



Global E-Mobility Solutions – Accelerating EV Industry in Thailand (ASEAN meets Europe: The Eastern Economic Corridor of Thailand)

Mr. Tomasz Mazur, CEO
Siemens Mobility Thailand

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Carbon Neutral Mobility

Ground set by Governmental Policy

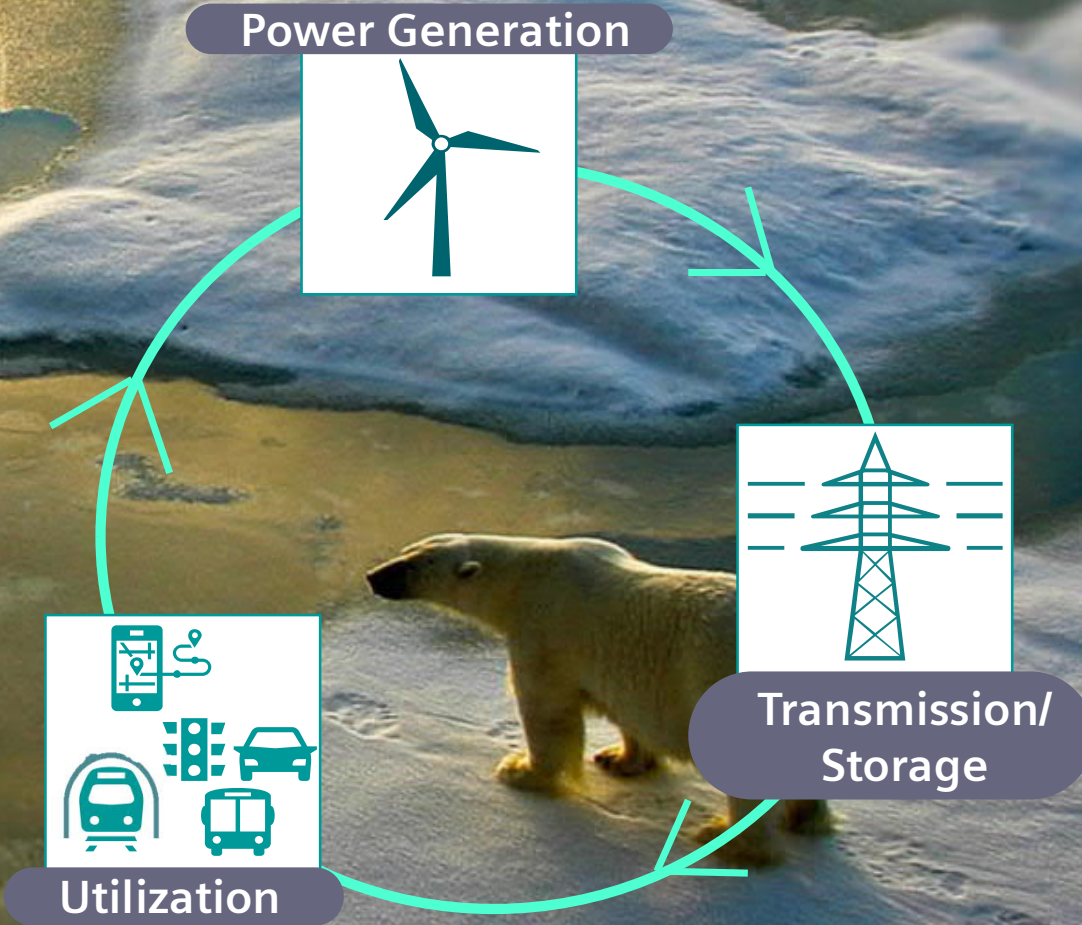
Holistic Concept of Sustainable Mobility

Megatrends that are
changing our world

Climate change

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Source: Earth System Research Laboratory

