

## Diesel Locomotives worldwide: Stricter emission standards are leading to an increase in prices and a lack of new products

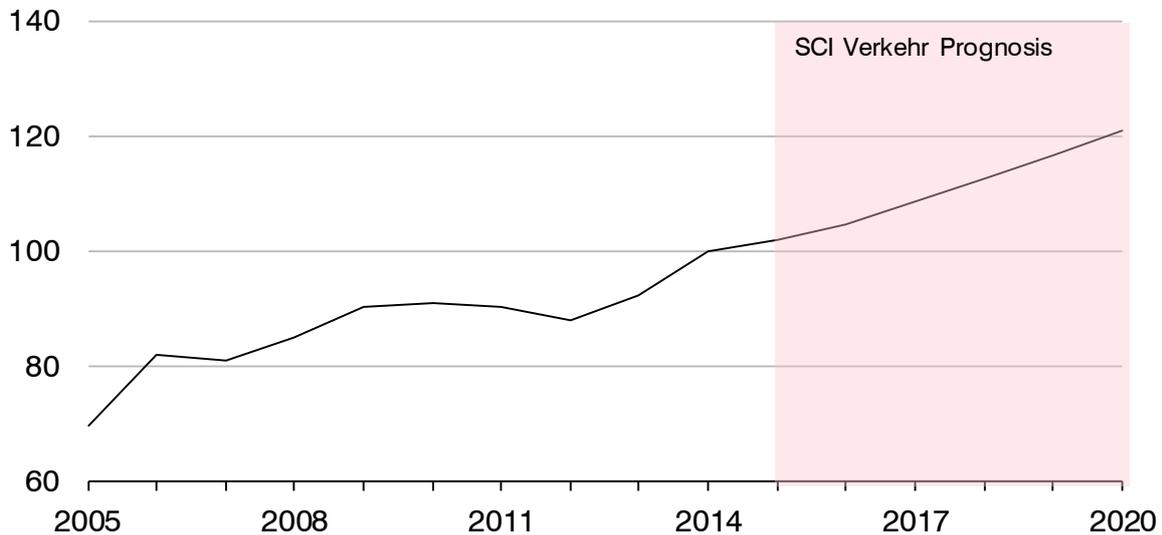
[17<sup>th</sup> September 2015] Procurements of diesel locomotives will decrease in North America and Europe in the short term. Stricter emission standards and a resulting increase in purchase prices hamper operators' investment in new diesel locomotives. Many operators have procured locomotives – compliant with prior standards – just in time to avoid higher prices. However, as shown in its latest study “Diesel Locomotives – Global Market Trends”, SCI Verkehr expects good long-term perspectives – diesel locomotives are needed and new products will have advantages in life cycle costs and fuel consumption. This development will result in an increasing market volume worldwide.

At a volume of around EUR 4.9 billion, the worldwide market for new diesel locomotives has currently reached the highest level since the beginning of the 21st century. SCI Verkehr is expecting good perspectives with an increasing OEM of 2.9% per year up to 2019. The main driver, besides stricter emission standards, is an ongoing strong demand for raw materials like ore, coal and the development of new mines in Asia, Africa, Australia and South America, which results in an increasing worldwide transport demand. The CIS region is the exception to this development due to the forecasted economic slowdown in Russia and the military conflict between Russia and Ukraine, which have a negative effect on transport demand and on the demand for new diesel locomotives.

The worldwide market for diesel locomotives will benefit from stricter emission standards established in North America and Europe: In the shunting segment, and increase in the use of hybrid and multi-engine technology has already been observed over the past years. The same development is now taking place in the segment of mainline locomotives, where alternative technologies such as dual-mode and multi-engine concepts are becoming more important. Additionally, natural gas technologies are a conceivable option. Standard single engine heavy mainline locomotives which meet the requirements of new emission standards are still in the development and testing stages, resulting in a lack of new products in respective regions.

The manufacturer landscape in North America and Europe is going to change: The variety of manufacturers offering products compliant with new emission standards is small. EMD, one of the two largest North American manufacturers, is currently still in the development phase of low emission heavy mainline locomotives and therefore currently does not offer products in the heavy mainline segment for any of these regions. European manufacturer Voith already closed its diesel locomotive production facility in Kiel in 2014 and Vossloh is considering the sale of the diesel locomotive segments in its production plants in Kiel and Valencia.

## Development of purchase prices for diesel mainline locomotives in Europe\* – year of order [index 2014 = 100]



Index 100 = ~3.4 mEuro

\*based on individual data points in the past and a prognosis for the future

The after sales market is also influenced by this development. On the one hand, new technologies and low emission locomotives result in operational savings, on the other hand costs and efforts for maintenance of these products are comparably high. Therefore the after sales market is slightly increasing. Overall the market for after sales currently has a volume of EUR 11.98 billion and will increase by about 2.4% per year up to 2019. In some regions and countries a focus on modernisation also has a positive effect on after sales services. While in North America this development is caused by a lack of diesel locomotives fulfilling the new emission standards, it usually stems from from a lack of investment or the general economic position, on which the ability of to invest in new locomotives is dependent.

The market study “Diesel Locomotives – Global Market Trends” is now available in English. ([www.sci.de](http://www.sci.de)).

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