



Capital Markets Day 2025

Bussnang, 19 March 2025

STADLER



Peter Spuhler
Chairman of the Board

Strategy update

STADLER

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Stadler – at a glance



Est. 1942



~ 15 000
employees



~ 270 customers



Swiss values



~ 12 000
vehicles in
49 countries



8 production- and
8 component-sites
globally



6 engineering-
locations



80+ Service-
locations

Environmental disasters as a major challenge



Sierre (30.06.2024)

- Flooding of Constellium plant in Sierre
- 850t of the 1200t of aluminum profiles in storage had to be scrapped
- Partial loss of production: backlog will be made up in August 2025



Dürnrrohr (17.09.2024)

- Heavy rainfall led to a dam bursting in Dürnrrohr
- Flooding of a Stadler commissioning center
- ÖBB-KISS type test vehicle was completely destroyed



Valencia (29.10.2024)

- Heavy rainfall in the Valencia region
- Loss of production at Stadler Valencia and around 40 suppliers
- Destruction of stored goods (diesel engines, bogies)
- 200,000 hours & CHF 350m revenue postponed to years 25/26

Development since the IPO on 12 April 2019

2018



2024



Workforce (FTE)

~8 900

+71%

~15 000



Order backlog (CHF bn)

13.2

+121%

29.2



Net revenue (CHF bn)

2.0

+63%

3.3



EBIT-margin

7.5%

-4.4pp

3.1%



Shareprice (CHF)¹

38.0

-39%

23.0



IPO	COVID-19 & supply chain disruptions	Inflation & FX headwinds	Russian war in Ukraine, Energy crisis & supply chain disruptions	Floodings in Spain, Switzerland & Austria
2019	2020	2021	2022	2023
				2024

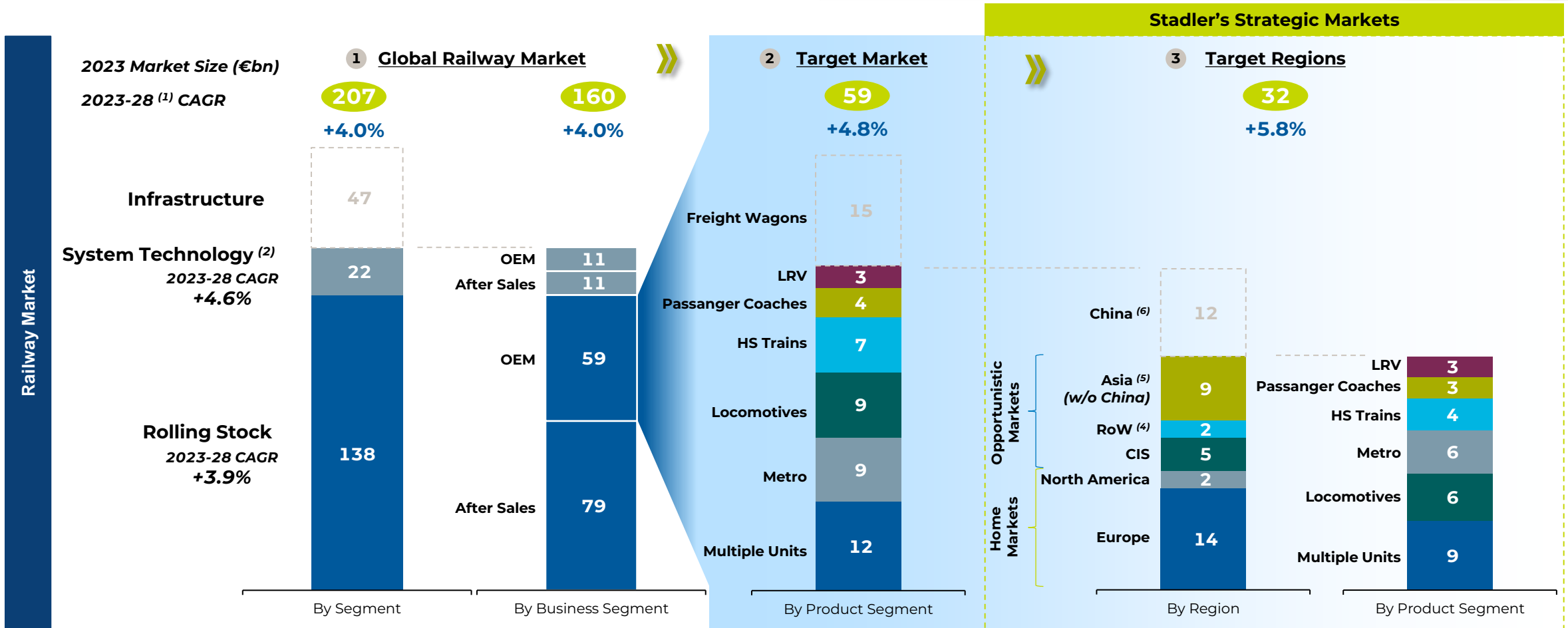
1) Opening price on the day of the Initial Public Offering on 12.04.2019 / as at 17.03.2025

Challenging global environment since 2019



A series of major external challenges have negatively impacted Stadler since the IPO in 2019

Overview rolling stock OEM market



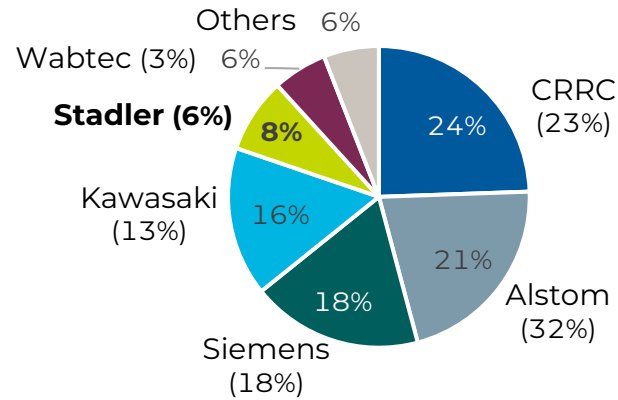
Source: SCI Worldwide Market for Railway Industries (2024), Study is published every two year. (1) CAGR: Compound Annual Growth Rate: Expected growth for the years 2023-2028 (in percent). (2) Sys. Technologies includes CCS - Control, Command and Signalling (train control, train protection & operational telematics) and PIS - Passenger Information Technologies (fare management, passenger information, passenger safety). (3) High Speed (HS) segment according to SCI study includes Intercity HS trains (190 (in some cases also 160) -249 km/h), HS trains (250-300 km/h) and Very HS trains (>300 km/h). (4) RoW includes the regions Africa & Middle East, Australia, New Zealand & Pacific, and South & Central America. (5) Asia includes all areas in Asia (Southeast Asia, South Asia, East Asia), excluding China due to protectionism. (6) China's share of global railway market volume in 2023 is 9% OEM & 10% After Sales. These values are further used as an assumption to define the potential of the target market

SCI market shares by region (2022-2024)

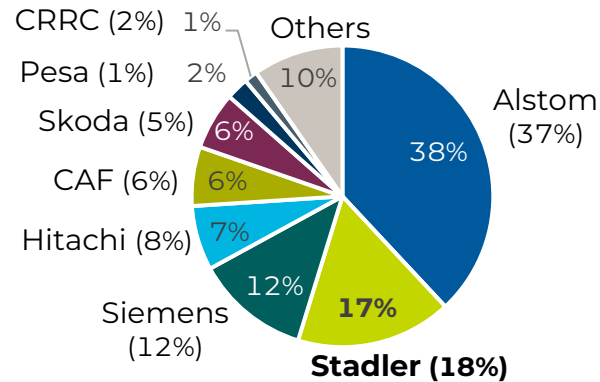


Home markets

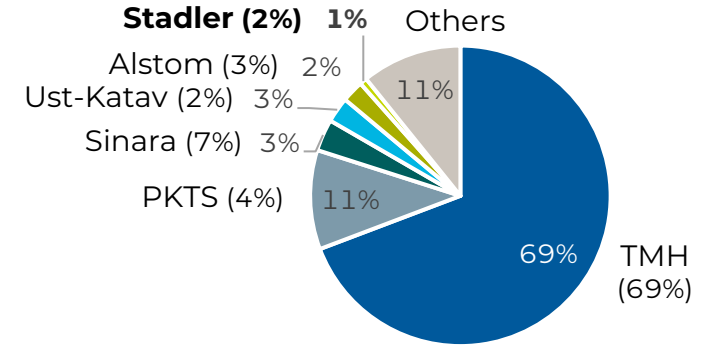
North America: EUR 2.4 bn



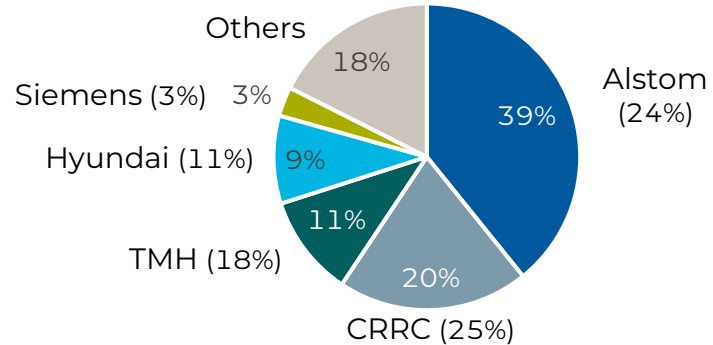
Europe: EUR 13.9 bn



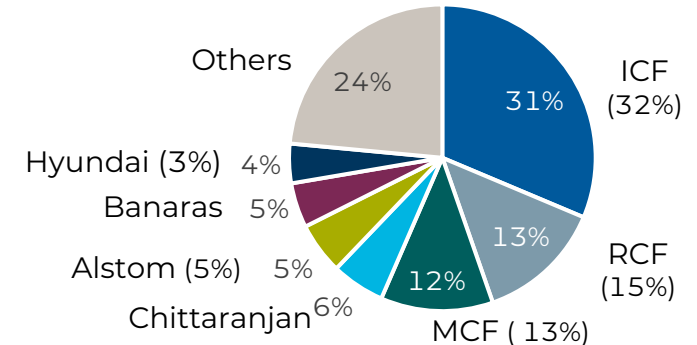
CIS: EUR 4.5 bn



Rest of the World¹: EUR 2.3 bn



Asia (w/o China)²: EUR 8.7 bn



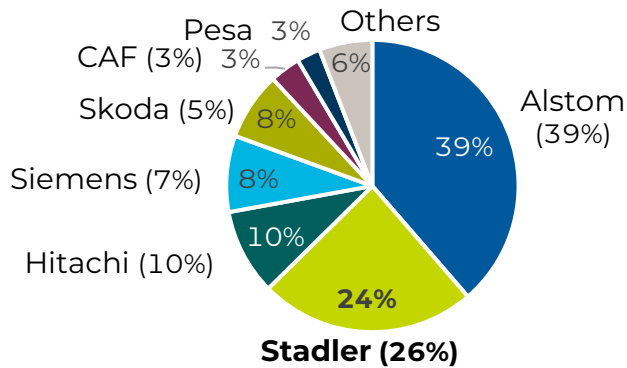
Stadler increased shares by one third in North America and remained second in Europa.

SCI market shares Europe by segment (2022-2024)

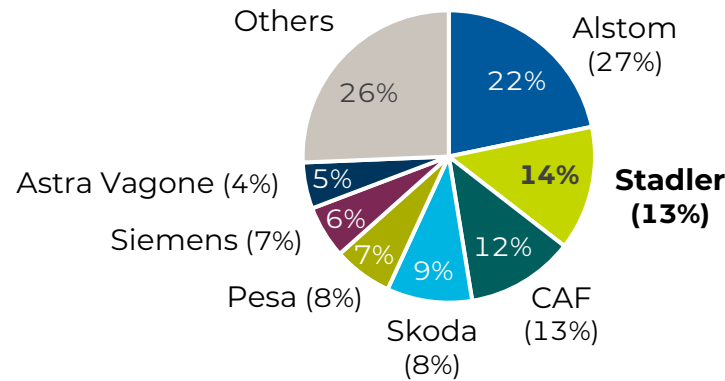


Focus Segments

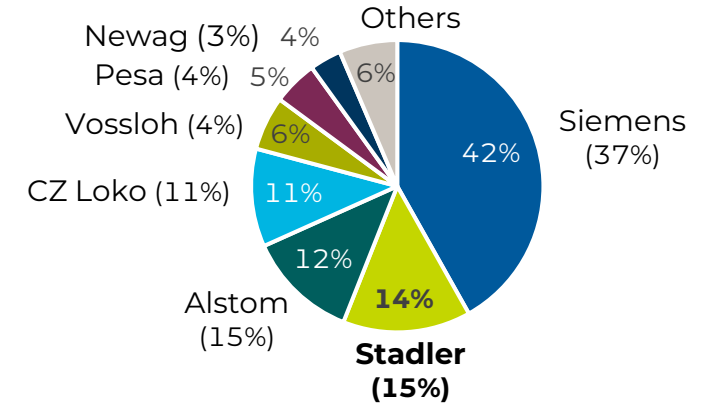
Multiple Units: EUR 5.9 bn



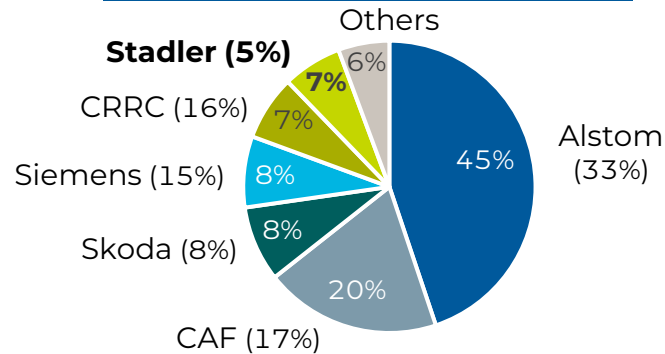
LRV: EUR 1.9 bn



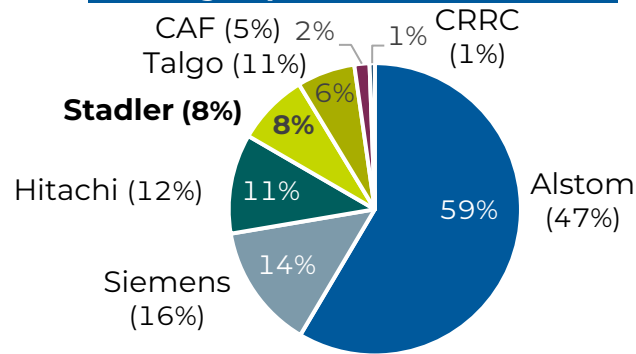
Locomotives: EUR 1.9 bn



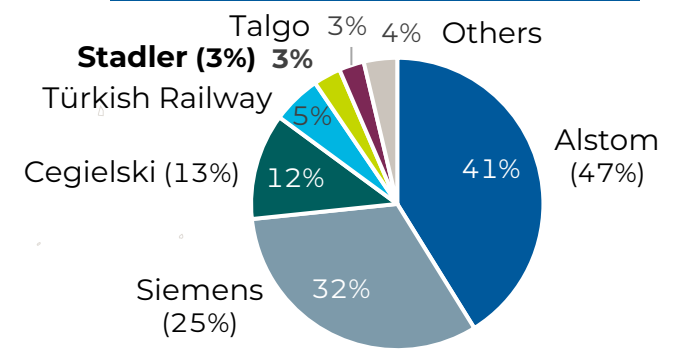
Metro: EUR 1.5 bn



High Speed¹: EUR 2.1 bn



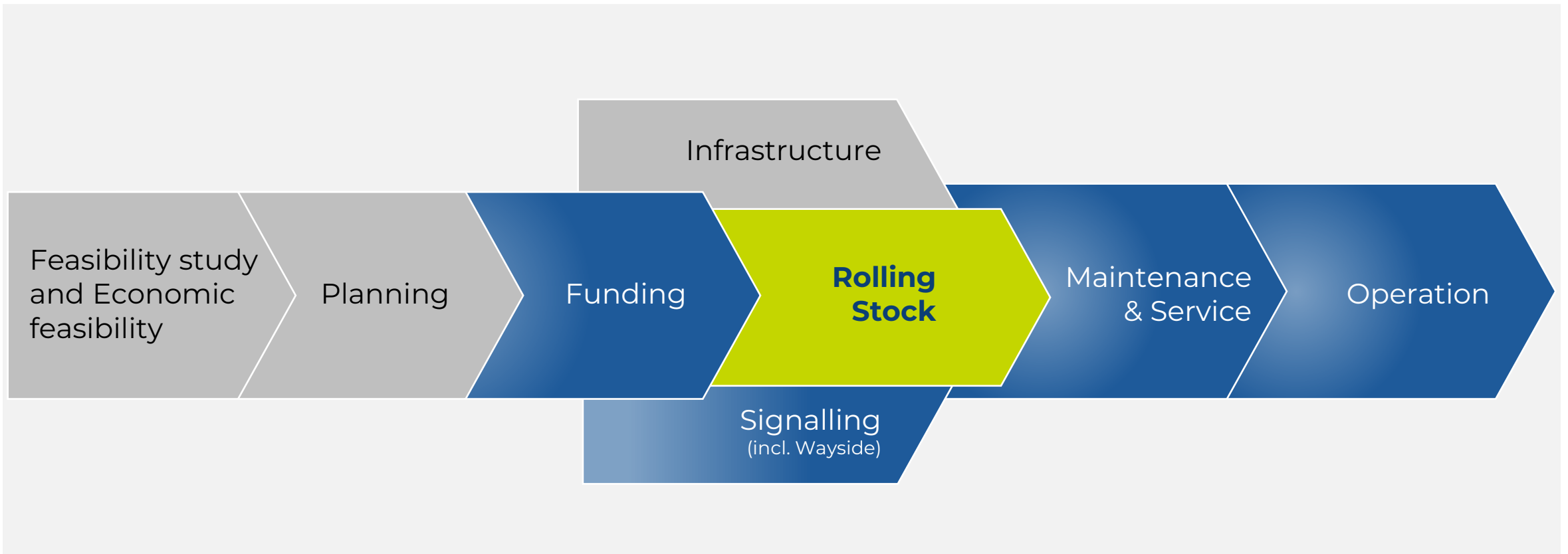
Coaches: EUR 0.7 bn



Stadler was able to maintain or expand its second place in all focus segments.