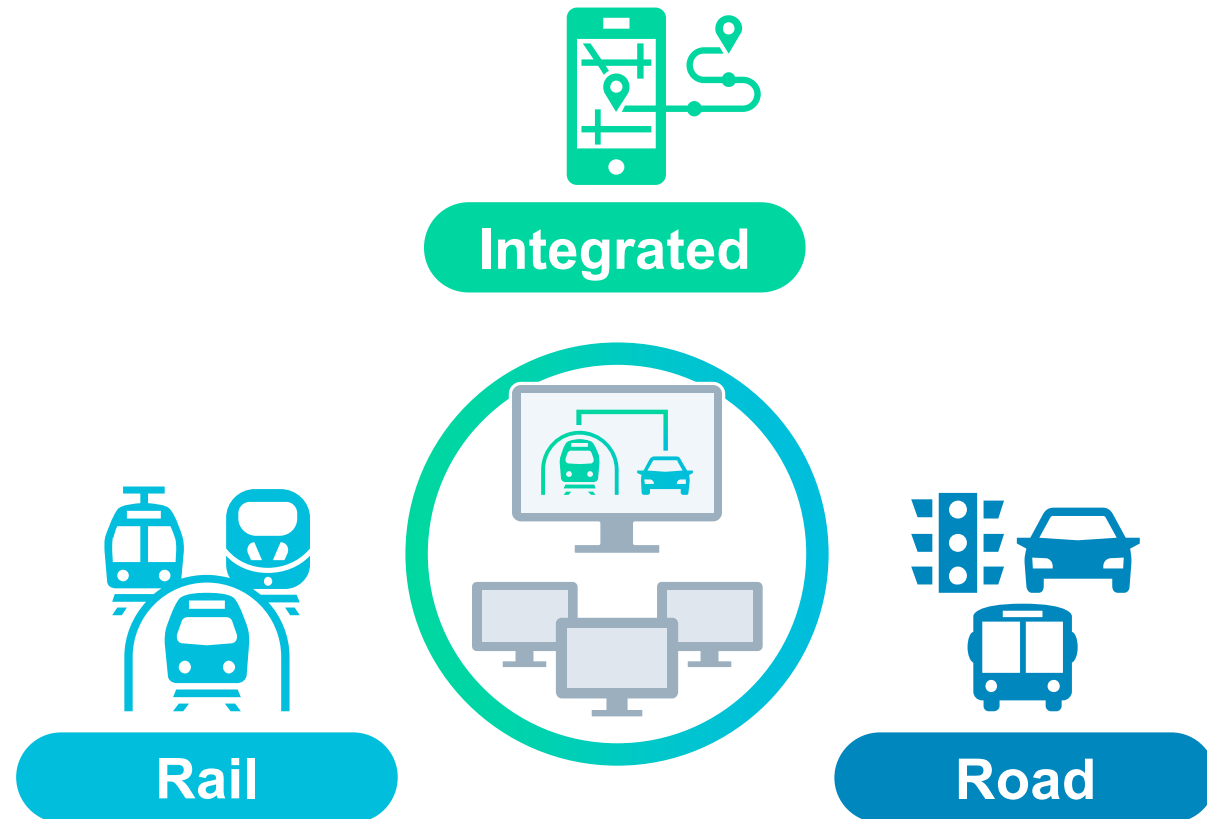


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We are a leading provider of rail and road solutions

