



CAPITAL MARKETS DAY

STRATEGY UPDATE & MANAGEMENT CHANGE

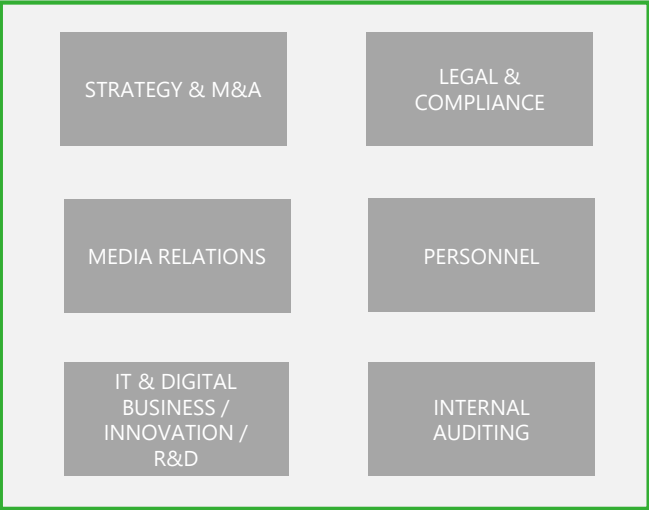
15th December 2020



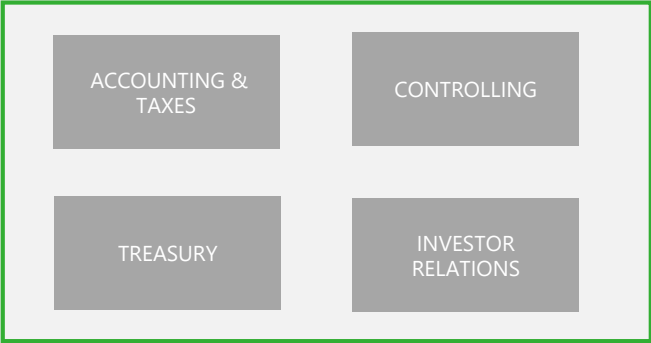
EXECUTIVE BOARD OF VOSSLOH AG



Oliver Schuster
(CEO)



Dr. Thomas Triska
(CFO)



Jan Furnivall
(COO)



PRESENTATION INDEX

STRATEGY MEETING

01

**Our Journey Until
Today**

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**Opportunities
We Face**

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Our Strategy

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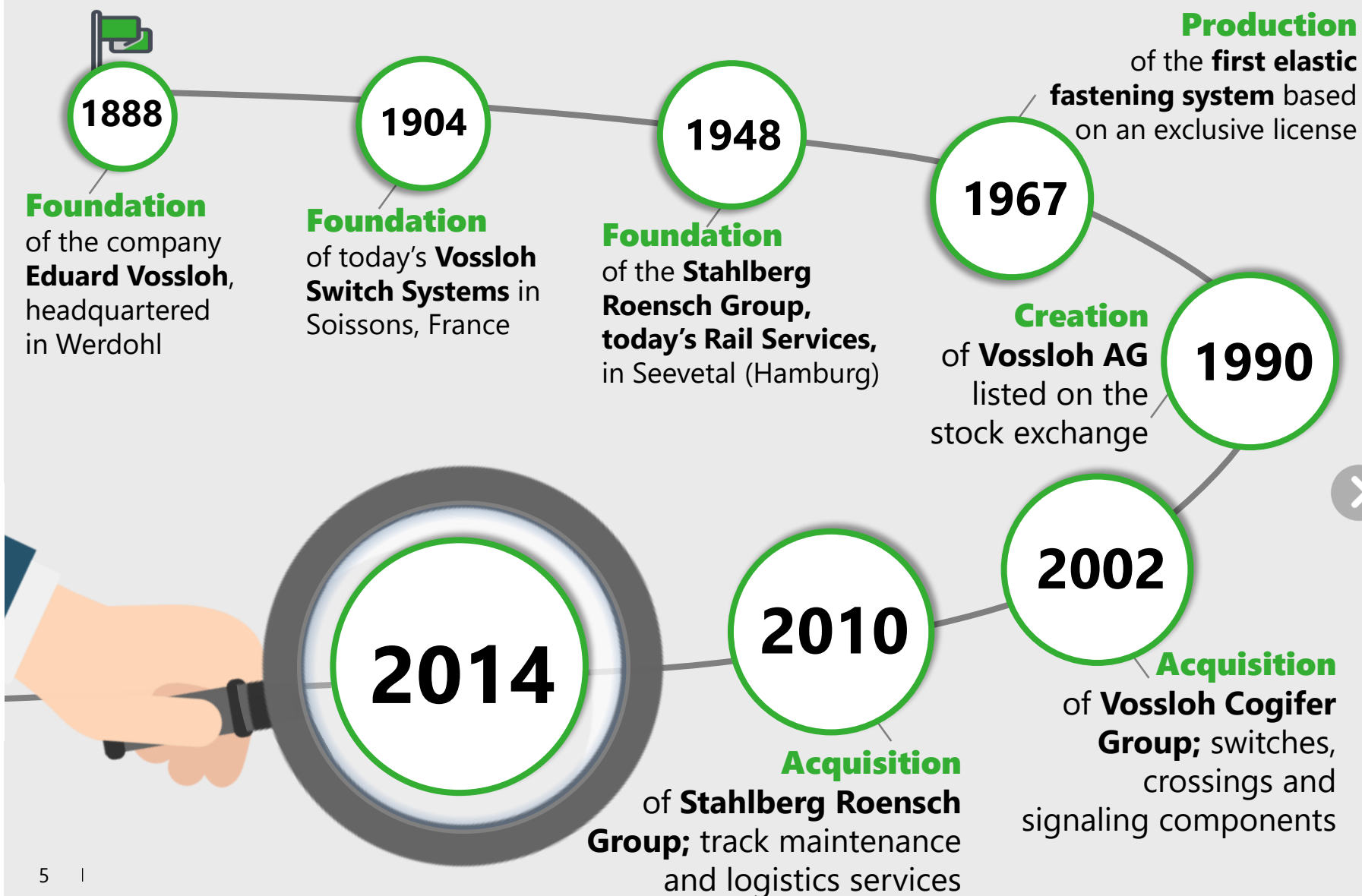
Our Future





