

CV Link™ Update *Bulletin*

October 1, 2024

Q3 2024 REVIEW AND FORECAST



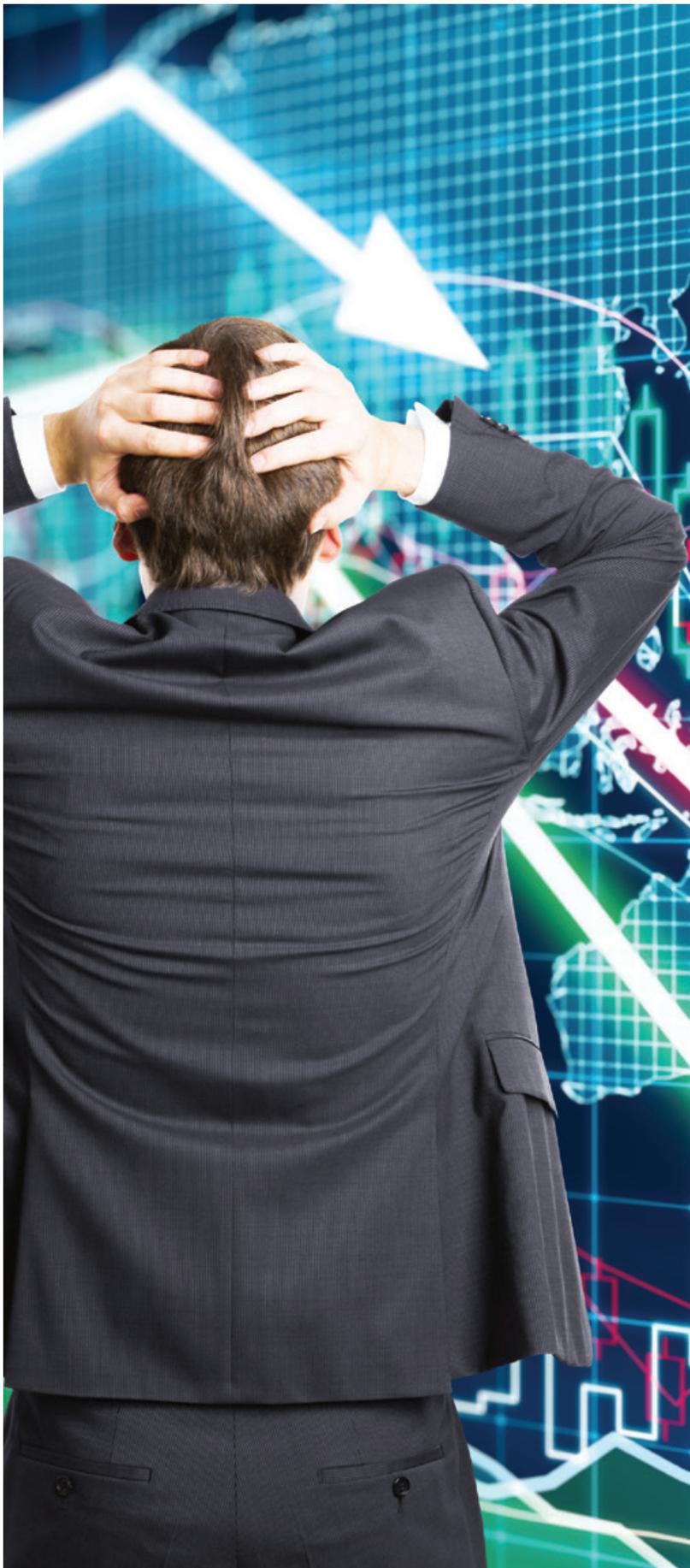
www.powersys.com | +1-651-905-8400 | info@powersys.com

CV Link™ is a comprehensive market database containing forecasted commercial vehicle production volumes and original equipment manufacturers, vehicle platforms and regional economic analysis. This document outlines important forecast trends as well as the additions and enhancements applied to the database in the third quarter of 2024.



Inside

I. Executive Notes	3	V. Research Methodology.....	10
II. Introduction	4	VI. Forecast Methodology.....	11
III. CV Link™ Data Update Notes	5	VII. Contact Information	12
IV. Forecast Trends	8		



Someone once said,
**Data Without
Analysis Is
Just a Bunch
of Numbers.**

We agree. That's why our proprietary databases are only the starting point for the way we serve you.

