



Power Systems Research

Data · Forecasting · Solutions

HDMA-PSR Commercial Vehicle Webinar

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Emiliano Marzoli

Senior Business Development
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Emiliano is Senior Business Development Manager – Europe at Power Systems Research and is based in the Brussels office. He is responsible for developing new business in Europe and managing key projects related to the European region. Emiliano is also supporting Power Systems Research marketing activities.



Chris Fisher

Senior Commercial Vehicle
Analyst

Chris brings 30 years of industry experience including 15 years with Power Systems Research. He is responsible for oversight of the global medium and heavy commercial vehicle market. Chris primarily oversees the various commercial vehicle databases along with production forecasts and identifying market trends.

Powerful expertise, innovation for the future

- Global market research, industry data & forecasting

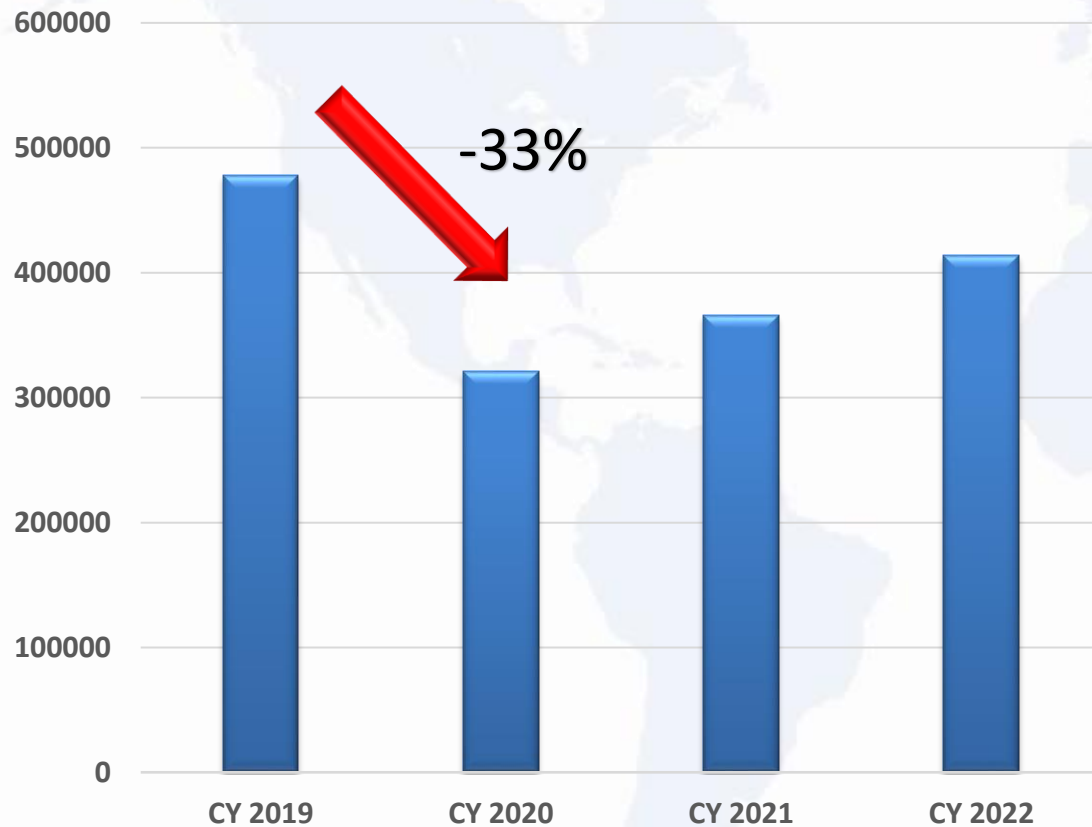
Utilized by engine manufacturers, OEMs, component and parts suppliers, associations, financial analysts, publications and more.

- All segments; global power products/drivetrain industry
- More than 40 years' industry expertise
- Proprietary market studies
- In-house call center
- Market intelligence & modeling



Global Overview – Europe

Europe MHCV Production



- Second Covid wave
- Medium and Heavy commercial vehicle production is forecasted to decline by 33% this year.
- Heavy truck demand Improving in Q3 and Q4 2020
- Long Haul near Pre Covid level.
- Full recovery will likely happen in 3 / 4 years.
- Push towards electrification and digitalization is accelerating
- EU introducing for more ambitious decarbonisation targets for 2030

Europe Market Trends

- Covid pandemic accelerated the end of the current cycle
 - Very strong demand for new vehicles in Q4 2020
 - Companies focused on cutting cost and increase liquidity
 - Second Lockdown?
- Commercial Vehicle Industry needs re-thinking
 - Leasing and beyond (Truck as a service)
 - Strong push towards consolidation and partnerships
 - Different Future Powertrains and Services
 - Digitalisation for improved profitability



Europe Market Trends

- Alternative fuels:
 - Market still fragmented
 - “Hybrid”
 - BEV
 - Natural Gas
 - H2
 - ...
 - Different OEMs are teaming-up to develop new technologies
 - Public Institution will play a key role, enough?

