

HOW TO BRING ELECTRIFIED, TEMPERATURE-CONTROLLED, INTERMODAL LOGISTICS IN PRACTICE

H.ESSERS x ZEFES x ALICE WEBINAR

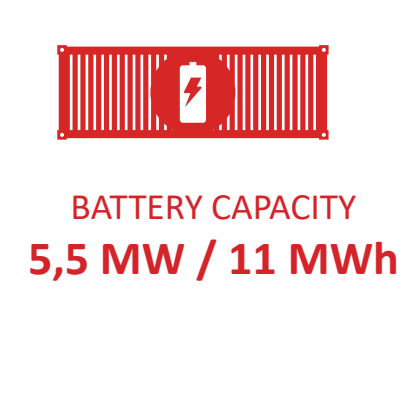
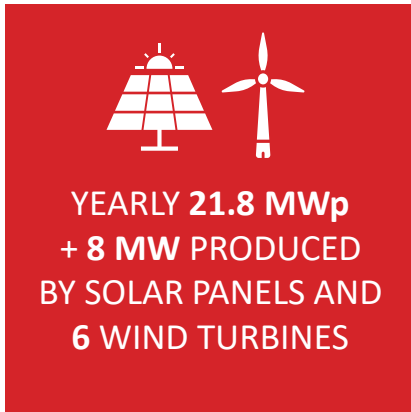
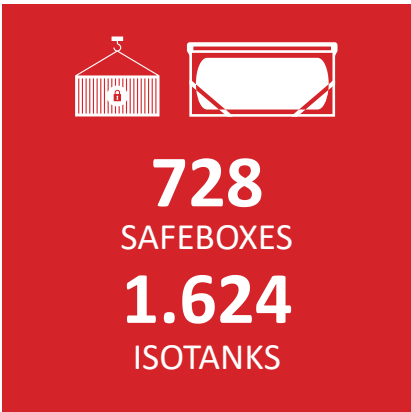
Piotr Wilczkowiak

09/09/2026

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CORPORATE FIGURES





RELIABILITY



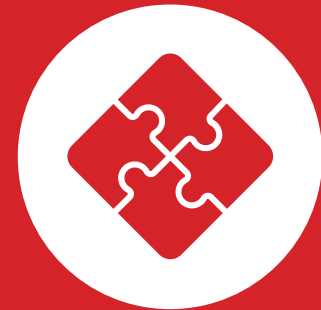
CARING



ENTREPRENEURSHIP



POSITIVISM



SIMPLICITY



”

**SAFETY HAS OUR HIGHEST PRIORITY.
WE BELIEVE H.ESSERS CAN BE AN INCIDENT-FREE
COMPANY, AND WE WILL DO EVERYTHING IN
OUR MEANS TO ACHIEVE THIS GOAL.**

Gert Bervoets
CEO

Hilde Essers
Chairman of
the Board

HEALTH AND SAFETY POLICY

In our continuous pursuit of creating and improving a safe and healthy work environment to prevent personal injury and property damage, we are committed to:



Provide our employees with correct and necessary training, instructions and work equipment so that they can work in a safe manner and understand their responsibilities in relation to well-being



Comply with legal requirements related to wellbeing at work



Set ourselves goals in our pursuit of continuous improvement, which we measure, track and communicate



Make health and safety part of operational and policy decisions

All our employees, partners, and customers each contribute at their level and within their responsibilities to achieving our objectives.



QUALITY

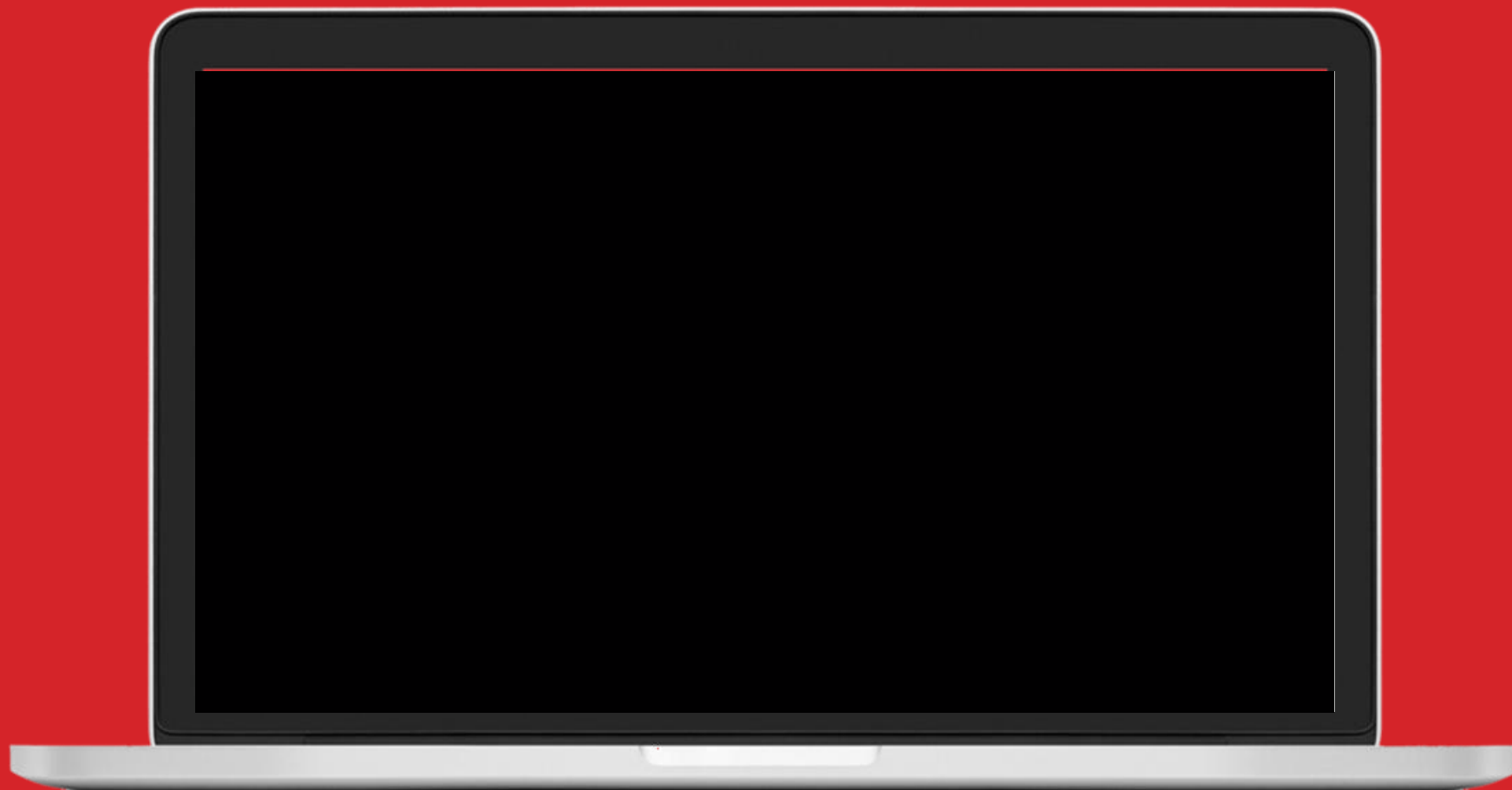
SAFEGUARDING EACH LINK IN YOUR SUPPLY CHAIN



