

ŠKODA MOTORSPORT PRESS RELEASE

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Technical innovations tested in motorsport made their way into road cars from ŠKODA

- › Motorsport and especially rallying were always a catalyst for the development of technologies for series production vehicles
- › Four-wheel drive, turbocharging, direct fuel injection and downsized engines prove their reliability on rally tracks as well as in ŠKODA road cars during daily use

Mladá Boleslav, 3 June 2020 – Motorsport and rallying always plays an important role in the development of new technologies that eventually made their way into series production cars. At ŠKODA, innovations like four-wheel drive and powerful as well as efficient turbocharged engines are just two examples of high-tech solutions, which are used not only to improve stage times on rally tracks, but are also on board of ŠKODA road cars.

Christian Strube, Board Member for Technical Development at ŠKODA AUTO, emphasizes: “The close cooperation between motorsport engineers and colleagues from technical development is significantly important for us. This cooperation is founded on the highest technical competence, great commitment and love for technology. This excitement and the know how from motorsport is transferred from the rally tracks to our series production cars.”

In total, the ŠKODA FABIA Rally2 evo consists of around 3,000 components – and roughly 40 per cent are derived from road cars, for example the engine block.

As the development of modifications for FABIA rally and production models are often running in parallel, the engineers from ŠKODA Motorsport are sharing the information collected during testing with their colleagues of the ŠKODA research and development centre in Mladá Boleslav. Sometimes, the influence of the rallying development can be really seen on the production car: The position of the lights on the FABIA road car was influenced by his competitive brother.

In the Rally2 technical regulations the International Automobile Federation (FIA) defined a sufficient use of serial parts in order to create a rally car category, which is affordable for customer teams. Also, the FIA limits the sales price, the cap is currently set at around 200,000 Euros. As a consequence, a mix of FIA regulated parts, bespoke motorsport parts, original and modified serial parts are used on the ŠKODA FABIA Rally2 evo.

Turbocharging and direct fuel injection for more power and efficiency

Today’s turbocharging technology was – literally – boosted by motorsport applications. Together with direct fuel injection and downsized engines, modern turbochargers are key to fuel efficiency. Engines with relative small displacement on one side deliver ample power and torque. On the other side – which is even more crucial for standard road cars – they use surprisingly little fuel. ŠKODA TSI engine technology is one example of this strategy, today well established throughout the whole ŠKODA product range.

Technology transfer between motorsport and series production is not a one-way street – it works reciprocally. The race engine of the ŠKODA FABIA Rally2 evo is purely “Made in Mladá Boleslav”



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but was developed in parallel with the engine of the road car. The 1.6 litre turbo engine is based on the standard 1.8 litre engine used for the ŠKODA SUPERB in China. It's fabricated in Shanghai in cooperation with the joint venture partner SAIC Volkswagen. 70 percent of the engine parts, including turbo, fan and alternator, are coming from standard production.

According to the FIA regulations, which demand a production engine as base for the race engine, the originally 1.8 litre cylinder capacity had to be reduced to 1.62 litres. The engineers of ŠKODA Motorsport achieved this by altering the stroke and using a new crankshaft. Although a 32 millimetres air restrictor and a pop-off valve limit the output, the race engine of the ŠKODA FABIA Rally2 evo produces more than 280 horsepower (212 kW) and 425 Newton-metres of torque.

Body shell with modifications

Compared to a standard FABIA, almost 55 percent of parts used on the body shell of the race car are standard or only slightly modified. There are also special parts, which must be in line with FIA regulations. ŠKODA Motorsport is not using the whole road car body shell for the really complex process of building a rally car. The competition body shell is built from scratch including roll cage and all other modifications for racing purpose. The whole structure of the rally car must be rigid enough to resist big jumps and heavy g-forces, which can reach up to 2 g – especially under braking.

Also in the interior, there are a lot of differences between the standard production FABIA and the competition version. The racing seats of the rally car are homologated for ten years, the six-point seat belts/harnesses for five years. In case of an accident, they must be replaced. The shape of the dashboard is based on the series production part, but the information displays are totally different. While the passengers on board the road car benefit from the comfort of air conditioning, the rally crew gets some fresh air via the air vents below the dashboard. On winter rallies, the crew has after all a heating system on board.

Electronics on board – big brother is watching

Every modern road car is equipped with an ECU – electronic control unit –, which is controlling the electronics, sensors and the drivers assist systems. In the workshop, it allows as well to detect and to analyse a possible malfunction of the car and helps repairing it. In a rally car, the ECU integrated data logger not only provides data for the team's engineers. Also, a driver can precisely analyse his driving style, for example when he shifts gears, when he brakes and how he accelerates out of corners. The race engineers can as well supervise the technical status of the car and are always up to date, when additional maintenance is advised.

Equipped with a 5-speed sequential gearbox from the manufacturer Xtrac, the ŠKODA FABIA Rally2 evo accelerates from 0-100 kph in around 3.6 seconds on dry tarmac. While the suspension on the series model of the FABIA offers precise handling and is focussed on a maximum of driving comfort, the rally brother's suspension is designed to guarantee maximum performance. A suspension with MacPherson struts on all four wheels with a maximum of wheel travel and two basic setups – one for gravel, one for tarmac stages – provide optimum traction.

