PowerTALK™ News

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Worldwide News & Analysis

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Global Truck Production Declines

Blackouts Boost Gen-Set Sales

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About Us

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Global Report

By Yosyf Sheremeta, Director of Product Management & Customer Experience at Power Systems Research

Global Fundamentals Remain Stable, But Regional Variations May Develop

SUMMARY. The last quarter and the end of 2019 did not surprise us. As we suggested in September 2019, the global economy once again showed solid signs of resilience and remained stable. For sure, there are differences among sectors and regions, which will be discussed in greater detail below. However, overall, we expect a relatively flat year 2020 globally

If you were to look at the latest global macro-economic fundamentals, you would see a stable and healthy economy and a rosy picture on the surface. On the other hand, if you follow the latest updates on key industries and their players worldwide, the optimism is not that strong.

Furthermore, it is rather cautious and reserved. Yes, some industries are better than others, such as Industrial vs. consumer focused. We noticed a common feeling of some level of uncertainties that are present and primarily related to outside factors. Global geopolitics, latest developments in Middle East, China, Brexit, and global trade tensions and tariffs have all contributed to this situation and have added uncertainty to the global growth.

With the growth of economic uncertainties, we expect to continue to see rapid shifts in political situations and money capital between industries and markets going forward.

Fundamentally, major markets in European and North America still enjoy record low unemployment, historically very low interest rates and low inflation. However, over the past few months conditions have turned south, especially in Europe and the growth in these areas is losing its steam. While key economic indicators remain very healthy, we do not expect any significant growth in these areas.

When our analysts study current and future market trends, we do not speculate on rumors or proposed future policies—although we consider their possible effects--so we have not made any significant changes in our projections related to escalated global trade tensions and economic disagreements. However, we do expect weaker economic conditions in some markets in the near term; thus, our current forecast and growth rates already reflect this situation and these trends.

Proposed global trade policies certainly will have an impact on current markets and future growth; however, these changes will not be immediate and will depend greatly on the outcome of such policies in the long run. Furthermore, the tone of the latest discussions on global trade policies are projected to gain political capital in the short term. Based on that, we do not expect any major economic policy changes to take place in the short or medium term.

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Although 2019 showed a strong performance overall vs 2018, during the past three months we have seen a stall in continuous growth and even minor declines to key indicators around the world and across industries.

As we look at 2020, we have slightly adjusted our previous forecast to be even more cautious and conservative vs previous quarterly forecasts on the global scale, but markets in the US seems to be holding stable as we start the new year. We do not expect any major acceleration in growth for the next 6-18 months.

Most markets showed modest growth rates in 2019 vs 2018, but we see a slowdown in growth dynamics going into 2020, especially for Europe, India and Russia. The North American economy is still performing quite well; however, there are many warning signs regarding future sustained growth, and a slowdown could be on the horizon within 6-18 months.

AGRICULTURAL. The manufacturing of agricultural equipment tends to be concentrated around the first part of the year, when major trade activities occur. Global machinery production for the Agricultural sector declined 7.4 % in 2019. The key contributing regions to the global decline were North America and China where we have seen significant declines in some product categories.

This trend will continue in 2020, slipping at 2.5%. Such decline is mainly due to the replacement in China of 2-wheel drive tractors with larger HP machines. Overall, machinery production within the Chinese Agricultural sector showed a decline of 9.2% in 2019, and we project an additional drop of another 6.1% in 2020. Confidence in the European agricultural equipment market is waning with concerns over Brexit, especially for those in the U.K.

Globally, we do not expect any rapid recovery or high growth, mainly due to current economic conditions, ongoing trade rhetoric in the segment and record low commodity prices. Furthermore, the weather factor played a negative role in the Ag Equipment sector in North America. We forecast the recovery will be very slow at 1%-3%, and the market will not reach its prior high levels in the foreseeable future.

Future trade tensions might impact the global commodities trade, and that will have a direct impact on the segment at the regional level. Key regions that will experience significant changes will be Greater China, North America and Central/South America.

CONSTRUCTION. The global Construction sector performed very well prior to 2019, posting an overall growth rate of 9.1% in 2018. But last year (2019) brought some challenges especially during the second half of year. We have started to see the deterioration of demand, especially within large equipment categories, so overall annual global production volume was only up by 2.2% in 2019 vs 2018.

The key region that contributed to the growth within construction segment was China, while Europe and North America were almost flat. Last year the Construction

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China showed a significant increase in the segment during 2018-2019, and the whole year posted a solid 8.8% gain in 2019 over 2018.

segment showed a healthy demand in North American markets, especially for smaller equipment, but the demand slowed down during second part of 2019, which had an impact on the overall 2019 number. We believe this recent decline in sales was due to political uncertainties and spending freezes by major OEMs, again, mainly due to political uncertainties rather than to economic fundamentals.

China showed a significant increase in the segment during 2018-2019, and the whole year posted a solid 8.8% gain in 2019 over 2018. However, as we enter 2020 we see a slight deterioration in demand for construction equipment; projected decline in production is expected at-3.1% in 2020 vs 2019, which is slightly lower than projected in Q3 2019. Furthermore, we expect an additional decline of 4% in the following year (2021), mainly due to slower economic growth and political uncertainties. The economy in North America showed steady performance with no significant signs of decline and based on current production schedules for 2020 the trend will remain stable. While demand for smaller equipment is healthy, larger equipment started to show some signs of slowdown, mainly due to cheaper commodity prices in the mining sector.

Growth rates are expected to be slightly lower or in line with previous projections in mid-single digits, however, with increased risks. Furthermore, Germany's heavy reliance on exports is susceptible to adverse effects stemming from the global trade war and Brexit.

At this point, we forecast global machinery production for construction markets to be flat with slight decline at -0.3% in 2020 vs 2019, which is healthy, but slightly lower than the previous quarter by 0.4%. The following year (2021) is projected to remain flat to +/-1% vs 2020.

In terms of the overall economic cycle, we expect most developed markets to remain flat in 2020. Within the Construction segment, we see Brazil, India and China showing very strong performance in emerging markets, and North American, European and Japanese markets supporting this trend. However, signs of a slowdown are on the horizon.

We expect rapid adoption of new technologies and electrification of equipment, especially on the smaller end of the HP range. Many OEMs already have introduced new electric and other alternative fuels drive type models or will be doing so soon.

