SCI/Verkehr

Reading Sample

WORLDWIDE MARKET FOR RAILWAY INDUSTRIES

Market Volumes for OEM Business and After-Sales Service as well as Prospects for Market Developments of Infrastructure and Rolling Stock

2022

CONTENT

The study “Worldwide Market for Railway Industries”, provides a comprehensive insight into the structures, installed bases, volumes, and development trends in the railway market in the context of the Ukraine war, disrupted supply chains and high inflation.

Especially in the current economic and political world situation with its various, overlapping crises, the demand for up-to-date forecasts and expert assessments is great. This is why SCI Verkehr is publishing its "Worldwide Market for Railway Industries" study again this year as part of the leading trade fair InnoTrans, in which we provide insights and outlooks into global product market segments and regional developments at our high quality and with a fresh, new design. Find out more about the key findings of this publication in our press release.

SCI Verkehr conducts ‘bottom-up’ analyses of all relevant product segments. An extensive database, developed in-house, allows SCI Verkehr to analyse business segments, market regions, and even single country markets. Thanks to the project-based data collection, the database also provides input for a detailed analysis of OEM and After-Sales markets. SCI Verkehr has enhanced its methodologies over the years and is e.g., able to build its prognosis based on real age structures of fleets.

In concrete terms, this MultiClient Study includes:

- An overview of the market development of the global market for railway industries, divided into eight world market regions and product segments of infrastructure, system technology and rolling stock.
- Structure and development of the global railway technology market in Western and Eastern Europe, North and South America, Asia, Australia/Pacific, the CIS and Africa/Middle East
- Market size, market development and future procurement potential of the OEM and after-sales markets for the product segments until 2026
- Railway industry companies and their market shares in the product segments and activities in the world market regions

Our data annex in Excel format now includes even more information

- All figures and graphs concerning market volumes, installed bases or market shares displayed in this study are transparently and comprehensively available
- In addition to the study, the data annex contains technical details on infrastructure (gauge, voltage systems) and age structure of the rolling stock in the regions as well as installed base and deliveries in the top markets per region
- Apply the data sets for an individual evaluation and configuration or to access and supplement available market data

SCI Verkehr is an independent consultancy company for the transportation sector with activities around the world. We specialise in strategic advice to the bus, railway and logistics industry. We have close connections to these industries, with consultants in a wide range of specialist fields. We have an extensive network of experts in Germany and abroad, and we specialise in market and strategy aspects for the mobility sector. Our activities focus on companies in the transport, bus and rail industry, logistics, public and private transport companies and transport and economics departments in public administration at federal, regional and community level.

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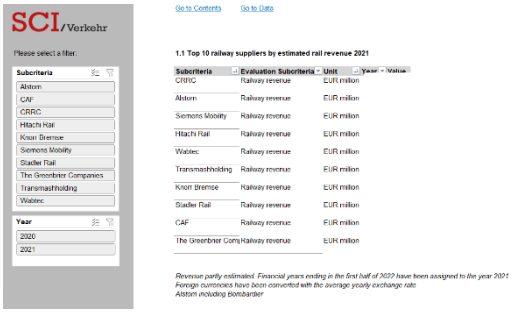
DATA ANNEX IN EXCEL FORMAT

1 Executive Summary

Top 10 railway suppliers by estimated rail revenue

1.1 2021



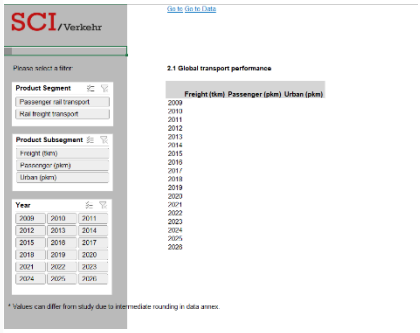
2 World market overview

2,1 Global transport performance

2,2 Market volumes by rail mode

2,3 Market volumes by products

2,4 Top 10 worldwide railway markets



3 Market Volumes

3 Development in the World Market Regions

3,1 Socio-economic indicators

3,2 Rail Infrastructure

3,3 Transport development
Market volumes by regions (see 2.2+2.3)

