ŠKODA AUTO uses artificial intelligence for even more accurate car diagnostics

› **AI app "Sound Analyser" records car noises and compares them with stored sound patterns**
› **245 ŠKODA dealers in 14 countries are currently trialling "Sound Analyser" in real life**
› **Consistent integration of artificial intelligence enables process optimisation and a more personalised customer experience**

Mladá Boleslav, 7 October 2020 – The ŠKODA AUTO After Sales department and ŠKODA AUTO DigiLab are trialling a new smartphone app: "Sound Analyser". The app uses artificial intelligence (AI) and helps to quickly and accurately identify the need for any servicing. The program records noises made by the respective vehicle whilst it is running and compares them with stored sound patterns. In the event of any discrepancies, the app uses an algorithm to determine what they are and how they can be resolved. In this way, "Sound Analyser" helps to make vehicle maintenance more efficient, reduce the time a car spends at the garage and achieve even higher levels of customer satisfaction.

Stanislav Pekař, Head of After Sales at ŠKODA AUTO, said, "Sound Analyser is a prime example of the new opportunities digitalisation at ŠKODA can create, even in terms of after sales. We will continue to consistently use artificial intelligence technologies to offer our customers an even more personalised service, thus enhancing the customer experience even further."

Klaus Blüm, Head of ŠKODA IT, added, "At ŠKODA, we are consistently looking to comprehensively digitalise processes, products and services for our customers along the entire value chain. In order to be able to recognise the potential of innovations early on, develop them quickly and use them intelligently, we are continuously coordinating with the specialist departments to jointly implement new digitalisation projects."

The "Sound Analyser" app uses artificial intelligence to reliably, clearly and quickly assess the current condition of wearing parts and notify technicians of any required servicing. For this purpose, the program considers various vehicle-specific parameters and analyses the usage profile of the respective car. To this end, Sound Analyser makes it even easier for technicians to perform accurate diagnostics on a vehicle as they will only need a standard smartphone or tablet to use the app.

Although the program is highly complex, its operation is intuitive: the sounds made whilst the vehicle is running can be recorded using a smartphone. An algorithm then compares the recording with stored sound patterns and, based on this, provides a concrete description of the result. The software is already able to recognise ten patterns – with an accuracy of over 90 per cent – including for components such as the steering system, the air conditioning compressor, and the clutches in the direct-shift gearbox (DSG). The app is also set up to recognise further sound patterns.

Neural network algorithms provide the technical basis for "Sound Analyser". The app first converts the audio file into a spectrogram that visually depicts the acoustic signals. Using artificial intelligence, this representation is then compared with the stored recordings to identify deviations. To this end, the app categorises the potential need for upcoming maintenance or repairs based on predetermined patterns.

The smartphone app has been trialled in 14 countries – including Germany, Russia, Austria and France – since June 2019. A total of 245 ŠKODA dealers have been taking part in the pilot project. They are instrumental in providing the audio recordings for the software's 'learning process' and are thus directly contributing to the program's development. The gradual introduction of technologies for determining any acoustic deviations from the norm will open up a wealth of new possibilities in terms of sensor-based, predictive maintenance in future. In addition, the vehicle's online connection can be used to arrange an appointment directly with the responsible garage if necessary.

Artificial intelligence is a key pillar of ŠKODA AUTO's digitalisation strategy
Based on artificial intelligence, technologies perform cognitive functions that otherwise only humans are capable of. Such programs can interact with their environment, perceive and weigh up facts, or solve specific problems. As one of the cornerstones of the company's 2025 Strategy, artificial intelligence plays a key role for ŠKODA AUTO in advancing the levels of digitalisation even further. For the Czech car manufacturer, this includes not only products and processes but also services. AI technologies, for example, help to enable a more personalised customer experience.

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ŠKODA AUTO
› 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 ten passenger-car series: the CITIGO^e iV, FABIA, RAPID, SCALA, OCTAVIA and SUPERB as well as the KAMIQ, KAROQ, KODIAQ and ENYAQ iV.
› delivered 1.24 million vehicles to customers around the world in 2019.
› has been part of Volkswagen Group since 1991. 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 approximately 42,000 people globally and is active in more than 100 markets.
› is pressing ahead with the transformation from a traditional car manufacturer into the 'Simply Clever company for the best mobility solutions' as part of the ŠKODA 2025 Strategy.