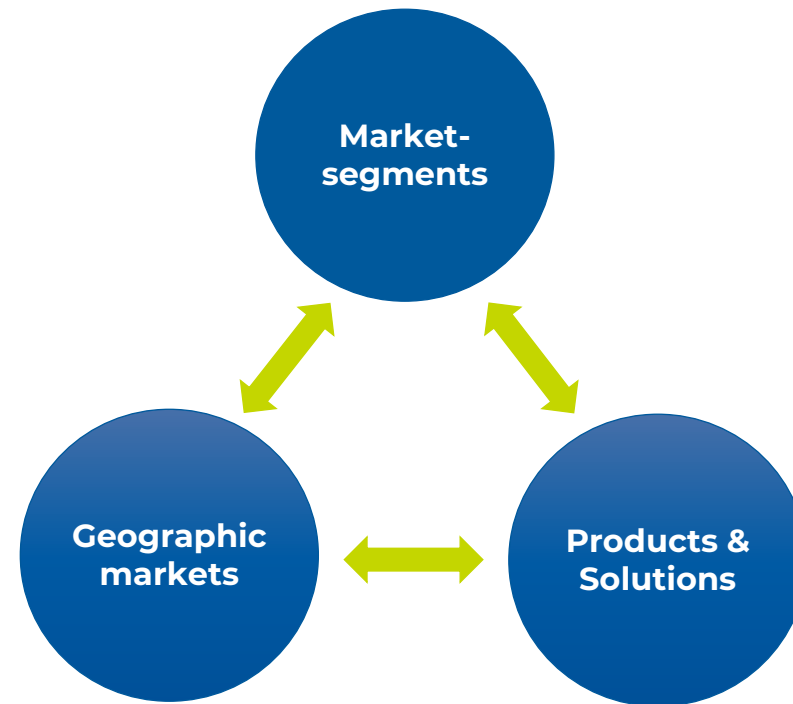
Source: SCI Market Share Data for Railway Industries (2024) for Pie Charts based on Units delivered 2022-2024, and SCI Worldwide Market for Railway Industries (2024) for the Market Volume (for the strategic ROS market of Stadler, therefore w/o Freight and China). (1) High Speed (HS) segment according to SCI study includes Intercity HS trains (190 (in some cases also 160) -249 km/h), HS trains (250-300 km/h) and Very HS trains (>300 km/h)

Stadler widens its focus within the overall rail ecosystem



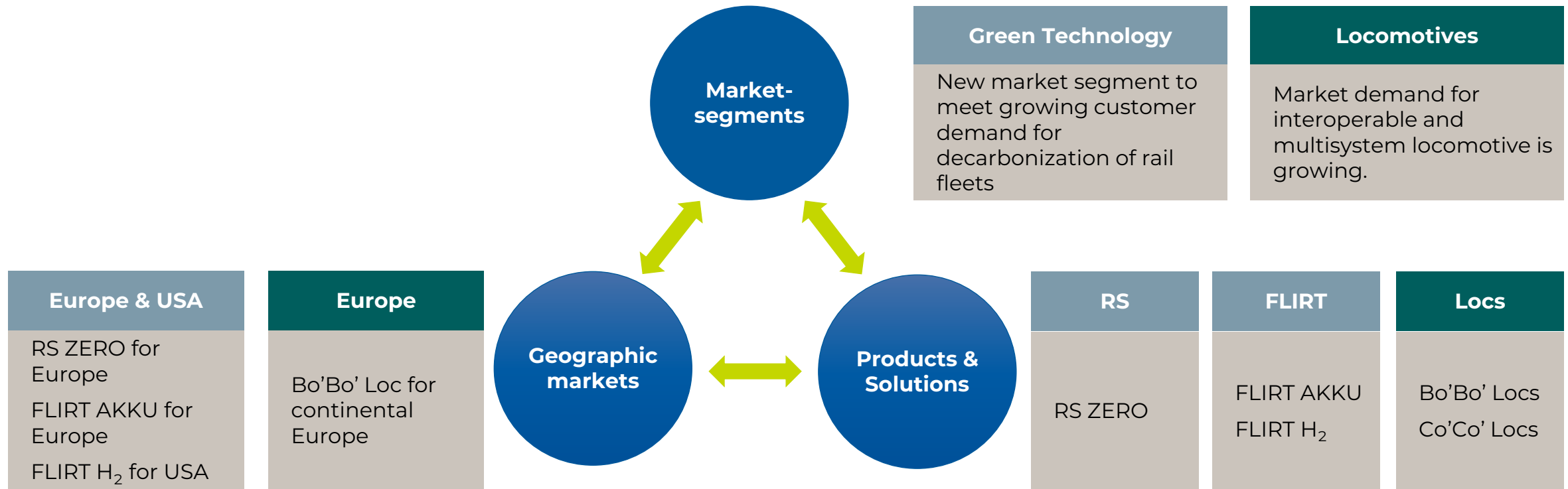
With Rolling Stock at its core, Stadler addresses growing customer demand for complete solutions

The Stadler core strategic dimensions



Stadler operates in selected market segments with high-quality products and solutions in specific geographical markets

Example of Stadler core strategic dimensions



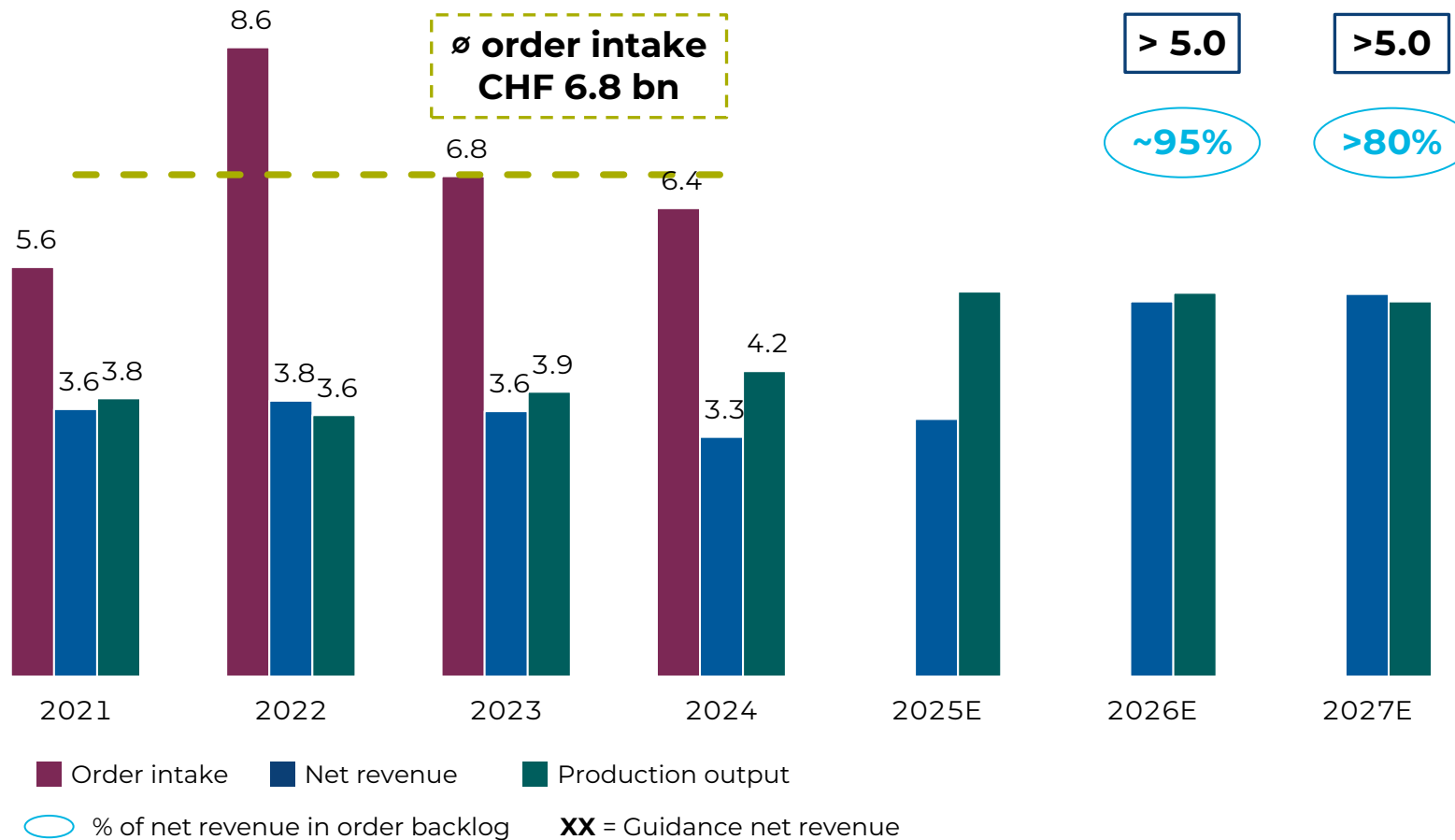
Stadler operates in selected market segments with high-quality products and solutions in specific geographical markets

Innovation as our driver for long term profitable growth



Process takes 4 - 10 years on average

Conservative revenue recognition and production output



Comments

- Revenue recognition for trains based on **conservative units of delivery method**
- This leads to a **multi-year lag** between operational activity (production output) and revenue recognition
- Strong order intake of recent years will lead to a **significant step-up in production output**
- This will be followed by a **major revenue increase** going into 2026/2027

Notes: Production output equals net revenue plus delta gross work in progress. Bar height for net revenue 2025E to 2027E are only illustrative. Bar height for production output 2025E to 2027E illustrative of the expected increase in production output.

Strategic thrusts



Geographical expansion



Green Technology



Digitalisation



Q&A



19.03.2025
Markus Bernsteiner

Operations

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AGENDA

01

Current challenges
and measures taken

02

Operational fields of action
Core dimensions for profitable growth

03

Operational implementation
Processes, systems & organisation

01 Current challenges



Environmental disasters

Measures taken



Sierre

- Adjustment of production plans according to reprioritization of orders
- Examination of possible cleaning concepts for damaged profiles
- Short-time working in St. Margrethen & arrangement of overtime
- Setting-up task force mode
- Alloy adjustments

Dürnrohr

- Planning & implementation of vehicle construction in the production process
- Shifting type test plan to remaining type test vehicles

Valencia

- Negotiations on postponements / reduced acceptance deadlines
- Close exchange with insurers for quick claims processing
- Postponement of 200'000 production hours to subsequent years
- Examination of additional suppliers
- Force Majeure registration

Stadler Germany

Measures to ensure competitiveness in Berlin



Objectives & measures Stadler Germany

Locations under pressure in Berlin

- **Economic situation:** Weak economic development in Germany is a burden on Stadler's locations in Berlin
- **Supplier problems:** Bankruptcy cases in the supplier industry lead to bottlenecks and delay production processes
- **Waiting for tender:** For 4.5 years, no final decision by S-Bahn Berlin
- **Delayed call-offs:** Low call-offs of BVG subway trains lead to limited medium- and long-term planning reliability
- **Rising costs:** Increased energy costs and inflation are putting a strain on the financial environment

Structure and efficiency program:

- **Goal:** Reduce costs and increase efficiency
- Negotiations with the social partners on employee contributions

02 Operational fields of action

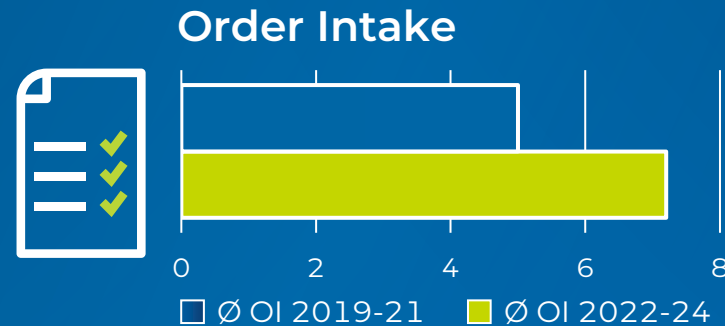


Developments since the last Capital Markets Day

 **2,000**
New employees

 **330**
CHF millions invested
in Sites & Products¹

 +1 Production site
+2 Component plants
>15 New Service sites

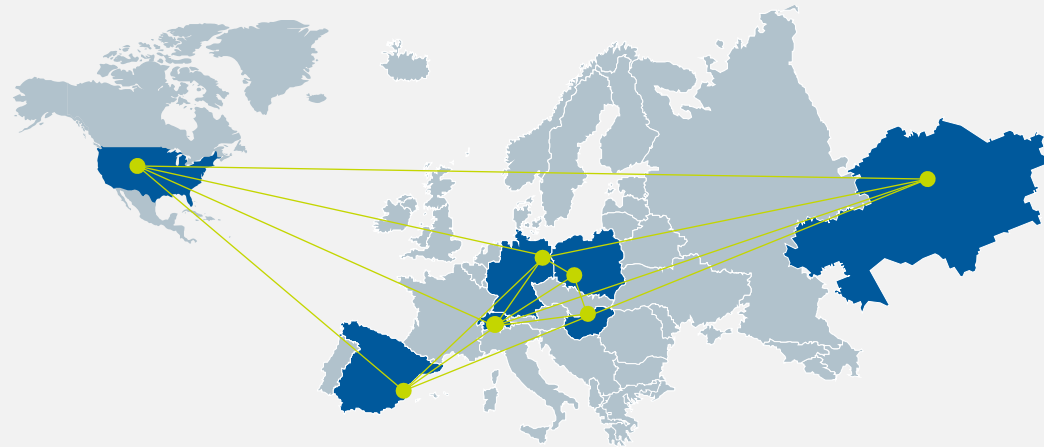


 +3 Apprenticeships
68% More apprentices

 **22%**
Prod. capacity growth

Cross-location exchange & operational dimensions

Cross-location exchange



- Cross-location exchange & harmonisation based on best practices
- Effective communication between service and production locations to implement operational findings
- Group-wide system harmonisation (ERP & PLM) increases productivity in engineering & production

Core dimensions for profitable growth



Increased efficiency through cross-location exchange

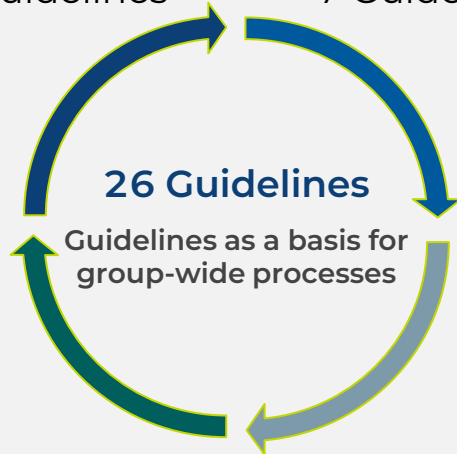
Implementation priorities



26 Guidelines

Strategy & governance
6 Guidelines

Product & process
7 Guidelines



Data & master data
7 Guidelines

Tools & implementation
6 Guidelines

Implementation

Processes

- Sharpening of the core processes
- **Examples:**
 - Supplier management
 - Engineering map
 - Component optimisation

Procedures

Systems

- Implementation of ERP & PLM
- Improvement of application hygiene

Tools

Organisations

- Strengthening of Service / Signalling
- Founding Division North America
- Cross-site collaboration
- Plant expansions
- Manufacturing technologies

Structure

Guidelines for clear processes, uniform systems and transparent decisions

03.01
**Operational
implementation**
Processes



Sharpening of our core processes



SALES PROCESS

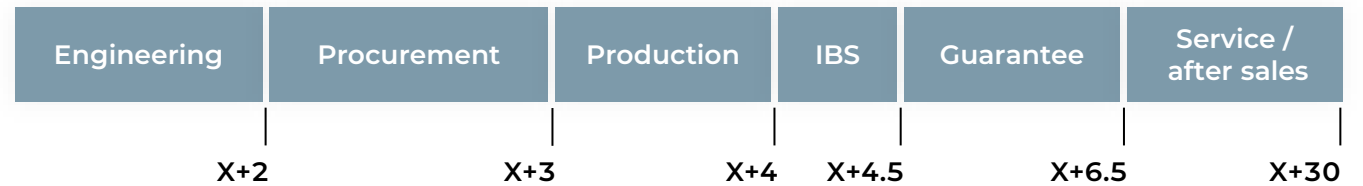


NEW ENGINEERING MAP

Main focus:

- Selective participation in tenders

PROJECT MANAGEMENT

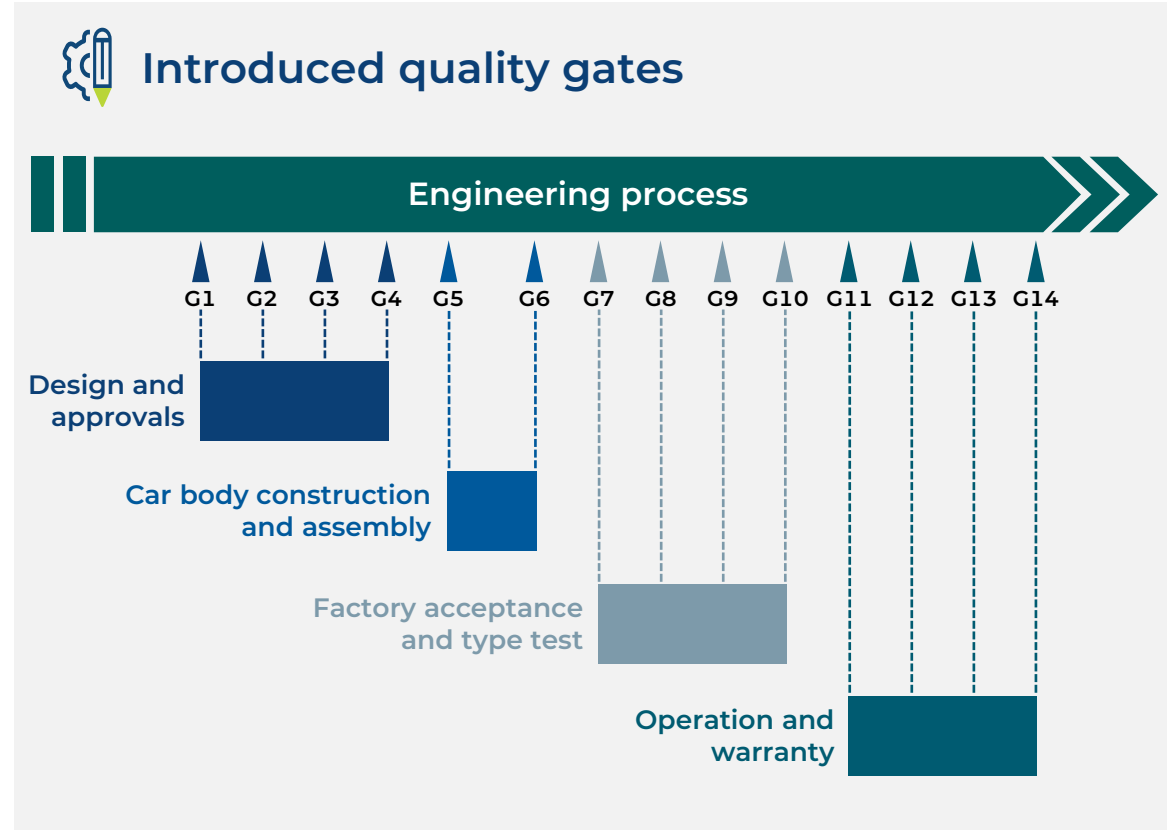
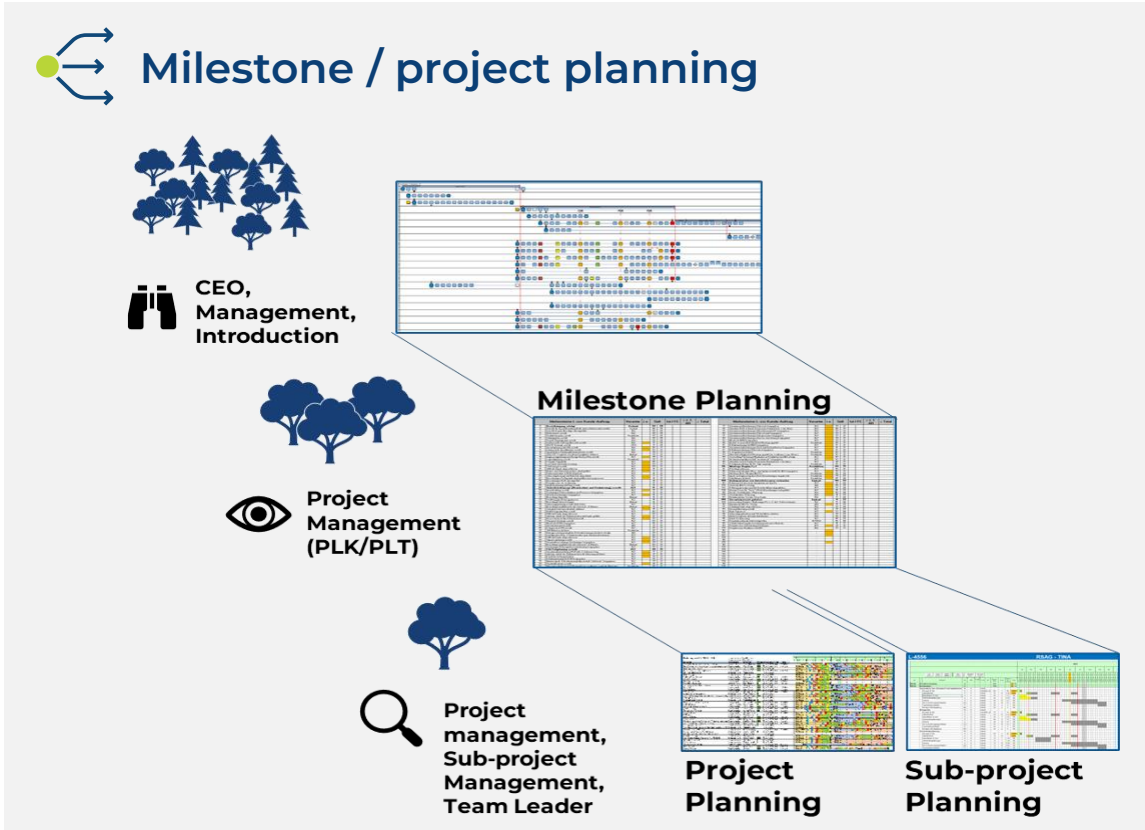


NEW ENGINEERING MAP

Focus areas:

- Consistent progress and cost control
- Strategic supplier management
- Engineering map
- Components optimisation

Implementation of the engineering map



The engineering map clearly outlines all key processes, responsibilities, and interfaces

Components optimisation



Objectives

- Better technical solutions
- Targeted further developments
- Lower production costs
- Lower life cycle costs

Stakeholders

- Engineering specialists
- Procurement
- Suppliers
- Production

Examples of implemented solutions

Push buttons



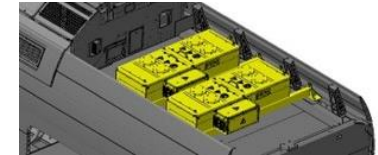
-33%

Light curtain doors



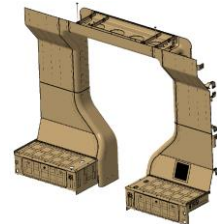
-33%

Batteries



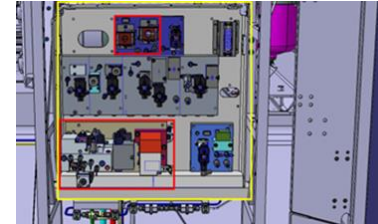
-33%

Side wall panelling



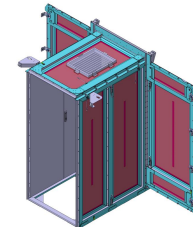
-31%

Brake control unit



-26%

Machine room panelling



-64%

Modularisation machine room panelling

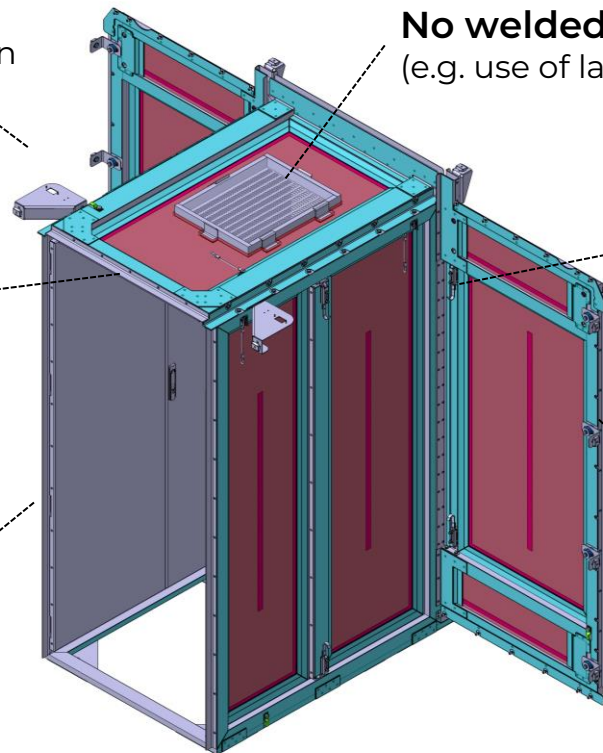


Concept harmonisation between FLIRT & KISS

(creation of pooling options in purchasing)