Other **OFF-HIGHWAY** segments, such as **INDUSTRIAL**, **LAWN AND GARDEN** and **POWER GENERATION**, will closely follow economic trends, globally.

For the **ON-HIGHWAY** sectors we will see a decline in production volumes across various products (with the exception of the LCV segment and Electric Vehicles). On the other hand, we continue to see development of EV technology and the introduction of multiple EV models across the board.

New electric models are planned to be introduced by most major OEMs. At this point, the overall volume for electric vehicles (both commercial and for personal

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use) is insignificant in terms of market share, but we already see rapid adoption of these technologies, and its growth will accelerate over the next 5-10 years.

Since the beginning of 2019, we have significantly updated our databases and increased our near-term projections and growth rates for electric buses as well as commercial vehicles. However, the baseline production volumes remain low in terms of overall market share for these applications. We project that these new technologies, if adopted by the market will have a significant impact and rate of change in 4-5 years and will continue to rapidly expand market share.

However, given the historical trends and adoption rates of new technologies, PSR's views on EV markets are optimistic in the long term, but are rather conservative in the short term.

Much like the global economy, demand for **MEDIUM AND HEAVY VEHICLES** is expected to further slow this year and into 2021. Commercial truck demand in North America and portions of Eastern Europe is expected to be relatively flat for much of the year while most other regions are experiencing a slowdown.

Given the level of current production volumes, we view this decline as healthy. This will allow the market to absorb inventories and re-position itself for future growth. At this point, PSR estimates an overall global decline in the sector of 7.2% in 2020 vs 2019.

PSR expects a continued slowdown in medium and heavy truck demand for most regions in 2020. Currently, a global recession is not forecasted but a cooling off is expected, especially in Europe. **PSR**

Truck Production Index

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

2019 Global Truck Production Declines

Power Systems Research
TPI
Truck Production Index

The Power Systems Research Truck Production Index (PSR-TPI) increased from 116 to 119, or 2.6%, for the three-month period ended Dec. 31, 2019, from Q3 2019. However, the year-over-year (Q4 2018 to Q4 2019) PSR-TPI declined from 124 to 119, or 4%.

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.

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Truck Production Index

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> *Medium and heavy truck demand is expected to be soft in most regions in 2020 for various reasons including a global economic slowdown and political uncertainties in the near term.*

Chris Fisher

Jim Downey

Global Index: While an overall global recession is not forecasted, a softening in the global economy is expected to place pressure on medium and heavy truck demand in 2020.

All Regions: Medium and heavy truck demand is expected to be soft in most regions in 2020 for various reasons including a global economic slowdown and political uncertainties in the near term.

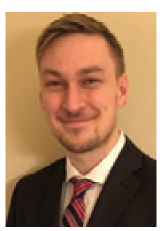
North America: After very strong demand for class 8 trucks during the past few years, the market has started to cool, primarily due to an overcapacity of trucks in the market. While freight demand is expected to be relatively strong in 2020, tonnage started to slow toward the end of 2019. Continued uncertainty surrounding the Chinese tariffs along with an overall slowdown in global economic growth is weighing on the freight segment. While a slowdown in the medium duty truck segment is also expected in 2020, truck demand is not expected to decline as significantly as the class 8 segment. **PSR**

Power Generation Report

By Tyler Wiegert, Project Manager and Research Analyst

Blackouts Lead to Best Fourth Quarter in Five Years

SUMMARY. Gen-set sales in Q4 2019 rose 3.5% from Q3 2019, driven primarily by growth in the middle power ranges. The 21-50kW range experienced the fastest growth at 7.5%, followed by 10-20kW at 3.7% and 101-300kW at 3.5%.



Tyler Wiegert

On a Year-on-Year basis, overall unit sales for Q4 2019 were up 4.5% compared to sales levels in Q4 2018.

When looking at this growth by application, we see that standbys were the only application to experience meaningful growth this quarter, ending with a strong 7.5% increase. Unlike previous quarters, this increased demand came from more than residential consumers. Institutional and industrial consumers increased their demand by 2.5% and 3.75%, respectively. This is the strongest fourth quarter showing for these consumer types in the last five years.

Also worth noting is the exceptionally strong performance of smaller-to-medium diesel gen-sets. Each of the <10kW, 10-20kW, and 21-50kW ranges posted double digit growth, with <10kW nearly reaching 20% growth over Q3 2019.

Each of these ranges grew by at least 10 points, QoQ, than in any other fourth quarter in the last five years. Natural gas also had a solid showing in the medium ranges, growing about 5% in the 21-50kW 51-100kW, and 101-300kW ranges.

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Power Generation Report

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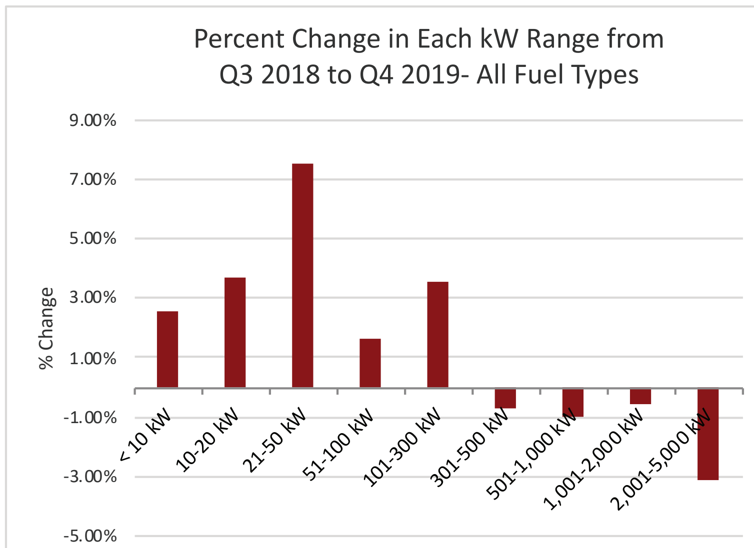
The data comes from the proprietary ***PowerTracker™*** series of syndicated surveys conducted each quarter by Power Systems Research (PSR). A total of 1,400 interviews are completed each quarter with gen-set dealers and distributors, businesses and households across North America.

This quarter, we were particularly interested in seeing how the repeated planned blackouts from Pacific Gas & Electric might impact demand for gen-sets, and we did hear from a number of dealers that they had an exceptionally good quarter, as residential, institutional, and industrial consumers sought to rapidly prepare themselves for future blackouts.

