

VOLKSWAGEN CLASSIC PRESENTS:



Volkswagen

# Mission Maximum.



RECORDS AND  
SUPERLATIVES FROM THE  
WORLD OF VOLKSWAGEN.

# Peak performance –

Highlights from seven decades of Volkswagen history.

When something is achieved, which surpasses all that has gone before it, the result is a record. When a company like Volkswagen looks back at its rich history, the past is littered with record-breaking performances. It gives Volkswagen Classic great pleasure to present a selection of these records and remarkable superlatives.

“Faster, higher, stronger” – that is the motto of the Olympic Games. These are the words that motivate people to do their very best, to go as far as possible, and to attempt the impossible. The original motto reads “Citius, altius, fortius”, whereby “fortius” can also be translated as “more courageous”. Some people have the courage required to explore new horizons – like developers, engineers and visionaries who, from a blank sheet of paper, will develop a fully-electric race car or aerodynamic research vehicles. Then you have the teams behind these projects, who give everything to literally drive Volkswagen to the top and to achieve maximum performance on their continent and beyond. There are drivers who storm up Pikes Peak in the ID. R, before setting off in pursuit of new records. Men who take on the circular track in Nardò for 24 hours straight, or conquer the rally routes of this world. And let’s not forget the employees, who set, and repeatedly surpass, production records. And the enthusiasts, who passionately live out and preserve the Volkswagen values. They are all people who whole-heartedly and passionately achieve top performances for Volkswagen. Their commitment is the key ingredient to any record or superlative worth mentioning.

That is what this booklet is all about. Extraordinary people, performances and vehicles from the diverse world of Volkswagen. From the fifties to the present day, from economy vehicle to the ID. R, from Wolfsburg to Tierra del Fuego, from Jochi Kleint to Romain Dumas. Chosen to show the record-breaking diversity. And by no means complete – that would take far more than 68 pages.

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# 7:57.148

MINUTES

New record on the toughest hill climb in the world – set by an electric race car

### BREATH-TAKING ALL-TIME RECORD

Having developed a fully-electric race car, Volkswagen wasted little time in making history: Romain Dumas (F) guided the ID. R to victory at the “Pikes Peak International Hill Climb”, leaving the opposition and their conventional drive technology trailing in its wake. With the 500-kW (680-PS) single-seater prototype, Volkswagen not only broke the record for electric vehicles on 24 June 2018, but also the all-time record.







1,000,000

VOLKSWAGEN BEETLES

on 5 August 1955

**ONE IN A MILLION  
FROM WOLFSBURG**

When the millionth Beetle rolled off the production line in Wolfsburg, it was nothing short of a sensation during Germany's economic miracle. The Volkswagen became the first German car ever to reach seven figures. 140,000 people celebrated the production record. The then General Director of the Volkswagen plant, Heinrich Nordhoff, inserted the final two screws personally. The millionth car was transformed into a "Gold-Bug" with metallic gold paint and strass elements.





0.99 L

OVER 100 KM

Average consumption of the 1L

#### ONE WILL DO, THANKS

On 15 April 2002, Volkswagen showed that the 1-litre car is by no means a utopian concept with its practical 1L prototype. Nippy, agile, with a cw value of 0.159 and with a top speed of 120 km/h, the "Cigar" impressed on its maiden voyage. The then Chairman of the Board of Management of Volkswagen AG Ferdinand Piëch drove the 1-litre car from the company headquarters in Wolfsburg to the Volkswagen AGM in Hamburg, and set a new consumption record in the process: just 0.99 litres at an average speed of 75 km/h.





# 111,111,111

VOLKSWAGEN

On 22 December 2010, the 111,111,111st Volkswagen in the world rolled from the production line at the main plant in Wolfsburg.

### HISTORIC DELIVERY RECORD

September 2017  
For the first time in the history of the Volkswagen Group, the magic one million mark is broken with

# 1.01

MILLION

global deliveries in the month of September.

### 2018 THE MOST SUCCESSFUL YEAR IN THE HISTORY OF THE VOLKSWAGEN BRAND

With

# 6.24

MILLION

deliveries around the world, 2018 is the most successful year in the company's history.



The most successful models in Volkswagen history:

**1st place: Golf**  
(over 35 million)

**2nd place: Passat**  
(over 29 million)

**3rd place: Beetle**  
(over 21.5 million)

# 5

MILLION TIGUAN

January 2019

Historic production milestone: in just eleven years, five million vehicles from the compact SUV range have rolled off the production line.

# 125

MILLION GEARBOXES FROM KASSEL

18 May 2016

The Volkswagen plant in Kassel builds the 125 millionth gearbox.



# 150

MILLION VOLKSWAGEN

24 August 2017

Volkswagen has assembled exactly 150 million vehicles since production began roughly 72 years ago.

# 45

MILLION VEHICLES FROM WOLFSBURG

5 June 2018

Volkswagen's main plant in Wolfsburg has produced 45 million vehicles since the start of series production in December 1945.

No other location within the group has built more vehicles.

# 60

MILLION ENGINES FROM SALZGITTER

12 February 2019

The 60 millionth engine since production started 49 years ago is manufactured at the Volkswagen plant in Salzgitter.

### THE PASSAT IS THE BEST-SELLING MID-SIZE MODEL IN THE WORLD

18 December 2018: more than

# 29

million Passat, eight generations of the car, have been sold so far across the world.

### GOLF AND BEETLE: PRODUCTION RECORDS

1955 | 1960 | 1965 | 1970 | 1975 | 1980 | 1985 | 1990 | 1995 | 2000 | 2005 | 2010 | 2015 | 2020

5.8.1955  
One million Beetles

1962  
Five million Beetles

1967  
Ten million Beetles

17.2.1972  
15,007,034 Beetles:  
Volkswagen is production world champion

27.10.1976  
One million Golf

15.5.1981  
20 million Beetles

1982  
Five million Golf

24.6.1991  
World title for the Golf Cabriolet

331,848 models: the Golf Cabriolet is the world's most manufactured cabriolet

The Golf Cabriolet takes on this mantle from the Beetle Cabriolet

2000  
20 million Golf

25.6.2002  
Golf surpasses the Beetle

21,517,415 Golf: the Golf surpasses the production of the legendary Beetle, which was still being built at Volkswagen de Mexico at the time

2007  
25 million Golf

2.2.2017  
Three million Golf from Saxony

5.6.2018  
Most-manufactured model at main plant in Wolfsburg: the Golf, with almost 19 million sold since production started in 1974

Second place: the Beetle, almost 12 million models by 1975



# A live wire with a thirst for records.

In June 2018, the Volkswagen ID. R set new records at both the iconic hill climb on Pikes Peak and at the "Goodwood Festival of Speed". And the pursuit of records continues this summer, as the electric racer sets its sights on more accolades in 2019.

**Pikes Peak** was merely the beginning. When Romain Dumas guided the fully-electric ID. R to a new all-time record of 7:57.148 minutes at the most famous hill climb in the world on 24 June 2018, it heralded the start of a pursuit of a host of other international records. On that particular summer's day in the US state of Colorado, Dumas also laid down the first marker in the most ambitious project in the history of Volkswagen Motorsport. "We did not have any predecessor. We literally started from scratch," recalls François-Xavier Demaison, Technical Director at Volkswagen Motorsport.

The challenge was huge. Starting at 2,862 metres and finishing at the summit at 4,302 metres above sea level, the "Pikes Peak International Hill Climb", which was held for the first time in 1916, is widely regarded as the most demanding hill climb in the world. But the engineers had already been in record-breaking mood before the car even arrived at the race: thanks to the extensive use of computer simulations and innovative production methods, such as 3D printing, a mere 250 days passed between the start of the project and the rollout – the first functional test at a racetrack.

## VISIONARY DESIGN AND TECHNOLOGY

While Volkswagen Motorsport focussed on the chassis and drivetrain, the shape of the bodywork was developed at Volkswagen Design. "Our task was to transfer the unmistakable styling of the ID. family from production cars to such an extreme and emotional race car," says Klaus Bischoff, Head of Volkswagen Design. The overall result is a single-seater prototype that is visually reminiscent of an LMP1 car at the 24 Hours of Le Mans. The two electric engines that drive the front and rear axles generate a system performance of 500 kW (680 PS). The electrical energy is stored in a lithium-ion battery, split into two blocks next to and behind the cockpit. A large portion of the energy required is generated on board, for example, through the recovery of energy during braking. "In terms of energy and charge management, we made fundamental findings that will also be incorporated in the development of the ID. production vehicles," explains Willy Rampf, who brought his decades of Formula One experience to bear as a consultant to the project.

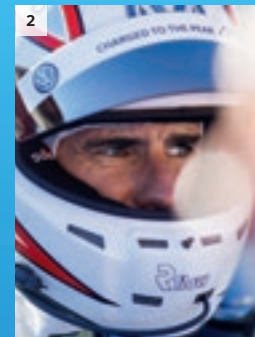


1,440  
METRES

Change in elevation –  
at 4,302 metres above  
sea level, the finish is higher  
than at any other hill climb  
in the world.



1



2



1 Americans also call the hill climb on Pikes Peak the "Race to the Clouds". At times, the ID. R was actually above the clouds in the top section of the route, on the final kilometres before the summit.

2 Romain Dumas has driven pretty much anything on four wheels over the course of his career – from desert buggy at the Dakar Rally to LMP1 prototype for his two victories at the 24 Hours of Le Mans. He claimed his fourth victory on Pikes Peak with the Volkswagen ID. R.

3 Volkswagen Motorsport Director Sven Smeets is visibly relieved – shortly after Romain Dumas' record attempt, a change in the weather brought heavy hailstorms. "That is one of the features of this race – you need to have a bit of luck too," said Smeets.



## TECHNICAL DATA FOR THE ID. R

|                      |   |
|----------------------|---|
| ENGINE:              | ONE ELECTRIC MOTOR ON BOTH THE FRONT AND REAR AXLES |
| SYSTEM PERFORMANCE:  | 500 KW/680 PS                                       |
| DRIVE:               | PERMANENT FOUR-WHEEL DRIVE WITHOUT GEARBOX          |
| TOP SPEED:           | APPROX. 240 KM/H                                    |
| ACCELERATION:        | 0-100 KM/H IN 2.25 SECONDS                          |
| YEAR OF MANUFACTURE: | 2018  |

The entire carbon-fibre chassis is extremely aerodynamic. Together with the huge rear wing, it generates downforce greater than the weight of the car – 1,100 kilograms, including driver. And that in the thin air at high altitude.



# 7:57.148

MINUTES

The ID. R sets a new all-time record at the most famous hill climb in the world.

“The ID. R is the best car I have ever driven on Pikes Peak.”

ROMAIN DUMAS

### ONE MOUNTAIN, ONE DREAM, ONE ATTEMPT

“I had to learn an awful lot. Driving a race car without any engine noise was new to me,” says talented all-rounder Dumas, recalling his first contact with the ID. R. The Frenchman added the new aspect of electric motor racing to his illustrious career, which already stretched from Formula 3 to the Dakar Rally. Because the 19.99-kilometre band of asphalt leading to the summit of Pikes Peak is actually a busy tourist toll road, testing on the actual route itself was restricted and only permitted in individual sections. The first time Dumas, already a three-time winner on Pikes Peak, drove the full route at the wheel of the ID. R was in the race itself. An imminent hailstorm nearly prevented the record attempt from happening. However, Dumas, a two-time winner of the 24 Hours of Le Mans, kept his nerve and, with clouds approaching rapidly, kept his nerve to steer the ID. R to a new all-time record. “The ID. R is the best car I have ever driven on Pikes Peak,” said the Frenchman at the finish, slightly out of breath at an altitude of over 4,300 metres.

Just four weeks after the record-breaking run up “America’s Mountain”, the ID. R was back doing what it does best: breaking records. Once again it was Romain Dumas who set a new electric record for the hill climb at the “Goodwood Festival of Speed” in southern England. With a time of 43.86 seconds, Dumas narrowly missed out on the all-time record, set in 1999 by Nick Heidfeld in a Formula One car,

by just two seconds. “After the success on Pikes Peak, we once again showed what an electric car is capable of at Goodwood,” said Herbert Diess, Chairman of the Board of Management of Volkswagen AG and Chairman of the Board of Management of the Volkswagen Passenger Cars Brand.