Modern LED light strips

Simplification of frames
(use of standard profiles)



No welded parts

(e.g. use of lasered extract air filters)

Use of standard c-parts

(e.g. secondary retension cable)

Simplified construction of the panelling with new fire protection

(2 instead of 6 layers)



Cost reduction of

64%



Implemented in:

- FLIRT SBB Evo
- FLIRT SBB Evo France
- FLIRT SZU
- FLIRT Akku ÖBB
- KISS ÖBB Nahverkehr
- KISS ÖBB Fernverkehr

The optimisations are the result of cross-site collaboration between departments

03.02
**Operational
implementation**
Systems

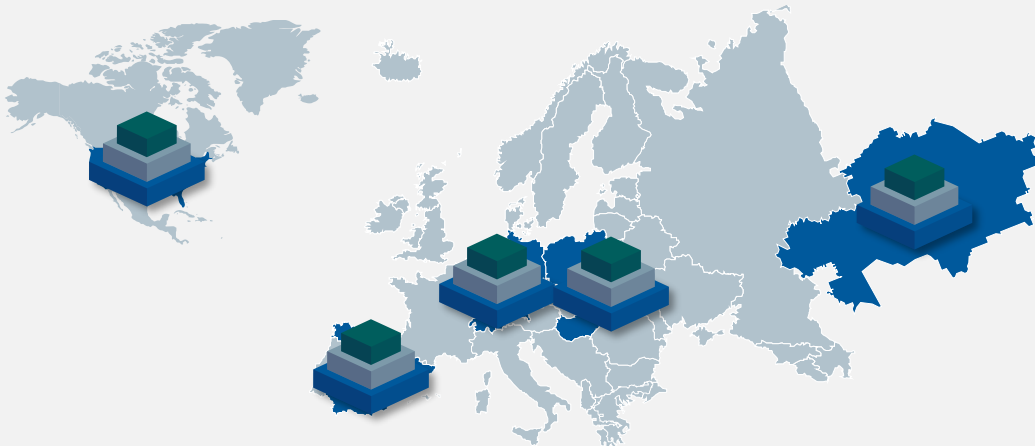


Ongoing harmonisation of application landscape in several domains



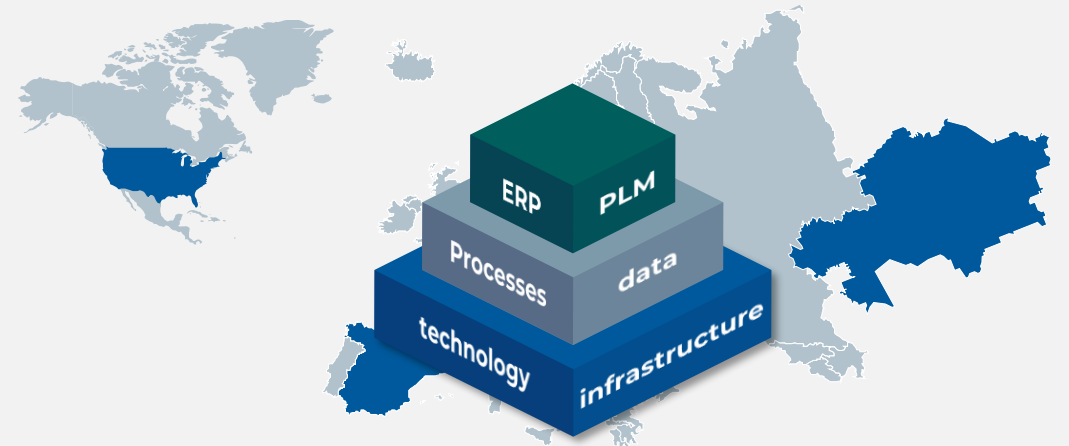
Transition phase started in 2022

- Different software providers and local instances
- Non-harmonised processes and data
- Multitude of legacy ERP systems, engineering solutions and HR systems



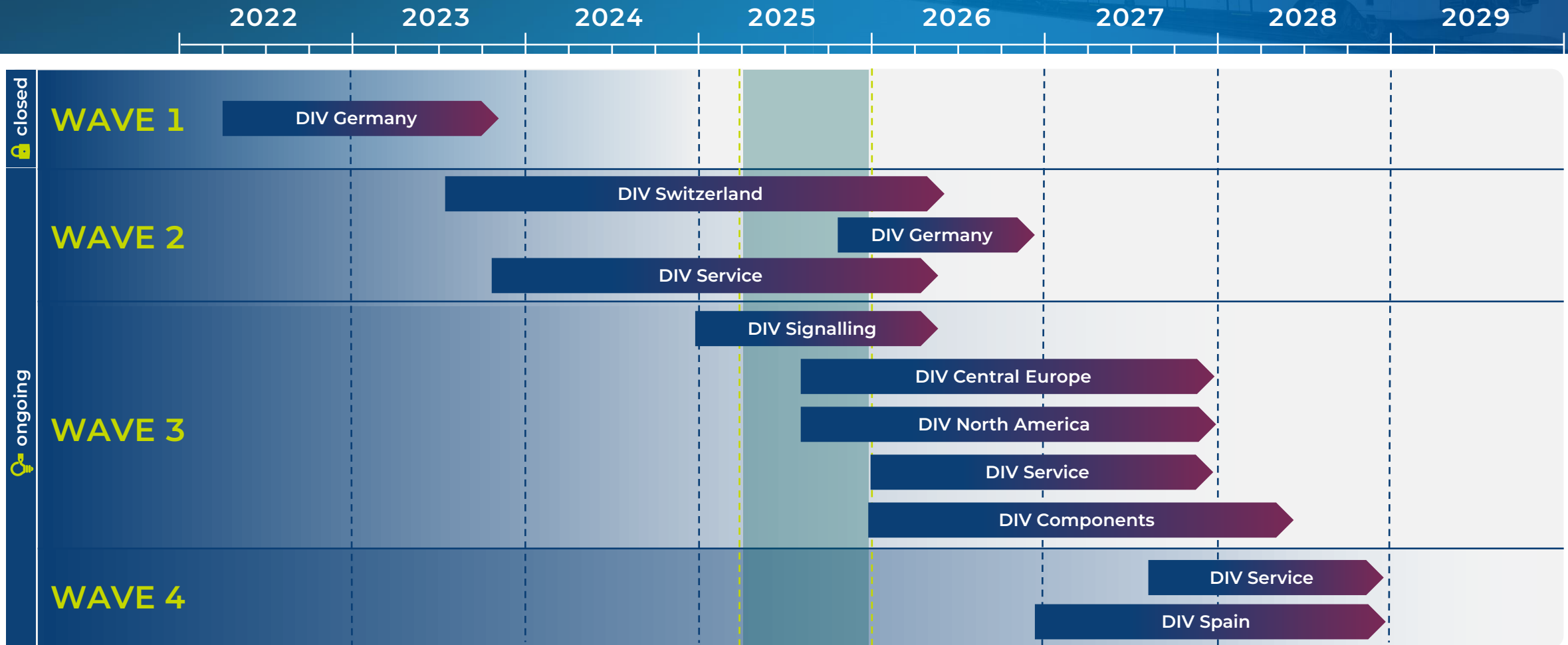
State of the art platform architecture 2027/28

Technology and Infrastructure serve as a global basis for standardised and shared ERP, engineering and HR platform



Targeted harmonisation for a unified application landscape

Implementation of ERP & PLM



The harmonisation of our application landscape will bring significant efficiency gains

03.03
**Operational
implementation**
Organisation





Creation of Division North America

- **Rapid growth** of Stadler US since 2016, already over 500 employees
- **Recently secured orders:**
 - 4 DMU FLIRT for Trinity Metro
 - Up to 80 streetcars for SLC
- To support and strengthen the development of the location, **Stadler US was separated from Swiss division as of January 1, 2025**



Cross-site collaboration

- **Regular exchange of experience:**
 - Cross-location harmonisation based on best practice
- **Utilise synergies:**
 - Elimination of redundant work, optimisation of costs and use of innovation



Digital transformation

- **Development of digital platforms**
 - Extending the benefits of products via data and networked technologies
 - Integrate and optimise customer requirements in operation
- **Data driven services**
 - New digital solutions
 - Real-time analyses for advanced railway solutions
 - Stronger positioning in tenders and in service
- **Ensuring competitiveness**
 - Digitalisation as a driver of innovation

Factory expansion & investments in new production technologies



Factory expansion

Poland

- Center of competence (converters & EPA)
- Increase of steel body production

Valencia

- Body shop ramp up
- Increase of assembly capacity

USA

- Increase of body shop capacity
- Increase of assembly capacity

Szolnok

- Increase of car body production

Switzerland

- Increase of overall production capacity
- Expansion of apprenticeship workshop



Investments in new production technologies



Visual inspection

- Comparison of component photos with 3D models for correct installation (position & alignment)



Friction stir welding (FSW)

- Higher structural strength & quality
- Efficiency & sustainability



Digital punch hole marking

- High-precision punch hole localization with laser tracker and digital punch tool

Networking and optimisation for sustainable success



Cross-location exchange

- **Strengthening our cross-location cooperation:** Leverage expertise within Stadler and increase operational efficiency
- Establishment of group-wide guidelines for the standardisation of processes and systems



Optimisation with new IT applications

- **Harmonisation of the application landscape:** Standardised and shared ERP, engineering and HR platform
- Group-wide rollout by 2027/28



Fields of action for sustainable growth

- **Team:** Investing in training and talent management
- **Innovation:** Digitalisation and development of new technologies
- **Order intake & revenue:** Selective tender participation
- **Operation:** Optimisation of order processing and strategic supplier management



Organisational adjustments since 2022

- **North America Division:** Supporting the growth of Stadler US. Separation from Division Switzerland from 1 January 2025
- **Cross-site collaboration:** Increasing the transfer of know-how and use of synergies
- **Digitalisation:** Innovation to ensure competitiveness





Marc Trippel
Head of Signalling Division

Deep dive Signalling

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01
Signalling
strategy and
positioning



Stadler Signalling

Stadler is more than rolling stock



Why Signalling



SAFETY



CAPACITY / EFFICENCY



COMPETITIVENESS



Signalling – from safe train operations (collision avoidance and speed supervision) to efficiency gains

Signalling portfolio



On-board



Mainline

European Train Control System (ETCS)

Urban

Automatic Train Protection and Driver Advisory Systems

Metro

Automatic Train Protection and Driver Advisory Systems

Wayside



Interlocking (CH)

Conventional Signalling Portfolio (e.g. Interlocking, Positioning, Point and Switch Control)

Conventional Signalling Portfolio (e.g. Interlocking, Positioning, Point and Switch Control)

Systems



n.a.

Communication based Train Control System (CBTC)

Communication based Train Control System (CBTC)

Leveraging solid Urban solution offering together with Rolling Stock with heavy focus on migration

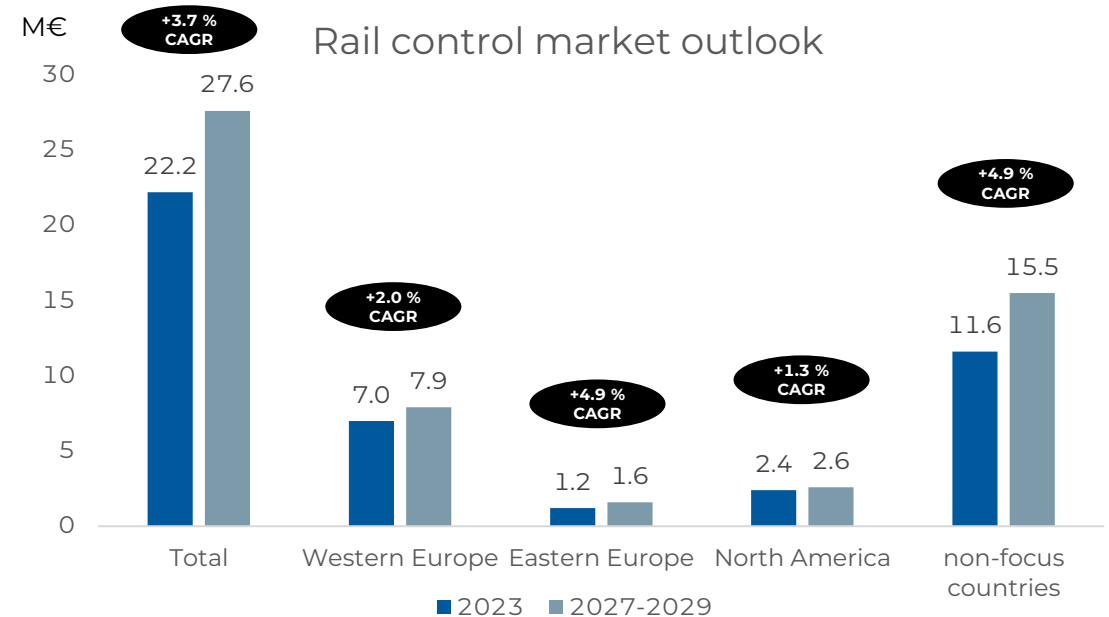
Strong market drivers



Demand drivers and their implications

Urbanisation	High demand for mass-transit and capacity increase on existing infrastructure
Climate change	Need for efficiency increase and reduced emissions
Investment sensitivity	Urgency to protect investments and extend life-cycles of existing infrastructure and vehicles
Life-cycle management	Need for constant availability while ensuring safety and passenger comfort

Positive outlook in focus markets

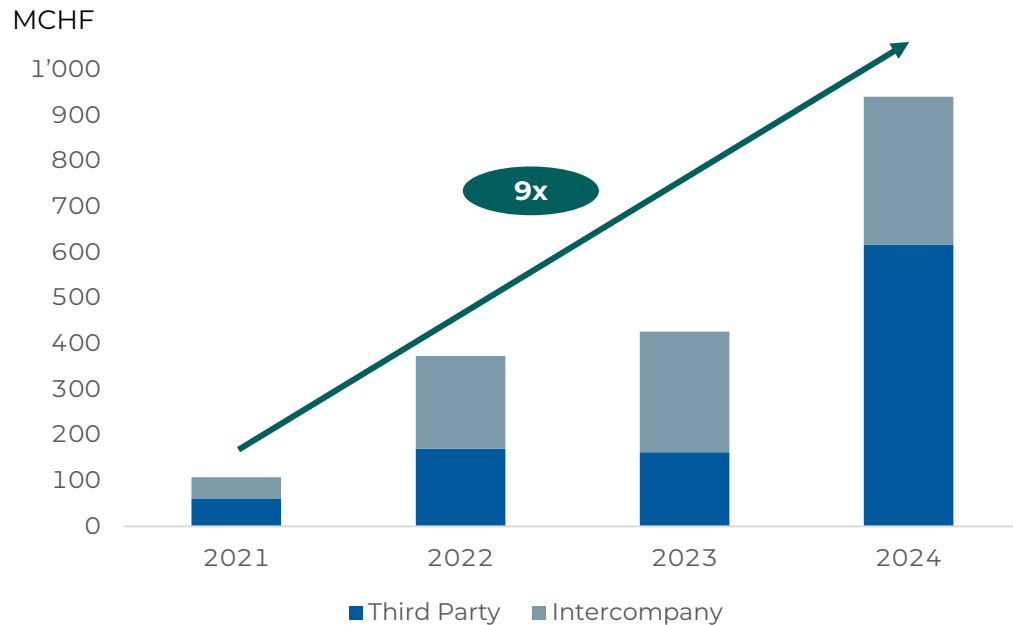


Tailwinds expected due to favourable demand drivers and focus on selected growth markets

Milestones and growth rate on track



Growing order backlog



Order intake highlights



Saudi Arabia: First ETCS onboard contract in the Middle East with SAR



USA: First large CBTC contract with MARTA (Atlanta)



Switzerland: First mainline interlocking contract with SZU (Zuerich)

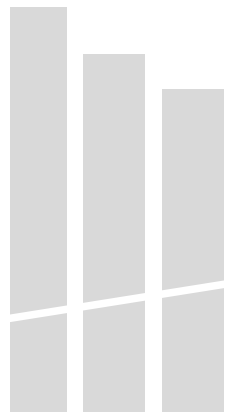
Solid underlying market demand combined with our innovative offering to further accelerate growth

Strategic positioning in signalling market landscape



Strategic positioning in signalling market landscape

Large global players¹



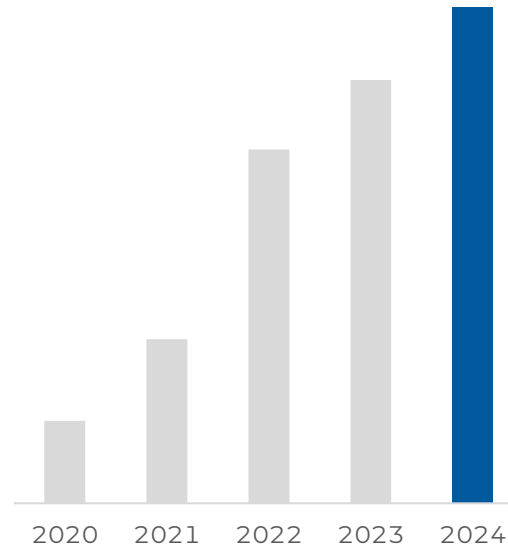
STADLER

- Agile innovator
- Close to customers
- Leveraging broad vehicle expertise

Local players



Headcount ~1'000



- Clear focus on high value core developments
- Access to group resources and building on local presence
- Alliances and strategic partnerships

Attractive competitive positioning combined with focused expansion

1) Global players considered >1bn CHF revenue present in Stadler addressable market

Leveraging global Rolling Stock and Service footprint



Focused organisation with global reach

- **Lean, agile and innovative** Signalling organization with selective expansion
- **Clear focus** on centralized Signalling competence centres
- **Solid base in Europe** (Germany, Italy and Switzerland), growing organization in **North America**
- **Successfully leveraging** Stadler's growing global footprint and expertise in Rolling Stock and Service
- **Customer proximity** through existing Rolling Stock and Service sites

Focused on innovation and market entries



Achievements



Mainline: successful onboard market entry in Europe, including Refit business



Urban: comprehensive product portfolio on-board and trackside & development of in-house CBTC solution



Digitalisation: Driver assistance solutions & Depot automation



Strategic partnerships and successful M&A activities

Strong base for the future



Well-positioned for the growing ETCS on-board market and solid base for wayside



Solid customer base and broad solution portfolio for further internationalisation



Innovation as key differentiator with new solutions



Supporting bolt-on M&A in strategic markets



With solid achievements and a strong base in the market, we have a clear focus on profitable growth

Strategic direction – from vision to reality



Independence and value-added

Independence from direct competition and increasing value-added for Stadler



Innovation-leader

Determined to be innovation-leader as the “New Player” while leveraging rolling stock capabilities



Stadler DNA

Focus on client needs, flexibility and agility, acting local and personal



Growth

Selective growth aligned with the strategy of a full solutions provider



Mainline

- Interoperable solutions, onboard and wayside
- Leader for ETCS Refit solutions



Urban

- World leader for automation of branchline railways
- Light rail onboard and wayside systems
- Migration of existing technologies of all types



Metro

- Fully automated (CBTC) metro solutions
- Independent provider of metro signaling

Ambitious targets underpinned by a clear strategic roadmap for each client segment

02 ERTMS & ETCS

Sazi Enicker
Head of Sales ETCS



Strategic ETCS framework



Secure independence

Independence from the competition in ETCS train protection is crucial for Stadler's long-term success.



Manage complexity

ETCS business is complex, demanding and requires up-front investments. For new market entries, this heavily depends on the need for integration of Class B systems and country homologation efforts.



Drive third-party business

For ETCS outside Europe, other OEMs vehicles and retrofit contracts are increasingly important market segments.



