC, Fifth Assessment Report
Broad concept analysis

- Technology
- Economy
- Environment

Road map for large-scale implementation – foundation for a demonstration project

Foto: Knut Opeide
1. Project Management

/SINTEF Building and Infrastructure
ELinGO – work packages

2. Technology Development / Sintef Energy Research

I. Technical evaluation of different technologies – pantograph, rail, induction

II. Assessment of energy storage requirements in vehicles and need for bidirectional transfer

III. Development of technical concept – small scale prototype

IV. Effective construction methods


O. Olsson, “Project Report, Phase 1: Slide-in Electric Road System – Conductive project report,” Viktoria Swedish ICT, April 2014
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3. System development / SINTEF Technology and Society

1. Development of a power system model
2. Calculating electricity requirements for charging infrastructure
3. Calculating vehicle battery requirements
Blue circle: With direct charging up two tunnels (totally 18 km) the required battery capacity can be reduced by up to 50%
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4. Economy and Society /Norwegian Public Roads Administration

I. Analysis of investment, operation and maintenance costs for electrification of E39
II. Life cycle analysis (LCA)
III. Economic analysis
IV. Analysis of roles, responsibilities, barriers and opportunities
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5. Roadmap for implementation and industrialisation /Miles Ahead

I. Identifying value chains/networks
II. Business potential for actors
III. Identifying barriers to realisation
IV. Development of Triple Helix cooperation
V. Planning pilots and demonstrations
A triple helix project (research, industry, public)
Thank you for your attention!
See you again at our final conference (probably June 2018)

www.elingo.no

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