01

OUR JOURNEY UNTIL TODAY


VOSSLOH'S HERITAGE SNAPSHOT – 2014 REPOSITIONING




2014 at a Glance

-  **Very weak market position in the Rolling Stock Units** dealing with capital intensive businesses
-  **New board assumes operations** replacing previous management team

> 250 M€
in one-time effects

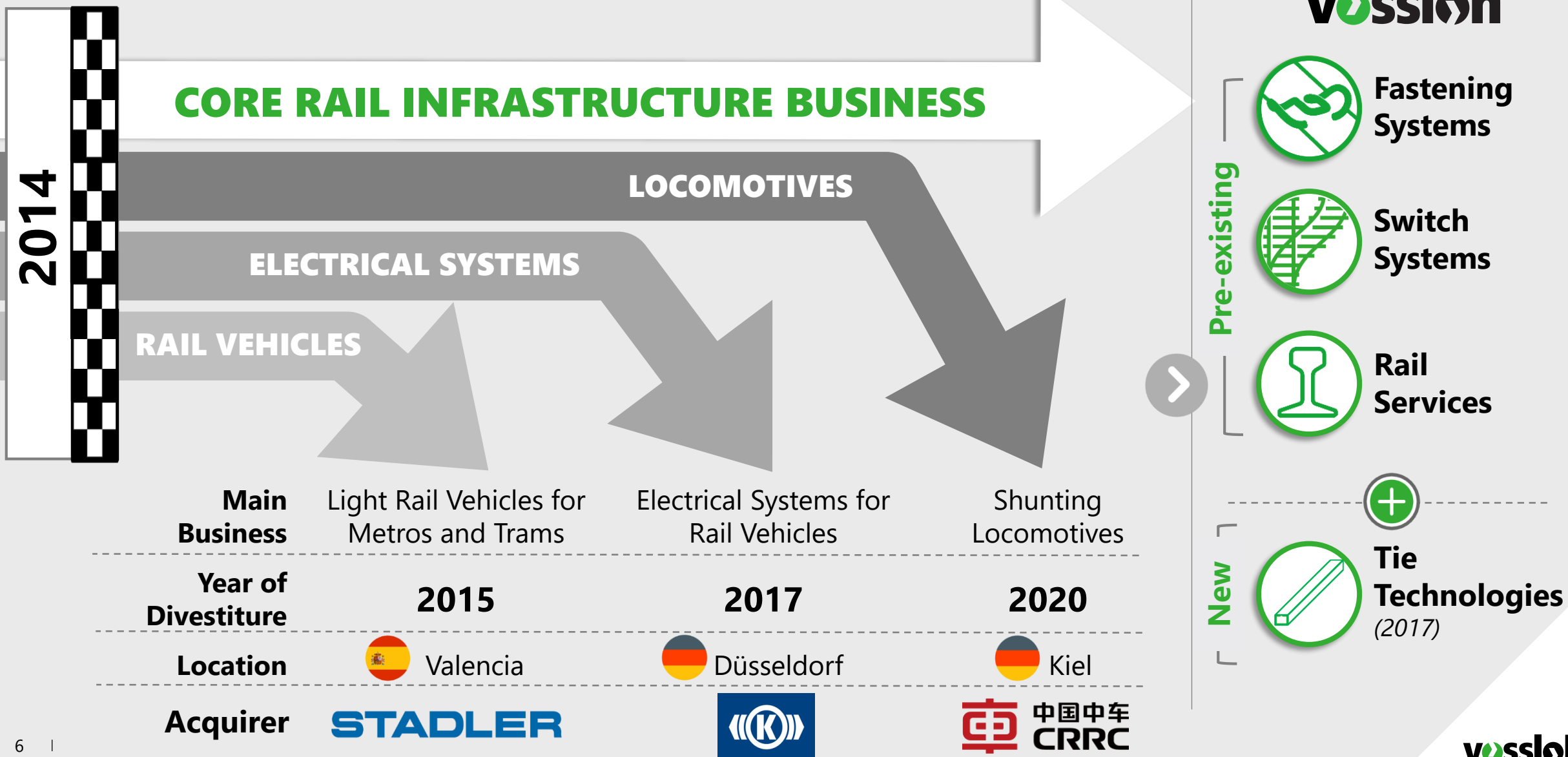
-  **Complete refinancing** incl. sale of treasury shares and replacing USPP structure

-  **Decision to reposition Vossloh** as a pure play **Railway Infrastructure Provider**



"ONE VOSSLOH"

REPOSITIONING COMPLETED IN 2020 AFTER A COMBINATION OF ACQUISITIONS AND DIVESTITURES



VOSSLOH COVERS THE FULL RAIL TRACK WITH A LEADING-EDGE PORTFOLIO IN PRODUCTS AND SERVICES



Rail Services



Switches & Crossings



Concrete Sleepers



Fastening Systems

FASTENING SYSTEMS



Product Purpose

/ The fastening system connects the rail to the superstructure, restraining the rail movement and accommodating stresses through adequate elasticity. The fastening system also provides electrical insulation to the rail



Necessary Features

- ✓ Axle load: from Tramways to Heavy Haul
- ✓ Speed: from Regional to High Speed
- ✓ Noise and vibration reduction
- ✓ Provide electric insulation
- ✓ Ability to comply with the most demanding technical specifications both in slab and ballasted tracks



Vossloh Facts

+1 Billion

Clamps already produced by Vossloh in Werdohl

50 Million

Clamps manufactured per year at Vossloh

70% of tracks

In Europe use Vossloh-Type

72 patents

Currently in place

+85 Countries

Supplied w/ Vossloh



CONCRETE SLEEPERS



Product Purpose

/ The concrete sleepers are an integral part of the track superstructure. They support the rails and distribute forces originated from the passage of rolling stock and the rail deformation caused by temperature effects



Necessary Features

- ✓ Design to load specification: light rail, commuter and heavy-haul traffic
- ✓ Rigorous quality standards must be achieved (e.g. ISO 9001/AAR M1003)
- ✓ Design production to account for different fastening system types
- ✓ Comply with strict product properties and geometric tolerances