Strategic focus areas

New Stadler fleets

Drive margin by **equipping new Stadler fleets** in markets already entered

Stadler installed base

Drive margin by addressing **retrofit of existing Stadler fleets** in markets already entered

New markets

Enter **new markets** by means of suitable Stadler or Mermec vehicle projects. Combined ETCS infrastructure projects outside of Europe

Third-party fleets

Do retrofit projects for **third party vehicles** to capture **economies of scale**. Focus on projects in markets already entered

Focus on third party refit projects in markets already entered successfully

Different project set ups



NEW

- ATP full integration
- Customizable solutions
- Project planning & execution support
- Authorization & Test
- Mainly Stadler vehicles, some opportunities with 3rd party vehicles

REFIT

- TSI compliance upgrade
- ETCS update or 1st installment
- Class-B integration
- Authorization & Test
- Experience in Stadler and 3rd party vehicles



Stadler

Division Signalling

10 country homologations in record time

Homologated

- Austria
- Belgium
- Croatia
- Germany
- Hungary
- Italy
- Netherlands
- Poland
- Slovenia
- Switzerland



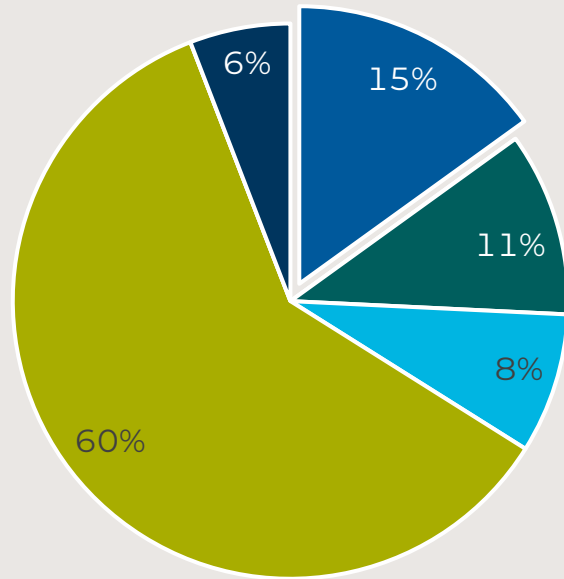
Roadmap

- Czech Republic
- Denmark
- France
- Saudia Arabia
- Spain
- Slovakia



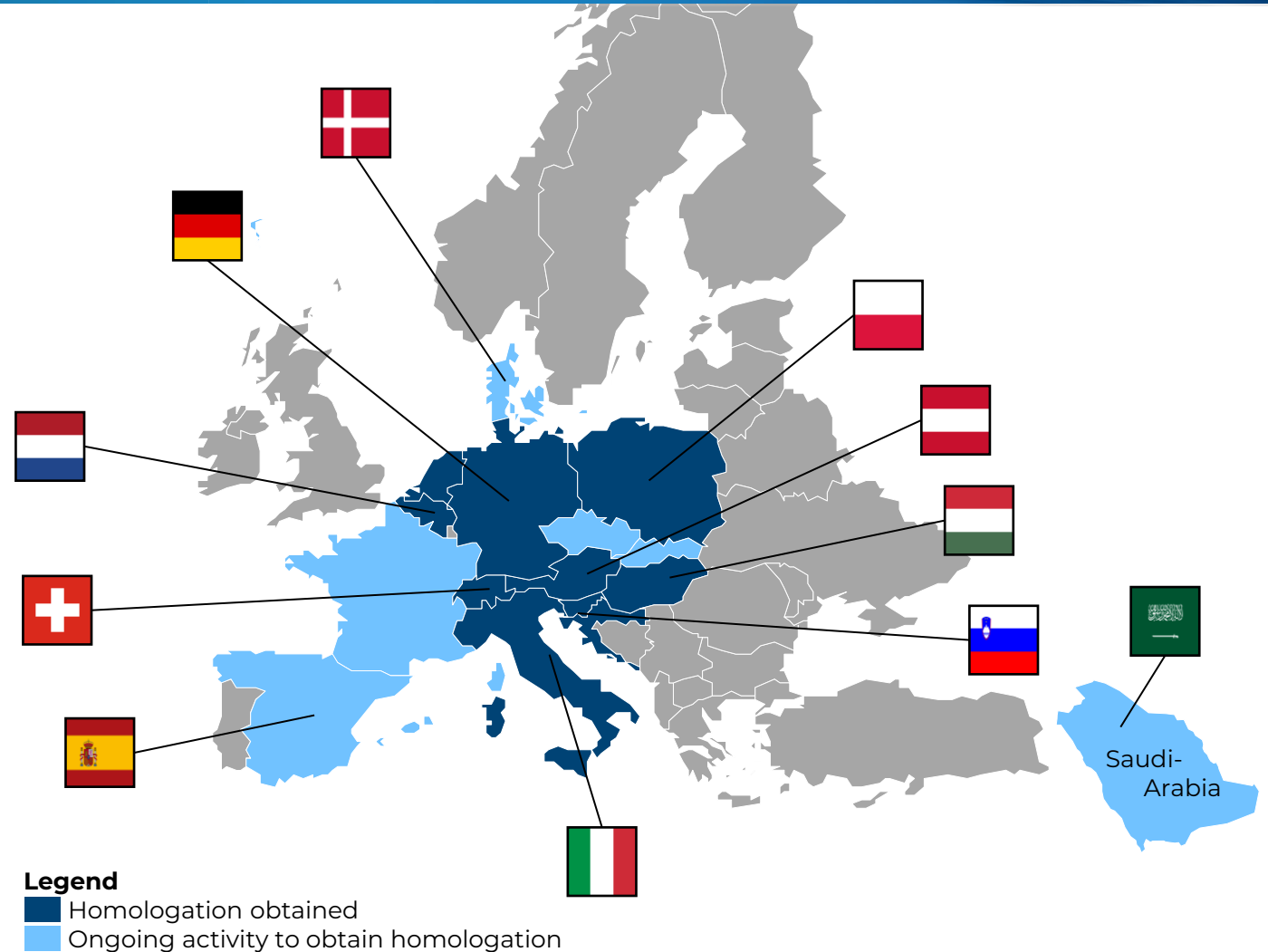
More than 1'400 vehicles equipped and increasing market share

New OBUs 2022/2023



- Stadler
- Hitachi Rail (incl. Ansaldo)
- Siemens
- Alstom (incl. Bombardier)
- Others

Source: Deployment World Map (UNISIG), 10/2024

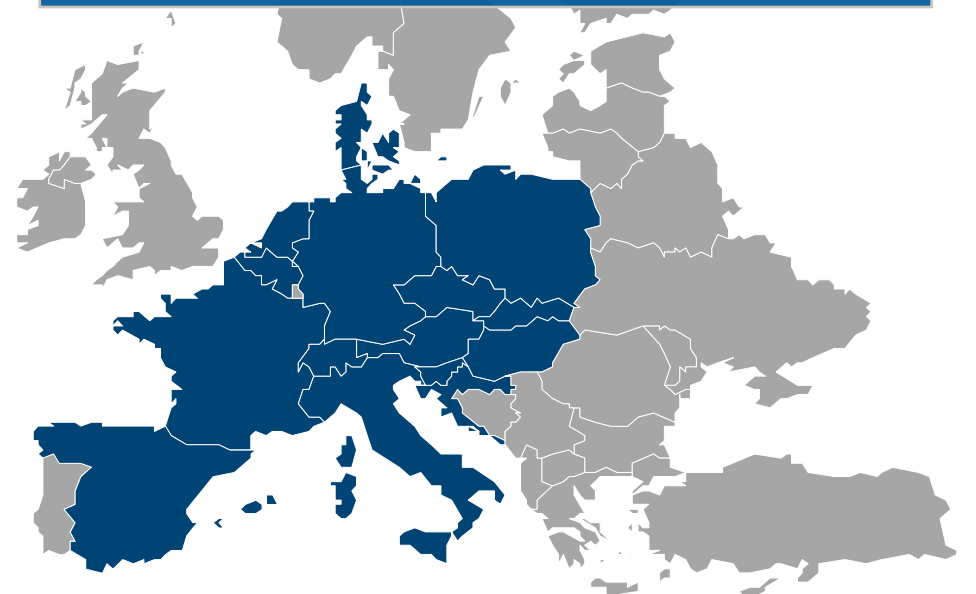


Trusted by established customers for ETCS refits



Average age of Rolling Stock in Europe¹

- Diesel locomotives 40 years
- Electric locomotives 29 years
- Diesel multiple units 25 years
- Electric multiple units 18 years
- High-speed trains 14 years



1) SCI 2024: Worldwide Market for Railway Industries 2024

Success story: Locomotive BR 185



OVERVIEW

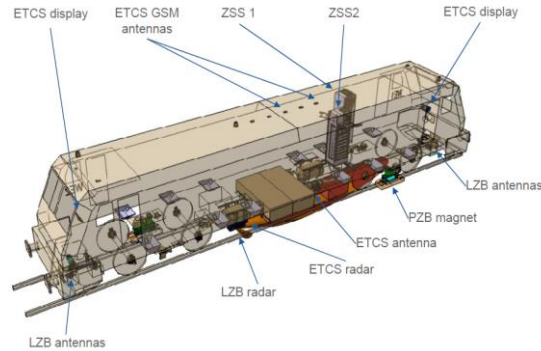


Freight Locomotive operating in AT and DE

There are **500 similar vehicles** in the market

No involvement of the locomotive manufacturer

CONCEPT



Reverse Engineering with **Vehicle Scan** and numerous **investigations on the Vehicle**

GUARDIA Baseline 3.4.0 ETCS
Integrating PZB & LZB

No changes on the TCMS ✓

EXECUTION



Execution **close to the vehicle home location**, without involvement of the locomotive manufacturer

SUCCESS FACTORS



Modification limits

Extensive testing before authorisation

Re-homologating vehicles using framework with **delta justifications**

Success story: Train BR 605



OVERVIEW



Passengers Train for **DK, DE and CH**

Manufactured in 2005 by Siemens/Bombardier

No involvement of the train manufacturer

CONCEPT



Reverse Engineering with **Vehicle Scan** and numerous **investigations on the Vehicle**

EXECUTION



“Backpack solution” without involvement of the train manufacturer

In parallel with BR 185 pilot

SUCCESS FACTORS



history of vehicle modifications

Adoption of **latest standards** for existing equipment

Introduction of new operational concepts due to ETCS implementation

Success story: Yellow Machine BR 741



OVERVIEW

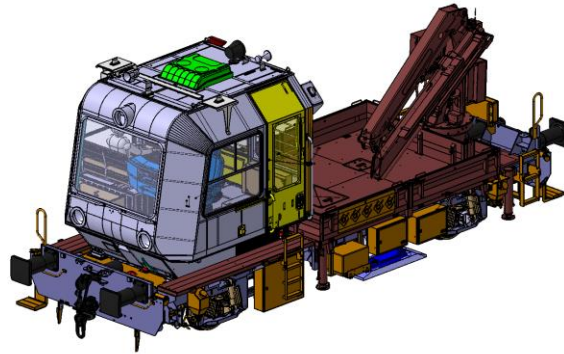


Maintenance vehicle for ETCS lines in **Germany**

Manufactured in **1998** by GBM

With Involvement of the train manufacturer

CONCEPT



Reverse Engineering with **Vehicle Scan** and numerous **investigations on the Vehicle**

EXECUTION



Limited access to technical documents

Using **original manufacturer facilities**

SUCCESS FACTORS



Mastering safety analysis is critical due to vehicle complexity

Understanding national rules & regulations

Establishing **partnerships** & exploring **different commercial set-ups**

Market entry: ETCS competency also on infrastructure Side

SZU (Zuerich) awarded Stadler with the network-wide modernisation of its signalling systems

- Partnership and long-term implementation contract from planning and installation to testing and commissioning of the safety systems (interlocking)
- Entry in the Swiss infrastructure market for standard-gauge railways
- Not only our first mainline interlocking but Stadler also provides ETCS wayside equipment
- SZU also ordered 17 FLIRT to be delivered in 2028

Market entry

First mainline interlocking project and base for further tenders

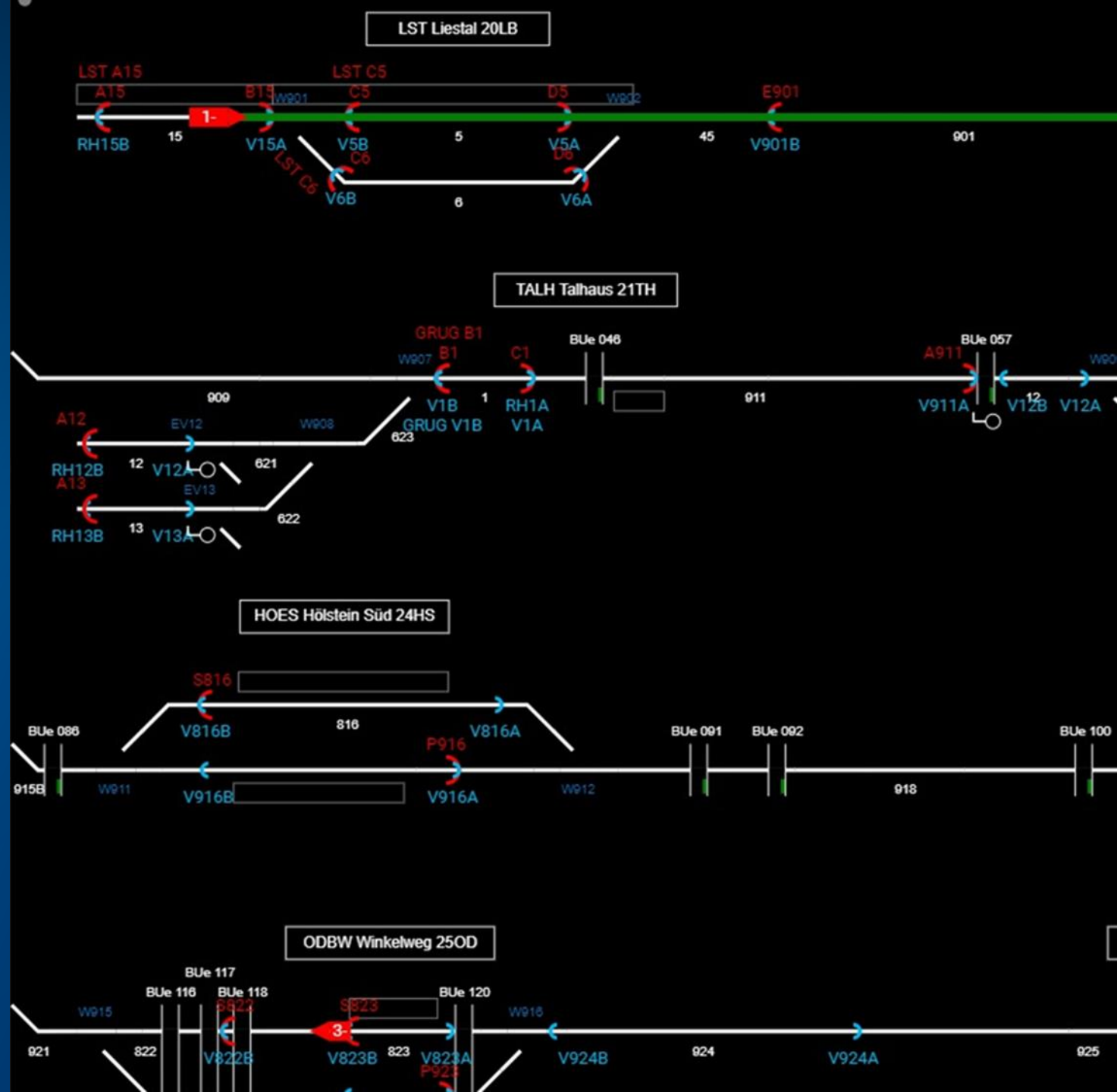
Innovation

Stadler Rolling Stock and Signalling provide unique innovation potential



03 Innovation

Ankit Dabral
Head of Business Development CBTC/ATO





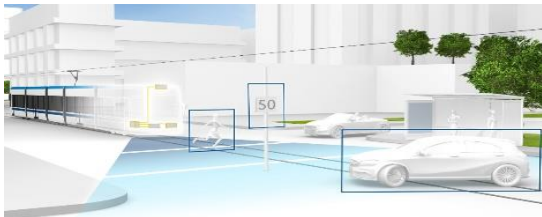
Communication Based Train Control – NOVA PRO

- Innovative approach with first CBTC application compatible for both Metro and Light Rail Vehicles
- Pure Moving block, based on commercial-off-the-shelf (COTS) – one of a kind in the industry



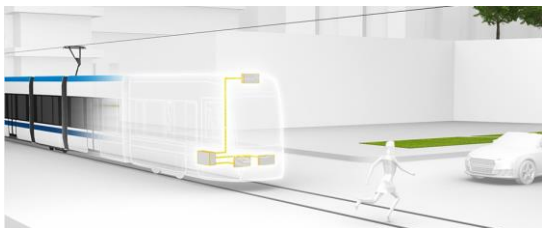
Depot automation

- Modern depot automation, made for every kind of railway
- Innovation leading to significant savings for our customers



Sensor based – collision warning & avoidance

- Thoughtful AI based on sensors ensuring additional layer of safety for vehicles
- Detecting trains, people, cars to potentially becoming “train-based positioning system”



Digitalization

- Heavy focus on automation and needs of customers
- Driver advisory systems, predictive maintenance, digital twins and passenger information systems



For customers who want to be ensured of reliability, precision and maximum safety in urban metro lines. Stadler offers high-quality, lean and modular CBTC solutions and their migration into the existing infrastructure.

Automated operation – CBTC

The Stadler NOVA Pro CBTC system allows automated operation of metro trains (even driverless). With Stadler NOVA Pro, operators can achieve shorter train sequence times, faster travel times, higher reliability, lower life cycle costs and improved customer service.

Migration

We plan the migration process in detail with highest priority on maintaining safety standards and continuous operations.

The most modern metre gauge railway in Europe



CBTC GoA2

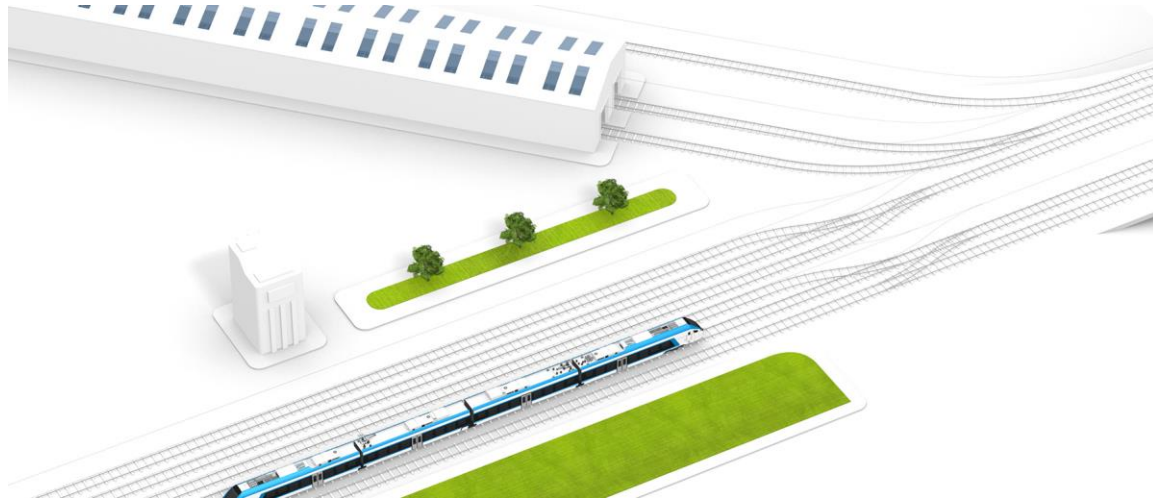
- In commercial operation since December 2022
- Scalable system design: GoA2 in 2024 / expandable to GoA4
- Including collision warning system
- Depot automation 2025 in commercial operation

Full automation (GoA4) on open track



CBTC GoA4

- ATO GOA4 on open track
- Pioneering automated rail operation on branch line
- Communication via public network
- Defines standards for autonomous operation on open track
- On-demand operation in planning
- Commissioning 2027



Whether interlocking, ATO solutions or sensors – Stadler supplies tailored hard- and software solutions for visualization and operation within depots

Shunting systems

Stadler offers innovative system solutions for regulated and safe interaction between humans and machinery in shunting yards and depots.

Automated shunting

We support railway operators in efficient vehicle dispatching within depots and shunting yards via our automated shunting system. It enables humans to fully concentrate on on-track operation.



From partial automation in the depot area...





... up to fully automatised depot operations
(shunting, parking, coupling, washing, preparation)

Use cases of depot automation in GoA4



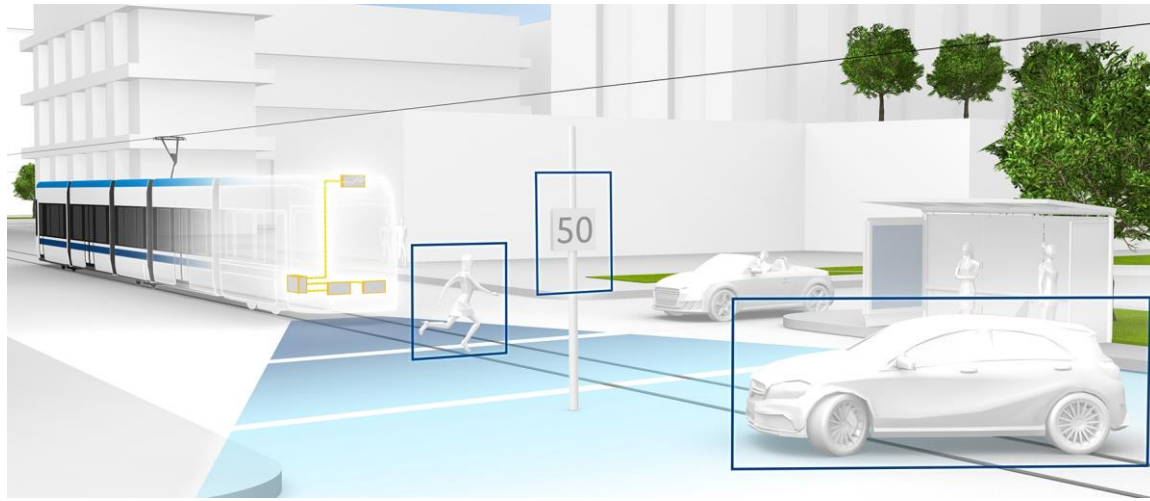
Autonomous shunting of the train to the workshop

Autonomous Coupling of trains

Driverless parking of vehicles

Autonomous washing of the train

Autonomous preparation of the train at departure platform



Stadler links different systems to develop digital solutions for various applications. Railway transport thereby becomes more punctual and attractive and supports the climate-friendly mobility transportation.

