

AUDI | THE QUATTRO



17 June 2000, 16:00 hours. The beginning of the classic event in international motor sport, the Le Mans 24 Hour Rally. With top speeds of over 330 km/h (200 mph) and a race covering some 3,000 miles, the legendary long distance race is among the hardest and most demanding in the world. There are three Audi R8s on the starting line. At the finish line, one thing was clear to the 200,000-odd spectators: there was clear ground between Audi and the competition, with Audi team drivers claiming positions one to three – a supreme, historic triple victory. Over the next three years, Audi was once again topping the winners' rostrum for the marathon race. Success stories like these confirm Audi's claim to represent the sporting side of the Volkswagen group.

As well as fame and honour, motor sport can also be used to obtain numerous findings from which it is not only the racing drivers who benefit. Technological innovations are subjected to an endurance test and, if they pass, can be passed straight on to the consumers, who then become the winners in the technology transfer from motor sport to production development. So all Audi drivers are directly involved in the numerous successes in motor sport. The resulting advances are passed straight on to the customer, just like it says in the slogan: "Vorsprung durch Technik" (which, roughly translated, means 'advantage through technology').

The Audi Quattro also has its roots in motor sport. What began in the late-Seventies as an idea and an experiment was presented to the world at the Geneva car show in March 1980 and successfully tested on the rally tracks of the world over the following years: the Audi Quattro.

The Quattro principle is as simple as it is clever. In an ideal scenario, if all four wheels are driven permanently, then each wheel only has to transfer half as much power to the road as conventional drives powered by a single axle. The result: better traction, increased road-holding, excellent straight-line running

and more safety in extreme situations and difficult driving conditions. The self-locking differential built into the gearbox between the front and rear axles distributes the drive power between the two axles on a variable basis – with a maximum of 75 per cent to each axle. In the axles, open differentials with EDL – electronic differential locking – prevent, if necessary, the wheels of an axle turning through.

As early as 1982, the launch of the Audi 80 Quattro marked the first production car with permanent four-wheel drive – and the Quattro idea soon caught on. Today, Audi offers Quattro drives as an option in nearly all its models – from the compact A3 through the Audi TT to the flagship A8. As a traditional vehicle for technology, the A8 also offers a number of other innovations, largely taken from motor sport, with the most obvious being the consistently lightweight construction, achieved by means of the "Audi Space Frame", or ASF for short, a frame structure made of high-tech aluminium which is extremely strong at the same time as saving up to 40 per cent of the weight of comparable steel bodywork. In conjunction with the adaptive air suspension which is now included as standard, it optimises driving dynamics and comfort. The power of the sporty V8 engines, which is available in petrol versions with 3.7 l (280 PS / 284 bhp) or 4.2 l (335 PS / 339 bhp) engines, as a TDI diesel with a 4 litre capacity and 275 PS (279 bhp), a 12-cylinder, 6.0 l (450 PS / 456 bhp) version or the 6-cylinder 3.0 l TDI diesel (233 PS / 236 bhp), is always supremely converted into forward motion by the 6-speed Tiptronic gearbox.

The direct petrol injection technology FSI also comes straight from motor racing: the optimum sizing and tailoring of the shape of the combustion chamber, the air flow, the injection volume, direction, timing and pressure mean that this innovative principle can squeeze more power from every drop of petrol. Audi has also proved the performance and reliability of the FSI technology "in the usual way": by winning the Le Mans 24 Hour in 2001, 2002, 2003 and 2004.



Company name Audi AG	Classic product Audi four-wheel drive car (since 1910)	Established 1909 in Zwickau/ Germany	Founder August Horch (1868–1951)	Distribution worldwide	Main production site Ingolstadt/Germany
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