

Top Stories

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Construction Forecast*

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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. www.powersys.com

Power Systems Research: Data....Forecasts...Strategies

Editor's Note

Power Systems Research To Present at MEE


Emiliano Marzoli, Power Systems Research Development Manager-Europe, will present a report on the global gen-set industry during the Middle East Electricity (MEE) show in Dubai Tuesday, March 6, 2018. The event will take place at 12:00 Dubai time in Sheik Saeed Hall 1.

MEE will be held March 6-8 at the Dubai World Trade Centre, UAE. For details on MEE [click here](#) and the seminar schedule, [click here](#).

Marzoli will provide an overview on global production and sales of gen-sets, and the differences that occur between various regions.

MEE is the region's leading international trade event for the power industry, with dedicated product sectors for power generation, transmission & distribution, lighting, solar and brand new in 2018 - Energy Storage & Management Solutions.

Power Systems Research is a leading source of information on global gen-set sales and production. **PSR**

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Alternative Power

2018 Annual Automotive Industry Outlook Conference

By *John Krzesicki*, PSR Business Development Manager



SUMMARY. Recent applications of digital technology combined with automotive industry expertise have produced impressive advancements in Advanced Driver Assistance Systems (ADAS) and Automated Driving Systems (ADS). The increasing use of powerful artificial intelligence (AI) techniques promises to revolutionize the driving experience and mobility strategies.



*John
Krzesicki*

On Feb. 1, The Center for Automotive Research (CAR) hosted The Artificial Intelligence Applications to Driver Assistance and Vehicle Automation.

The event featured experts on the topic of AI in the automotive industry, discussing cutting-edge technologies expected to be integrated into production vehicles in the next two to five years. Topics included guided machine learning, computer vision, sensor fusion, and systems integration.

Key Takeaways:

- AI and other technologies are converging to enable powerful and valuable new applications that people want and will help achieve social goals such as safety.
- All commercial and social sectors will be transformed on a scale equal to or greater than the changes from the Internet and smartphones.
- The automotive sector will have many new business opportunities to be captured by companies that are smart, agile, adaptable, and quick to weather disruptions.
- The OEM's and Tier One Suppliers are well positioned to understand and rapidly adopt new technologies, such as Artificial Intelligence, for innovative new products and services and to do so with the same rigor in engineering for quality and safety that is a foundation of our reputation today.

The speakers included:

- Dr. David Atkinson, Head, Systems & Technology and Chief Research Scientist for Artificial Intelligence, Silicon Valley Research & Development Center, Continental AG
- Dr. Ryan Wolcott, Manager, Simultaneous Localization and Mapping, Toyota Research Institute
- Dr. Bill Mark, President, Information and Computing Sciences, SRI International
- Bill Veenhuis, Senior Solution Architect – CAE, NVIDIA Corporation
- Dr. Mitch Rohde, Chief Executive Officer, Quantum Signal LLC **PSR**

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Global/North America Report

By *Yosyf Sheremeta*,

PSR Director of Product Management and Customer Experience

Global Construction Growth Forecast in 2018

Part Two of Two Parts

SUMMARY. The global Agricultural sector is expected to decline 2.1 % in 2018, up slightly from previously forecasted rates and is mainly due to the increase of activities in the smaller HP range equipment. The growth rates in global Construction are expected to gain ground and we forecast global construction markets to grow by 5.3% in 2018.

AGRICULTURAL. We do not expect any rapid recovery or high growth until late in 2018, mainly due to current global economic conditions and record low commodity prices. We forecast the recovery will be very slow and the market will not reach its prior levels in the foreseeable future.



*Yosyf
Sheremeta*

The recovery in 2017 was weaker than originally forecasted with not much growth in the industry. We believe such conditions are temporary and the trend will change to positive in 2018.

Sales of the higher HP equipment were flat in H2 2017, but we expect the overall level of activities to increase and a recovery to take place in 2018.

CONSTRUCTION. We expect most developed markets to be solid in 2018. We see China showing a strong recovery and North American as well as European markets and Japan leading this trend. Brazil and Russia experienced significant declines in production trends and reached the bottom in 2015- 2017 followed by a very gradual and slow recovery in H2 2017. This should carry forward into 2018.

The global Construction sector is expected to show final growth of 12.7% in 2017, higher than previously projected in Q3 2017. Some equipment seems to be gaining solid ground in Europe and showing a healthy recent demand from domestic markets in North America, especially for smaller equipment.

China showed a significant increase in the segment during H2 2017, and the whole year showed a solid 63.8% gain over 2016. However, Brazil still experienced significant challenges in early 2017 even though there were much better improvements in the second half, with the whole year coming in at 3.3% growth in 2017 vs 2016.