We are creating a digital, flexible and independent e-mobility future.

Digital twins

A digital twin is a detailed virtual copy of a vehicle fleet and processes vehicle data in real time

ATO and driver advisory systems

Automatic Train Operation and supports various applications for partial and full automation of operations.

Collision warning system

Increased operating safety thanks to high-quality object detection that uses up to three different sensors (radar, camera and lidar)

Passenger information systems

A modular solution that provides dynamic passenger information at bus and on train platforms.

Revolutionizing migration



- No platform solutions
- Customer-specific migration and strategy
- Parallel equipment onboard and trackside
- Tailored solutions
- Applicable on a large product portfolio



Tailormade solutions for our customers' needs

Q&A



Dr. Ansgar Brockmeyer
Head of Marketing & Sales

Deep dive US market

STADLER

Capital Markets Day 2025 | 19.03.25 | © Stadler

01

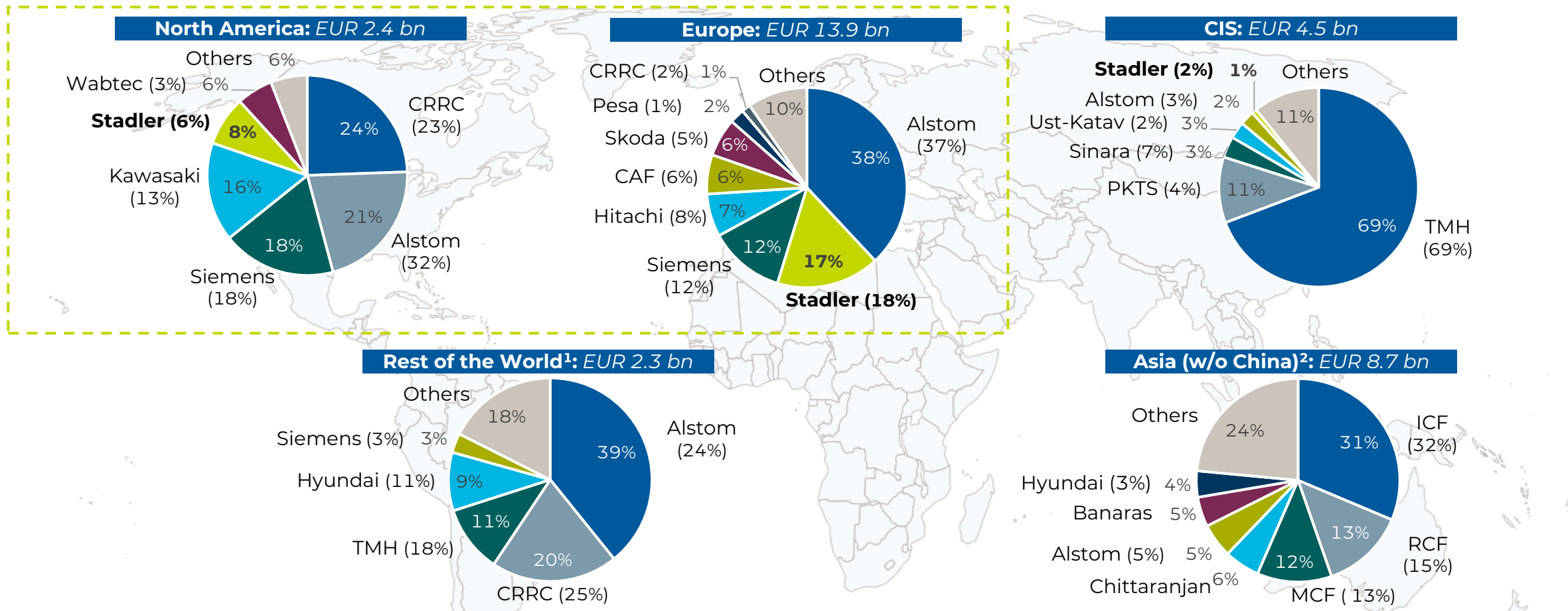
Stadler worldwide market shares

Regional Development

SCI market shares by region

(2022-2024)

Home markets



Stadler increased shares by one third in North America and remained second in Europa. Alstom increased shares in Rest of the World by doubling the delivered numbers of cars in Africa / Middle East.

Source: SCI Market Share Data for Railway Industries (2024) for Pie Charts based on Units delivered 2022-2024, and SCI Worldwide Market for Railway Industries (2024) for the Market Volume (for the strategic ROS market of Stadler, therefore w/o Freight and China)
 (1) RoW includes the regions Africa & Middle East, Australia, New Zealand & Pacific, and South & Central America
 (2) Asia includes all areas in Asia (Southeast Asia, South Asia, East Asia), excluding China due to protectionism. China's share of global railway market volume in 2023 is 9% OEM & 10% After Sales. These values are further used as an assumption to define the potential of the target market
 Capital Markets Day 2025 | 19.03.25 | © Stadler

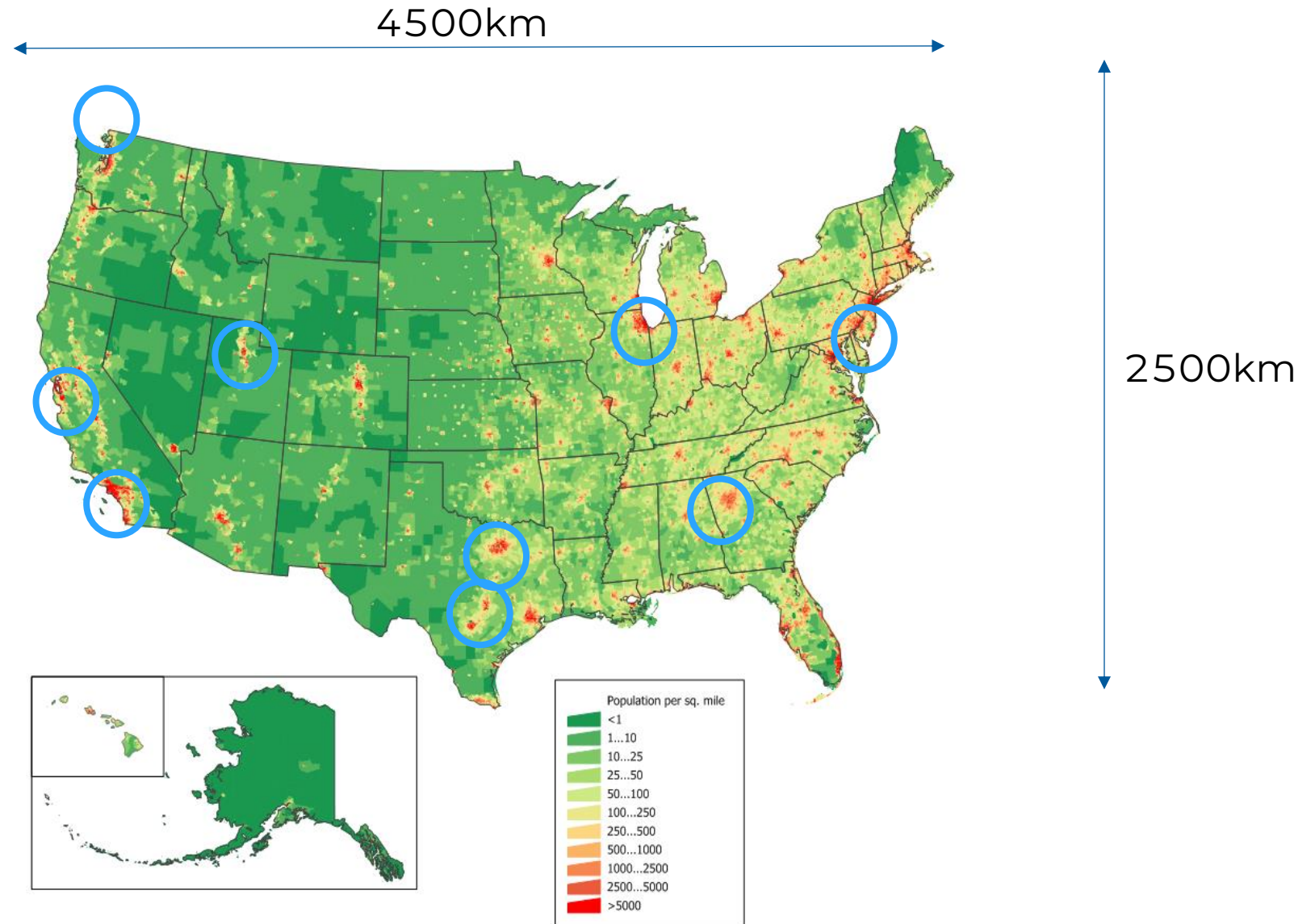
02

US rail market characteristics

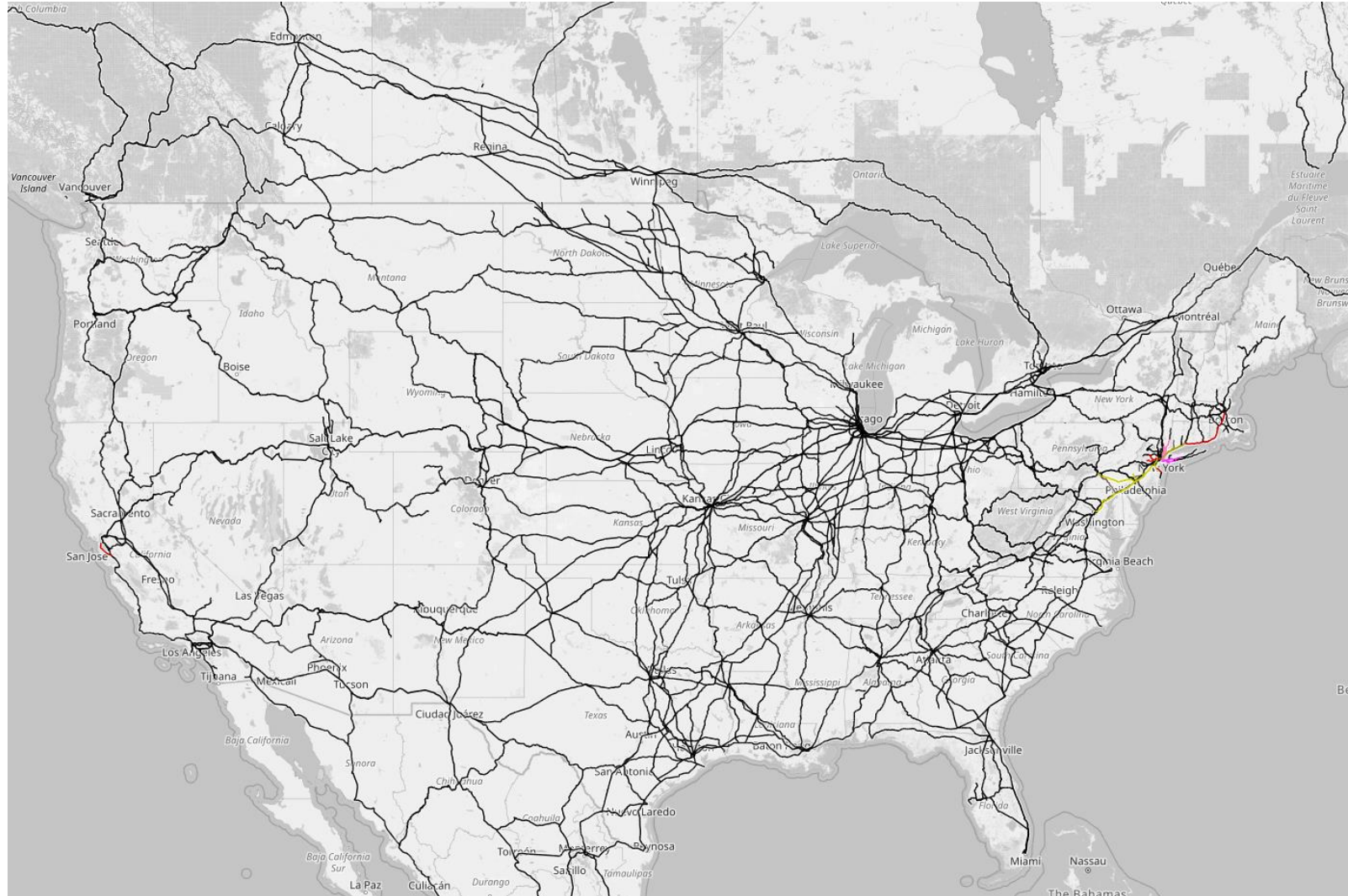
Geographical and technological challenges

Geographical footprint of US population is challenging for railways

Population: ~340 Mio
Area: ~10 Mio km²



The railway network is 290 tkm the largest of the world with <1% electrification

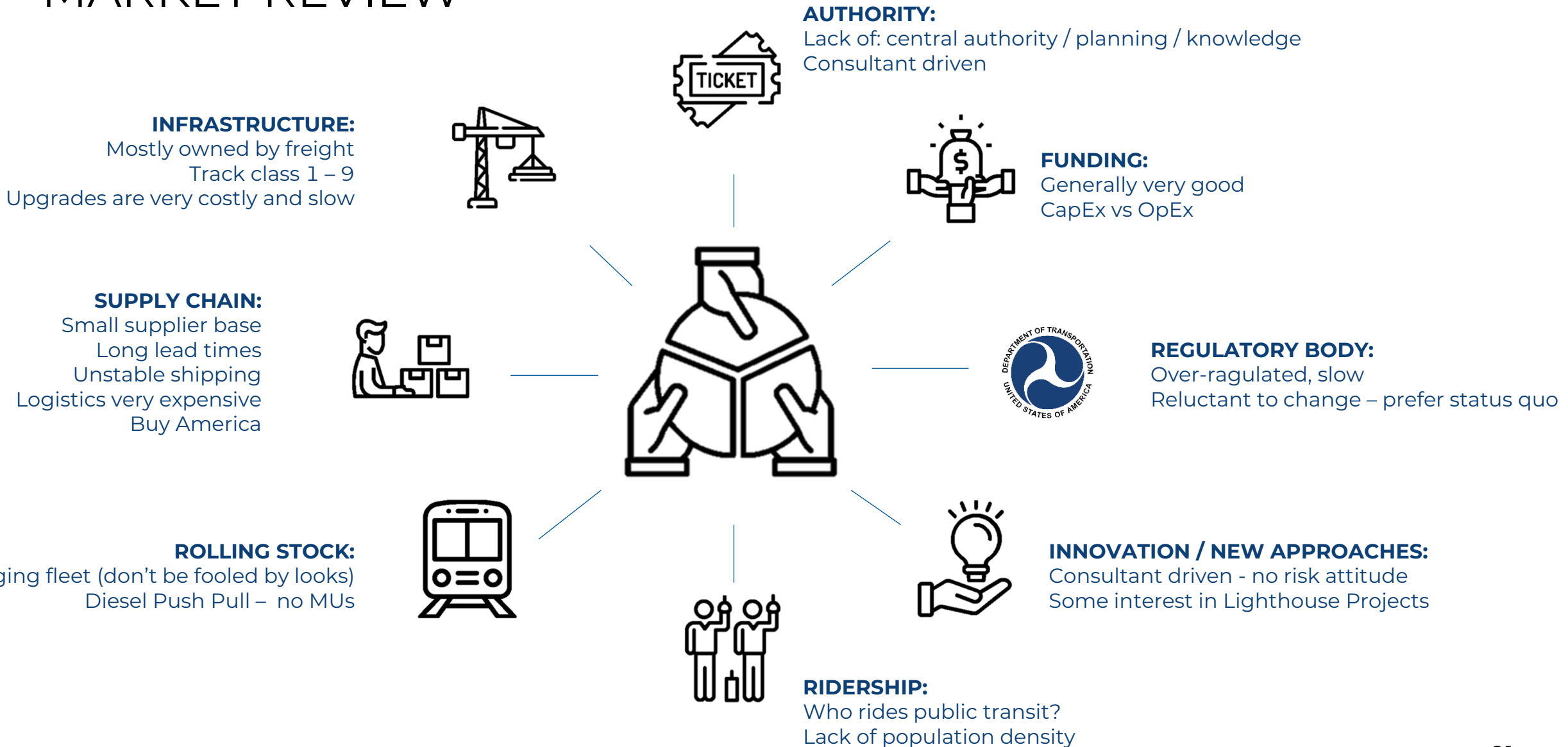


The US passenger rail market has a vast modernisation potential: Past, present and future of CalTrain (CA) in a single image



Stadler in North America

MARKET REVIEW



03

Stadler in North America

Innovation and Technology offensive

A solid basis

Stadler product families in North America

Leader in **ZERO emissions** technology

Most advanced Metro vehicles

Next Generation Light Rail Vehicles

2002

2016

2017

2018

2019

2020

2021

2022

2023

2024

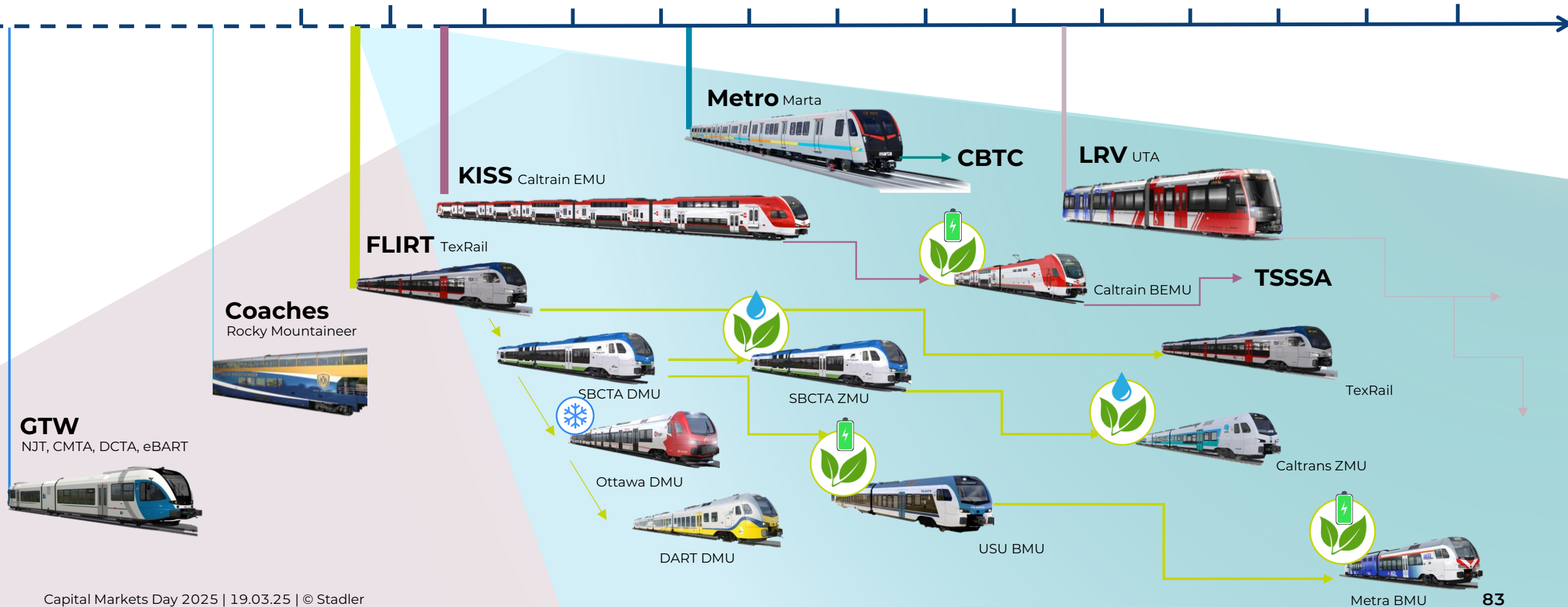
2025

2026

2027

2028

2029



Our products in an overview

GTW



Propulsion Systems:

- Diesel
- Overhead Catenary

Seating Capacity – up to 200

Customizable Platform Height

FLIRT



Propulsion Systems:

- Battery
- Hydrogen
- Diesel
- Overhead Catenary

Seating Capacity – up to 480

Customizable Platform Height

KISS



Propulsion Systems:

- Battery
- Overhead Catenary

Seating Capacity – up to 800

Customizable Platform Height

METRO



Propulsion Systems:

- Battery
- 3rd Rail

Seating Capacity – up to 350

Customizable Platform Height

LIGHT RAIL VEHICLES



Propulsion Systems:

