ReMuNet

Pioneering resilient and adaptive multimodal transport networks

ReMuNet: Resilient Multimodal Freight Transport Network

PARTNERS

RWTH Aachen University · HANKEN SCHOOL OF ECONOMICS · PTV GROUP · 4PL Intermodal · MANSIO truck meets truck · Fraunhofer AUSTRIA · HAFEN WIEN ein unternehmen der wienholding · WHITE

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Particularly in recent years supply chains have been extremely disrupted across Europe

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2018 — 2020 — 2020 — 2022 — 20XX

European Union: Change in the value o
2017 to 2022, in % compared to the previc

Economic damage of Rastatt incident more than 2 billion Euros

Published on 22-04-2018 at 08:00

PwC's analysis of the latest deve
alliances in the transport and log

RailFreight.com

MARKETS

The ship that blocked th
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EDITORS' PICK

New China Lockdowns And Ukraine Conflict Bring Another Wave Of Supply Chain Issues

German transport sector fears increased driver shortage due to war in Ukraine

You can read this article in 2 minutes

trans.iNFO

Dwell times and fuel rates increase due to Russia sanctions

OCEANSIDE LOGISTICS LTD

The current war that has been unleashed on Ukraine by Russia has caused massive disruptions to trade. Since 17th February, transhipment dwell times in European ports has increased by 43% according to data from FourKites.

Food Supplies at Risk as Russia Wrecks Ukraine's Grain Exports Again Forbes

nge Impact Areas
ain

ncreased Weather
es)
Services
mers
vailability

gartner.com

Gartner

[1] Values before 2019 refer to the EU28
Sources: RailFreight.com, eurostat, PWC, CNBC, The Guardian, Forbes, Bloomberg, Trans.INFO, Oceanside Logistics, Gartner

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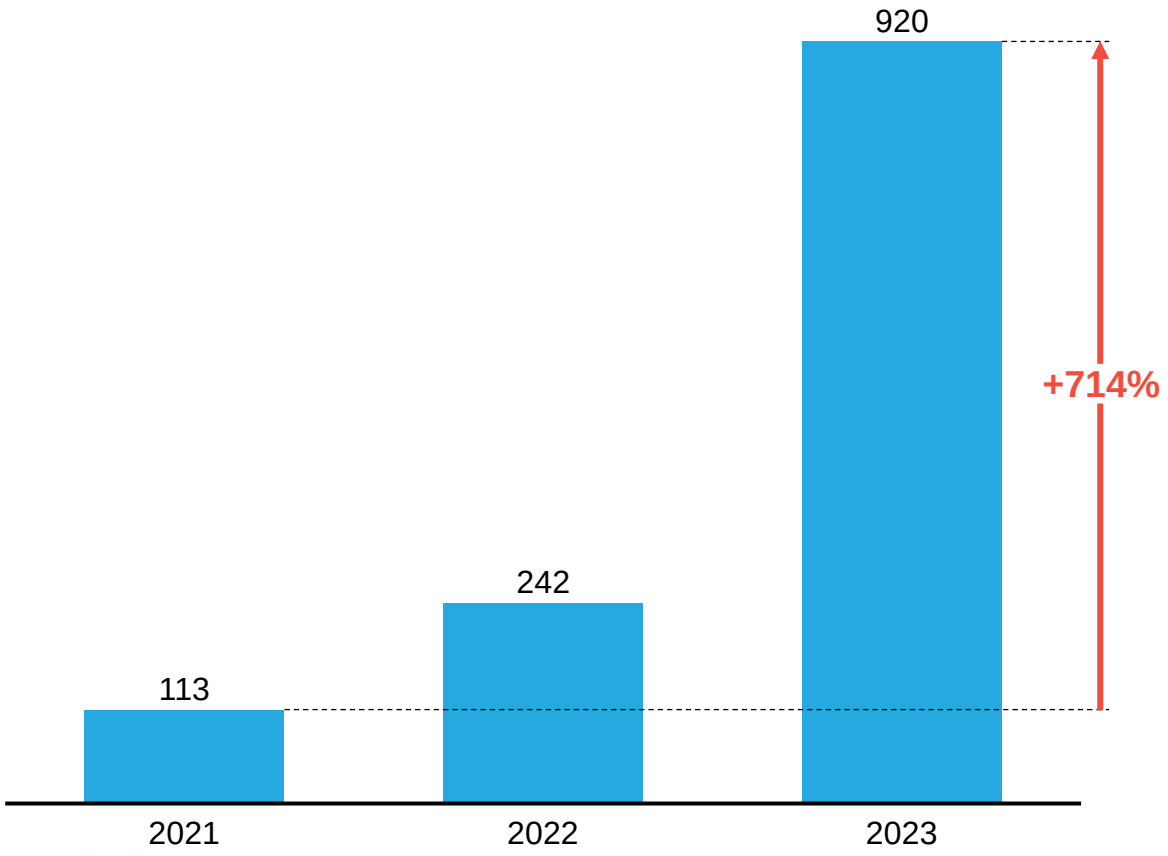
The economic losses due to supply chain disruptions are high

Economic losses due to supply chain disruptions in the eurozone, € billions[1]



Global Supply Chains in a Post-Pandemic World

Harvard Business Review

Companies need to make their networks more resilient. Here's how. by Willy C. Shih

more resilient also means...

