

Overview: This week, our analyst discusses the arrival of the blockchain technology in the automotive sector and how it could revolutionize the industry.

Fast and Furious. Is Blockchain the Next Big Thing in the Automotive Sector?

By: [Karolina Zubel](#), Energy Economist

Many people know that blockchain, or Distributed Ledger Technology (DLT), one of the most known buzzwords of 2017, stands behind Bitcoin and other cryptocurrencies; however, this technology has a much bigger potential than just fintech. Blockchain, which has already disrupted the financial services, has at last arrived in the auto industry.

According to Frost and Sullivan, the automotive industry will spend about [USD 169 billion](#) on implementing new technologies by 2025, of which over USD 10 billion will be dedicated to blockchain. Applications of the new technology in the industry are numerous, spanning from accelerating autonomous vehicle development, enhancing security to streamlining the supply chain and business processes. Blockchain technology can also help to estimate the size of the market for unoriginal car parts. That is because thanks to the DLT, car manufacturers can verify proof of provenance for their spare auto parts and track the location of a particular car in their supply chain. [Matthew Jones from IBM states](#) that this will significantly reduce companies' expenses related to recall activities.



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On a different note, to date, more than one company has eyed blockchain as a possible method of facilitating the shared ownership of vehicles. In [May 2017](#), the [Toyota Research Institute](#) partnered with [Oaken Innovations](#), MIT, and a few blockchain startups to develop an Ethereum blockchain-based P2P car and ridesharing platform “in anticipation for the autonomous car future where the average consumer won’t own a car,” [said Ethereum developer Hudson Jameson](#).

Nevertheless, before self-driving cars are commonly used, they must earn the trust of the public. [Elon Musk once said](#): “I think one of the biggest concerns for autonomous vehicles is somebody achieving a fleet-wide hack.” Perhaps a technical response to such concerns prepared by Jim Milan, Communications Manager at Auto Accessories Garage, will reassure all concerned. According to Milan, [DLT](#) will in fact [greatly decrease the risk of hacking attacks](#) on autonomous vehicles as “instead of having all connected cars report back to a single server, blockchain data is distributed amongst

all members of the network. Hacking the system would require hacking all vehicles on the network at the same time, a virtually impossible task.”

Speaking of security, Porsche is already working on a software where information on things like road conditions could be uploaded and distributed across the blockchain network. From there, other vehicles’ software connected to the system could access and analyze the information to provide warnings about traffic congestion or inclement weather. Porsche brings blockchain to its cars via a Berlin-based startup called [XAIN](#), which won the first [Porsche Innovation Contest in the area of blockchain](#). Prototype versions from XAIN in Porsche Panamera currently use blockchain to find the nearest charging infrastructure for electric vehicles (EVs) and available parking spots.

Other companies do not stay behind. Daimler is part of the [Hyperledger project](#) from the Linux Foundation, Toyota is pursuing its own research, and Renault has joined the [R3 research consortium](#). [The Blockchain in Transport Alliance \(BiTA\)](#), by far the most recognizable of the alliances, “brings together leading companies in the freight technology industry that have a vested interest in the development of blockchain technology.”

On the other hand, [the Mobility Open Blockchain Initiative \(MOBI\)](#), which was launched in early May, focusses entirely on the automotive space and potential use cases rather than automotive as one of a number of industries. “Blockchain and related trust enhancing technologies are poised to redefine the automotive industry and how consumers purchase, insure and use vehicles. If you’re not in at the very start, it may be too late” Chris Ballinger, MOBI’s first chairman and CEO, [said in a statement](#). The initiative brings companies that account for 70% of the world’s vehicle production, from mainstream (BMW, GM, Ford) to startups. The common denominator is the aim to ensure that blockchain-based services can cooperate with vehicles from multiple brands to avoid a scenario in which a car cannot transact with a system it is not compatible with.

Indeed, with a fixed uniform blockchain system at their disposal, it will be easier for companies to comply with regulatory requirements, but also address ethical concerns. In a statement to [the Guardian](#), Tesla admitted the company has trouble tracing its nickel supplies down to its origin because its suppliers are “three or four layers removed from Tesla.” Despite the fact that this problem is not usually associated with the development of blockchain technology, that is precisely something DLT may solve, thanks to its supply chains records. In fact, a plan to begin [tracking cobalt from artisanal mines in the DRC](#) all the way to its final uses in EVs and electronics is already in place. Those efforts can certainly help, but they are closely linked to the socio-political and economic drivers that create windows of opportunity for unethically-sourced minerals. Blockchain may not be the whole answer, but it surely can be part of the solution.



This week: According to preliminary data, Polish GDP in Q1 2018 was higher by 5.2% than in the corresponding quarter of 2017 (compared to 4.9% in Q4 2017). Flash estimate of the CPI shows that inflation in May amounted to 1.7% (compared to 1.6% in April). According to the Labour Force Survey, unemployment rate in April reached a record low of 3.8%. Fitch kept Poland's rating and outlook unchanged (A-, stable).

