World market will return to growth

Following a slight decline in 2019-21 as a result of the coronavirus pandemic, the global railway supply market is projected to grow strongly in the next six years, according to the latest edition of UNIFE's World Rail Market Study.

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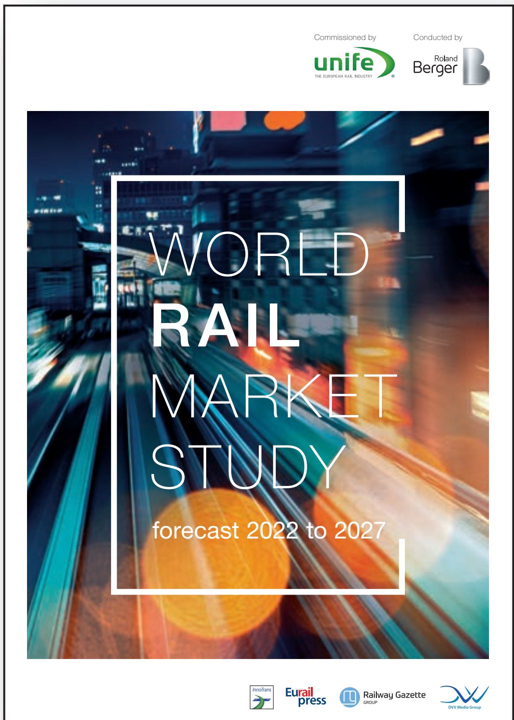
Despite the current highly dynamic market conditions, rail sector suppliers can look forward to continued growth and business opportunities over the next six years, according to the ninth edition of the UNIFE World Rail Market Study, which was officially launched at the InnoTrans trade fair in Berlin on September 20.

Although the rail sector is still being negatively affected by the Covid-19 pandemic, rail remains a reliable, sustainable and efficient mode of transport, and railways are continuing to invest in new technologies in order to become the backbone of a sustainable future transport mix. Strong growth is expected for the future following a slight market decline in 2019-21 as a result of the pandemic. Sustainability and digitalisation are widely seen as major drivers of future market growth, which is predicted in all product segments and all regions except the CIS.

Comprehensive overview

UNIFE has published its review every two years since 2006, and the ninth edition has once again been prepared by Roland Berger, based on detailed surveys and discussions with leading



players across the rail sector. WRMS provides a comprehensive overview of recent developments in the supply market, an analysis of current market volumes and forecasts for 2025-27 by both region and business sector.

Following a short introduction, there is a section explaining the methodology that has been used in preparing successive surveys and forecasts.

The study begins by reviewing the existing installed base of rolling stock and infrastructure assets across the 65 countries surveyed, and then makes a comprehensive assessment of current market volumes for all product segments on a region-by-region basis.

Each edition of the WRMS includes one or two qualitative assessments of key drivers within the rail sector, facilitating a deeper dive into emerging trends. This year's study focuses on Sustainability and Digitalisation as key enablers of growth in the rail market. Sustainability is seen as a key trend in the rail industry, and there is a particular focus on the decarbonisation of rail transport and operations through the greater use of alternative traction technologies. Digitalisation is identified as an enabler of operational efficiency, capacity optimisation and more seamless multimodal transport.

The next section seeks to assess future market prospects, presenting detailed forecasts of market volumes for 2025-27, again broken down by region and product segments.

As with previous surveys, the report also considers the degree of 'accessibility' to markets for European suppliers looking to compete in different regions around the world.

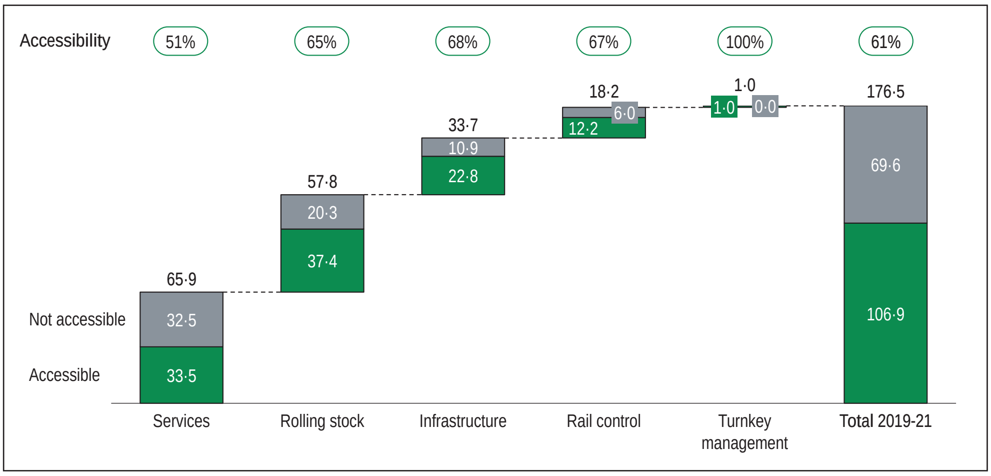
Asia Pacific out in front

In terms of installed base, Asia Pacific saw the biggest rate of increase during 2019-21, driven in particular by a compound annual growth rate of 7·5% in metro rolling stock as countries across China, India and the ASEAN region invest strongly in urban rail expansion. Western Europe remained in second place with steady growth despite the pandemic.