### THE PURSUIT CONTINUES IN 2019: MISSION “GREEN HELL”

Preparations are already underway for the next record attempts. In summer 2019, Dumas and the further-developed ID. R will take aim at the lap record for electric vehicles on the legendary Nordschleife at the Nürburgring. “That will be the next big challenge for the ID. R,” says Volkswagen Motorsport Director Sven Smeets. “A lap record on the Nordschleife is seen as a huge accolade for any car, whether a race car or a production car.”

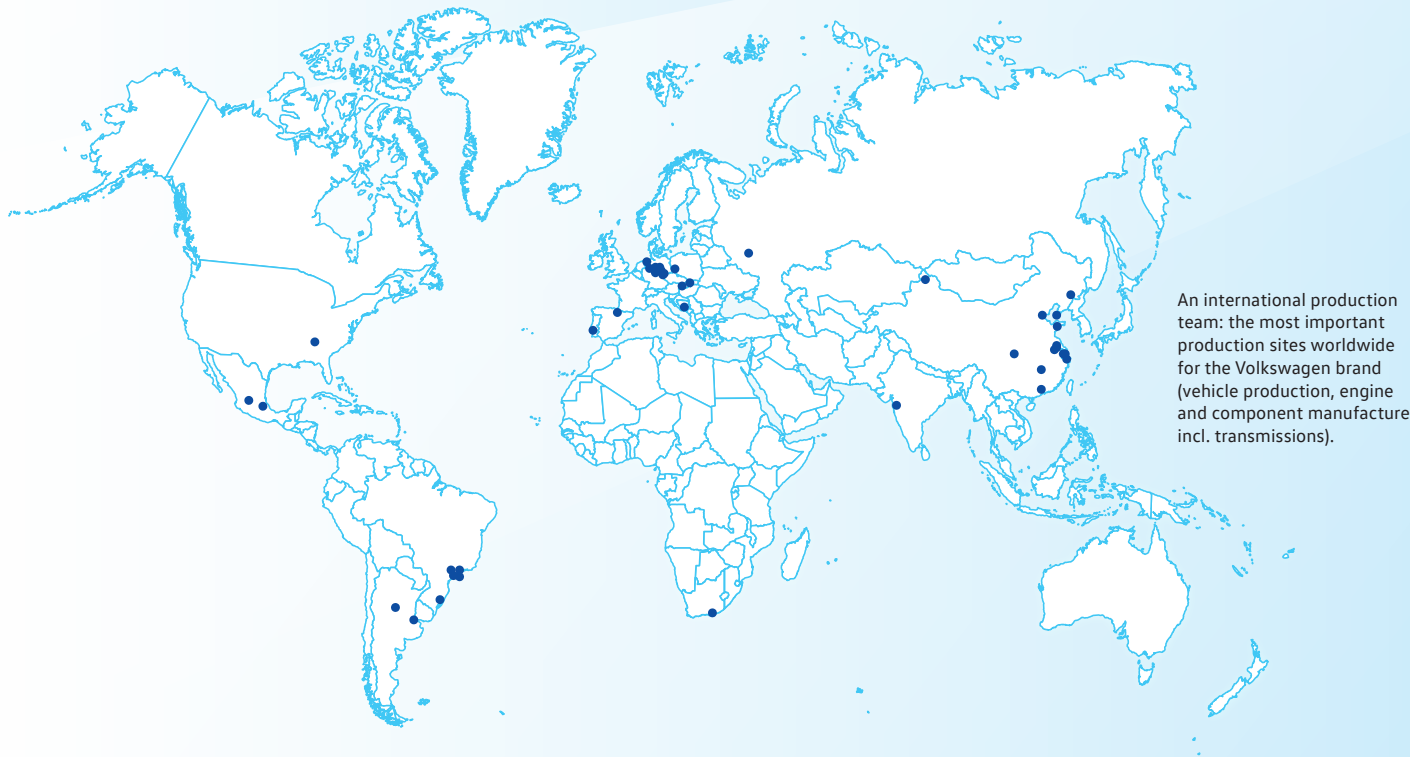
Driver Romain Dumas is well familiar with the 20.832-kilometre track, which former Formula One world champion Jackie Stewart respectfully named the “Green Hell”. He has contested the iconic 24-hour race there on many occasions and has four victories to his name. “I already get goosebumps when I think about heading onto the Nordschleife in the ID. R,” says Dumas. “With its extreme acceleration and huge cornering speeds, the ID. R will pose a totally new challenge. Breaking the existing record for electric vehicles will certainly not be a troll in the park.” – The same can be said of any record attempt the ID. R may undertake in the future.



# A strong team.

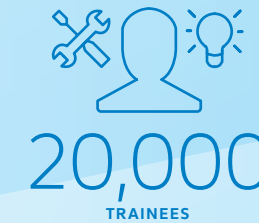
Ernest Hemingway once wrote that a Volkswagen is the best that you can buy. In so doing, the author paid the products, and our

workforce, a great compliment. Volkswagen continues to represent what it has always stood for on the street – team performance.



Volkswagen is one of the most successful automobile manufacturers in the world. Once production restarted in 1945 with 6,033 staff, the number of employees grew rapidly: in 1965, Volkswagen reached 94,139 employees, increasing to 123,598 in 1985.

With around 200,000 employees worldwide, the core group brand now boasts 50 sites in 14 countries, producing vehicles for customers in over 150 markets. In 2018, the brand set a new record by selling 6.24 million Volkswagen worldwide.



Vocational training has a high profile within the company. In 2018, the Volkswagen Group focused on the development of around 20,000 trainees worldwide, in 60 training jobs and 50 dual degree programmes.

In September 2018, 1,522 women and men began their first year of training at a total of ten locations in Germany: 1,317 started vocational training and 205 participated in a dual degree programme. Women account for around 30 percent of the junior staff at Volkswagen. The training covers six commercial and 21 technical jobs and 15 dual degree programmes.



Social engagement: within the Volkswagen Group, around 38,000 of the employees in Germany are involved on a voluntary basis with clubs, organisations and social institutions. The volunteering initiative at Volkswagen was founded in 2007 and supports current Volkswagen employees, as well as those who have retired, when they intend to start volunteering.

The Volkswagen team has expanded to more than 33 times its original size since production resumed in December 1945. 200,000 people are now employed by the core brand. The number of employees for the Volkswagen Group as a whole has now reached the record-breaking level of 640,000.



**ALMOST 50 YEARS FOR VOLKSWAGEN**  
Long-standing employees such as Klaus Ulrich (63) made crucial contributions to the success enjoyed by Volkswagen: his career already spans what may be a record-breaking 49 years with Volkswagen and shows just how varied job prospects are here. Ulrich started out as a motor mechanic for a Volkswagen partner company, before moving to a position at Karmann (now Volkswagen Osnabrück). In the workshop, he began by working on air-conditioning systems. In 1983, he switched to the test workshop: prototypes and show cars required his technical expertise and talent for improvisation. Ulrich was involved in summer and winter testing, and worked on trade fair presentations around the world. He became a master craftsman in 2001 and finally the man of "Volkswagen Classic" in 2007. Today, he is responsible for the Volkswagen Osnabrück automobile collection. He and his team make use of their expert knowledge and their passion to preserve around 140 historic vehicles, which also make appearances at international events. "Whether it's a Scirocco I, Golf Cabrio or Karmann Ghia, I have been involved with so many Volkswagen, right from the start. They have made their mark on my life and that of my family." Klaus Ulrich represents half a century of living Volkswagen history – and the close connection with all employees.



# Records for eternity.

Powerful, fast and unsurpassed. In February 2002, Volkswagen turned up again in Nardò with an experimental car to showcase the potential of a newly-developed twelve-cylinder engine. The result was nothing short of astonishing: a dozen international records.

440-kW (600-PS) mid-mounted engine and a carbon-fibre chassis just 110 centimetres high – the W12 Nardo has all the ingredients of a super sports car.

A twelve-cylinder is the flagship of any engine department. Around the turn of the millennium, Volkswagen engineers developed precisely such an engine. It was to represent the top-of-the-range engine for the brand's luxury sedans of the future and went by the project name D1. "Our remit was for the engine to be no longer than an existing eight-cylinder, in order to avoid having to make any profound changes to the design of the car," recalls Rudolf-Helmut Strozyk, head of Powertrain Development at Volkswagen at the time. The twelve-cylinder engine was based on the VR6 engine that could be found in the Golf. The unique layout of the two VR6 cylinder heads gave the new power unit its name: "W12". With an initial capacity of 5.6 litres, the extremely compact engine produced 309 kW (420 PS).

#### OFF TO ITALY!

"We came up with the idea of a record attempt, in order to show off the potential of the W12," says Strozyk. At the time, long-distance world record attempts acknowledged by the International Automobile Federation FIA, were held in Nardò,

in southern Italy. October 2001 was chosen for the attempt – perfect timing for the launch of the W12 Coupé super sports car at the Tokyo Motor Show, although this car was not ultimately built.

The capacity of the twelve-litre engine was increased to just short of six litres for the record attempt, with the power ramped up to a full 440 kW (600 PS). "The chassis was built at Italdesign, under the leadership of Fabrizio Giugiaro. The cooperation was key to the success," project leader Strozyk acknowledges. On 14 October 2001, the W12 took to the track in Nardò for its record attempt – just hours after the first rollout. "We had no idea what to expect," explains Strozyk.



#### THE NARDÒ RACETRACK

In 1975, a circular track with a circumference of 12.6 kilometres was opened in the Southern Italian region of Apulia, near the town of Nardò. Its banked corners allowed top speeds of up to 500 km/h, making it the fastest track in the world. Over the years, hundreds of speed records have been set here. Nowadays, the circuit belongs to Porsche Engineering and, as well as other test circuits, also offers a number of off-road tracks. Sections of a 6.2-kilometre handling circuit are replicas of corners on the Nürburgring-Nordschleife.



With CEO of Volkswagen at the time, Dr. Ferdinand Piëch, and a large number of journalists watching on, the pressure was on to succeed. "A cruising speed of 350 to 360 km/h was possible on the circular track," recalls Dieter Depping. Now a development driver at Volkswagen Motorsport, Depping was part of the six-strong team of drivers. His team-mates: former Formula 1 driver Emanuele Naspetti (Italy), World Sportscar champion Mauro Baldi (Italy), rally ace Marc Duez (Belgium), Lamborghini test driver Giorgio Sanna (Italy), and touring car specialist Jean-François Hemroulle (Belgium).

#### 24 HOURS AT HIGH SPEED

The capacity of the fuel tank in the W12 allowed individual stints of roughly 80 minutes at a time. "In order to avoid the side wind, we drove as close as possible to the crash barrier. That was particularly tricky at night, as the W12 did not have any additional headlights, for aerodynamic reasons, and we only had the standard lights to drive by," Depping explains. The strategy paid off. The first record came after 500 kilometres. The W12 was also far quicker than the previous record holder at the 500-mile, 1,000-kilometre and 1,000-mile marks. However, minor technical issues then started to rear their ugly head. "That is nothing out of the ordinary with a brand-new race car," says Strozyk. Despite this, the professional drivers managed to continue to lap in the W12, albeit at a slightly slower tempo. They ultimately came away with nine international records, the last of which came at the supreme distance of 5,000 miles.

However, those involved – above all CEO Piëch and project leader Strozyk – were still not entirely

happy, particularly with the 24-hour average of 295.24 km/h. "It was clear to us that it could have been a lot better with a problem-free car," Strozyk recalls. "Dr. Piëch gave us permission for a second attempt." His demand: to crack the 300-km/h mark!

#### RECORD ATTEMPT 2.0

Just four months later, in February 2002, the team set up camp again in Nardò. Once again, there was a car launch in the run-up: Volkswagen's luxury sedan, the Phaeton – the production version of the D1 project – was set to make its debut at the Geneva Motor Show just a few days later. There was just one change to the driver line-up, with rally driver Raimund Baumschlager replacing Naspetti at the wheel. The Austrian, whose own private team now runs a Polo GTI R5 on the rally scene, had already contested several 24-hour races for Volkswagen.

To ensure there was another iron in the fire, they this time went in pursuit of new records with two cars. A back-up car used during tests, with the chassis from a Lamborghini Murciélago, was run by an Italian team with its own drivers. Perfect teamwork: the team once again took full advantage of the opportunity, staying out on the track for the full 5,000 miles. "After 24 hours, we simply carried on driving," says Depping.

In the end, the team bettered all of its own records – and added a further two (see table on page 24). A superlative record breaker: all the records set still stand. Almost 17 years later, the W12 is still listed as a world record holder in the FIA's statistics.

  
322.891  
KM/H

This is the average speed set  
by the W12 Nardo  
over 24 hours.



