TPI

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Truck Production Index

Power Systems Research
Data · Forecasting · Solutions™

The PSR-TPI measures truck production globally and across six regions: North America, China, Europe, South America, Japan & Korea and emerging markets. Data comes from OE Link™, the proprietary database maintained by Power Systems Research.

Fourth Quarter 2022

Q4 2022 Power Systems Research Truck Production Index (PSR-TPI) gains 3.7%

ST. PAUL, MN — The Power Systems Research Truck Production Index (PSR-TPI) increased from 101 to 105, or 3.7%, for the three-month period ended Dec. 31, 2022, from Q3 2022. The year-over-year (Q4 2021 through Q4 2022) loss for the PSR-TPI was, 122 to 105, or -13.2%.

The PSR-TPI measures truck production globally and across six regions: North America, China, Europe, South America, Japan & Korea and Emerging Markets.

This data comes from **OE Link™**, the proprietary database maintained by Power Systems Research.

Global Index. Global medium and heavy vehicle production is expected to decline by 15.8% in 2022 when final numbers are available in Q1 2023, primarily due to a significant drop in heavy truck demand in China. Global MHCV demand is expected to improve by 4.6% in 2023 even with concerns of a slowing global economy. Ongoing supply chain disruptions along with generally higher inflation and a risk of Covid variants returning are also a concern moving forward.

All Regions. Medium and heavy commercial vehicle production will be mixed in 2022 due to a variety of issues. In China, truck overcapacity continues to hinder demand while the Russian-Ukraine war is significantly impacting demand and production in Eastern Europe. While the global supply chain is showing improvement, it will remain a problem in 2023 for all regions. There is serious concern about a major slowdown in the North American and European economy as a direct result of higher fuel and energy prices and overall inflation which doesn't appear to be going away anytime soon.

North America. Medium and heavy commercial vehicle production is expected to increase by 12.5% in 2022 over last year primarily driven by improved class 8 truck production. While not back to pre-pandemic levels, the supply chain has seen improvement during the past few months. Within the class 8 truck segment, PSR expects truck demand to remain strong into the first part of next year as a result of significant pent-up heavy truck demand. While commercial vehicle demand is expected to decline slightly in 2023, production levels are expected to remain strong through at least the first half of the year.

Europe. Commercial vehicle production is expected to improve by 2.3% in 2022 over 2021 and further improve

TPI authors

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by 4.8% in 2023 primarily due to continued pent up vehicle demand. However, higher inflation, particularly energy costs and higher interest rates along with continued supply chain issues will put negative pressure on demand throughout the year. Another concern is the ability of the various manufacturing plants to remain open during possible power shortages.

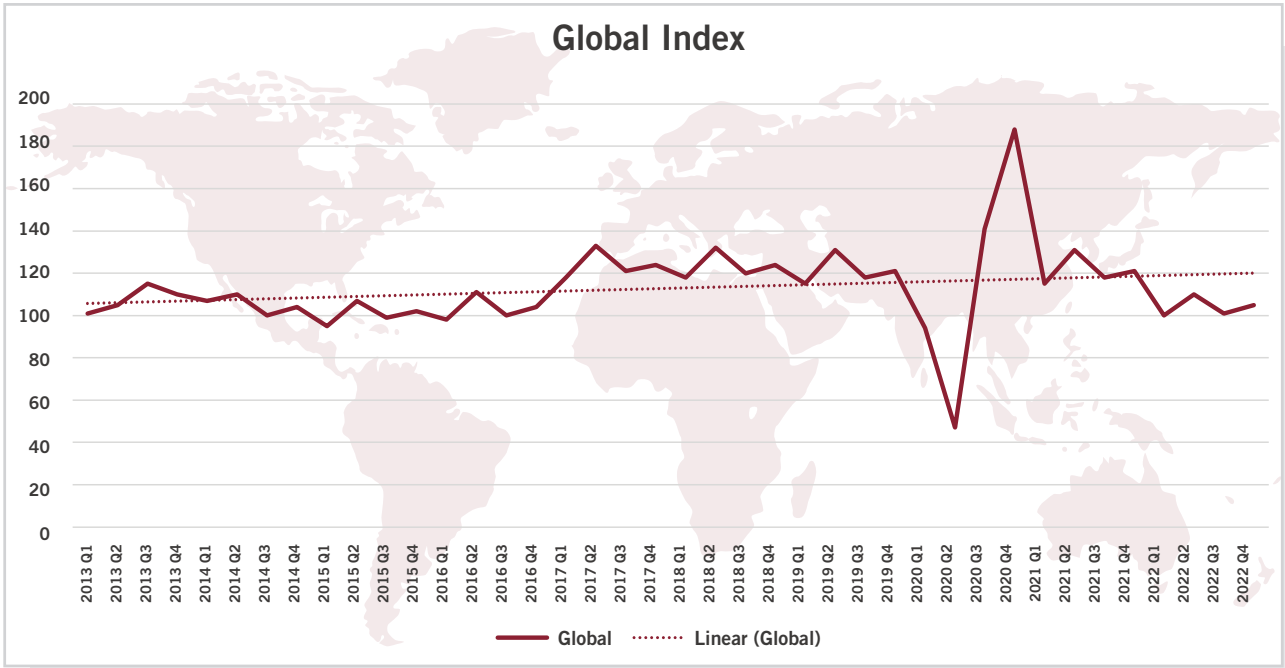
South Asia. After relatively low vehicle demand over the past few years, medium and heavy commercial vehicle demand in South Asia continues to be strong and production is expected to rise by 18.6% in 2022 over 2021. Production is expected to further increase by 12.9% in 2023 as the trucking companies continue to replace their older vehicles. In India, the focus is moving toward more infrastructure spending which is good for the vocational market.

