

INDUSTRY UPDATE Automotive

An industry in permanent crisis? In addition to the semiconductor shortage, the Ukraine war is burdening the automotive industry



INDUSTRY UPDATE

Automotive

Russia's invasion in Ukraine is having a massive impact on the global economy and the automotive industry is no exception. Following the COVID-19 crisis and the ongoing semiconductor shortage, further negative effects caused by the Ukraine war have already occurred and are expected to continue.

Limited market size for OEMs

In 2021, Russia represented a share of 2.0% as a sales market for light vehicles and 1.9% as a production location and thus plays a rather subordinated role for the international automotive industry (cf. Fig. 1 and Fig. 2). Around one fifth of the Russian market is served by German OEMs, which produced 170,000 passenger cars in Russia (206,830 including Ukraine and Belarus) in 2021. German manufacturers exported around 40,000 vehicles from Germany to Russia and to Ukraine - this corresponds to 1.7% of all passenger cars exported from Germany. While the German OEMs only account for a small share of sales (BMW, Mercedes-Benz and VW each with a share of approx. 2% of vehicles sold in 2021) in Russia, Renault-Nissan-Mitsubishi and the Hyundai Group are affected to a greater extent.

Direct impact on OEMs noticeable

Due to the ongoing uncertainty, the current crisis is causing widespread production stops both in Russia and at other European locations, including Germany. VW has invested over two billion euros in its plant near Kaluga since 2006, drawing numerous suppliers with it. Near Moscow in Jessipowo, the Mercedes-Benz Group employs approx. 1,000 employees and BMW had extended contracts with Russian partners until 2028 shortly before production and exports were gradually halted in response to the Russian invasion. The devaluation of the ruble poses an additional risk for companies with production capacity in Russia, which rely on an import of (preliminary) products and raw materials. This has been the practice of foreign manufacturers in particular, in order to circumvent high import duties by means of completely-/medium-/semi-knocked-down vehicles.

Raw material bottlenecks worsen

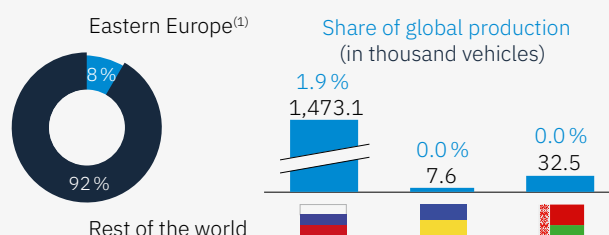
The interconnectedness and thus sensitivity of international supply chains to external shocks (e. g. the shipwreck in the Suez Canal) already showed during the COVID-19 crisis. Shortages of raw materials and intermediate products have significant impact on the downstream supply chain and do not only affect the direct supply relationships. Taking this into account, there are 220 direct Tier 1 links between German companies and Ukrainian and Russian partners. Including two further procurement layers (Tier 2/3) there are 26,020 German companies from a

wide range of sectors that are (indirectly) affected by the crisis. Thus, in the case of the current Ukraine war, raw materials and intermediate products have relevant effects (cf. Fig. 3). The VDA warns of impending commodity bottlenecks, in particular for neon gas, nickel and palladium.

- **Neon gas:** Ukraine is one of the most important suppliers worldwide; used in semiconductor production - a temporary increase of the current shortage is to be expected
- **Nickel:** Relevant production share in Russia; used mainly in lithium-ion batteries
- **Palladium:** Approx. 20% of Germany's supply originates from Ukraine; essential for the construction of catalyzers - Platinum is also affected by shortages

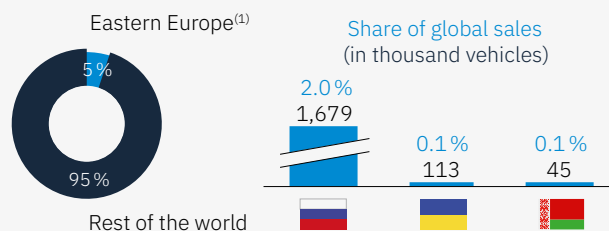
In addition, rising energy costs burden the German industry across the board.

 **Fig. 1: Share of global light vehicle production**



Source: LMC Automotive

 **Fig. 2: Share of global light vehicles sales**



Source: LMC Automotive

⁽¹⁾ Eastern Europe: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Estonia, Georgia, Hungary, Latvia, Lithuania, Macedonia, Moldova, Poland, Romania, Russia, Serbia, Slovakia, Slovenia, Turkey, Ukraine

Production of cable harnesses critical

In addition to commodities, parts supply is also affected by the Ukraine war. The production of cable harnesses is of particular importance. Alongside Serbia, Morocco, Tunisia and Romania, Ukraine is one of the most important global production locations for cable harnesses due to its low labor costs (around one third of value creation is manual labor). Current production stops at the Ukrainian plants are now leading to bottlenecks in the European market. Due to just-in-sequence production and high component individuality, stock levels are low. The fact that cable harnesses are mainly used in the engine compartment means that they cannot be retrofitted, as is sometimes the case with semiconductors. So far, this has mainly affected German OEMs such as BMW and Volkswagen, which had to react by halting production at German sites.