The combination of winter storm season with the new planned blackouts in California led to a 12-point jump in the number of business consumers who responded "Yes," when asked if they had an electrical power generator on the premises. While that clearly translated into very strong growth in the small and medium power ranges, the large power ranges also posted some of their smallest Q4 losses in the last 5 years.



Dealer inventory levels rose 0.8% in Q4 2019. This leaves inventories roughly flat compared to Q3 2018.

As part of our ***PowerTracker™*** series, we also monitor gen-set sales trends by application. Standby gen-set sales continue to be dominant, growing about 14% while portable sales were flat, and all other applications declined. This marks the fifth consecutive third quarter with double-digit growth for standby sales. No other application has such a consistent pattern for third quarter sales, but cogeneration does stand out with its marked 7% decline in a time of year when it typically at least holds flat.

METHODOLOGY: Since 1998, Power Systems Research (PSR) has been continuously maintaining its ***PowerTracker™*** series of syndicated surveys, conducting 1,400 interviews each quarter among three key respondent groups in North America: gen-set dealers and distributors, businesses and households.

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Dealers and distributors are projecting a continued resurgence of small diesel power generation in Q1, anticipating double-digit QoQ growth in the <10kW and 10-20kW diesel power ranges.

We conduct 200 interviews each quarter among dealers and distributors; the focus of this survey is on recent sales and market observations for the current quarter as well as expectations for the coming quarter.

Our Business Consumer survey consists of 900 interviews per quarter among a wide cross section of businesses to gather their input concerning ownership, usage trends and motivating factors for purchase, including any concerns about the reliability and availability of electric power.

Finally, our Household Consumer survey consists of 300 interviews per quarter to learn more about gen-set ownership trends among households and monitor the likelihood of a gen-set purchase.

Dealer/Distributor Outlook for Q1 2020

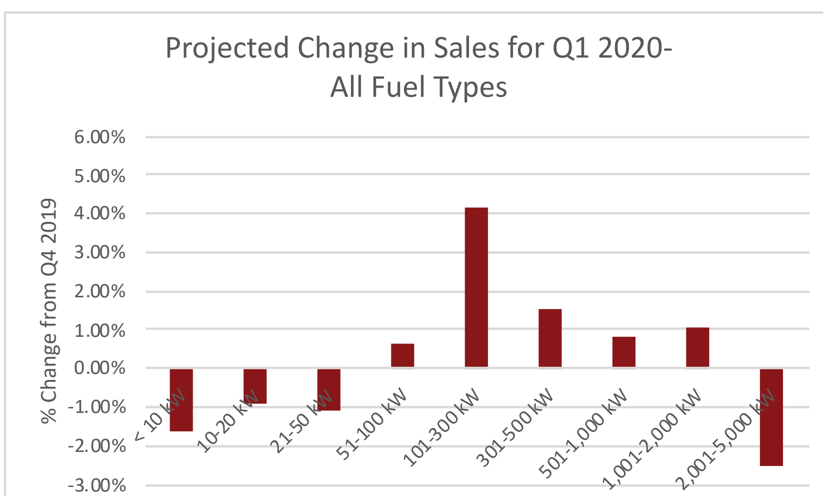
Dealers and distributors are projecting a continued resurgence of small diesel power generation in Q1, anticipating double-digit QoQ growth in the <10kW and 10-20kW diesel power ranges.

Overall, however, they expect these ranges to experience a modest decline compared to Q4 2019. Growth is expected to be driven by the construction season, primarily for natural gas gen-sets in the 101-300kW, 301-500kW, 501-1000kW, and 1MW-2MW ranges. Each of those ranges is expected to grow between 6 and 7.5% for natural gas in Q1 2020.

These are the most optimistic projections dealers have reported to us in the previous five years. Interestingly, dealers are projecting some of the lowest growth in the last five years for diesel in those same power ranges.

Each quarter, we are noticing a progressing trend that dealer expectations are beginning to segment the market into strong small-diesel sales and strong medium-to-large natural gas sales, with weak sales for each fuel type in the other ranges.

We will be watching to see if those expectations are solidified in the after-the-fact sales numbers.



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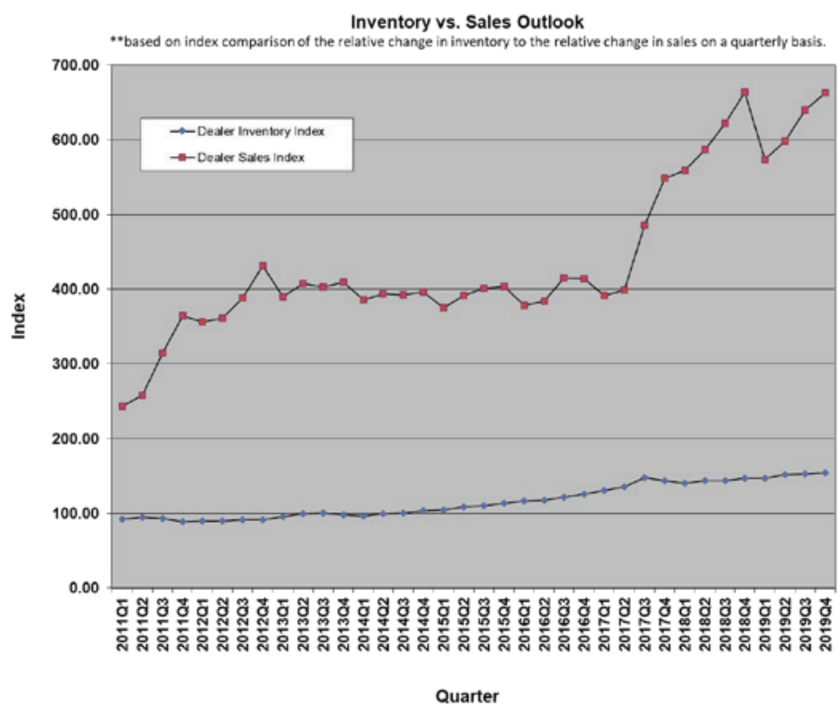
When asked, ***"Why do you expect sales to change in the upcoming quarter?"*** *comments from dealers focused on the following market observations:*

- **Year-End Effects:** Several dealers told us that they have several orders already on the books for next quarter, as business consumers have their budgets released and are seeking to spend before the next fiscal year.
- **End of Planned Power Outages:** Many dealers were very happy to talk to us about how the planned power outages by PG&E led to very strong sales in Q4. Of course, they told us, that also means that next quarter is going to see a return to reality. We wonder, though, whether these planned power outages will have a similar effect on the consumer population that the severe hurricane season in 2017 did, and whether they might raise the salience of backup power enough to keep demand growing even after the outages have stopped.
- **Mixed First-Quarter Effects**: For many dealers, first quarter is a hibernation period between hurricane and camping seasons. For others, it is when things pick back up again with a strong construction market. Despite uncertainty around trade and oil prices, economic indicators are strong and the risk of a recession this year has greatly diminished. Dealers are clearly expecting it to be a relatively strong Q1.



