

### In This Issue

*Coronavirus—A Webinar*

*NA: Is Coronavirus A Natural Disaster*

*NA: High School Builds Face Masks*

*NA: Batteries Are Coming*

*NA: Outdoor COVID-19 Guide*

*Global: Truck Production Slumps*

*DataPoint: Skid Steer Loaders*

*Europe: COVID-19 Update*

*Brazil: Marcopolo Plant Reopens*

*Brazil: Trailer Production Recovery Seen*

*Brazil: Motorcycle Sales To Drop*

*Brazil: First Foton Produced*

*China: NS6 Regulation Delayed*

*Japan: COVID-19 Hits OEMs*

*Korea: Doosan Hikes Promotions*

*Southeast Asia: COVID-19 Shuts Auto Plants*

*Taiwan: Coronavirus Controlled*

*India: COVID-19 Report*

*Russia: Auto Plants Reopen*

*Russia: Ambulance Purchases*

*Russia: Market Decline Forecast*

### About Us

**Power Systems Research (PSR)** is a world leader in providing power equipment information, whether it's pure data, analysis, forecasting or specific business intelligence. This product information ranges from IC engines to battery-electric and hybrid powertrain technologies. PSR has been providing world class business and market intelligence to industry leaders for more than 40 years. How can we help you? For details, call **+1 651.905.8400** or email [info@powersys.com](mailto:info@powersys.com). [www.powersys.com](http://www.powersys.com)

**Power Systems Research: Data...Forecasting...Solutions**

### PowerTALK<sup>TM</sup> News Now in Chinese and Japanese

To better meet the needs of our readers who prefer to read PowerTALK<sup>TM</sup> News in Chinese or Japanese, we now offer articles from Asia in Chinese and Japanese, as well as English. Click here to read directly in **Chinese** and here for **Japanese**.

### PowerTALK现在有中文和日文版本了

我们的读者有人更喜欢阅读PowerTALK中文和日文，为了更好的满足这些读者的要求，我们现在亚洲部分的文章，提供中文，日文还有英文阅读。点击这里直接阅读**中文**，这里直接阅读**日文**。

### PowerTALKを中国語と日本語でお読みいただけるようになりました

中国語や日本語で読みたいという読者のニーズに応えるために、アジアから中国語と日本語の記事を提供しています。中国語をご希望の方は**こちら**を、日本語をご希望の方は**こちら**をクリックしてください。

 [Click Here To Go To Page 1](#)

## Dealing With Coronavirus – A Webinar

*Coronavirus is having a major impact on global production of off-highway equipment and MHV. Analysts from Power Systems Research discuss the global impact.*

### Download Your PDF Copy of the Presentation

ST. PAUL, MN—A team of international analysts from Power Systems Research (PSR) analyzed the impact of COVID-19 on the global production of Off-Highway Equipment and MH-Duty Vehicles in several regions in a webinar Wednesday, April 15, 2020.

The team examined the impact of the coronavirus in North America, Europe, Asia, India, and South America for the remainder of 2020 and into Q1 2021.

A free copy of the PDF presentation will be available on Friday, April 24, 2020.

**Download your copy here** at that time. **See the webinar video.**

### Presenters

Here is the team of PSR analyst/presenters:

- Joe Zirnhelt, President and CEO
- Jim Downey, Vice President-Global Products
- Chris Fisher, Senior Commercial Vehicles Analyst
- Yosyf Sheremeta, PhD, Director Product Management
- Erik Martin, Director-Asia Region
- Jinal Shah, Regional Director-South Asia Operations
- Emiliano Marzoli, Senior Business Development Manager – Europe
- Christopher Bamforth, Europe Market Analyst
- Carlos Briganti, Managing Director, South America

### Topics That Were Discussed

The one-hour session examined several topics, including:

- Global production outlook for Off-Highway Equipment and Medium & Heavy Vehicles
- Situation updates by region
- Impact on supply chain by region
- Impact on production and manufacturing by region
- Production forecasts by region for 2020 **PSR**

## 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](mailto:info@powersys.com).

**Call 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](http://www.powersys.com)

## North America Report

### Is COVID-19 a Natural Disaster?

*By Tyler Wiegert, Project Manager and Power Generation Analyst*

In late March, about halfway through the United States' first round of social distancing, Generac CEO Aaron Jagdfeld spoke with Yahoo Finance's Seana Smith about whether Generac was seeing a spike in demand from COVID-19.

 [Click Here To Go To Page 1](#)

## North America Report

*Continued from page 2*

*Like many of the other questions surrounding COVID-19, such as, “Is the United States heading into a recession?” or “How do we distribute scarce medical resources?” the answer isn’t clear cut.*

Smith noted that the power generation segment tends to do better during and after a natural disaster, and wanted to know the answer to a question that has also been on our minds at Power Systems Research: “Is COVID-19 a Natural Disaster?”



Tyler  
Wiegert

Like many of the other questions surrounding COVID-19, such as, “Is the United States heading into a recession?” or “How do we distribute scarce medical resources?” the answer isn’t clear cut.

Additionally, hotels and other buildings are being converted into temporary hospitals as states prepare for their regular ICUs to reach capacity. He states that those buildings might typically may not have back-up power, but now they need to be quickly outfitted to meet regulations for critical care centers.

So, in the sense that there is a large push among businesses and government units to maintain and support infrastructure, COVID-19 is having a very similar effect to a natural disaster on the power generation segment.

Jagdfeld noted that at first demand from the health sector and telecommunications companies was very high. Hospitals risk being overwhelmed, and there is increased stress on the telecom sector with so many Americans working from home. Currently about three out of every four Americans are under a stay-at-home order.

But, Jagdfeld continued, gen-set penetration remains very low among homeowners and small businesses. Those rates are higher in areas used to natural disasters, such as California, which was rocked by an intense wildfire season last year. Consumers there were already faced with the virtual certainty of losing power during planned or unplanned outages, and now are working from home, where they can’t rely on the backup power systems their businesses might have had in place.

For these smaller users, then, it seems like COVID-19 is acting more like an exacerbating effect on recent natural disasters by amplifying consumer sentiments they already held, rather than as a natural disaster itself, which might convince consumers who had never thought about power generation to purchase a system for their home or small business.