Warehousing following SEVESO regulations	Distribution
ISO 9001 SQAS GDP compliant	ISO 9001 SQAS GDP compliant
BREEAM SQAS ISO 14001	SQAS
SQAS GMP (feed) ACS 17/22 BRC IFS CERTI BIO HALAL/KOSHER	SQAS GDP ACS17
SQAS OHSAS 18001	SQAS ISO 39001 OHSAS 18001
TAPA FSR a/b AEO Known Consigner	TAPA TSR (1) Regulated agent

THE FUTURE IS SYNCHROMODAL





SYNCHROMODAL NETWORK H.ESSERS

RAILPORT GENK

52.000 m²

600m long rail



4 rails



60.000 units/year



High secured
GDP compliant

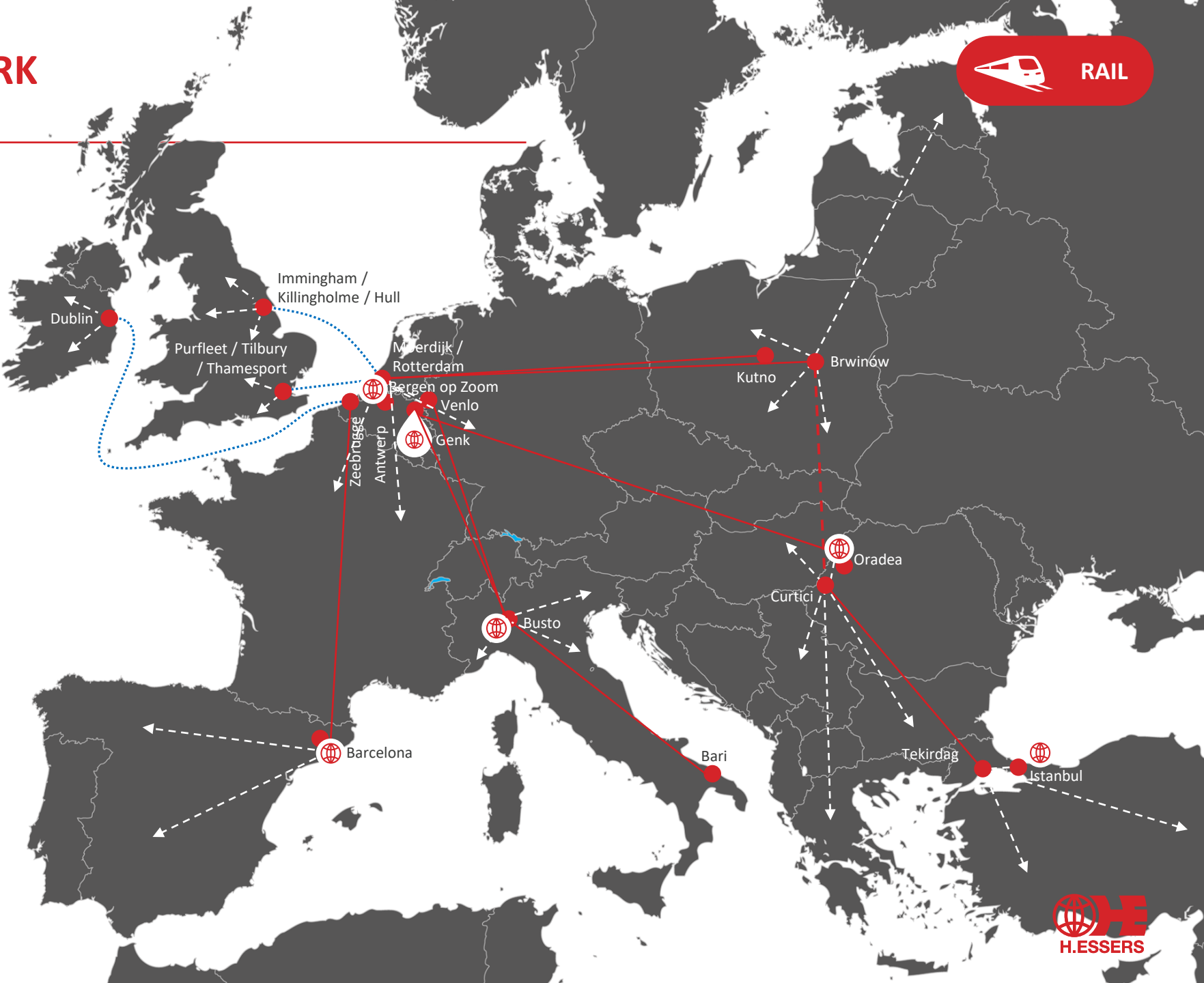
SYNCHROMODAL NETWORK

EUROPE



EUROPE

- HE Headquarters
- HE Crossdock
- Rail network
- Short sea network
- Road
- Intermodal hubs