When asked, ***"What changes have you recently noticed among particular customer groups or product categories within your market?"*** *there were several comments that emerged as common themes. Many of these are comments that have carried from quarter to quarter, but the following is a sampling of some key observations:*

- In some ways, the answers to this question were remarkable this quarter for what hasn't changed. There is a continued growth in the **interest in standbys**,

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Power Generation Report

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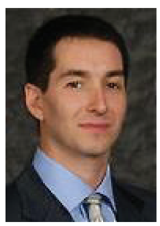
driven in large part by **residential consumers**. Business consumer concern about the availability of power reached all-time lows in 2019, with only a minute uptick at the end of the year, but clearly residential consumers, **both young and old**, are experiencing concern. That being said, a substantial number of dealers mentioned a resurgence in **price sensitivity**, and an increasing phenomenon of being undercut by **direct-to-consumer sales by the OEM.**

Europe Report

By Emiliano Marzoli, Senior Business Development Manager - European

CNH Announces Nikola Partnership Products

Last September, one of the giants in the heavy-duty world, CNH industrial, announced a new strategic plan that could mean a significant change in the company's future. Three major strategic themes will drive the change: Innovation and thought leadership, Industry benchmark margin performances and strategic capital allocation.

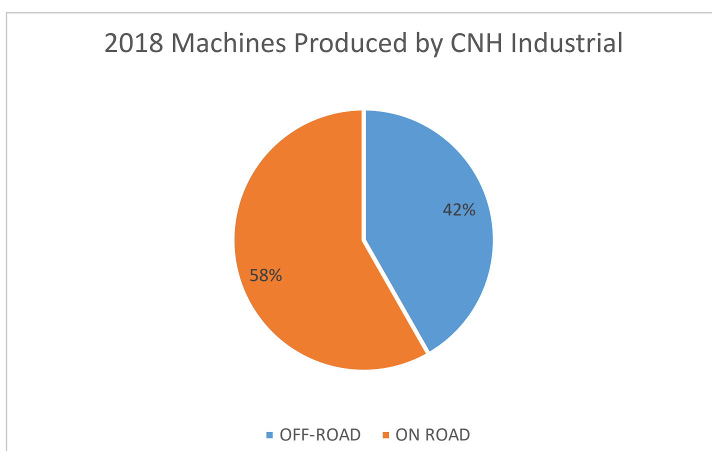


Emiliano Marzoli

In December, just three months after announcing the new plan, CNH unveiled their strategic collaboration with Nikola and presented the first result of their partnership, the Heavy-Duty Nikola TRE™ Class 8 Battery Truck.

According to CNH, the transformation will generate a 5% CAGR in net sales, adjusted EBIT margin of 10%, adjusted EPS of 18% CAGR and a Return on Invested Capital (ROIC) of 20% CAGR.

Since the creation of CNH Industrial in 2011, this is the biggest change that the group has made. Suzanne Heywood, CNH Chair, said the plan will lead to the creation of two global leaders in their segments. The split is part of a five-year plan unveiled by CNH to increase its profit margin to 10% by 2024.



Source: PSR OE Link™ database

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Europe Report

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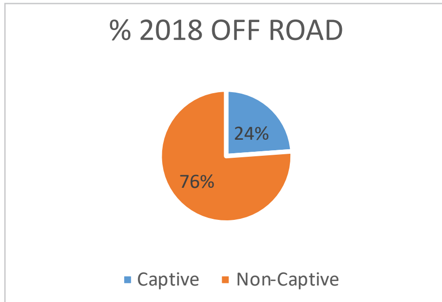
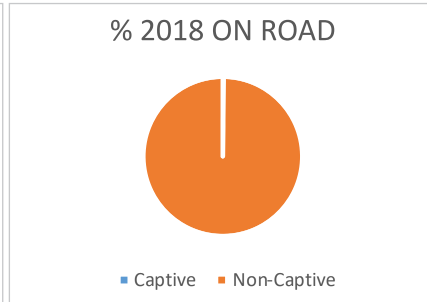
When we look at our PSR data, we can see how the different companies will shape up in terms of volumes produced. The On-Road business will incorporate the powertrain business (Engines, axles and transmissions). The data can give us even further insights on this point. The On-Road segment is a captive business.





The Vehicles CNH are producing are equipped with FPT Industrial engines, the Business unit of CNHI that will join Trucks & Busses. On the other hand, not all the OFF ROAD Machines are built with the group engines fitted in.

There is another aspect to consider. FPT engines are sold to many more OEMs around the world in the Off-Road segments. These OEMS are not part of CNHI, thus they are competitors and clients at the same time. With FPT moving to another company, it can have a more neutral role.

Finally, and maybe most importantly, the automotive industry is going through a colossal revolution: Electrification. The resources and commitment needed to develop new powertrains is enormous, and the On-Road segment is far ahead compared to the Off-Road business in this change. Thus, the need to have the powertrain units together with the trucks and Busses rather than agricultural or construction machineries makes sense.

The primary focus of the agreement between CNH and Nikola is to leverage the partners' respective expertise to successfully deploy zero-emission heavy-duty trucks and to alter the industry with a new business model.

Testing and development of the new model will continue during 2020, with the official presentation during the IAA Show in September 2020. Sales and aftersales support of the Nikola TRE will be provided by IVECO's widespread European dealer network.

Nikola TRE, which is based on the new **IVECO S-WAY** platform, integrates Nikola's truck technology, controls and infotainment features. Iveco and FPT Industrial will use their industrialization expertise to produce the truck.

Thanks to the partnership with Iveco and FPT Industrial, volumes of Nikola branded vehicles are set to increase rapidly in the coming years and become one of the prominent players in alternative fuel trucks.