- …more **efficient**
- …and more **sustainable**
- Reduce transport time
- Reduce emissions
- Increase reaction speed and planning reliability
- Promoting intermodality
- Reduce unplanned downtimes
- Support e-mobility

[1] 2023 scenario for a protracted war in Ukraine
Sources: Accenture, Harvard Business Review

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In the ReMuNet research project, 23 international partners are working over 3 years to increase the resilience and sustainability of European freight transport

Intermodal and **international**

Funding amount
4 mn. €

Duration
07.2023-07.2026

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Road

Rail

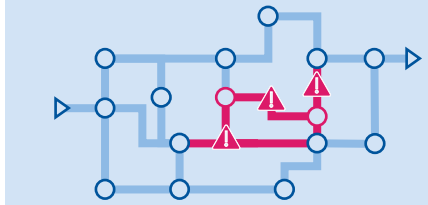
Barge

Transport Time

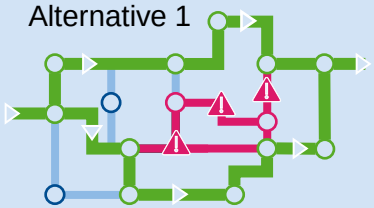
Resilience

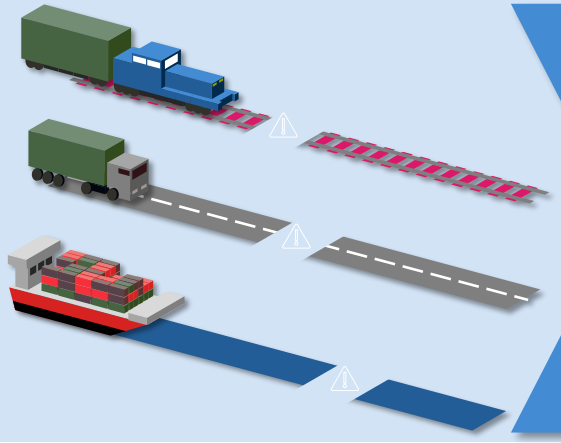
Cost

Emissions



Identification of **alternative routes**





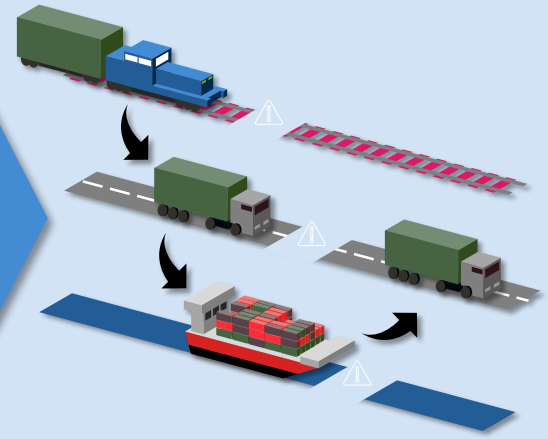
Real-time data

Intelligent planning

Collaborative platform

Local actors

Capacity distribution



fir at RWTH Aachen University

WHITE

MANSIO truck meets truck

CONTARGO® trimodal network

VDV Die Verkehrsunternehmen

INTERMODAL COMPETENCE SGKV

FMI

RØDE KORS

4FLOW Your supply chain solution

Fraunhofer AUSTRIA

HANKEN

4PL Intermodal

PTV GROUP

UIRR

vedia

UNION INTERNATIONALE POUR LE TRANSPORT COMBINE RAIL-ROUTE

INFORM

SCHACHINGER LOGISTIK

HAFEN WIEN ein unternehmen der wienholding

CargoBeamer®

Kouvola Innovation

alice Alliance for Logistics Innovation through Collaboration in Europe

TRANSPOREON transforming transportation

Huoltovarmuuskeskus
Försörjningsberedskapscentralen
National Emergency Supply Agency

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ReMuNet pursues a multi-stage approach to increase the resilience of multimodal freight transport

Understanding
of multimodal transport networks and description of the effects of disruptive events

