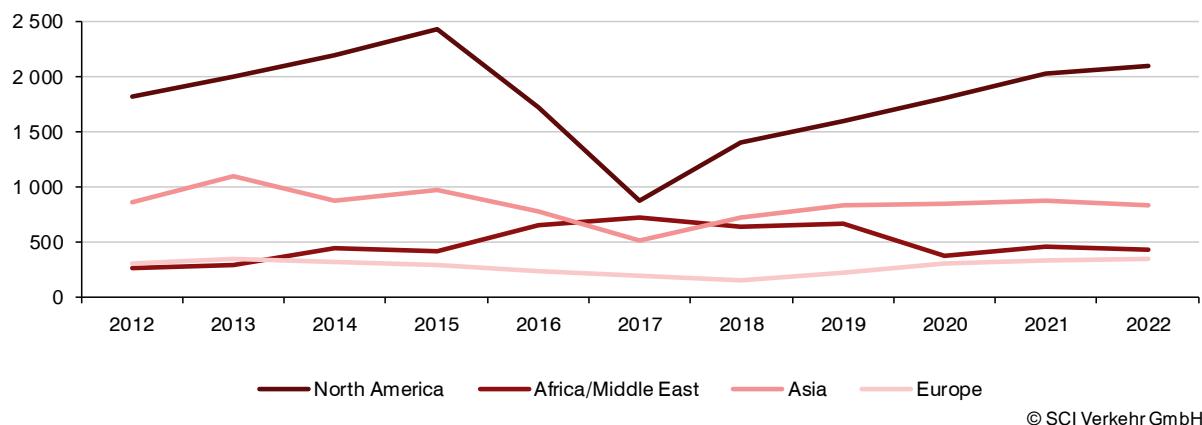


## Diesel locomotive sales at historically low point – manufacturers consolidating – rising demand again from 2018

[20.12.2017] In 2017, the worldwide procurement of new diesel locomotives decreased once again, and with a current market volume of EUR 4.1 billion reached its lowest level since the start of the 21st century. However, the main driver for this development is not initially the growing global scepticism about diesel drive technology. The strongest effects in the major markets are currently coming from higher emissions norms, and consequent rising procurement costs, as well as economically-driven declines in transport markets. In Asia especially, progressive electrification is taking place, which will also have a sustained weakening effect on the diesel locomotive segment. Nonetheless, the market seems to have reached its lowest point: in particular due to a boost from the leading market of North America, SCI Verkehr expects a recovery of the market in the short term, with yearly growth rates of 4% to 5% up to 2022. On the other hand, among the manufacturers the consolidation process is only just beginning. Far-reaching structural changes are emerging which will fundamentally transform the familiar current manufacturer landscape.

**Market volume for new diesel locomotives [EUR million]**



The historically low market volume is being decisively influenced by falling transport volumes in major diesel locomotive markets in North America, Europe and Asia. Only in Africa has the procurement of new diesel locomotives increased. In the USA, the largest market for diesel locomotives, rail freight transport performance decreased between 2015 and 2016 due to substantially lower transport volumes in the segments of coal, metal ores, metal products and mineral oil. Added to this, fuel costs decreased, making trucks even more competitive against rail as intermodal competition. In mid-2017, more than 15% of the diesel locomotive fleets of US operators were being held in storage. Also contributing to a reduction in diesel locomotive procurements is the ongoing rise in electrification rates in Asia. Between 2015 and 2017 alone, this rate increased from around 40% to 45%. This process is still ongoing. In all the major railway markets in Asia, extensive investments are planned in new lines as well as in ongoing electrification of lines. Even in the CIS region, which has historically had a high electrification rate, this rate has been further increased in the last few years.

The stricter emission norms for new diesel engines in North America and Europe are initially working against the procurement of new vehicles. Due to already narrow margins, rail companies are already anxious to use their economically more attractive existing vehicles for as long as possible. In the medium term, these stricter emission standards will also create substantial incentives for the modernisation of existing fleets and for alternative drive technologies. In almost all regions, hybrid, battery, hydrogen-

fuelled and gas-turbine locomotives were introduced onto the market in the last few years, especially in the shunting locomotives segment. In the field of mainline locomotives, alternative technologies, in particular electric-diesel dual-mode, will increase in importance. In this way, rail companies and locomotive manufacturers are increasingly seeking solutions in order to compensate for the higher investment costs through modern drive technologies and higher energy efficiency. This development will again stimulate demand for diesel locomotives in the medium term. SCI Verkehr expects that the proportion of alternative drive technologies will increase in the future. Although alternative drive technologies offer savings on operating costs, on the other hand the costs and efforts needed for maintenance are higher. This will lead to a small rise in the after-sales market. In total, the market currently has a volume of around EUR 13 billion, and will grow by c. 2% to 3% per year up to 2022.

Major structural changes have been observed among manufacturers since 2014: the global market leader, Chinese company CRRC, has clearly announced its aggressive export goals, and is putting established manufacturers under pressure. The largest manufacturer of diesel locomotives worldwide – GE Transportation – is planning to sell its locomotive division. In Europe, Siemens and Alstom have announced their intention to combine their railway businesses into a single company, in order to combat the growing competition from China. Significant changes can also be seen among smaller diesel locomotive manufacturers: Czech manufacturer Skoda Transportation changed ownership in 2017. Vossloh wants to leave the rail vehicles market, and to this end has already sold its factory in Valencia to Stadler Rail. The South African manufacturer RRL Grindrod is also planning a sale.

Nonetheless, despite these dynamics among manufacturers and the rise in alternative drive technologies, the demand for diesel locomotives will remain without alternatives in the foreseeable future. In particular, large – non-electrified – regions such as North America will continue to rely on diesel locomotives.

The market study “Diesel Locomotives – Global Market Trends” will be available in English from 20th December 2017 from SCI Verkehr.

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