**Source:** *Yahoo Finance* [Read The Article](#)

**PSR Analysis:** These types of questions are at the core of Power Systems Research’s mission to add value to our clients by providing specialized business intelligence.

In addition to our global team of analysts, one of the tools we have at our disposal to help answer these questions is PowerTracker, a quarterly survey of 200 gen-set dealers and 900 business consumers to get a sense of how they performed and thought about power generation in the previous quarter.

Unfortunately, the deadline for this article came just a few days before our data for the PowerTracker Q1 2020 report were completed, so I encourage you to check out our free summary of that report. We will certainly be exploring the effects of COVID-19 on the market from both a dealer and business consumer perspective.

 [Click Here To Go To Page 1](#)

## North America Report

*Continued from page 3*



Even without that data, though, there are some relevant takeaways from the past few years when it comes to natural disasters and demand for power generation, and some things we will be looking for in the new data.

One thing we have seen solidify over the past 2.5 years is that after the hurricane season of 2017, demand for power generation rose to a new baseline. We see this about every 6-10 years, where something will spark a surge in sales for generators, and there won't be a correction.

Based on the open-ended comments we receive from dealers in that report, we believe a similar state of elevated consciousness about power systems exists in California. More specifically, the data shows a persistent strong growth in demand for standby power systems in the ranges appropriate for whole-home systems and small businesses.

What this means is that recent natural disasters have not only caused more consumers to enter the market (these customers, dealers say, are often younger and more well-informed than their standard customers), but has also pushed them to purchase larger systems than the single-circuit systems that previously drove demand.

COVID-19 is different from these disasters, though, in the sense that it does not directly impact power generation. New and temporary health centers may demand more generators, because they need to comply with regulations, and the stakes of a normal power outage for them are much higher than for a person working from home.

But for the typical household consumer, running out of toilet paper is more likely than experiencing a power outage from COVID-19. But just as with the run on guns and toilet paper, the indefinite timeline of the health crisis might start to drive consumers to prepare for the anticipated, realistic or otherwise, effects of a longer-term pause on economic activity by seeking backup power.

At this point, the situation is too fluid and fast-changing for anyone to know exactly what the impact of COVID-19 is going to be on each sector, but as our analysts continue to get feedback from OEMs and we obtain data through on-the-ground surveys like PowerTracker, we will be able to provide a clearer picture. For now, we wish you all well, and hope that you are staying healthy. **PSR**

## STA Uses 3D Printers To Produce Face Shields for Health Care Workers

MENDOTA HEIGHTS, MN--Students at St. Thomas Academy High School in suburban Minneapolis, Minnesota, are using 3D printers in their Innovation Center to produce face shields for first responders and medical personnel who are battling the coronavirus.

The school has garnered some national exposure for the manufacturing work it has done with its 3D printers, including time on an **ABC News broadcast** and a nice article in the St. Paul (Minnesota) **Pioneer Press** newspaper.

[↑ Click Here To Go To Page 1](#)

## North America Report

Continued from page 4

*Power Systems Research (PSR) is committed to giving back to its community and to stimulating the growth and education of America's future scientists and engineers now studying at the high school level.*

Power Systems Research is a co-founder of the Innovation Center that's part of the company's effort to support STEM (Science, Technology, Engineering and Math) programs at local high schools.

Power Systems Research (PSR) is committed to giving back to its community and to stimulating the growth and education of America's future scientists and engineers now studying at the high school level.

George Zirnelt, the founder of PSR, was a generous donor to many community organizations, especially those involving high school students interested in engineering and science. Two projects attracted his interest: The Experimental Vehicle Team (EVT) at St. Thomas Academy, and Lightning Robotics FIRST teams at Eastview High School in Apple Valley, MN.

Power Systems Research has been a lead sponsor of the special Experimental Vehicle Team (EVT) at St. Thomas for many years. In 2017, the team won its class in the Shell Eco-Marathon international competition in London.

Mark Westlake is director of the school's Innovation Center and the driving force behind the school's EVT program.

Here's a portion of the article from the Pioneer Press newspaper: "The printing isn't exactly fast; Westlake estimates he can make between 12 and 16 a day, depending on how quickly he gets to the printer when it's finished making one. But every mask is appreciated by health care workers on the frontlines as the nation tries to halt the spread of the novel coronavirus that has killed thousands in the United States since January.

"The truth is, we see ourselves as a stopgap," said Doug Scott, an engineering teacher in Hopkinton, Mass., who started the nationwide network of builders almost by accident. Once word got out, people like Westlake quickly jumped onboard.

"We want to help as much as we can until some of the larger companies get behind this and start to produce the shields that we're making," Scott said.

Scott, 44, and Westlake, 57, met while working as master teachers for the Lemelson Program at MIT.

"I knew we could help when I showed our plans to a doctor here and he said, 'Yeah, they're great,' " Scott said. "I asked him how many he could use, and he said, 'I want 60,000 of them.' And he wasn't joking. I'm thinking, Well, I've got 29."

Scott began reaching out to colleagues like Westlake, and a network was born. Recently, the Shield Team had members in Alabama, California, Hawaii, Maryland, Minnesota, New York, Oregon and Washington.

Westlake has become the point person in Minnesota — he can be reached at [innovationcenter@cadets.com](mailto:innovationcenter@cadets.com) — and already had heard from about 40 makers in the Twin Cities, as well as emergency room nurses and doctors short on personal protective equipment. Requests, he said, are confidential.

 [Click Here To Go To Page 1](#)

## North America Report

Continued from page 5



Using a modified printer file, Westlake and others are making visors for face shields and attaching them to an elastic band. Clear acetate sheets then are cut into masks and attached to the visors.

Total cost, about \$2 a mask. The school, Westlake said, is donating the filament and acetate, and students have helped distribute the masks to hospitals in St. Paul and Minneapolis. Anyone interested can download the program file and instructions for making the visors on a 3D printer. Anyone with a three-hole punch, Scott said, can make the shields. Westlake said he tries to provide 10 shields with every visor.

Those with smaller 3D printers can make the visors in smaller pieces.

"We make it as easy as possible," Scott said. "You just punch in your information and follow the notes. We tell you how to produce everything. Then we have a delivery notice so you can tag and date the bags, and then follow procedures to log how many you have delivered." **PSR**

## Batteries Are Coming. We Saw Lots of Them at CONEXPO and GIE+Expo

By *Tyler Wiegert, Project Manager and Power Generation Analyst*

Recently I was at a dinner with visiting members of my family discussing the noble transition that many manufacturers are making from producing their typical goods to producing essential goods and equipment for the coronavirus fight.

One that came up was Tesla's transition to making ventilators, and one member of my family began to say that they wouldn't want a Tesla ventilator if they were hospitalized, because it would probably catch fire and explode.

My fiancé is in medicine rather than in our industry, so she took that to be a serious comment about the risk of ventilators sparking in an oxygen-rich environment. But it quickly became clear that this critic just has a deep and abiding skepticism of battery technology, because they repeatedly brought the conversation back to battery fires and cars exploding, despite there having been only 14 reported cases of Tesla vehicles catching fire between 2013 and 2019, with most of those happening after accidents.

This skepticism was addressed in a *CleanTechnica* article from late March (linked below). Although even the publication's name clues you in to its bias, underneath some of the charged language is an honest reporting of the fact that while battery fires and malfunctions are rare, they can be extraordinarily compelling to watch, and consumer concerns about them are a major impediment to the adoption of battery vehicles.

**Source:** *CleanTechnica* [Read The Article](#)

That is why the new Blade Battery from BYD, a Chinese equipment and components manufacturer, has many observers of the alternative power sector excited.

[↑ Click Here To Go To Page 1](#)

## North America Report

Continued from page 6

*A common refrain among the non-automotive segments is that alternative power technologies in their segments are on about a 10-year delay from automotive.*

The Blade Battery outperformed standard lithium-ion batteries on an array of extreme-condition tests, the most impressive of which was the nail-penetration test.

This test is exactly what it sounds like. A nail is driven into the battery to simulate an internal short-circuit. In these tests, a ternary lithium battery exceeded 500 degrees Celsius and openly burned, and a lithium ion battery reached temperatures of 200-400 degrees Celsius, which is dangerously hot.

The Blade Battery's surface did not exceed 60 degrees Celsius and did not smoke or burst into flames. Because of its configuration, the Blade Battery also uses space 50% more efficiently than the conventional lithium ion battery, while maintaining a range of 375 miles. Even in the apparent absence of a real problem with battery vehicle fires, the battery industry is continuing to make advances that should reassure wary consumers.

Power Systems Research handles more than just the automotive sector. We track technology improvements and forecast equipment production in both on- and off-highway vehicles, lawn & garden, marine, power generation, and anything else that has historically been powered by an engine.

A common refrain among the non-automotive segments is that alternative power technologies in their segments are on about a 10-year delay from automotive. Attendees of the GIE+Expo know that lawn and garden equipment got there a little faster, but at CONEXPO in Las Vegas this year, it was clear that the Construction segment is getting in the game.

As one might expect, the first kinds of equipment to transition are those that do not require high amounts of continuous power. Zoomlion and Snorkel were displaying battery-powered scissor lifts, and Snorkel was discussing completely converting their rough terrain scissor lift line to battery in the near future.

Smaller equipment would be next, and we saw several examples. Toro introduced and will soon start shipping its battery-powered utility loader. Wacker Neuson demonstrated its plate compactor and tamper.

I had some doubts going in about their ability to sustain the required power long enough to be feasible, but was assured that with a two-battery system, where one is charging while the other is in use, an end-user would be more than able to make it through the work day. And a user might even be able to run a full day on one battery alone, depending on how continuously they are using the tool.

Keeping with their re-centered focus on being a leader in all forms of power solutions, Briggs & Stratton unveiled their Kodiak power packs, which they are hoping to release in a year alongside a line of smaller equipment from partner OEMs.

One revolutionary feature of these packs is that their cells can be individually removed and serviced. Even on the heavier side, Snorkel was showing off its new electric telehandler, and Kobelco displayed a battery-hybrid excavator.

 [Click Here To Go To Page 1](#)

## North America Report

*Continued from page 7*



The core goal of Power Systems Research is to provide added value to the industry with intelligence and data gathered through regular contacts with industry players and close monitoring of industry news. In that spirit, I'll offer one fundamental piece of advice to our readers: Don't be like my relative. Batteries are getting smaller, safer, and more powerful all the time. They are coming. **PSR**

## Outdoor Recreation Group Creates COVID-19 Guide

*By Michael Aistrup, Senior Analyst*



*Michael  
Aistrup*

The Outdoor Recreation Roundtable (ORR), a coalition of outdoor recreation trade associations and organizations, has published on their web site ([www.recreationalroundtable.org](http://www.recreationalroundtable.org)) a guide for their members on the Outdoor Recreation Industry and the Coronavirus. Included on the site are Federal, State and Industry Resources, ORR's letter to the President, Governors and Federal Government on the impact and recommendations to the Coronavirus crisis.

The site also has suggestions on what small businesses and policy makers can do to support efforts to combat the virus. The link for the informational site at ORR is: <https://recreationroundtable.org/coronavirus/>

PSR can support members of many of these organizations with focused and accurate forecasts of global diesel and gas engine production. **PSR**

## Truck Production Index

*By Chris Fisher, Senior Commercial Vehicle Analyst  
and Jim Downey, Vice President - Global Data Products*

### Q1 2020 Global Truck Production Falls 31.1%

#### Read The Complete Report

St. Paul, MN (April 8, 2020)— The Power Systems Research Truck Production Index (PSR-TPI) decreased from 122 to 84, or 31.1%, for the three-month period ended March 31, 2020, from Q4 2019. The year-over-year (Q1 2019 to Q1 2020) loss for the PSR-TPI was, 116 to 84, or 27.6%.


#### Power Systems Research



#### Truck Production Index

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 **CV Link™**, the proprietary database maintained by Power Systems Research.

 [Click Here To Go To Page 1](#)

## Truck Production Index

*Continued from page 8*

*The introduction of the Coronavirus along with an overcapacity of heavy trucks will lead to significantly lower demand in 2020.*



Chris  
Fisher



Jim  
Downey

**All Regions:** Prior to the spread of the Coronavirus, most regions were experiencing a slowdown in commercial truck demand. Depending on the duration of the virus, several countries are expected to slip into recession or a significant economic slowdown as a result.