South America. After exceedingly elevated levels of MHCV production in Brazil in 2021, overall production in South America is expected to increase by 6% in 2022 before declining by 11.7% this year. Emission regulations Proconve 8 or P8, equivalent to Euro VI, are now in effect in Brazil. The legislation considers MHV to be all CV vehicles above 3.8 tons. The additional vehicle cost of the P8 emission technology will likely have a negative impact on Brazilian truck demand this year. Other factors such as higher interest rates will also place pressure on truck demand moving forward.

Japan/Korea. Medium and heavy commercial vehicle production in Japan and South Korea is expected to finish flat in 2022 compared to 2021. However, commercial vehicle production is expected to increase by 4.8% this year. Concerns surrounding a slowing global economy along with continued supply chain disruptions will likely impact vehicle demand this year.

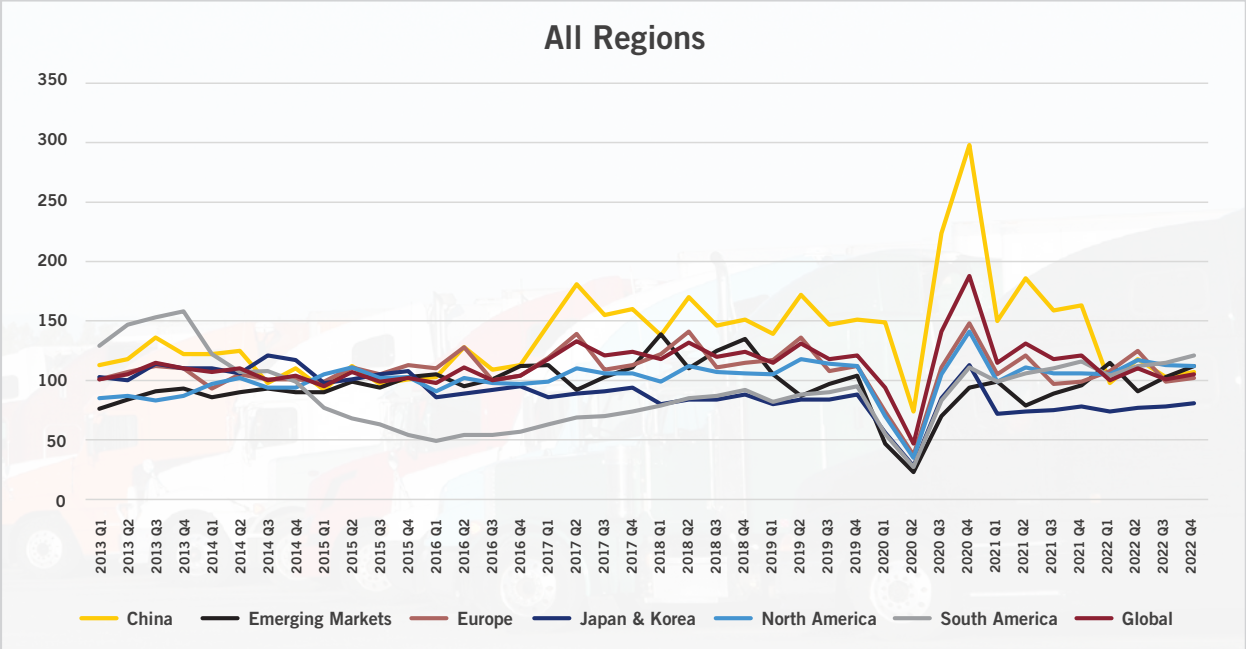
Greater China. Demand for medium and heavy commercial vehicles declined sharply in 2022 primarily due to a slowing economy and the affects from Covid related lockdowns. Also impacting demand was the implementation of the vehicle scrappage scheme in 2020 and 2021 along with a truck pre-buy ahead of the China VI emission regulations implemented in July 2021 which resulted in a relatively young truck fleet in China. MHCV production is expected to improve by 7.7% this year over 2022