Vossloh Facts

+32 Million

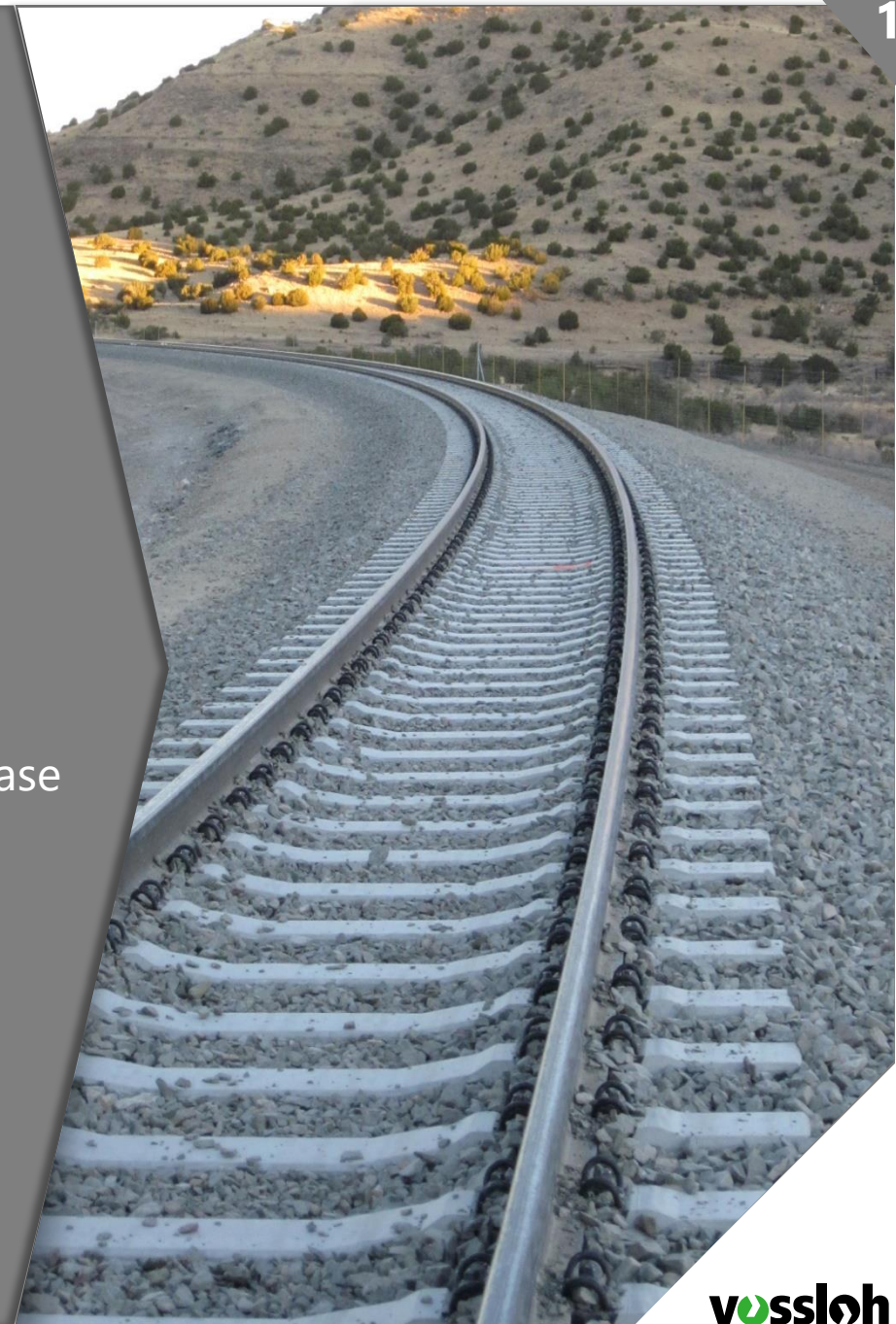
Sleepers successfully installed

70% of USA's

Concrete tie installed base

+1,7 Million

Concrete sleepers produced per year



SWITCHES & CROSSINGS

Product Purpose

/ The turnout is a mechanical assembly enabling trains to be guided from one track to another in a safe manner. It also comprises motors and rods to allow the movement and locking of the tongue rails

Necessary Features

- ✓ Tailor-made solutions to fit unique needs for every switch
- ✓ Operate at the highest speeds in optimal comfort and safety
- ✓ Designed to reduced maintenance time (*e.g. complete switch replacement in 8h*)
- ✓ Operations from -50°C to $+58^{\circ}\text{C}$

Vossloh Facts

4,000 Turnouts
12,000 Forged tongues
9,500 Monobloc crossing per year

560 km/h: record speed reached on a turnout

~80 countries delivered

from 9m up to 250m length
(tram to high speed)



RAIL SERVICES



General Characteristics

- / Rail Services encompasses all services to preserve the rail infrastructure and keep it safe and effective over the long term incl. inspection, maintenance and preventive care
- / Rail Services also relate to track supply, covering the whole lifecycle from rail commissioning, welding, just-in-time delivery on track, installation and recycling



Necessary Features

- ✓ High machine availability to cover a broad range of service demands
- ✓ Large service portfolio necessary to allow flexible best in practice offers
- ✓ Regional rail welding facilities to handle and cover local demands
- ✓ Reliable logistics fleet to guarantee functionality and delivery quality



Vossloh Facts

>120,000 km

of grinded rails by HSG in the past 10 years

>1,000 turnouts

maintained annually

75% of new rails in

Germany delivered by Vossloh

active in **15 countries**

on 3 continents

520 wagons

largest private fleet for rail transportation in Europe

Transportation of up to

360 m long rails



VOSSLOH PROVIDES AN UNIQUE HARDWARE & SERVICE PORTFOLIO WORLDWIDE

1

Unique & holistic hardware know-how



Broad variety of service offerings



- ✓ Vossloh combines a **comprehensive hardware portfolio** covering **all relevant rail tracks** with **global presence**
- ✓ Vossloh's **engineering skills** and **customer proximity** are considered **world class** by customers which makes Vossloh an attractive partner
- ✓ Holistic hardware know-how provides **comprehensive understanding of the rail track as a system** enabling Vossloh to increase customer value

- ✓ Vossloh has a **wide-ranging portfolio of service offerings** covering track supply and maintenance
- ✓ Vossloh's maintenance portfolio comprises **corrective as well as preventive services** including its **unique HSG technology**
- ✓ Vossloh possesses the **perfect starting base** for the expected shift to **condition based and predictive maintenance**



02

OPPORTUNITIES WE HAVE

THE RAILWAY INFRASTRUCTURE MARKET TRADITIONALLY HAS PARTICULAR CHARACTERISTICS



Safety Relevance & Risk-Aversity

Since products directly deal with the high frequency transportation of people, safety is crucial. Rail industry is characterized by a strongly risk-averse culture until a technology is proven



Very Long Product Life-Cycles

Components are designed for long service lives and are mostly utilized for decades once installed.