We start with our numbers, and they drive our solid analysis, forecasting and strategic solutions to give you the results you need.

Solid data. It's the starting point that makes our business intelligence different from most consultants.

Since 1976, we've been building and maintaining databases that track global production of equipment powered by engines and alternative sources, such as electric motors and hybrid packages.

If you need data, forecasting or strategic market analysis for key power industry segments, let's talk.

You can reach us at info@powersys.com or www.powersys.com, or +1 651.905.8400.

Do it today. Why wait for success?



Power Systems Research
Data · Forecasting · Solutions

1365 Corporate Center Curve | St. Paul, MN 55121

+1 651.905.8400 | www.powersys.com

St. Paul, USA | Beijing, China | Brussels, Belgium | Detroit, USA | Moscow, Russia | Pune, India | Sao Paulo, Brazil | Tokyo, Japan

I. Executive Notes



Application of New Technology Takes Time

As I was writing this column, I was reminded of a conversation with a colleague of mine at Power Systems Research, who was describing his attendance at the 2024 IAA Transportation show in Hannover, Germany.

The IAA Transportation show, occurring every two years, focuses on medium and heavy commercial vehicles, and is what I consider a bellwether for upcoming technology trends within medium and heavy vehicles globally.

I was not able to attend the show this year, but I found it interesting to contrast my experience in 2018 to my PSR colleague's experience this year.

In 2018, much of the conversation and excitement was about battery-electric power. It seemed like most major

truck OEMs either had an electric prototype onsite or was distributing marketing materials explaining their future plans. Now, looking at where we are today with battery-electric in Europe, we can see these products are gaining traction within the medium and heavy vehicle space.

Of course, we are six years removed from the 2018 IAA show so that demonstrates the time that it takes for new technology to really gain a foothold.

It is also apparent that what really drives technology shifts within the powered equipment space are progressively more stringent emissions regulations and a wide-spread striving towards carbon neutrality.

What I noticed when talking with my PSR colleague about the 2024 IAA show is that much of the “new” conversation now is about fuel cells and about hydrogen fueled internal combustion engines as potential solutions. The battery-electrics are maybe considered “older news,” while the next generation of carbon neutral

Author



Joe Zirnhelt is President and CEO of Power Systems Research.

options seems to be focused on fuel cell or hydrogen internal combustion engine technology. However, both of these technologies seem to be in the infancy stage relative to medium and heavy commercial vehicles.

Overall, it seems the hydrogen-based technologies are now where battery-electric was six years ago. The main point here is that it takes a long time to develop and adapt a new technology and bring it to market. The volumes are relatively low initially followed by rapid growth as the technology is adopted.

It will be interesting to see how fuel cells and hydrogen internal combustion engines develop. It is, without question, something that's being considered by many OEMs because they want to be well positioned to respond to customer demands in meeting their carbon neutrality goals.

Today, there are many forces at play in the environment for the worldwide production of powered equipment. As we move forward, you can be assured that Power Systems Research will continue to monitor developments and reflect this knowledge in our data and intelligence. Our mission is to keep you as

informed as possible while we support your market planning and forecasting initiatives.

As we prepared this Q3 2024 update, we incorporated important insights we have gathered during the third quarter to provide our best outlook for 2024 and our five-year forecast.

We realize that you consider many sources of information, but we are confident that the forecasts in this Update Bulletin will offer you a chance to corroborate and validate the overall picture and complement the existing data and information you are receiving from Power Systems Research.

As always, we appreciate your feedback and continued dialogue as you review this latest update.

If you are facing new challenges or issues that require data-driven solutions, talk to us. We can be an important resource.

Thanks for reading and for being a valued client of Power Systems Research. **PSR**



II. Introduction



Power Systems Research (PSR) has developed and maintained comprehensive market data specific to the power products and drivetrain industry since 1976. Because accurate and reliable market data has always been at the heart of its activities, PSR has developed a unique family of highly specialized databases. These core databases include:

- **EnginLink™** – Engine Production and Forecast Database
- **OE Link™** – Original Equipment Production and Forecast Database
- **CV Link™** – Commercial Vehicle Production and Forecast Database
- **PartsLink™** – Original Equipment Population Database

The **PowerLink™ 3.0** dashboard effectively combines all market databases into one Internet-based tool. Using this system, subscribers can easily access, organize and download the latest engine-powered market data anytime, anywhere in the world.