The economy in North America seems to be gaining new strength, especially in the Construction segment, and that will have a direct impact on the production schedules for 2018.

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Global/North America Report

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Overall, we believe 2018 will be a slightly positive year for the [Agricultural] industry in terms of overall growth in production units, but the market will not completely recover for another few years.



A big push for the segment is expected to come from the implementation of the new tax reform in the U.S. Based on the most recent developments over the past year, the mining sector is looking very promising. Additionally, a proposed increase in infrastructure spending in the U.S. could drive this sector higher.

North America

AGRICULTURAL. Year 2017 continued to have losses, especially in the higher HP product range, and there is no significant turnaround in sight. On the other hand, smaller HP agricultural equipment performed better than the rest of the market and that helped overall numbers to show modest growth; while the annual numbers are still being finalized, we project that overall Agricultural equipment segment in 2017 will increase by 7.0% over 2016 and remain on this recovery trend going into 2018-2020.

Overall, we believe 2018 will be a slightly positive year for the industry in terms of overall growth in production units, but the market will not completely recover for another few years. We do not see any rapid recovery at this point, but rather we see a slow and positive trend going forward.

CONSTRUCTION. While some OEMs within the segment booked double digit increases for 2017, PSR remains cautiously optimistic in terms of the size of the growth. Our most recent projection is rather flat to slightly positive at 2.9% in 2018 compared to 2017, in line with our projections from last quarter.

Major OEMs in the Construction and Industrial segments have recently reported a significant increase in orders and activities, which will help drive the market forward.

Demand for exports in 2017 was weaker than previously expected, and that has a direct impact on overall production levels. We expect the demand from export markets to stabilize and improve in 2018. **PSR**

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Brazil/South America Report

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

Brazilian Market Pushes Argentina LV Growth

The optimism in the Brazilian market and the new production platforms in Argentina will really boost exports and production. However, the mix of products is significantly different than previous years and it is necessary to plan carefully for this increase.

While 2017 production was practically flat YoY, thanks to higher exports, the forecast for 2018 is optimistic. It is expected that 43% more exports will increase production by 20% this year. Production in 2017 was 472,000 vehicles compared with 473,000 in 2016; while exports in 2017 were 210,000 compared with 190,000 in 2016. The 2018 forecast is 565,000 produced and 300,000 exported



*Fabio
Ferraresi*

Source: ADEFA [Read The Article](#)

PSR Analysis: The optimism in the Brazilian market and the new production platforms in Argentina will really boost exports and production. However, the mix of products is significantly different than previous years and it is necessary to plan carefully for this increase.

AGCO Launches Sprayers Plant in Brazil

With more than US\$ 30 million investments in this operation since 2015, AGCO is betting on the strengthening of the Agricultural market in Brazil, and it plans to launch over 150 new products by the end of 2019 that could generate 40% more production of sprayers for the OEM.

Source: AGCO Press release [Read The Story](#)

PSR Analysis: The Agricultural market will remain strong despite the seasonality that is natural in this market. Sprayers are largely used in Brazil and there is room for growth in South America for this application because it brings increased productivity in agribusiness.

Exports Drive Construction Segment Growth

While domestic sales were stable in 2017, compared to 2016, the production of construction machinery grew 35%, thanks to exports growing from 35% of production in 2015 to 66% in 2016 and ultimately 75% in 2017.

Source: PSR

PSR Analysis: With these numbers, Brazil now can be considered an export pole for South America Markets in Construction equipment, thanks to the favorable currency and willingness of OEMs to expand the market to reduce losses coming from the market downturn of 71% in domestic sales from 2014 to 2017. **PSR**

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Far East/Southeast Asia Report:

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

Far East: Japan

Isuzu To Invest US\$ 781 million for Efficiency Gains

Isuzu Motors says it will accelerate investment in its Japanese domestic factories and will renovate the two main plants in Japan. The Fujisawa factory will set the painting process to work on multiple lines, and the Tochigi factory is establishing an engine assembly line. Total investment amount is 85 billion yen, and the moves will be completed within FY 2018. Isuzu plans to set up the two plants as a base for technological development and centralized production of finished vehicles and parts.