#### TECHNICAL DATA FOR THE W12 NARDO

|                       |  |
|-----------------------|--|
| ENGINE:               | 12 CYLINDERS ARRANGED IN W FORMATION,<br>NATURALLY-ASPIRATED |
| CAPACITY:             | 5,998 CC   |
| MAX. OUTPUT:          | 440 KW/600 PS  |
| TOP SPEED:            | OVER 350 KM/H  |
| ACCELERATION:         | 0-100 KM/H IN UNDER 3.5 SECONDS                              |
| YEAR OF CONSTRUCTION: | 2001   |



“The two record attempts turned out as well as they did, because the team members from the research and development departments at Volkswagen, from Volkswagen Motorsport, and from Italdesign all worked perfectly together.”

PROJECT LEADER RUDOLF-HELMUT STROZYK



The driver line-up for the second record attempt (from left): Jean-François Hemroulle, Raimund Baumschlager, Marc Duez, Giorgio Sanna, Mauro Baldi, Dieter Depping, Italian test driver.

**1. RECORD ATTEMPT ON 13 / 14 OCTOBER 2001**

Dieter Depping (D), Jean-François Hemroulle (B), Marc Duez (B), Mauro Baldi (I), Emanuele Naspetti (I), Giorgio Sanna (I)

**2. RECORD ATTEMPT ON 23 / 24 FEBRUARY 2002**

Dieter Depping (D), Jean-François Hemroulle (B), Marc Duez (B), Mauro Baldi (I), Giorgio Sanna (I), Raimund Baumschlager (A)

**THE RECORDS SET BY THE W12:**

| DISTANCE / TIME  | 2001         | 2002*                     |
|------------------|--------------|---------------------------|
| 100 KILOMETRES   | -            | 322.464 KM/H <sup>1</sup> |
| 100 MILES        | -            | 325.593 KM/H <sup>1</sup> |
| 500 KILOMETRES   | 307.635 KM/H | 324.672 KM/H <sup>1</sup> |
| 500 MILES        | 308.806 KM/H | 327.390 KM/H <sup>1</sup> |
| 1,000 KILOMETRES | 311.088 KM/H | 325.280 KM/H <sup>1</sup> |
| 1,000 MILES      | 311.506 KM/H | 325.863 KM/H <sup>2</sup> |
| 5,000 KILOMETRES | 295.440 KM/H | 324.850 KM/H <sup>2</sup> |
| 5,000 MILES      | 291.869 KM/H | 323.039 KM/H <sup>2</sup> |
| 1 HOUR           | 310.989 KM/H | 328.160 KM/H <sup>1</sup> |
| 6 HOURS          | 311.581 KM/H | 325.584 KM/H <sup>2</sup> |
| 12 HOURS         | 297.749 KM/H | 324.876 KM/H <sup>2</sup> |
| 24 HOURS         | 295.238 KM/H | 322.891 KM/H <sup>2</sup> |

<sup>1</sup> International class record

<sup>2</sup> World record

\* All records still stand (status 2/2019)

**1** The pit lane was set up on the inside lane of the racetrack. The W12 Nardo stopped roughly every 80 minutes – for fuel, tyres, and to change drivers – all of which counted towards the driving time.

**2** Today, the W12 Nardo is part of the Autostadt collection in Wolfsburg. The originally preserved patina on the carbon-fibre chassis tells the story of the record-breaking run over a total distance of 5,000 miles, or 8,047 kilometres.







Original parts  
in the millions:  
Volkswagen Currywurst

199 398 500  
Part number of the most successful product

7.2 MILLION  
In 2015, Volkswagen's special  
curried sausage achieved record sales

1,388 KM  
Placed end to end, the portions of Currywurst  
sold in 2018 would stretch from Wolfsburg  
to Barcelona

1973  
Developed by a butcher for employees  
at Volkswagen plants

THE BIGGEST OF THE LITTLE GUYS:

BEETLE,  
BUS T1 AND T2

are the most popular of all  
licensed Volkswagen projects  
(model cars, accessories, etc.).

BEETLE HAS ITS NOSE IN FRONT

For years, the Volkswagen Beetle has been  
the most popular vintage car in Germany.

51,009

licensed Beetles are over 30 years old,  
36,258 of them have an H license plate.

Status 01/2018, VDA



FIRST ONE-MAKE CUP WITH

NATURAL GAS

2010 – the Scirocco R Cup is launched:  
the first one-make cup run exclusively  
with natural gas-powered cars.



A LINE OF VEHICLES STRETCHING

16

TIMES ROUND THE WORLD

Placed end to end, the 150 million  
Volkswagen manufactured up to  
the production record on 24 August 2017  
would reach 16 times around the world.

VOLKSWAGEN GROUP: CAR TOWERS AT AUTOSTADT:  
THE FASTEST AUTOMATIC PARKING SYSTEM IN THE WORLD

1 MINUTE 44 SECONDS

is the time taken from entering the towers to reach the highest, most distant area.  
Car lift with a record speed of 2 metres per second

LONGEST DISTANCE  
ON JUST ONE TANK OF FUEL

27 to 30 June 2011

2,545.80 KM  
(1,581.88 MILES)

A Volkswagen Passat 1.6 TDI BlueMotion  
completed the longest distance  
on just one tank of fuel in Croatia.  
Average fuel consumption:  
3.08 l/100 km

TOUAREG PULLS JUMBO JET

A Volkswagen Touareg V10 pulls a

155

-TON  
Boeing 747 out of its hangar.



WORLD RECORD, NOVEMBER 2006

VOLKSWAGEN GROUP:  
200 MILLION PARTS PER DAY

The Volkswagen Group's  
logistics department transports



MILLION PARTS

to the group's factories every day.

One team,  
four world records

Adventurer Rainer Zietlow sets  
four world records (one altitude  
and three long-distance records)  
with various Touareg models.

15 TO 29 JANUARY 2005:  
ALTITUDE WORLD RECORD AT

6,081 METRES  
IN CHILE

2 TO 13 JULY 2011:  
PANAMERICANA

23,000 KM  
IN 11 DAYS AND 17 HOURS

OCTOBER 2014:  
CAPE TO CAPE – FROM THE NORTH CAPE  
TO CAPE AGULHAS IN SOUTH AFRICA

17,000 KM  
IN 21 DAYS AND 16 HOURS

CAPE TO CAPE 2.0 –  
FROM CAPE AGULHAS TO THE NORTH CAPE

17,568 KM  
IN 9 DAYS AND 4 HOURS

Formula  
Vee

1963: First "Formula Vee" race in the USA

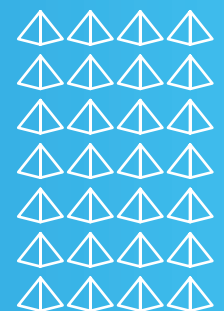
1965: Formula Vee introduces the single-seater  
series for young drivers in Europe

OVER THE FOLLOWING YEARS,  
THE SERIES DEVELOPS INTO THE LARGEST  
JUNIOR RACING SERIES IN THE WORLD.

VOLKSWAGEN GROUP:

28

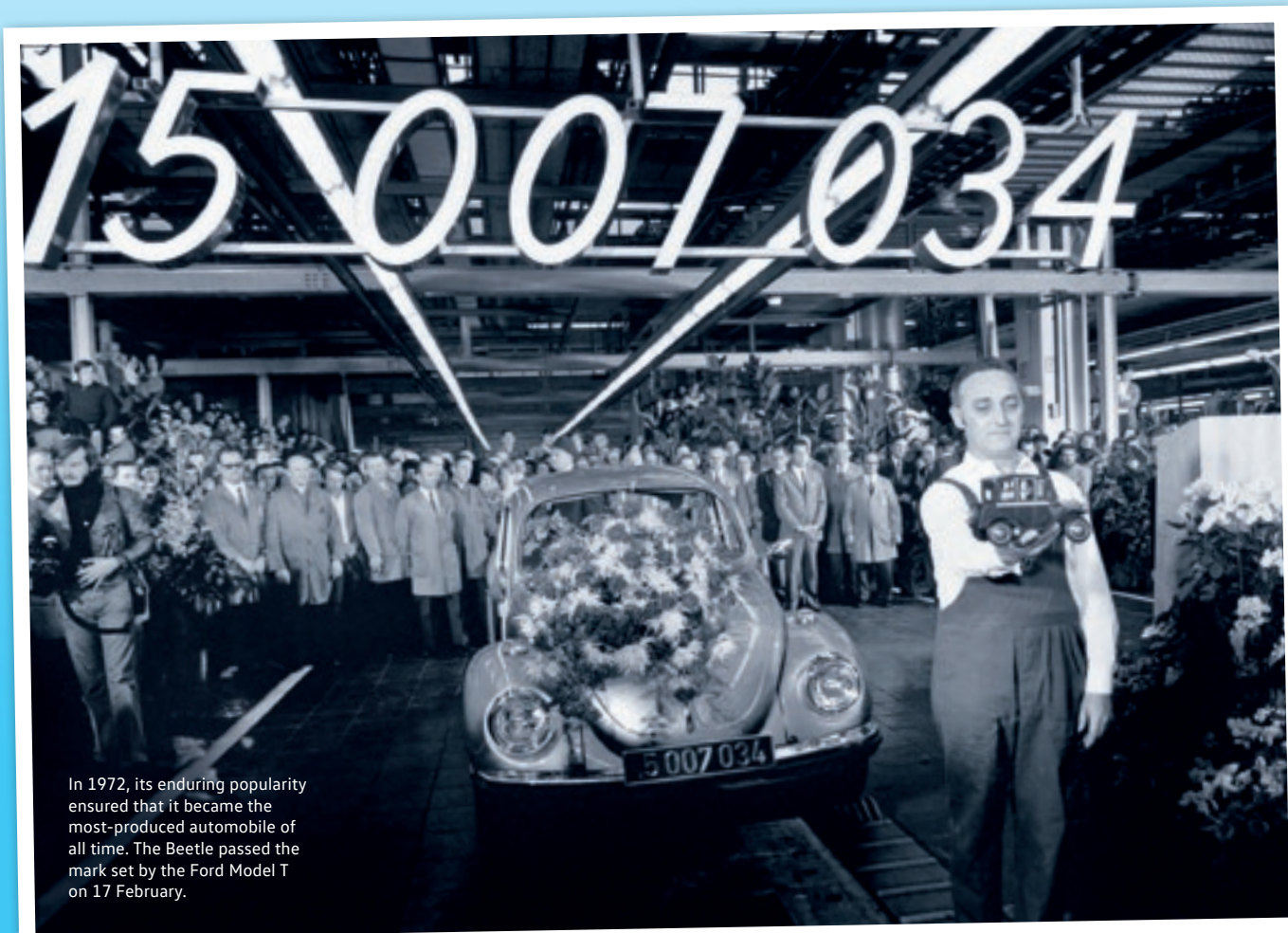
PYRAMIDS



Each year, the Volkswagen Group's logistics  
department transports 75 million cubic metres  
of material within the EU in over  
20 million containers. That is the equivalent  
of more than 28 times the volume  
of the Great Pyramid of Cheops.



# Two multimillionaires for the people.



In 1972, its enduring popularity ensured that it became the most-produced automobile of all time. The Beetle passed the mark set by the Ford Model T on 17 February.



Introduced in 1970, the 1302 model represented a gentle revolution: the elaborate new suspension system and the increase in the size of the luggage compartment to 260 litres were especially popular.

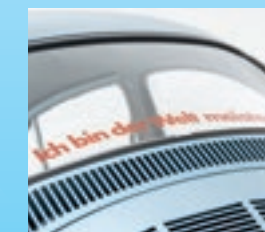
“The World Champion” version of the Beetle and the “10 Million” Golf saw Volkswagen commemorate two automotive milestones from the 1970s and 1980s with exclusive special editions.

**The Volkswagen Type 1**, our Beetle, has influenced the automotive history of the 20th century in more ways than virtually any other vehicle series. The Beetle swiftly became a bestseller, popular around the globe and noted for reliability in every climate zone and on every imaginable road surface.

**REASON TO CELEBRATE**  
On 17 February 1972, the Volkswagen Beetle replaced the Ford Model T as the world’s most-produced automobile. Around 26 years after the Beetle with the split rear window entered production in January 1946, Volkswagen set a new production record: the main plant in Wolfsburg saw the 15,007,034th air-cooled, rear-engine model roll off the line. It was a Volkswagen 1302

model introduced in 1970 that shattered the previous record and officially made Volkswagen the world leader in terms of the quantity of vehicles produced.