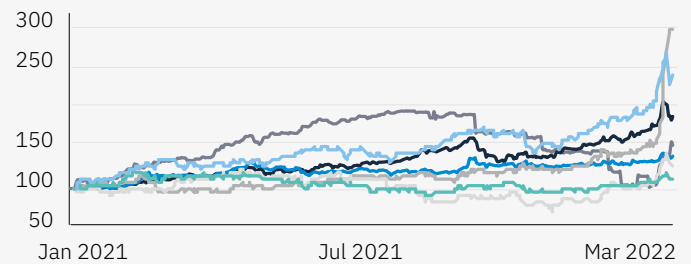
Transport capacity limited

Shipping, air, rail and road traffic are restricted by the Russian invasion of Ukraine. Personnel bottlenecks also lead to reduced capacities, especially in road transport. Industry estimates assume that approx. 20% of truck driving in Germany is done by employees originating from Ukraine. As a result of the general mobilization in Ukraine, most of these employees are temporarily absent from the labor market and the shortage of drivers is becoming even more acute. Border closures and restrictions on logistics by road, rail and air are causing further disruptions. Therefore, the German Logistics Association is expecting bottlenecks in the coming weeks and months. According to the Federal Association of Freight Transport, Logistics and Disposal, there is already a shortage of approx. 80,000 drivers.

Fig. 3: Price development of key commodities (Index; 2021=100)

Price increases and share of Ukraine and Russia in global supply:

		Since beginning of 2021	Since conflict start	Proportion supply
Nickel	↗	+212.5 %	+89.8 %	10 %
Oil	↗	+147.9 %	+16.8 %	n.V.
Aluminum	↗	+93.0 %	+5.5 %	6 %
Steel	↗	+56.8 %	+51.9 %	10 %
Copper	↗	+44.0 %	+4.4 %	4 %
Palladium	↗	+27.6 %	+19.2 %	40 %
Platinum	↗	+13.0 %	+4.6 %	10 %

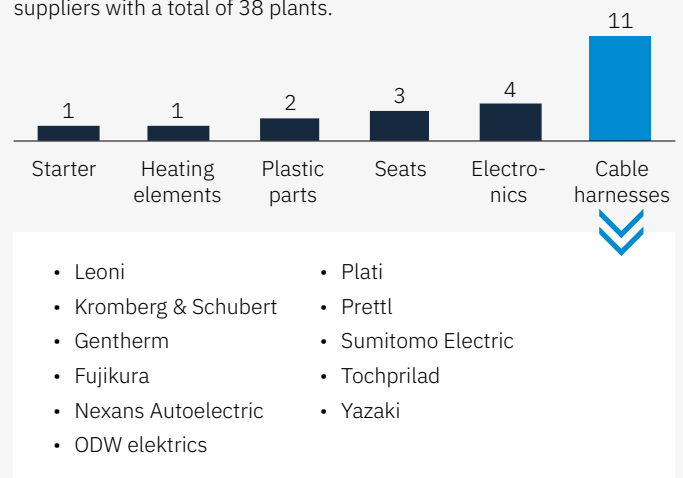


Source: Capital IQ; EEX

Data status: 15/3/2022

Fig. 4: Number of automotive suppliers in Ukraine by component

In Ukraine, there are currently approx. 22 international automotive suppliers with a total of 38 plants.



Source: IHS Markit; UkraineInvest; Websits of companies shown

The consequences of the Ukraine war for:

Consumers



The COVID-19 pandemic has driven the trend back to individual transportation, which has already caused price increases for both new and used cars over the past year. Due to the high demand combined with a shortage of semiconductors and a correspondingly reduced supply, consumers had to accept long waiting times. In addition, there were even isolated stops in the acceptance of orders for certain models (such as the G-Class from Mercedes-Benz). Current production restrictions are expected to induce further price increases and longer waiting times for specific models. Furthermore, the current sharp rise in fuel prices will significantly reduce consumers' purchasing power.

"The experience with Russia and Ukraine shows that site risk assessment and risk diversification should become more important for the automotive industry. This is even more true for China."

Stefan Bratzel,
President Center of Automotive Management (CAM)

OEMs



The default of Russia and Ukraine affects carmakers only to a limited extent, due to their small share of the world market in terms of production and demand. Rather, logistical constraints and material availability influence production at the German plants. The COVID-19 pandemic, the semiconductor crisis and geopolitical incursions (e.g., import tariffs USA, trade conflict USA-China, Ukraine war) show the vulnerability of the tightly knit and integrated processes in the industry. To mitigate the impact of singular events in the future, an adjustment of current structures and stricter risk management is required. Up to now, relevant OEMs have been able to avert a negative impact on profitability and in some cases to report record results, due to their market power (esp. reduced discounts on the customer side) and shift of product portfolio to high-margin models. With tensions between China and Taiwan, the next challenge is potentially looming in the largest market for automotive.