3,4

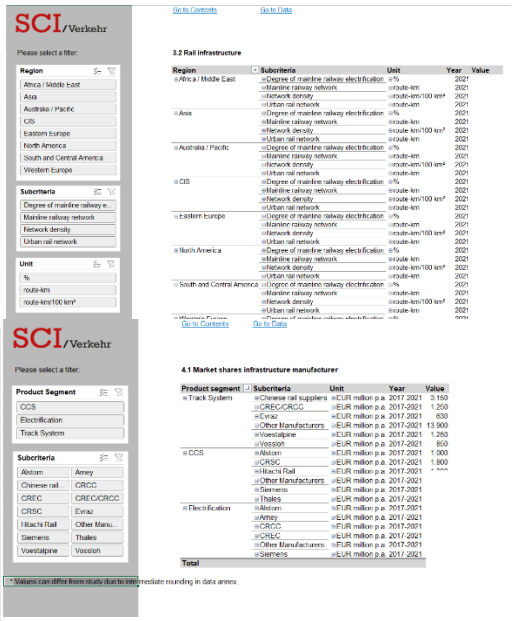
4 The Markets for Infrastructure and System Technology

4,1 Market shares infrastructure manufacturer

4,2 Installed base infrastructure

4,3 Installed base infrastructure - top countries

4.10 Infrastructure projects (Data)



5 The market for Rolling Stock

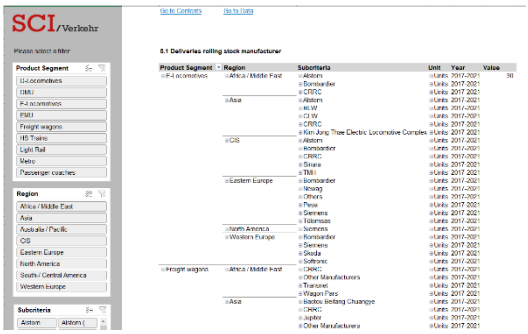
5,1 Deliveries rolling stock manufacturers

5,2 Installed base rolling stock

5,3 Installed base rolling stock - top countries

5,4 Installed base rolling stock age distribution

5,5 Deliveries rolling stock - top countries



In addition to the study, the data annex contains technical details on infrastructure (gauge, voltage systems) and age structure of the rolling stock in the regions as well as installed base and deliveries in the top markets per region