GDP (Q1 2018)

↑ 5.2% y/y

Up from 4.9% in Q4 2017

Unemployment (Apr 2018)

↓ 6.3%

Down from 6.6% in Mar 2018

Inflation (May 2018)

↑ 1.7% y/y (est.)

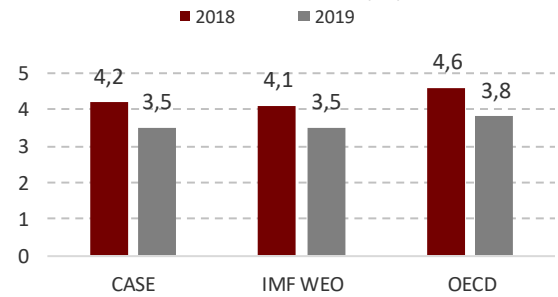
Up from 1.6% in Apr 2018

NBP Base rate

1.5%

From 2% in Mar 2015

Real GDP forecast (%)



This week: Russia's Central Bank will soon fulfill its rate-cutting cycle and make transition to a neutral monetary policy, Governor Elvira Nabiullina said. The neutral key rate is estimated at 6-7% (closer to the upper boundary). According to the Governor, the transition policy will be optimized with regard to speed and timing and will take into account factors such as geopolitical risks, external factors, and a potential strengthening of the USD, which could undermine currencies of emerging markets.

GDP (Q1 2018)

↑ 1.3% y/y (est.)

Up from 0.9% in Q4 2017

Unemployment (April 2018)

↓ 4.9%

Down from 5.0% in Mar 2018

Inflation (May 2018)

■ 2.4% y/y

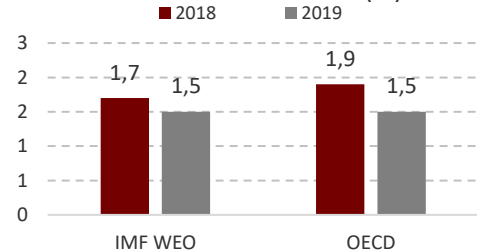
Unchanged since Mar 2018

CBR Base rate

7.25%

From 7.5% in Feb 2018

Real GDP forecast (%)



This week: According to Markit, a global information provider, growth in the German services sector slumped to the slowest pace in twenty months in May, suggesting that Europe's largest economy is losing momentum. Markit's final services index fell to 52.1 in May from 53.0 in April. It was the fourth consecutive monthly drop from nearly a seven-year high in January, although the index remained above the 50 benchmark that separates growth from contraction. Markit linked the decline with modest growth in new orders and a slowdown in job creation.

GDP (Q1 2018)

↓ 2.3% y/y

Down from 2.9% in Q4 2018

Unemployment (April 2018)

■ 3.5%

Unchanged since Mar 2018

Inflation (April 2018)

↑ 2.2% y/y

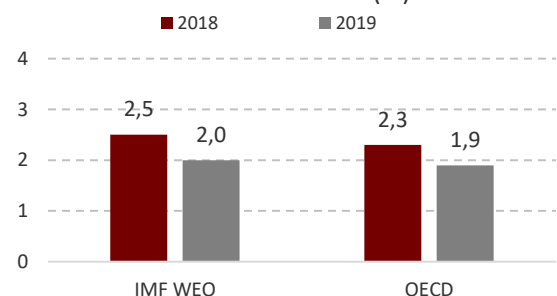
Up from 1.4% in March 2018

ECB Deposit rate

-0.4%

From -0.3% in Dec 2015

Real GDP forecast (%)





This week: The Cabinet of Ministers of Ukraine has appointed Oksana Markova as Acting Minister of Finance following the dismissal of Finance Minister Danyliuk. The dismissal, which was supported by the Verkhovna Rada, Ukraine's parliament, came amid the conflict between the Finance Minister and Prime Minister Volodymyr Groysman over commitment to economic reforms.

GDP (Q1 2018)

↑ **3.1% y/y**

Up from 2.2% in Q4 2017

Unemployment (Q1 2018)

↑ **9.9%**

Up from 8.9% in Q4 2017

Inflation (Apr 2018)

↓ **13.1% y/y**

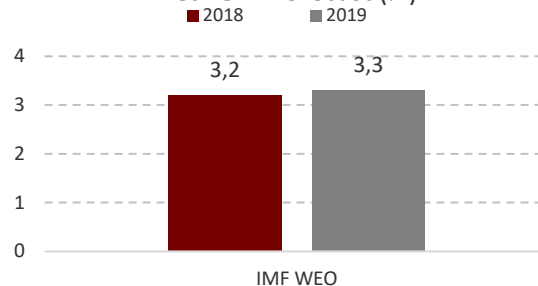
Down from 13.2% in Mar 2018

NBU Base rate

17.0%

From 16.0% in Jan 2018

Real GDP forecast (%)



This week: According to the Czech Statistical Office, the average gross monthly nominal wage in Q1 2018 rose by 8.6% or by EUR 92.99 compared with the same period last year and amounted to EUR 1179.97. Consumer prices grew by 1.9%, while wages expanded by 6.6%, making the highest increase since 2003. The median wage rose by 8.3% from January to March, reaching EUR 1000.98. The male median wage was EUR 1092.87, while the female one was EUR 899.99.