"The disruptions to train and ship connections added by the war, as well as restrictions on air traffic, are already having a significant impact on the supply and logistics chains, and we expect this to intensify for the supply of parts."

Hildegard Müller,
President of the Association of the Automotive Industry (VDA)


Suppliers



An additionally intensified reduction and volatility of call-off volumes beyond the effects induced by the semiconductor shortage is to be expected. In addition, the company's own orders have to be postponed/cancelled due to a lack of raw materials and pre-products. The bottleneck of wire harnesses is particularly critical, as they are installed in the early stages of a car's value-added chain. As a result, numerous downstream components are affected. Around 49 plants of the German automotive industry are located in Russia or Ukraine and are out of the supply chains, at least in the short term. In the long run, affected suppliers must reconsider their production footprint (geographic presence amongst others) and investments.

"I believe that Europe and Germany could suffer a great deal in the event of a protracted Ukrainian conflict [...] It is not yet possible to predict developments for the economic policy and the economy in Germany. This is a very confusing situation that we are very concerned about."

Herbert Diess,
CEO Volkswagen Group in FAZ (03/10/2022)

low  high Expected influence of Ukraine war

What to do?

Short-term recommendations for action



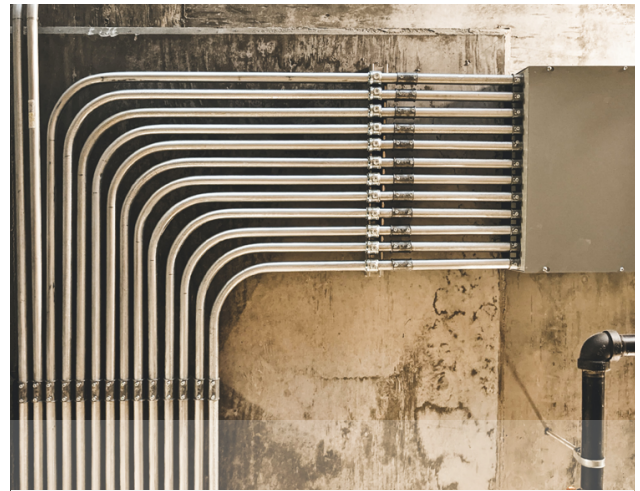
Create transparency and ensure operational performance

- In the short term, create transparency on possible sales and payment defaults in Russia and Ukraine - assess the risks, e.g., by using a scenario analysis
- Set up a procurement and logistics task force; thereby
 - Identify share of procurement from Russia and Ukraine, conservative assessment whether supply remains realistically possible and search for alternative suppliers as well as assessment of additional costs
 - Review procurement contracts for clauses in the event of non-compliance with contractual obligations (i.a. „force majeure“ - clauses and their design)
 - Calculation of the identified effects, in particular on earnings and working capital
- Inform financiers about the effects
- Increase operational flexibility to respond adequately to fluctuations in demand



Strengthen profitability and secure financial resources

- Negotiate price increases with customers - a comprehensible and number-based presentation of additional costs is essential
- Explore financial scope and actively discuss it with financiers - especially price increases and extended supply chains require additional funding



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First countermeasures initiated

After exports of new cars to Russia came to a large-scale standstill, further countermeasures were taken by successively suspending business relations and local production in Russia to the greatest possible extent. Furthermore, Russian investments are to be sold (e.g., 15 % in Kamaz by Daimler Truck). Due to the lack of parts availability, European plants also had to adjust shift schedules and partially or completely shut down their capacities. OEMs and suppliers have already responded by setting up task forces, which are engaging in intensive exchange within the supply chain and are coordinating the relocation of production capacities and the supply from alternative locations. An initial stabilization of the situation has already taken place, e. g. some suppliers resumed production under increased security precautions in the west of Ukraine.

Policy measures in Germany and outlook

The automotive industry is affected by the extensive sanctions against Russia, e.g., the exclusion from the international financial system SWIFT. The EU is currently holding further discussions on an import ban of Russian oil and gas. Together with the currency depreciation, this would severely confine the Russian automotive industry. In its latest press release, the VDA also stresses the difficulty of reliable fore-

casts, but it expects further sanctions to be imposed on Russia and an intensification of the supply situation. To avoid the consequences of sanctions on German companies, the German government considers financial assistance to companies adversely affected by the Ukraine war and rising energy costs.

Source: VDA; CAM; FOCUS; STERN; Twitter; WirtschaftsWoche; DW

Contact

Are you interested in developments in the automotive industry?
We are looking forward to your inquiry and will be happy to arrange a non-binding appointment for a joint discussion.



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