The Volkswagen Beetle – A Success Story

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Volkswagen Beetle – the sound, the humor, the smell, the feel, the maneuverability, the image

The Sound.

The typical sound of a Beetle.
People of the Beetle Generation sit up and take notice when they hear it today. They are strangely touched, experience melancholy, as though remembering something long since lost.
It is a sound as unmistakable as the Beetle's silhouette: it buzzes, it putters - all against a background of soothing fan noises – a feeling of euphoria which has underscored our mobility for decades and which was the accompaniment for our independence and for growing prosperity during those years.
Beginning in the late 1940's and continuing into the early 1980's, the unmistakable noise of the Beetle left its mark on the sound backdrop of German streets. And in other places, as well, the air-cooled Beetle Boxer was the lead instrument in the noisy traffic concert.
This is why Volkswagen advertising from the Doyle Dane Bernbach (DDB) agency at the end of the 1960's, advertising that is already legendary today, was titled „What the world loves about Germany"; it included a colorfully mixed collection of pictures: Heidelberg, a cuckoo clock, sauerkraut with dumplings, Goethe, a dachshund, the Lorelei – and a Beetle.
Indeed: The Beetle acted as Germany's ambassador all over the world – with a sound that you couldn't overhear, with a presence that you couldn't mistake and, at the same time, with an appeal that was unmatched. For decades, it was the most popular imported car in the USA. And in 1967, it was on the up-and-up on the island of Nauru in the South Pacific. There, the „What the world loves about Germany" advertisement cheekily concluded, VW sales had increased by 200 percent: „from one to three Beetles."

The humor.

The typical Beetle humor.
Although every child knew that the Beetle engine was air-cooled, in the middle of the 1960's, as winter was starting, VW took out full-page ads to caution: „Don't forget to put antifreeze into your VW." It wasn't the Boxer engine in the back that they meant. They meant the tank for the screen wash fluid, located in the front, under the spare tire – „Because we know how to cool an engine with air. Because we still don't know how to wash a windshield with air."
The advertising copy writer didn't mention whether Wolfsburg was working on an air washer – but it wouldn't have surprised the Beetle’s contemporaries. After all, at the time, one Beetle witticism had already long occupied a place in the German sayings: „Air doesn't freeze. Air doesn't boil over."
Water-cooling in a Volkswagen?
Just as unconceivable at that time as a change in the Beetle design would have been – even after it had long been considered conservative, or, yes, even outdated. Volkswagen played with progressive mockery in its advertising – and attracted the approval of those who loved the Beetle the way it was and would always stay. „As early as 1948, many felt that we should change it," was the

caption under the picture of an early „pretzel" Beetle in 1965. There was something to this view. That's why VW has changed or improved 5,002 of the 5,008 Beetle parts until now. Only the Beetle shape – the typical silhouette – stayed the same.
In the beginning of the 1960's, another VW advertisement explained: „Some shapes just can't be improved." It showed an egg with a Beetle rear end painted on. A good 15 years later, when the Golf era had already begun, the VW advertisers repeated the pithy egg theme on the occasion of a sad event. In Emden in 1978, when the last Beetles built in Germany rolled off the assembly line, the slogan under the painted advertisement egg read: „We have kept the shape. Until the very end." And – virtually defiant: "And almost 21 million Beetle buyers around the world thought that was just right."

The smell.

The typical smell in the Beetle.
It, too, was alright for VW drivers: When you breathe deeply in the Beetle, you inhale a whiff of a hot machine, mixed with the smell of warmed-up carpeting. Therefore, the Beetle's competition promised „odorless heating" as an advantage of their products, not suspecting that it was just this breath of hot air that contributed to the seductive aura in the Beetle. Produced in heat exchangers, streaming out of gaps in the sill, it underlines the unmistakable personality of the Beetle like a fragrant perfume.
As only the Beetle Generation still knows, this usually only lukewarm wind was considered a privilege at the start of the Beetle success story, as a luxury in times when other automobiles didn't have any heating at all. Their drivers had to squeeze in behind the steering wheel wearing thickly padded coats and gloves. Early Beetle owners, on the other hand, needed only a warm pullover for winter drives.
And that was a good thing. Because when you have company on your drive in the Beetle, you already enjoy close, warming contact with the person next to you. It's true that the hat can stay in its usual place, thanks to the ample head room. But pipe smokers would be well advised to stow their Dunhill before the trip starts. Otherwise, they may just collide with the windshield.
The Beetle body was always cramped, intimate. And it is so carefully sealed that it takes a lot of force and feeling to close the doors so that they are not catapulted back by the compressed air – air that smells like a machine, like carpeting and sometimes even like tobacco smoke.

The feeling.

The typical feeling in the Beetle.
It is a luxurious sense of security that this automobile bestows on its owner – and naturally also on the owner's offspring. Small children of the Beetle Generation were protectively settled into the hollow for luggage behind the rear seat. Soothing Boxer engine sounds and music from the radio rocked them to sleep.
The Beetle Generation grew up with - and in - the Beetle. As years passed, they moved from the place under the oval window in the '52 model, to the rear seat of the already lighter '57 model, from the rear seat in the early 1960's to the front passenger seat (long forbidden for today's children).

The first secret driving lessons on forest paths followed, in the 1966 Beetle 1500; a little later came the exciting lessons at the side of the driving instructor, naturally in a Beetle; and finally came the driving test, with the strict driving examiner squeezed into the back seat.
„Why is it that thousands of people learn to drive in a VW each year?" VW asked in an advertisement in 1967, in order to come right back with the answer: „Because it is so easy to drive. Ask your driving instructor. His example has caught on."

The maneuverability.