The PowerLink™ 3.0 dashboard has extensive reporting capabilities and allows for customization and report

distribution within your organization. This innovative system sharpens your business and planning strategies by finding hidden opportunities and targeting potential customers. The PowerLink™ 3.0 dashboard is your link to a competitive advantage in the marketplace.

CV Link™ is continuously updated; this Update Bulletin reflects changes made to CV Link™ during the third quarter of 2024. Included in this Update Bulletin are CV Link™ database notes listing significant data modifications and an explanation of our research and forecast methodology. Additional Power Systems Research initiatives also are outlined here.

Please feel free to circulate these research notes to your colleagues and internal data users

If you have any questions regarding this update, please contact us via email at support@powersys.com or by phone at 651-905-8400. Our support email account is monitored 8-5 CDT M-F by associates at our corporate offices and at our data center.

Thank you for your continued support of Power Systems Research. **PSR**

III. CV Link™ Data Update Notes

New Assumptions for Q3 2024 Medium/Heavy Vehicle Forecast

NORTH AMERICA



Blue Bird Bus: Electric Bus Volume: Power Systems Research (PSR) moderately decreased the production volume for the Blue Bird Electric school bus for 2022-2024. In August, Blue Bird delivered their 2,000th electric school bus.



BrightDrop: Brand Change: General Motors will replace the BrightDrop brand with the Chevrolet brand. Chevrolet's vast dealership network and more recognizable brand is expected to boost sales. The new models will be called BrightDrop 400 and BrightDrop 600.



6.7 Liter HP Upgrade: Ford upgraded its horse power on the 6.7 Liter turbo diesel from 405hp to 500hp for its Superduty truck line.

Oakville Plant: Ford plans to add production of the Ford Superduty truck lineup into production at the Oakville plant in Canada starting in 2026. This is primarily due to the delay in the electric vehicles that were scheduled to begin production at the plant in 2025 but has since been pushed back to 2027. This will also provide relief to the Kentucky truck plant as it is near production capacity. The Oakville plant will be able to produce up to 100,000 Superduty trucks per year.



IC Bus: Rear Engine Buses: Navistar will end production of the Rear Engine bus by the end of 2024 due to declining volume.

TC Chassis: IC Bus introduced the TC Chassis for non-school bus applications. The chassis comes equipped

Author



Chris Fisher is the Senior Commercial Vehicle Analyst at Power Systems Research.

EnginLink™

If you need engine data and forecasts, you need **EnginLink™**

EnginLink™ is the definitive source of global production, forecast and specification data for IC engines. And now it includes information on electric and hybrid-drive systems.

It contains model level detail for power sources used in off-road equipment and on-highway vehicles.

Call today. +1 651.905.8400, or email us at info@powersys.com.

Call Today.
Why wait for success?



Power Systems Research
Data · Forecasting · Solutions™

1365 Corporate Center Curve | Eagan, MN 55121

+1 651.905.8400 | www.powersys.com

with the Cummins 6.7 liter engine. The production volume is very low.

 **KENWORTH** CARB Compliant Engines: **Kenworth** announced a California complaint MX-13 will be available starting in Q4 2024. The truck models include the class 8 W900, T680 and T880 platforms. The engines are available in the 455 hp and 500 hp variations.

 **Motor Coach Industries:** Cummins ISL Engines: MCI no longer installs the Cummins ISL engines in their D series motor coaches. They currently use the Cummins X12 engines and will likely update these with the Cummins X10 Agnostic engine during the next few years.

 **Thomas Built:** Electric Bus Volume: PSR increased the production volume for the Thomas-Built Saf-T-Liner school bus for 2022-2024. Earlier this year, Thomas-Built delivered their 1,000th electric school bus.

 **VNL Battery Electric Truck:** **Volvo** plans to introduce the VNL BEV into full production toward the end of 2025. According to Volvo, the VNL will supersede the VNR in 2026. However, PSR believes Volvo will only replace the VNR in the class 8 segment but continue to produce these for the Class 7 segment.

CARB Compliant Engine: **Volvo** recently announced their 13 liter 455 hp turbo compounded engine has been approved for sales in California for my 2024 – my 2026. The engines are currently installed on the VNR and VNL regional and long haul class 8 trucks.

Hydrogen ICE: In partnership with Westport, **Volvo** plans to begin field testing a Hydrogen ICE engine in 2026. PSR is estimating this will be a 13 liter engine that will be initially installed in the VNR and VNL platforms in the 2026/2027 timeframe. If successful, serial production will not begin until the end of the decade.

