15 YEARS OF BUGATTI VEYRON — HOW IT ALL BEGAN



The production of the Veyron 16.4 started in 2005. We take a look at what happened years before.

In 1997, on the "Shinkansen" express train between Tokyo and Nagoya, a sketch was created that would change the automotive world. Following a discussion with the then Head of Powertrain Development at VW, Karl-Heinz Neumann, he drew on an envelope — he had had the idea for a long time — an engine with 18 cylinders. Powerful, strong and better than anything else. The man was Ferdinand K. Piëch, a gifted engineer and long-time CEO and Chairman of the Volkswagen Group — and the driving force behind the development of the Bugatti Veyron 16.4.

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The first hyper sports car of modern times was a true pioneering achievement and wrote automotive history at its launch in 2005. The coupé was the first series production car to produce more than 1,000 PS and to drive faster than 400 km/h. The Veyron was an engineering masterpiece. Its development however was as much a historic achievement as the Veyron itself.

THE IDEA — AN EXTRAORDINARY ENGINE

There was just the outline of an idea at first: the engine had to be powerful, surpassing anything else in existence. The talk was of 18 cylinders, a revolution in engineering. As an engineer and passionate engine developer, Ferdinand K. Piëch viewed the engine as the central element of the car, its beating heart. The ardent car lover designed an 18-cylinder engine from three VR6 cylinder banks, offset by 60 degrees to each other. The naturally aspirated engine delivered 555 PS from a displacement of 6.25 litres, also providing exceptional running smoothness. An ideal engine for superior coupés and luxury saloon cars.

''The ideas of the outstanding engineer Ferdinand K. Piëch in 1997 were a testament to a brilliant mind. As well as his incredible concept of a powerful engine, he was also the driving force behind the resurrection of the Bugatti brand at its original site, the French city of Molsheim,'' says Stephan Winkelmann, President of Bugatti. ''Looking back, I would like to pay him and the employees at the time my utmost respect. They demonstrated great courage, energy and passion in reviving this exceptional brand. Some of those first employees are still loyal to us to this day.''

PURCHASE OF THE BUGATTI BRAND

The only thing missing was the right brand for the engine. A few months before conceiving his idea, the then Volkswagen Group boss Ferdinand K. Piëch had been on the look-out for an exclusive brand with a rich history, contemplating Bentley and Rolls-Royce in Crewe, which has been one company since 1931. It had to be a brand that not only represented performance, but also innovative technology, design and luxury. When Piëch heard during his Easter vacation on Majorca in 1998, that BMW would win the bidding for the name rights against VW, his son Gregor adamantly insisted to buy him a model car version of a Bugatti Type 57 SC Atlantic and thus guided his father to the solution. ''An amusing stroke of fate,'' Piëch wrote later in his book Auto.Biographie. Piëch bought himself a second Bugatti model car and presented it to Jens Neumann, then Member of the Executive Board for Group Strategy, Treasury, Legal and Organisation at the first board meeting after his Easter holiday — with request to check the rights of the French brand and purchase them if possible.

Apart from Ferdinand K. Piëch, probably only Ettore Bugatti would have been daring enough to build this engine. In 1926, the Bugatti Type 41 Royale was the largest, most powerful and most expensive car in the world, based on a 12.8-litre inline 8-cylinder engine with approximately 300 PS. A technical masterpiece and sheer opulence at the time. Piëch made his move in 1998 after brief negotiations in which VW secured the brand rights for Bugatti, which were up for sale. They had belonged to the Italian car importer Romano Artioli since 1987. Artioli built a ground-breaking factory near Modena in Campogalliano and on 15 September 1991, on the 110th birthday of Ettore Bugatti, he unveiled the EB 110. It became the super sports car of the decade and marked the renaissance of Bugatti. However, the market for super sports cars crashed

dramatically, demand dropped, and the factory closed again in 1995. But the legend that is Bugatti did not rest for long.

Ferdinand K. Piëch's plan: to have the brand rise again to the heights it enjoyed in its heyday in the 1920s and 1930s - at the top of the automotive world. He had a tailor-made car developed from the idea of the engine and the matching brand. One that perfectly reflected this symbiotic relationship. This led Piëch to ask his friend and legendary automotive designer Giorgetto Giugiaro of Italdesign whether he could create a suitable concept. He could. And what a design it was.

THE INITIAL DESIGN STUDIES

The Bugatti EB 118 — the first design prototype — was created in just a few months in record time. The nomenclature stood for the first concept car with 18 cylinders. The luxury coupé with its specifically designed 6.25-litre front engine was presented by the new brand at the Paris Motor Show for the first time in October 1998. It was a self-drive car with a permanent all-wheel drive, aluminium space frame structure and precision multi-link suspension. The designer Giugiaro did not create a retro car, but elegantly updated Jean Bugatti's design. The car world gave the car an enthusiastic reception.