The next update of the Power Systems Research TPI will be in April 2023 and will reflect changes in the TPI during Q1 2023. **PSR**

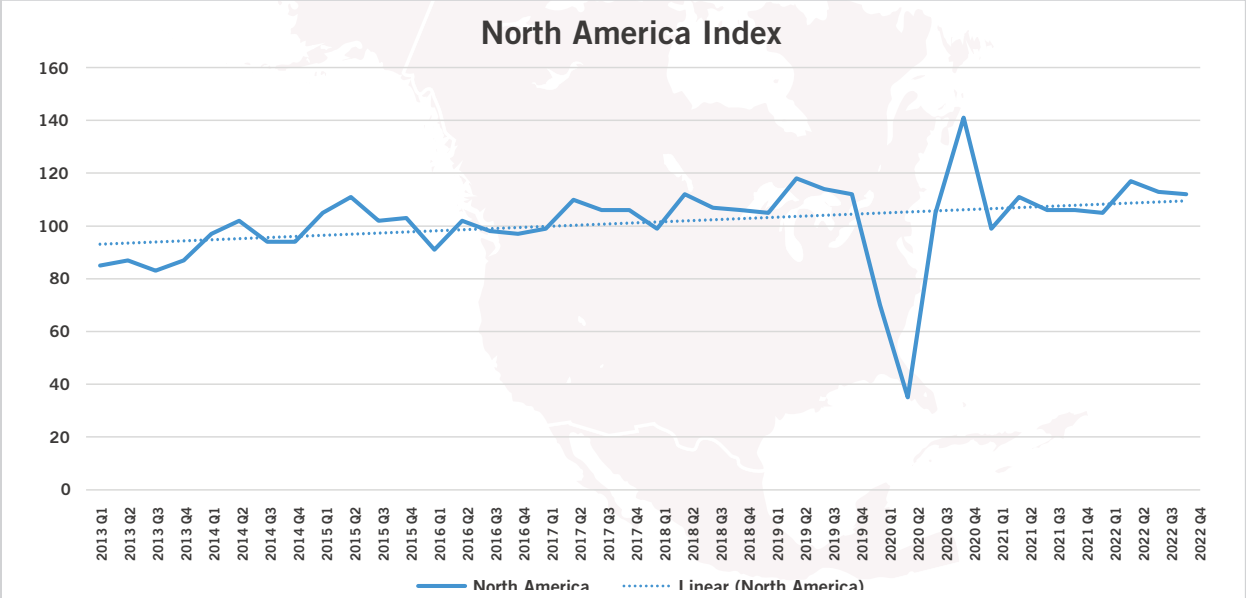


Global medium and heavy vehicle production is expected to decline by 13% this year primarily due to a significant drop in heavy truck demand in China. A slowing global economy along with continued supply chain disruptions will continue place pressure on demand moving forward.