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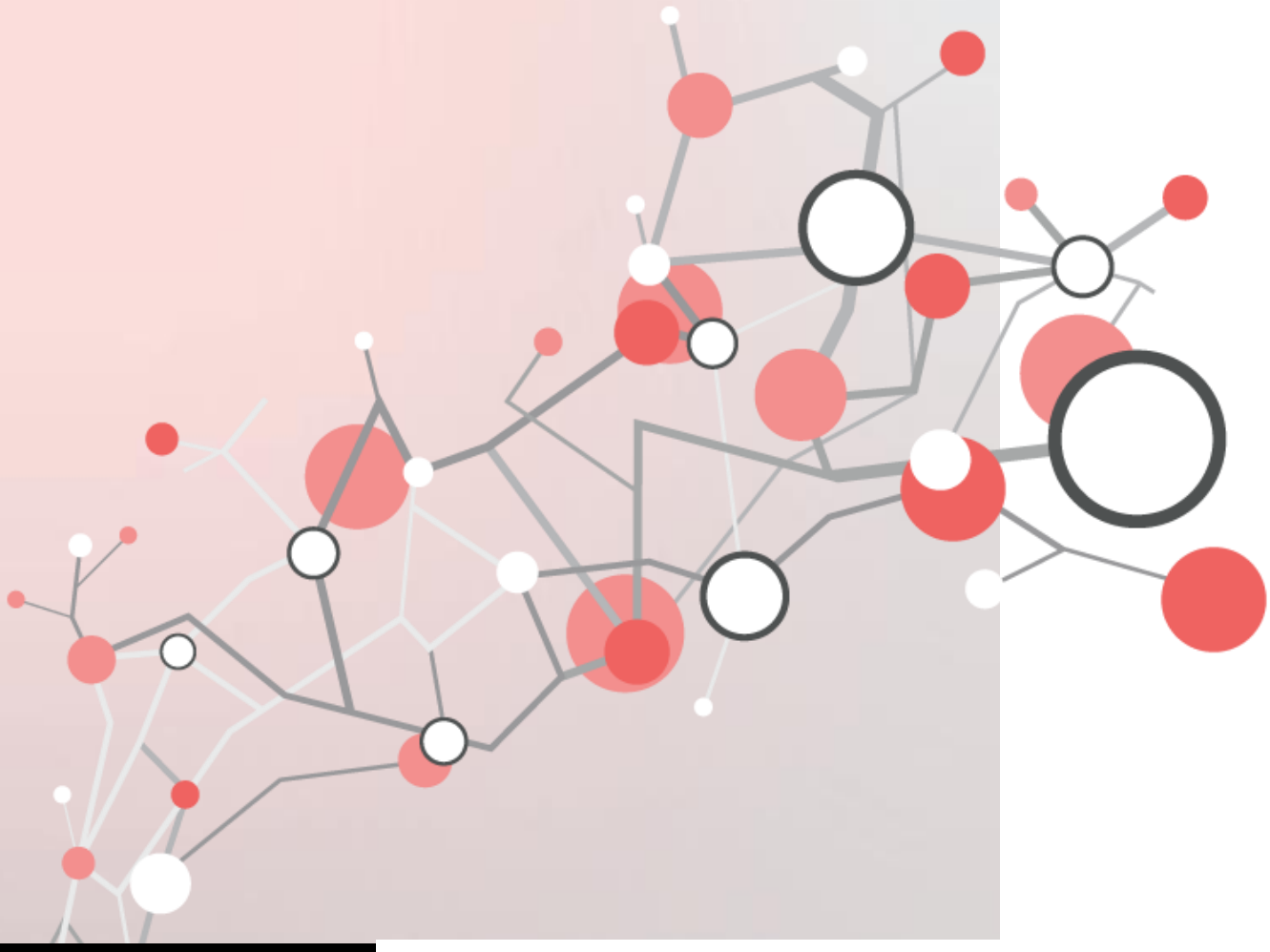


1 Executive Summary

Executive Summary

The market volume of the global rail industry will still grow by 1.4% annually in real terms until 2026 despite the uncertain global situation.

The current market volume of the global rail industry is EUR 190 billion, roughly the same level as in the past three years. Disrupted supply chains and restraint in the wake of the Covid-19 pandemic have slowed growth recently. SCI Verkehr expects the global market for rail technology to grow by 4.3% (including inflation) annually to EUR 236 billion by 2026 – mainly driven by price increases. But also adjusted for inflation, the industry is still growing moderately with a CAGR of 1.4%.

The current and future market environment is characterised by the greatest uncertainties in decades. Various regional and global conflicts pose major challenges for markets and players. Russia's invasion of Ukraine on 24th February 2022 represents a turning point. Existing partnerships were destroyed overnight, new alliances are emerging – the world may be facing a new bloc formation. Russia, the world's third largest rail industry market, has been hit with harsh sanctions by the West. Western companies have largely withdrawn from Russia and all existing projects have been put on hold.