New Mobility Operating System

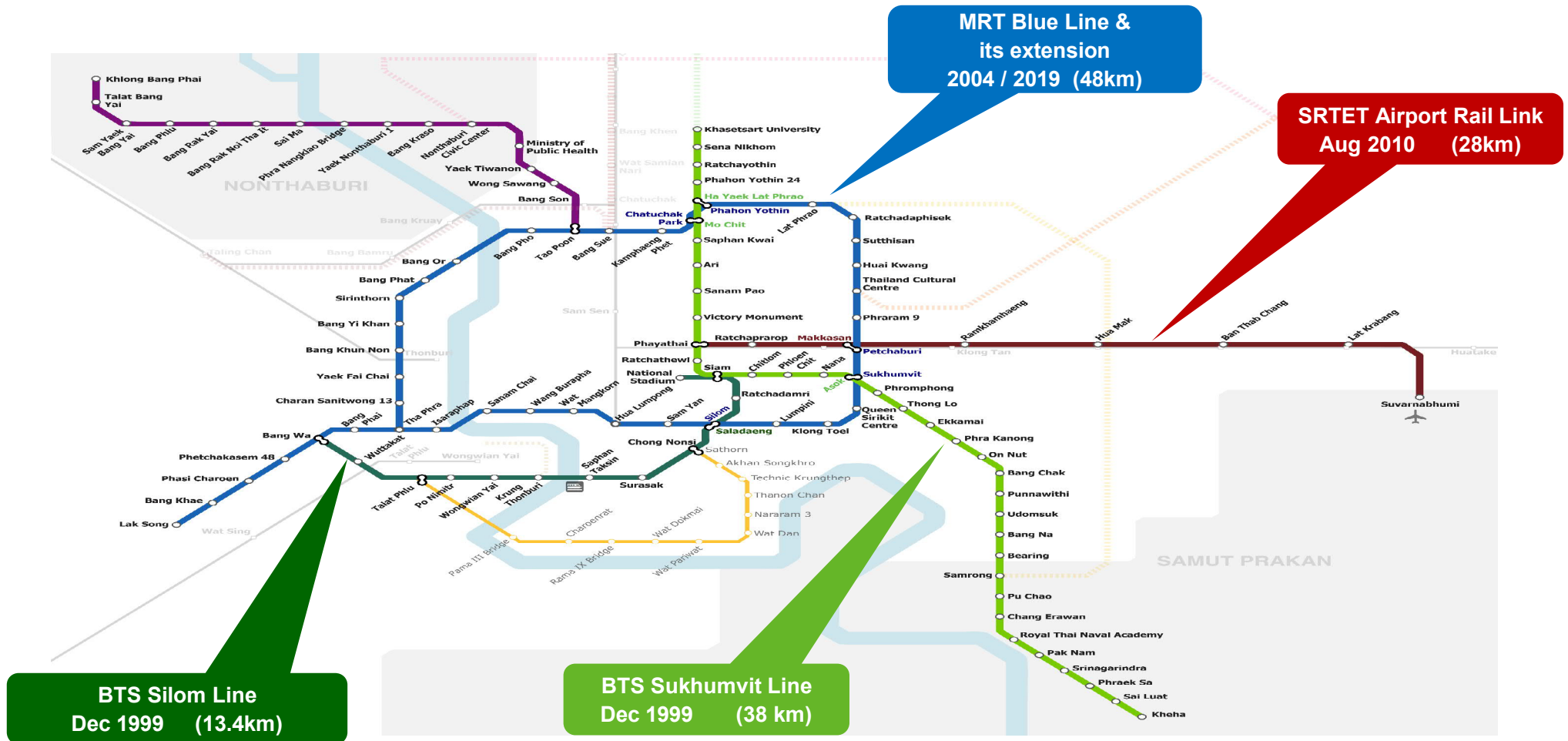
- Seamless
- Digital
- Interconnected



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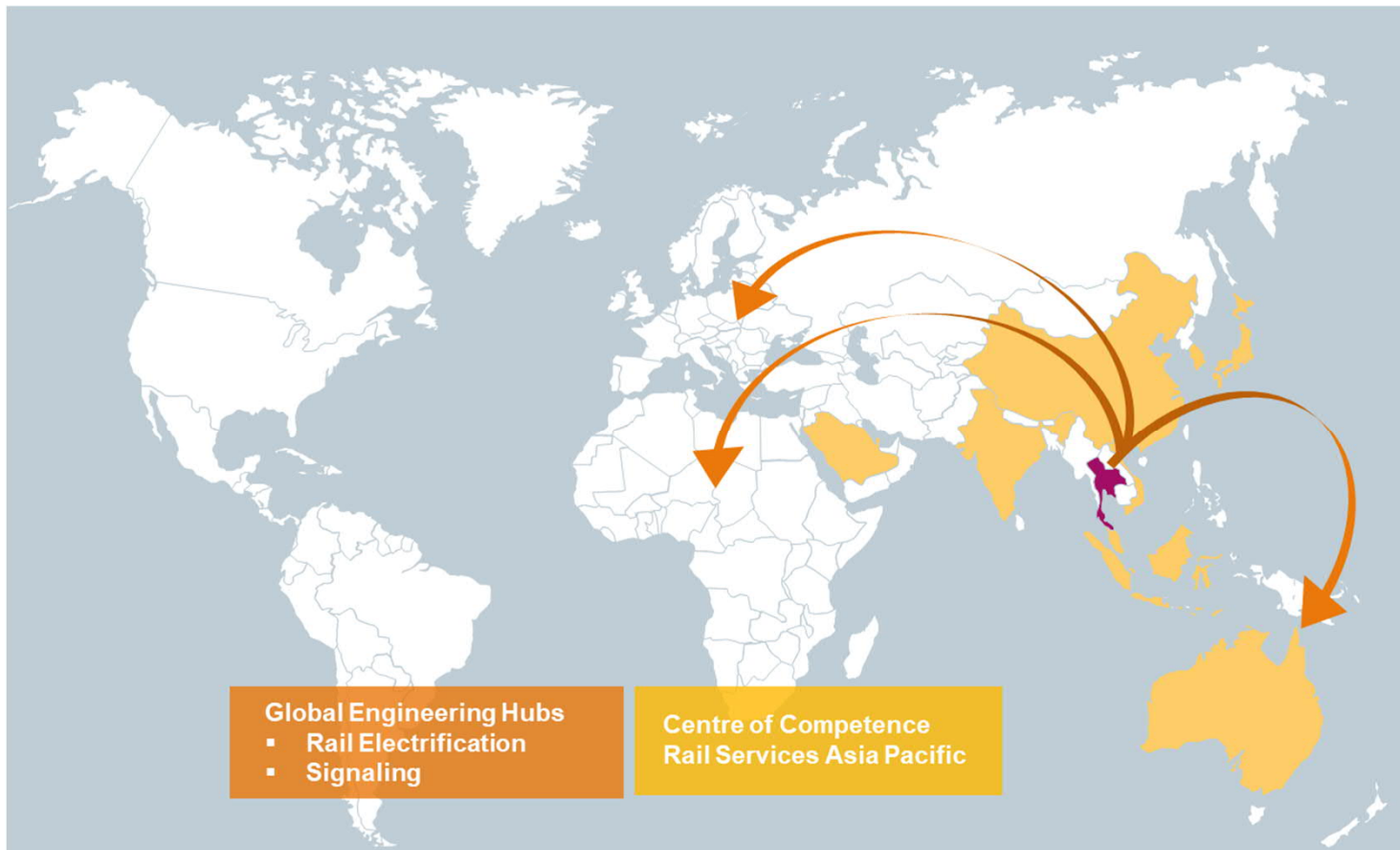
Sustainable Mobility requires a holistic approach integrating Rail and Road

We supported Thai pioneers in implementation of first e-railway solutions



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Railway Expertise from Thailand for Thailand and the World



> 20 years

of Projects and Services in TH

> 950 staff

Expertise in Engineering, Projects,
Maintenance

= 99% Thais

**Fostering development of local
people driving changes for
carbon neutral mobility in own
country.**

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Challenges of Interconnectivity & Interoperability



Smart



Safe

Trendsetting of mobility concepts and technologies that ensure the seamless, sustainable, safe, reliable transportation of people and goods.

Ensuring easy travel planning and ticketing, outstanding on-board convenience and intermodal transport concepts that enable seamless door-to-door travel.