**Global Index:** The possibility of a global recession now exists but it is uncertain how severe this may be. Some regions will fare better than others.

**North America:** The introduction of the Coronavirus along with an overcapacity of heavy trucks will lead to significantly lower demand in 2020. Prior to the Coronavirus outbreak, concerns about the Chinese tariffs and an overall slowdown in global economic growth were causing some headwinds for truck demand. **PSR**

## DataPoint: Skid Steer Loaders

**105,900**

*By Carol Turner, Senior Analyst, Global Operations*

The 105,900 units is the estimate by Power Systems Research of the number of Skid Steer Loaders to be produced in North America (Canada and the United States) in 2020.

This information comes from industry interviews and from two proprietary databases maintained by Power Systems Research: **EnginLink™**, which provides information on engines, and **OE Link™**, a database of equipment manufacturers.

**Market Share:** With 35% of total units produced, Bobcat leads in production of Skid Steer Loaders in North America. In second and third positions are Case New Holland and Caterpillar with 22.5% and 14.5%, respectively.

**Exports:** Collectively, up to 30% worldwide.

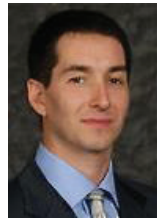
**Trends:** Production of skid steer loaders in North America increased 3% in 2019 over 2018. Prior to the COVID-19 pandemic, production was expected to remain flat with a nominal decrease of ½% in 2020. This decline will be more severe with plant shutdowns etc., due to current virus concerns. Overall, loader production could plummet up to 40% this year. As the construction industry recovers, construction will continue to be a key driver in overall industry growth. Flat sales can be attributed to the American agriculture industry that is sluggish (still battling commodity prices) that accounts for 29% of all skid steer usage in the market today. Expect production of Skid Steer Loaders in North America to increase up to 5% over the next 3-5 years. **PSR**

 [Click Here To Go To Page 1](#)

## Europe Report

### COVID-19 Update: Slowly Resuming Production

By *Emiliano Marzoli*, Senior Business Development Manager-Europe



*Emiliano  
Marzoli*

After four weeks of lockdown, some European countries are slowly lifting restrictions, allowing industrial production and some commercial operations to restart, and restoring some freedoms to their citizens.

In Italy, this week (April 21) represents a key moment as some industries can resume production. Agricultural and Lawn&Garden OEMs can reopen their factories, although respecting strict regulations that will reduce factory capacity. The same is happening in Spain starting April 13, with all segments resuming work, but with differences across regions. Moreover, many OEMs were not able to meet the new working regulations and could not resume production.

Scandinavian countries are also restarting operations, or in some cases continuing, while Bridgestone just announced reopening of their factories in Belgium, France and Italy.

Germany and Denmark are also exiting their lockdowns, in a more significant way with small businesses opening across the powertrain industries as well as other retail and commercial segments.

The situation remains very difficult in the UK, where actions put in place by the local government are roughly two weeks behind the rest of Europe, and we will have to wait until mid-May to see any restart.

**Source:** *Power Systems Research intelligence*

**PSR Analysis:** While we are finally seeing a slowdown in the spreading of the virus, there is still a lot of ground to cover before we can even imagine going back to our normal life. The same is true for the machinery and components industries. Even with several countries in Europe allowing the re-opening of factories, it does not mean we are going to see significant production levels.

First, the working criteria are very limiting, with reduced working hours, social distancing, cantines closed etc. Second, not all segments in all countries are allowed to restart, thus some operations will still remain closed, and some components suppliers will have demand from a smaller group of clients. Finally, with this climate of uncertainty, and companies struggling to survive, demand for new machinery is very slow, and we expect it will remain as such during the rest of Q2 2020 and Q3 2020. **PSR**

**Like what you see?** To ensure that you continue to receive your complimentary copy of the PowerTALK™ News report each month, [Sign up now.](#)

## MarineLink™

Updated and Expanded

MarineLink™ contains details on nearly 500 pleasure boat and internal combustion engine manufacturers in Europe and North America.

MarineLink™: a great tool for tracking 10-year trends in the marine industry.

**Call 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](http://www.powersys.com)

 [Click Here To Go To Page 1](#)

## Brazil/South America Report

By *Fabio Ferraresi*, PSR Director, Business Development, South America



*Fabio  
Ferraresi*

### Marcopolo Resumes Production After COVID-19 Shutdown

Marcopolo started producing again April 13 after a break forced by COVID-19 control measures. The plants of Caxias do Sul and Duque de Caxias are producing again with lowered output. The number of workers is reduced and the space between people is expanded, among other measures for safety purposes. The São Mateus plant has not reopened.

**Source:** *AutoData* [Read The Article](#)

**PSR Analysis:** The current scenario points to a heavy impact on the Bus market due to reduced customer traffic that reduces fleet owner revenue. On the other hand, this segment is often boosted by government programs, like “Caminhos da Escola” in Brazil. The actions for recovery after the crisis may lower the impact substantially, especially in a scenario where government spending is no longer limited to the approved budget, there is strong pent up demand for school buses and actions to stimulate industry and jobs are badly needed.

### Trailer Production Recovery Forecasted for September

In an interview April 9 with *AutoData*, the CEOs of 4Truck and Librelato pointed to a heavy recovery for transportation and the trailers business in September. The companies seem optimistic about the recovery from the COVID-19 crisis in Brazil.

**Source:** *AutoData* [Read The Article](#)

**PSR Analysis:** The trailer segment, as well as the class 7 and class 8 segments, were enjoying a growth trend before the COVID-19 social restrictions were imposed. In the beginning of the quarantine period, the number of heavy vehicles passing through main roads tolls was not reduced, different from the light and medium segments.

The rational is that a reduction of GDP is concentrated in the Services segment, that does not impact heavily on Transportation. At the same time, Agricultural production, a segment that has more impact on Transportation, should remain stable or grow. In our analysis it is too early to define the impact on Transportation, although some Transportation companies already are reporting reduced business.

### Q1 2020 Motorcycle Production in Brazil Was Strong But Will Drop in April

Different from the segments with 4 wheels or more, Motorcycles plants worked normally in March. The total production has been of 296 k motorcycles in the first quarter, about 7% above the same period of 2019. However, the stops in this sector started March 30 and will remain until the beginning of May.