- Overhead Catenary
- Off wire capabilities

Seating Capacity – up to 140

Customizable Platform Height:
 - High Floor
 - Low Floor
 - 70 – 80% Low Floor

TAILOR MADE



Options:

- Cog Rail
- Coaches
- Shunting Locomotives
- Research & Development Projects

Stadler Rail Services (SRS)

- Full Service – Comprehensive maintenance
- TSSSA – Tailored service support
- Spare part management
- Modernization – Upgrade of existing vehicles
- Overhaul of vehicles and components
- Repair of vehicles
- Digital solutions – Remote monitoring and condition based maintenance

Stadler Signaling

- ETCS – EU Train Control System
- CBTC – Comm. Based Train Control
- ATO – Automated Train Operation
- Anti-Collision
- PZB & FRED – On Board & Wayside
- Interlocking – Control and Safety
- Subsystems
- Dynamic Passenger Information
- Services
- Smart Object Controller
- Field Elements

Footprint Salt Lake City (UT)

Stadler in North America



View Looking Southwest



View Looking Southeast

04

Stadler in the United States

Growing fast & sustainably

Ongoing projects



- Caltrain
- 19 KISS EMU

- Fleet stable in revenue service
- Last 2 Trainsets from Base Order & Option 1 in final assembly



- SBCTA
- 3 FLIRT DMU + 1 ZEMU

- Start of revenue service with H2 scheduled for spring 2025
- Maintenance contract awarded
- DMU Fleet is running very stable



- MARTA
- 56 Metro 4-car TS

- Presentation of vehicle at State of MARTA in February 2025
- Production in full swing
- Award of CBTC system



- USU
- 1 FLIRT BEMU

- Design phase near completion
- Start of final assembly in Q3, 2025



- Caltrans
- 10 FLIRT H2

- Route: Valley Rail and California
- Ridership: new service
- Revenue Service: 2027
- Power: Hydrogen/Battery



- Caltrain Options
- 4 KISS EMUs

- Route: San Francisco Peninsula – San Jose
- Ridership: 65,000+ per day
- Revenue Service: Expected start in 2025
- Power: Electric, runs on 25kV 60Hz AC overhead line

Newly awarded projects



- Caltrain
- 1 KISS BEMU

- Route: San Francisco Peninsula – San Jose – Gilroy
- Ridership: TBD
- Revenue Service: Expected end of 2027
- Power: Electric, runs on 25kV 60Hz AC overhead line



- Metra
- 8 FLIRT Battery

- Route: Rock Island Line
- Ridership: TBD
- Revenue Service: Expected end of 2027
- Power: Battery



- TexRail Options
- 4 FLIRT DEMU

- Route: Fort Worth – Dallas International Airport
- Ridership: 1,900+ per day
- Revenue Service: Since 2019
- Power: Diesel



- UTA
- 20 Citylink LRVs

- Route: Airport – Draper – University of Utah - Daybreak
- Ridership: 11M per year
- Revenue Service: 2028
- Power: 750V DC

05

Projects in production 2019 - 2025

Caltrain (CA)

KISS Double-Decker Electric Multiple Unit (EMU)



CUSTOMER

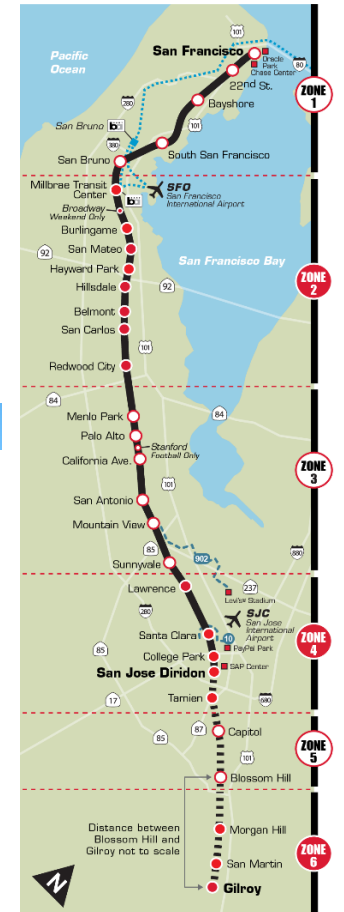
Name	Peninsula Corridor Joint Powers Board (PCJPB)
Location	San Carlos, California, USA
Due Date	Last 2 trainsets March 2025
Revenue Service	Since End 2024

TRACK

Route	San Francisco Peninsula – San Jose – Tamien
Stations	24 stations
Length	77 miles
Ridership	65,000+ per day

TRAIN SPECIFICATIONS

Type	EMU KISS 7-CAR
Vehicles	19 trains / 133 cars (+4 trains / 28 cars)
Max Speed	110 mph
Axle Arrangement	2'Bo' + Bo'Bo' + 2'2' + Bo'Bo' + 2'2' + Bo'2'
Power	Electric, runs on 25kV 60Hz AC overhead line
Size of Train	L 516' x W 9'10" x H 15'10" Weight 400+ Tons



Metro



TRAIN SPECIFICATIONS

Type	Metro
Vehicles	56 trains / 224 cars
Max Speed	70 mph
Axle Arrangement	TBD
Power	Electric, 750v DC Third Rail
Size of Train	L 340' x W 10.5'

CUSTOMER

Name	Metropolitan Atlanta Rapid Transit Authority (MARTA)
Location	Atlanta, Georgia
Due Date	Delivery starting in 2024 and ending 2028
Revenue Service	Starts in 2025 and ends in 2029

TRACK

Route	Atlanta Airport – North Springs; Indian Creek – H. E. Holmes
Stations	38 stations
Length	48 miles
Ridership	3.6M per year



FLIRT Battery Electric Multiple Unit (BEMU)



TRAIN SPECIFICATIONS

Type	FLIRT BEMU 2-Car
Vehicles	1 train / 2 cars
Max Speed	79 mph
Axle Arrangement	4 Powered 4 Unpowered
Power	Battery
Size of Train	L 169' x W 9' x H 14'

CUSTOMER

Name	Utah State University (USU)
Location	TBD
Due Date	Delivery in 2025
Revenue Service	Starts in 2026

TRACK

Route	TBD
Stations	TBD
Length	TBD
Ridership	TBD

06

**In design and future projects
2024 - 2028**

FLIRT H2 Zero-Emission Multiple Unit (ZEMU)



TRACK

Route	Sacramento - Merced
Stations	15
Length	Approx 230m per direction
Ridership	tbd



CUSTOMER

Name	Caltrans
Location	Sacramento
Delivery	Last Trainset delivered expected Q3 2027
Revenue Service	Expected Q1 2028

TRAIN SPECIFICATIONS

Type	FLIRT H2
Vehicles	10 + 19
Max. Speed	90 mph
Axle Arrangement	Bo'2+2'2'2'2+2'Bo
Power	1000kW, 180kN traction effort in total
Size of Train	L97,7m x W2,88m

KISS Battery Electric Multiple Unit (BEMU)



CUSTOMER

Name	Peninsula Corridor Joint Powers Board (PCJPB)
Location	San Carlos, California, USA
Due Date	May 2028
Revenue Service	Summer 2028

TRACK

Route	San Jose Tamien -Salinas, CA
Stations	3 stations
Length	67 miles
Ridership	Showcase demonstrator

TRAIN SPECIFICATIONS

Type	BEMU KISS 4-CAR
Vehicles	1 train
Max Speed	110 mph
Axle Arrangement	2'Bo' + Bo'Bo' + 2'2' + Bo'2
Power	Electric, runs on 25kV 60Hz AC overhead line; Battery, 1.8+ MWh
Size of Train	L 327' x W 9'10" x H 15'10" Weight 270+ Tons

FLIRT Battery Electric Multiple Unit (BEMU)



TRACK

Route Chicago – Joliet
(Rock Island Line)

Stations 26

Length 41 miles

Ridership 7M per year



CUSTOMER

Name Metra

Location Chicago

Due Date June 2028

Revenue Service TBD

TRAIN SPECIFICATIONS

Type FLIRT BEMU 2-Car

Vehicles 8

Max Speed 100 mph

Axle Arrangement Bo'2+2'2'2'2+2'Bo

Power ~800kWh

Size of Train L 170' W TBD



CITYLINK Light Rail Vehicle

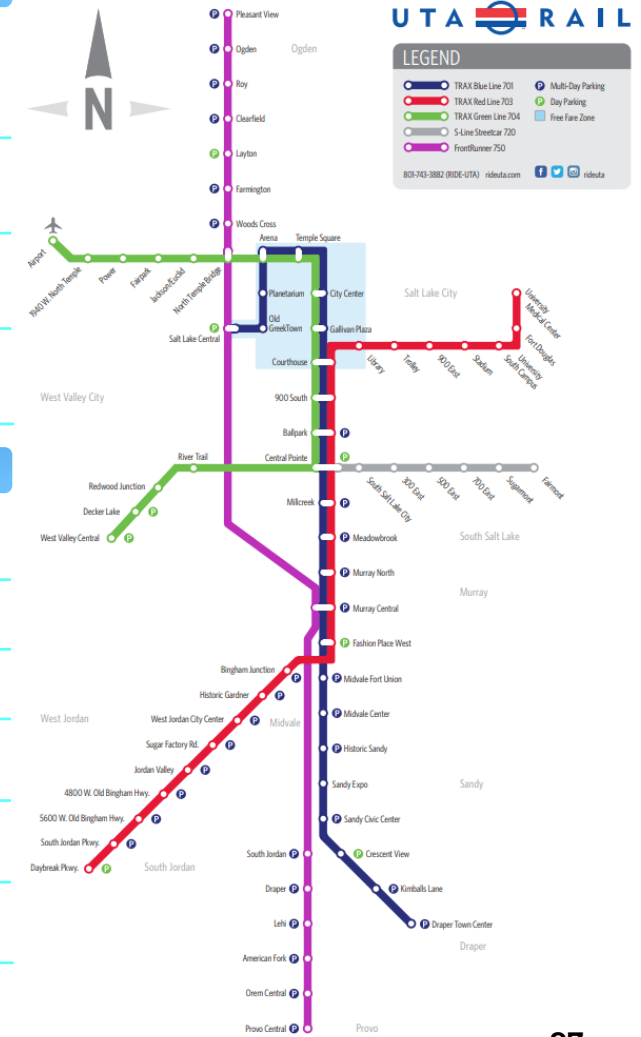


CUSTOMER

Name	Utah Transit Authority
Location	Salt Lake City, Utah
Due Date	2027
Revenue Service	2028

TRACK	
Route	Airport – Draper – University of Utah - Daybreak
Stations	26
Length	45 miles
Ridership	11M per year

TRAIN SPECIFICATIONS	
Type	CITYLINK
Vehicles	20
Max Speed	65 mph
Axle Arrangement	Bo'2+2'2'2'2+2'Bo
Power	750 V DC
Size of Train	89'



TexRail (TX)

FLIRT Diesel Multiple Unit (DMU)



TRAIN SPECIFICATIONS

Type	FLIRT / 5 car DMU
Vehicles	4 trains / 20 cars
Max Speed	79 mph
Axle Arrangement	4 powered 8 unpowered
Power	Diesel, 700kW
Size of Train	L 266' x W 9'5.4" x H 15'10" Weight 160 Tons

CUSTOMER

Name	Trinity Metro
Location	Fort Worth, Texas
Due Date	2019
Revenue Service	2019

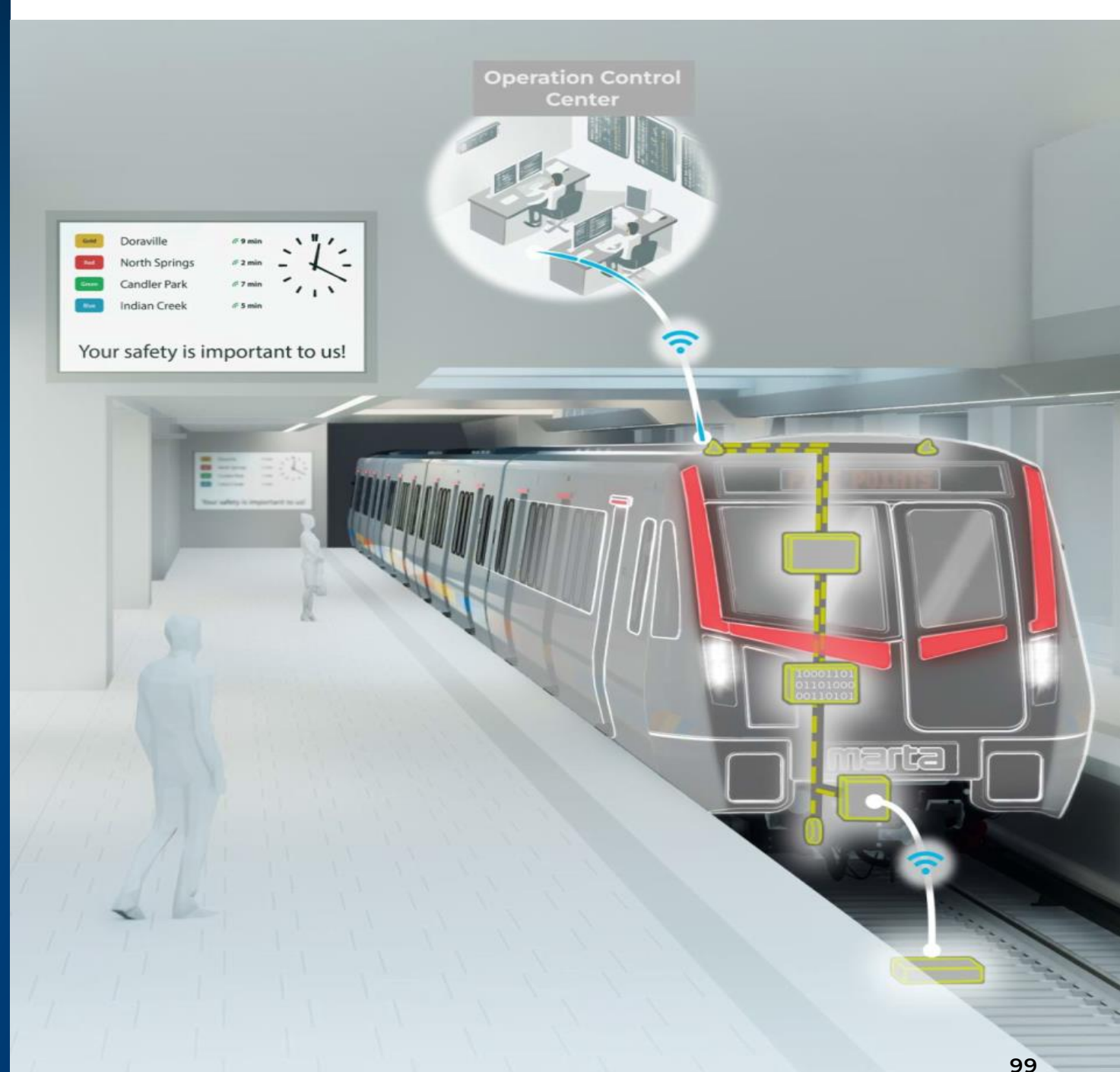
TRACK

Route	Fort Worth – Dallas International Airport
Stations	9 stations
Length	27.2 miles
Ridership	1,900+ per day



MARTA signaling

- Project volume approx. 500 Mio USD
- Modernization of infrastructure and on-board equipment
- Upgrade to Communication Based Train Control (CBTC)
- Implementation of Stadler Nova Pro
- Replacement of 3rd party obsolete legacy system
- Breakthrough in NA-market





Raphael Widmer
Group CFO

Financial performance and outlook

STADLER

Capital Markets Day 2025 | 19.03.25 | © Stadler

Conservative accounting principles



Order intake

- Only firm orders are booked as order intake (no options included)
- Order financing must be secured

Revenue recognition

- Percentage of completion: units-of-delivery method
- Revenue is only booked when a train is delivered; costs are calculated using actual project margins

Total cost (nature of expense) method

- Expenses are classified by their nature (production costs, engineering costs, project management costs, etc), as opposed to being allocated to business functions

Goodwill

- Goodwill is offset against equity under Swiss GAAP FER

Accounting standards

- The consolidated financial statements of Stadler Rail AG are prepared in accordance with the Swiss GAAP FER accounting principles as well as the provisions of Swiss law and are audited by KPMG.

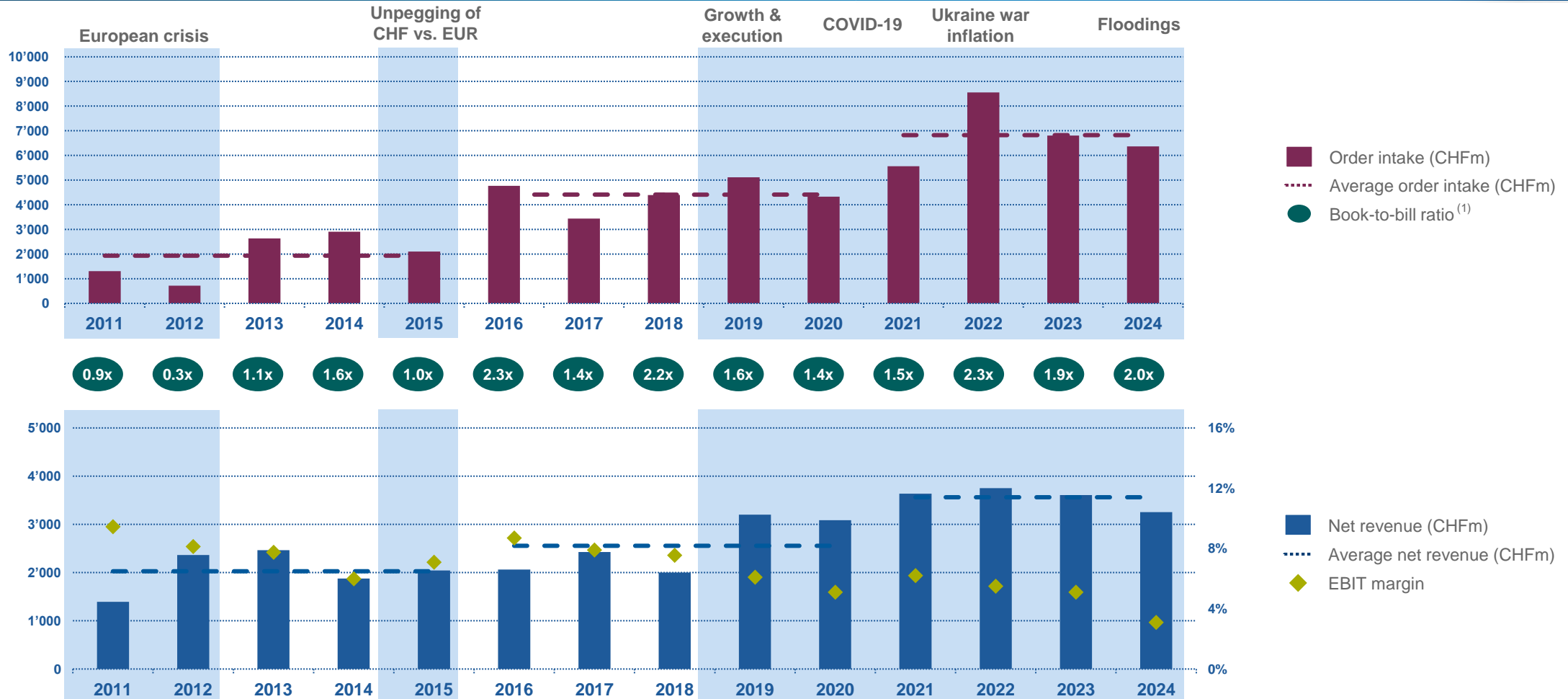
Financial risk management



Risk management

- Currency exposures are naturally hedged where feasible
- In regions where Stadler is exposed to a structural mismatch between the currency of its net revenue and costs, it utilises hedging tools such as foreign currency forward contracts and other derivative instruments in a systematic manner
- A new and macrohedging concept for the EUR/CHF exposure has successfully been implemented
- Customer advance payments are used as an additional instrument to minimise currency exposures
- Treasury and risk management actively monitors financial risks (FX, interest rates, credit risk and liquidity risk)
- Projects are subject to operational and financial review every month