Continuous improvements to the model specifications, such as McPherson suspension and a 1.3-litre engine with 32 kW (44 PS) or 37 kW (50 PS) ensured that the daily production rate in 1972 hit a total of 5,600 units per day, more than at any previous time in the history of the company. The working day became a celebratory occasion, as the final assembly position and the record-breaking blue Beetle 1302 S were garlanded with flowers and Rudolf Leiding, then Chairman of the Board at Volkswagen, launched into a eulogy to commemorate the achievement.



Sophisticated: every World Champion driver looked back at the large rear window. A sticker emphasises the production record.





The three-way combination of rear-wheel drive, boxer engine and air-cooling remained unchanged throughout the entire Beetle production period.

1 The world champion gold medal issued with the special model has long enjoyed cult status.

1



**A THANK-YOU FROM THE WORLD CHAMPION**  
However, customers were able to celebrate even longer, thanks to a "World Champion" special edition created especially for this purpose: to say thank you, Volkswagen came up with the special series that was only available for a limited time, between 19 February and 31 March 1972. More than 6,000 customers placed orders, proving the popularity of the idea. The World Champion Beetle remains as attractive as ever today, thanks especially to the rich variety of special features.

The company's own colours and fabrics department had worked flat out to create the special colour tone, for which interior designer Gunhild Liljequist came up with just the right name: Marathon metallic. Sporty Lemmerz World Champion rims, halogen headlamps, a dual-tone horn, reversing lights, heated rear screen, black corduroy seat covers, padded instrument panel and practical additions such as footwell mats and protective rubber bumper strips all represented a step up from the 1302 standard edition. Customers who purchased the World Champion also received a charming selection of accessories: they were presented with a factory certificate, a sticker, a keyring, a pendant and a gold medal inscribed with "The World Champion".



**THE NATION'S PERENNIAL FAVOURITE**

Volkswagen laid down another important milestone in 1988. Advertised as "The Nation's Car", the Golf was unchallenged at the top of the domestic sales charts, while the press had dubbed it the "most successful automobile concept of the last ten years" (1984). The second-generation Golf had been in production since 1983 and its popularity was not restricted to the German market for new cars, catapulting the Golf to the heady heights of eight-digit sales figures: the ten-millionth Golf rolled off the line in the new Hall 54 at the main plant. The in-house designers once again settled on blue as the colour for the special edition to commemorate this production milestone: the Golf "10 Million" was clad in exquisite

The 10 Million special edition was based on the facelift variant of the second-generation Golf, introduced in 1987. State-of-the-art production facilities in Hall 54 contributed to the legendarily robust build quality of the series.



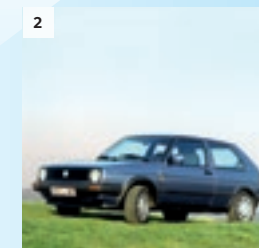
MORE THAN

35

MILLION GOLF

The Golf is the most-produced Volkswagen model of all time.

2



3



4



star blue metallic paint to ensure a stylish appearance. A series of subtle adjustments lifted it above the level of the standard production Golf: 6 J x 14 Silverstone rims with 185/60 R 14 H tyres, blue tinted windows, mirror casings painted in the same colour as the car, enlarged wheel arches, partially dimmed rear lights, blue enamel decorative trim on the bumpers and "10 Million" decorative stickers. The interior also impressed: adjustable, Mauritius Blue velour sport seats with "multi-diagonal" patterning combined with extras such as matching floor coverings, the four-spoke steering wheel, a central console with cigarette lighter and ashtray, as well as an illuminated make-up mirror in the passenger sun visor. Unlike the World Champion Beetle, the 10 Million Golf was

available with a wide selection of engine and gearbox options. Buyers were able to choose from a range of petrol engines, starting at 40 kW (55 PS) and progressing to 66 kW (90 PS). It boasted a four- or five-speed gearbox. Customers could also opt for automatic transmission and a thrifty turbodiesel engine with 51 kW (70 PS). A total of around 16,500 units of the 10 Million special model were built.

Production figures for the Golf have now passed 35 million, helping it to top the podium standings for all Volkswagen models. The legendary Beetle has now been overtaken by the Passat, but is still there in third place with 21.5 million models. These multi-million-selling models are universally loved.

2 It is easy to interpret the 10 Million Golf, as a tribute to the World Champion Beetle. Enlarged wheel arches and alloy wheels provide a sporty touch.

3 The partially dimmed rear lights add a certain something to the look of the rear end. Distinctive stickers underline the individuality of the special model.

4 The blue colour scheme continues in the interior. Aficionados instantly notice the velour sport seats with the exclusive patterned covers, as well the four-spoke steering wheel.



# Fully G-charged.

Between 1985 and 1988, European rally champion Jochi Kleint set world records with three modified models featuring a G-Lader supercharger – the Polo Coupé GT G40, Golf syncro G60 prototype, and the Corrado G60. As soon as one record was in the bag, attention shifted to the next one. However, the focus was actually on demonstrating the quality of the technology.

**In the steep** turn, the horizon tilts to one side like on a rollercoaster. The modified 1.3-litre, four-cylinder engine in the Polo Coupé G40 generates 95 kW (129 PS), achieved with the help of a supercharger with a higher speed than that of production models. "It went well. There was always power when we needed it," recalls Klaus-Joachim "Jochi" Kleint. In 1985, the European rally champion was one of the drivers who – just one week after the sporty production Polo GT G40 hit the salerooms – spent 24 hours hurtling around the 20.8-kilometre circuit at the Volkswagen test facility in Ehra-Lessien at breakneck speed in three technically and aerodynamically modified Polo Coupé G40.

#### STRESS TEST FOR THE SNAPPY POLO

The atmosphere in the cockpit was like being in a race: stripped interior, dashboard instruments, roll cage, fire extinguisher, emergency tool and a selection of spare parts, meticulously specified in the regulations – to allow the driver to take action should he come unstuck on the track. Keeping a watchful eye over everything were eight commissioners from Germany's highest sports authority (ONS). However,



Practice makes perfect: driver Jochi Kleint's Polo Coupé GT G40 ahead of its outing. Pressure refuelling, air pressure, final instructions and handshakes – Go!



#### POLO G40 (1985)

The Polo G40 "went well", thanks to some aerodynamic fine-tuning and 95 kW (129 PS). The G-Lader supercharger survived the acid test on 31 August 1985, as did the regulated three-way catalytic converters. The G-Lader launched a stellar career in 1992, when it was used on board the US space shuttle "Columbia" to cool a lab compartment.



#### GOLF SYNCRO G60 PROTOTYPE (1987)

The Golf syncro G60 generated a mighty 174 kW (236 PS) from a 1.8-litre capacity, thanks to a scroll-type supercharger and intercooling. Jochi Kleint set three FIA records – over 12 and 24 hours, and 5,000 kilometres – with this prototype on 23 May 1987.



#### CORRADO G60 (1988)

With its power increased by 48 kW (65 PS) to 162 kW (220 PS), the record-breaking Corrado achieved a top speed of 270 km/h on 20 August 1988. Built by Volkswagen Motorsport, the pilot-series Corrado also set six new, officially-recognised records for its class.



“The Corrado was one with the track. I still love the sound today!”

JOCHI KLEINT

1 Fond memories of a champagne moment: in the end, both man and machine passed the test with flying colours. Jochi Kleint, the successful Corrado G60 and the team had every reason to celebrate in 1988.

2 There's a whole world beyond the horizon: the record-breaking Corrado in full flight in one of the two steep corners at the Volkswagen test facility in Ehra-Lessien.

3 Under the watchful eye of representatives of Germany's highest sports authority (ONS, now the German Motorsports Association, DMSB) and timed using the latest technology, two Corrado sport coupés took to the start on 20 August 1988.



262.864  
KM/H

Average speed over one hour – one of the six class records set by the Corrado G60 in 1988.



what looked like pure sport was actually an acid test for the G-Lader supercharger and three-way catalytic converters – emerging technology at the time. Would the two components survive the brutal test? Spoiler alert! They would.

Speaking of “spoilers”: the front spoiler, door sills and rear apron were about ten percent more aerodynamic than those on the production car. Together with longer gears, special, narrow tyres, and the higher speed of the G-Lader supercharger, this allowed the Polo Coupé to cut through the air like a hot knife through butter. Even today, Kleint still vividly remembers how it felt to drive: “Man, they were snappy cars! Great to drive and with no turbo lag, thanks to the constantly rotating G-Lader.”

The end result were new world records for its class over 24 hours, with a speed of 208.13 km/h (previous record: 168.63 km/h), and over 5,000-kilometres, with an average speed of 204.41 km/h (previous: 163.3 km/h). Most importantly, the G-Lader and catalytic converters had passed the test with flying colours.

#### RECORD RUN WITH G FOR GOLF

Jochi Kleint returned for more in 1987. Given the success with the Polo, surely it was worth trying with a higher class of car this time. The Golf II, for example. It was earmarked for a career in rallying and was also equipped with G-Lader technology. In “preparation” for rallying, Jochi climbed into the hot Golf, a Golf syncro G60 prototype. Once again, man and machine took on the high-speed Ehra-Lessien track. And won: three international records over 5,000 kilometres (240.32 km/h), 12 hours (2,900.255 km at an average 241.68 km/h) and 24 Hours (5,780.240 km at 240.84 km/h). “The Golf was good too, particularly with the new combination of G-Lader and four-wheel drive,” Kleint recalls.

#### RUN, CORRADO, RUN

By now, Jochi was on a run, and he went one better again in 1988. The Corrado was fresh and new – so,

off to the racetrack it went. The supercharger speed was ramped up to 12,800 rotations, producing a boost pressure of 0.85 bar. Pressed and nickel-plated pistons, a larger-stroke camshaft and wider inlet cams ultimately generated 162 kW (220 PS). That aside, it was a bona fide production car, running on 107-octane, unleaded fuel!

“The Corrado was one with the track. Then you have that mysterious ‘Whuuu!’ from the G-Lader – even today, I still love the sound,” says Jochi Kleint, still waxing lyrical about the powerful sports coupé in 2019. At the wheel of the Corrado, he again tore round the Ehra-Lessien track, which demands due care in the steep corners. “You have to take particular care when exiting the Nordkurve. The car tries to pull you into the wall as it transitions from vertical to horizontal,” says rally ace Kleint, gesticulating enthusiastically.

Then there are the mosquitoes! “After two hours flat out, you can hardly see the pit board. You have to be extremely careful.” Driver changeovers took 17 seconds. A full pit stop, including high-pressure refuelling, oil and air pressure checks, and wind-shield cleaning: 20 seconds. Then back out onto the track! “And then, in the middle of the steep corner, came the rain,” recalls Kleint. With the speedometer reading 266, the silver Corrado with the twin-pipe exhaust clung bravely to the asphalt. On slicks. Kleint reacted majestically. One or two minor adjustments – okay. “I automatically went to switch the wipers on, but they were broken and did not budge. A slight concern for a fraction of a second. The solution: accelerate through the rain.”

Once again, the result was a selection of new class records. Six of them this time: at the one-hour mark, with an average speed of 262.864 km/h, at 500 kilometres (261.032 km/h), at 500 miles (260.704 km/h), at 1,000 kilometres (261.710 km/h), an average speed of 257.112 km/h over six hours, and at 1,000 miles (257.164 km/h). “After all, Corrado does come from the verb ‘to run’ in Spanish,” says a grinning Jochi Kleint.



Jochi Kleint: born in Hamburg, professional rally driver since 1974, first Volkswagen factory driver in 1977, 1979 European rally champion, Volkswagen driver on Pikes Peak from 1985 to 1987 – he still possesses the helmet from the record-breaking run in the Corrado G60.



# Small car, big journey.



1

"Once around the world, economically, please!" Well, you can't book that kind of thing. You just have to get on and do it – in the Lupo 3L TDI. In 2000, this car travelled around the world in 80 days, setting a world record as the most economic production car in the process.



2

Even 20 years down the line, the silver Lupo 3L TDI looks far from used up – and yet this car set a consumption world record. Back in 2000. Between 16 May and 3 August, the compact car travelled once around the big wide world. Seriously: the Lupo and its team of adventurers completed a 33,333-kilometre route through 22 countries and five continents. And all with an average consumption of – believe it or not – 2.38 litres of diesel per 100 kilometres.

As everyone knows, the best ideas do not originate around conference tables, but in an informal setting somewhere. For example, in an exclusive, 19th century London club – like the one, at which, during one social gathering, a certain Phileas Fogg once made the daring bet that he could travel around the world in just 80 days.