Publicly-accessible charging points			
	Currently available	Needed by 2025	Needed by 2030
DC <100 kW	<10*	4,000 (+20,000**)	50,000 (+200,000**)
DC 350 kW	0	11,000	20,000
DC >500 kW	0	2,000	20,000

* No detailed information available

** Depot charging, not publicly accessible

Publicly-accessible hydrogen stations			
	Currently available	Needed by 2025	Needed by 2030
H2 stations (compressed, liquified)	16 (350 bar, for buses)	50 at least	500 at least

Publicly-accessible gas stations			
	Currently available	Needed by 2025	Needed by 2030
CNG stations	300	400	500
LNG stations	252	750 at least	1,500 at least

Source: ACEA

OEM Happenings

- **Traton AG (and Navistar?)**
 - Scania extremely active
 - Testing solar trailers
 - Introduced new V8 engines
 - Increased investments in Northvolt batteries
 - MAN
 - Introduced new Truck Generation with advanced digital interface
 - Focusing on cost saving, plants closed in Germany and Austria
- **Volvo**
 - Strong focus on alternatives to Diesel
 - New EV Fire Truck delivered
 - New Truck range available: ADAS and Safety increased



OEM Happenings

■ Daimler

- Introduced New technological strategy for Electrification
- Launched Concept Fuel Cell GenH2 Truck with Volvo
- Launched battery eActros Long-haul, SOP 2024
- Mercedes remains the strongest brand in Europe



■ PACCAR/DAF

- Investments into 3 pillars, Electrification, Connectivity, Autonomous Drive
- New Connect App and EcoDrive+ Training to boost fleets
- New CF Extended range EV trucks with VDL e-power (delivery 2021)

■ CNH Industrial

- Iveco invested in Nikola Trucks
- New S-Way deliveries started (Including Natural Gas)
- FAW acquisition on hold



Global Overview – South America

South America MHCV Production

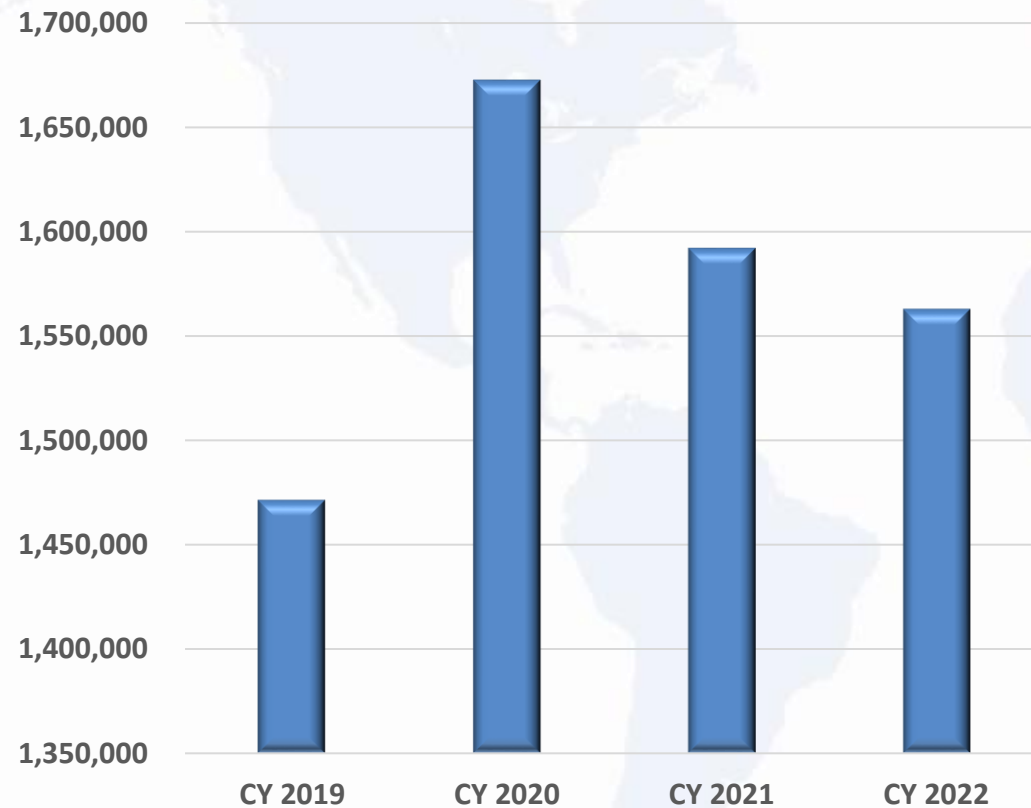


Source: PSR

- Commercial vehicle production is expected to decline by 26% this year over 2019.
- Outstanding performance in the agricultural segment in both production and commodity prices.
- Construction continues to recover primarily due to low interest rates for home construction.
- Fiscal stimulus enacted by the government for people who have lost their earning capacity and financial incentives for businesses to keep their employees.
- In Brazil, Proconve 8 or P8, equivalent to Euro VI emission regulations scheduled for 2023.