The typical Beetle maneuverability.
Driving a Beetle has something dexterous to it, which is not defined by its speed, but instead by its ease of use.
Smooth steering, pedal use and gearing, immediate reaction to the driver's commands – at that time, in the 50's and 60's, this was definitely not taken for granted the way it has been since the middle of the 1970's, in the epoch of the Volkswagen Golf. In its time, the Beetle set the standard in its class – like the Golf did later.
Such qualities especially drew in the Americans, who were used to juggling unmanageable space ships. Arthur Railton, journalist and member of the board of Volkswagen of America in the 1960's, described the German David in relationship to the American Goliath like this: „They bounced in and out of the line of traffic in front of you. They darted into the parking space that you just wanted to take. They buzzed past the others in snow, and their rear air slots looked as they were grinning and laughing at the helplessness of the others."
The American magazine *Consumer Reports* already put its finger on the effect of the Beetle in November 1952: „If you are tired of ordinary cars, the Volkswagen is a refreshing change." And two years later, Lawrence Brooks, test consultant for the same magazine, euphorically judged the Beetle: „...one of very few cars that ... evoke enthusiasm, because they are really fun to drive..."
That worked.
In November 1955, Leo Donovan was already rubbing his eyes in wonder in the US magazine *Popular Mechanics*: „... a car, small and underpowered. But whose dealers can't get enough delivered, its sales are so spectacular. And all without free trips to Paris ... and without discounts. Which car is so unbelievable? It’s the small, beetle-like Volkswagen. Its dealers even have delivery times for used models."

The image.

The typical image of the Beetle.
„No other automobile has had such a social effect," wrote Arthur Railton in „The Beetle", his hymn to the car, „it has become a part of our folklore. It has its own mythology. People wrote books about it, issued magazines featuring it, produced films with it as an almost human star ... The Beetle was the center of hundreds of jokes and a symbol for caricaturists ... for the rebellion against the Establishment."
The Beetle was not flashy and pompous. But it was also more than just pure practicality. Like no other automobile before or after it, the Beetle absolutely lent

its owner status – if that's what the owner was after. But right from the start, the Beetle was a status symbol of classlessness – both materially and intellectually. In the middle of the 1960's, the VW advertising was already serving just this uniqueness of the Beetle, which sales strategists today call „USP" (Unique Selling Point): „You can't tell what its driver is by looking at the car. For example, whether he is lucky with women or on the stock market. Or even both. Whether she owns property in Switzerland. Is one of the prominent figures in national politics. Reads Plato in the original Greek."
And not quite ten years later, in July 1971, the German motor magazine *auto motor und sport* joined in with its analysis: „While almost every other car is categorized according to engine capacity, power and price, and therefore invites certain conclusions about the social status of its owner, the Beetle has created an absolutely classless image for itself. Anyone can sit in it without having to be afraid of giving those around a more intimate look into his or her personal circumstances..."
Quite true.
Meanwhile, the *Stuttgarter Blatt* newspaper erred in another assessment of the Beetle. „There will never and can never be a really genuine Anti-Beetle," Reinhard Seiffert summed up in 1969, as the conclusion of his Beetle test. „No one can build it – not even the Volkswagen factory itself."
Not quite five years later, in May 1974, the people in Wolfsburg provided proof to the contrary. Suddenly it was there, the „Anti-Beetle", with all the Beetle qualities, but without its defects – conceived by the Beetle Generation, built for the future Golf Generation.

How it all began

On January 17, 1934, Ferdinand Porsche wrote his „Exposé regarding the construction of a German People's Car". In his opinion, a people's car, or *Volkswagen*, should be a fully adequate and reliable automobile, although with a comparatively light construction style. It should offer room for four people, reach speeds of up to 100 km/h and be able to overcome gradients of 30 percent.

The first prototype of the sedan was completed on February 5, 1936. Its design was a novelty for automobile manufacturing that year:

- The chassis had independent wheel suspension with torsion bars and friction shock absorbers.
- Although there were no hydraulic brakes yet, the braking was boosted mechanically using a corresponding control lever in the cable brake system.
- The soft rubber mountings for the engine are a considerable step forward in automotive technology.
- The air-cooled engines, optionally exchangeable as two-stroke or four-stroke versions in the trial program, reached a power level of 22.5 hp.

The V 3, three copies of which were built, covered a distance of more than 50,000 kilometers (over 30,000 miles) in an endurance test conducted from October to December 1936. The knowledge gained here was pumped back into the following 30 trial specimens, which ran through a full-scale endurance test under the abbreviation VVW 30.

To set up the factory and production systems, Ferdinand Porsche searched American automobile factories to recruit experienced émigré German engineers. Only then was the car given its final shape. It was perfected in a model wind tunnel and corrected in actual usage. Furthermore, it proved possible to develop a very simple suspension system.

The topic of discussion at this time was the engine selection, in particular. In the end, a four-cylinder Boxer engine got the green light.

Success story without end

At the beginning of the tremendous Volkswagen development, there were energetic people who, after years of deprivations and hopelessness in the war, of physical stresses and intellectual suppression, began to build automobiles.
In August 1945, the British military authorities, which managed the factory in trust from 1945 until 1949, commissioned the Volkswagen plant with the production of 20,000 sedans.
In December 1945, mass production of the Beetle started with 55 assembled vehicles. In a secluded location on the Mittelland Canal, the factory, with the rubble from the war cleared out of the way, housed a community of people from a wide variety of backgrounds. They built up their new homeland from the chaos.

The VW employees, plagued as they were by their struggle for survival, could not foresee that it would become a success story. But in 1946, the first milestone was already reached: the 10,000th Volkswagen was completed. The vehicle was inscribed with the demand „Mehr schmackhaftes Essen, sonst können wir vieles nicht vergessen" (More good food, or else there's much we won't be able to forget").

In the next three years, restrictions and external events worked against the establishment of the factory. Deliveries to private persons were not permitted. Coal shortages in 1947 led to the VW plant being shut down temporarily. But the success story continued. In 1948, the workforce already numbered 8,400 employees, who built almost 20,000 vehicles. The average hourly wage was 1.11 DM.

Exports started in August 1947. The Pon brothers from the Netherlands were employed as Volkswagen's general importers and received 56 Beetle sedans as the first delivery. One year later, exports were expanded to Belgium, Denmark, Luxembourg, Sweden and Switzerland. The first sought-after foreign currency flowed in: 4,464 Beetles brought in a tidy 21 million DM.

In 1948, Heinrich Nordhoff took over the management of the Volkswagen plant and had to address some fundamental problems: „The Beetle," he says, „has as many faults as a dog has fleas."

But even if the weak buying power after the currency reform did not allow a booming business, the certainty grew that this car really was **the** „people's car". In times when snow plows and winter tires were ideas still to come, the Beetle managed to climb on icy roads: The rear engine provided adequate traction for the driving wheels.