#### JULES VERNE'S IDEA RE-INTERPRETED

Admittedly, Fogg, the club and the idea were nothing more than the creations of fantasy author Jules Verne, and some ideas simply take a little time before they are implemented. However, almost exactly 127 years after Verne's novel "Around the World in Eighty Days" was first published, it was time – in a Volkswagen, whose name incorporated the title of said novel: the "Lupo 80 Days". The bet this time: to circumnavigate the world with just 1,000 litres of fuel.



3

1 Small car in Lisbon: in heavy traffic, the Lupo 3L TDI cruises across the bridge over the River Tagus.

2 The sound of music: the Lupo 3L TDI is surrounded by Mexican artists waiting for business at Mexico City station.

3 Globetrotter with record consumption figures: the Volkswagen, seen here in Mexico again, needed just 2.38 litres per 100 kilometres.

*just keeps going,  
and going, and going.*

On 16 May in Berlin, Volkswagen started the challenge with two silver Lupo 3L TDI, together with two media support vehicles and a truck with spare parts, tools and technical equipment. Twice a week, a private television station broadcast a 15-minute item on how the challenge was progressing. "We also had a blogger with us, who updated the website. Back then, however, that meant that we were constantly on the lookout for Internet cafés. The Internet was still relatively young," recalls Bernd Simon, who accompanied the tour with other colleagues for Volkswagen.

#### LITTLE LUPO ON A BIG TOUR

The crew and vehicles overcame the distances between continents by plane – Boeing 747. The first interim destination was South Africa, then came flights to Thailand and Malaysia. From Bangkok to Singapore, then "clean, wash, load, and on to



2.38

L/100 KM

World record: the Lupo 3L TDI set new benchmarks with its average consumption. The most economic production car in the world!



*Day 40, Atlanta.  
The little car is really  
being put through its paces.  
All it needed, though, was  
some new oil and filters.*

1 Where there's a will, there's an oil change: car attendant Ingbert "Inge" Cirpka gives the Lupo some fresh oil in the car park of a hotel in Atlanta, USA.



Australia," says Simon, who will never forget the remarkable images of the little record-breaking Lupo sandwiched between the enormous articulated vehicles, known locally as "road trains". "Fortunately, we were not overlooked in the small Lupo on the route from Perth to Sydney," jokes the former foreman of the technical development department in

Wolfsburg, who gave the 3L TDI a brilliant reference: "Apart from having to change oil and a broken headlight, there was nothing to repair all tour."

In the USA, the little three-cylinder Lupo purred its way from San Francisco all the way down the west coast to Mexico City, on to New York via St. Louis and Washington D.C., then to London by jet. "Through the Eurotunnel to Paris, down to Bordeaux, from Gibraltar over to Morocco, from Fez to Marrakech, then back to Spain. Up the south coast, Madrid, Brussels, Amsterdam, Copenhagen, Oslo ...," says Simon, listing the destinations. The journey took the Lupo back to Germany via Denmark, along the Baltic coast, from Rostock to Magdeburg and Helmstedt via Berlin.

#### BIG NUMBERS, LITTLE THIRST

"We turned around in Helmstedt and headed back to Magdeburg before returning to Wolfsburg, otherwise we would have been about one hundred kilometres short of our goal," laughs Simon. "On the final leg to Wolfsburg, we were accompanied by countless other Lupo, which were 'lurking' on the Helmstedt slip road – that was a great gag."

In the end, the figures were spot on: after a journey of exactly 33,333 kilometres, the record-breaking Lupo crossed the finish line in Wolfsburg, cheered on by a large crowd. The Lupo 3L TDI took its place in the Guinness Book of Records as the most economic production car, with an average consumption of 2.38 litres per 100 kilometres and an average speed of 85 km/h. And the 80 Days team surpassed even their own expectations: instead of 1,000 litres, the Lupo completed its record-breaking tour on just 792.57 litres of fuel. "On one leg in Australia, we actually managed an incredible consumption figure of 1.9 litres per 100 kilometres. However, I think even 2.38 litres is quite acceptable," Simon grins. "It just goes to show that a trip around the world need not cost the world."

What more can one say? Well done, you fantastic little car!



2 Classic picture, but no less impressive when you experience it for yourself: car attendant Bernd Simon with the world record-breaking Lupo in front of the Golden Gate Bridge, San Francisco.

3 Who's afraid of the little wolf? In the heart of Andalusia, nothing is going to disturb this Spanish pig. Maybe it's a good thing it doesn't understand Italian (Lupo = Wolf).





3

DAKAR RALLY WINS  
in a row at the  
toughest marathon rally  
in the world.



# Natural born winners.

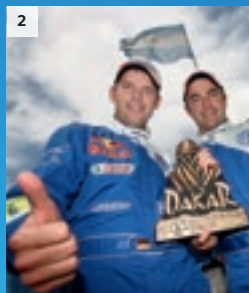
With victories at the Dakar Rally and four titles in the World Rally Championship, Volkswagen is also one of the most successful brands on the off-road scene.



The Race Touareg remains undefeated at the Dakar Rally in South America. In 2011, Qatari Nasser Al-Attiyah and his German co-driver Timo Gottschalk, seen here in action in Chile (left), were victorious.

1 Impressive scenery, great images – a Race Touareg in Argentina during the 2011 Dakar Rally.

2 In 2009, Volkswagen works driver Giniel de Villiers (right) and co-driver Dirk von Zitzewitz claimed the first victory for a diesel car at the Dakar Rally in Buenos Aires (Argentina).



The revolution began in 2004, when the Race Touareg lined up at the Dakar Rally as the first vehicle with a turbo-diesel engine to actually start the race with a realistic chance of winning. “The advantages are the lower consumption and greater torque,” said Eduard Weidl, project leader at Volkswagen Motorsport at the time, describing the differences between the Touareg and the previously undefeated petrol cars. The throttle response of the turbo diesel was perfectly suited to driving in deep sand – a key factor in the marathon rally, which at that time still ran through the Sahara. With daily stages of up to 800 kilometres, the smaller amount of fuel on board was also a measurable weight advantage.

## DESERT RACER FROM LOWER SAXONY

Weidl and engine specialist Donatus Wichelhaus developed a thoroughbred desert racer (RT1), which was visually reminiscent of the Touareg. Weighing just 50 kilograms, the chassis housed a tubular space frame made of aircraft-grade steel as its load-bearing structure. The 202-kW (275-PS) in-line, five-cylinder TDI engine drew parallels with the production Touareg. On its debut in 2004, France’s Bruno Saby finished sixth. One year later, Jutta Kleinschmidt, the only woman ever to win the Dakar Rally, came home third in Dakar. In 2006, Volkswagen Motorsport returned with the second generation of the Race Touareg (RT2), which now featured a four-valve cylinder head and a modified chassis with shorter overhangs. South African Giniel de Villiers narrowly missed out on victory. The following year,

## TECHNICAL DATA FOR THE RACE TOUAREG RT3

|                      |   |
|----------------------|---|
| ENGINE:              | 5-CYLINDER, IN-LINE, DIESEL, TWO-STAGE TURBOCHARGER   |
| CAPACITY:            | 2,500 CC  |
| MAX. OUTPUT:         | 228 KW/310 PS   |
| DRIVE:               | PERMANENT FOUR-WHEEL DRIVE WITH THREE MECHANICAL DIFFERENTIALS, SEQUENTIAL FIVE-SPEED GEARBOX |
| TOP SPEED:           | APPROX. 190 KM/H  |
| ACCELERATION:        | 0-100 KM/H IN 5.9 SECONDS   |
| YEAR OF MANUFACTURE: | 2011  |

American Mark Miller was the best-placed Race Touareg driver in fourth place.

## WINNING RUN IN SOUTH AMERICA

Bruno Saby (2005) and two-time world rally champion Carlos Sainz (2007) did win the World Cup for Cross-Country Rallies with the Race Touareg. However, it was not until the “Dakar” moved to South America for security reasons that Volkswagen claimed its first win in what is the pinnacle of marathon rallying.

And so, to South America. The 2009 route led from Buenos Aires through the foothills of the Andes and the Atacama Desert in Chile and back to the Argentinean capital. Volkswagen Motorsport director at the time, Kris Nissen, once again sent four Race Touareg into battle. After roughly 9,000 kilometres, Volkswagen claimed a memorable one-two, with Giniel de Villiers winning ahead of Mark Miller. The spell had been broken: for the first time, a car with a diesel engine had won the toughest marathon rally in the world. In 2010, Volkswagen went one better, with Carlos Sainz leading home Nasser Al-Attiyah and Mark Miller in a Touareg one-two-three. Victory in 2011 went to Qatar’s Al-Attiyah in the third generation of the Race Touareg (RT3), now with a twin-turbo configuration generating 228 kW (310 PS). He was followed home by teammates de Villiers and Sainz. 2011 was to mark the end of Volkswagen’s involvement in the Dakar Rally. The next challenge was already waiting for the works team – the World Rally Championship.



“The Polo R WRC is not only the best car in the World Rally Championship, but the whole team behind it is also phenomenal.”

SÉBASTIEN OGIER AFTER WINNING THE FIRST TITLE IN 2013

**OFF TO A FLYER IN THE WORLD RALLY CHAMPIONSHIP**

The new Technical Director, François-Xavier Demaison, came up with a World Rally Car (WRC) based on the Polo. With a 1.6-litre, turbocharged petrol engine with direct fuel injection and a sequential, six-speed gearbox, this car would set the benchmark for years to come. However, there was still plenty of work to do to get to that point: in order to practice the for what they would encounter in the World Rally Championship, Volkswagen Motorsport first contested the 2012 season with a Fabia in the second division, courtesy of sister company Škoda.

Shortly before he handed over to his successor, Jost Capito, Volkswagen Motorsport Director Kris Nissen pulled off one last coup. He signed rising French star Sébastien Ogier. He would ultimately be joined in the team by Finland’s Jari-Matti Latvala and Norwegian Andreas Mikkelsen. Ogier paid back the trust put in him as early as January 2013. The Frenchman won the very first special stage with the Polo R WRC at the Rally Monte Carlo. “That was a huge load off our mind. We were confident we would be quick,” said Motorsport Director Capito. “But only the race itself actually confirmed what a great job every single person in the team had done.”

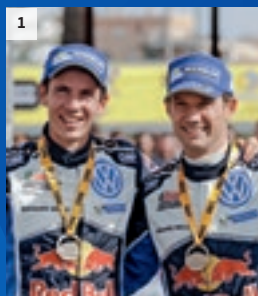
**PODIUM REGULAR**

Ogier launched a remarkable winning run. Over the course of the debut season, he won nine of

the 13 WRC rallies, taking his first title in dominant style. By the time Volkswagen withdrew from the world championship at the end of 2016, the Polo R WRC had tasted success on such different terrains as the icy mountain passes of the Rally Monte Carlo, the snow-covered forest roads of the Rally Sweden, the brutal gravel of the Rally Argentina, and the crumbly asphalt of the Rally Germany. By now married to German TV presenter Andrea Kaiser, Ogier was crowned world champion with the Polo R WRC four years in a row. Team-mates Latvala and Mikkelsen also chipped in with race wins. Latvala was also runner-up in the world championship in 2014 and 2015, while Mikkelsen ended the season third on three occasions.

**RECORD STATISTICS, MADE BY VOLKSWAGEN**

To this day, Volkswagen still occupies the top two spots in two statistics. Between the 2013 Rally Australia and the 2014 Rally Finland, and again between the 2015 Rally Portugal and the 2016 Rally Mexico, the Polo R WRC went undefeated – the winning run of twelve back-to-back WRC victories is a record that still stands today. The twelve wins in one 13-race season, achieved in 2014 and 2015, was also a first. In the 52 WRC rallies that Volkswagen Motorsport contested over the four years, the top spot of the podium was occupied by a Polo R WRC driver 43 times – that is a remarkable win rate of 82.7 percent. It goes without saying that Volkswagen also won the Manufacturer title four times in a row.



1 Sébastien Ogier (right) and co-driver Julien Ingrassia won four titles in the World Rally Championship with the Polo R WRC. Volkswagen was also crowned champion manufacturer on four occasions (2013–2016).



82.7

PERCENT WIN RATE

from 52 WRC rallies – a record, as are the two winning runs of twelve WRC victories in a row.



