Smart freight TranspOrt and logistics Research Methodologies

Results

Project Information

STORM

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Project website

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10.3030/101006700

Project closed

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1 January 2021

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31 August 2023

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€ 1 530 141,25

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€ 1 530 141,25

Coordinated by
TEKNOLOGIAN TUTKIMUSKESKUS VTT OY
Finland

CORDIS provides links to public deliverables and publications of HORIZON projects.

Links to deliverables and publications from FP7 projects, as well as links to some specific result types such as dataset and software, are dynamically retrieved from OpenAIRE.

Deliverables

Documents, reports (10)

Decision support and intervention assessment framework for EU policy to support digitalisation and GHG emissions reduction in the EU logistics industry

The deliverable will propose a highlevel policy assessment framework to accelerate the development of new collaborative organisations the physical internet in logistics and to analyse measures to accelerate the development and diffusion of low carbon technologies and transport systems The deliverable is an outcome of task 43

Assessment of new needs and knowledge/analysis gaps, defining requirements fo analysis methods and data

This deliverable presents the outcomes of tasks 21 and 22 This will include the identification of new analysis and assessment needs for freight transport and logistics Current freight transportlogistics assessment methods and models will be reviewed

Proposals for integrated strategic assessment methods and models

The deliverable will propose developments to current strategic assessment tools and elaborate developments for new strategic assessment tools based on the outcomes of WP2 The deliverable presents the results of task 42

Analysis framework for decision-support/assessment and intervention tools at the operational level

The deliverable presents a methodology to apply new synthesised data for heavyduty freight vehicle movements in the optimization of a charging infrastructure network for heavy duty vehicles in Europe The deliverable is the result of task 41 building on the outcomes of WP2 and WP3

Status report on the review of new data sources and methods, and a tailored mode PDMP

A comprehensive review of sources and new methods for collecting and using new data for improving the understanding of freight operation and build policy tools

Recommendations and takeaways for freight transport planners and business organizations

The deliverable will provide recommendations for planners and business by summarizing the takeaways from the project for this particular stakeholder group The outcomes of WP2345 will be used as a basis for this deliverable

Define requirements for data and advanced analysis methods

Knowledge gaps in current analysis methods and policy assessment will be identified and based on the knowledge gaps case studies will be defined

Report on Innovative City Logistics mitigating the noise, pollution and CO2 emissions

The deliverable presents the outcomes of the use case studied in task 52 Means to improve city logistics and last mile services in a chosen city is presented and

the transferability to other existing cities is discussed

Recommendations and takeaways for freight transport research community and policy makers

The deliverable will present recommendations for further research required in order to fill in the knowledge gaps that have been identified The deliverable will also address existing policies and possible amendments needed to meet the future needs

Well tested and robust analytical tools and insights for optimal placement and roll out of charging infrastructure for heavy-duty trucks for a supply chain or retail customer

The deliverable presents the outcomes of the use case study in task 51 analysing means to reduce the emissions of the freight sector in Europe A working model and solid PDMP laying out the guidelines and experience working collaboratively with partners dealing with sensitive customer information

Websites, patent fillings, videos etc. (3)

Toolbox of Exploitable results for different user groups

The deliverable will provide a toolbox of exploitable results obtained during the project that can be used by identified target groups

STORM Project website, flyer and stakeholder database

This deliverable includes a stakeholders database the project visual identity a website and a flyer These will be formed during the first phase of the project In addition a social media strategy will be formed for communication via LinkedIn Twitter and possibly other channels

Communicate the project outcomes to prospective policy makers and wide public information

The deliverable will aim to contribute to possible policies by communicating and disseminating relevant project results with stakeholders involved in the EU and national transport policy development These include regulators administrators and policy makers

Other (1)

An open-access platform that publishes the developed new methods and tools

The deliverable presents data fusion techniques for creating “synthesized” data such as origin-destination matrixes and freight activity data that can be used as

input to models and tools developed in WP4. The deliverable is the outcome of task 3.3.

Demonstrators, pilots, prototypes (1)

Demonstration of analysis tools for EU policy to support digitalisation and GHG emissions reduction in the EU logistics industry

The deliverable will present the outcomes of the use case in task 53 This deliverable will demonstrate a method to address policy issues in freight transport at an aggregated level Two policy questions will be addressed related to the adoption of digital technologies and large scale emission reductions

Publications

Peer reviewed articles (9)

A Review of Big Data in Road Freight Transport Modeling–Gaps and Potentials

Author(s): Wasim Shoman, Sonia Yeh, Frances Sprei, Jonathan Köhler, Patrick Plötz, Yancho Todorov, Seppo Rantala, Daniel Speth
Published in: Journal of Big Data Analytics in Transportation, 2022, ISSN 2523-3556
Publisher: Springer Nature
DOI: 10.2139/ssrn.4156400