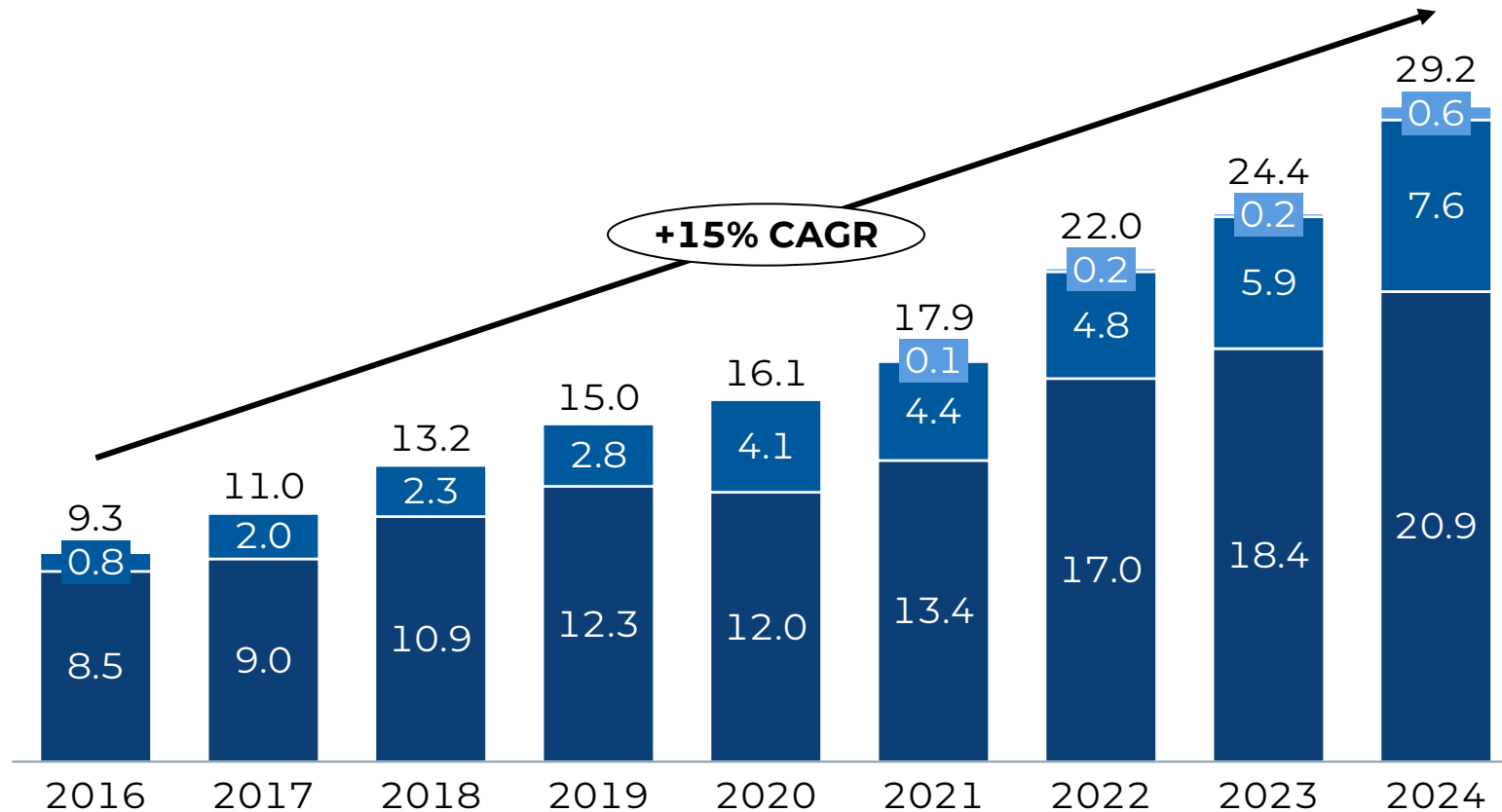
Long-term development of key financials



(1) Defined as order intake / net. revenue

CHFbn

Order backlog



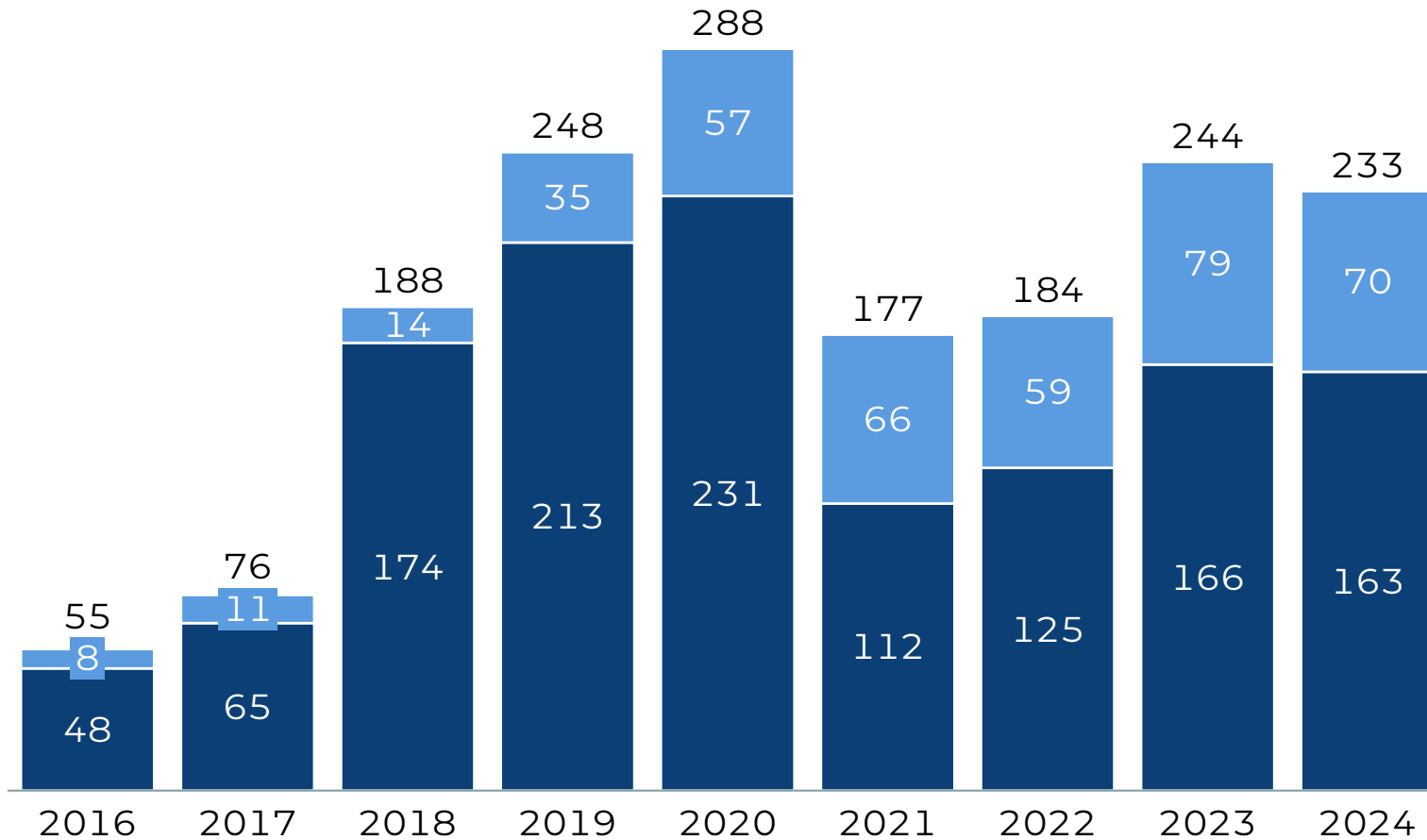
■ Rolling stock ■ Service & Components ■ Signalling

Comments

Order backlog of CHF 29.2bn with a growing Service & Components share providing long-term visibility

CHFm

Capital expenditure



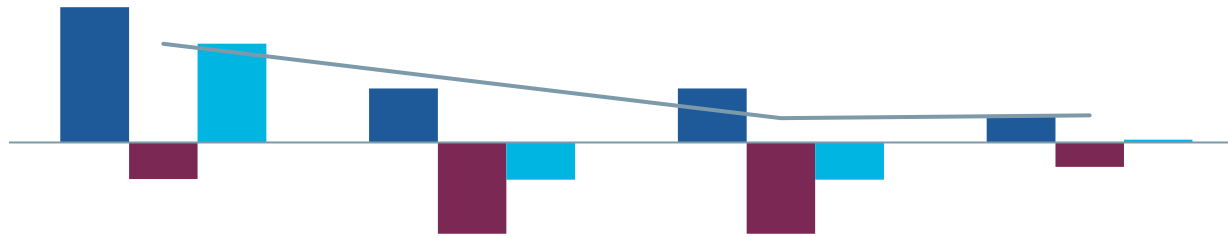
■ Investments in tangible assets, less grants received
■ Investments in intangible assets, less grants received

Comments

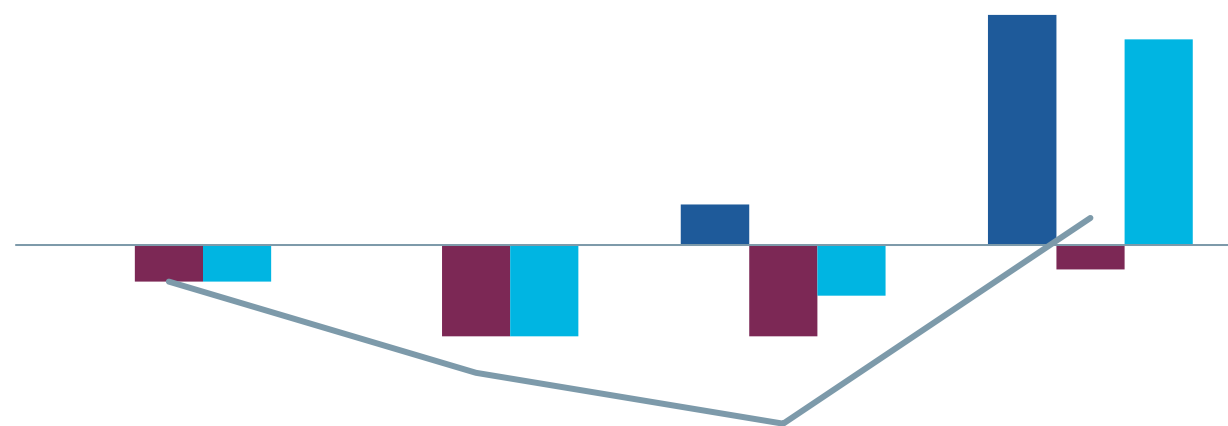
- Capacity investments driven by expansions in Spain, Hungary, the US and Poland
- Intangibles Capex mainly relate to R&D in locomotives, alternative propulsion technology and signalling

Cash flow cycles through project execution

Front-end loaded cash profile



Back-end loaded cash profile

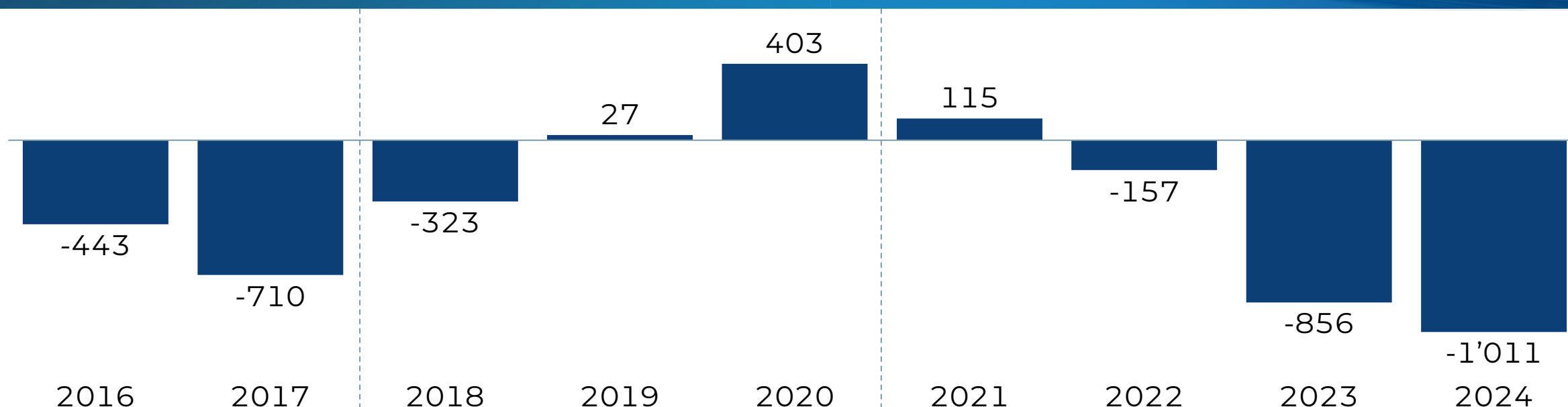


■ Cash in ■ Cash out ■ Cash flow — Net cash

Comments

- No structural change in payment terms
- Customer and market specific cash flow profiles typically vary significantly
- Key driver for cashflows in a specific period are the mix of ongoing orders combined with advance payments on new orders
- Financing costs for cash-consuming projects are included in the offer calculation
- Key criteria is the overall project margin

Long-term net working capital evolution



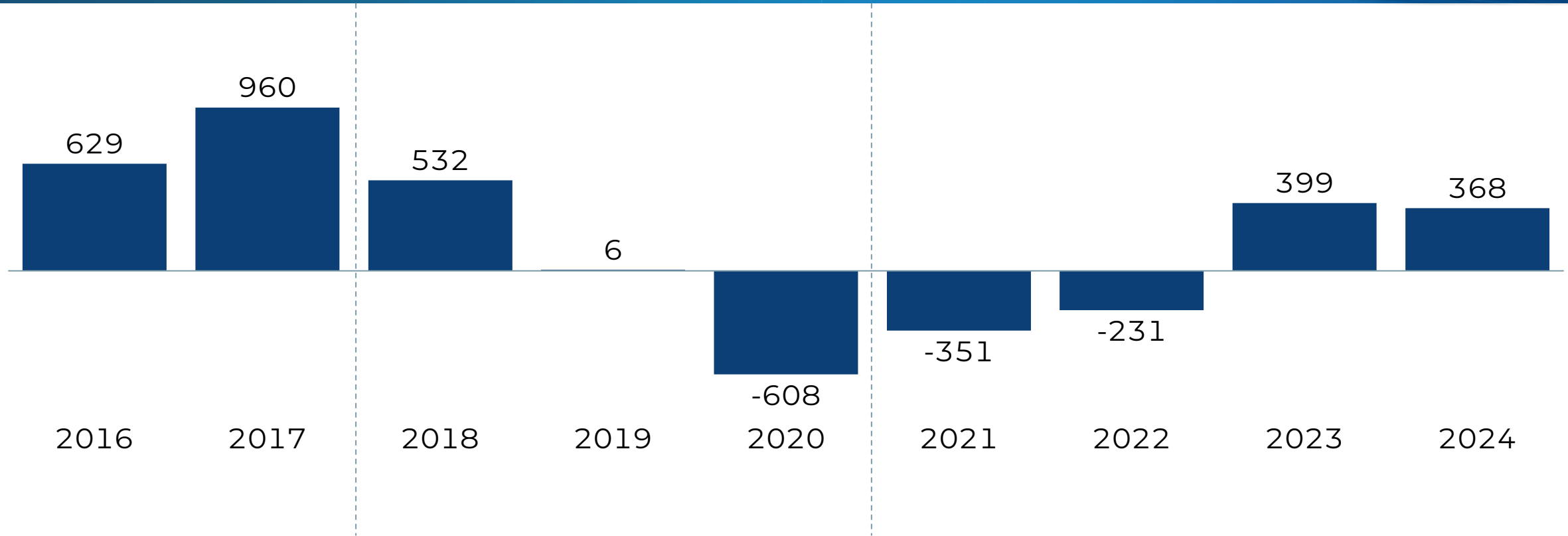
Orders with substantial advance payments at early stage of order execution.

Consumption of advance payments as orders are being executed. Pandemic-related delays in homologation, customer takeover and final payments in 2020.

Catch-up of Covid delays, progress and final payments from orders in execution as well as solid inflow of advance payments on new orders.

Net working capital can be subject to significant swings as a result of the lumpy nature of advance, milestone and final payments. Long-term expectation of slightly negative NWC with swings over the cycle

Long-term net cash evolution

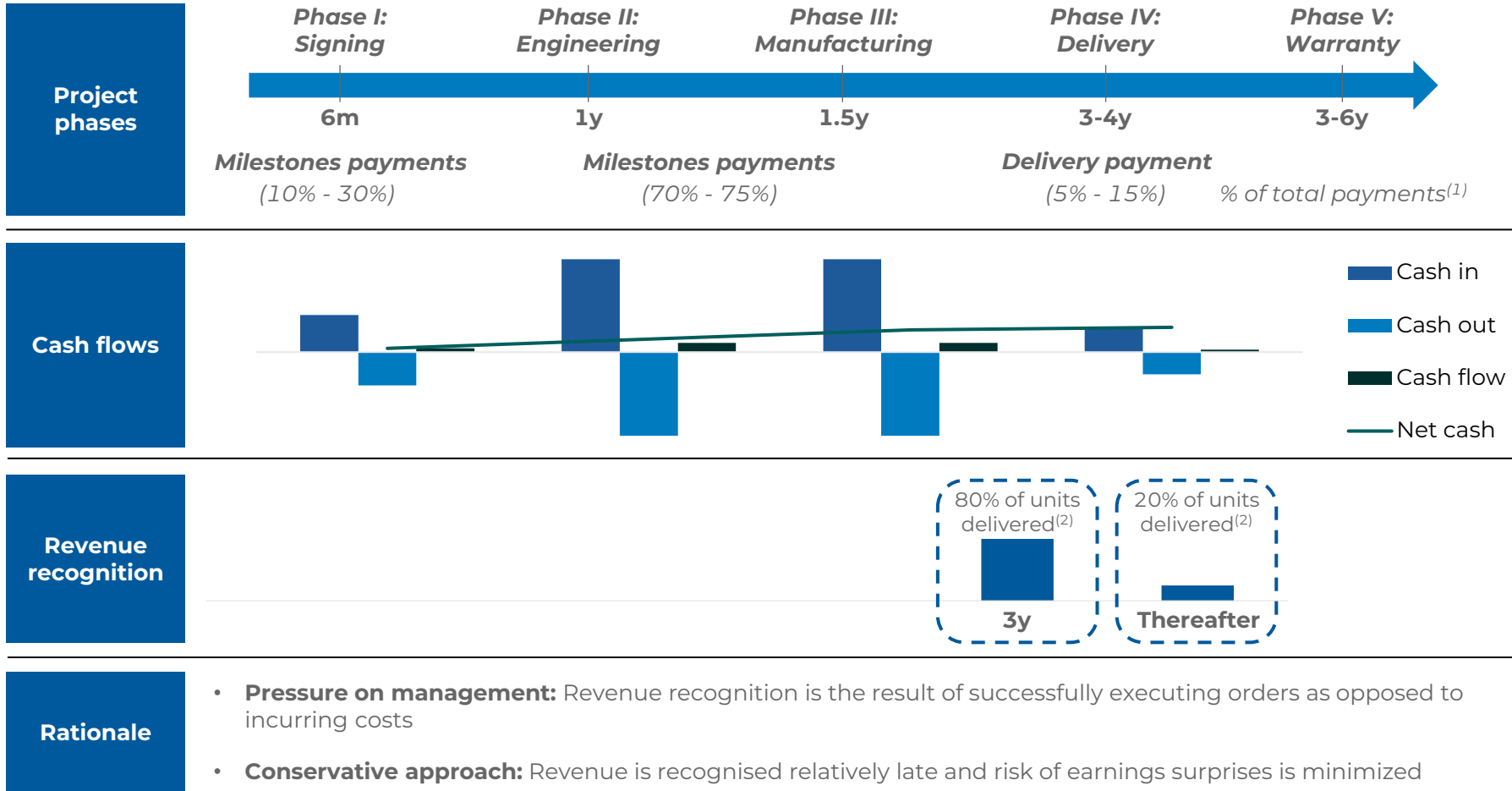


Movements in net cash are mainly driven by swings in net working capital

Deep dive long-term project accounting



Conservative revenue recognition

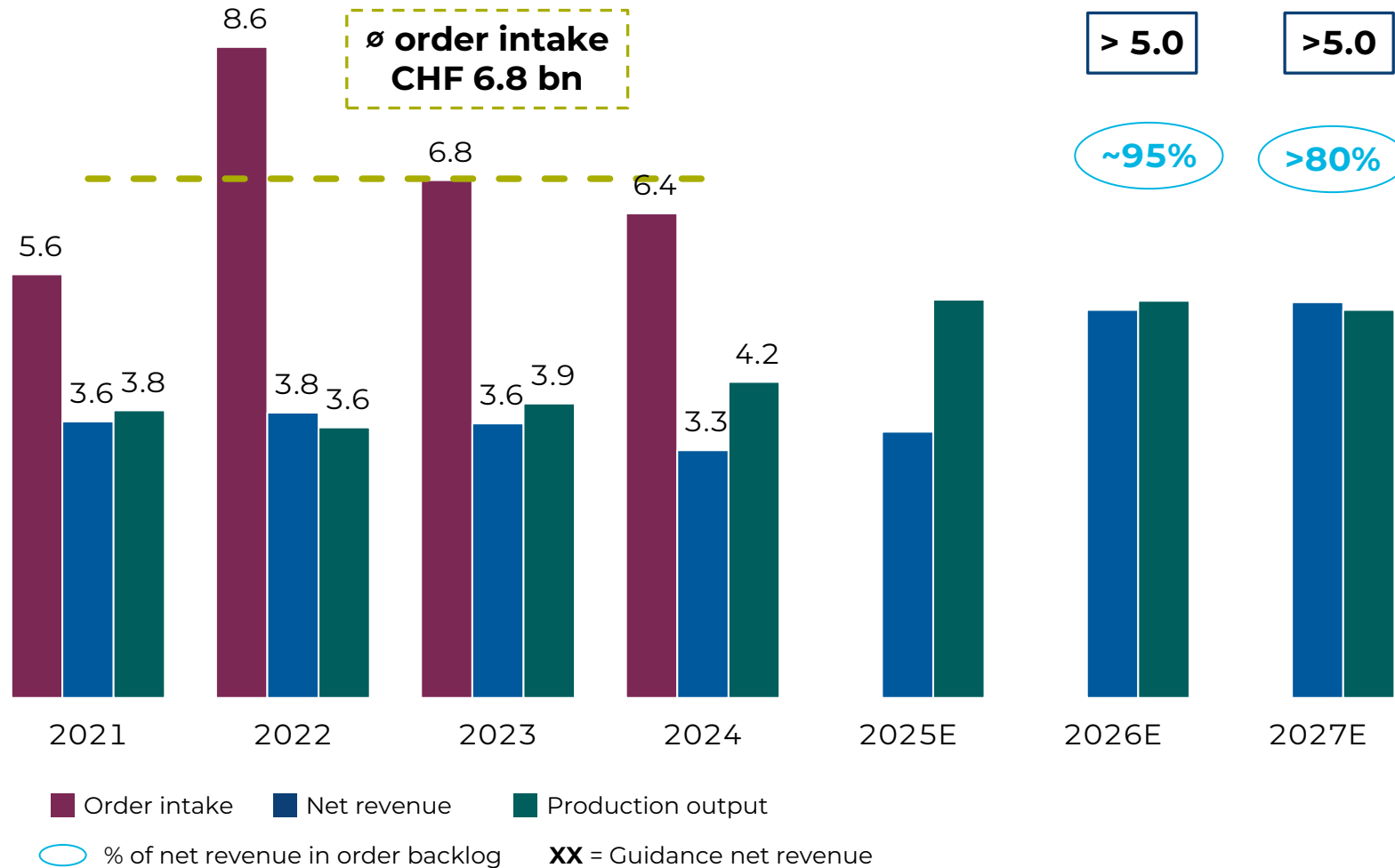


(1) Average values based on management estimates; distribution varies on a project-by-project basis.