**TECHNICAL DATA FOR THE POLO R WRC**

|                      |   |
|----------------------|---|
| ENGINE:              | 4-CYLINDER, IN-LINE, TURBOCHARGED, PETROL   |
| CAPACITY:            | 1,600 CC  |
| MAX. OUTPUT:         | 234 KW/318 PS   |
| DRIVE:               | PERMANENT FOUR-WHEEL DRIVE WITH TWO MECHANICAL DIFFERENTIALS, SEQUENTIAL SIX-SPEED GEARBOX WITH SHIFT PADDLES |
| TOP SPEED:           | APPROX. 200 KM/H  |
| ACCELERATION:        | 0–100 KM/H IN 3.9 SECONDS   |
| YEAR OF MANUFACTURE: | 2016  |



2 From 2013, Volkswagen focussed on the World Rally Championship with the Polo R WRC.

3 Rally Mexico 2014 – traditional headwear and refreshments for the winners, Sébastien Ogier/Julien Ingrassia.

4 In its first season in the World Rally Championship (here at the Rally Spain), Volkswagen won the Manufacturer, Driver and Co-Driver titles.

5 Volkswagen sent two or three Polo R WRC into battle in 52 rallies between 2013 and 2016 (here the Rally GB in 2015) – and spent 1,346 days at the top of the Manufacturer standings.

6 Volkswagen bid farewell to the World Rally Championship at the 2016 Rally Australia – with win number 43 for the Polo R WRC.



Back in 1952, importer Ben Pon collected the  
**10,000<sup>th</sup>**  
VOLKSWAGEN

for the Netherlands from Wolfsburg.



FIRST MILLION FOR THE USA

**1962**

The one millionth Volkswagen arrives in the USA.

**Volkswagen employees**

ROUGHLY  
**200,000**  
EMPLOYEES GLOBALLY

ABOUT  
**120,000**  
OF THOSE IN GERMANY

The group's core brand is represented in more than 150 markets around the world and manufactures vehicles at over 50 production sites in 14 countries.

VOLKSWAGEN GROUP:



**44,000**

VEHICLES PER WORKING DAY

Employees of the Volkswagen Group produce just short of 44,000 vehicles around the world every working day.

**10**

MILLION VEHICLES FROM PUEBLA (MEXICO)

22 August 2013  
The ten millionth vehicle is assembled in Puebla (Mexico).

**400,000**

VOLKSWAGENS FROM PUNE (INDIA)

July 2014  
The 400,000th vehicle rolls off the production line at the Volkswagen plant in Pune (India).

OLDEST VOLKSWAGEN SITE OUTSIDE GERMANY

THE  
**ANCHIETA**

PLANT IN SÃO BERNARDO DO CAMPO

was the first Volkswagen plant in Brazil and, at the same time, the first Volkswagen site outside Germany.

Built in 1957, put into operation in 1959. Headquarters of Volkswagen do Brasil with meanwhile 1,000,000 m<sup>2</sup> and 8,700 employees.

VOLKSWAGEN GROUP:

**TRAIN FROM WOLFSBURG TO CHICAGO**

In 2018, roughly 235,000 rail wagons were used to transport vehicles by train. Strung together, this would produce a train that would stretch from Wolfsburg to Chicago.

WOLFSBURG

CHICAGO



VOLKSWAGEN GOL, THE BESTSELLER

2012

**25 YEARS AS NUMBER ONE:**

The Volkswagen Gol is the best-selling car in Brazil. What the Golf is in Europe, the Gol is in Brazil – the bestseller.

**20**

MILLION BEETLES

Another milestone in the company's history is achieved in Mexico

15 May 1981

The 20 millionth Beetle rolls off the production line in Puebla (Mexico).



**5,000,000**

FOR THE USA

1971: A transport ship delivers the five millionth Volkswagen to the United States.

2018

BEST RESULT IN

**CANADA**

Volkswagen delivered 72,000 vehicles to its customers in Canada in 2018 – the brand's best delivery figures ever in this market.

VOLKSWAGEN GROUP:

In Europe,

**18,000** TRUCKS AND  
**1,500** TRAINS

are underway every day in Europe. Over 600,000 deliveries are made daily.

**1987**

On a 3,500-kilometre test drive from Wolfsburg to its partner town in the south of France, Marignane, an Öko-Polo ('Eco-Polo') achieved the legendary consumption figure of

**1.7 l/100** KM



# The record factory.

Over 45 million cars assembled, as many employees as the population of a bigger small city, and the largest private goods station in Europe: records have a long tradition in Wolfsburg. Volkswagen's main plant on the banks of the Mittelland Canal is a factory of superlatives – in almost every regard.

With roughly 63,300 employees and an area of 6,500,000 square metres, the Volkswagen plant in Wolfsburg is home to the largest continuous automobile factory in the world. However, vehicles are not the only thing they produce here. Records and benchmarks are also churned out on a regular basis.

And yet, the many impressive figures stem from rather humble and straightforward beginnings. After the end of the war, under British trusteeship, production resumed with the manufacture of the civilian Volkswagen Beetle, also known as the "Pretzel Beetle" for its characteristic rear window. Production started with the assembly of 55 Volkswagen in December 1945.

Once production started to pick up speed in Wolfsburg, the first records were not long in coming: to great applause from company employees and dealers from Germany and abroad, the one millionth Beetle rolled from the production line on 5 August 1955. The air-cooled Beetle was unquestionably the catalyst to the economic miracle – and the car's success goes on and on and on ... 21.5 million times all over the world.



6,500,000  
SQUARE METRES

This area – the equivalent of 910 football pitches – makes the site the largest automobile factory in the world. More than 45 million cars have been 'born' here already.



**1 Non-stop:** five models and variants of those models are currently manufactured at the main plant in Wolfsburg. More than 3,500 vehicles are assembled here every day.

**2 Endurance star:** civilian production started at the main plant in Wolfsburg at the end of 1945, with the Type 1 – commonly known as the "Beetle". The economic miracle did the rest.

**3 Important platform:** Volkswagen runs Europe's largest private goods station in Wolfsburg. Every day, 190 double-decker railcars are loaded and unloaded here for vehicle transport purposes alone.



## MONACO ON THE MITTELLAND CANAL

By 2019, Volkswagen's main plant on the Mittelland Canal has grown to over six square kilometres. Even the roofed area of 1.6 square kilometres is as large as the Principality of Monaco! The Golf, Golf Sportvan, Tiguan, Touran, and their respective derivatives are currently built in Wolfsburg. And, for the first time for 20 years, a model is also being assembled here for group subsidiary SEAT: the Tarraco. Over 3,500 vehicles leave the production site every day, from where they are exported to more than 50 countries around the world.

It is no wonder that the number of vehicles built in Volkswagen cracked the 45-million mark in June 2018. Based on the length of the latest Volkswagen Golf – 4.25 metres – this is the equivalent of a 191,250-kilometre line of vehicles, which would stretch almost five times around the earth.

"45 million vehicles. That speaks volumes for the ever-reliable main plant in Wolfsburg, a strong team, and for products and quality that inspire our customers. That is an outstanding basis, on which to face the challenges of the future," said Dr. Andreas Tostmann, Member of the Board of Management of the Volkswagen Brand responsible for Production and Logistics, on that very special day.

## A MAJOR PLATFORM

In order to deliver the vehicles, Volkswagen uses more than just four-wheeled transport in Wolfsburg. What few people know is that Europe's largest automobile production site is also home to the largest private goods station in Europe! Seven locomotives, two shunters and one transfer platform are used on a 60-kilometre track. 190 double-decker railcars are handled at the main plant on any working day for the transport of new and used cars.

This is part of Volkswagen's efforts to transfer as much of the plant's traffic from the roads to the rails. Modern H3 Alstom hybrid locomotives, which,



primarily when shunting, are run purely on electric power, help to keep the ecological footprint of the production and logistics at the main plant in Wolfsburg to a minimum.

Anyone wishing to discover the facility on foot needs to be a good walker – or preferably a marathon runner: the network of roads linking the production site, warehouses, administrative buildings and outdoor areas is 75 kilometres long. You would need to be in good shape to visit all of them in one day.

**PULLING STRINGS IS A THING OF THE PAST!**

Fortunately, we have telephones. Incidentally, Volkswagen is also a company of superlatives when it comes to telecommunications. While the switchboard operator in the communications centre used to pull the strings it is now a network of many thousands of metres of fibre-optic cables that guarantees lightning-fast data transfer and information exchange between the company's headquarters in Wolfsburg and the 8,500 suppliers, 68 component plants and 52 car plants all over the world. With 80,000 data connections, this is the largest site installation in the world.

By the way: vehicles are not the only things setting records in Wolfsburg. Currywurst (sausage in curry sauce) is also made in the shadows of the striking chimneys – and sells like hot cakes in the 17 canteens in Wolfsburg and beyond. Roughly seven million are sold each year. It certainly tastes good enough to be worthy of a record.

The sausage, which actually has its own reference number (199 398 500 A) in the company's internal

order system, is also in hot demand all over the world as a souvenir of the brand's motherland.

**CHINA THE NEW POWERHOUSE**

And it tastes good in China too. The "Middle Kingdom" has been an important foothold for Volkswagen for a long time now. This is largely down to a man with impressive entrepreneurial vision: Prof. Dr. Carl H. Hahn. In 1984, at the instigation of the former Chairman of the Board of Management, Volkswagen became the first foreign automobile manufacturer to sign a joint-venture contract to form the "Shanghai-Volkswagen Automotive Company". One year later, in the autumn of 1985, the first Volkswagen Santana built in China rolled off the production line. The Volkswagen was the first German car ever built under licence in China and remains one of the best-selling cars on the Chinese market.

It was to be followed by many other models "made in China". With roughly two million units delivered, SAIC VOLKSWAGEN, as the joint venture is called, was one of the largest automobile manufacturers in China.

With over 4.2 million vehicles sold each year, the Middle Kingdom has long been the Volkswagen Group's largest and most important individual market. With this in mind, Dr. Herbert Diess, Chairman of the Board of Management of Volkswagen AG, is keen to stress: "The future of Volkswagen will be decided on the Chinese market. China is the new powerhouse of the automobile industry."

Like the main plant in Wolfsburg, China is unlikely to stop setting record after record in the coming years.



1

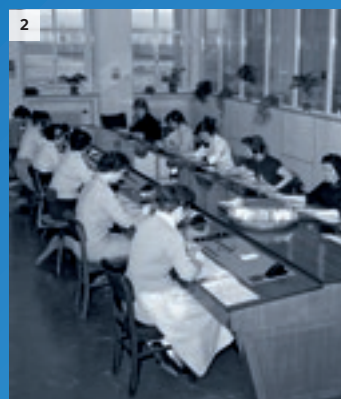
1 The covered hall areas on the plant premises are as large as the Principality of Monaco.

2 Always well connected: in the past, switchboard operators in the company's own communications centre used to establish connections, as seen here in 1959. Nowadays, that is all done by IT. With 80,000 data connections, Volkswagen in Wolfsburg is the largest site installation in the world.

3 Conveniently situated on the Mittelland Canal, the site occupies an area of over six square kilometres.

4 Visionary with a world view: Prof. Dr. Carl H. Hahn laid the foundations for the successful joint venture between Volkswagen and China – the first of its kind!

5 Record producer: roughly two million vehicles were manufactured in the SAIC VOLKSWAGEN plant in Shanghai in 2018.



2



3



4



5



# The Italian job.

A major coup at 360 km/h: the Aerodynamic Research Volkswagen (ARVW), with Keke Rosberg at the wheel, set multiple world records on 18 October 1980 – fastest lap in Nardò and fastest diesel car in the world! And with minimal consumption, thanks to a cw value of just 0.15!



362.07  
KM/H

The fastest ever: with a speed of 362.07 km/h, the ARVW was officially named the fastest diesel vehicle in the world, and also completed the fastest lap of the Nardò circuit.



Slim line: the second ARVW in the Volkswagen wind tunnel in Wolfsburg, with plumes of smoke to make the airflow visible. This car was a measurement and reserve car, which was never used.

**Lightweight construction, save fuel** – and with a commercial vehicle engine, a heavy six-cylinder? Sure! It all depends on who his creating what concept. The internal goals for the five-metre ARVW research car was to achieve a high top speed with minimum consumption – and something that could be incorporated in production vehicles. Six brilliant minds in Wolfsburg spent one and a half year designing the eventual world record holder: project manager was Jürgen Nitz, Rainer Deutenbach was responsible for aerodynamics, Emil Pommer for construction and design, Rolf Poltrock for the engine, and Martin Schlotthauer for the drivetrain. Rudolf-Helmut Strozyk, a consultant in the Volkswagen Research department at the time, was responsible for the field of engine cooling, as von Nitz's right-hand man.