SYNCHROMODAL NETWORK

ASIA

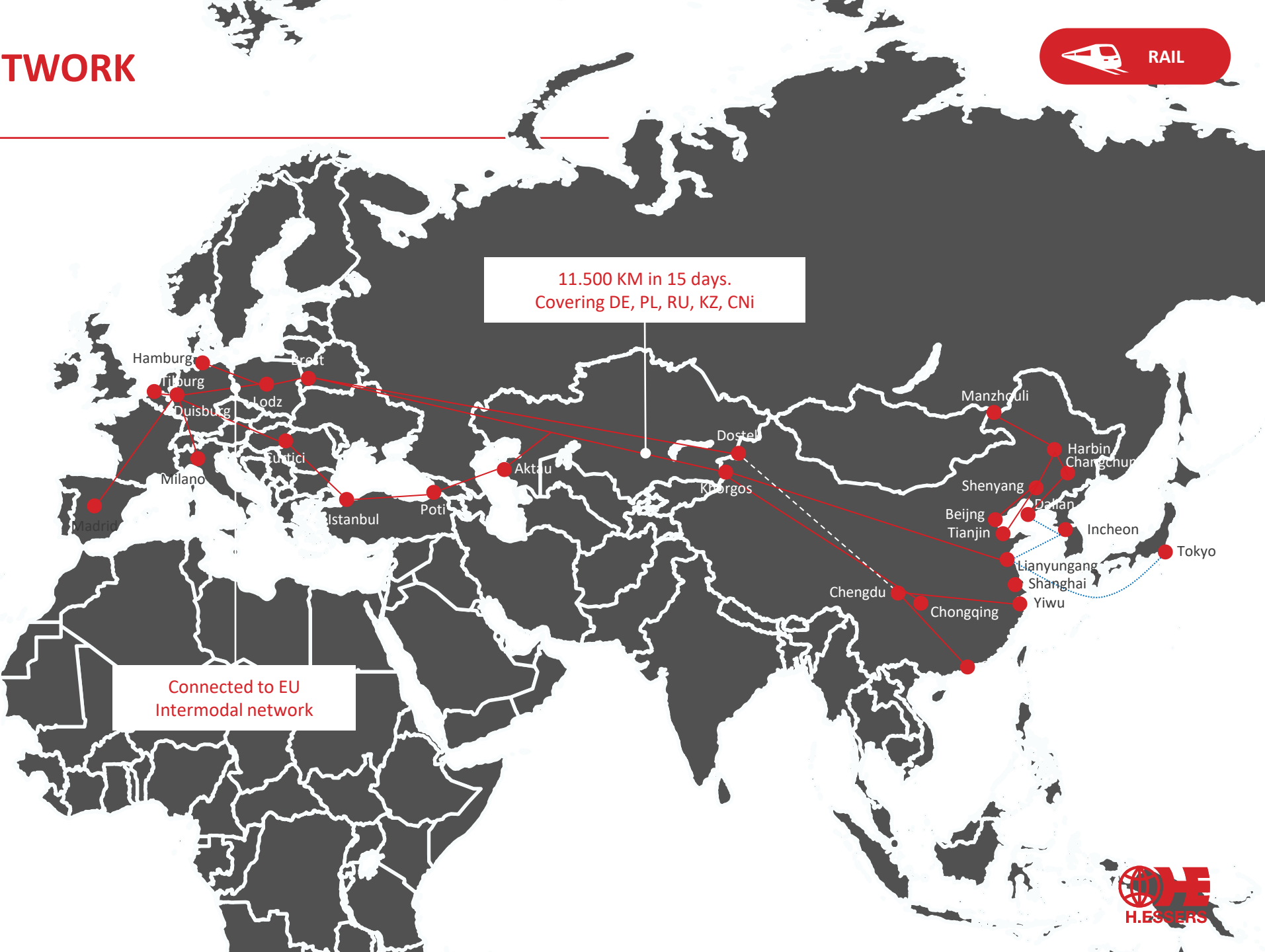


Rail Network

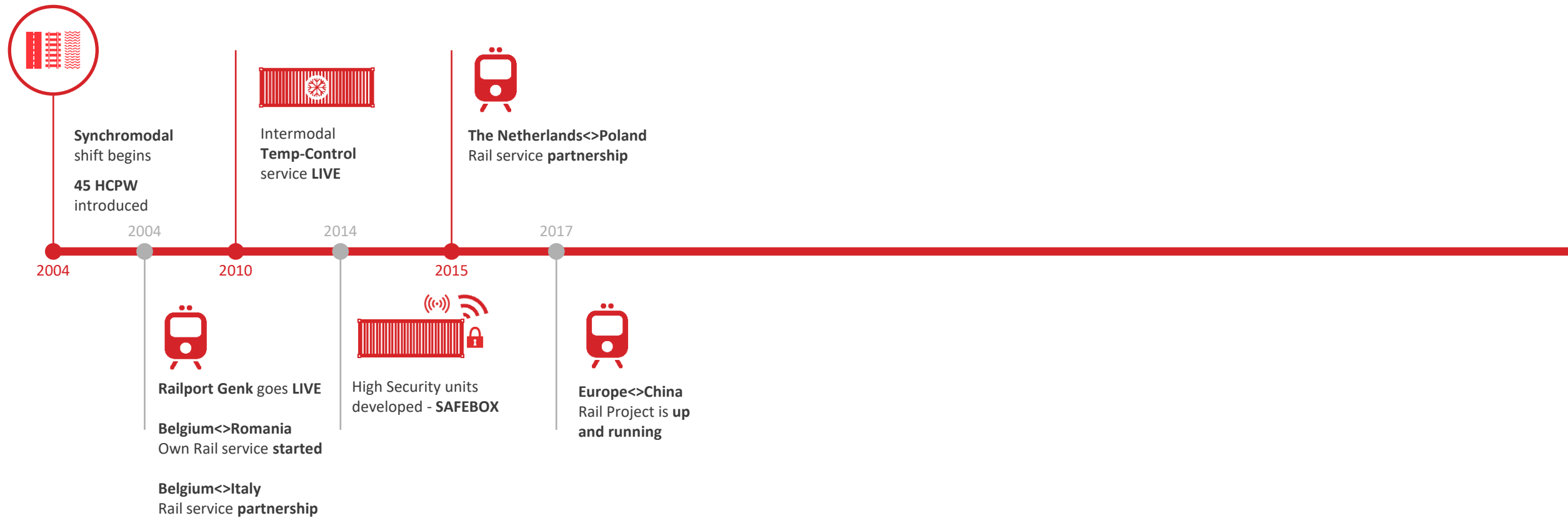
Shortsea Network

Road Network

Intermodal Hubs



SYNCHROMODAL TIMELINE



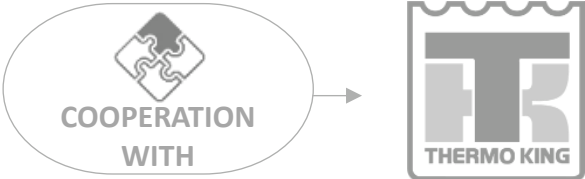
THE COOLBOX

UNIQUE EQUIPMENT
FOR EVERYDAY USE



COOLBOX

FROM IDEA TO PLACING ON A RAIL CAR

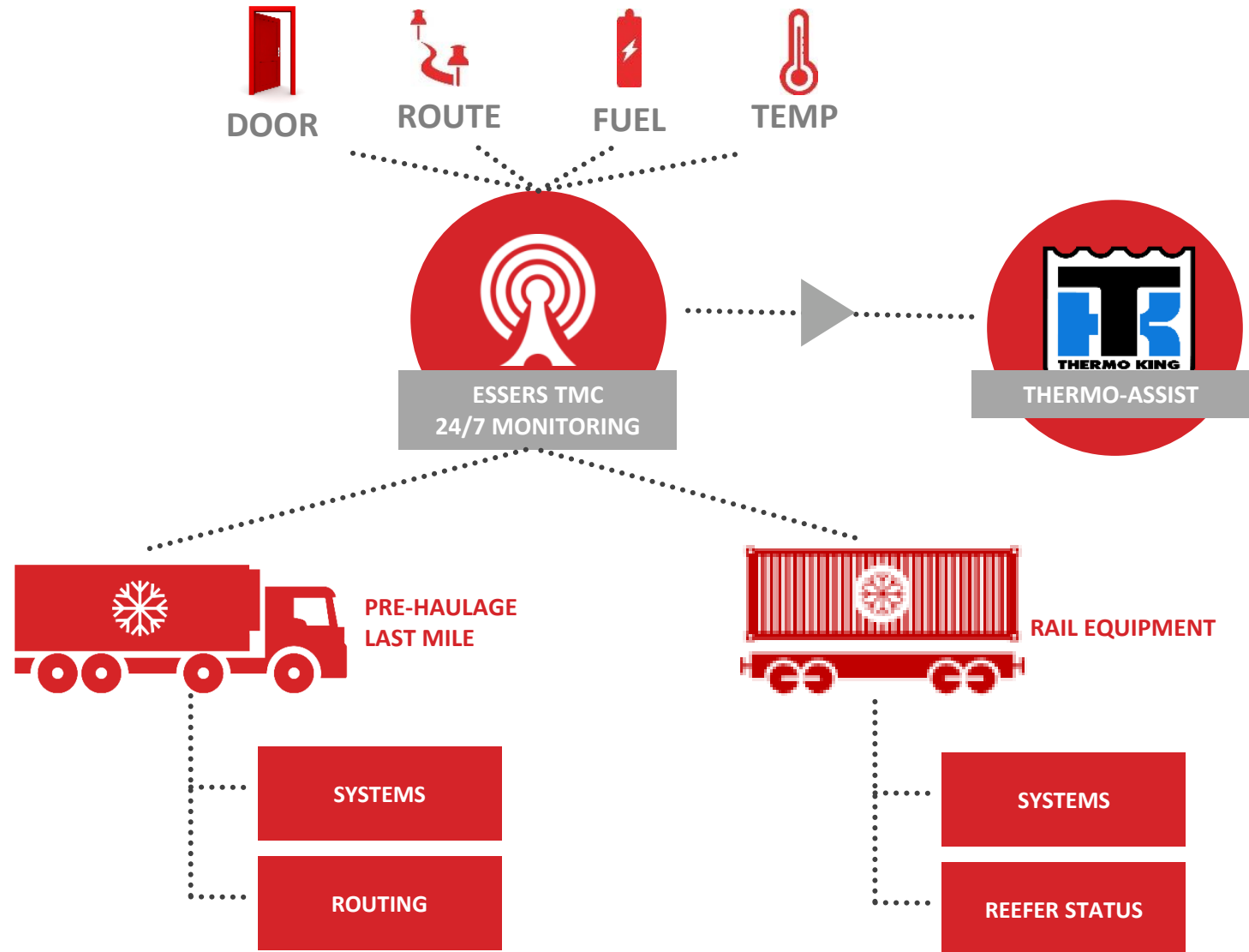


 SUMMARY	 Adaptation of the H.Essers Safe Box concept for temperature-controlled transport	 Requested by HC, FF customers that require stable temperatures throughout synchro-modal transport	