Questions, Comments? Contact Joe Delmont, Editor
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Europe Report

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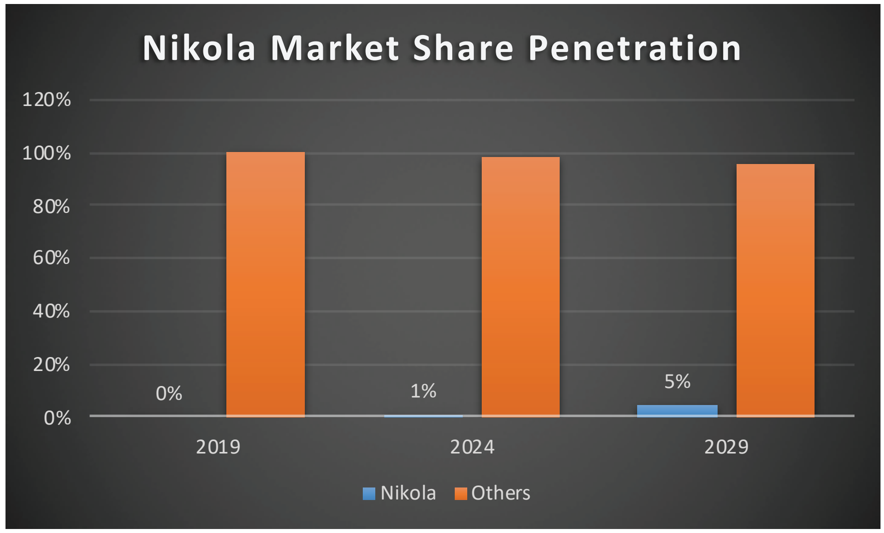
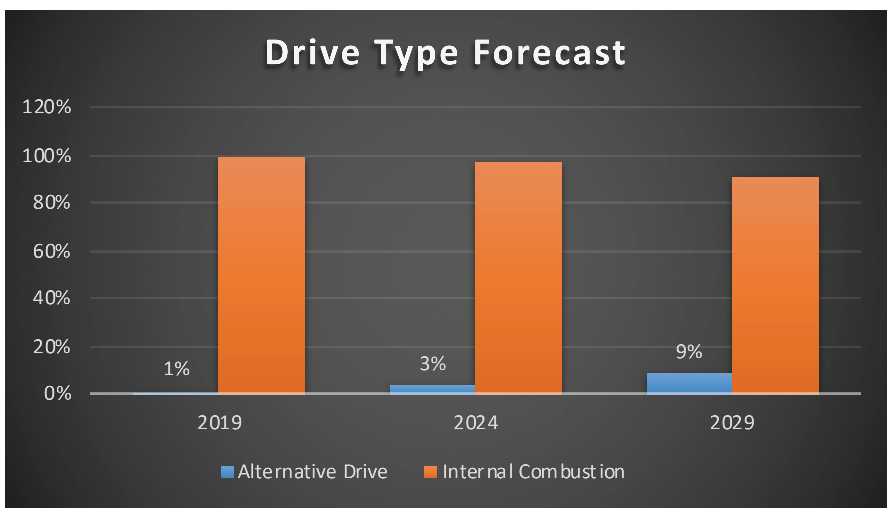
We expect that by 2029 Nikola branded trucks will have a 5% market share, on the global playground. At the same time more vehicles with alternative drives, such as Fuel cells, electric batteries or Hybrid powertrain will enter the market.



Source PSR OE Link™ database

We expect that by 2029 Nikola branded trucks will have a 5% market share, on the global playground.

At the same time more vehicles with alternative drives, such as Fuel cells, electric batteries or Hybrid powertrain will enter the market. Ten years from now, we expect at least 9% of Medium and Heavy trucks will be driven by alternative powertrains.



Source: PSR OE Link™ database

Diesel will remain predominant, due to its long-haul advantage. However, depending on battery and infrastructure development, the penetration of EV trucks could be more aggressive. We will monitor this technological and market evolution closely in the coming quarters.

Read The Article

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In 2018, production of On-Road Motorcycles in the United States increased 7.5% over 2017. However, production is expected to drop nearly 2% in 2019 from 2018.

Data Point: *NA Off-Road Motorcycles*

33,100

By Carol Turner, Senior Analyst, Global Operations

This is the estimate by Power Systems Research of the number of Off-Road Motorcycles that were produced in North America (U.S., Canada and Mexico) in 2019.

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: Mexico-based Italika leads in the production of Off-Road Motorcycles with 55.5%. BRP is second with 19.5%. Polaris Industries is third with 13.5%.

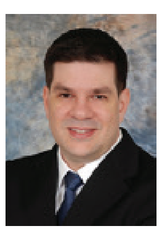
Exports: **Italika** exports up to 15% to Guatemala, Honduras, Panama, Peru, Brazil and Puerto Rico. **Cobra**, up to 5% worldwide, **Rokon**, as much as 35%, mostly to the Middle East and Australia, and the remaining 20% go worldwide

Trends: In 2018, production of Off-Road Motorcycles and 3-Wheelers in North America increased nearly 6% over 2017. Production is expected to gain an additional 3% in 2019 YoY. The increase is attributed to the demand for recreational and competitive sporting needs, along with the massive demand for off-road motorcycle recreation opportunities in many areas that have hard pack and loose dry dirt, sand dunes and endless rolling hills. **PSR**

Brazil/South America Report

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

High Expectations for Brazil Construction Equipment



Fabio Ferraresi

The Brazilian CE Market grew much better in 2019 than what OEMs expected at the end of 2018. In fact, the market was so strong, it created a lack of machines. Construction companies and rental businesses point to the initial actions of the new government as the main reason for the recovery.

Overall, sales in Brazil grew 31%, and there are expectations for continuous growth in 2020-2022, assuming that the government continues its programs.

Source: *M&T* **Read The Article**

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Brazil/South America Report

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PSR Analysis: Despite the low expectations of OEMs at the end of 2018, PSR forecast double-digit growth for both sales and production in 2019, compared to 2018. Sales grew more than production.

Now, we have designed two scenarios for 2020-2022 growth. One considers continued growth under current reforms, and one is based on the effectiveness of the Infrastructure plan "Mais Brasil" announced by the government that would boost sales and production in Brazil.