Heinrich Nordhoff also kept summer in mind and, in 1948, had the Joseph Hebmüller Company in Wülfrath build three prototypes of a convertible based on the Volkswagen. As many original VW sedan parts were to be used for the manufacture as possible; the car's exclusive interior was Hebmüller's own idea. The Volkswagen plant ordered a series of 2,000 units. As a result of a large fire in the manufacturing works, the Hebmüller Company was forced to close its gates four years later. By that time, only 696 convertibles had made it to market.

On January 8, 1949, a Beetle left the Netherlands, heading across the ocean towards the United States. It proved to be the ambassador of both Germany and the Volkswagen plant and successfully gained a foothold in the New World.

People didn't have to wait long for the „topless Beetle", the VW convertible. On July 1, 1949, Karmann presented an open body model and the number of the body builders grew, especially in the USA.

The flood of improvements continued in this year, as well. For the most part, however, they were felt more than they seen. The undemanding Boxer goes down in history as the engine behind Germany's economic miracle. But the development of the VW bus was striking. It could be built on to the universal Beetle chassis and ushered in a new era in trade and business for commercial vehicles. The VW bus made a name for itself.

Another cause for celebration: The 50,000th VW Beetle rolled off the line. Such sensational production numbers were attributed to Volkswagen General Director Heinrich Nordhoff, who maintained extremely close and warm relations with the workforce. His farsighted business policies, especially his contribution towards an efficient sales and customer service organization, lay the foundation for Volkswagen's rise to the largest automobile manufacturer in Europe.

Nordhoff's demands for exemplary customer service made in the 1950's still apply today. He gave customer service top priority. As the sales figures rapidly increased, the number of Volkswagen-licensed repair shops also grew, and many of them developed into major operations. Volkswagen made the effort to ensure the supply of replacement parts around the world.

Meanwhile, the people in Wolfsburg quickly got used to large numbers: in 1950 the 100,000th VW Beetle rolled off the line; one year later, VW had already reached a quarter million - even though material shortages led to a temporary production shutdown and reduced working hours. In 1952, annual production exceeded 100,000 units for the first time. The 500,000th VW Beetle was produced in 1953. The VW share of car production in the Federal Republic of Germany was 42.5 percent.

In 1955, it finally happened: the 1,000,000th VW Beetle rolled off the line. In an extremely successful business year, production increased to 280,000 vehicles. In the annual average, daily production exceeded 1000 vehicles for the first time.

Annual production had now reached a scale of more than 700,000 VW Beetles, and continued to grow until the „sound barrier" of one million vehicles built was broken in 1965. The 10,000,000th VW Beetle was produced in 1967. Meanwhile, there were already five plants in Germany - Hanover, Kassel, Braunschweig (Brunswick) and Emden in addition to Wolfsburg.

The year 1972 brought a very special event: On February 17, the 15,007,034th Beetle rolled off the line. This broke the previous production record, held by the Model T Ford, and the Beetle became the new „world champion". But the writing was already on the wall for the end of the Beetle monoculture, which had determined the company's model program until now.

After almost 30 years of production history, 1974 saw the end of an era in Wolfsburg, in which – like never before in the history of the automobile – a product was identified with a plant and manufacturing location: Wolfsburg was „Beetle City." The last Beetle produced in the original plant – the 11,916,519th – rolled off the line. The Beetle was by now being manufactured in Emden, Brussels and overseas. Globally, around 3,300 vehicles were produced each day.

Mastering the problems of the times was the challenge that had to lead to a fundamental transformation of VW technology.

The VW Golf, the radical break from the Beetle, was offered to the Volkswagen public as the third model of the new era, after the VW Passat and Scirocco, and was again a car like no other. With its new technical concept, it was a success right from the start, and became the front runner in the registration figures in German automobile statistics.

Beetle manufacture ended in the Wolfsburg plant in 1974 and in Emden in 1978. The last car was produced in Emden on January 19 and brought to the automobile museum in Wolfsburg. The demand in Europe, as large as ever, was initially covered by production in Belgium and later in Mexico. One year later, on January 10 1979, the last Beetle convertible – it is the 330,281st – rolled off the Karmann line in Osnabrück.

In 1981, a further important milestone in the history of the company was reached in Mexico: on May 15, the 20 millionth Beetle rolled off the line in Puebla.

In 1984, the 100,000th export Beetle left Mexico for Europe. Deliveries were suspended one year later. By this time, more than 900,000 Beetles had been produced in Mexico.

Towards the end of the 1980's, the Beetle experienced a true renaissance in Mexico. Around 33,000 models were sold in 1989; three years later, this number had almost tripled. The increase could essentially be attributed to a new government automobile decree regarding the „classic Beetle". It called for a 20 percent price reduction, which made the „Sedán Clásico" – as it is called in Mexico – the most economical vehicle on the Mexican market.

Because of the great demand, third shift production of the Beetle was added in 1990. In the same year, the millionth Beetle was produced at VW de México.

In June 1992, the VW Beetle celebrated a unique production record. The 21 millionth rolled off the line. The Mexican VW subsidiary kept the Beetle up to the level of the times technically and in terms of appearance, and made possible its journey into the 21st century. In the year 2000 alone, 41,620 models left the factory, where 170 vehicles were built each day in two shifts. In 2003, production is drawing to a close. The „Última Edición", presented in Puebla in July, represents the end of a complete development cycle, and simultaneously, an automotive century. As a true world citizen, the Beetle was not only sold in every imaginable country, it was also produced in a total of 20 countries.

Two factors in particular were responsible for bringing about the upswing at Volkswagen and for establishing its success: one must be the people, with their energy, industriousness and wealth of ideas, who went all out for the company and its products. Heinrich Nordhoff epitomized the style of the social partnership: „The only value that a company has are the people who work for it and the spirit in which they do it." And the other must be the products themselves, which found satisfied buyers all over the world for almost six decades.

The VW Beetle certainly played a major role here. Until the 1970's, it dominated the image of the Volkswagen Company, and helped to influence the streets everywhere around the world.

The requirements and progress of today's world have overtaken the Beetle. Millions of people got to know their first car with the Wolfsburg emblem on the steering wheel while still in driving school. Millions naturally purchased the Beetle as their first car, new or used. It is still a trusted friend to today's driving generation, while they enjoy the progress of the new era.

VW Beetle ...and runs and swims and flies

When motor sports got going again around 1950, after strenuous efforts in the years after the war, some Beetle fans were enthusiastic participants in rallies and races. The large wheels, tight wheelbase, high ground clearance and stable body made the Beetle thoroughly suitable for open terrain.