EUR **190** billion
Market volume global rail industry 2021

4.3%
CAGR 2021-2026 including inflation

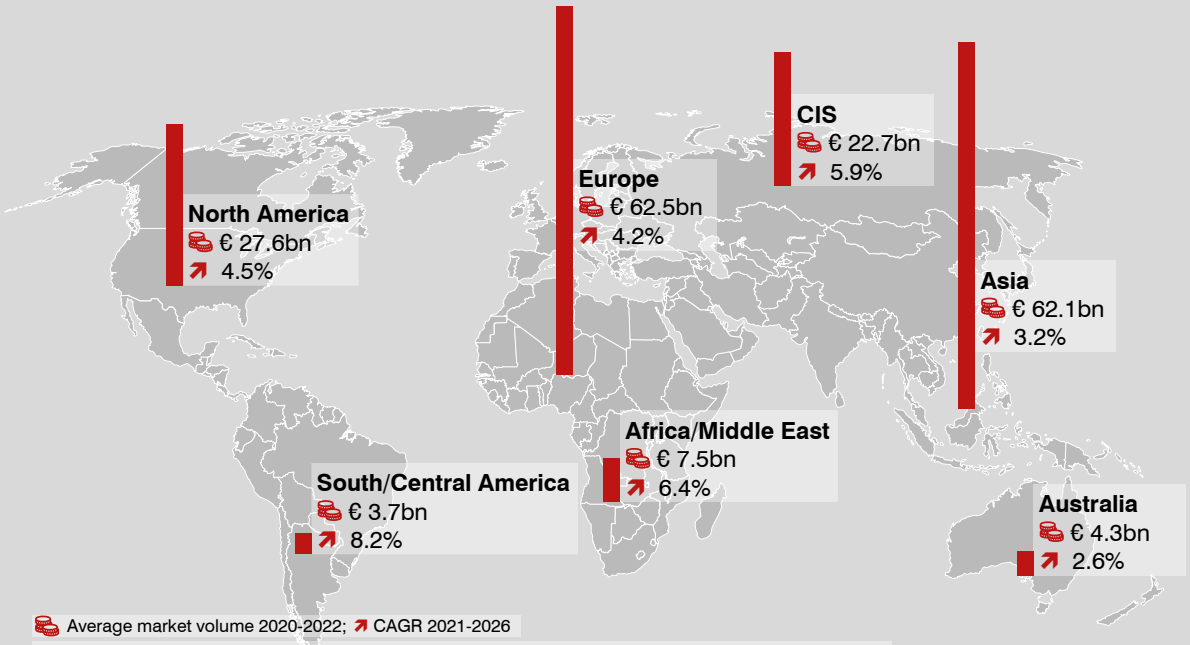
\+ **1.4%**
CAGR 2021-2026 without inflation

On the other hand, the consequences of the Covid-19 pandemic have not yet been overcome. China, by far the most important railway industry market, is fighting against new outbreaks of the disease with a zero covid strategy and tough lockdowns. As a result, not only trains in cities with millions of inhabitants are at a standstill, but also production and supply chains for important products are disrupted, with global repercussions.

The major western industrialised countries in Europe and North America are struggling with high energy and consumer prices. The railway industry is affected by this in particular. Rising steel prices, but also a lack of components, are driving up prices for OEM and after-sales vehicles and infrastructure. In Europe, there is also the threat of an extended energy and economic crisis if even less or no more Russian gas flows next winter. The smouldering conflict over Taiwan holds additional potential for global disruption.

Despite the uncertainties in the market, the rail industry is still optimistic about the future. In the Global Rail Index, SCI Verkehr's industry barometer, 40% of the top managers surveyed in Q2 2022 are still positive about the coming months. Large corporations such as Siemens are reporting record order intakes. Railways continue to be seen as important in reducing CO2 emissions in the fight against the climate crisis. In countries with growing urban populations like India, rail remains essential to prevent traffic collapse. Therefore, despite great uncertainties, the long-term outlook for the rail industry is positive.