Sustainable



Seamless

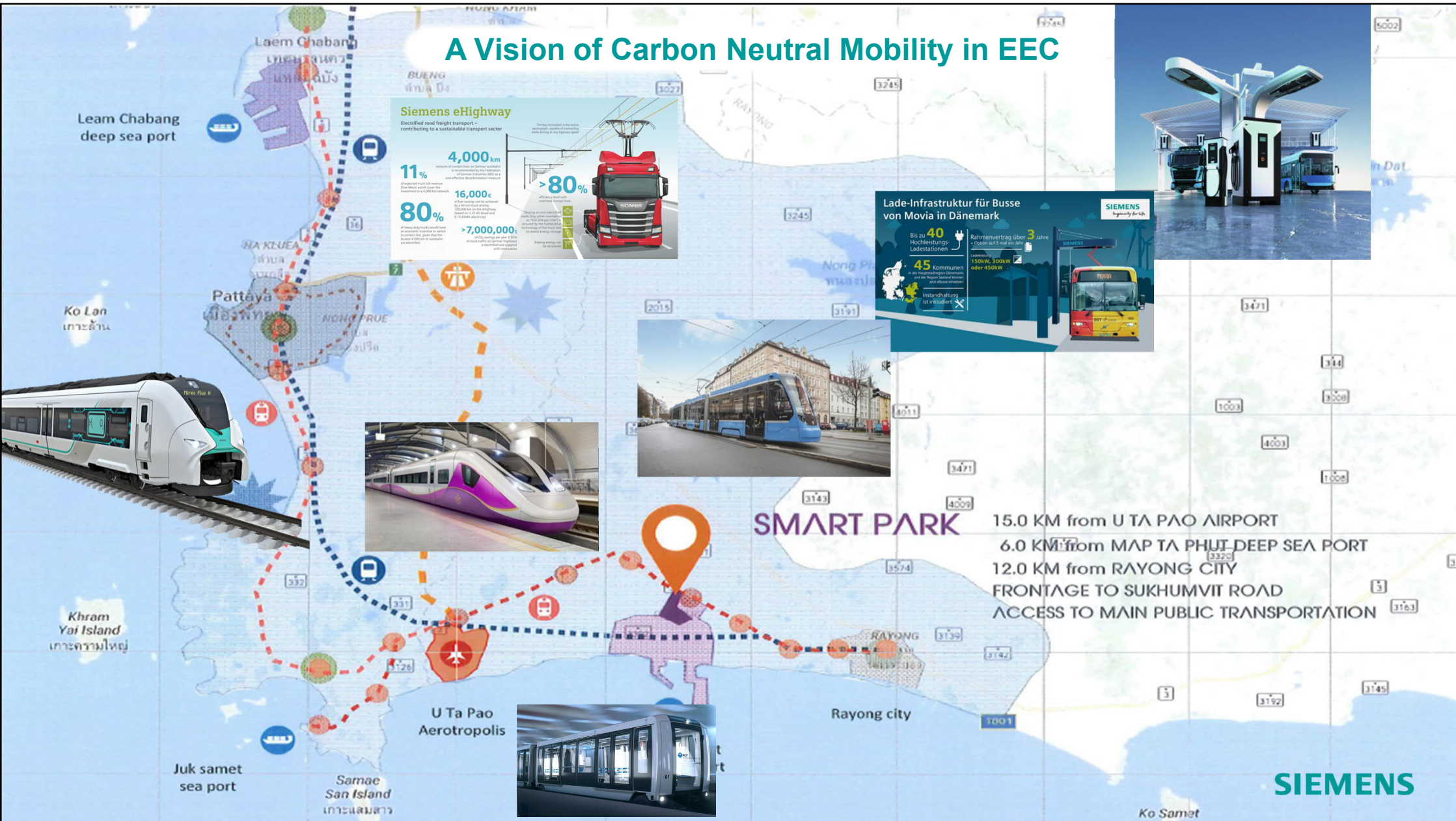
Challenges of interconnectivity within Thailand and with neighboring countries

Implemented International Railway Standards especially:

- SIG European Rail Traffic Management System (ERTMS)
- Rail Electrification (24kV)
- Rail gauge
- Kinematic envelope (TSI)

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A Vision of Carbon Neutral Mobility in EEC