While there aren't any success statistics for rally Beetles, the many victories in Germany and other countries speak for themselves. Thus, four 1302 S and 1303 S type Beetles made names for themselves. They were driven by experienced Volkswagen drivers. In international rallies throughout Europe, they rapidly made it clear that they were serious competition for the previous favorites. This was also true at the 6th International Rally Elba, which covered more than 1,500 kilometers (almost 1000 miles) of gravel tracks and sprint trials in rugged terrain. The team of Achim Warmbold, Germany, and Gunnar Haggbom, Sweden, took the final victory. Of 90 starters, 68 dropped out.

The winning car had reinforced shock absorbers; engine and transmission were covered as protection against flying stones and the power of the 1.6-liter engine was boosted from the standard 50 hp to 126 hp by the tuners at Volkswagen-Porsche.

Another example for successful rally cars in the Beetle series was the New Caledonia Safari Rally of 1974. The 4,000 kilometer (almost 2500 miles) long stretch led through very difficult terrain. This cross-country event was won by an unmodified 54-hp engine; only the bottom of the car had been reinforced with aluminum trussing to protect against bouncing gravel when crossing rivers.

In 1962, when the American VW dealer Hubert Brundage came up with the idea to fit his own small racecar with a Beetle engine, Volkswagen supported this questionable enterprise. Another American, Air Force Colonel Smith, took up the idea and had Nardi in Italy build him his own *monoposto* out of original VW parts.

In 1963, the new type of race car based on the Beetle was approved by the sport authorities. As a result, Ferry Porsche, son and successor of Ferdinand Porsche, the father of the Volkswagen, introduced the new sport vehicle in Europe with a great deal of enthusiasm. Formula V – for Volkswagen – set out to conquer, and allowed up and coming racecar drivers an economical entry into motor sport.

Until now, 8,000 *monoposti* have been built according to the V brand formula. This is an unofficial individual record, with the highest circulation of formula cars that has ever been reached in the world.

The sporty Beetle fans didn't only want to tackle such strict regulations as those of formula V, however. Driven by the urge for freedom, the descendents of the Wild West pioneers searched for rough tracks away from the main roads. The result - dune buggies and similar open-air automobiles. No desert, no beach and no dunes in the expanses of Nevada, Arizona and California are safe from them any longer.

In 1967, the „Baja 1,000", proclaimed the hardest competition of this type, was held

for the first time on the Mexican Baja California peninsula, through a region in which it is more likely that rattlesnakes rather than foxes will wish you „good night." 80 percent of all competing cars participated with VW parts. Two of the nine starter classes were reserved exclusively for VW modifications. As the supplier of sturdy and economical parts, the Beetles played an important role here – both for the front axle and the rear axle, usually with oversized tires, and for the engine. It was all held together by a tubular space frame of the most head-strong and robust construction, without regard for its own weight. It held the „sand bug" together, even after a hard landing following a jump through the terrain.

In Wolfsburg, „the city of the Volkswagen", the Beetle was given a very special honor. Since 1958, a VW train had driven though the city, without tracks, much to the pleasure of the children and grownups. It chauffeured up to 45 people through the city, past the City Hall and to the Wolfsburg Castle. A spirited act of strength, because around six tons have to be kept moving by 34 hp of Beetle power. In 1975, a Golf traction engine took over from the Beetle locomotive.

Beetles were also harnessed for the hard work of making a living. Bill Peters, a farmer from California, converted his VW into a very useful potato Beetle. He attached farm equipment, including the plow, to the back to till his fields. With great success - his farm's fuel consumption fell considerably.

Even that telephone booth game so popular with young people, namely seeing how many people can be squeezed into a glass box, was transferred to the Beetle all around the world. 35 students from La Crosse State College in Wisconsin squeezed themselves into and onto the Beetle, and then covered a distance of five meters. But the glory was not theirs for long. Students in Dublin increased the number of passengers to 36 and still covered the prescribed distance. A little later, 57 mountain climbers actually climbed into and onto their record Beetle. This represented a load of approximately three tons.

Finally, there is still the story of the VW Beetle who became an international star – Herbie. In the American film „Love Bug", which ran under the title „Ein toller Beetle" in theaters in Germany, Herbie is the star. And a Volkswagen. One that can do it all: he races, acts as matchmaker, can be understanding and furious – in short, he is a very unusual car.

The film's success was also unusual. In the first eight months it was shown in Germany, it drew five million viewers. It received the „Goldene Leinwand" (Golden Screen) award from the Association for German Cinema. The film music received a „Goldene Schallplatte" (Gold Disk) award. It was the same all over the world. People poured into the movie theaters to see Herbie.

A true water Beetle fever raged in 1973, after the Beetle body proved to be seaworthy during several involuntary swimming attempts that ended happily. In Italy, a man mastered the Straits of Messina between Calabria and Sicily with his VW 1200, which he had carefully sealed and fitted with a propeller, in only 38 minutes, or two minutes faster than the regularly scheduled ferry.

Afterwards, the Viking Malc Buchanan set off in the very rough waters of the Irish Sea. Starting from the Isle of Man, he reached the county of Cumbria in England after

seven and a half hours afloat. That set a new „Water Beetle Record" in the category „standard car over 59 kilometers”.

Meanwhile, Volkswagen Beetle swimming had become a popular hobby in the USA. Outboard motors were naturally frowned on. The amphibian had to be driven using the original VW engine and a propeller that had been added on. At least this is what the statutes of WARA, the „Waterbugs of America Racing Association" called for.

But Beetle technology was the talk of more than just the land and water. The sturdy VW engine was even put to use in the air. An inventive engineer equipped a Turbulent model machine with a VW engine at the Royal Air Force's Withe Waltham airfield. Prince Philip had an officer explain the operation to him, and took off into the air. The flight lasted 35 minutes. The Prince returned to earth safe and sound - „quite taken," as he subsequently declared.

But even flyers without any titles were at least as venturesome. And, above all, more persevering. The record of them all must be held by Mira Slowak, a Czech-American jet pilot. He built a mini airplane – made of standard parts from a VW 1200 engine – called „The Spirit of Santa Paula" and flew out of New York with it, headed for London. After more than 175 hours, with a total of nine stopovers, he finally arrived at his destination, making him the winner in his class.