The global rail industry market will grow at a CAGR of 4.3% (in EUR) until 2026 including inflation



Average market volume 2020-2022; CAGR 2021-2026
Market volume includes OEM and after-sales markets for rolling stock, infrastructure and system technology

Trends and drivers

5

Rail freight transport drives the market for new vehicles – total rolling stock market expected to exceed EUR 157 billion in 2026

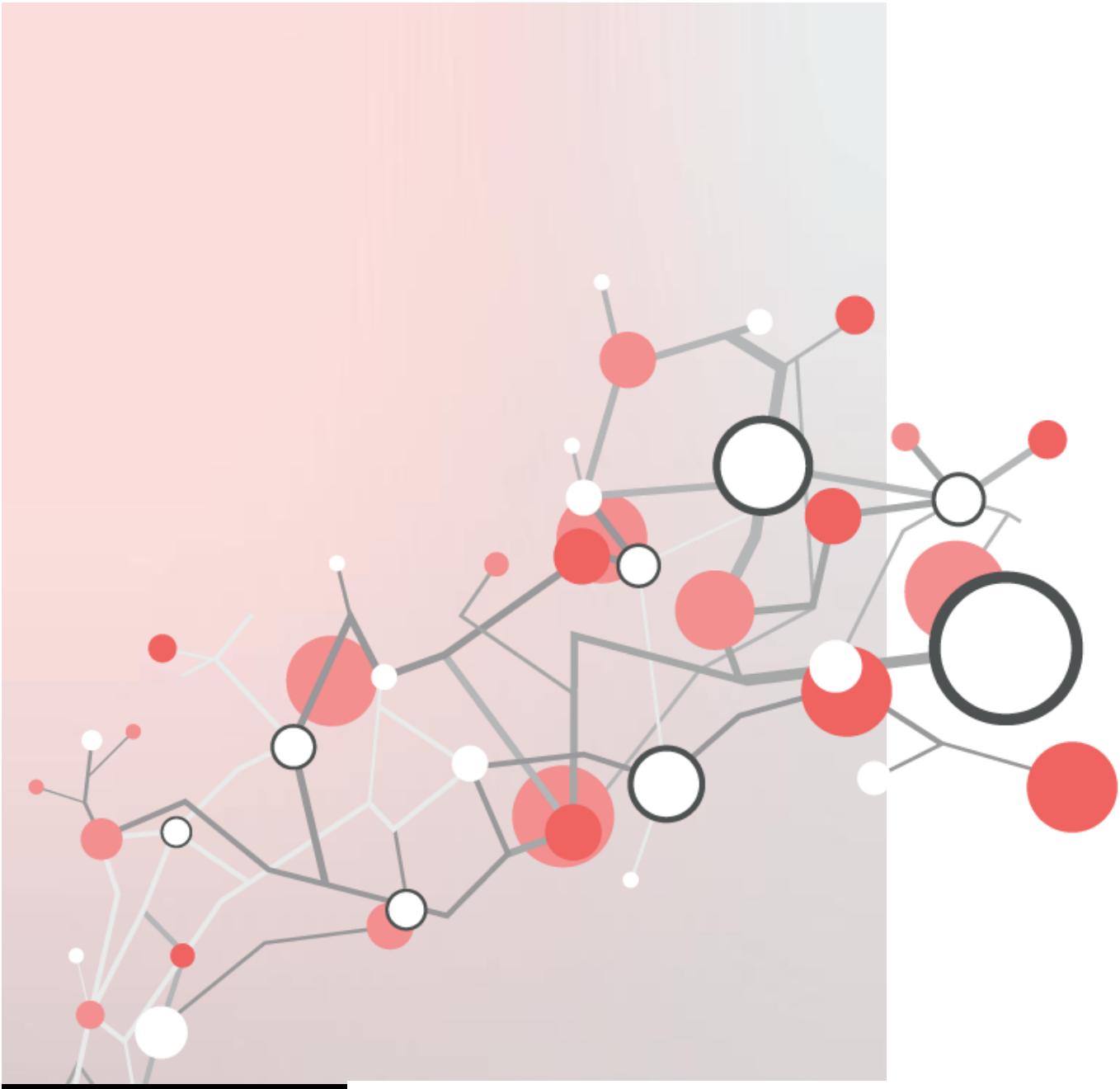
Rail freight transport drives the market for new vehicles – total rolling stock market expected to exceed EUR 157 billion in 2026

The rolling stock segment accounts for two-thirds of the global market volume of the rail industry. The current market volume is EUR 123 billion and will grow significantly at a CAGR of 5.1% until 2026. One driver is the high inflation rates that the IMF expects in the coming years in important regions such as Europe or CIS. Adjusted for inflation, the rolling stock market will still grow by x.x% annually until 2026.