Siemens eHighway

Electrified road freight transport - contributing to a sustainable transport sector

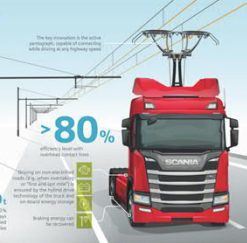
11% of expected truck toll revenue from road toll revenue investment in a 4,000 km network

4,000 km network of central roads for better road conditions is represented by the Federation of German Industries (BDI) as a cost-effective decongestion measure

16,000€ of fuel savings can be achieved by a 4,000 km network

80% of the daily truck transport an economic measure to reach business goals due to the low cost of electricity

>7,000,000€ of truck traffic in German highways is expected to be replaced by electric trucks



Lade-Infrastruktur für Busse von Movia in Dänemark

Bis zu **40** Hochleistungs-Ladestationen

45 Kommunen in der Hauptstadtregion (Städte und der Region) werden jetzt effizient versorgt

Instandhaltung ist inbegriffen

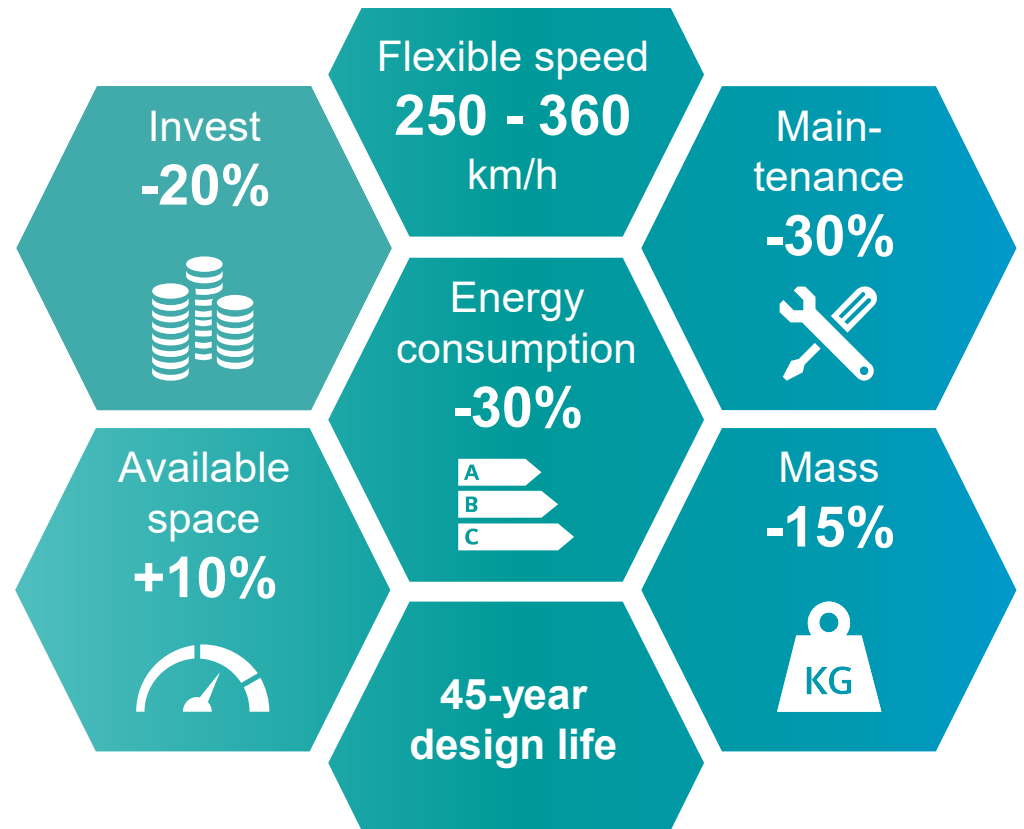
Rahmenvertrag über **3** Jahre

Option auf 5 mal ein Jahr

Ladeleistung **150kW, 300kW oder 450kW**



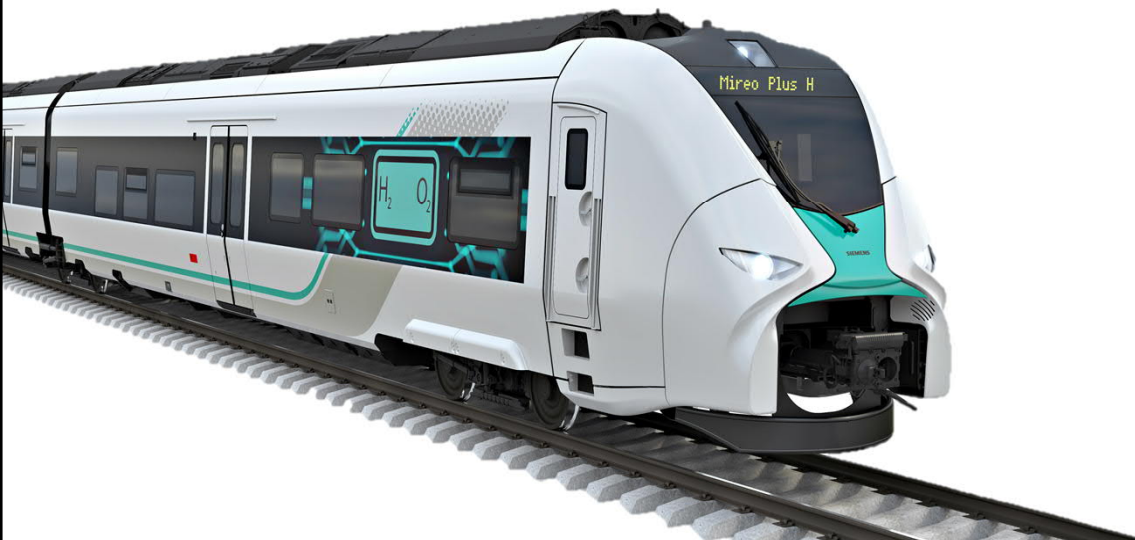
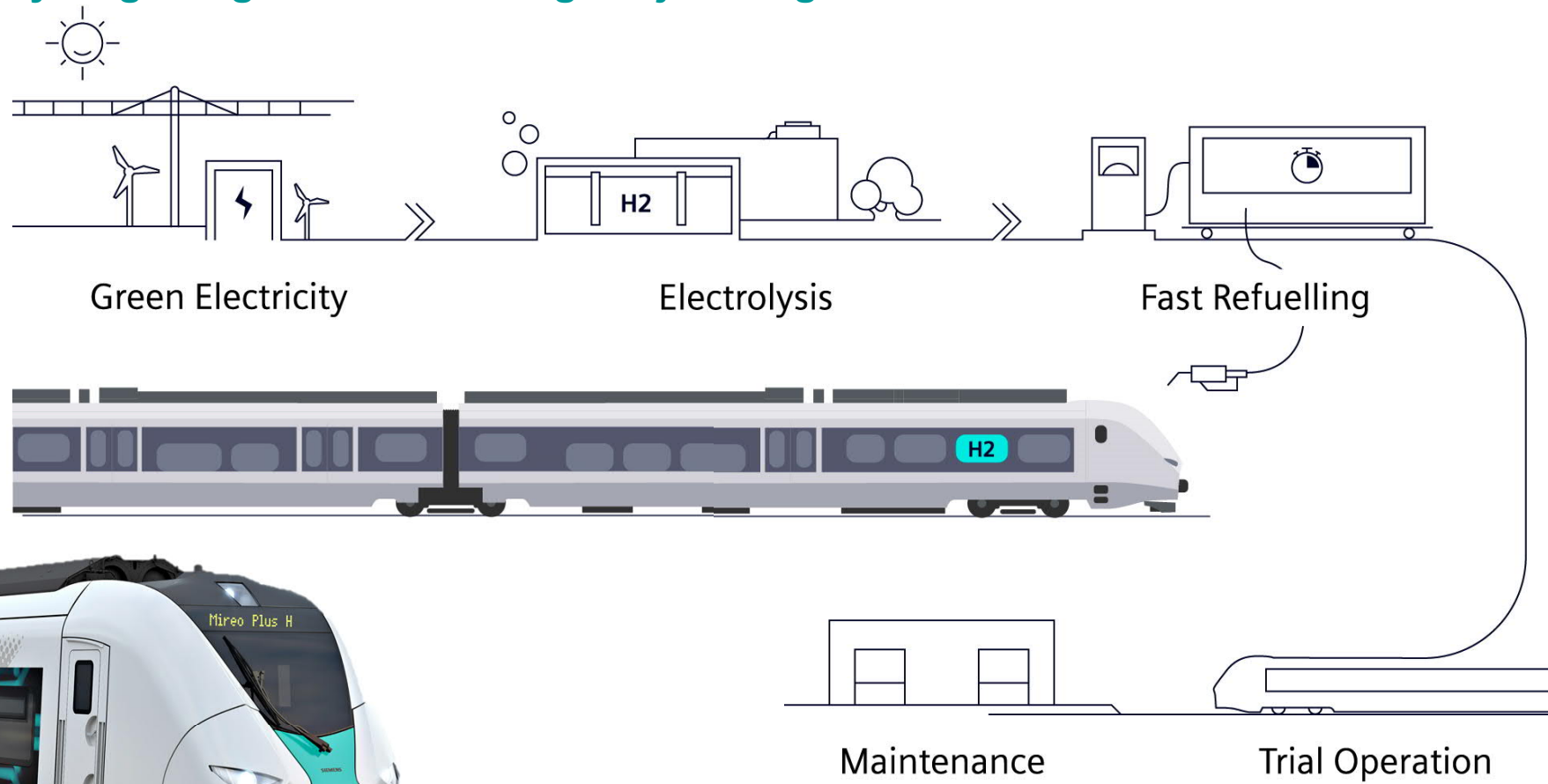
Velaro Novo – The most efficient high-speed train