Power Systems Research Global Truck Production Index (PSR-TPI) (Class 3-8 Trucks & Bus Chassis)

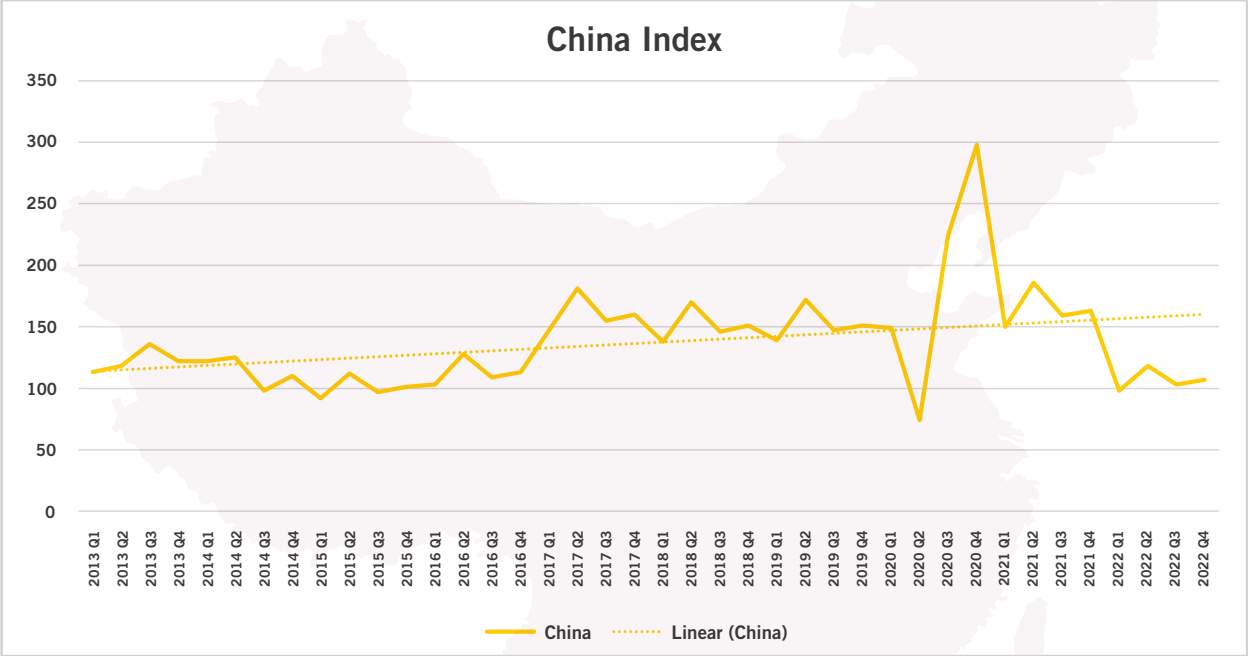


Medium and heavy commercial vehicle production will be mixed this year due to a variety of issues. In China, truck overcapacity continues to hinder demand while the Russian-Ukraine war is significantly impact demand and production in Eastern Europe. The global supply chain will remain a problem through at least the end of this year for all regions. There is serious concern about a major slowdown in the North American and European economy as a direct result of higher fuel and energy prices and overall inflation which doesn't appear to be going away anytime soon.