New rolling stock is especially in demand in rail freight transport. State of the art freight wagons increase productivity; powerful electric locomotives meet the increased operational requirements. Shunting locomotives are increasingly being converted to emission-free solutions. The development of alternatives to powerful diesel mainline locomotives is in full swing, but until the first technologies are ready for the market, diesel locomotives will continue to be purchased in some markets such as the USA. SCI Verkehr forecasts significant growth in the OEM market for rail freight assets with a CAGR of over 8% until 2026.

Worldwide railway market for rolling stock amounts to EUR 123 billion in 2021

Average market volume 2020-2022; ↗ CAGR 2021-2026 (including inflation)
Market volume includes OEM and after-sales markets for rolling stock; * including alternative drive vehicles



2 World market overview

2 The Market for Infrastructure

The market for infrastructure is divided into the following sub-segments which are defined in more detail in the following chapters.

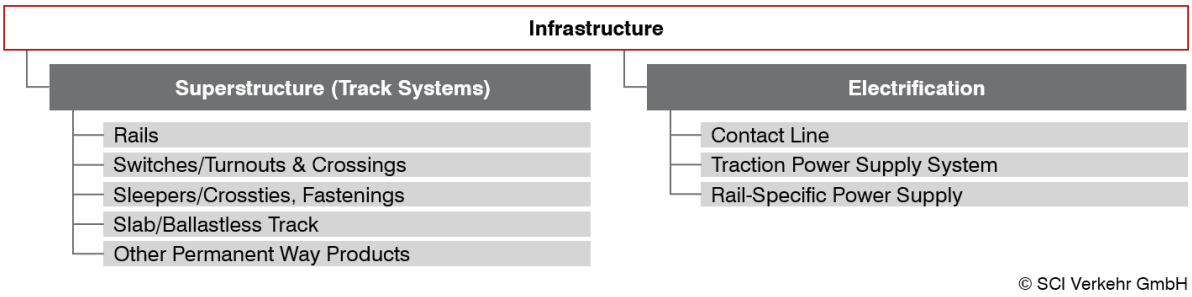


Figure 1: Structure of the product segment infrastructure

2.1 Track System

2.1.1 Definition and Brief Description

Track systems	
Criteria	**Brief description**
Definition 	– Track systems are made up of rails connected via rail fastenings to either sleepers embedded in ballast, to other suitable materials or to a ballastless track (comprising monolithically cast concrete or concrete elements). Rails are joined […]
Fields of operation	– The track system forms the basis for every type of rail transport.
Delimitation	– The overall term “track systems” does not by itself constitute a product group. Instead, track systems are made up of many products, each available in different variations. Some of these represent coordinated technical subsystems, […]
Assessment basis	– Due to the variety of products and limited space, this study does not include a breakdown by product segment and specification of quantities. Instead, the market volume will be given in monetary units for the entire track system in question. The installed base is measured in units.
Service life	– The operating life largely depends on characteristics of the selected products and subsystems and the specific operational demands on the respective track system; this is not always optimal, for instance due to budget restrictions. – In general, points have the shortest life cycle at ten to 30 years, and at the same time […]
After-sales	– Renewal and maintenance of track systems are the equivalents of the after-sales market in the […]
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Figure 2: Track system – definition

2.1.2 Suppliers

The modular structure of track systems accounts for the versatility and usability of rail infrastructure as a whole, which allows for meeting a wide range of operational requirements and corresponding regulations. In turn, however, this has caused a highly diversified landscape of manufacturers and suppliers. None of them covers all principal product segments.