#### ON COURSE FOR RECORDS WITH CREATIVITY AND INVENTIVENESS

In a tubular frame covered completely in a "skin" of glass fibre reinforced plastic, which serves partly as a distribution system for the cooling water from the 2.4-litre, six-cylinder engine (129 kW/175 PS) from the LT van, the driver is positioned between

the engine and the front axle. A solid linked chain, with a diameter of roughly ten centimetres, and bolts transfer the power to the rear wheels. The increase in power from the original commercial vehicle engine allows higher injection pressures.

Bevor taking to the circuit used for the world record attempt, the car needed fine tuning and some adjustments to the rear-axle suspension, steering and brakes. "Originally, there was a single-circuit brake system," says Strozyk. "That did not seem sufficient to us. Because we had to be quick, we installed the dual-circuit brake system from my private 1967 Porsche 911 S Targa after we had found a solution to prevent the chain bolts in the drive chain from 'escaping'. We then headed to Nardò (Italy), where we were able to complete our first tests at high speed – and had to integrate a few technical measures." Because the steering lock was as limited as possible, the amount of testing that the team could do with the ARVW was seriously restricted at the Volkswagen test facility in Ehra-Lessien. "And the ARVW had not been painted yet either. That was to be quite an adventure."

Final set-up work on the ARVW in the wind tunnel: Günter Reich (mechanics, front), Hans Rathmann (electrics, rear). In the cockpit, Rudolf-Helmut Strozyk (engine cooling).



### A COLOURFUL ADVENTURE

Because the special paint required was not available in Italy, Strozyk and his colleague Lothar Mertens obtained the material in Wolfsburg and transported it by air. Back in Italy, at the layover in Milan, the two ARVW engineers were waiting at the conveyor belt for their luggage "when we suddenly smelt an unmistakable aroma. The special paint for the record-breaking car had leaked!" chuckles Strozyk, recalling the dilemma. "We dived over the barrier to rescue what we could. However, we did not get far: in a flash, we were surrounded by Carabinieri armed with submachine guns, who thought we were terrorists!" Fortunately, the misunderstanding was cleared up and Strozyk and Mertens arrived at the paddock in Nardò with dripping suitcases. "The remaining paint was enough for the livery. However, because we could not find a paint shop, I had to paint the ARVW on-site, on the spot."

### FLYING MILE, ITALIAN STYLE

It was then time to get down to the actual business of racing. The ARVW completed its test laps at the Italian high-speed circuit in Nardò. Various different drivers drove the eventual record breaker, including Helmut Henzler, Alfred Beier, Jürgen Nitz and Rudolf-Helmut Strozyk. "Our telemetry readings involved me sticking a strip of grey tape to the right thigh of my jeans and noting the engine data on it whilst travelling at 360." Eventually, the driver for the record attempt, Formula 1 driver Keke Rosberg, also appeared.

"Our main objective was to research the possibilities of significantly reducing fuel consumption by minimising aerodynamic and mechanical resistance," explains Helmut Strozyk. "It was all 'packaged' in a sporty target: the so-called 'flying mile.'" To achieve this, the car must complete the aforementioned distance in both directions within one hour.



### HIGH-SPEED PURSUIT OF RECORDS

Keke Rosberg immediately trusted the car. "He took a quick look at the car and the engine compartment, climbed in, asked: 'Everything okay with it?' – then, after I answered in the affirmative, he immediately roared round the track flat out," says Strozyk, full of respect for the racing driver even today.

With the fearless Rosberg at the wheel, the streamlined ARVW ultimately broke three world records and four class records for diesel vehicles. One of the world records was for the fastest lap in Nardò, with a speed of 362.07 km/h! In setting this record, it smashed the previous best of 327.30 km/h. And what about consumption? Precisely 6.0 litres of diesel over 100 kilometres – at a speed of 250. The ARVW reached the 500-kilometre record distance in just 87 minutes at an average speed of 345.26 km/h. The incredible success in Nardò also earned the ARVW a significant record and title in 1980: the fastest diesel vehicle in the world.

1 The Volkswagen team gradually sussed out the characteristics of the ARVW at the circuit in Nardò. Here, Strozyk is seen testing the car, so that Keke Rosberg can confidently push the ARVW to its limit later on.

2 Pit stop; Jürgen Nitz (left) and Mr Klaus, head of the Volkswagen Research department, go to work on the still unpainted ARVW, seen here with its wheel covers raised.

"Because we had to be quick, we installed the brakes from my private Porsche 911 S."

RUDOLF-HELMUT STROZYK





# Baptism of fire from Alaska.

Ninety-four days, six people, two Golf I, from Alaska to Tierra del Fuego – a unique adventure in the year 1974.

“Where am I? Not too much information, just tell me what country!” Driver and automotive journalist Fritz B. Busch made this plaintive request on several occasions during the most extreme test drive ever undertaken by an early production model: from Fairbanks, Alaska, down to Ushuaia, Tierra del Fuego. A total of 30,514 kilometres that were rolled, bounced, rushed, sneaked and endured from October 1974 to January 1975. In the Golf I.

“Death Valley: tough guys sought their fortune here. Some of them found so much that they had enough. Some found only death,” is how Fritz B. Busch recorded his thoughts in the logbook. A typical “Busch”, it was he who introduced an emotional writing style to the previously dry world of automotive journalism. Who else but the personification of the auto poet could have done a better job of dealing with such a hard task? And in a brand-new car to boot, the Golf I.



30,514  
KILOMETRES

... was the driving distance that two Golf I covered on risky roads between October 1974 and January 1975 – as part of an exceptionally tough test drive from Alaska to Tierra del Fuego.



A baptism in water for the new Golf between Alaska and Tierra del Fuego. Peter Färber, one of the two Volkswagen engineers along for the ride, tests the advantages of front-wheel drive in all the elements.



The two Alaska-Tierra del Fuego Golf with chassis numbers 653 and 714 are considered to be the two oldest representatives of their type still in existence. Between production in July 1974 and the start of the endurance race in October, they were manually modified for the long journey.



#### ENDURANCE TEST FOR THE NEW MEMBER OF THE VOLKSWAGEN FAMILY

When this outlandish tour began in October 1974, the public had not yet seen much of the Golf "live and in colour", as the new Volkswagen had only been on the market for a few weeks. It was guaranteed to cause a stir! The timing could not have been better – Volkswagen had the new Golf model and Pirelli had just introduced a new wide radial endurance tyre. The two companies decided to work together and launch a spectacular joint endurance test: driving along the legendary Panamericana route from Alaska to Tierra del Fuego!

The team was small, but full of colourful characters: the Alaska-Tierra del Fuego team consisted of just

six adventurers. Fritz B. Busch was accompanied by renowned "stern" photographer Frank Müller-May, Volkswagen engineers Peter Färber and Wolfgang Peschke, as well as mechanic Bernd Ott and Alfonso the translator. The journey began in Fairbanks, Alaska, on 23 October 1974. The goal: Ushuaia, the most southerly town in Argentina.

#### FROM ALASKA TO THE END OF THE WORLD: TRIALS AND TRIBULATIONS, FUN AND GAMES – AND SPEED LIMITS

Busch noted: "Behind the wheel day after day, the Golf has practically become my home. For ten, twelve, sometimes sixteen hours a day, it is like my living room." The team would have to give their all on this journey. On the road for nearly three months

"The Golf had underride protection, storage boxes for radio sets and powerful extra headlamps."

PETER FÄRBER

of trials and tribulations, it was a period that often felt like a real slog. But everyone involved wanted to make the most of every single day during this adventure. Co-driver Peter Färber remembers sheriffs who turned a blind eye now and again, talks about the visible wear and tear on the car and long, exhausting days behind the wheel. "And while the steaks are crossing the road as cattle, you're hungry and sitting in the Golf!"

The participants are unanimous in regarding the US speed limit of 55 miles per hour as an instrument of torture: "It's like you're rolling along on a train for hours." But at the same time, they love to reminisce about the landscapes they experienced: "Yellowstone Park, stupendous, so picturesque! Seeing nature was the true experience on this journey."

#### ¡BIENVENIDOS, NÚMERO 653 Y 714!

And of course, the new Golf. Volkswagen sent two models, built in 1974, on this adventurous trip. These are now the oldest known production Golf, with chassis numbers 653 and 714. Craftsmanship was called for to double the thickness of the underride protection, replace the rear seats with custom-built storage systems and install thick, stitched tarpaulins for privacy. There had to be enough space for fuel canisters, photographic equipment, personal luggage and tools! Any items that did not fit in the pair of brilliant yellow Golf were easily stowed in the grey Volkswagen T2a with a raised roof, which was used



as the support vehicle. After 94 days and 30,514 kilometres of endurance test, everyone involved was pretty exhausted at journey's end in Ushuaia, Argentina – apart from the two Panamericana racers by the name of Golf. They completed the drive to the end of the world, as Tierra del Fuego is also known, without complaint. Since that day, they have been referred to as the "Alaska-Tierra del Fuego Golf" and have found a sheltered home in the AutoMuseum Wolfsburg, where they can tell the story of their unbelievable adventure. Fritz B. Busch puts it in a nutshell, in his own inimitable style: "You get wanderlust at home. You get homesick when you're somewhere else. That's the difference. It is immense."

From bone-chilling cold to searing heat over 30,514 kilometres from Alaska to Tierra del Fuego. "It was a torturous drive but everyone involved wanted to make the most of every single day," says Peter Färber.



# Flat out on the Bonneville salt.

Fast, faster, Jetta: in April 2018, a modified Volkswagen Jetta earned its place in the Guinness Book of Records.



338.15  
KM/H

New record for land vehicles of its class: hitting a mighty 338.15 km/h on the salt flats, the Jetta smashed the previous record of 335.50 km/h.



1 Jetta drops anchor: brake parachutes help to decelerate from over 300 km/h on the salt flats.

2 The 2.0-litre production engine was the subject of various modifications for the record attempt, including new conrods, pistons, valves, camshaft and a larger turbocharger.



The ground clearance was lowered to a minimum and a special tyre reduced roll resistance. The interior of the Jetta was stripped out completely – only the bare essentials were left on board.

The sedan tore across the Bonneville Salt Flats in the USA at 338.15 km/h, breaking the previous world record for land vehicles of its class.

The bonnet of the record-breaking car houses a four-cylinder EA888 turbocharged engine, which is equally at home in various road-going models produced by the Volkswagen Group, such as the 180-kW (245-PS) Volkswagen Golf GTI Performance<sup>1, 2</sup>. The engine power was ramped up to 447 kW (608 PS) – at 8,500 rpm – for the record attempts. To achieve this, Volkswagen engineers installed new conrods, pistons, valves and camshafts, as well as a larger turbocharger and a new exhaust system. The standard engine block and crankshaft remained unchanged.

The TSI engine had it easy with the new Jetta<sup>3</sup>, as the record-breaking racer boasted a low drag coefficient of just 0.27, making it extremely aerodynamic. Achieving a speed of exactly 338.15 km/h (210.16 mph), it topped the previous record of 335.50 km/h (208.47 mph) in the BGC/G class of the Southern California Timing Association.

## STANDARD TSI TECHNOLOGY

“Achieving this speed in Bonneville proves the quality, durability, performance and efficiency of Volkswagen TSI engines, as well as the aerodynamic performance of the new Jetta,” said Hinrich J. Woebcken, President and CEO of Volkswagen of America. “This record highlights the sporty credentials of our Jetta. It also provides an insight into the future of the sedan, as we are using a modified version of the EA888 in the record-breaking car. This powerful TSI engine will also be used in the new Jetta GLI in the future.”

## SPECIAL TUNING FOR SALT FLATS

Achieving speeds of well over 300 km/h on salt flats places unique demands on the vehicle. The record-breaking Jetta therefore features technical details such as a significantly lower chassis, special salt flat wheels and tyres, a limited slip differential for optimal traction, and two brake parachutes at the rear. The interior has also been completely cleared out: all that remains are the controls for driving, a bucket seat with race harnesses, a stable roll cage, and a fire extinguishing system.