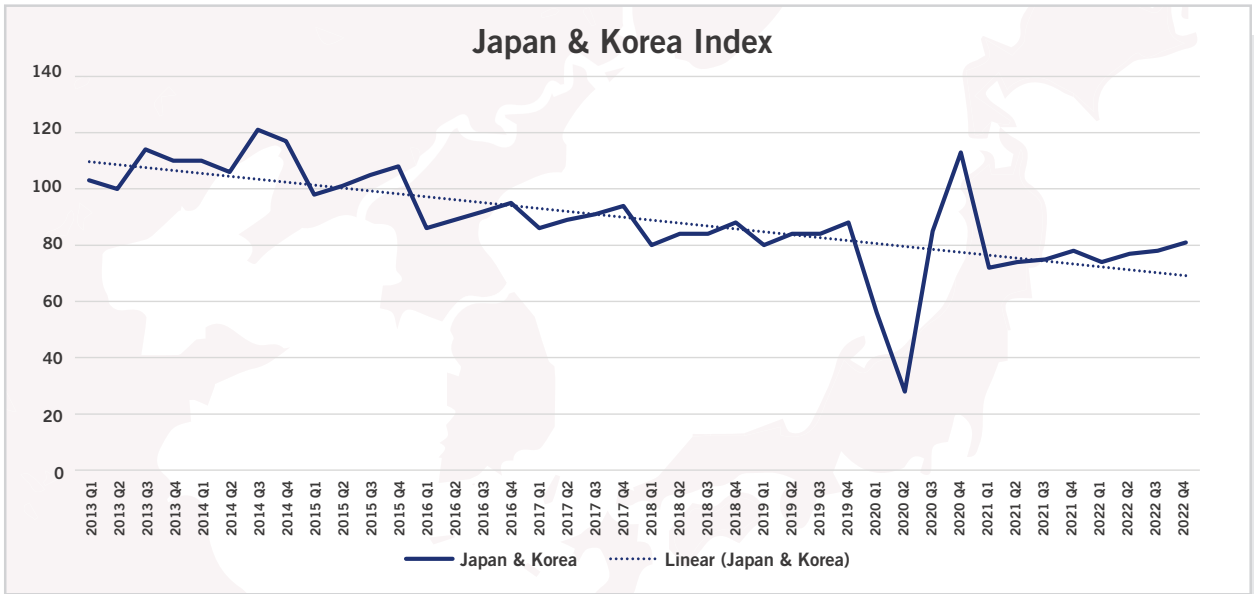


Medium and heavy commercial vehicle production is expected to increase by 9.3% this year over 2021 as the OEM's continue to struggle with the supply chain disruption that is expected to continue well into next year. Freight demand continues to remain healthy but is expected to cool as the economy in general slows down primarily due to high inflation and energy cost along with higher interest rates and continued disruption within the overall supply chain. Within the class 8 truck segment, PSR expects truck demand to remain strong into the first part of next year as a result of significant pent-up heavy truck demand.

Power Systems Research Global Truck Production Index (PSR-TPI) (Class 3-8 Trucks & Bus Chassis)