## 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](mailto:info@powersys.com).

**Call 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](http://www.powersys.com)

 [Click Here To Go To Page 1](#)

## Brazil/South America Report

*Continued from page 11*



**Source:** *AutoData* [Read The Article](#)

**PSR Analysis:** Although motorcycles are also a way of delivering packages in big Cities, sales of motorcycles in Brazil have a closer relationship with lower income individuals who see motorcycles as an alternative to bad public transportation or even animal transportation in rural locations. This segment of the society has a high number of informal jobs, mostly related to service, heavily impacted by the social restriction measurements. Therefore, the impact on this business for the remainder of the year should be considerably high, despite of the growth in the first quarter.

## First FOTON Produced in New Plant in Brazil

The first units of the 3.5-ton LCV have been assembled at the GEFCO Plant in Guaíba-RS as the company begins producing under a manufacturing contract for Foton.

**Source:** *AutoData* [Read The Article](#)

**PSR Analysis:** Despite this news, the speed of the development of the new line will be reduced by COVID-19 and related factors, including the social restrictions and workforce mobility, the impact in the LCV segment and also the lack of parts from China, a major part of the content of these Trucks. **PSR**

## China Report

*By Qin Fen, PSR Business Development Manager-China.*

### China Delays NS 6 Regulation Going Nationwide



*Qin Fen*

The Ecology and Environment Ministry is extending the transition period for OEMs and the sales period for NS 5 inventory products.

**Source:** *China Central Television* [Read The Article](#)

**PSR Analysis:** So here comes the impact of coronavirus for the industry. But what we should bear in mind is that despite this latest news, the capital metro area, the Yangtze delta area and the Zhujiang River Delta area, three of the most prosperous areas in China, have already implemented NS 6 regulation. These regions can't roll back their policy. If any OEMs not ready to go NS 6, they should do it now. COVID-19 buys some time, but it won't be so forever. **PSR**

### 中国推迟国六法规全国实施

2020年4月9日 — 生态环境部考虑在全国尚未实施国VI排放标准的地区适当延后实施，具体讲就是适当延长汽车生产企业的生产过渡期，适当延长国V库存车的销售期。

[Click Here To Go To Page 1](#)

## China Report

Continued from page 12

*Japanese OEMs are struggling to adapt to the COVID-19 problem. Plants are being temporarily shut down and production adjustments are being made.*

**新闻来源: 央视网 – 阅读原文链接**

**PSR分析:** 冠状病毒对行业的影响来了。

虽然这则新闻属实, 不过我们要记住的是, 环首都区, 长江三角洲地区和珠江三角洲地区, 这三个中国最繁华的地区, 都已经开始实施国六法规。他们不可能收回已经发布的政策。

现在如果还有OEM企业没有对国六准备好的话, 那必须要做好了。Covid-19病毒延缓了一点儿时间, 但这种情况不会持续很久。 **PSR**

## Far East: Japan Report

By Akihiro Komuro, Research Analyst, Far East and Southeast Asia



Akihiro  
Komuro

### The Impact of COVID-19 on Japanese Manufacturers

Japanese OEMs are struggling to adapt to the COVID-19 problem. Plants are being temporarily shut down and production adjustments are being made. While domestic plants are generally operating quietly, overseas bases are being affected in various ways, depending on the country. Here is a summary of announcements by the major companies.

#### Komatsu

Region	Base Name	Country	Status
Japan	All domestic Factories	Japan	Normal Operation
S. America	Komatsu do Brasil Ltda	Brasil	Quit Production (4/6-4/21)
Europe CIS	Komatsu Italia Manufacturing S.p.A.	Italia	Quit Production (3/26-4/13)
	Komatsu UK Ltd.	UK	Quit Production (3/30-4/17)
	Komatsu Germany GmbH Hannover Factory	Germany	Quit Production (4/4-4/13)
	Komatsu Forest AB	Sweden	Quit Production (4/13-5/1)
	Komatsu Manufacturing Rus, LLC	Russia	Quit Production (3/28-4/30)
China	All domestic Factories	China	Back in Operation
Asia	Komatsu India Pvt. Ltd	India	Quit Production (4/6-4/21)

[Click Here To Go To Page 1](#)

## Far East Report

Continued from page 13



### Hitachi Construction Machinery

Region	Base Name	Country	Status
Japan	Tsuchiura Plant, and other 7 factories	Japan	Operating. 4 factories are in production adjustment
Europe	Hitachi Construction Machinery (Europe) N.V.	Netherlands	Production Adjustment
China	Hitachi Construction Machinery (China) Co., Ltd.	China	Back in Operation
Asia Oceania	Tata Hitachi Construction Machinery Company Private Limited	India	2 factories are closed (3/25-5/3)
	PT Hitachi Construction Machinery Indonesia	Indonesia	Normal Operation
Russia	LLC Hitachi Construction Machinery Eurasia	Russia	Back in Operation Quit Production (3/28-4/7)

### Tadano

Country	Base Name	Status
Germany	2 Factories of Tadano Demag GmbH	Quit Production (3/23-3/31). Shortened working hours at three Factories from April 1.
	1 Factory of Tadano Faun GmbH	
India	Tadano Escorts India Pvt. Ltd.	Closed (3/23-4/28)
Thailand	Tadano (Thailand) Co., Ltd.	Closed (4/25-5/3)

**Source:** OEM's Press releases, etc.

**PSR Analysis:** This information is current as of April 16 and look for changes to be made after that. In production, the burden is increasing due to social distance and running with fewer people. No job cuts or salary cuts have yet been announced. However, if the impact of COVID-19 is prolonged in the future, such a move will become apparent. **PSR**

## 極東 > 日本レポート:

小室明大 – 極東及び東南アジアリサーチアナリスト

### COVID-19が日本の機械メーカーに与えている影響

日本のOEMがCOVID-19問題への適応に苦慮している。工場の一時停止や生産調整を実施中だ。国内工場は概ね粛々と稼働しているが、海外拠点は国によって様々な影響を受けている。以下に各社の発表をまとめる。

## Like what you see?

To ensure that you continue to receive your complimentary copy of the PowerTALK™ News report each month, [Sign up now](#).