Mexico Plant: **Volvo** announced their new plant in Mexico will be located in Monterrey. The plant is scheduled to open in 2026.

9700 Coach: **Volvo** ended production of their 9700 coach.

OE Link™

Your source for
OEM production
and forecast data

OE Link™ is the definitive source of global OEM production and forecast data for with engine installation detail for the full range of highway vehicle and off-road segments. And now it includes information on electric and hybrid-drive systems.

Data includes model level detail on vehicle, mobile and stationary equipment applications in 13 key industry segments.

Call today. +1 651.905.8400, or email us at info@powersys.com.

Call Today.
Why wait for success?



EUROPE



BYD: Bus Assembly in Azerbaijan: Working with Electrify Azerbaijan Company, BYD plans bus assembly in Azerbaijan starting in 2025. The initial platform will be the BYD 12-M K9UD which will be assembled from kits produced in China. Production is expected to be 200 units per year from at least 2025-2028.



Heuliaz Bus: GX137 Battery Electric Truck: Heuliaz introduced the GX137 electric bus into production in France. This will join the GX337 and GX437 electric bus platforms.



eTGX Battery Electric Truck: **MAN** introduced the class 8 MAN eTGX electric truck earlier this year. The e-TGX joins the eTGS battery electric heavy truck in this segment.



Hydrogen ICE: In partnership with Westport, **Volvo** plans to begin field testing a Hydrogen ICE engine in 2026. Power Systems Research (PSR) estimates this will be a 13 liter engine that will be initially installed in the FH and FM platforms in the 2026/2027 timeframe. If successful, serial production will not begin until the end of the decade.

9700 and 9900 Bus: **Volvo** has ended production for the 9700 and 9900 coach platforms. The collaboration with Spanish bodybuilder Sunsundegui, under which the latter was to produce the bodies for the two models under Volvo license, will therefore not take place, according to the disclosure. The only touring coach in the 9000 range in the list will remain the 9700 DD double-decker. The public transport (city and intercity) bus range is set to be produced in collaboration with MCV.

COMPONENTS

Looking for
component data?

We can help.

Many components are already included in our databases. If the ones you require are not, we may be able to identify them for you.

The **Components & Consumables Module Directory** provides a quick overview of components data available in our EnginLink™, OE Link™, CV Link™ and PartsLink™ proprietary databases.

The modules are not stand-alone products; they can be purchased only as part of a subscription/extract to one of the databases, EnginLink™, OE Link™, CV Link™ or PartsLink™.

Call today. +1 651.905.8400, or email us at info@powersys.com.



Power Systems Research
Data · Forecasting · Solutions™

1365 Corporate Center Curve | Eagan, MN 55121

+1 651.905.8400 | www.powersys.com



GREATER CHINA



Bus Updates: **Anhui Ankai** made a significant upgrade to its Bus lineup for the HF6000 platform at the end of last year.



Windrose: **Anhui Jianhuai** started assembly of the Windrose heavy electric semi-truck primarily targeting Tesla in the export markets of the United States and Europe. To avoid U.S. and European tariffs, Windrose will likely set up finished truck assembly in the United States and a country in the European Union.



BYD: Bus Assembly in Azerbaijan: Working with Electrify Azerbaijan Company, BYD plans bus assembly in Azerbaijan starting in 2025. The initial platform will be the BYD 12-M K9UD which will be assembled from kits produced in China. Production is expected to be 200 per year from at least 2025-2028.



Mitsubishi Fuso: Fighter Platform: It appears that China Motor Corporation (CMC) is no longer assembling the Fuso Fighter platform in Taiwan.

JAPAN AND KOREA

ISUZU ERGA EV Bus: **Isuzu** introduced the Erga battery electric bus into production in Japan in 2024. The ERGA EV will be at the forefront of introducing next-generation buses in Japan. Isuzu is targeting 150 units this year.

DB6A Engine: In collaboration with Cummins, **Isuzu** plans to introduce the new DB6A medium engine into the Forward series truck platform in early 2025. The engine will be 6.7 liters and will be produced in Japan for domestic and export markets.

SOUTH AMERICA

No Significant Updates this Quarter.

SOUTH ASIA

No Significant Updates this Quarter. **PSR**

IV. Forecast Trends



North America

Medium and heavy commercial vehicle production is expected to decline slightly this year over 2023. While sales in the class 8 segment have declined by around 15% this year, the OEMs continue relatively high levels of production ahead of the anticipated pre-buy leading up to the GHG emission regulations starting in 2027.