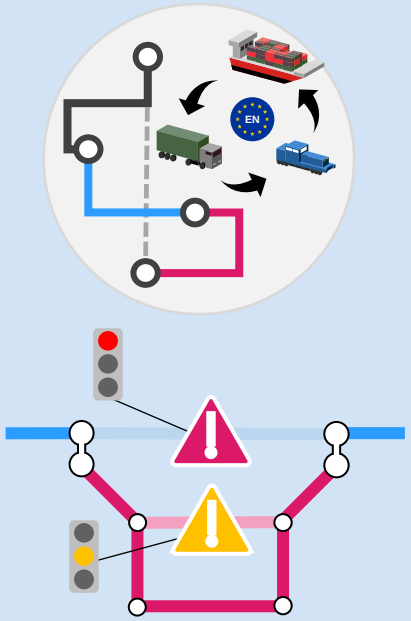
Calculation
of multimodal transport route options against the background of disruptive events

Empowerment
for collaborative synchromodal freight transport

Piloting and improvement
system-optimising transport and route allocation

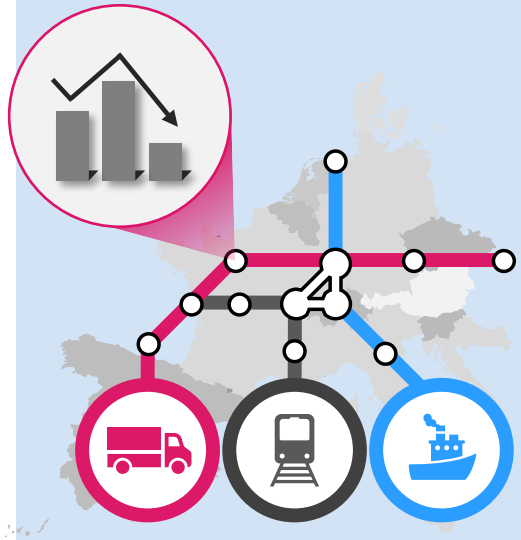
European transport networks

WP 1
- ReMuNet ontology
- Typology of disruptive events



Reference model

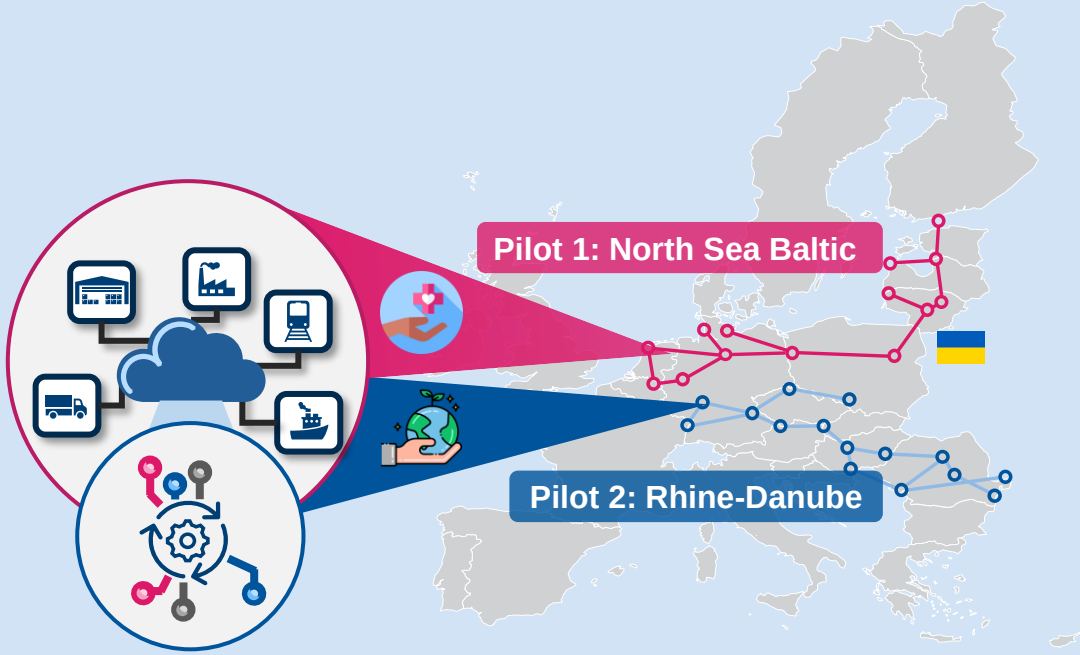
WP 2
- Replication of the infra-structure and its utilisation
- Route planning algorithm



Industrial application

WP 3
WP 4
- Collaborative platform
- Self-learning algorithm

WP 5
WP 6
- P1: Social use case
- P2: Ecological use case



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www.remunet-project.eu

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