CAOA Gives Up Buying Ford Plant in Brazil

On Jan. 13, 2020, the governor of São Paulo announced CAOA formally gave up on buying the Ford plant in São Bernardo, but there are two other Chinese negotiating to purchase the property. In September, CAOA President Carlos Alberto de Oliveira Andrade announced the Ford plant acquisition, but the sale was not made. In addition, it was announced that CAOA decided to invest in another plant in São Paulo.

Source: *Automotive Business* **Read The Article**

PSR Analysis: We felt this deal would not be easy because of weak business conditions and the limited portfolio to be produced in São Bernardo. The arrival of Chinese is possible and the negotiations with the involvement of governor are more plausible. With regards to the investment of CAOA in a new plant, let´s wait to confirm if that is true this time.

2020 Brazil Construction Forecast: 3% in 2020, 150,000 New Jobs

According to the main entities on Construction Business, Construction business starts 2020 with perspective to grow 3% in 2020 and create 150,000 new jobs. In 2019, it grew 2% and created 100,000 new jobs. Housing is the main segment boosting this growth. With regards to big infrastructure projects, the growth is lower, yet positive. Several projects will take place this year, but the bulk of the growth will take place in 2021.

Source: *Grandes Construções* **Read The Article**

PSR Analysis: This confirms our forecast of growth for Construction Equipment sales and production. It also positively impacts light and medium trucks sales and production, as contained in our forecasts. **PSR**

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Far East: Japan Report

By Akihiro Komuro, Research Analyst, Far East and Southeast Asia
小室 明大 極東及び東南アジア - リサーチアナリスト

Akihiro Komuro

Kubota Invests US$913 Million To Collect Agricultural Machine Data

Kubota, a top OEM for agricultural machinery, will begin using digital technology to centrally manage the operation status and order status of agricultural machines around the world. They will spend US$ 913 million (100 billion yen) by 2025 to install sensors on as many as 220,000 new tractors annually worldwide. This equipment will enable them to predict failures and quickly adjust production according to the order situation in each region.

The company will, in effect, shift to a service-oriented business model that encourages customers to inspect and replace parts by detecting signs of failure. As a prerequisite, in order to unify data management in regions such as Japan, the United States, and Europe, the company will work with Microsoft to introduce cloud systems in North America and Japan by 2022, and gradually expand worldwide.

The company also will introduce the latest integrated mission-critical business system (ERP) from SAP and standardize it worldwide. This will make it easier to adjust production at domestic factories that export agricultural and construction, reducing the risk of missing sales opportunities and holding inventory. It also may improve global parts sourcing. The conventional system manages information on a regional basis, making it difficult to see detailed information for the United States and Europe in Japan.

Source: *The Nikkei* **Read The Article**

PSR Analysis: Kubota's plans to participate in IoT initiatives is significant because many agricultural equipment OEMs have focused on autonomous driving, but there has been little action on big data collection. Kubota's approach may stimulate the data business in the agricultural machinery sector.

A good example is Komatsu. They developed KOMTRAX in 1998, and over a period of about 20 years created a system to collect 560,000 data points such as operating hours, locations, and fuel levels. As you can see from Komatsu's efforts, it will take a long time to properly collect and analyze data in the field of big data and build a profitable system.

It will take at least 10 years for Kubota to establish a system to properly collect data from its global trade area. Potentially, Kubota will make money after it has established a system to collect and analyze data. Kubota's planned investment reflects its determination to develop this product capability **PSR**

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極東 > 日本:

クボタ、世界の農機をデジタル管理　1000億円投資

クボタはデジタル技術を使って世界中の農機の稼働状態や受注状況の一元管理を始める。2025年までに1000億円を投じ、世界で年間22万台販売するトラクターの新機種にセンサーを設置して、故障予知や各地の受注状況に応じた素早い生産調整を可能にする。今後発売する農機や建機の新機種にセンサーを取り付け、膨大な情報を収集分析する。故障の予兆をつかみ、顧客に点検や部品交換を促すサービス重視のビジネスモデルにシフトする。その前提として、日米欧など地域ごとだったデータ管理を統一するため、米マイクロソフトと組み、クラウドシステムを2022年までに北米と日本で導入し、順次世界に広げる。独SAPの最新の統合基幹業務システム（ERP）も導入し、世界で共通化する。各地に農機や建機を輸出する国内工場の生産量を調整しやすくなり、販売機会を逃したり、在庫を抱えたりするリスクを下げる。グローバルでより安価な部品の調達先が分かる可能性もある。従来のシステムは地域ごとに情報を管理し、米国や欧州の詳しい情報を日本で見ることが難しかった。文書のデジタル化などを含め1000億円規模を投じる。

出典: 日経

PSR 分析: IoTへの取り組みに、農機トップのクボタが参戦する。これまで多くの農機OEMは自動運転に注力してきたが、ビッグデータ収集に関してはあまりアクションがなかった。クボタのこのアプローチをきっかけに農機分野でのデータビジネスが活性化するかもしれない。いい例が建機のコマツだ。彼らは1998年にコムトラックスを開発し、約20年をかけて56万台のデータを収集する体制を作り上げた。稼働時間や位置、燃料の残量などのデータだ。コマツの取り組みでもわかるように、ビッグデータの分野で的確にデータを集め、分析し、利益を生む体制構築までに長い時間がかかることを意味している。

クボタの商圏は広い。世界中のデータを的確に収集する体制を確立するまでに少なくとも10年はかかるだろう。クボタが利益を生むのはそれからだ。にもかかわらずクボタは1000億円をこの分野に投資することを決めた。これにはクボタの決意が表れている。10年先、20年先のための投資と解釈していいだろう。**PSR**

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Far East: Japan Report

Kubota Unveils Dream Concept Tractor

Kubota unveiled its new radical concept “X Tractor” at a new product exhibition held in Kyoto January 15-16. Equipped with artificial intelligence (AI) and electrification technology, this “dream tractor” is a completely autonomous unit that represents the future of farming as envisioned by Kubota.

The tractor is 100% electric, powered by a combination of lithium-ion batteries and solar batteries. Full electrification contributes zero emissions and reduces environmental loads. The four-wheeled crawler changes its shape to operate the tractor height at the optimal level for each process. The in-wheel motor makes it possible to arbitrarily change the rotation speed of the four crawlers (front, rear, right, and left) to achieve a small turning radius for autonomous operation on various types of land.

Source: *Kubota News Release*

PSR Analysis: How many people recognize this model as a tractor? This concept model attracted much attention for its stylish and futuristic design. It is more than just a pursuit of good looks, it has solid features and specifications, and reflects the shape of Kubota’s image of future agricultural equipment.