↑ Click Here To Go To Page 1

## Far East Report

Continued from page 14



### コマツ

地域	拠点名	国	状況
日本	すべての国内工場	日本	通常通り稼働
南米	Komatsu do Brasil Ltda	ブラジル	生産停止(4/6-4/21)
欧州	Komatsu Italia Manufacturing S.p.A.	イタリア	生産停止(3/26-4/13)
ロシア	Komatsu UK Ltd.	英国	生産停止(3/30-4/17)
	Komatsu Germany GmbH Hannover Factory	ドイツ	生産停止(4/4-4/13)
	Komatsu Forest AB	スウェーデン	生産停止(4/13-5/1)
	Komatsu Manufacturing Rus, LLC	ロシア	生産停止(3/28-4/30)
中国	すべての国内工場	中国	生産再開済み
アジア	Komatsu India Pvt. Ltd	インド	生産停止(4/6-4/21)

### 日立建機

地域	拠点名	国	状況
日本	土浦工場、他国内7工場	日本	稼働中、ただし4工場で生産調整
欧州	Hitachi Construction Machinery (Europe) N.V.	オランダ	生産調整
中国	Hitachi Construction Machinery (China) Co., Ltd.	中国	生産再開済み
アジア オセア ニア	Tata Hitachi Construction Machinery Company Private Limited	インド	2工場閉鎖 (3/25-4/14)
	PT Hitachi Construction Machinery Indonesia	インドネシア	通常稼働中
ロシア	LLC Hitachi Construction Machinery Eurasia	ロシア	再稼働完了 生産停止 (3/18-4/7)

### タダノ

国	拠点名	状況
ドイツ	2工場 Tadano Demag GmbH	生産停止(3/23-3/31)
	1 工場 Tadano Faun GmbH	4月1日より3工場で労働時間短縮.
インド	Tadano Escorts India Pvt. Ltd.	閉鎖 (3/23-4/28)
タイ	Tadano (Thailand) Co., Ltd.	閉鎖 (4/25-5/3)

### 出典: 各社プレスリリース等

**PSR 分析:** これらの情報は4月16日時点でのものであり、以降、稼働中止の延長などの変更は充分にあり得る。新たに情報を公開するメーカーもあるだろう。生産現場ではソーシャル・ディスタンスや少ない人数での運営を行っていて負担が増している。まだ人員削減や給与カットなどの発表はされていない。だが、もし今後COVID-19の影響が長期化すると、そうした動きも顕在化するだろう。 **PSR**

 [Click Here To Go To Page 1](#)

## Far East Report

Continued from page 15

### CV Link™

We know trucks and buses.

**CV Link™** is the leading source of global production, forecast and specification data for on-highway commercial vehicles.

CV Link™ contains OEM names, brands, and models, engine model detail, and qualitative analysis of OEMs and product platforms.

Call today. +1 651. 905.8400, or email us at [info@powersys.com](mailto:info@powersys.com).

**Call 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](http://www.powersys.com)

## Far East: South Korea Report

### Doosan Infracore Hikes Sales Promotion with SNS in China

Doosan Infracore announced on March 24 that "the share of product marketing and customer support using live content broadcasting on SNS is growing in China." The company has conducted more than 20 live machine maintenance training sessions through SNS, and the total number of users has reached about 7,300, with 140,000 followers on WeChat. More than 1,200 machines were sold through such online marketing, and the sales of parts sold on WeChat reached 10 billion won.

**Source: Kikai-news.net**

**PSR Analysis:** With the spread of COVID-19, it is difficult to sell face-to-face, so the demand for promotion through SNS is increasing. Many people thought that face-to-face sales of construction equipment, related parts, and maintenance tools were unsuitable for SNS. But their track record suggests otherwise.. **PSR**

## 極東 > 韓国レポート:

小室明大 – 極東及び東南アジアリサーチアナリスト

### 斗山インフラコア、中国でSNSでの販売促進を強化

斗山インフラコアは3月24日に「SNSでのライブコンテンツ放送を利用した製品マーケティングとカスタマーサポートのシェアが中国で拡大している」と発表した。彼らはSNSを通じ生放送での機械整備研修を20回以上実施し、視聴ユーザーの累計は約7,300人に達した。WeChatフォロワー数は14万人に達している。こうしたオンラインマーケティングで販売された機械は1,200台を超え、WeChatで販売された部品の売上高は100億ウォンに達した。

**出典: Kikai-news.net**

**PSR 分析:** COVID-19のまん延によって対面販売が困難な状況では、こうしたSNSでのプロモーションの需要が増すだろう。建設機械や関連する部品、メンテナンスツールなどは対面販売が主流でSNSには不向きだという見方が多勢を占めていた。だが彼らの実績はこうした見方を凌駕している。 **PSR**

## Southeast Asia:

By Akihiro Komuro, Research Analyst, Far East and Southeast Asia

### Spread of COVID-19 Shuts Down Automobile Plants

Due to the spread of COVID-19, Japanese automobile OEMs have stopped production in Indonesia. Isuzu stopped operating its plants April 1, and Honda and Suzuki stopped April 13. Two factors caused the shutdowns: the market is shrinking, and actions are being taken to prevent the spread of the infection.

**Source: Jakarta Shimbun**

[Click Here To Go To Page 1](#)

## Southeast Asia Report

Continued from page 16

*While production stoppages of this magnitude are similar to those in North America and Europe, the Southeast Asia is different from the rest of the region because the automotive industry is the core driver of growth.*

**PSR Analysis:** Most manufacturers have also shut down their plants in Southeast Asia. While production stoppages of this magnitude are similar to those in North America and Europe, the Southeast Asia is different from the rest of the region because the automotive industry is the core driver of growth. The stagnation of the auto industry will have a huge impact on the country's manufacturing industry. The following is a summary as of April 17. **PSR**

## 東南アジア > 東南アジア全体レポート:

小室明大 – 極東及び東南アジアリサーチアナリスト

### 相次ぐ日系工場停止 東南アジア最大市場に危機

新型コロナウイルス感染拡大の影響で、日系自動車メーカーが相次いでインドネシアでの生産を停止している。いずれは1日から工場の操業を停止、13日からはホンダ、スズキも止める。背景には感染拡大防止と同時に、市場の縮小がある。