But Bugatti continued to work flat out: just a short time later, in the spring of 1999, the second concept car with 18 cylinders and four doors followed, the Bugatti EB 218. Bugatti presented an impressive sporty luxury saloon at the Geneva Motor Show. The outer shell primarily consisted of aluminium, and the wheels were made of magnesium. Just like the first concept car, the EB 218 featured an aluminium space frame structure and a precision multi-link suspension. The aesthetically balanced body shape with its pearlescent paintwork in three shades of blue was eye-catching. Alongside the exceptional powertrain, Bugatti also equipped the vehicle with luxury that could be truly experienced. The finest leather and wood were used in the interior, elegantly combined to compose a work of art.

Bugatti switched from a luxury saloon to a super sports car for the first time with the EB 18/3 Chiron, a sports car without equal. The third concept from Italdesign, in cooperation with the then time head of Volkswagen design Hartmut Warkuß, broke with the traditional lines and incorporated an independent, highly unique design. The concept car was presented at the IAA in Frankfurt in 1999 for the first time, and Bugatti made it clear that this was a true super sports car. The name Chiron, used for the first time, was a tribute to the former Bugatti works racing driver and multiple Grand Prix winner Louis Chiron. A name that would increase in significance again a few years later.

Just a short time later, at the 1999 Tokyo Motor Show, Bugatti presented its fourth design to the world, this time by Hartmut Warkuß and the young and talented Jozef Kabaň. The EB 18/4 Veyron was very popular with the trade experts and prospective customers, thus establishing the basic elements of the future design. Bugatti retained the designation based on the number of cylinders and prototype version, and the concept car was already very close to the later Veyron design. Ferdinand K. Piëch's premise was clear: a Bugatti had to be instantly recognisable everywhere and by everyone. His reference point was Ettore Bugatti's motto: "If it's comparable, it's not a Bugatti". At the Geneva Motor Show in 2000, Piëch announced that Bugatti planned to build a car with an output of 1,001 PS — nothing less than the most exciting and innovative car of all times. With the new Bugatti, owners should not only be able to

experience unprecedented performance, speeds of over 400 km/h and acceleration from zero to 100 in less than three seconds on the road and the race track — and always with the same set of tyres — but should also be able to comfortably drive the car to the opera house on the same day.

VEYRON SERIES PRODUCTION DECIDED IN 2001

When the first near-series Bugatti EB 16·4 Veyron was introduced in Paris in September 2000, the numbers changed, but not the nomenclature. The numbers still provided information about the concept car versions and the number of cylinders. Instead of using an 18-cylinder engine, the engineers decided on a W16-cylinder engine. This was more compact as a classic V-engine and therefore lighter. Two V8 engines were arranged at an angle of 90 degrees to each other, and the cylinder banks of each V8 unit were separated by an angle of 15 degrees. This arrangement created a space-saving W-configuration where the piston strokes of all four cylinder banks act on a single crankshaft — hence the name W16 engine. This permitted a displacement of more than seven litres for the engine and the use of turbochargers. While the previous drive had done without turbochargers, the power yield was sufficiently high with the four turbochargers: over 1,000 PS would later be available with permanent all-wheel drive — providing propulsion up to a speed of over 400 km/h. In 2001, Bugatti announced that series production of the Veyron in a limited production run had now finally been decided. An 8.0-litre 16-cylinder engine would provide the hyper sports car with 1,001 PS and a torque of 1,250 newton metres. Derived from the idea of the 18-cylinder engine, the 16-cylinder engine was created using two VR8 engines. In contrast to the 18-cylinder engine, which was designed as a naturally aspirated engine, this engine had four turbochargers for the first time.

The name and the basic layout of the drive train were now fixed, and the engineers started working on creating an appropriate design for this tremendously powerful engine. Apart from the immense power output, the specifications demanded acceleration from 0 to 100 km/h in 2.5 seconds as well as a speed of more than 406 km/h. But why this top speed in particular? The automotive engineer Ferdinand K. Piëch developed the legendary Porsche 917 in the 60s, as well as a 16-cylinder engine for the Porsche 917 PA in the 70s. However, this was never used in a race after tests in the Porsche Development Centre in Weissach. With a V12 engine, the 917 had won the 24 Hours of Le Mans for the first time for Porsche in almost 50 years — with a top speed of 406 km/h on the Hunaudières Straight. It was clear that the Veyron had to be faster. And it would be, as became clear just a short while later.

''The Veyron catapulted Bugatti into an unprecedented new dimension,'' says Stephan Winkelmann. ''The hyper sports car enabled the resurrection of the brand in the spirit of Ettore Bugatti. He elevated engineering to an art form. He was always striving for ultimate perfection in everything he did.''

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[1] Veyron: