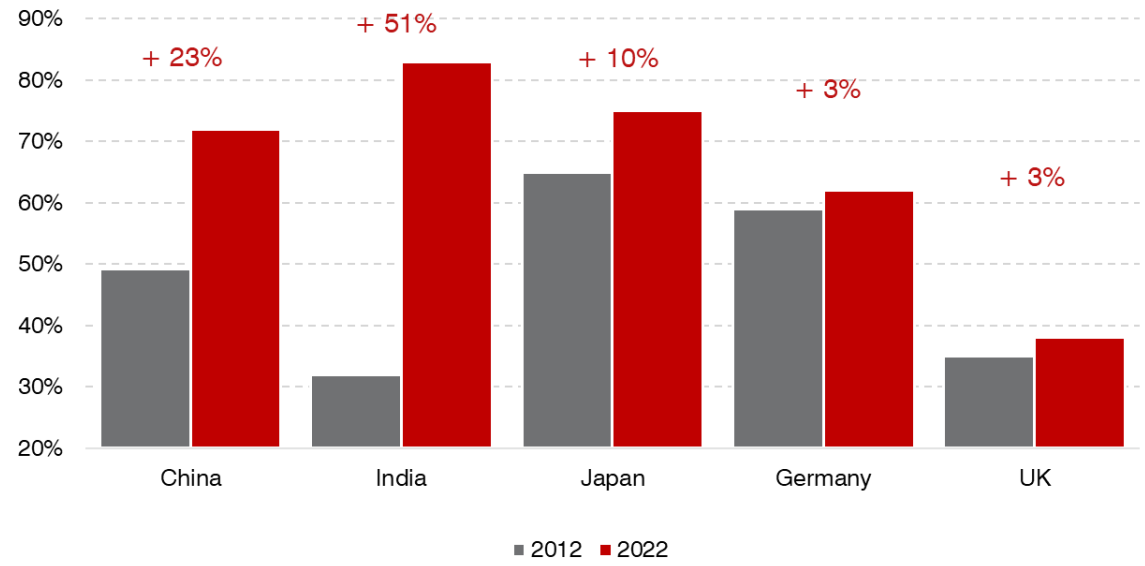
Europe strives to eliminate railway electrification backlog, driving continental growth

[26.10.2023] Over the past ten years, China and India have electrified an average of 1,000 kilometres of existing railway networks a year – Germany and England have managed significantly less than 100 kilometres a year during the same period. Despite repeated government commitments, too little action is being taken in Europe. Due to insufficient investment and a corresponding backlog, SCI Verkehr is forecasting strong growth – from today's low level – in railway electrification through 2027 in Europe. In Asia, on the other hand, the current high volume is only expected to grow moderately. Important railway countries, particularly China and India, have built many new electrified routes and made massive investments in the electrification of existing railways. The global market volume, currently approx. ten billion euros, is relatively low (average for 2021-2023). In its latest study, "Railway Electrification – Global Market Trends 2023", SCI Verkehr forecasts global annual growth of nearly five percent through 2027 (CAGR). The construction of new railway lines and electrification of existing lines in Asia and Europe are driving global market volume.

Electrification grade national railways in selected countries [%]



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Source: Allianz Pro Schiene, information published by national railways, SCI database

While railway electrification is a niche market within the railway infrastructure sector, it is a growing market with a positive long-term outlook. Even apart from its beneficial impact on the climate, the electrification of existing railway networks increases efficiency. It allows capacity utilisation to be optimised by increasing speeds and axle loads. The harmonisation of international and national rail freight corridors in conjunction with electrification makes it possible to deploy standard fleets. Another significant benefit lies in the improved resiliency of the entire railway network. Yet electrification is expensive, particularly for existing railway networks if this entails disrupting transport. In spite of this, the pressure to electrify railway lines continues to grow, because it offers a more attractive form of transport when there is sufficient rail traffic.

Asia is leading the way with the construction of numerous new electrified routes and huge investments in the electrification of existing railways. Market volume will remain high, but will grow only slightly faster

than inflation, despite large investments in electrified railways in India. This is due to a decline in new projects for high-speed transport and metro lines in China.

In spite of numerous commitments made by governments, very little has been happening in Europe. Whereas the average European electrification rate is just 50 percent, important railway countries in Asia boast electrification rates in excess of 70 percent. High costs and lengthy planning and approval processes are holding back the expansion and conversion of networks in Europe. If things continue to progress at the same rate as in recent years, many countries – especially Germany and the UK – will not come close to meeting their official emissions targets.

The market study "Railway Electrification – Global Market Development 2023" is now available in English from SCI Verkehr GmbH (www.sci.de).