Today, decision-making priorities for purchasing agricultural equipment are cost, function, and brand. However, there may be an era in which agricultural machinery’s body design will influence purchasing.

Yanmar fully revised its tractor design in 2015 with the famous Ferrari design director Mr. Ken Okuyama. As a result, Yanmar’s branding has improved considerably. It is worth watching whether this design will affect future Kubota production models. **PSR**

極東 > 日本:

クボタ、130周年記念のドリームトラクターコンセプトを発表

クボタは2020年1月15～16日に京都で開催した展示会で、コンセプトトラクター「X Tractor」を公開した。X TractorはAIや電動化技術などが備わった完全無人の自動運転度楽多で、クボタが描く未来農業のビジョンを表している。リチウムイオン電池とソーラーバッテリーを併用することで、100%の電動化である。排出ガスはゼロ。四輪クローラは変形して車高を低くしたり高くしたりできる。これによってさまざまな作業への対応が可能になる。インホイールモーターを採用することで、前後左右のクローラーの回転数を任意に変化させて小旋回を可能にし、様々なスペースで無人作業ができるようになる。

出典: クボタ ニュースリリース

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PSR 分析: このモデルを見てトラクターだと認識できる人はどのくらいいるだろうか。このコンセプトモデルはスタイリッシュかつ未来的なデザインで大いに注目されていた。ただ良いルックスだけを追い求めたものではなく、より強固な機能を搭載しており、まさにクボタがイメージする未来の農機をかたちにしたものだ。現在の農機はコストと機能、そしてブランドが購入意思決定のプライオリティーになっているが、将来は農機のボディデザインが購入に影響を与える時代が来るのかもしれない。ヤンマーは2015年にフェラーリのデザインディレクターとして有名な奥山清行を迎え、トラクターのデザインをリニューアルした。その結果ヤンマーのブランディングはかなり向上した。このコンセプトデザインが今後のクボタの量産モデルに影響するのか、注目に値する。**PSR**

Far East: South Korea Report

SK Innovation Constructs EV Battery Factory in US

SK Innovation of South Korea plans to build a second battery plant for EVs in the United States. The company has already invested approximately US$1.64 billion (1.9 trillion won) in Georgia to build a battery plant with an annual production capacity of 9.8 GWh.

The decision to build the second plant without waiting for the completion of the first plant is aimed at anticipated demand for EV batteries in the United States. The second plant has the same production capacity as the first plant, and the investment is estimated at about 1 trillion won.

The company is also considering raising the battery capacity of its second plant in Hungary, currently under construction, from 9 GWh to 16 GWh to increase supply to the European market.

Source: ***Yonhap News Agency***

PSR Analysis: International competition in the automotive battery market is intensifying. In Korea, Samsung SDI, LG Chem and SK Innovation are three leading battery manufacturers. Samsung SDI and LG Chemical are building plants in China, the largest market.

Other global competition players include Panasonic in Japan and CATL and BYD in China. In order to maintain and strengthen the competitiveness in this growing automotive battery market, it is essential to increase production facilities, and capital investment in the United States, another major market. **PSR**

極東 > 韓国:

ＳＫイノベーション　米国にＥＶ用バッテリーの新工場建設へ

韓国のSKイノベーションが米国にEV用バッテリー工場を追加で新設する。同社はは米ジョージア州で約1兆9000億ウォンUS$ 1.64 billionを投じて年間生

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Southeast Asia Report
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Gogoro's strength is that it has access to more than 1500 kiosks (battery exchanges), as well as privately owned scooters, and allows users to use the same scooter all day long while swapping batteries.

産能力9.8GWhのバッテリー工場をすでに建設中だ。第1工場の完成を待たずに第2工場の建設を決めた背景には、米国でのEV用バッテリー需要を先取りする狙いがあるとみられる。第2工場の生産能力は第１工場と同程度で、投資額は約１兆ウォンと推定される。同社はあわせて、欧州市場への供給量を増やすため、現在建設中のハンガリー第２工場のバッテリー生産能力を9GWhから16GWhに引き上げることを検討している。

出典: Yonhap News Agency

PSR 分析: 車載用電池市場の国際間競争は激化している。韓国ではサムスンSDI、LG科学、SKイノベーションが3台電池メーカーとして知られている。サムスンSDIとLG化学は最大市場である中国での工場建設を進めている。グローバル競争のプレイヤーとしては他に日本のPanasonicや中国のCATLやBYDも挙げられる。今後伸長が確実なこの車載電池市場において競争力を維持増強するためには生産設備の増強が不可欠であり、もうひとつの大きな市場である米国での設備投資は理にかなっている。**PSR**

Greater China: Taiwan Report

Active EV Scooters Share Business in Taiwan

Taiwan's sharing market is active. WeMo Scooter, which has been developing electric scooter sharing services in Taipei since 2016, boasts 200,000 registered members. Gogoro, a Taiwanese startup, has launched its own EV scooter sharing service, GoShared, in Taoyuan, where its headquarters is located.

Gogoro's strength is that it has access to more than 1500 kiosks (battery exchanges), as well as privately owned scooters, and allows users to use the same scooter all day long while swapping batteries. Gogoro's sharing service has been registered by more than 100,000 people in just 53 days since launch and is now available in Taipei.

In Taiwan, due to environmental protection and exhaust gas issues, the state has subsidized and recommended switching to EV scooters. However, sales of EV scooters are less than 20% of total scooter sales. The reason is price. For the lowest priced product, a Gogoro scooter costs US$ 1,295 (38,800 yuan or approximately 140,000 yen), while a typical scooter in the second-hand market can be purchased for as little as US$ 275 (NT$8000, or 30,000 yen).

Under such circumstances, expectations for an electric scooter share service are increasing. WeMo estimates that there will be 8,000 shared electric scooters in the 6 million market in the future.

In Taipei, as part of the city's "Smart City Project," a plan has been created to facilitate many types of sharing services. In the future, electric scooters, along with bicycles, will be an important vehicle in the sharing economy, as they are perfect vehicles for narrow roads in Taipei.

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Greater China Report

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Gogoro's speed is astounding when it comes to market penetration from launch, with sales increasing six fold since 2017.

Source: *alterna* ***Read The Article***

PSR Analysis: Gogoro quickly gained citizenship after the service launch, as the nickname "Two-wheel's Tesla" implies. Branding, including design, as well as service content, drives their success.