 BENEFITS	 Controlled T° for synchro modal transport; Isolated to stand outside T° between -40° C and +40° C	 Telematics for follow-up, control and remote configuration and control	 Built according to the highest safety standards (TAPA/TSR1)
 STATUS	 1 st prototypes being built in China with newest Thermo king cooling unit	 Solution being pitched at customers, receiving positive feedback	 Already 200 units in use and coming
 NEXT STEPS	Tests with 1 st prototypes from end of 2020 onwards	Powered by newest ThermoKing Diesel - electric GenSets	



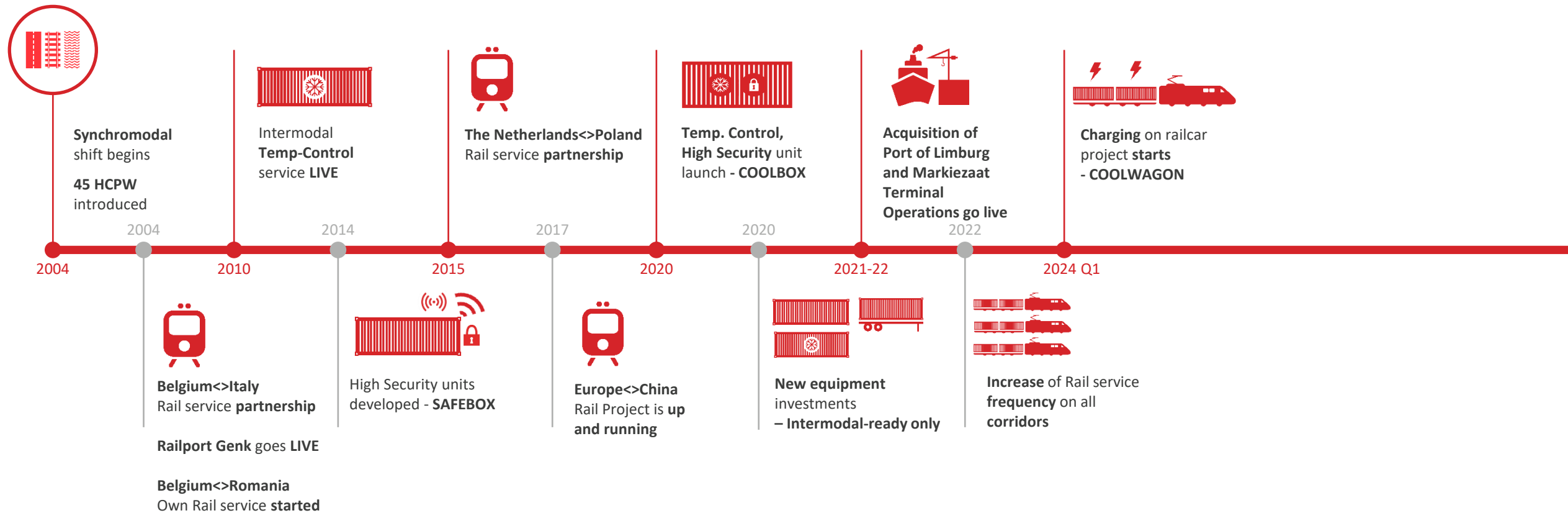
E-RAIL EUROPE AND CHINA

MONITORING





SYNCHROMODAL TIMELINE



TEMPERATURE-CONTROLLED RAIL SOLUTION - COOLWAGON

WHAT IS THE COOLWAGON? ELECTRIFIED INTERMODAL TEMPERATURE CONTROLLED RAIL SOLUTION?



Innovative rail solution for transporting reefer (temperature-controlled) containers



Sustainable alternative to road transport



Enables **temperature-controlled transport** by rail to **be decarbonized**

HOW DOES IT WORK?