Rally-bred all-wheel drive boosts image of road cars

In the early 1980s, all-wheel drive under the name of quattro revolutionized rallying. The technology not only changed the FIA World Rally Championship, but the world of passenger cars as well.



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Superior traction resulting in better acceleration and more straight-line stability especially on wet and slippery surfaces were not only welcomed by rally drivers, but by road car customers as well.

With the engagement in motorsports, ŠKODA today strongly underlines its 4x4 competence. Rally-winning all-wheel drive technology is available in four successful road car ranges: the SUVs KAROQ and KODIAQ as well as the sedans OCTAVIA and SUPERB. And customers really appreciate the wide array of choices. From 1999 to the end of 2019, ŠKODA sold more than one million cars with 4x4 drive. The story of all-wheel drive and the connection to the Czech brand's successful rally activities with the ŠKODA FABIA Rally2 evo is obvious: Win on Sunday, sell on Monday.

The calendar of the 2020 FIA World Rally Championship

| <u>Event</u> | <u>Date</u> |
|---------------|-----------------------------|
| Monte-Carlo | 23/01–26/01/2020 |
| Sweden | 13/02–16/02/2020 |
| Mexico | 12/03–15/03/2020 |
| (Argentina) | 23/04–26/04/2020* |
| Portugal | 21/05–24/05/2020 cancelled* |
| (Italy) | 04/06–07/06/2020* |
| Kenya | 16/07–19/07/2020 cancelled* |
| Finland | 06/08–09/08/2020 |
| New Zealand | 03/09–06/09/2020 |
| Turkey | 24/09–27/09/2020 |
| Germany | 15/10–18/10/2020 |
| Great Britain | 29/10–01/11/2020 |
| Japan | 19/11–22/11/2020 |

**Events postponed due to the fight against the spread of the coronavirus*

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Media images:



The ŠKODA FABIA Rally2 evo in the FIA World Rally Championship 2020

Innovations like four-wheel drive and the more than 280 horsepower strong direct injection turbo engine made the ŠKODA FABIA Rally2 evo a category winner in the FIA World Rally Championship.

[Download](#)

Source: ŠKODA AUTO



The power plant of the ŠKODA FABIA Rally2 evo

The rally car's more than 280 horsepower strong 1.6-litre turbo engine is produced in Mladá Boleslav and is based on a standard engine fabricated in cooperation with the ŠKODA division of SAIC Volkswagen in Shanghai.

[Download](#)

Source: ŠKODA AUTO

ŠKODA Motorsport Overview

2019 was the most successful year in the history of ŠKODA Motorsport so far. In 2019, the Czech brand introduced the new ŠKODA FABIA R5 evo. Factory crew Kalle Rovanperä/Jonne Halttunen won both WRC2 Pro drivers' and co-drivers' championship of the FIA World Rally Championship while ŠKODA Motorsport took the WRC2 Pro manufacturers' title. ŠKODA customer crew Pierre-Louis Loubet/Vincent Landais won the WRC2 championship for private teams.

The success story of the Czech brand took place worldwide. The FIA European Rally Championship (ERC) was won by Chris Ingram/Ross Whittock (GBR/GBR), Filip Mareš/Jan Hloušek (CZE/CZE) conquered the FIA European Rally Championship/ERC1 Junior title. Manvir Singh Baryan/Drew Sturrock (KEN/GBR) became FIA African Rally Champions (ARC), Ricardo Triviño/Marc Martí (MEX/ESP) won the FIA North American and Central American Rally Championship (NACAM). On top of that, ŠKODA crews won numerous national championships.

The ŠKODA FABIA R5 evo, a high-tech 4x4, was homologated by the International Automobile Federation (FIA) on 1 April 2019. The Czech rally car is successfully continuing the long tradition of ŠKODA Motorsport.

ŠKODA has been successful on the motorsport scene since 1901. Be it on the circuit or in rallies, ŠKODA has celebrated victories and won titles all around the world. Historical highlights include winning the title in the FIA World Rally Championship (WRC2) for the first time in 2016, numerous title wins in the FIA European Rally Championship (ERC), the FIA Asia-Pacific Rally Championship (APRC) and the Intercontinental Rally Challenge (IRC) as well as the victory in the European Touring Car Championship in 1981. ŠKODA teams have also triumphed in the world's oldest and most famous rally, taking several class victories in the legendary Monte Carlo, which was first held in 1911.

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- › is this year celebrating 125 years since the company was founded during the pioneering era of the automobile in 1895, making it one of the longest-established car manufacturers in the world.
- › currently offers its customers nine passenger-car series: the CITIGO, FABIA, RAPID, SCALA, OCTAVIA, KAROQ, KODIAQ, as well as the KAMIQ and the SUPERB.
- › delivered more than 1.24 million vehicles to customers around the world in 2019.
- › has belonged to Volkswagen Group since 1991. The Volkswagen Group is one of the most successful vehicle manufacturers in the world. In association with the group, ŠKODA AUTO independently develops and manufactures vehicles as well as components such as engines and transmissions.
- › operates at three locations in the Czech Republic; manufactures in China, Russia, Slovakia and India mainly through group partnerships, as well as in Ukraine and Kazakhstan with local partners.
- › employs over 42,000 people globally and is active in more than 100 markets.
- › is pressing ahead with the transformation from a traditional car manufacturer to the 'Simply Clever company for the best mobility solutions' as part of the ŠKODA 2025 Strategy.