Note: Compared to Velaro at 320 km/h

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Together into the Hydrogen Age - Joint funding Project H2goesrail



Automated People Mover – highest operational flexibility

Airval Fully Automated People Mover for Bangkok Airport

Siemens will deliver 6 Airval trains and CBTC system for Interlink Communication Public Company Limited, connecting the current and new satellite terminal at Bangkok Suvarnabhumi Airport

2 stations
People Mover line

5 km line
with 4 parallel
tracks

6
Airval 2-car trains
passenger service planned in 2022

24/7
operation

99.8%
availability on
Val operational lines

approx. **1.6 million** Passengers
using daily Val APM Systems in 2022 worldwide
comfortable – on time – safe

80 km/h
maximum speed

3590 passengers
per hour and direction
during peak periods



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City People Mover System – The Avenio Tram catenary free operation (Hybrid Energy Storage System)



Capacitors:

Capacitor units ensure highest performance and short charging times



High performance batteries:

Batteries provide highest energy capacity for unexpected stops and longer sections without catenary



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E-Highway / E-bus / E-charging Stations – solutions for EV Mobility



E-Highway:

Road freight transport powered by electricity: Siemens' e-Highway system combines the efficiency of electrified railroads with the flexibility of trucks into an innovative freight traffic solution that is efficient, economical and environmentally friendly.



E-Buses:

We have developed a pantograph/charging solution with grid connections specifically for bus lines. The high-power charging stations (HPC) can charge the bus batteries within four to ten minutes at regular intervals, enabling them to complete a full day of scheduled service.



Energize your drive system:

Safe. Efficient. Flexible. ELFA keeps your customers moving, no matter where they are. The innovative drive system from Siemens, ELFA is a key component in meeting your complex challenges.



Automate your charging stations:

We offer cutting-edge automation technology, including SIMATIC controllers, components and applications to realize standard-compliant, state-of-art AC and DC EV charging stations.

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Siemens Mobility

Moving beyond.