#### 出典: ジャカルタ新聞

**PSR 分析:** 東南アジア各国でもほとんどのメーカーが工場を停止している。これだけ大規模な生産停止は北米や欧州と同様だが、東南アジアが他のリージョンと大きく異なるのは、自動車産業が成長ドライバーの核である、ということだ。自動車産業の停滞は国の製造業にも大きく影響する。以下は4月17日時点でのまとめ。 **PSR**

Country	Brand	Factory	Status	Period
Indonesia	Toyota	2 Factories	Quit Production	April 13- April 17
	Hino	1 Factory	Quit Production	April 13- April 24
	Mitsubishi Fuso	1 Factory	Quit Production	End of March -
	Daihatsu	2 Factories	Quit Production	April 13- April 17
	Honda	2 Factories	Quit Production	April 14- April 27
Thailand	Toyota	5 Factories	Quit Production	April 7 - April 17
	Honda	2 Factories	Quit Production	March 27 - April 30
	Mitsubishi	1 Factory	Quit Production	April 1- April 19
	Mazda	1 Factory	Quit Production	March 27 - April 19
	Hino	3 Factories	Quit Production	April 7 -
	Isuzu	2 Factories	Quit Production	April 13- April 30
Vietnam	Toyota	2 Factories	Quit Production	March 30 - April 15
	Honda	1 Factory	Quit Production	April 1 - April 15
	Hyundai	1 Factory	Quit Production	April 1 - April 15
Philippines	Toyota	5 Factories	Quit Production	March 3 - April 14
	Hino	2 Factories	Quit Production	March 3 - April 14
	Honda	2 Factories	Quit Production	March 3 - April 14
	Mitsubishi Fuso	1 Factory	Quit Production	March 3 - April 14
	Isuzu	2 Factories	Quit Production	March 3 - April 14
	Hyundai	1 Factory	Quit Production	March 3 - April 14

[Click Here To Go To Page 1](#)

## Southeast Asia Report

Continued from page 17



Country	Brand	Factory	Status	Period
Malaysia	Toyota	3 Factories	Quit Production	March 18 - April 14
	Hino	1 Factory	Quit Production	March 18 - April 14
	Mitsubishi Fuso	1 Factory	Quit Production	March 18 - April 14
	Hyundai	1 Factory	Quit Production	March 18 - April 14
	Isuzu	1 Factory	Quit Production	March 18 - April 14

## Taiwan Report

By *Erik Martin*, Director – Asia Region

### Taiwan Reports No New Coronavirus Cases



*Erik  
Martin*

April 17, 2020 – Taiwan reported no new coronavirus cases on April 14, 2020, marking the first-time authorities there have reported zero new cases in more than a month. It's also the latest achievement for a health system that first acted to prevent the spread of COVID-19 in December.

With a population of around 23 million, Taiwan has only 393 confirmed COVID-19 cases; six people have died from the disease. The last time Taiwan's Central Epidemic Command Center announced no new cases was on March 9 – 36 days ago.

Taiwan has won praise for keeping the coronavirus under control despite the country's close links with China. Millions of people travel between the island and the mainland every year — including 2.7 million visitors from the mainland last year.

Because of its aggressive and early response to the coronavirus, Taiwan — like Hong Kong and South Korea — has been able to avoid lockdown measures and keep many schools, restaurants and offices open.

An academic paper published in the Journal of the American Medical Association (**JAMA**) last month credited Taiwan's government with taking 124 actions to identify potential cases of the then-emerging respiratory virus.

**Source:** National Public Radio (NPR.org) [Read The Article](#)

**PSR Analysis:** As each of us comes to grips with the effects of COVID-19 in our personal, professional, and social lives, and as we evaluate the actions taken by our leaders, it is good to be reminded of places that seem to have gotten it right. Taiwan is one such place. This small island so near the epicenter was quick to act and has been able to avoid some of the tragedy that has befallen so many other regions.

Naturally, many businesses and factories have suffered production shutdowns and furloughs of workers, especially at smaller enterprises. But in many

 [Click Here To Go To Page 1](#)

## Taiwan Report

*Continued from page 18*

*Because of the very bold and unprecedented move of a complete lockdown for about 40 days, India has managed to restrict the number of positive cases to 17,000.*

cases larger manufacturers have been able to remain open, and here we see encouraging signs.

Taiwan Semiconductor, and other chip makers, exceeded forecasts in Q1 2020. Gogoro, the electric scooter maker, has experienced sales growth during this pandemic as riders seek alternatives to public transportation, while simultaneously taking advantage of government incentives to move away from engine-powered scooters. Horizon Yachts offices and its Kaohsiung shipyard have remained open throughout the COVID-19 spread.

There will come a time to examine what could have been done better, but for now, let's learn what we can from this country's leaders and citizens as we seek solutions and find new ways to support each other. **PSR**

## India Report

*By Ritvik Kulkarni, Research Analyst - India.*

### Impact of COVID-19 in India on Engine-driven Applications



*Ritvik  
Kulkarni*

As of today, India is relatively less impacted by COVID than other nations. Because of the very bold and unprecedented move of a complete lockdown for about 40 days, India has managed to restrict the number of positive cases to 17,000.

Considering that India is a country with a population of over 1 billion persons living in challenging on-ground conditions, it is a phenomenal effort of proactive and timely response from the government as well as restraint observed by citizens.

With the start of 2020, we were hoping for some strengthening of the Indian economy and the automotive industry; however, the initial disruption of the supply chain, the transition to BS-VI and the complete lockdown across the country have further weakened the demand for engine-driven equipment, most of which are categorized as discretionary spending.

However, we believe COVID-19 will change the way we commute, bringing back a focus on personal mobility from a shared and localization focus. Also, the evolving business models including working from home and virtual meetings might result in people driving fewer kilometers in their vehicles on an average thus reducing their spending.