Already they supply their scooters to Yamaha. In order to further increase market share, it is important that the initial cost of the EV Scooter be as competitive as engine-powered scooters, but this cannot be achieved easily. A sharing service would be the best solution in terms of acquiring more users. This is an opportunity for users to use Gogoro at a lower price and to participate in the convenience of the service.

Gogoro's speed is astounding when it comes to market penetration from launch, with sales increasing six fold since 2017. Taiwan's sharing services business, including WeMo as well as Gogoro, will be a valuable example for other mobility OEMs and sharing service providers. **PSR**

中国 > 台湾:

活発な台湾のシェアリングモビリティ事業

台湾のシェアリング市場が活発だ。台北市内で2016年から電動スクーターのシェアサービスを展開している「WeMo Scooter」は、現在20万人の登録会員数を誇る。一方台湾のスタートアップであるGogoroは本社のある桃園市内で、シェアサービス「GoShared」をローンチした。Gogoroの強みは、個人所有のスクーター同様に、1500カ所以上存在するキオスク(=バッテリー交換所)を利用でき、利用者が同じスクーターをバッテリーの交換をしながら1日中利用できる点にある。サービス開始後わずか53日間で10万人以上が登録し、現在は台北市内でもサービスをリリースしている。

台湾では、環境保護と排気ガスの問題から、国が補助金を出して電動スクーターへの切り替えを推奨している。しかし電動スクーターの売上自体は、スクーターの売上全体の20%にも満たないのが現実だ。その理由は価格にある。最低価格の製品でGogoroのスクーターは1台3万8800元(約14万円)であるのに対し、中古市場であれば一般的なスクーターは、安いものは3万円ほどで手に入る。このような状況において、電動スクーターのシェアサービスへの期待が高まっている。WeMoによる見積りでは今後600万人の市場において8000台のシェア電動スクーターが出回るという。

台北では、市が展開する「スマートシティープロジェクト」の一環として、あらゆるシェアサービスに便宜を図る構図が出来上がっている。今後自転車と並び、

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電動スクーターは、道幅の狭い台北にぴったりの乗り物であるため、シェアリングエコノミーを支える重要な存在となるだろう。

出典: alterna

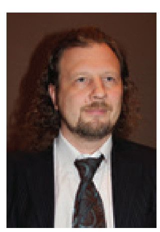
PSR分析: Gogoroはサービスローンチ以降「2輪のTesla」というニックネームが示すようにあっという間に市民権を得た。そのサービスだけではなく、デザインを含めたブランディングが彼らの成功の背景にある。すでに彼らは彼らが生産したスクーターをYamahaに供給するまでに成長している。今後より市場シェアを伸ばすためにはEV Scooterのイニシャルコストの競争力をエンジンモデルのスクーター同等の水準にすることが大切だが、それは簡単に達成できない。より多くのユーザーを獲得するという観点でシェアリングサービスというかたちは最適解だろう。ユーザーにとっては安価でGogoroを利用でき、サービスの利便性をより多くの人に知ってもらうことにつながる。サービス開始から市場への浸透速度を見ると彼らの成長は驚異的だ(2017年以降、売上は6倍に増加している)。Gogoroだけでなく、WeMoも含め、台湾のシェアリングサービス事業は他のモビリティOEMやシェアリングサービス事業者にとって、貴重な参考例になるだろ 。**PSR**

Russia Report

By Maxim Sakov, Market Consultant, Russia

Utilization Fee Increases Block Foreign Automakers

The Russian Ministry of Industry and Trade has increased the utilization fee for vehicles during 2021 and 2022. Under this plan, OEMs that increase their local production will get additional support from the State.



Maxim Sakov

The dynamics of Custom's tax will comply to the range agreed with WTO. In exchange, the State promised to launch additional tools to support local production. **Read The Article**

PSR Analysis: The utilization fee has been increased twice in January 2020, and officials talk about further increasing it. It appears that the final target is to lock foreign vehicles out of the local market (especially, for the private customers). Still, the Russian market remains attractive even for pure importers. One example is the recent return of Opel to Russia.

2019 Sales of Passenger Cars and Trucks Fall in Russia

In 2019, the market for passenger cars fell by 2.7% versus 2018, whereas trucks sales were slightly better, dropping 2%. Market leaders remain unchanged. In passenger cars, it's AutoVAZ with 20.6% share, and in trucks it's KAMAZ (35%). The number of passenger cars sold for the year was 1,759,532 units, whereas for

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the trucks the 2019 sales figure was 80,700. Second place in the truck segment is the GAZ Group, third is Volvo with 5,700 trucks sold. With this, KAMAZ and GAZ have shown sales growth sales over 2018. **Read The Article**

PSR Analysis: The main reason for the sales decline is reduced demand. Credit has been restricted for individuals and businesses, and State support measures have been reduced sharply. Still, the Russian car market shows solid results. According to the Association of European Businesses (AEB), it is fifth in Europe (after Germany, UK, France and Italy).

Chelyabinsk Tractor Plant Reorganizes Production To Avoid Bankruptcy

A new focus on civil production will help OEM avoid bankruptcy and double its revenue over the next five years, according to the press-service ChTZ

In 2018, gross losses of ChTZ reached about US$3 million (201 million rubles), and net losses – were US$ 25 million. Total debt increased by 25%, and some creditors talked about bankruptcy for the OEM. The main reason for the problem is the high cost of the product. Another reason, according to the OEM, is dumping by Chinese importers, who are supplying similar machinery to the Russian market.

Previously, ChTZ implemented a reformation program and reduced its production costs by 18%. Also, ChTZ now plans to focus on civil production. New civil machines will be developed within the production program, according to State military order.

Finally, the company is participating in a State program of developing a new generation of diesel engines. As part of this program, new equipment is being purchased for the new production lines. **Read The Article**

PSR Analysis: Chelyabinsk Tractor Plant is a subsidiary of State-owned Uralvagonzavod corporation, the country's largest maker of military tanks. Unfortunately, the approach which is acceptable for production of military equipment does not work for civil machinery in a highly competitive environment.

Another side of this issue is the expected restrictions for imported road construction equipment. Last summer, Russian tax and customs offices started total monitoring of imported machines, including dozers. Now, the monitoring program has been extended for six months. This looks like the first step of setting out new regulations. **PSR**

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