Hydraulic unit mounted on the wagon axle



Hydraulic pump drives a **380V generator**



Battery pack integrated underneath the wagon



Wheel **rotation** generates **energy**



Generator supplies **power** to the container **refrigeration** units



Automatic switching:

- Electric when sufficient power is available
- Diesel back-up when capacity is insufficient

POWERING ON RAIL

WAY OF WORKING



GENERATIE

POWER GENERATION THROUGH THE KINETIC ENERGY OF THE WAGON



Dynamo



Our "dynamo" is a **hydraulic axle generator**



Hydraulic pump on the wheel



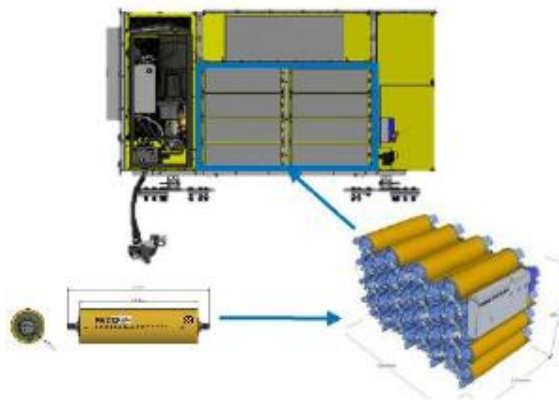
STORE

RECHARGEABLE BATTERY STORAGE AS A BUFFER DURING TRANSPORT

- The recuperation power starts from 4.5 kW (30 km/h) and goes up to 18 kW (120 km/h).
- Battery capacity à 10 kWh from 20 to 80 kWh.



Converted existing kinetic energy can now be **stored**



SUPPLY

THE SWS-POWERBOX® SUPPLIES THE COOLING UNITS OR TANK CONTAINERS WITH ENERGY

The SWS-PowerBox® is a **climate-neutral** and **rechargeable energy storage system**.



TEMPERATURE-CONTROLLED RAIL SOLUTION - COOLWAGON

TESTING Q3 2024 ON BE-RO CONNECTION, PROBLEMS WITH CONNECTION AND LENGTH



Topbox limited accessibility:

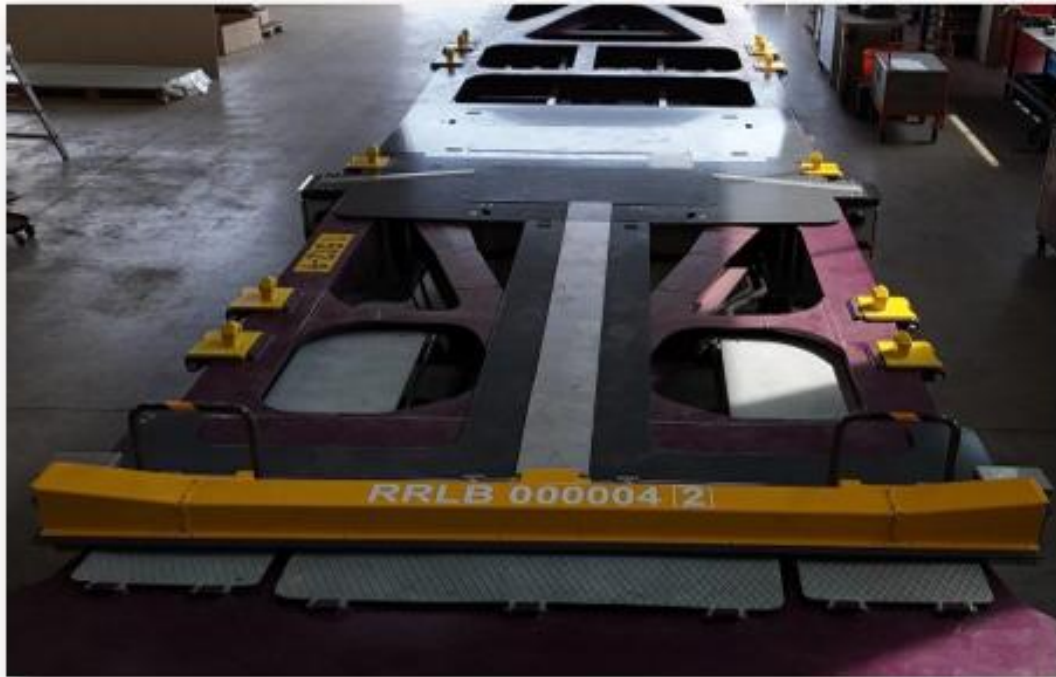
- Not accessible in the middle of the wagon;
- Connections are more challenging, less safe;
- Restricted access limits operational efficiency.



The topbox on the wagon is exposed to damage, particularly when using 45 HCPW RF units

TEMPERATURE-CONTROLLED RAIL SOLUTION - COOLWAGON

TESTING Q1 2025 ON BE-RO CONNECTION, BUILT-IN POWERBOX



The underfloor model integrates the entire power system within the frame, reducing the risk of damage compared to the topbox design almost to zero.