**PSR Analysis: Passenger Cars and SUVs:** The degree of impact of the coronavirus from the supply side will be low to medium, owing to greater localization of the market leader OEMs--Maruti and Hyundai. This will enable the OEMs to resume and ramp-up production. However, the segment will have a considerable adverse impact from the demand side throughout 2020 due to the weak customer sentiments, job

 [Click Here To Go To Page 1](#)

## India Report

*Continued from page 19*



insecurities and limited focus on discretionary spending, coupled with 10-15% of price increases owing to the transition to BSIV. We anticipate the segment will bounce back in 2021 onwards driven by entry-level vehicles.

**Commercial Vehicles:** The slowdown which began in Q4 2018, has been worsened by the COVID-19 situation, delaying its recovery until at least the end of Q3 2020.

Despite some stimulus and relaxation of debt repayment schedules from government, we anticipate a wave of bankruptcy by component suppliers. In Q1 2020, we witnessed a leading truck OEM facing substantial delay in component procurements due to the financial health of its suppliers.

Irrespective of the type of COVID-19 lockdown scenario that exists, we believe it will be at least three of four years before the industry sees volumes matching those of 2017.

**Construction Equipment:** About 30-40% of vehicle components for CE are imported from China, Japan, Korea and some parts of Europe.

However, the government accounts for almost 70% of demand for CE and most of these are project driven. Any delay in revival of projects due to lockdown may result in contractors invoking the force majeure clause which means cost over runs for government.

Hence, although we may see a temporary slowdown, we believe this segment will be least impacted and revival of infrastructure projects will be priority to bail out the slowing economy.

**Agriculture:** While the government has exempted the agri-machinery and spares from lockdown, sales of tractors remains locked out as they do not fall within the essential category. Currently the COVID-19 footprint hasn't impacted rural India and if that should happen, the labor shortages are likely to prompt farmers to opt for mechanization.

Also, most of the tractor sales take place in second half of the year and are more dependent on monsoons and the harvest season. As such, we believe tractors would suffer a limited impact in 2020. Also, since agriculture is exempted from the lockdown coupled with a good harvest season; the demand for two-wheelers in rural segment may not take any major hit.

**Motorcycles/Scooters/Mopeds:** Driven by social distancing in the short term and most affordable commutes, motorcycles or scooters could become the preferred mode of transportation for many daily commuters who would avoid public or mass transportations in urban areas. However, considering the job uncertainty, the demand for used vehicles may see a spurt compared to new vehicles as it would reduce the pressure on their wallets. **PSR**

**Like what you see?** To ensure that you continue to receive your complimentary copy of the PowerTALK™ News report each month, [Sign up now.](#)

 [Click Here To Go To Page 1](#)

## Russia Report

By *Maxim Sakov*, Market Consultant, Russia



*Maxim  
Sakov*

### Large Russian Automakers Resume Work After One Week Shutdown

Many automakers who suspended work March 30 in Russian, as ordered by the government to reduce the spread of the COVID-19 resumed work April 6. The firms including KAMAZ, AutoVAZ, GAZ Group, Mazda Sollers.

However, 98% of office personnel are working remotely, including YAMZ, the Yaroslavl plant for diesel apparatus and Likino bus plant. Procurement production of GAZ plant in Nizhny Novgorod is also working. Schedule of main production lines will be determined within a week depending on situation on suppliers' plants. [Read The Article](#)

**PSR Analysis:** Most of the machine makers (at least large ones) will be working this April. Mercedes-Benz and Fuso truck production resumed April 13. Chetra and ChTZ returned April 6. It seems that most have no problem with parts supply, and that they expect to sell their product. A catastrophic scenario is not likely.

### Authorities Budget US\$ 71 Million for Purchase of Ambulances

Officials say the government has US\$ 71 Million to purchase ambulances in Russian. "This sum will permit us to supply about 1200 vehicles to the regions"- told prime minister during the government meeting dedicated to COVID measures.

[Read The Article](#)

**PSR Analysis:** The recipients of this money will be GAZ and PSMA. Ford also is being considered. This is an example of anti-COVID-19 measures which also support domestic LCV makers.

### Market Decline Is Expected, But No Machinery Shortages Seen

A significant decline of the construction machinery market is expected in Russia, at least in April and May, says an official of JCB Russia. This forecast is tied to suspension activity of small and medium size enterprises because of "self-isolation" programs, implemented by government to battle COVID-19. Strategic construction works will continue, and this will provide certain demand for the machines.

"The situation we observe around the world will definitely lead to decrease of production volumes for certain machinery classes," said the official. Since market demand also will decrease, JCB does not expect a shortage of machines for its customers.

## 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](mailto:info@powersys.com).



1365 Corporate Center Curve  
St. Paul, MN 55121

+1 651.905.8400  
[www.powersys.com](http://www.powersys.com)

[↑ Click Here To Go To Page 1](#)

## Russia Report

Continued from page 21

*Other market players also have noted reduced demand for construction machinery. Inquiries are down by 20%.*

Machine prices have increased proportionally to the Russian Ruble devaluation.

### Read The Article

**PSR Analysis:** Other market players also have noted reduced demand for construction machinery. Inquiries are down by 20%. Annual decrease from the optimistic scenario could reach 20%, or down as much as 50% in a worst-case scenario, if the quarantine measures last until September. In this situation, a smaller impact will be felt by domestic manufacturers; because of the Ruble devaluation, their production has become more competitive. Chinese OEMs also will be affected less because with reduced production around the world, Chinese brands have grown in Russian. **PSR**

## Meeting Your Information Needs

Power Systems Research has been providing world class business and market intelligence on power equipment to industry leaders for more than 40 years. A comprehensive range of database products and strategic analysis services is available to meet your planning needs. For more information, visit us at [www.powersys.com](http://www.powersys.com).

- **EnginLink™** – Engine Production-Forecast Data
- **CV Link™** – Commercial Vehicle Production-Forecast Data
- **OE Link™** – Original Equipment Production-Forecast Data
- **OE Link-Sales™** – Original Equipment Sales-Forecast Data
- **PartsLink™** – Engine and Original Equipment Population Data
- **MarineLink™** – Boat Production and Engine Installation Data
- **MarketTRACKER™** – Several individual quarterly syndicated surveys
- **PowerTRACKER™NA** – North American gen-set syndicated survey
- **Call Center** - In-house calling capability for custom surveys
- **Market Studies** – Conducted more than 3,100 proprietary studies
- **Component Modules** – Special component packages with databases