Many suppliers are active in this segment. Company sizes, organisational structures, strategies, and concrete activities (manufacturing, trade, product design, construction, planning, financing, operation, renewal, maintenance) vary widely. Smaller suppliers specialise on […]

The following overview is focused on […]

Track systems products – World market share per manufacturer (2017-2021; %)

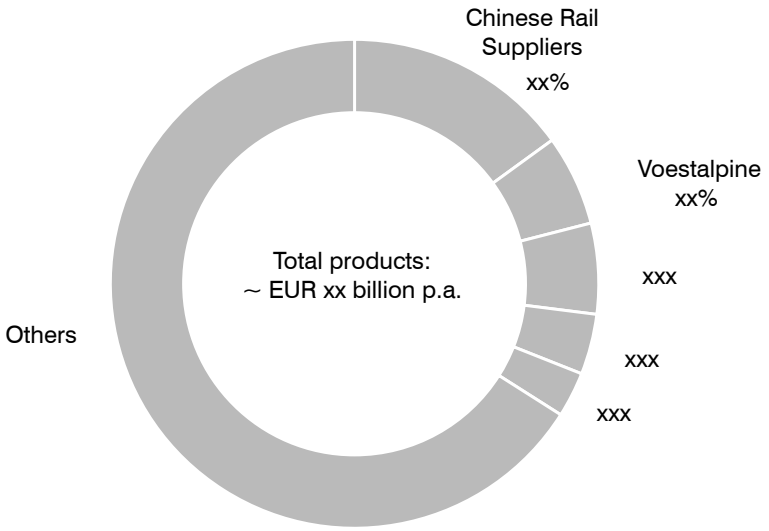

Figure 3: Track system products – world market share per manufacturer

The market shares pictured above represent the product procurement segment, which accounts for approx. xx% of the total market. The other xx% are construction of track work as well as planning works. Contractors including civil work are leading in this segment. All figures include new development and upgrade (OEM market) as well as renewal and maintenance (after-sales market) of rail infrastructure.

The fragmentation which can be seen from the figure is a structure characteristic of the worldwide track system market. The leading manufacturers, including four to five […]

Both the suppliers' and the products' market shares have a competitive landscape that can be characterised as follows:

[…]

2.1.3 Drivers of Procurement

Track system – Relevance and trends of drivers			
Driver	**Brief description**	**Relevance**	**Trend**
Price level	Track system components strongly follow raw material prices and wage development. Steel and concrete prices have […]	●	↗
Available investment funds and infrastructure policy	New development and upgrade projects have a large influence on the market volume. Such changes to existing networks are always the subject of political interest and decisions and need public funding help. Thus, infrastructural policy is one of the essential drivers in the market. In all market regions, […]	●	↘
Network technology, product quality	Rail networks can be built according to and operated on different levels of operational quality. Even rather simple track system configurations may allow for effective transport services, depending on the signalling and operational regime implemented. In contrast to products and services related to electrification, […]	◕	→
Revenues of network operators	Revenues from transport operations is an important element of investment funding. Besides covering the cost of operation, they are mainly used to fund maintenance and […]	◕	↗
Equipment and state of the networks	In general, modern infrastructure provides effective, efficient, and economical transport services. As a result of the above-mentioned activities, […]	◑	↘

Relevance for procurements: ● very high ➔ ○ none || 5-year trend: ↑ strongly increasing ➔ ↓ strongly decreasing

Figure 4: Track system – relevance and trends of drivers

2.1.4 Installed Base, Market Volume and Development

Between 2021 and 2026, SCI Verkehr expects the worldwide rail networks to grow from xx million to xx million route-km. The urban network in 2021 counts for approx. xx route-km.

The networks are likely to grow by approx. xx km over next five years. Asia, especially with several new route projects in China and India, and Africa/Middle East, with conventional rail projects mainly in Iran, are the regions that are expected to have their installed base increased. The other regions are expected to almost stagnate. This also influences the OEM market volume in infrastructure, which hardly grows any more without taking price increases into account.