Mira Slowak's comment after the long journey by air: „I believe that with its 35 horsepower, the Spirit is the smallest airplane ever to fly across the Atlantic. The VW engine was fantastic; it purred like a kitten and didn't cause any problems the whole way."

Volkswagen – an international partner

The Volkswagen Group, with its involvements around the world, has already been a global player for many decades. The company owes its climb from practically nothing into this position to the early decision of farsighted men, to send out feelers throughout the world from a decidedly homey location, to find chances in other countries - and to use them. This couldn't be a matter of short-term success, but instead had to involve long-term partnerships that served the cooperation and trust in benefits of all those involved.

Until the 1970's, the VW Beetle stood at the center of these internationally oriented activities. A mass-produced automobile whose concept, technology, quality, economic efficiency and reliability were intended like no other's to take over the work of an automotive and industrial development aid worker.

Thus, Volkswagen assumed the important function of partner in the realization of economic and social progress in many countries over the past decades. The company almost always followed the strategy of building up a separate production base by starting with purely export activities and working together with a local partner.

Logically, the international orientation began in 1947 with the first vehicle exports; country of destination: the Netherlands. Receivers of 56 Beetle models were the Pon brothers in Amersfort, named as VW general importers. In that year, 9,000 vehicles were built in Wolfsburg, with 1656 – or 18 percent – of these going for export.

Only one year later, 23 percent of the production was already for export. A milestone of a special kind was reached for Volkswagen exports in 1949. The first vehicles were shipped to the United States and exhibited at the German Industrial Show in New York. Now there were already seven countries on the export list. Only two years later, the number was already 29, an indication of the tumultuous export development during this time.

In 1952, the importer Pon picked up the 10,000th Volkswagen for the Netherlands in Wolfsburg. In the same year, a VW marketing company was founded in Canada. In the following year, there were already Volkswagen customers in 83 of the world's countries. Almost 70,000 exported vehicles brought in more than 250 million DM in foreign currencies.

A further export milestone was reached in 1953, when Volkswagen do Brasil was founded in Sao Paulo on March 23; it soon developed into one of the company's most important subsidiaries. The final assembly of the „completely knocked down" (CKD) Beetle, introduced in 1951, passed over from the Brazilian company Brasmotor to the new VW subsidiary. Then things started to get going. In 1954, the first Beetles rolled off the lines in Australia, Belgium and New Zealand and in 1955, Volkswagen of America was founded as the sales company for the American market. Exports in this year rose to almost 180,000 vehicles. The foreign currency proceeds this year totaled 600 million DM, and there were already 2,500 dealers in other countries selling and servicing Volkswagens.

Volkswagen took the next step towards an international character in South Africa. Here the company acquired the interests of the South African importer in 1956 and founded a subsidiary as an assembly operation. In the same year, the foundations for the largest car factory on the South American continent were laid in Sao Bernardo do Campo, near Sao Paulo, with the goal of producing as many parts as possible within the country.

In 1959, the new Volkswagen do Brasil plant was put into operation in Sao Paulo, and by January, the first series Beetle had already rolled off the line. VW France was established in 1960 and the 500,000th vehicle was shipped to the USA. In 1962, the 1,000,000th Volkswagen reached the United States.

The development of the Asian-Pacific area therefore took place over general importers, who put together the Beetles in the assembly plants. Beetle assembly started on the Philippines in 1959. Malaysia and Singapore followed in 1968, with Indonesia and Thailand four years later.

Encouraged by the success in other countries, the people from Wolfsburg risked the next step, too, to Mexico. Volkswagen de México received the order to build Volkswagens with as many parts as possible from local production. Only three years after the company was founded, the new plant in Puebla opened, and thereafter built the Mexican Sedán.

In 1966, one hundred percent ownership of the South African subsidiary founded in 1956 passed over to the parent company; its new name, effective immediately, was Volkswagen of South Africa.

The Beetle's American success continued without pause. In 1971, a transport ship brought the 5,000,000th Volkswagen to the United States.

In the same year, Volkswagen took over VW Bruxelles and thereby created its own leg to stand on in Beetle production. With the joint venture „Tvornica Automogila Sarajevo" (TAS) founded on June 14, 1972, a second European production site came into being, where Beetle production started on November 10, 1973 with a daily output of 20 cars. 1973 also saw the signing of the contract for the foundation of Volkswagen of Nigeria, and the start of construction of a branch plant near Lagos.

Production of the Fusca, as the Beetle is called in Brazil, temporarily ended in Brazil in 1986, after 30 years. A total of over 3,300,000 vehicles were built.

The Fusca enjoyed a comeback in 1993 when production started up again. It proved its quality once again, until its final farewell in 1996.

In July 2003, the definitively last Beetle rolled off the assembly line in Puebla at Volkswagen de México.

Engine technology

At the beginning, Ferdinand Porsche considered his two-stroke engine to be the most economically feasible solution for a small and reasonably priced automobile. After numerous attempts and tests, a four-cylinder Boxer engine with air cooling was used, which has, in principle, remained the same until today. The first Volkswagen engine intended for series production, with basic dimensions of 70 x 64 millimeters for bore and stroke, still had a working volume of 985 cubic centimeters. With a compression ratio of 5.6 : 1 and a rated speed of 3000 rpm, this engine reached 22.5 hp. Particularly conspicuous is the design of the housing for the engine and transmission, in light alloy pressure die-casting. In the military version of the Kübelwagen, which got its name from the bucket seats, and the Schwimmwagen, or amphibian car, the engine capacity was increased to 1131 cubic centimeters, which raised the power to 25 hp.

After 1945, the development of the engine was characterized by the transition to super-light Elektron – around 90 percent magnesium alloy – for the engine and transmission housing. Furthermore, enlarging the engine capacity to 1192 cubic centimeters and reworking the cylinder heads later resulted in a power increase to 34 hp. The acceleration time from 0 – 100 km/h was an impressive 35 seconds for the Beetle 1200.

The population's increasing prosperity and higher demands resulted in the development of more powerful engines. Volkswagen therefore designed a 1.5-l Boxer engine early on. This closely resembled the already established 1.2-l engine, but had a cooling blower with rear exit outlets to the crankshaft instead of out the top. This made the entire engine flatter and allowed the new model to integrate a flat, deep cargo area over the low-slung power plant. An engine capacity of 1493 cubic centimeters resulted from the basic measurements of 86 x 69 mm. With a compression ratio of 7.2 : 1 and 3,800 rpm, the Beetle reached 45 hp

The next step towards more power output was made with the 1.5-litre boxer engine. It developed 44 hp at 4,000 rpm. The 30 PICT Solex down-draught carburettor was fitted with an automatic choke to replace the manual choke. This 1500 Beetle from 1965 had a top speed of 125 km/h.