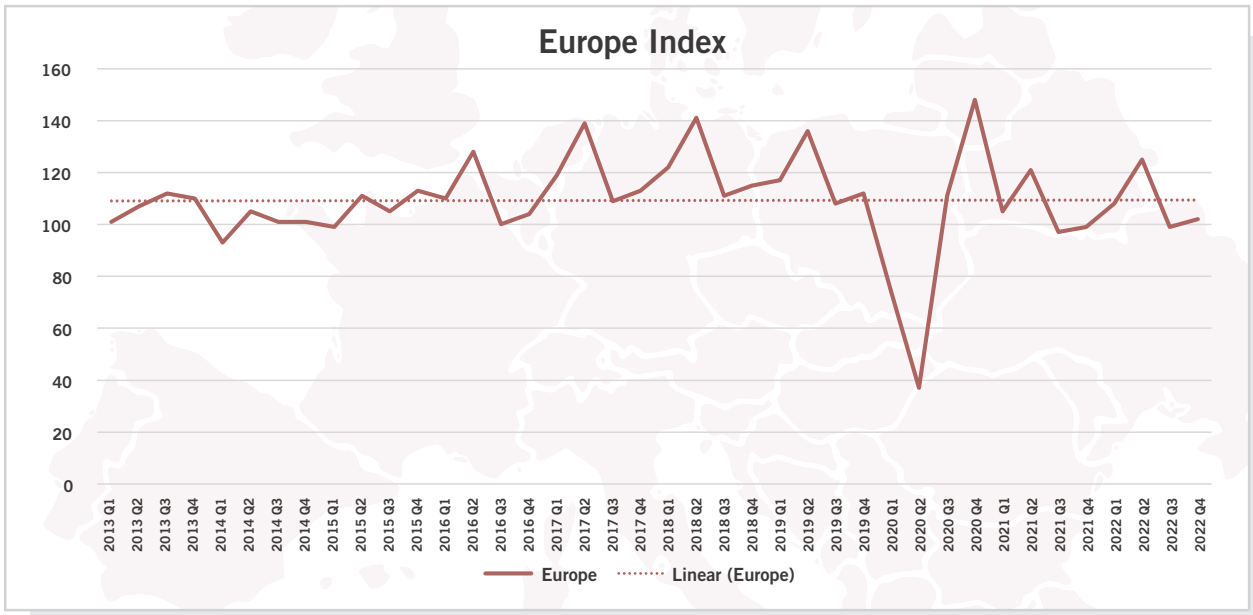


Medium and heavy commercial vehicle production is expected to decline by 38.9% this year, driven in part by a slowing economy and the affects of Covid-related lockdowns. Also impacting demand was the implementation of the scrappage scheme in 2020 and 2021 along with a truck pre-buy ahead of the China VI emission regulations implemented in July 2021. This has resulted in a relatively young truck fleet in China. This combined with an economic slowdown has greatly reduced truck demand especially in the heavy truck segment.

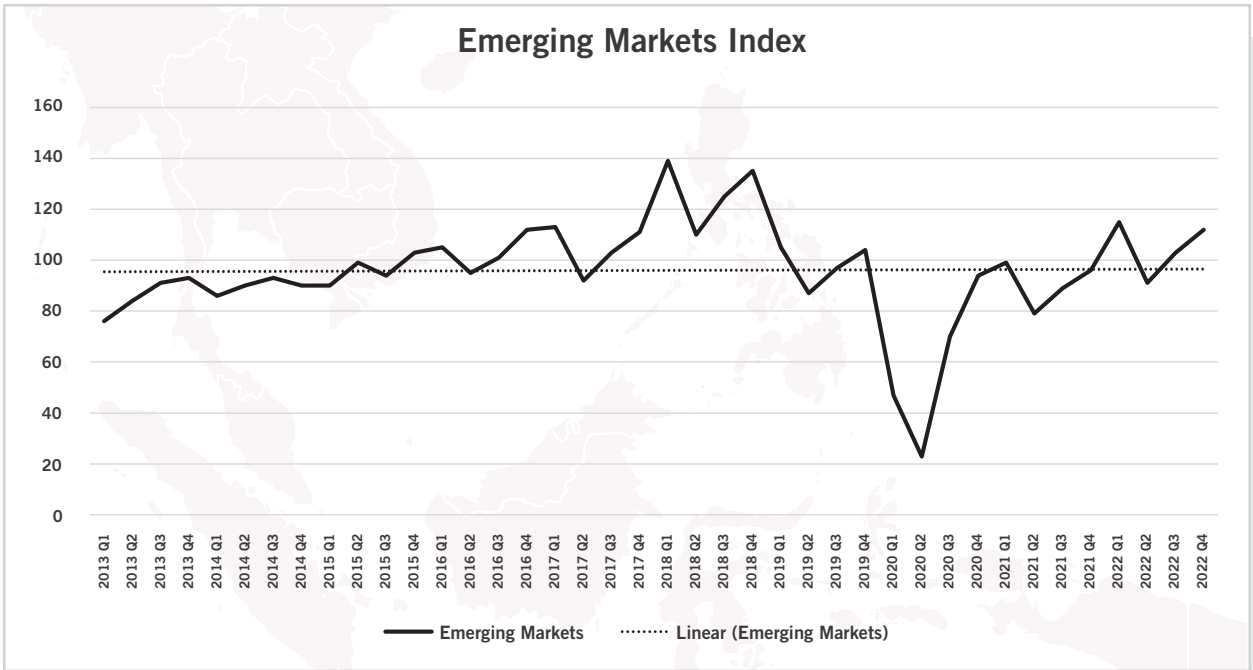


Medium and heavy commercial vehicle production in Japan and South Korea is expected to decline by 1.2% this year over 2021. Concerns surrounding a slowing global economy along with continued supply chain disruptions will impact vehicle demand throughout the remainder of this year. However, Japan lifted local Covid-19 restrictions which boosted both consumer and business spending this year. Japan and South Korea have a significant portion of the global vehicle export market most notably in the ASEAN region.