The OEMs are expected to slow production later this year and into the first part of 2025 since truck inventories are at high levels. The freight market remains weak, and fleets have concerns about purchasing new trucks in this economic cycle. Production is expected to ramp up again in mid-2025. Demand in the medium truck segment has remained fairly strong this year but is expected to slow somewhat going into next year.



Europe

After relatively strong commercial vehicle demand in Europe last year, MHCV production is expected to decline by 12.1% this year compared with 2023. The pent-up demand for heavy trucks has mostly ended and the market reflects replacement demand rather than expansion.

Power Systems Research expects truck production to slow throughout the remainder of the year primarily due to re-balanced truck capacity and a slower economy, in part due to on-going inflation and higher interest rates. Production levels are expected to rebound modestly later in 2025.



South Asia

After a strong level of vehicle replacement during the past few years, commercial vehicle production is expected to decline by 6% this year compared with 2023. This will be primarily due to a re-balanced truck capacity along with a forecasted slowdown in freight demand in India. Commercial vehicle production in India is expected to decline by 7.9% this year and increase by 5% in 2025. High inflation and interest rates continue to pressure demand for vehicles throughout the ASEAN region.

Need Intelligence?

Download Complimentary
PSR Industry Reports

*Our Targeted Industry Reports Provide
Timely Global Data and Analysis*

Truck Production Index (TPI)

Truck Production Index - South America

Alternative Power Reports

DataPoint Reports

Trade Show Reports

PowerTALK News

Download Current Reports at [powersys.com](https://www.powersys.com)



Power Systems Research
Data · Forecasting · Solutions™

1365 Corporate Center Curve | Eagan, MN 55121

+1 651.905.8400 | www.powersys.com



SA

South America

Medium and heavy commercial vehicle production is expected to increase by 27.3% this year after a significant decline in 2023, primarily driven by a generally weaker economy and the implementation of the Proconve 8 emission regulations in Brazil last year.

Vehicle production in Columbia is forecasted to decline this year as General Motors has ceased operations due to plant overcapacity and unprofitability. Production in Argentina is expected to increase by 7.9% this year due in part to the policies of the new government which are starting to take hold and which have reduced the inflation rate that had been rampant the past few years.

JK

Japan/Korea

Medium and heavy commercial vehicle production in Japan and South Korea is expected to decline by 9.5% this year over 2023. Commercial vehicle production is expected to decline by

10.4% in Japan and 2.3% in South Korea this year. The supply chain has shown relatively good improvement which led to stronger than expected production levels last year especially in South Korea. Demand for commercial vehicles in Japan has slowed this year and its traditional export markets are being pressured by high inflation and interest rates.

C

Greater China

Medium and heavy commercial vehicle production is expected to increase by 5.4% this year over 2023. Vehicle demand was up sharply last year as the market recovered from a dismal 2022. While truck demand is expected to increase this year, the Chinese economy will continue to face economic headwinds during the next few years. The economic issues are primarily fueled by deflation, bankrupt property developers and local government debt. In Taiwan, medium and heavy vehicle production is expected to be flat this year over 2023. **PSR**

V. Research Methodology

Power Systems Research (PSR) Research Methodology

Research begins with the gathering of information from primary and secondary sources. Next, the PSR analyst team reviews and validates all data against industry benchmarks. If our analysts discover anomalies in the data, additional research and validation is performed before publishing.