In the rolling stock segment, the global total of 830 000 vehicles (excluding freight wagons) increased by about 36 000 over the past two years, with more than two-thirds of that growth coming in the metro vehicle and passenger multiple-unit categories.

In terms of infrastructure, the world's rail networks now stand at a total length of around 1 747 000 track-km. This is a net increase of around 39 000 km, with a handful of closures offset by the opening of more than

Fig 1. Market volume for the global rail supply industry by market segment in 2019-21 (€bn). These figures represent an annual average of the order intake over the three year period.



12 000 km of conventional railway and 20 500 km of high speed line, of which no less than 18 000 was in China.

The freight wagon pool remains more stable at 5 240 000 vehicles, representing 86% of all rolling stock. Withdrawals and replacements are well balanced, while productivity improvements allow modern vehicles to carry more than their predecessors. As a result the total installed base has only increased slightly, with a compound annual growth rate of 0·6% over the past two years; once again the largest increase was seen in the Asia Pacific region.

In terms of supply market activity, we found a slight decline of -0·2% CAGR over the past two years, with average annual sales volumes falling from €177·2bn in 2017-19 to €176·5bn in 2019-21. The rolling stock segment was most affected by Covid-19, declining by -3·4% against a +4·1% increase in rail control, +1·6% in infrastructure and +0·8% in services. Turnkey projects also fell slightly by -0·6%.

Growth forecasts

Looking ahead, all market segments are expected to recover and grow more strongly over the next six years. Infrastructure is predicted to show the strongest growth at 3·8% CAGR (real growth rate excluding inflation). This will be driven by continued investment in high speed lines and the urban rail segment, along with expansion and renewal of conventional main lines and freight railways.

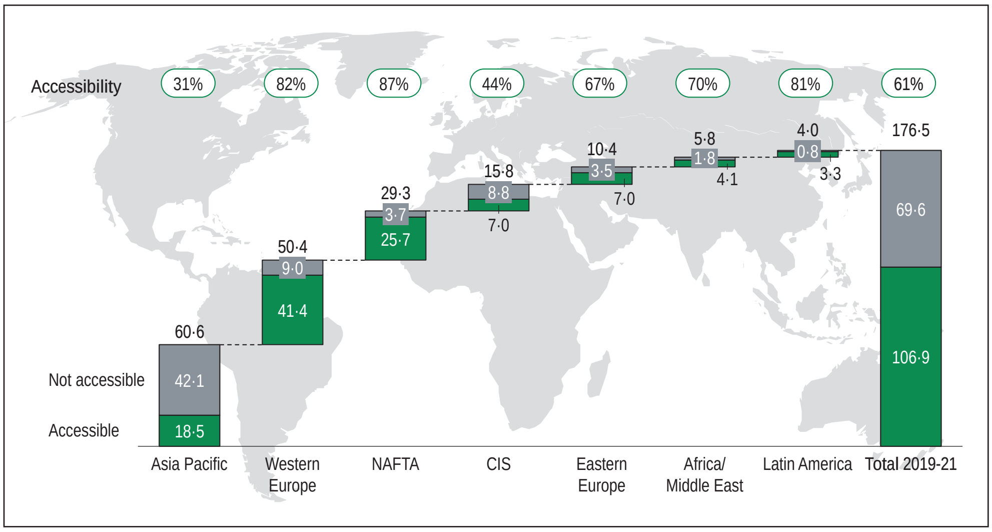
Similarly, continued strong growth of 3·4% is expected in the Rail Control segment, across both interurban and urban railways. This will be driven by an on-going trend towards ATP and automation, including ERTMS for main line railways and CBTC in the urban sector.

By contrast, the rolling stock market is predicted to develop more slowly, with a CAGR of 2·5%. This reflects the historically high market volume (despite the recent decrease) and the declining demand for conventional loco-hauled passenger coaches, with a greater emphasis on multiple-units and high speed trainsets.

The growing installed base is expected to drive the Services segment, with increasing demand for both maintenance and spare parts. A major contributor to growth in both Eastern and Western Europe will be the introduction and roll-out of digital automatic couplers across the freight sector, representing a potential investment of €10bn or more (p50).

> ‘Sustainability and digitalisation are widely seen as major drivers of future market growth’

Fig 2. Regional distribution of the rail supply market in 2019-21 (€bn). The green elements represent the market accessible to international suppliers.



In terms of geography, Eastern Europe and Africa/Middle East are expected to show strongest growth rates (Table I). The CIS is the only region where market volumes are forecast to decline.

Future drivers

In its special review of sustainability in the rail sector, the study identifies increasing environmental awareness as a key growth driver, emphasising the environmental advantages of rail traffic in comparison to other transport modes, including the lowest CO_2 and NO_x emissions.