GDP (Q1 2018)

↓ **4.4% y/y (est.)**

Down from 5.5% in Q4 2017

Unemployment (Q1 2018)

■ **2.4% (est.)**

Unchanged since Q4 2017

Inflation (May 2018)

↑ **2.2% y/y**

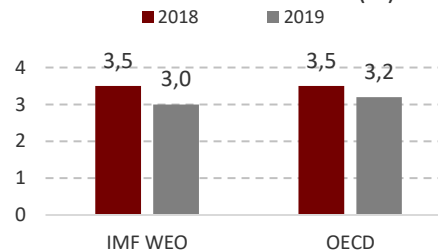
Up from 1.9% in April 2018

CNB Base rate

0.75%

From 0.5% in Jan 2018

Real GDP forecast (%)



This week: Hungary has ranked second in both the number of cases closed (10) and the number of new reports made (27) in the European Anti-Fraud Office's (OLAF's) 2017 report published last week. Hungary was also the country with the highest number of irregularities in the implementation of the European Structural and Investment Funds and Agriculture for the period 2013-2017, with OLAF's related financial recommendations amounting to nearly 4% of payments.

GDP (Q1 2018)

↑ **4.7% y/y (est.)**

Up from 4.4% in Q4 2017

Unemployment (Q1 2018)

↑ **3.9%**

Up from 3.8% in Q4 2017

Inflation (May 2018)

↑ **2.8% y/y**

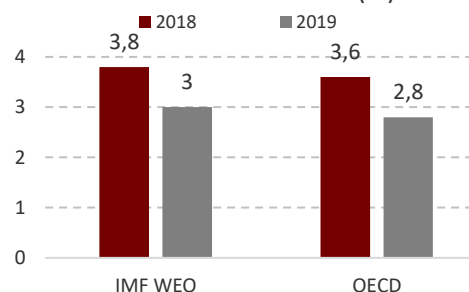
Up from 2.3% in Apr 2018

MNB Base rate

0.9%

From 1.05% in May 2016

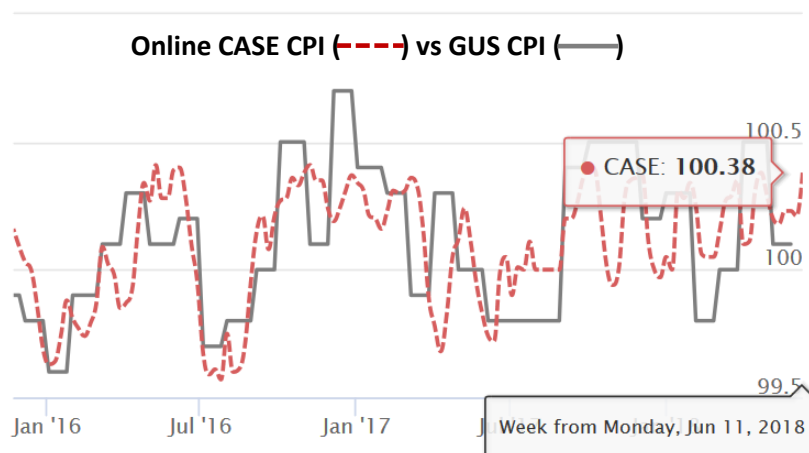
Real GDP forecast (%)



The weekly online CASE CPI

The online CASE CPI is an innovative measurement of price dynamics in the Polish economy, which is entirely based on online data. The index is constructed by averaging prices of commodities from the last four weeks and comparing them to average prices of the same commodities from four weeks prior. The index is updated weekly.

Our weekly online CASE CPI



Monthly CASE forecasts for the Polish economy

Every month, CASE experts estimate a range of variables for the Polish economy, including future growth, private consumption, and foreign trade, current account balance, and the CPI.

CASE economic forecasts for the Polish economy

(average % change on previous calendar year, unless otherwise indicated)

	GDP	Private consumption	Gross fixed investment	Industrial production	Consumer prices
2018	4.2	4.1	4.9	3.7	2.5
2019	3.5	3.6	3.3	3.8	2.3
	Nominal monthly wages	Merchandise exports (USD, bn)	Merchandise imports (USD, bn)	Merchandise trade balance (USD, bn)	CA balance (USD, bn)
2018	4.5	233.4	235.2	-1.8	-3.9
2019	3.7	242.7	244.6	-1.9	-4.1

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