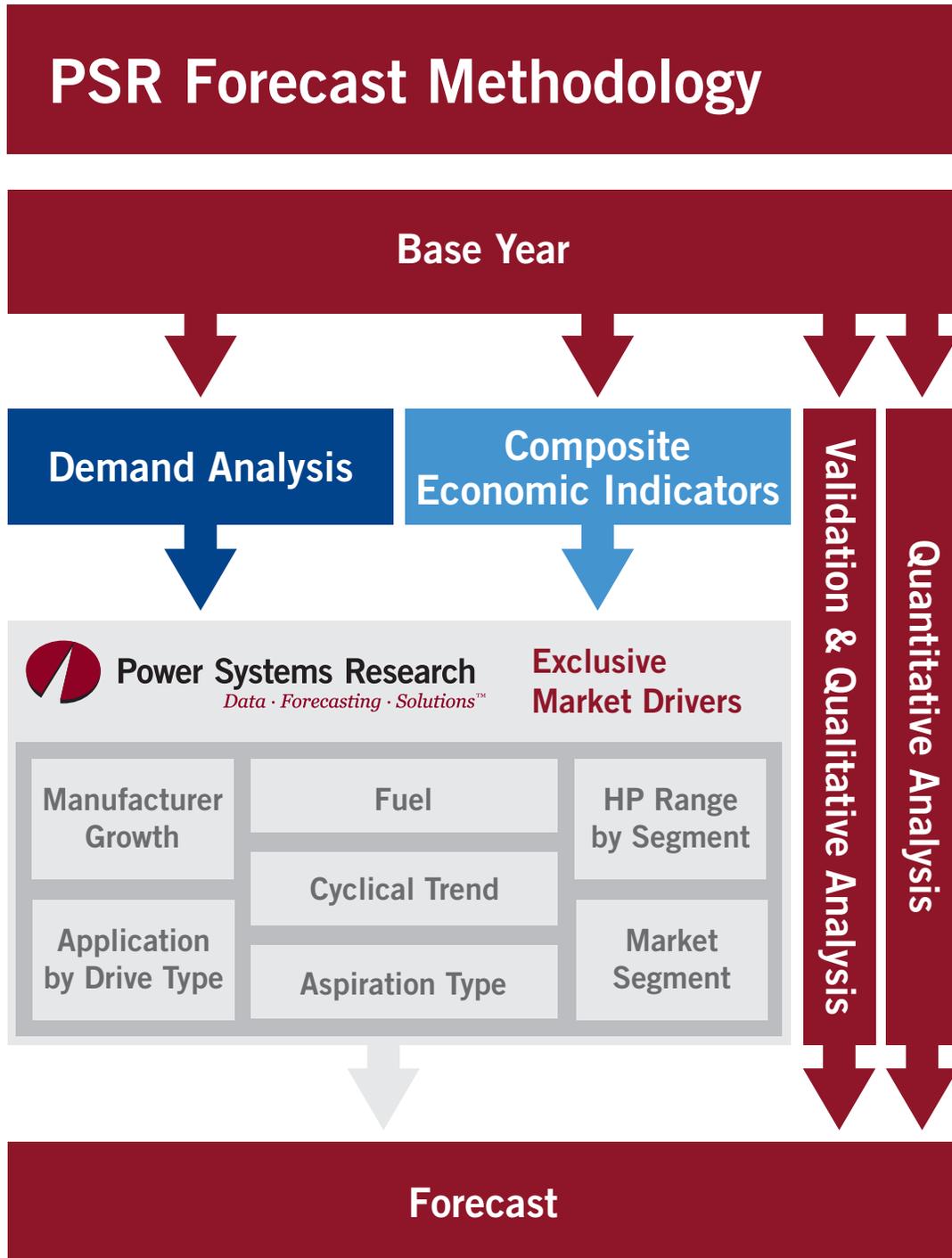
PSR RESEARCH METHODOLOGY



VI. Forecast Methodology

Power Systems Research (PSR) Forecast Methodology

The analysis begins with the Base Year and key historical data then adds current and future economic indicators and market demand. Next, our exclusive market drivers are entered and the Power System Research proprietary algorithm is applied. Extensive analysis and discussion by our PSR Analyst team validates and produces the forecast.





CONTACT US

Purchasing and Inquiries

Headquarters
St. Paul, USA
+1 651 905 8400
info@powersys.com

Detroit, USA
+1 734 545 0474
infode@powersys.com

Beijing, China
+86 10 5737 9201
infocn@powersys.com

Campinas, Brazil
+55 19 3305 5657
infosaa@powersys.com

European Headquarters
Brussels, Belgium
+32 2 643 2828
infobr@powersys.com

Frankfurt, Germany
+49 160 1807 044
infoge@powersys.com

Pune, India
infoin@powersys.com

Tokyo, Japan
+81 90 9139 0934
infojp@powersys.com

About Power Systems Research

Power Systems Research (PSR), established in 1976, is the leading source of data, analysis and forecasting on the global production of engines and engine-powered equipment, including class 8 vehicles. One of its databases, EnginLink,TM includes production figures down to the model level for OEMs in key market segments, such as commercial vehicles. PSR's global research network includes eight offices and stretches across 200 countries and four continents.



Power Systems Research
Data · Forecasting · SolutionsTM