Five years later, the 1.6-litre boxer engine with a power output of 50 hp at 4,000 rpm was launched. This engine was constantly modernised. For example, in Mexico its carburettor was fitted with an altitude sensor that ensured that, despite Mexico’s mountainous terrain, the engine always had the optimum air-fuel mixture and adhered to the emission standards.

In 1988 the 1.6-l engine was converted from contact-controlled to electronic ignition. A clear improvement in the emission levels was achieved with the introduction of the catalytic converter without Lambda probe in the fall of 1990.

In 1993, the sedan 1600 received its last technical improvements. The engine was given a fuel injection system and the cylinder head was given hydraulic valve lifters. At the same time, the catalytic converter without Lambda probe was replaced by one with a Lambda probe. After this technical rework, the Mexican Beetle complied with the relevant environmental standards, namely Euro-3 Exhaust Emission Standard and US norm Tier1, which applies in Mexico.

Design and equipment

In the Beetle's history from 1945 until today, there were only a few years in which no changes were made to the body. The archetypical Volkswagen is characterized by the underbody, which can be separated from the body and is largely load-bearing, by the Boxer construction with the rear engine built in lengthwise, by air cooling and by rear-wheel drive.

The importance of the Porsche design is in its clear objective: four-seater, sustained speed of 100 km/h, low price – these are the minimum demands placed on a car at this time. But above all, it was the compressed, streamlined form that Ferdinand Porsches put into it his design, gained from his knowledge of the still-young field of aerodynamics.

The first generation Volkswagen was conceived and planned as a unified model. But with the start of the economic uptrend, there came the first export models of the Beetle. In particular, these were fitted with better equipment, a diverse range of colors and chrome ornamentation. Furthermore, the load-bearing underbody offered independent body builders the chance to use the mass produced base as the starting point for elegant custom bodies.

Although the Beetle always preserved its shape over the years, it reacted sensibly to social and technical developments. Using only slight design modifications, it adapted, inside and out, to the changing spirit of the times and to the discoveries of modern automobile technology.

From the original „Pretzel Beetle" through today's „Mexico Beetle", there has been a wealth of modifications over almost six decades. The follow overview presents the development of the classic Volkswagen from 1945 until today.

The most important visible modifications to the VW Beetle from 1945 until today

1945 to 1948	Sedan
1949	Export model, high gloss paint, chrome ornamental strips, front trunk lock opens from inside
1950	No-draft ventilation (recess in the side windows), production start of the sunroof
1951	Ventilation flaps on the sides
1952	Tires 5.60 – 15, vent windows, modified bumpers and horns, two brake lights combined with tail light und reflectors, hinged swivel windows in doors on export model
1953	„Pretzel window" replaced with larger oval window, center strip removed
1955	Dual exhaust, PVC sunroof, new brake, tail and reflector lights on rear fender, lights positioned higher
1957	Larger rear window and windshield, new shape of rear hood, license plate light with bathtub-shaped diffusion lens, redesigned instrument panel
1958	Larger side mirror
1959	Fixed door handles and pushbuttons, 65 percent larger trunk
1960	Windshield washer, asymmetric low beams, turn signals
1961	Two-chamber tail light
1963	Steel sliding sunroof, wide housing for the license plate light. Modified shape of the front turn indicators
1964	Enlarged window areas, windshield wipers in rest position left, engine hood with push button closing
1965	Standard model 1200 A receives 34 hp engine, VW 1300, perforated disc wheels, flat wheel caps

1966	Standard model 1300 A replaces 1200 A, VW 1500, wider rear track, modified rear hood, modified license plate light, narrower ornamental strips, new door locks
1967	„Economy Beetle" VW 1200 with 34 hp engine, fresh air ventilation, three-point attachment for seat belt on all seats, plastic operating buttons, reinforced bumpers, external fuel filler neck on the right side
1968	Modified fuel filler neck cover
1969	Modified rims
1970	Introduction of models 1302 and 1302 S, 1302 also as convertible, in addition, 1302 sedan with larger trunk and modified front, engine power 50 hp, front suspension struts
1971	Improved ventilation, additional air slots in engine hood, larger rear window
1972	„Panorama Beetle" VW 1303: panorama window, larger tail lights.
1973	The convertible 1303 is presented
1974	Turn indicators integrated into front bumper
1975	VW 1200, bumpers painted black, black fender weather strip VW 1200 L, chrome-plated bumpers with rubber strips, chrome-plated hubcaps, back-up lights, forced air ventilation
1976	VW 1200 L from Mexico: chrome-plated bumpers und hubcaps, reversing lights, forced air ventilation, upgraded equipment with padded control panel and adjustable headrests on the front seats, three-point automatic front seat belts, static lap belts in the rear, heated rear window and belted tires
1979	Replacement of ornamental hubcap with dust cap
1980	Introduction of the 2-spoke steering wheel, integrated headrests for front seats
1982	Return to ornamental hubcaps, adjustable headrests
1984	Removal of ventilation slits in the front hood and control knobs on the control panel
1985	Introduction of anti-theft security measures

1986	Re-introduction of the dust caps with wheel nut covering
1988	Inclusion of the Golf steering wheel; engine compartment lighting, electronic ignition
1989	Rear-view mirror attached to windshield, movable sun visor on passenger side
1990	Control panel change, removal of one exhaust pipe with closing panel modification, dual circuit brake system
1991	Automatic seat belts and lap belts in rear, warning lights for dual circuit brake system
1992	Black side mirrors, bumpers in car color, special models, for example, Beetle Summer (green and blue paint), one exhaust pipe
2003	„Última Edición"

Chronology

1934
On June 22, the „Reichsverband der Deutschen Automobilindustrie" (RDA) (National Association the German Automobile Industry) commissions Ferdinand Porsche with the design of a „people's car" or „Volkswagen".

1935
The first prototype, with air-cooled boxer engine, 22.5 hp and 700 cc is developed. Two additional vehicles are built.