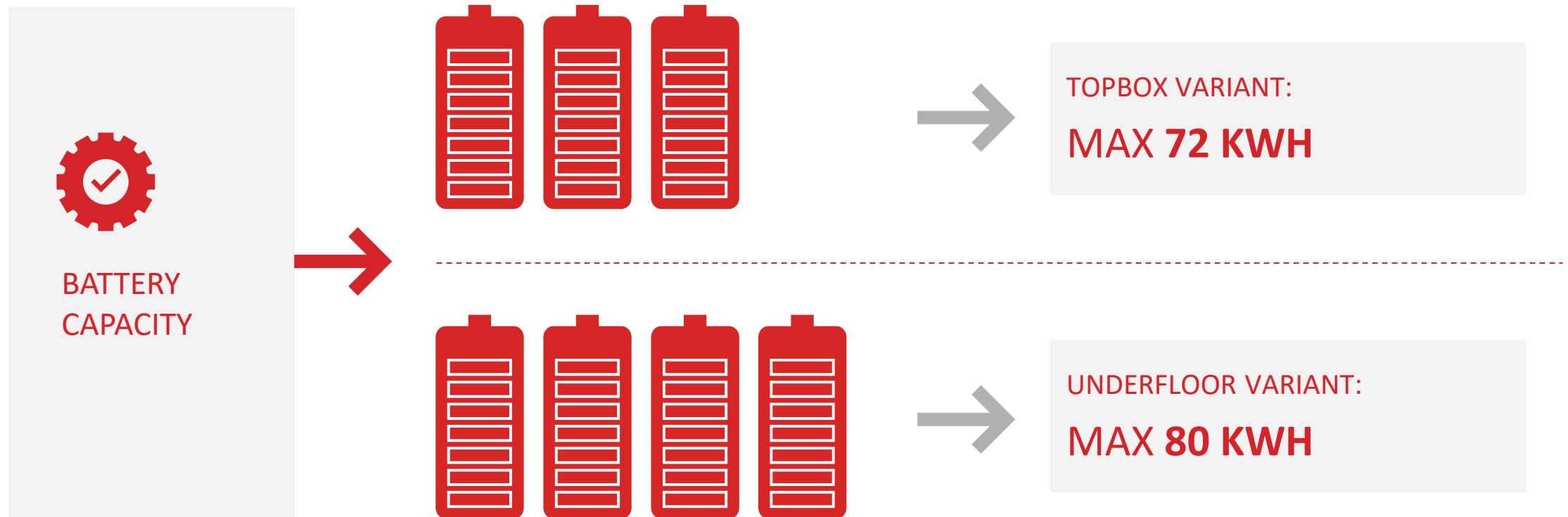


Underfloor accessibility

- Easy and safe access in the middle;
- Quicker, safer connections;
- Streamlined daily operations;
- Convenient design for equipment handling.

TEMPERATURE-CONTROLLED RAIL SOLUTION - COOLWAGON

FROM TOPBOX TO BUILT-IN BATTERY





WHAT'S IN IT FOR YOU?

COLD CHAIN CONTINUITY



Built on H.Essers' expertise in
Healthcare, Pharma,
Chemicals and Food&Feed
logistics



No risk of temperature
deviations



Cold chain remains guaranteed,
even at variable train speeds



Dual-energy system guarantees
continuity:

- Primarily electrically powered
- Automatic switch to diesel when power is insufficient





KEY BENEFITS



Sustainable alternative to road transport



Reliable solution for temperature-sensitive cargo



Automatic back-up system
(electric ↔ diesel)



Guaranteed operation of refrigeration units, even on non-electrified rail lines



Intermodal transport without compromising quality or safety



Partial solution to the driver shortage



Suitable for long-distance routes (e.g. Romania, Italy, Poland)



SO WHAT ARE THE REASONS TO USE IT?

Innovative rail solution for transporting reefer (temperature-controlled) containers



LET'S SUMMARIZE



Built on H.Essers' expertise with different commodities



Cold chain remains guaranteed, even at variable train speeds



Dual-energy system guarantees continuity:

- Primarily electrically powered
- Automatic switch to diesel when power is insufficient
- Enhanced safety during standstill



No risk of temperature deviations



Sustainable alternative to road transport



Automatic back-up system (electric ↔ diesel)



Reliable solution for temperature-sensitive cargo



Suitable for long-distance routes (e.g. Romania, Italy)



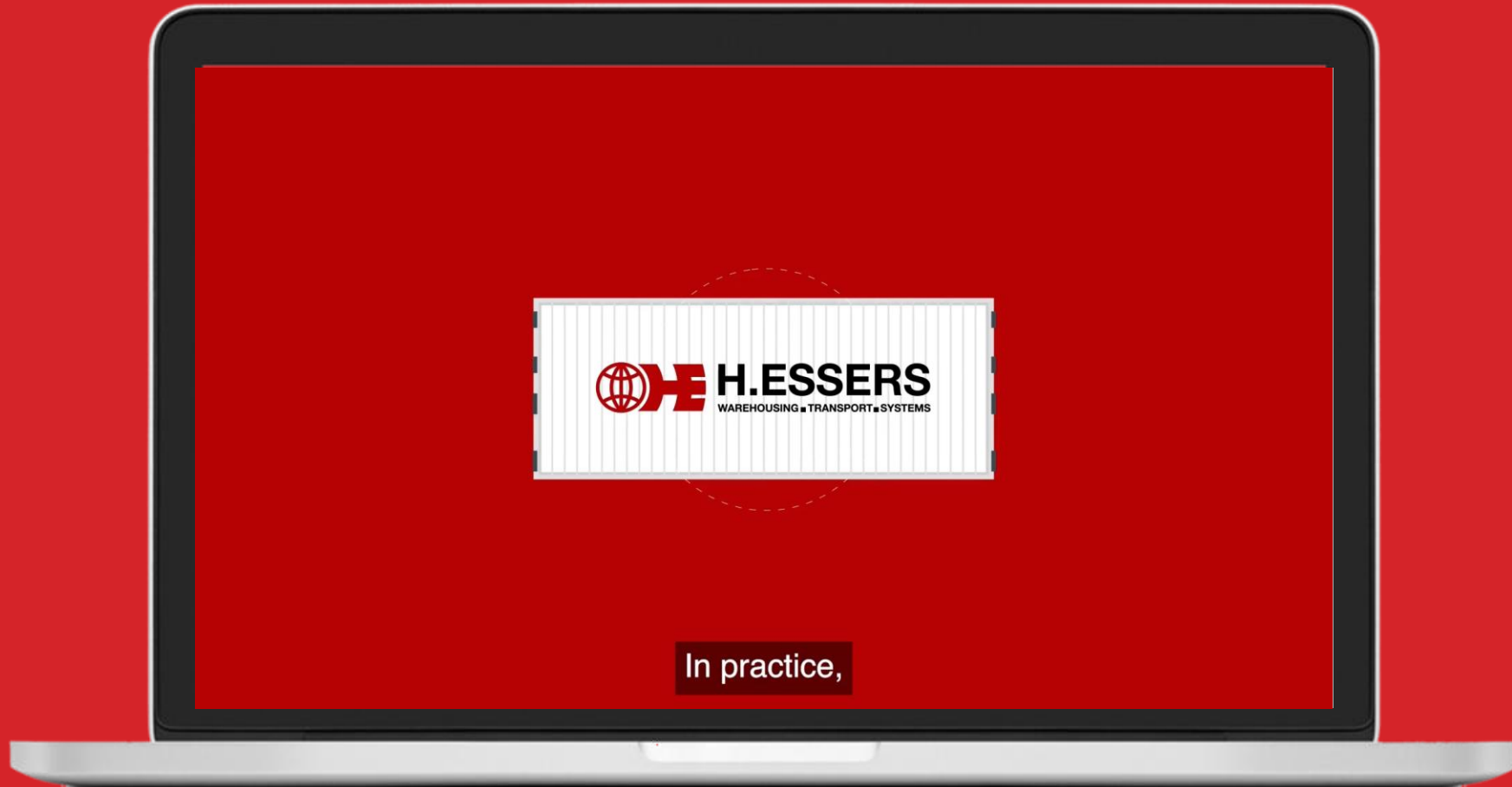
Guaranteed operation of refrigeration units, even on non-electrified rail lines