Slow Adoption Rates for New Technologies

Consequence is a significant lock-in effect on customers by "proven technology"; in addition customers dislike heterogeneity of components and technologies also with a view to maintenance schemes (e.g. training, tooling, spare parts)



Complex Homologation Processes

Homologation processes, driven by national authorities and individual customers, take significant time and further slowdown adoption



"Expert to Expert" Business with Long-Term Customer Relationships

The combination of the 4 first points creates a situation where networks and supplier relationship is often based on trust and extensive know-how, with long-term partnerships being common



Volume mainly comes from Replacement Parts

The greatest portion of Vossloh's business originates from replacement parts and rehabilitation of existing infrastructure (~85% of revenues); newly built rail lines and extensions are the exception



Markets partially not accessible

Worldwide rail markets are partially protected and not accessible. UNIFE 2020 considers roughly 1/3 of global infrastructure and 1/2 of service market as not accessible

GLOBAL TRENDS PUSHING FOR INCREASED RAIL PARTICIPATION

177 Bn€

Yearly Rail Investments*



+2.3% CAGR

Expected Annual Growth
through 2023/2025*



Population Growth

The global population will increase from a population of 7.8 billion in 2020 to 11.2 billion by the end of the century, resulting in increased transportation needs for people and goods



Urbanization

While today only 55% of humans live in cities, it is expected that in 2050 up to 68% of the then 9.7 billion humans will live in urban areas requiring mass transit systems (metros & trams)



Sustainability

When it comes to environmentally-friendly travel, rail is the winner. The reduction of the carbon footprint of transport requires a significant shift to rail mobility



Market Globalization

Trend to increased international trade volumes creates the need for more efficient goods transportation on a global scale (long term COVID-19 effect on supply chains yet to be identified)



Digitalization

Digitalization with IoT, AI, big data & data analytics not only impact society, working environment and business operat., but will also heavily influence the rail industry with a view on trains, infrastructure and processes

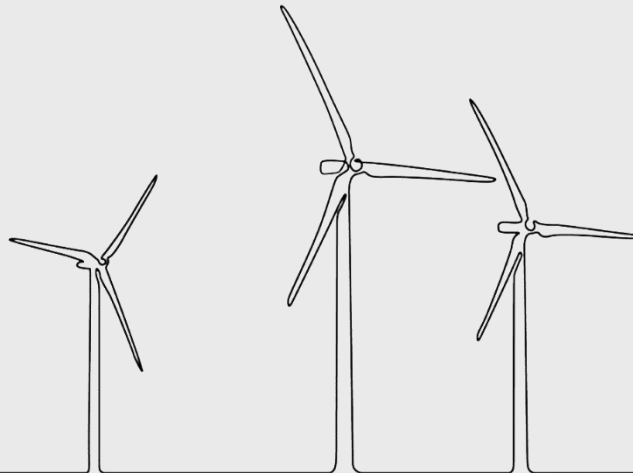
RAILWAYS AS MAJOR CONTRIBUTORS TO REDUCE CARBON EMISSIONS

Given the fact that sustainability and the climate emergency occupy a top position on the political agenda, there have been growing concerns over the carbon footprint of transportation








Today rail mobility represents 8% of transportation but 2% in energy use. And it will play a major role in reducing greenhouse gas emissions as it is the most efficient and lowest emitting modes of transport.

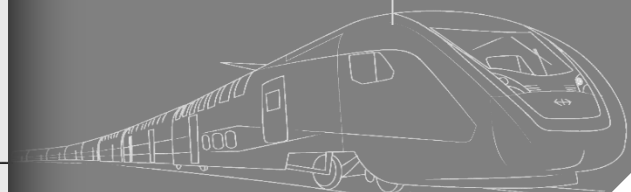
From local municipalities to the federal governments, the Political will is pushing for a shift of both freight and passengers from road and air to rail and creates business opportunities

VOSSLOH HAS THE OPPORTUNITY TO PLAY A KEY ROLE IN ENABLING GREEN MOBILITY

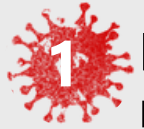


Greenhouse Gases Emission (g) per Passenger per Km Travelled *

High speed line	6	
Coach	27	
Domestic rail	41	
Urban Bus	104	
Car (1 passenger)	171	
Long Haul Flight	195	
Domestic Flight	254	



RAIL INFRASTRUCTURE WITH LOW DEPENDENCY ON ECONOMIC CYCLES



1 Expenditure on the railways can be shifted but not cancelled, as opposed to other industries (*high level of maintenance spending*)

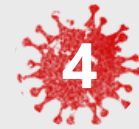


2 The railways as **key providers of essential goods and vital transportation** are system relevant

VOSSLOH HAS THE OPPORTUNITY TO SUSTAIN CONTINUOUS GROWTH THROUGH CRISIS PERIODS



3 High share of **public customers acting comparably** independent from economic cycles



4 Railway investments are often used by central governments to **trigger economic growth** (*subjected to debt limits*)

TRACK AVAILABILITY AS FUTURE CORE CUSTOMER VALUE

Population growth, urbanization and sustainability targets create transportation needs that exceed possible extension of rail networks but will mainly be enabled via higher traffic density on existing lines through new technologies (ETCS-3 & ATC)*

The traffic increase will naturally increase wear and tear of the infrastructure – requiring more maintenance and replacement

Further, costs and pain of downtime on infrastructure, planned or unplanned, will escalate with higher traffic density and even more intertwined schedules