Where to Charge Electric Trucks in Europe—Modelling a Charging Infrastructure Network

Author(s): Daniel Speth,Verena Sauter and Patrick Plötz
Published in: World Electric Vehicle Journal, 2022, ISSN 2032-6653
Publisher: MDPI
DOI: 10.3390/wevj13090162

Depot slow charging is sufficient for most electric trucks in Germany

Author(s): Patrick, Plötz; Daniel Speth
Published in: Transportation Research Part D: Transport and Environment, 2024, ISSN 1879-2340
Publisher: Elsvier
DOI: 10.1016/j.trd.2024.104078

Greenhouse gas emission budgets and policies for zero-Carbon road transport in Europe

Author(s): Patrick Plötz; Jakob Wachsmuth; Frances Sprei; Till Gnann; Daniel Speth; Felix Neuner; Steffen Link
Published in: Climate Policy, Issue 23, 2023, ISSN 1469-3062
Publisher: Elsevier BV
DOI: 10.1080/14693062.2023.2185585

Hydrogen technology is unlikely to play a major role in sustainable road transport
Author(s): Patrick Plötz
Published in: Nature Electronics, Issue 5, 2022, Page(s) 8-10, ISSN 2520-1131
Publisher: Springer Nature
DOI: 10.1038/s41928-021-00706-6

Virtual piloting of vehicle fleets to accelerate the green transition in logistics
Author(s): Yancho Todorov, Petr Hajduk, Tomas Horak, Katarina Pithartova, Seppo Rantala, Mehrnaz Farzam Far
Published in: Transportation Planning and Technology, 2024, Page(s) 1-26, ISSN 0308-1060
Publisher: Taylor & Francis
DOI: 10.1080/03081060.2024.2381010

Synthetic European road freight transport flow data
Author(s): Daniel Speth, Verena Sautera, Patrick Plötz, Tim Signer
Published in: Data in Brief, 2022, ISSN 2352-3409
Publisher: Elsevier BV
DOI: 10.1016/j.dib.2021.107786

Battery electric long-haul trucks in Europe: Public charging, energy, and power requirements
Author(s): Wasim Shoman, Sonia Yeh, Frances Sprei, Patrick Plötz, Daniel Speth
Published in: Transportation Research Part D: Transport and Environment, Issue 121, 2023, ISSN 1879-2340
Publisher: Elsvier
DOI: 10.1016/j.trd.2023.103825

Rapidly declining costs of truck batteries and fuel cells enable large-scale road freight electrification
Author(s): Steffen Link, Annegret Stephan, Daniel Speth, Patrick Plötz
Published in: Nature Energy, 2024, ISSN 2058-7546
Publisher: Nature Energy
DOI: 10.1038/s41560-024-01531-9

Conference proceedings (2)

How to Assess the Impact of Blockchain on Decarbonization in Urban Logistics?
Author(s): Mehdi Jahangir Samet; Jonathan Köhler; Tomas Horak
Published in: Issue Smart City Symposium Prague 2023, 2023, ISBN 979-8-3503-2162-3
Publisher: IEEE
DOI: 10.1109/scsp58044.2023.10146112

Transformation in freight transport: New analysis requirements and potential modelling approaches
Author(s): Jonathan Kohler, Clemens Brauer
Published in: Transportation Research Procedia, Issue 72, 2023, Page(s) 4420-4427
Publisher: Elsvier
DOI: 10.1016/j.trpro.2023.11.303

Other (1)

Public charging requirements for battery electric long-haul trucks in Europe: a trip chain approach
Author(s): Wasim Shoman, Sonia Yeh, Frances Sprei, Patrick Plötz, Daniel Speth
Published in: Working Paper Sustainability and Innovation, Issue S 01/2023, 2023, Page(s) 3-30
Publisher: Fraunhofer ISI
DOI: 10.24406/publica-694

Datasets

Datasets via OpenAIRE (2)

Synthetic European road freight transport flow data based on ETISplus
Author(s): Daniel Speth
Published in: Mendeley

Public charging requirements for battery electric long-haul trucks in Europe: a trip chain approach

Author(s): Wasim Shoman; Sonia Yeh; Frances Sprei; Patrick Plötz; Daniel Speth
Published in: Zenodo

Other Research Products

Other Research Products via OpenAire (1)

Public charging requirements for battery electric long-haul trucks in Europe: A trip chain approach

Author(s): Shoman, Wasim; Yeh, Sonia; Sprei, Frances; Plötz, Patrick; Speth, Daniel
Published in: Fraunhofer ISI

Last update: 29 April 2024

Permalink: https://cordis.europa.eu/project/id/101006700/results