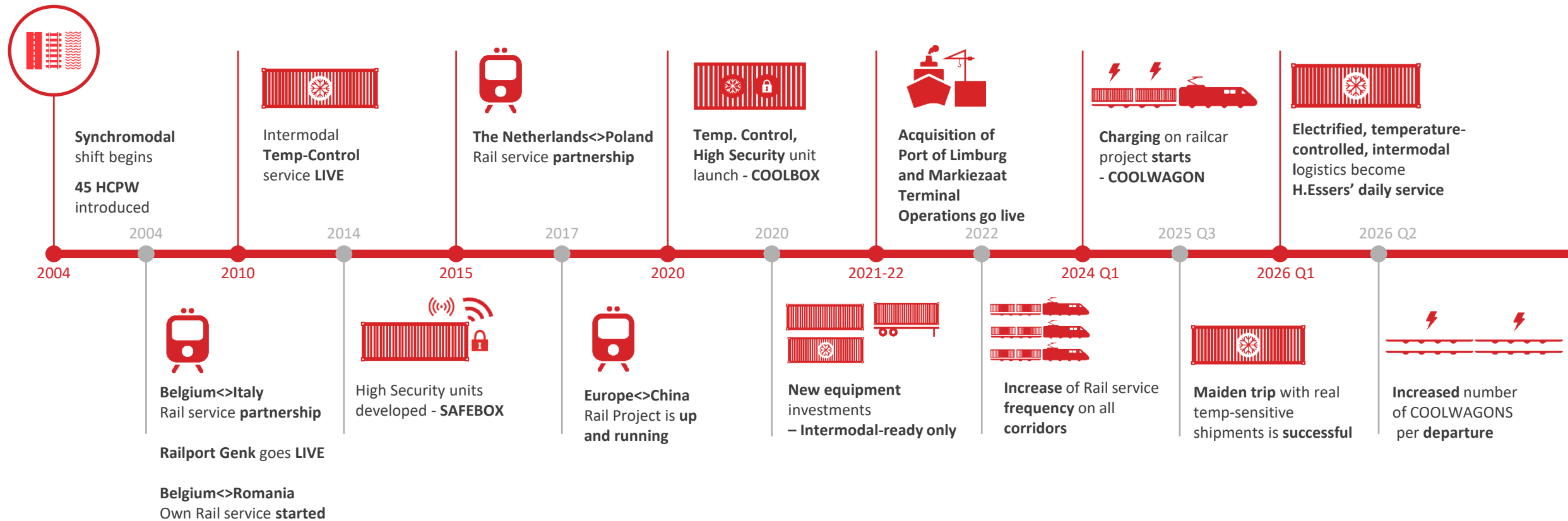
Intermodal transport without compromising quality or safety



Partial **solution to the driver shortage**



SYNCHROMODAL TIMELINE



A large white wind turbine stands on the left side of the frame, its blades extending towards the top left. In the center, a modern multi-story office building with a dark facade and many windows is visible. The H. Essers logo is mounted on the building's facade. The background is a clear blue sky with some light clouds.

GROWING TOWARDS A **SUSTAINABLE FUTURE** TOGETHER

It's not about a sustainability strategy,
but rather about a sustainable strategy.



A SUSTAINABLE STRATEGY WITH MEASURABLE TARGETS



REDUCING THE H.ESSERS CO₂ EMISSIONS

REDUCE CO₂ EMISSIONS
INTENSITY ANNUALLY WITH
5%



PROVIDING A GREAT PLACE TO WORK BECOME A 'GREAT PLACE TO WORK'



WORKING ON SAFETY AS A TOP PRIORITY IMPROVE FREQUENCY RATE OF WORK ACCIDENTS ANNUALLY WITH 10%



THINKING AND WORKING WITH CUSTOMER FOCUS IMPROVE THE NPS SCORE WITH 20% BY 2030



MAINTAINING INTEGRITY OBTAIN A **SILVER ECOVADIS** SUSTAINABILITY RATING

REFERENCES





IT'S TRANSPossible.