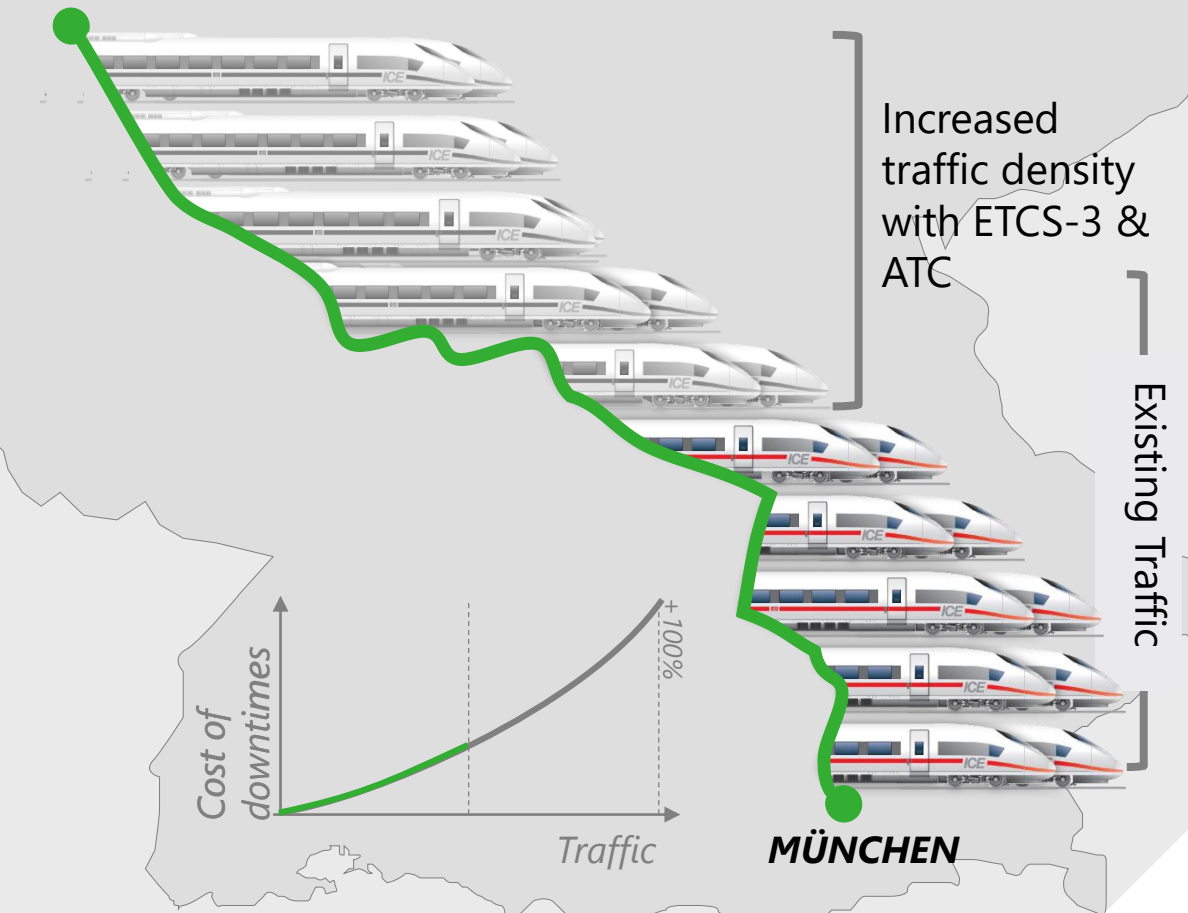
Hence, the demand for highly efficient, preventive and predictive maintenance with least possible disruption will be key for the network operators' performance

TRACK AVAILABILITY IS KEY AND OFFERS VOSSLOH THE OPPORTUNITY TO SERVE CUSTOMERS WITH PINPOINTED SOLUTIONS

*ETCS-3: Latest European Train Control System / ATC: Automatic Train Control

18 | **Deutsche Bahn/Starke Schiene, 19 June 2020

KÖLN



MÜNCHEN



DB plans to double the intercity rail traffic and add 70% more freight transportation until 2030**

DIGITIZATION: A DISRUPTIVE OPPORTUNITY FOR THE RAIL SECTOR

As breakdown and maintenance create interruptions of network operation, **prevention and prediction is paramount to increase levels of track availability**

Sensors, data collection, big data and the use of algorithms will allow operators to identify wear and tear patterns and even to anticipate and avoid breakdowns

Early warnings then allow operators to perform **maintenance, even before the breakdown happens** – at a time with the least impact on operations

VOSSLOH HAS THE OPPORTUNITY TO DRIVE AND BENEFIT FROM THE DIGITAL DISRUPTION WAVE ENABLING OPERATORS TO INCREASE TRACK AVAILABILITY

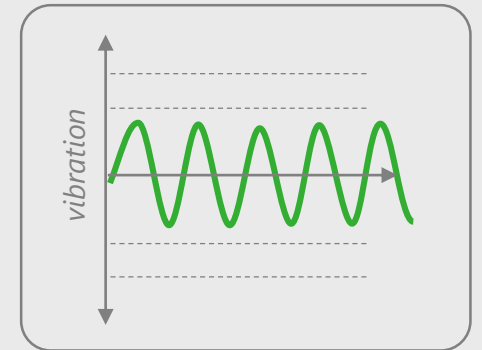
Example of track side sensing & algorithmics

ASSET CONDITION WARNING EXCEEDED

--- MAINTENANCE SUGGESTED



Measurements
(vibration, T°C,...)



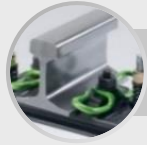
Analysis



03

OUR STRATEGY

ALL OPTIONS WITHIN VOSSLOH'S REACH WERE ANALYZED



Pure commodity play

"Vossloh wins the commodity game"

- / Full focus on **product business**
- / **Avoid invests** into digital
- / **Functional setup** for ops excel.

- / **Cost excellence** through func. set-up & low cost approach
- / No significant role in the service markets – **digital gaps too big**



Service is already a major component of our expertise and directly connected to our customer's value chain



Hybrid play

"Vossloh finds its (digital) service sweet spot"

- / **Leverage synergies** & **expand technology offerings**
- / Enhance **service offering**

- / Vossloh can **defend its solid position** in commodity
- / **Value-add** along digital **service value chain** can be created



- / **Win the Commodity game**
- / **Increase share of digital & services**
- / Improve **"How"** (we do business) rather than **"What"** (we sell)



Our Direction



Transition play

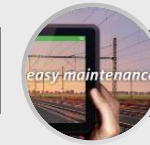
"Vossloh transforms into digital over time"

- / **Leverage synergies** (prod. & serv.)
- / Leverage client relations to introduce **"infra as a service"**

- / **Solid cash-flows** from "non-smart" business offers
- / **Client relationships crucial** to extend service along value chain



There is still uncertainty on how and when digital businesses will generate value-add for the rail infrastructure



Full service play

"Vossloh is a key partner for infrastr. services"

- / Largely **divest own manufacture**
- / Develop **"infra as a service"** business model

- / **Fully integrated service provider** in major markets
- / **Full commoditization** on hardware relying only on price



Hardware is our provenance and integral part of our future – the holistic understanding of the rail track and its hardware is the basis for digital services