(2) Average values based on management estimates.

CHFm

Production output



Comments

- Operating activities and production output significantly ahead of revenue recognition by units-of-delivery
- Significant step-up in production output expected in 2025 driving revenue growth into 2026/2027

Notes: Production output equals net revenue plus delta gross work in progress. Bar height for net revenue 2025E to 2027E are only illustrative. Bar height for production output 2025E to 2027E illustrative of the expected increase in production output.

Example: Units-of-delivery vs cost-to-cost I/II

Assumptions	2025	2026	2027	2028	Total
Manufacturing costs (material & hours)	13.6	30.4	28.8	7.2	80.0
Cash-in (Advance-, milestone- and final payments)	15.0	37.5	37.5	10.0	100.0
Order margin in %					20.0
Vehicle deliveries	0	0	4	1	5

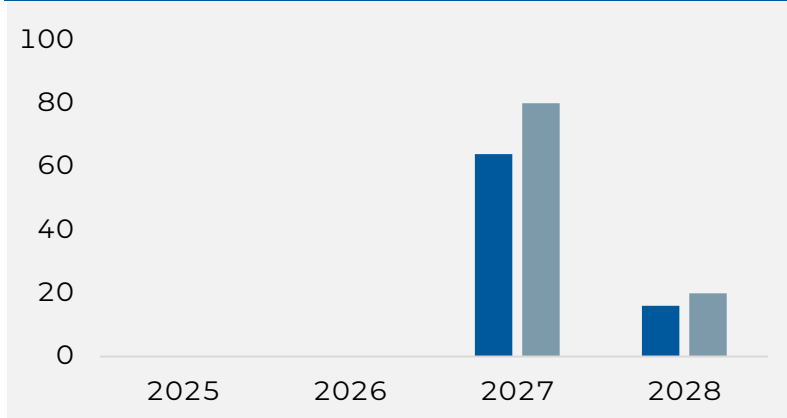
Units-of-Delivery	2025	2026	2027	2028	Total
Percentage of completion in %	0.0	0.0	80.0	100.0	
Manufacturing costs	0.0	0.0	64.0	16.0	80.0
Net revenue	0.0	0.0	80.0	20.0	100.0
Margin	0.0	0.0	16.0	4.0	20.0
Work in progress / (liabilities from work in progress)	(1.4)	(8.5)	(1.2)	0.0	

Cost-to-Cost	2025	2026	2027	2028	Total
Percentage of completion in %	17.0	55.0	91.0	100.0	
Manufacturing costs	13.6	30.4	28.8	7.2	80.0
Net revenue	17.0	38.0	36.0	9.0	100.0
Margin	3.4	7.6	7.2	1.8	20.0
Work in progress / (liabilities from work in progress)	2.0	2.5	1.0	0.0	

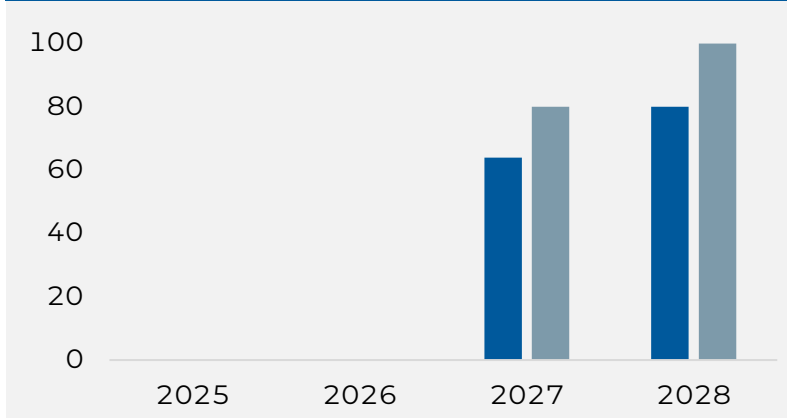
Example: Units-of-delivery vs cost-to-cost II/II



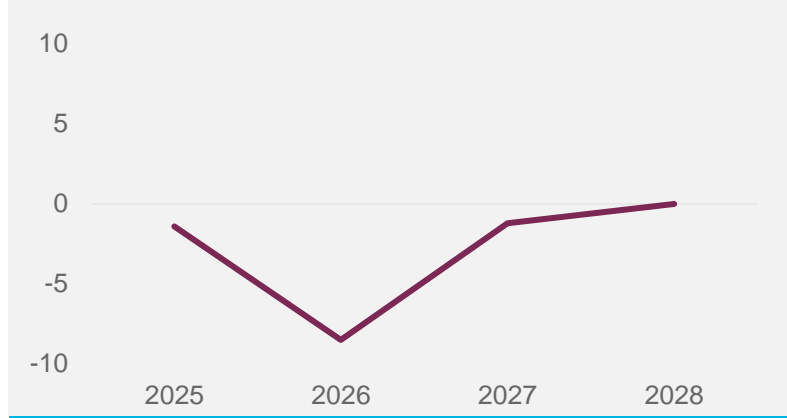
Units-of-delivery (annual)



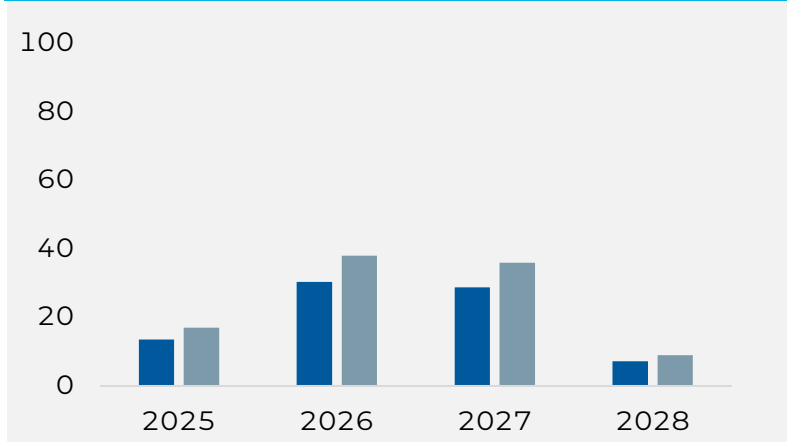
Units-of-delivery (cumulative)



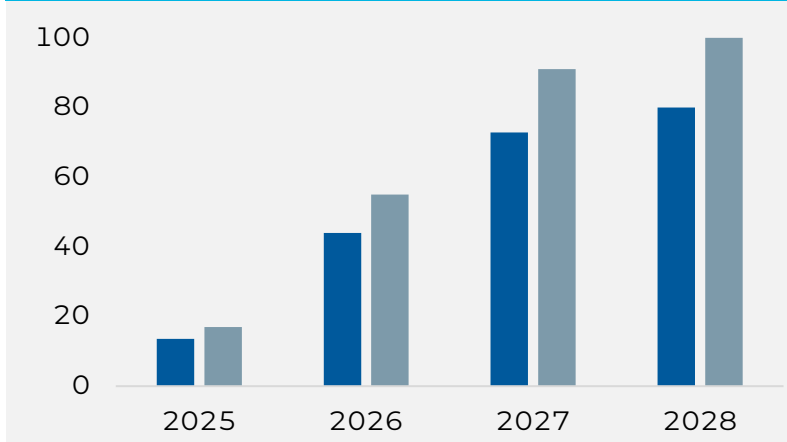
Units-of-delivery



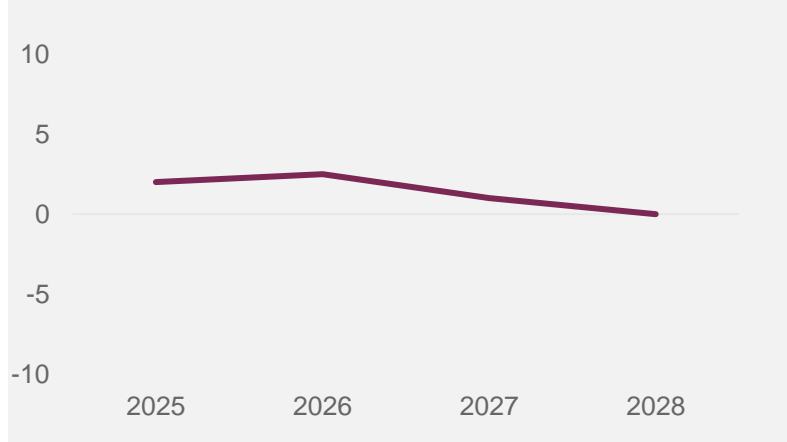
Cost-to-cost (annual)



Cost-to-cost (cumulative)



Cost-to-cost



■ Manufacturing costs ■ Revenue

— Work in progress / Liabilities from Work in progress

Work in progress I/II



Assets

in thousands of CHF	31.12.2024
Work in progress	
"Units of delivery" method	
Work in progress, gross	2,103,661
Advance payments to suppliers	77,519
Advance payments to suppliers, related parties	1,482
Advance payments to suppliers, associated companies	22,392
Advance payments from customers	(914,116)
Advance payments from customers, related parties	(47,483)
Total work in progress "units of delivery" method	1,243,455
"Cost to cost" method	
Work in progress, gross	10,138
Advance payments to suppliers	1,243
Advance payments from customers	(3,807)
Full-service contracts, net	81,883
Total work in progress "cost to cost" method	89,457
Total work in progress	1,332,912

Liabilities

Liabilities from work in progress	
"Units of delivery" method	
Work in progress, gross	1,761,941
Advance payments to suppliers	181,461
Advance payments to suppliers, related parties	-
Advance payments to suppliers, associated companies	13,519
Advance payments from customers	(4,820,109)
Advance payments from customers, related parties	(11,887)
Advance payments from customers, associated companies	(7,320)
Total liabilities from work in progress "units of delivery" method	(2,882,395)
"Cost to cost" method	
Work in progress, gross	2,718
Advance payments to suppliers	319
Advance payments from customers	(39,515)
Full-service contracts, net	(140,610)
Total liabilities from work in progress "cost to cost" method	(177,088)
Total liabilities from work in progress	(3,059,483)
Net work in progress / (liabilities from work in progress)	(1,726,571)

- Work in progress is determined on an order-by-order basis
- Depending on its cashflow profile, stage of execution and percentage of completion, an order can either constitute an asset or a liability from work in progress
- Net work in progress is the main driver for movements in net working capital

Work in progress II/II



Assets

in thousands of CHF	Note	31.12.2024	
Assets			
Cash and cash equivalents		1,260,853	
Trade receivables	2.1	414,269	
Other current receivables	2.7	110,585	
Compensation claims from work in progress	1.3	775,715	
Inventories	2.2	327,863	
Work in progress	1.2	1,332,912	
Accrued income and deferred expenses		59,951	
Total current assets		4,282,148	73.1%
Property, plant and equipment	2.3	1,095,731	
Financial assets	2.4	187,311	
Investments in associated companies	4.3	24,367	
Intangible assets	2.5	265,895	
Total non-current assets		1,573,304	26.9%
Total assets		5,855,452	100.0%

Liabilities

Liabilities & equity		
Current financial liabilities	3.1	49,787
Trade payables	2.1	230,215
Liabilities from work in progress	1.2	3,059,483
Other current liabilities	2.7	171,019
Current provisions	2.6	93,944
Deferred income and accrued expenses	2.7	477,581
Total current liabilities		4,082,029
Non-current financial liabilities	3.1	843,042
Employee benefit obligations	5.3	2,620
Non-current provisions	2.6	153,682
Total non-current liabilities		999,344
Total liabilities		5,081,373
Share capital	3.3	20,000
Capital reserves		17,583
Treasury shares	3.3	(23)
Retained earnings		663,259
Profit for the year, attributable to shareholders of Stadler Rail AG		38,417
Stadler Rail AG shareholders' equity		739,236
Minority interests		34,843
Total equity		774,079
Total liabilities & equity		5,855,452

Compensation claims from work in progress

in thousands of CHF	Note	31.12.2024	
Assets			
Cash and cash equivalents		1,260,853	
Trade receivables	2.1	414,269	
Other current receivables	2.7	110,585	
Compensation claims from work in progress	1.3	775,715	
Inventories	2.2	527,863	
Work in progress	1.2	1,332,912	
Accrued income and deferred expenses		59,951	
Total current assets		4,282,148	73.1%

Two cases leading to compensation claims:

1. Customer acceptance has not yet taken place, but all significant performance obligations have been fulfilled and therefore revenue is recognised
2. Customer acceptance has taken place and therefore revenue is recognised, but final invoices cannot be issued yet in accordance with payment terms

Accounting principles

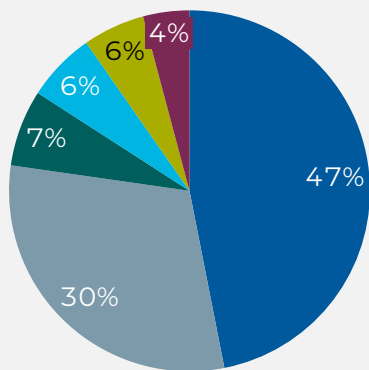
(extract)

- Revenue from rail vehicles is recognised on the basis of the percentage of completion (by units-of-delivery), provided the relevant conditions are met
- There are justified cases in which acceptance by the customer is delayed merely for administrative or organisational reasons, but all significant performance obligations have been met. In such cases, the company management assesses the economic situation and may decide to recognise revenue prior to customer acceptance
- In cases where the payment schedule does not correspond to the acceptance schedule and invoicing can therefore not take place until a later date, a compensation claim is recorded

Diversified, high-quality order backlog

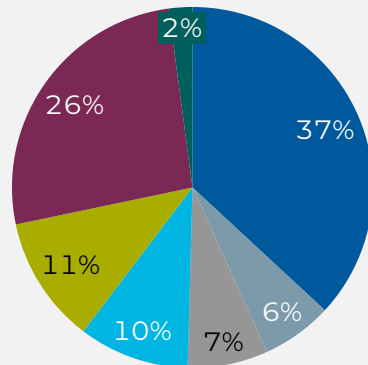


Order backlog by region



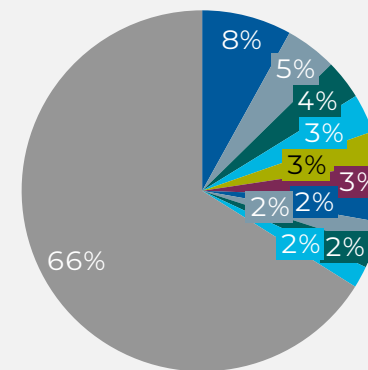
- DACH
- CIS
- Western Europe
- Eastern Europe
- Americas
- Rest of the world

Order backlog by market segment



- Trains
- Locomotives
- Metro
- LRV
- Tailor-made
- Service & Components
- Signalling

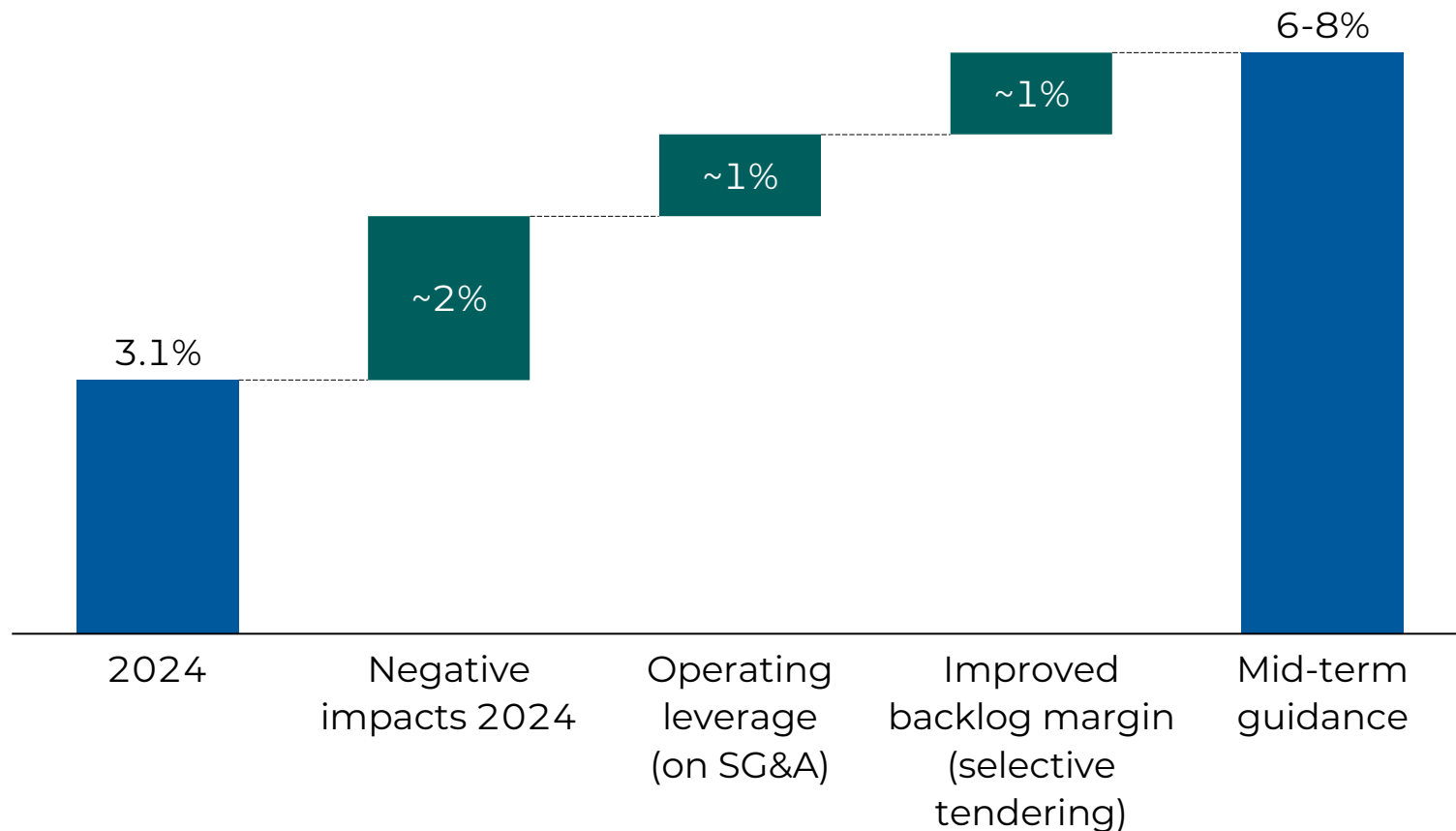
Share of top 10 orders⁽¹⁾



(1) Based on order backlog value in CHF; chart illustrates the share of individual orders, i.e. different orders from the same client are not added up.

EBIT in % of net revenue

EBIT bridge to mid-term guidance



Comments

- **Negative impacts in 2024** to diminish over the coming years
- Step-up in revenues going into 2026 will lead to **significantly higher SG&A absorption**
- More stringent and selective sales process drives an **increasing backlog margin** following through to higher profitability

Guidance



2025

2026

mid-term

Order intake	1.0-1.5 ø book-to-bill	1.0-1.5 ø book-to-bill	1.0-1.5 ø book-to-bill
Net revenue	increase vs 2024	> CHF 5.0bn	> CHF 5.5bn
EBIT-margin	4 – 5%		6 – 8%
CAPEX	~ CHF 250m	~ CHF 200m	max. CHF 200m
Dividend policy (% of profit for the year, attributable to shareholders of Stadler Rail AG)	60%	60%	60%

FCF

2025 FCF may be negatively impacted by increase in production output and work in progress despite milestone payments from orders in execution. We continue to expect solid advance payments and improved milestone payments.

Q&A