1936
The prototype, with three copies built, is designated the V 3. On February 24, RDA members are presented with one sedan and one convertible version in Berlin. From October 22 until December 22, each vehicle covers around 50,000 kilometers (over 30,000 miles).

1937
For continuous load tests, the RDA has 30 vehicles built, which cover a total of 2.4 million test kilometers (almost 1.5 million miles).

1938
After further reworking, the series model 38 emerges, the first to have the characteristic „pretzel" window, running boards and bumpers. The car with the air-cooled, four-cylinder Boxer engine, with an engine capacity of 986 cc and 24 hp, weighs 750 kilograms (over 1600 lbs). With a sedan, convertible and sedan with cloth sunroof, three model variations were presented.

1945
In August, the British military authority commissions the existing Volkswagen factory, managed by the British Major Ivan Hirst, with the delivery of 20,000 sedans. In December 1945, VW Beetle series production begins; 55 vehicles are assembled.

1946
The 10,000th Volkswagen is produced on 14 October.

1947
Of the 8,987 sedans manufactured in this year, the first vehicles are exported to the Netherlands.

1948
The 25,000th Volkswagen leaves the line in May. Monthly vehicle production climbs from 1,185 cars in May to 2,306 in December.

1949
On January 8, the first two sedans are shipped from the Netherlands to the USA. On May 13, the 50,000th Volkswagen since the end of the war is produced. On June 1, the „Export Model" is presented, which differs from the standard model with its comfortable interior and extra chrome plating. The four-seater convertible Type 15,

with body from the Karmann Company and based on the Volkswagen export model, also premiers this day.

1950
Starting in April, the Volkswagen is also available with a folding top at an extra charge. The hydraulic foot brake is introduced.

1951
The Volkswagen is already being exported to 29 countries. In October, the production mark of 250,000 is exceeded. The basic model is given side ventilation flaps at the front of the car. The export model now displays the Wolfsburg coat of arms on the front trunk, telescopic shock absorbers replace the lever shock absorbers.

1952
Starting in October, the most important innovations on the export model are the hinged swivel windows in the doors, a synchronized transmission and 15-inch rims.

1953
The „pretzel" windows are replaced with larger oval ones on March 10. The 500,000th Volkswagen rolls off the line on July 3. Exports are now sent to 86 countries.

1954
In January, the 30 hp engine is demonstrated; it allows a top speed of 110 km/h.

1955
One million Volkswagens have been finished as of August 8. The Volkswagen receives a few new additions: PVC sunroof, dual exhaust, new rear lights.

1956
In addition to tubeless tires, the vehicle receives reinforced engine compartment insulation, a more powerful windshield wiper motor and a stronger starter.

1957
The Volkswagen receives a larger rear window and a newly designed instrument panel.

1958
The driver's side is given a large side mirror.

1959
The doors are given fixed handles with integrated pushbuttons. In August, the new export model is introduced - the VW 1200 with 34 hp engine and fully synchronized four-speed transmission. In addition, the standard and export models receive: turn signals instead of turn indicators, a trunk that is 65 percent larger, a windshield washer and asymmetric headlights.

1961
The export model is equipped with pneumatic windshield wipers. The standard model receives a hydraulic foot brake.

1962
The 5,000,000th VW Beetle rolls off the assembly line. The cloth sunroof is replaced by a steel sliding roof.

1964
With the formation of „Volkswagen de México, S.A. de C.V." in Mexico City, Volkswagen makes the transition from vehicle assembly to production. In November, the standard model receives a fully synchronized transmission and the new designation, VW 1200 A. On December 1, mass production begins in the Emden Volkswagen plant.

1965
The standard model 1200 A receives a 34 hp engine. The new export model, VW 1300, with 40 hp engine, comes on the market.

1966
The standard model VW 1300 A replaces the 1200 A. It is available with 34 and 40 hp engines. Door and ignition locks can be operated with the same key. In July, production of the VW 1200 A is suspended. In August, the VW 1500 has 44 hp and front disk brakes.

1967
The 10,000,000th Beetle is produced. The „Economy Beetle" VW 1200 with 34 hp engine is available starting in January. Vehicle safety is improved by the introduction of the safety steering column and three-point seat belts. Model VW 1500 is offered with automatic transmission and semi-trailing arm rear axle.

1968
The Volkswagen officially becomes a Beetle in its advertising.

1969
Introduction of the VW 1300 L with custom features.

1970
Introduction of models 1302 (34 and 40 hp) and 1302 S (50 hp) with front spring struts and double-jointed rear axle. The Volkswagen 1302 is also built as a convertible version. VW 1500 production ends in July.

1971
The rear window is enlarged again.

1972
On February 17, the former production record held by the Model T Ford is broken with the 15,007,034th Beetle produced. In August, production begins on the „Panorama Beetle" VW 1303 with 44 and 50 hp engines, which replaces the VW 1302. The VW 1300 S with 1.6-liter engine is introduced.

1973
Volkswagen releases more special models: Jeans Beetle, Big Beetle „yellow-black racer", City Beetle. VW 1300 production ends in July. The model VW 1303 A is introduced in August. The 1303 convertible is presented.

1974
At 11:19 a.m. on July 1, the last Beetle rolls off the line at the original Wolfsburg plant. In August, production of the VW 1303 A is suspended.

1975
The last VW 1303 is produced in July.

1978
The last Beetle built in Germany rolls off the line in the Emden plant on January 19. All told, 16,255,500 Beetles were built in Germany. Overseas, more than 1,000 Beetles are produced each day. The Mexico Beetle is a VW 1200 L with 34 hp engine.

1980
On January 10, the last Beetle convertible rolls off the line at Karmann in Osnabrück. A total of 330,281 convertibles were produced.

1981
On May 15, the 20,000,000th Beetle is produced at „Volkswagen de México" in Puebla. The „Silver Bug" anniversary model is offered.

1984
The 100,000th export Beetle is produced in Mexico.

1985
On August 12, the last ship with a load of Beetles arrives in Emden.

1992
The Mexico Beetle is equipped with a catalytic converter and Lambda probe. The 21,000,000th Beetle is produced in Mexico on May 23.

2002
On June 25, Golf production figures pass the Beetle, with 21,517,415 units. The Golf takes over the title of most-built Volkswagen model from the Beetle.