*Akihiro
Komuro*

Source: The Nikkei [Read The Article](#)

PSR Analysis: Isuzu produces 200,000 of its 600,000 world unit production domestically. In recent years the domestic market is expanding due to the increase in distribution demand. The Japanese truck OEM is accelerating the strategy of making each domestic base as a major factory for global expansion. Hino Motors will consolidate assembly lines from the Hino plant to the Furukawa plant. Mitsubishi Fuso will also invest 11.8 billion yen at its flagship Kawasaki factory and consolidate the three bases around it at the Kawasaki Plant. **PSR**

Far East: South Korea

Doosan Achieves Market leadership in Nepal

DOOSAN Infracore has emerged as the leader in Nepal's construction equipment market, with its market share soaring to around 20%. Doosan has seen its market share in Nepal rocket in just two years, rising from 5% in 2015 to around 20% at the end of 2017, largely due to the company's efforts to enhance its sales capabilities in the country.

Source: Agg-Ne [Read The Article](#)

PSR Analysis: The increase in construction demand in emerging countries such as Nepal makes this a very important strategic area for construction machinery OEMs of industrialized countries. Although the Chinese market is vast, it often tends to be influenced by political and international relations, and South Korea is susceptible to these influences. From that point of view, it is very important for Korean OEMs to carve out these footprints in new markets. **PSR**

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Far East/Southeast Asia Report

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Southeast Asia: Thailand

Mazda Hails Expansion of Thai Operations

Mazda Motor Corporation has positioned its operations in Thailand as an important global hub after raising production capacity for SkyActiv engines earlier this year. The Japanese carmaker recently opened a new production line of SkyActiv engines, boosting capacity from 30,000 to 100,000 units annually. The plant, run by Mazda Powertrain Manufacturing Thailand (MPMT), occupies an 800-rai plot in Chon Buri, where Mazda spent 26 billion yen in February 2013 to build the facility to make 400,000 Skyactiv transmissions.

Source: The Bangkok Post [Read The Article](#)

PSR Analysis: While most car makers around the world are focusing on EV, Mazda is pursuing a unique strategy. Their Skyactiv technology is already famous and has earned high praise. This new production capability in Thailand shows Mazda's presence in the market, and it is extremely positive for the Thai automobile industry that has been stagnant for some time. **PSR**

China Report

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

Erik Martin, Director-Asia Region contributed to this report.

Jack Hao, China Research Manager

Guangdong Plans Fuel Cell Vehicle



Qin Fen

Guangdong Province, along with Shanghai and Hunan local governments, is embracing fuel cell battery by building up 22 hydrogen-fill stations in Foshan and Yunfu by the end of 2018. 28 fuel cell city buses have been running over 400,000 kilometers, 2,692 shifts in Foshan and Yunfu

Source: News Guangdong [Read the Article](#).

PSR Analysis: What's similar between fuel cell vehicle and full electric vehicle is the early expansion all starts with route vehicles.

Last time, when the full electric bus took market share from the IC-powered bus, it was with tremendous subsidies from central and local governments. With the case of



Jack Hao

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China Report

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Myanmar and Thailand have announced plans for major gas power projects, as well as greater moves to adopt renewable energy sources.

fuel cell vehicles, though, it's not just subsidy, hydrogen-fill infrastructure needs coordinated efforts from both government and business. This will be particularly true if fuel cell vehicles expand from fixed-route buses to flexible logistics trucking.

Myanmar Power Plants Could Spare the Salween

BANGKOK – Newly announced plans to build four major gas-fired power plants could save the pristine river from environmentally destructive hydro-power dams.

Myanmar and Thailand have announced plans for major gas power projects, as well as greater moves to adopt renewable energy sources. The news will cheer conservationists battling to prevent large dams being built on major rivers in the north of Myanmar.

Officials from the Ministry of Electricity and Energy said the plants, to be located in the western Rakhine state and the commercial hub of Yangon, would double the country's generation capacity, currently at around 3,000 megawatts. They put the total cost of the plants at US\$5.2 billion, Reuters reported.

Source: Asia Times [Read The Article](#)

PSR Analysis: The tide of renewable energy and natural gas power generation projects continues to rise in Myanmar. There is an urgent need to address power shortages in the capital Yangon, and it makes sense to develop these new power plants fed by imported LNG that can be quickly processed in floating regasification and storage facilities at the port.

Most of Myanmar's vast offshore natural gas reserves are tied up in long-term purchase agreements dedicated to foreign buyers, and the pipeline infrastructure currently in place is insufficient to supply these new facilities. LNG can be made available to provide firm support to the increasing investment in variable renewable energy, and become part of the distributed energy, mini-grids and micro-grids that will serve remote rural regions that have been without electricity for so long.

This is no panacea, but the combination of gas and renewables provides a meaningful alternative to coal, and even to hydropower **-EM**

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China Report

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ZF Enters China's Forklift Market, Launches JV with Anhui Heli

HEFEI, China – ZF plans to enter into a joint venture with the Chinese company Anhui Heli Co. The new company, named ZF-HELI Drivetechnology (Hefei) Co, will give ZF access to the Chinese market, the biggest and fastest growing region for forklift trucks. In addition, ZF will strengthen its extensive product portfolio with Anhui Heli products.

Source: autocarpro [Read The Article](#)

PSR Analysis: Forklift products play an important role in industrial warehousing and logistics. The growth rate for forklifts has been more than 15% in the past five years. The market share of electric forklifts is growing. Heli is the leading forklift manufacturer and the seventh largest company in the forklift truck segment worldwide. This new combine will help Heli consolidate its hold on first place by giving it higher quality production with lower costs. **-JH PSR**

India Report

By *Jinal Shah*, PSR Manager, South Asia Operations

Ashok Leyland Unveils India's First Swap Battery Bus

The global partnership between the Hinduja group flagship, Ashok Leyland and SUN Mobility, announced in July 2017, took wings at the Auto Expo 2018. This partnership aimed at creating SMART Mobility solutions for SMART cities, took shape with Ashok Leyland unveiling its first electric bus, Circuit-S, powered by SUN Mobility's swappable Smart Battery™ [Read The Story](#)



*Jinal
Shah*

PSR Analysis: The battery swapping technology may bring down the upfront cost of the bus, making it comparable with traditional diesel buses. However, it may require recharging at shorter intervals as it has only one Li-ion battery compared to four in the traditional electric bus. With battery range of about 50 kms, this solution appears viable for city buses which have fixed route distances so that batteries can be swapped during layover time within four minutes.

With about 50%-60% of city bus routes being less than 30kms in India and demand of about 10,000 city buses per year, at least 6,000 buses in India have potential to use battery swapping technology.

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India Report

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The higher minimum purchase price for crops will boost rural income, thus driving demand for two wheelers, farm equipment's and LCVs in rural areas.

A dependable battery swapping infrastructure which is compatible across a variety of bus platforms and works on the pay-per-use model of battery consumption, can be biggest boost to use of EVs nationally.

2018 Automotive Industry Budget Could Boost Rural Demand, Promote 'Made in India'

The government has also provided a clear signal to encourage 'Made in India' by increasing customs duty rates on CKD and certain component imports.

Read The Article

PSR Analysis: With increased spending for rural, agriculture and road sector, the budget will boost truck, tractor, and 2-wheeler sales.

The higher minimum purchase price for crops will boost rural income, thus driving demand for two wheelers, farm equipment's and LCVs in rural areas. Increased allocations in the budget for infrastructure projects such as national highways for seamless connectivity will increase demand for Medium and Heavy Commercial Vehicles. This also will have positive impact on the construction equipment industry. **PSR**

Russia Report

By *Maxim Sakov*, Market Consultant, Russia

Germany Is Main Market for Russian Tires



Maxim Sakov

Tire exports from Russia have shown solid growth since 2009. For the period of 2009-2016, it has increased by 2.7 times, reaching 24.2 million units, with more than a half of this growth coming in the last two years. In 2017, tire exports were flat, however.

One important change has taken place in the destination of these exports. In the 2000s, most of the tires were exported to CIS countries; in 2010, this shifted, and most of the tires were sold to Western countries. In 2017, Germany became the main importer of Russian made tires. **Read The Article**

PSR Analysis: Main tire makers, such as Nokian and Michelin, have production plants in Russia.

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Russia Report

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UGMK has launched a unique tri-generation (power+hot+cold) mini power plant. The plant also utilizes CO2 gas for its greenhouse plant.

Snowmobile Plant Opens in Moscow

The branch of “Irbis Motors” was opened Feb. 1 in the Moscow district. Annual production capacity of the new plant is 6,000 snowmobiles. Plant owners say plans call for future production to include bikes, quads and scooters **Read The Article**

PSR Analysis: Initially, the company placed production in China. Now that production has been moved to Russia, it means it remains competitive even with production in the country.

UGMK Launches Unique Power Center

UGMK has launched a unique tri-generation (power+hot+cold) mini power plant. The plant also utilizes CO2 gas for its greenhouse plant. It's based on NG reciprocating engines. Total electric power set is 26.44 MWt. The price of the electric power is one-third of that from mainline, and the expected payback for the plant is five years. The total investment is 1.5 billion Rubles (US\$ 27.3 million). **Read The Article**

PSR Analysis: Tri-generation projects are built very seldom in Russia. Plants using CO2 after the engines is even more unusual. Additional investigation shows that six Jenbacher gen-sets, 4.5 MWt each, were installed in the plant. UGMK is basically a mining company, but it has many side businesses. **PSR**