Decarbonisation of the rail mode itself includes greater use of electric traction as well as alternatives to diesel on non-electrified routes, including hybrid trainsets, batteries and hydrogen fuel cells. Other initiatives to reduce emissions include the use of synthetic diesel fuels and natural gas, wider use of energy from renewable sources, and improvements to auxiliary services.

The supply sector is expected to benefit from governmental programmes to support modal shift of traffic to rail, and the report highlights ‘exemplary’ initiatives such as the EU Green Deal which supports investment in infrastructure and rolling stock to increase the overall attractiveness of the rail sector for passengers and freight customers.

The other major trend examined in the 2022 study is digitalisation, which is seen as a key enabler in the rail industry. This is covered in six main topics:

- the advantages of ERTMS/ETCS and

CBTC and their impact on safety and efficiency;
- deployment of the digital automatic coupler in Europe and its impact on rail freight productivity;
- the introduction of FRMCS as the future high-performance mobile communications network for the rail sector;
- the development and benefits of predictive maintenance, including reduced costs and improved availability;
- seamless multimodal transport and an improved rail travel experience through the digitalisation of the complete journey;
- an overview of regulatory initiatives as a result of increasing number of cyberattacks, and the growth of cybersecurity as an emerging field in the services segment.

Accessibility concerns

Whilst the global market volumes are forecast to recover and continue growing in most segments, the reduced accessibility of certain markets to international suppliers remains a concern, particularly for the major players. Market access had been improving for several years as countries opened up and signed free trade agreements, but over the past decade the process has gone into reverse as more countries stipulate a higher proportion of local content in publicly funded orders.

This reduction in market access is a particular concern for major European suppliers. The European Union continues to liberalise its railway market and open it up to foreign suppliers, but European bidders remain excluded from certain key markets such as Japan and South Korea, through a variety of tariff and non-tariff barriers. Meanwhile, non-European suppliers are building a stronger presence in Europe.

There is also a higher level of uncertainty as a result of geopolitical conflicts, such as Russia's invasion of Ukraine or the sudden jump in inflation. The closure of the Russia and Belarus markets translates to a relatively small decrease in the world wide accessibility rate, but the political tensions and hostile trade climate remain a threat to positive development in the rail market.

Over-proportional growth in accessible markets has helped to limit the decline in the overall accessibility rate from 62% in the 2020 study to around 61% today. Nevertheless, the threat remains that more countries such as China and the USA might reduce their accessibility to international suppliers as a consequence of Covid-19 economic recovery policies, whilst technical developments in other key markets, such as India developing its own indigenous train protection system, could impact on future market access.

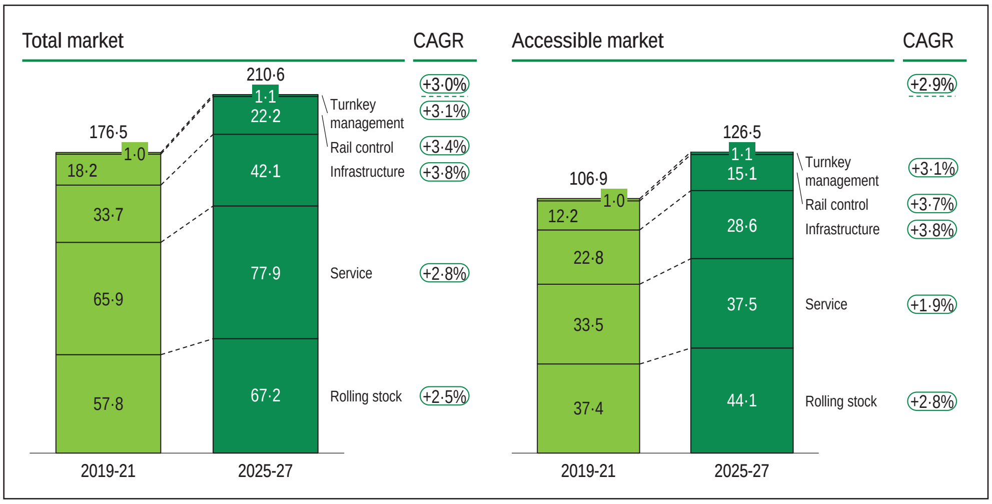


Fig 3. Forecast market growth between 2019-21 and 2025-27 by industry sector (€bn).

Whilst industry associations such as UNIFE continue to emphasise the wider benefits of fair and open markets, it seems clear that there is a growing need for determined action at the level of governments and political decision makers to prevent further decreases in the accessibility of the worldwide rail market.

Table I. Forecast compound annual growth rates in the rail supply market by region, 2019-21 to 2025-27

Africa/Middle East	7·1%
Eastern Europe	6·1%
Latin America	4·7%
Western Europe	3·8%
NAFTA	3·1%
Asia Pacific	1·9%
CIS	-0·5%
Global average	**3·0%**

Freight wagons account for around 86% of the global rolling stock fleet. Increased capacity and improved productivity are key drivers for investment in renewals.

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