2003
The last Beetle manufactured by Volkswagen rolls off the line at „Volkswagen de México" in Puebla/Mexico in July.

Global production

Year	Production	Total
1945-1949	86,182	86,182
1950	81,979	168,161
1951	93,709	261,870
1952	114,348	376,218
1953	151,323	527,541
1954	202,174	729,715
1955	279,986	1,009,701
1956	333,190	1,342,891
1957	380,561	1,723,452
1958	451,526	2,174,978
1959	575,406	2,750,384
1960	739,443	3,489,827
1961	827,850	4,317,677
1962	877,014	5,194,691
1963	838,488	6,033,179
1964	948,370	6,981,549
1965	1,090,863	8,072,412
1966	1,080,165	9,152,577
1967	925,787	10,078,364
1968	1,186,134	11,264,498
1969	1,219,314	12,483,812
1970	1,196,099	13,679,911
1971	1,291,612	14,971,523
1972	1,220,686	16,192,209
1973	1,206,018	17,398,227
1974	791,053	18,189,280
1975	441,116	18,630,396
1976	383,277	19,013,673
1977	258,634	19,272,307
1978	271,673	19,543,980
1979	263,340	19,807,320
1980	236,177	20,043,497
1981	157,505	20,201,002
1982	138,091	20,339,093
1983	119,745	20,458,838
1984	118,138	20,576,976
1985	86,189	20,663,165
1986	46,633	20,709,798
1987	17,166	20,726,964
1988	19,008	20,745,972
1989	32,421	20,778,393
1990	84,716	20,863,109

1991	85,681	20,948,790
1992	86,613	21,035,403
1993	104,710	21,140,113
1994	95,600	21,235,713
1995	33,361	21,269,074
1996	39,722	21,308,796
1997	35,678	21,344,474
1998	36,492	21,380,966
1999	36,446	21,417,412
2000	41,260	21,458,672
2001	38,850	21,497,522
2002	24,407	21,521,929
2003	7,535	21,529,464

Production locations

Germany	1945 – 1978
Ireland	1951 – 1977
South Africa	1951 – 1979
New Zealand	1954 – 1972
Belgium	1954 – 1975
Australia	1954 – 1976
Mexico	1954 – 2003
Brazil	1956 – 1986 1993 – 1996
Philippines	1959 – 1982
Uruguay	1961 – 1987
Venezuela	1963 – 1981
Portugal	1964 – 1981
Costa Rica	1966 – 1975
Peru	1966 – 1987
Singapore	1968 – 1974
Malaysia	1968 – 1977
Thailand	1972 – 1974
Indonesia	1972 – 1976
Yugoslavia	1973 – 1976
Nigeria	1975 – 1987

Sales figures by markets

All of Europe	**9,762,000**
Scandinavia:	829,000
UK:	357,000
Germany:	6,102,000
Benelux countries:	826,000
France:	240,000
Austria:	406,000
Switzerland:	320,000
Italy:	266,000
Spain:	12,000
Portugal:	63,000
Remaining European markets:	341,000
North and South America:	**10,723,464**
Canada:	488,000
USA:	4,988,400
Mexico:	1,708,414
Brazil:	3,037,200
Argentina:	8,000
Remaining markets in North and South America:	493,450
Africa:	**530,000**
Nigeria:	178,000
South Africa:	173,000
Remaining markets in Africa:	179,000
Asia:	**334,000**
Australia/Oceania:	**180,000**

Price development in Germany

1948	5,300 DM („Pretzel" Beetle 1100 – 25 hp)
1949	5,450 DM („Pretzel" Beetle 1100 – 25 hp/export model)
	7,500 DM („Pretzel" Beetle 1100 convertible)
1953	4,150 DM („Pretzel" Beetle 1100 – 25 hp)
	5,150 DM („Pretzel" Beetle 1100 – 25 hp/export model)
	6,750 DM („Pretzel" Beetle 1100 convertible)
1954	3,950 DM (Oval Beetle 1200 – 30 hp)
	3,950 DM (Beetle 1200/1200A – 30/34 hp)
	4,850 DM (Beetle 1200 – 30 hp/export model)
	4,850 DM (Oval Beetle 1200 – 30 hp/export model)
	6,500 DM (Oval Beetle 1200 convertible)
1957	3,770 DM (Oval Beetle 1200 – 30 hp)
	4,600 DM (Oval Beetle 1200 – 30 hp/export model)
	5,990 DM (Oval Beetle 1200 convertible)
1962	4,200 DM (Beetle 1200/1200A – 30/34 hp)
1964	4,980 DM (Beetle 1200 – 30 hp/export model)
	6,230 DM (Beetle 1200 convertible – 30 hp)
1965	4,980 DM (Beetle 1300 – 40 hp/export model)
1966	4,635 DM (Beetle 1200/1200A – 30/34 hp)
	4,735 DM (Beetle 1300 – 40 hp)
	5,385 DM (Beetle 1500 – 44 hp/export model)
	6,670 DM (Beetle 1500 convertible)
1967	4,485 DM (Beetle 1200 – 34 hp)
	5,150 DM (Beetle 1300 – 40 hp/export model)
	5,200 DM (Beetle 1300 – 40 hp)
	5,435 DM (Beetle 1500 – 44 hp)
	6,895 DM (Beetle 1500 convertible)
1970	5,495 DM (Beetle 1300 – 40 hp)
	5,745 DM (Beetle 1302 – 44 hp)
	5,840 DM (Beetle 1300 – 44 hp)
	7,490 DM (Beetle 1302 convertible)
1971	6,160 DM (Beetle 1302 – 44 hp)
1972	6,530 DM (Beetle 1300 – 50 hp)
	6,690 DM (Beetle 1303 – 44 hp)
	6,890 DM (Beetle 1303 – 50 hp)
	8,190 DM (Beetle 1302 convertible)
	8,840 DM (Beetle 1303 convertible)
1973	5,590 DM (Beetle 1200 – 34 hp)
	6,550 DM (Beetle 1300 – 44 hp)
	6,750 DM (Beetle 1300 – 50 hp)
1975	7,995 DM (Beetle 1303 – 44 hp)
	8,260 DM (Beetle 1303 – 50 hp)
	11,080 DM (Beetle 1303 convertible)
1977	7,785 DM (Beetle 1200 – 34 hp)
1978	13,255 DM (Beetle 1303 convertible)
1980	8,915 DM (Beetle 1200 – 34 hp)
1985	11,130 DM (Beetle 1200 – 34 hp)