Core Believes

THE STRATEGY'S FUNDAMENT: VOSSLOH IS PERFECTLY POSITIONED TO MAKE USE OF THE TRENDS TO RAIL AND TRACK AVAILABILITY

Shift to Rail

Global megatrends will provide **strong tailwind for rail** as mode of transportation in the coming decades. Population growth, urbanization and globalization create **need for more transportation**. On top, sustainability favors **clean modes of transportation**



Unique position

Vossloh has a **unique comprehensive portfolio** of products and services, providing the **understanding of the rail track as a system**. Combined with its **global market presence and customer access**, Vossloh has the perfect starting position to successfully implement **solutions for higher track availability**

Track Availability as Key

The network expansion cannot keep up with this growth. A substantial **increase of rail traffic on existing infrastructure** will be required, enabled by modern train control systems. With growing traffic density **track availability becomes a key success factor** for rail networks

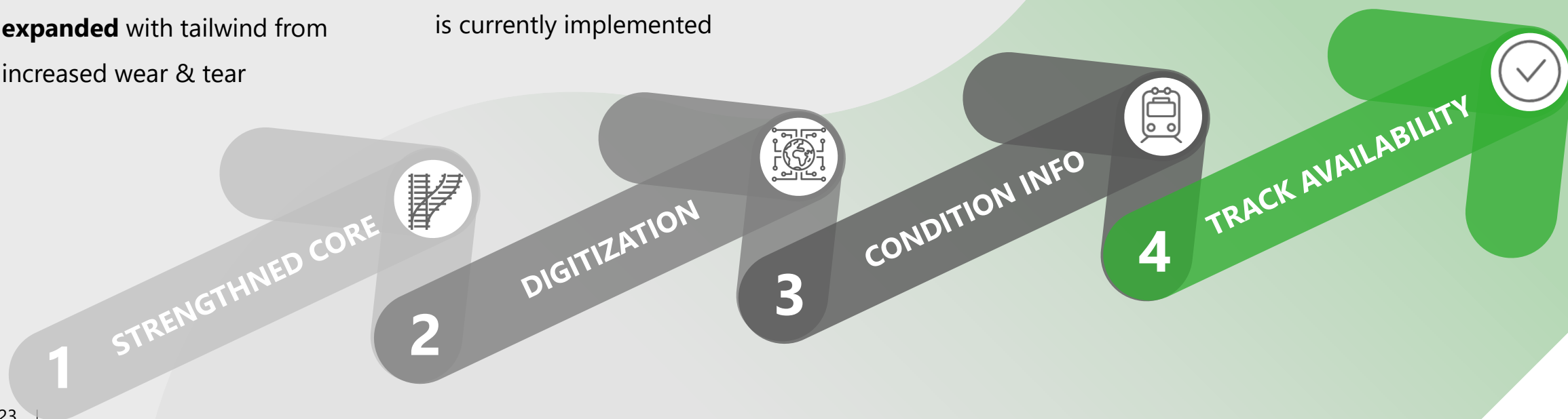
THE STRATEGIC DIRECTION: VOSSLOH ENABLES TRACK AVAILABILITY VIA PRODUCTS & SMART MAINTENANCE SOLUTIONS

Making products more **durable, reliable and with improved life-cycle-costs** is our core competence. This core will be **continued, strengthened and expanded** with tailwind from increased wear & tear

The ability to **process large amounts of data** collected by sensors in real time and evaluate them using **artificial intelligence and analytics** will **disrupt rail maintenance** as it is currently implemented

Rail track **condition information in real time** enables transition from experience- and period-based to **condition-based and perspectively predictive maintenance**

Condition-based and predictive maintenance will fulfil operators demand for **higher track availability** and opens huge **efficiency potentials** for maintenance execution and improved life-cycle-costs



THE STRATEGY IN PRACTICE: FROM DATA COLLECTION TO SMART SERVICES AND IMPROVED PRODUCTS



Vossloh as fully integrated, leading global solutions provider for rail infrastructure



Step-by-step Vossloh builds up a modular set of smart maintenance solutions partnering with its customers



Vossloh **collects condition data** both **stationary and mobile** using the company's **own service vehicles fleet**



Both **data sets are complementary** allowing a **holistic understanding** of the track infrastructure



Understanding of the rail infrastructure as a system enables Vossloh to **extract relevant condition information**



Vossloh provides customers not only with recommendations but **executes the maintenance services** (one-stop-shop)



Track condition findings improve product development



Data collection will allow **improved products targeting customer's data proven pain points** to differentiate against competition

A photograph of a high-speed train track, showing multiple parallel tracks receding into the distance. The image is blurred to convey a sense of rapid motion. The tracks are made of metal rails on concrete sleepers, with overhead power lines visible in the background.

04

OUR BATTLEPLAN

OUR CORPORATE STRATEGY IMPERATIVES



Win the Commodity Game

- / Maintain and/or regain **cost leadership**
- / **Volume increase** via selective **sales push**
- / **Broaden product portfolio**
- / Differentiation via **selective innovation**



Develop the Service Business to the Digital Era

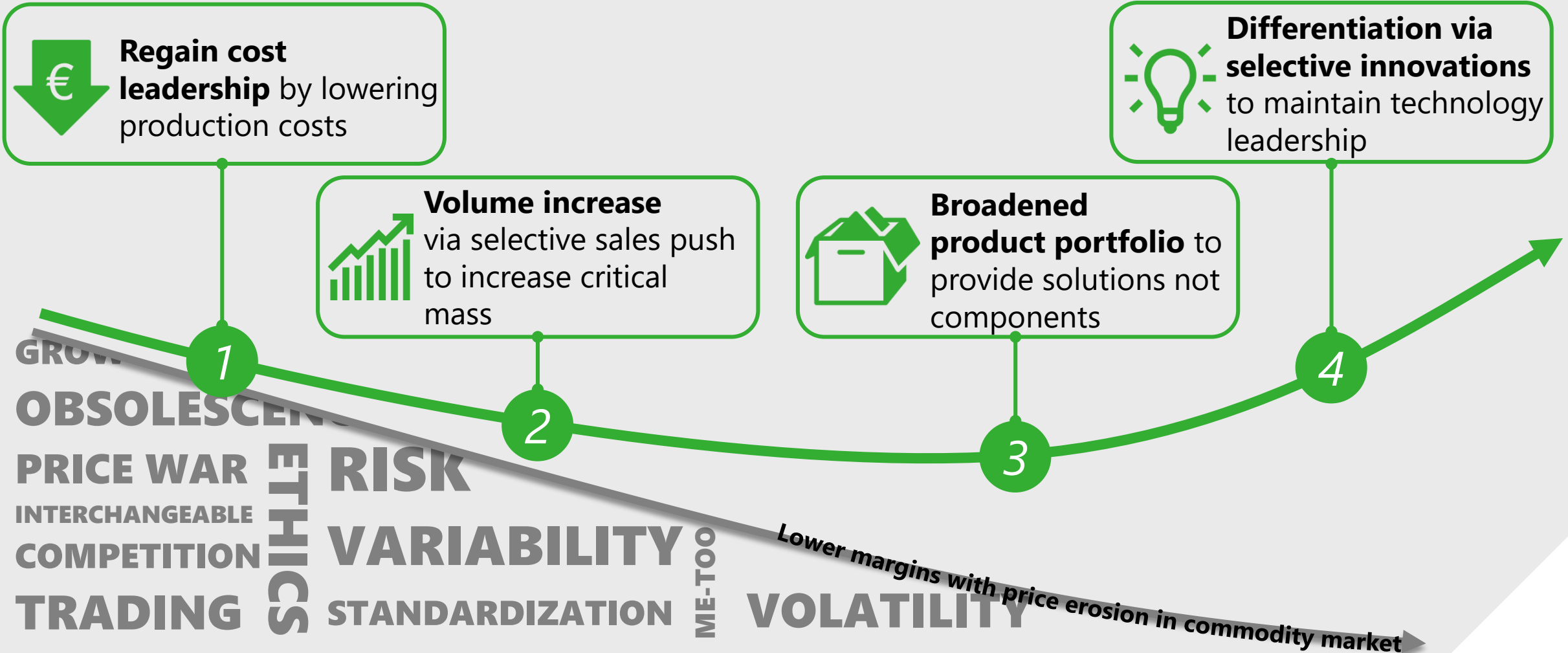
- / Strengthen the **conventional service business**
- / Develop the **smart maintenance market**



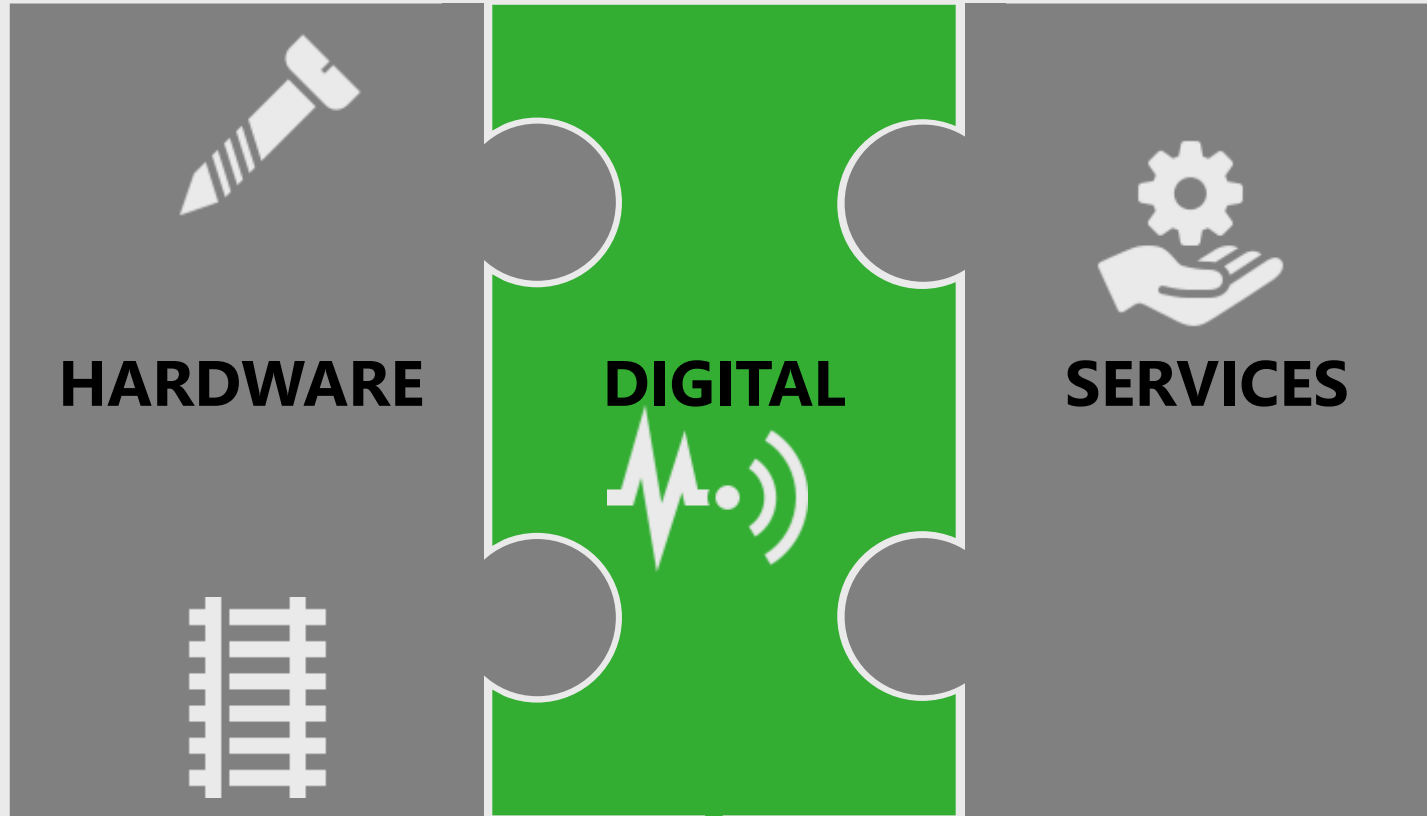
Improve Organization, Processes and Capabilities

- / **Commercial excellence & sales approach**
- / Improve **digital set-up & capabilities**
- / Groupwide **efficiency program**
- / **Leadership excellence**
- / **Sustainability strategy**

HOW TO WIN THE COMMODITY GAME



HOW DEVELOPING THE SERVICE BUSINESS TO THE DIGITAL ERA



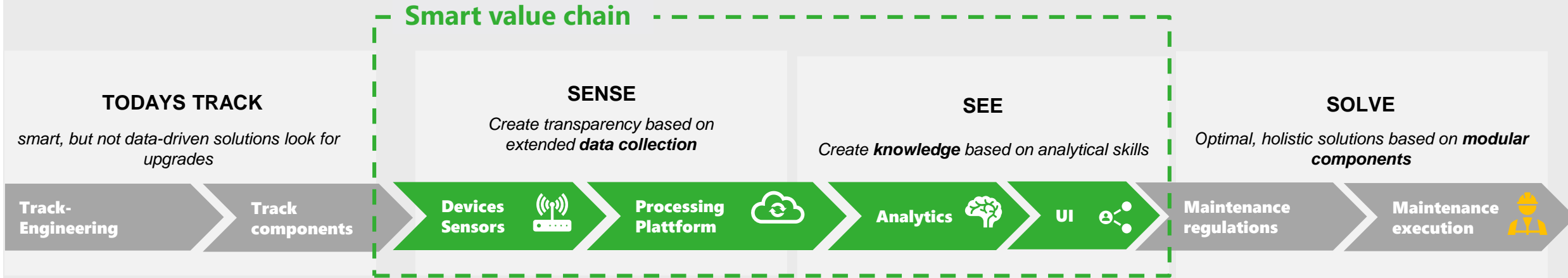
1

One key target is to **complement & strengthen the traditional service business** to provide a comprehensive service portfolio. Our customers must be convinced of a strong partnership with Vossloh without service gap on the pain points we want to address

2

The digital revolution starting in the railway industry is an ideal bridge and a unique opportunity for Vossloh to **combine hardware and services in one customer focused global approach** providing customers with **condition-based and predictive solutions enabling increased track availability**

FROM DIGITIZATION TO TRACK AVAILABILITY OUR „SMART ENHANCED“ VALUE CHAIN



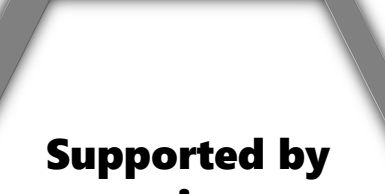
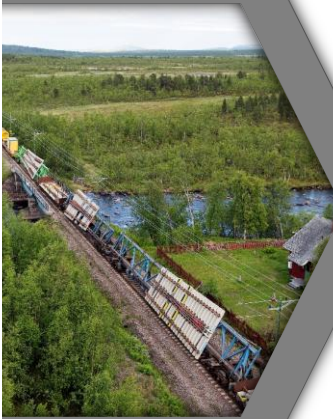
Vossloh's smart approach

- / Track availability as key lever for operators performance requires significant **efficiency improvements of rail and turnout maintenance** by smart condition-based and predictive solutions
- / Sensor devices, track bound and train-mounted, **measure track condition and collect big data** to be transmitted into a data lake
- / Data analytics, machine learning and AI process and transform such data real-time into relevant information – significantly improving understanding of track condition and **generating specific maintenance recommendations**
- / Real-time processing allows **continuous monitoring**, including precise localization of every event
- / The User Interface **visualizes track condition and recommendation**, on customer demand directly integrated into its platform
- / Vossloh's targets the **one-stop-shop solution end-to-end value chain**, from hardware via data collection and maintenance recommendation to maintenance execution, being the only one covering the full value-chain
- / The **modular set-up allows** alternatively selling of unbundled & customers specific solutions with **different business models**



05

OUR FUTURE



**Increased
performance!**

**Pure play
in rail
infrastructure!**

**Unique broad
portfolio!**

**Supported by
various
megatrends!**

**Crisis
Resilient!**

**Leading
market
positions,
global
presence!**

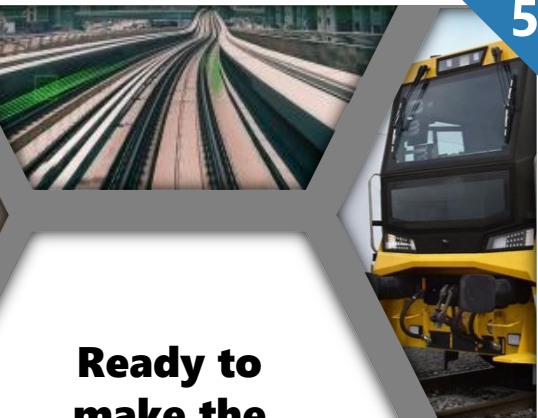
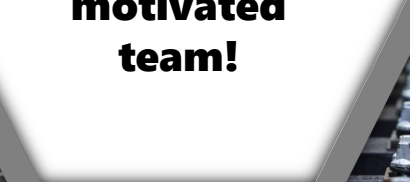
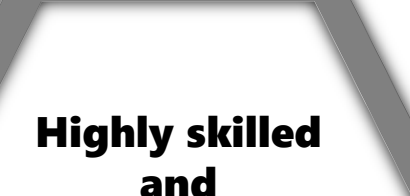
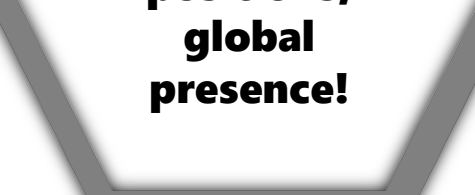
**Strong on
technology
and
innovation!**

**Perfectly
positioned
for disruptive
changes in
the industry!**

**Highly skilled
and
motivated
team!**

**Ready to
make the
world a
better place!**

vossloh
enabling green mobility



PRELIMINARY GUIDANCE 2021 AND MID-TERM AMBITIONS

Preliminary Guidance 2021*

2020E

~€870 million

Sales revenues

2021E

€850 to 925 million

Operational Profitability:

5.7 to 6.7 %**

EBIT margin

7.0 to 8.0 %

11.2 to 12.2 %**

EBITDA margin

13.0 to 14.0 %

Mid-term Ambitions

Sales increase

4 – 5 % p.a. on average; well above average market growth expected in relevant market studies

Profitability improvement

mid-term double-digit EBIT margins for all divisions targeted, interim step towards

long-term goal of double-digit EBIT margin for the Group, this corresponds to an EBITDA margin of roughly 16 %

*) The preliminary guidance for the 2021 financial year is subject to no significant new, unplanned impacts related to the COVID-19 pandemic.

**) For purposes of comparability excluding the roughly €15.6 million fair value adjustment recognized in profit and loss in 2020 as part of a business combination achieved in stages of a joint venture in China, which corresponds to an EBIT or EBITDA margin of approx. 1.8 percent.



vossloh
enabling green mobility