Track systems: installed base and development			
Region	**Installed base 2021 (route-km)**	**CAGR 2021–2026 (% p.a.)**	**Installed base 2026 (route-km)**
Europe	xx	xx	xx
Western Europe	xx	xx	xx
Eastern Europe	xx	xx	xx
North America	xx	xx	xx
South and Central America	xx	xx	xx
Asia	xx	xx	xx
CIS	xx	xx	xx
Africa/Middle East	xx	xx	xx
Australia/Pacific	xx	xx	xx
Total	**xx**	**xx**	**xx**
			© SCI Verkehr GmbH

Figure 5: Track system – installed base and development

The average worldwide market volume of products and services in the field of track systems amounts to approx. EUR xx billion in 2021 is expected to grow to approx. EUR xx billion in 2026 (CAGR: x.x%). This can be broken down by OEM and after-sales and by market regions as follows:

Track systems: new development and upgrade (OEM)			
Region	**Current market volume 2021 (EUR million)**	**CAGR 2021–2026 (% p.a.)**	**Future market volume 2026 (EUR million)**
Europe	xx	xx	xx
Western Europe	xx	xx	xx
Eastern Europe	xx	xx	xx
North America	xx	xx	xx
South and Central America	xx	xx	xx
Asia	xx	xx	xx
CIS	xx	xx	xx
Africa/Middle East	xx	xx	xx
Australia/Pacific	xx	xx	xx
Total	**xx**	**xx**	**xx**
			© SCI Verkehr GmbH

Figure 6: Track system – new development and upgrade (OEM)

The global new development and upgrade business is expected to increase with an annual rate of x.x%, mainly driven by price increases of raw materials and price increases, […]

Track systems: after-sales services			
Region	**Current market volume 2021 (EUR million)**	**CAGR 2021–2026 (% p.a.)**	**Future market volume 2026 (EUR million)**
Europe	xx	xx	xx
Western Europe	xx	xx	xx
Eastern Europe	xx	xx	xx
North America	xx	xx	xx
South and Central America	xx	xx	xx
Asia	xx	xx	xx
CIS	xx	xx	xx
Africa/Middle East	xx	xx	xx
Australia/Pacific	xx	xx	xx
Total	**xx**	**xx**	**xx**
			© SCI Verkehr GmbH

Figure 7: Track system – after-sales services

Covering around two thirds of the overall market volume, the after-sales business presents higher growth than the OEM business, increasing […]

2.1.5 Developments in the World Market Regions

Track systems – Western Europe	
Installed base	– **Mainline railway**: Total network length is around xxx route-km. The three largest national networks can be found in Germany, France and Italy and they have together more than half of the Western European network. Once networks are mature, the size of the national network's contrasts with rather moderate growth in terms of length. CAGR 2021-2026 is expected to be x.x% – **Urban rail**: Around xxx route-km metro and light-rail networks are in operation in this region. Network length is expected to grow with x% p.a. mainly driven by new lines in France, Italy, Germany and Finland.
Suppliers	– In addition to global players, such as **Voestalpine, xxx, xxx** and **xxx**, there is a long tradition and a broad base of efficient medium-sized companies, some of which specialise in niche markets or operate as suppliers. – In March 2020, Chinese steel processing company **Jingye Group** completed the acquisition […]
Market volume & outlook	– **OEM market**: The market for new development and upgrade of track systems is expected to increase x.x% p.a. until 2026. A growth of x.x% per year is expected even without price increases. Increasing political support for railway driven by environmental awareness is expected for this region. Large new high-speed projects are underway or expected in France, Norway and United Kingdom in mid-term. Upgrade of existing routes is the key driver for Germany. – **After-sales market**: The market for maintenance and renewal of track systems is expected to grow x.x% p.a. Despite increasing budgets for investment in railway, the market growth is mainly driven by price increases rather than quantity effects.

Track systems – Eastern Europe	
Installed base	– […]
Suppliers	– […]
Market volume & outlook	– […]

[…]

Track systems – Australia/Pacific	
Installed base	– […]
Suppliers	– […]
Market volume & outlook	– […]