Power Systems Research Global Truck Production Index (PSR-TPI) (Class 3-8 Trucks & Bus Chassis)

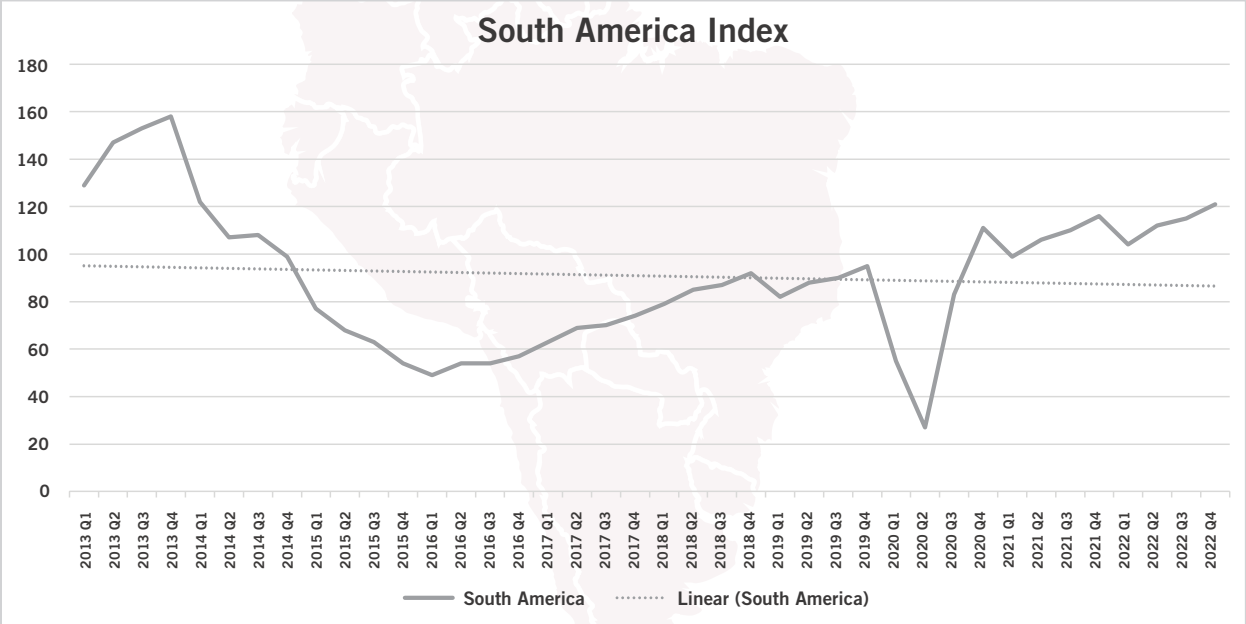


Truck demand in Western Europe remains strong and is expected to continue throughout the rest of the year. However, there are concerns about a slowing European economy in the wake of the Russia and Ukraine conflict. High inflation and energy costs along with the on-going supply chain issues will put pressure on demand in the coming months. The Russian OEM's have continued to produce vehicles throughout the year but are hampered due to lower demand and low/inconsistent production rates due in part to significant supply chain constraints. European commercial vehicle production is expected to increase by 2.7% this year over 2021.



Medium and heavy commercial vehicle demand in South Asia continues to be strong and production is expected to rise by 17.2% this year over 2021. Production in India is expected to increase by 22.1% this year. In general, production in South Asia is also expected to be strong next year before slowing in 2024 partially due to it being an election year. In India, the focus is moving toward more infrastructure spending which is good for the vocational market.

Power Systems Research Global Truck Production Index (PSR-TPI) (Class 3-8 Trucks & Bus Chassis)



After very high levels of MHCV production in Brazil last year, overall production in South America is expected to increase by 3.3% this year. In Brazil, the increased truck capacity from last year's high production along higher interest rates and some impact in agriculture due lack of fertilizers have placed pressure on production throughout the year. Emission regulations Proconve 8 or P8, equivalent to Euro VI, is required by Jan 2023. The legislation considers MHV to be all CV vehicles above 3.8 tons. The additional vehicle cost of the P8 emission technology will likely have a negative impact Brazilian truck demand next year.

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We have many of the largest companies in the world as our customers, including John Deere and Caterpillar. They subscribe to our unique databases, and their facilities around the world access our data and forecasts through the internet 24/7.

We're based in St. Paul, Minnesota, and we have offices and analysts located around the world, from Brussels to Beijing and Tokyo to Brazil, to help us collect and analyze this data.

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