Global Overview – Greater China

Greater China MHCV Production



Source: PSR

- After declining sharply in February and into March, medium and heavy truck production has been extremely strong this year.
- Much of this has been driven by the government mandate to eliminate the current Euro III and earlier emission complaint trucks and replace these with new Euro V vehicles.
- Stricter punishment of overload vehicles not only in big cities, but also to some small cities and rural areas.
- Much like the other regions, bus demand is down significantly from last year.

Global Overview – South Asia

South Asia MHCV Production



Source: PSR

- Commercial vehicle production is expected to decline by 60% in India this year.
- An economic recession primarily fueled by Covid.
- Increased truck prices as a result of the BS-VI emission regulations along with higher fuel prices.
- Lower freight demand and labor shortages.
- Improving rail infrastructure and high truck capacity.
- Little demand for school buses.
- City buses are running at 10% - 15% capacity.

Global Overview – Japan and Korea

Japan & Korea MHCV Production



Source: PSR

- Demand declined sharply in Q1 and Q2.
- Domestic and export markets have stabilized.
- Gradual improvement expected.
- Significant production exported out of the region.

Global Overview – North America

North America MHCV Production



Source: PSR

- Medium and Heavy commercial vehicle production is forecasted to decline by 40% this year.
- Gradual recovery expected over the next few years.
- Heavy truck demand improved during the third quarter.
- Freight tonnage continues to be uneven.
- Strong consumer tonnage and weaker industrial and energy tonnage.
- Relatively strong tonnage for grocery delivery and weaker demand for commercial food service.

North American Market Trends

- Market transitioning to more regional haul trucks.
 - Retain drivers.
 - Widening of the Panama Canal.
 - More point to point deliveries.
- Alternative fuels such as natural gas, electrification and hydrogen fuel cells.
 - Natural gas currently best suited for transit buses, refuse and pickup and delivery.
 - Electric vehicles still in test mode but are initially targeting the bus segment and pickup and delivery.
 - Hydrogen fuel cell trucks are very early in the test phase but will likely target the regional and long-haul segments.

Low Cost Production Moving Out of China

- Production moving production out of China thus spreading out the supply chain risks.
- United States trade tariffs.
- Re-shoring to North America as a result of USMCA.
- Impact of the Coronavirus highlighted the risk to the supply chain.
- South Asia and Mexico will be the primary beneficiaries of this trend.

Government Mandates for Zero Emission Vehicles

- **California:** CARB Mandate requiring all transit buses to be zero-emission by 2040
- **Los Angeles:** All Electric Bus Fleet by 2028.
- **San Francisco:** All Electric Bus Fleet by 2035. By 2025, only zero-emission buses will be purchased.
- **Seattle:** Plans to transition to zero-emission buses no later than 2040.
- **New York:** All Electric Bus Fleet by 2040. Currently, New York city has over 5,000 transit buses in operation.
- **Chicago:** Transition to a 100% zero-emission bus fleet by 2040.

OEM Happenings

- **Daimler**
 - Main North American brands include Freightliner, Western Star, FCC and Thomas Built Buses.
 - Adding more focus to vocational applications.
 - The Mitsubishi Fuso brand will exit the North American market this year.
- **Ford**
 - Primarily targets the various medium duty chassis applications in North America.
 - Restructuring global operations to focus on profitability. Ended Cargo production in Brazil.
 - Placing emphasis on developing electric F series trucks for both light and medium trucks.

OEM Happenings

- **Navistar**
 - Main brands include International trucks and IC Buses.
 - Buyout offer by Volkswagen (TRATON) being reviewed by Navistar.
 - Plan to build a truck plant in San Antonio, TX.
- **PACCAR**
 - Brands include DAF, Kenworth and Peterbilt.
 - A good balance between on-highway and vocational segments.
 - Significant market share in the owner operator segment.
- **Volvo**
 - The Volvo brand is a strong player in the regional haul segment.
 - Mack as significant share in the heavy vocational market but recently introduced a medium truck at a new plant in Virginia.

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