<sup>1</sup> Golf GTI Performance – WLTP fuel consumption in l/100 km: low 10.1 / medium 7.1 / high 6.3 / very high 7.5 / combined 7.4; CO<sub>2</sub> emissions combined in g/km: 168; efficiency class: D. Golf GTI Performance – NEFZ fuel consumption in l/100 km: urban 9.0 / extra-urban 5.5 / combined 6.8; CO<sub>2</sub> emissions combined in g/km: 155; efficiency class: D

<sup>2</sup> Golf GTI Performance DSG – WLTP fuel consumption in l/100 km: low 10.6 / medium 7.2 / high 6.2 / very high 7.1 / combined 7.3; CO<sub>2</sub> emissions combined in g/km: 165; efficiency class: C. Golf GTI Performance DSG – NEFZ fuel consumption in l/100 km: urban 7.5–7.3 / extra-urban 5.6–5.5 / combined 6.3–6.2; CO<sub>2</sub> emissions combined in g/km: 143–140; efficiency class: C

<sup>3</sup> The vehicle will not be available for sale



# When less is **more.**



Reunited after 35 years:  
Cornelia Plattner and the  
"Sparmobil Volkswagen"  
(SMVV), also known as the  
"Shell Marathon Volkswagen".

Even back in the eighties, range was an issue. In 1982, a Volkswagen employee set the world record for using the smallest amount of fuel whilst driving an extraordinarily economical vehicle called SMVV. She covered a distance of nearly 1,500 kilometres with just one litre of fuel.

**The aim was** to go on the attack with a fully-enclosed type of motorised bicycle. Background: at the 1980 Shell Marathon two years previously, a competitor from southern Germany had recorded the lowest consumption levels with a super-light soapbox cart at the fuel saving competition. This was a challenge for Volkswagen, so two technicians from the research department in Wolfsburg – Thomas Bader and Georg Schweimer – set to work.

#### **STREAMLINED, DELICATE, ECONOMICAL**

Volkswagen developers really did use bicycle components for the economical three-wheeler, combining these with outlandish materials and cutting-edge drive technology. The miniature diesel engine was probably the most astonishing aspect: direct fuel injection allowed the small 25.7-cc combustion chamber to produce 0.2 kW (0.272 PS), which were transferred along a bicycle chain to the rear wheel. 30 to 40 km/h were possible and consumption was measured at approx. 0.15 l/100 km. However, it was just consumption and range that counted in the economy competition. The vehicle was just

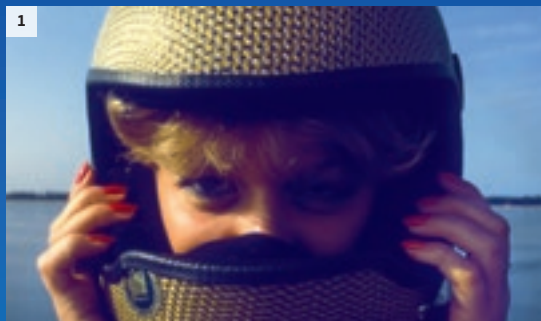


2.80 metres in length and very narrow, resulting in a cw value of 0.15 in the wind tunnel. Controlling the vehicle was far from easy, as it was so different to conventional small cars. A casting programme took place to find someone small enough for the car, yet imbued with the requisite technical knowledge. That very person was found at Volkswagen Design: 23-year-old Cornelia Plattner, née Lenz, 1.53 m in height and weighing in at under 50 kg, applied for the position and outperformed her competitors in the tests. "I was curious and eager for adventure," she explains, "which evidently did a lot to win over the technicians."

They conceived and built the economy model from January 1980 to June 1982: Thomas Bader (middle) and Georg Schweimer (right). Cornelia Plattner (Lenz) drove the SMVV.



1 Safety first: featherweight integral helmet made of aramid and carbon fibre hybrid material, which also survives to this day.



#### MULTITASKING IN THE MINI-MOBILE

Accelerating with the manual switch, steering with foot pedals, constantly activating and deactivating the power source, and all of this from a near-horizontal position in the claustrophobic confines of a tiny cockpit, while concentrating on the tiny, newly-developed on-board computer – that was multitasking of the highest order. Cornelia Plattner managed it just fine: “It’s no wonder, women deal with multiple challenges at once all the time,” she laughs.

Volkswagen’s minimalist economy vehicle (SMVW) weighed just 28 kg and was a piece of high-tech art. The steel and aluminium frame was coated in a film of aramid fabric, while a plexiglass hood shielded the driver in the cockpit. “We were lucky that the sun was not shining too much,” she remembers, as this would have turned the driver’s seat into a sauna. There is a celebratory feeling in the air as the erstwhile driver – who now works for Volkswagen global communications – is reunited with her vehicle in the AutoMuseum Volkswagen after 35 years.

#### HAIRDRYER, FREEWHEELING AND A PIPETTE

A standard hairdryer was employed to warm up the small engine. A technician used a pipette to drizzle a precisely-calculated amount of fuel into the tiny tank. Then, the air-cooled engine sputtered into life and the two-speed transmission with free-wheeling rear hub was activated with a small lever. Following the example of the Volkswagen research vehicle Auto 2000, the record-breaking

vehicle used a free-glide clutch that also allowed it to roll without engine support.

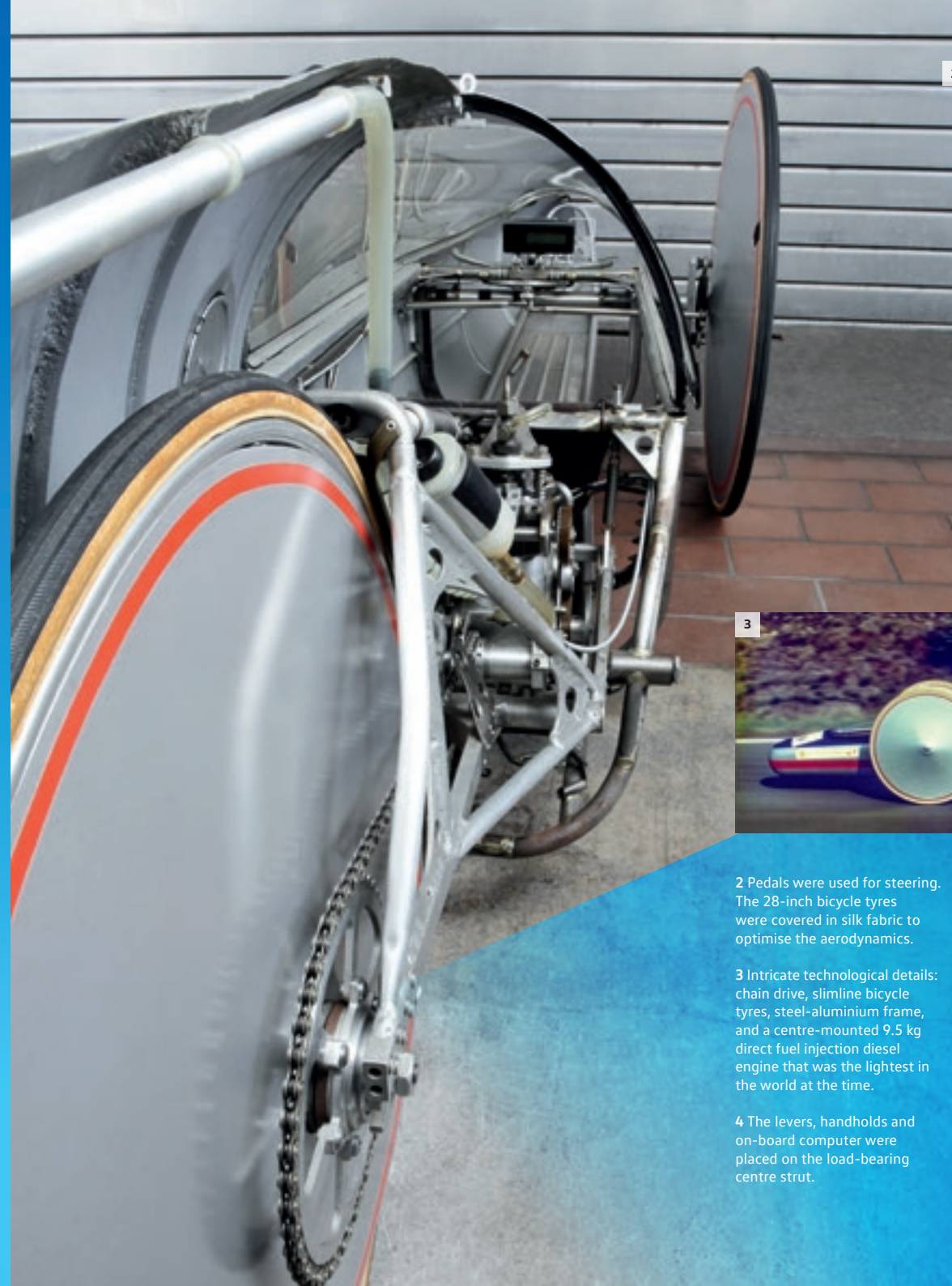
4 July 1982 was the big day: 53 vehicles were competing in the 5th International Shell Kilometre Marathon at the Hockenheimring. Travelling at walking pace was not permitted and the vehicles had to maintain an average speed of 25 km/h. However, the circuit included several chicanes and the pack of economy vehicles often had one wheel off the ground as they entered the turns at 25 to 30 km/h – with the danger of flipping over. To be on the safe side, the driver wore a carbon-fibre helmet. “I tried not to depress the brake as I would have lost all my momentum,” remembers Cornelia Plattner with a smile. “Maintaining as consistent a speed as possible was the only way to succeed.”

#### WORLD RECORD FOR ECONOMY VEHICLE

The SMVW delivered a convincing and effortless performance. Victory in the Pro class – with an extrapolated range of 884.3 km per litre at a speed of 25.6 km/h. On 28 August 1982, vehicle and driver returned to the track – this time at the Volkswagen test site in EhraLessien. The aim was to break the record for low fuel consumption, as set by a competitor according to the 1980 regulations. The same exercise took place, under the same conditions. World record, reported the FIVA commissars! The range calculated for one litre was 1,491 km at 16.9 km/h!

A great figure, which works out at 0.07 litres per 100 km – which later made life very difficult for manufacturers of low consumption vehicles.

Flat, slimline, light – that was what made the 1-litre car successful in 2002 as well: with a cw value of 0.159, two seats arranged behind one another and 6 kW (8.4 PS), the cigar-shaped 1L set a record of just 0.99 l/100 km on the trip from Wolfsburg to Hamburg. It will hardly be possible for another combustion-engine-driven car to break that consumption record in anything approaching practical conditions.



2 Pedals were used for steering. The 28-inch bicycle tyres were covered in silk fabric to optimise the aerodynamics.

3 Intricate technological details: chain drive, slimline bicycle tyres, steel-aluminium frame, and a centre-mounted 9.5 kg direct fuel injection diesel engine that was the lightest in the world at the time.

4 The levers, handholds and on-board computer were placed on the load-bearing centre strut.



1,491  
KILOMETRES

The commissars calculated the range for the record-breaking drive in Ehra-Lessien.





The Grundmann Collection: hall after hall of rarities, unique specimens, special bodies based on the Beetle up to 1957, and the T1 and Karmann Ghia. First up, the Karmann Convertible (front right): Traugott Grundmann lovingly restored this Beetle and brought it, still red at the time, back to Germany with him.

# A passion for life.

There are certain people, who breathe life into vehicles. And there are fans, who keep them alive, maintain the values of the brand and tell their stories. Their passion is both inspirational and record-breaking. Take the Grundmanns, for example.

**Grundmann** is a big name on the vintage car scene: the collection, the bustling duo of Traugott and Christian, and the International Vintage Volkswagen Show in Hessisch Oldendorf, which they initiated. Superlatives are the order of the day here.

It all starts in the workshop. Here, work is underway on the oldest intact civilian Kübelwagen (bucket car), which was delivered to the Hannover Post Office in September 1945. Moving into the hall, one is greeted by more original official vehicles. The 1959 Police Beetle, the 1962 Police bus, and the 1949 Hebmüller Police convertible are also loaned to the authorities for use at events. Across the hall is Lower Saxony's only radiation monitoring car, dating back to 1958. This hall is also home to the oldest camper van in the world, an unassuming T1 from 1950 is the earliest known split screen 'bus'. The Grundmann Collection specialises in unique models. "For us, it is not about having lots of vehicles, but the most unique vehicles possible," says Christian Grundmann. "The history behind the vehicles has always been close to my heart.



**RARE & ORIGINAL**  
THE MOST EXCLUSIVE VOLKSWAGEN  
COLLECTION IN THE WORLD

So many oldest and original Volkswagen in one place – that is unique anywhere in the world.



His heart beats for one-off, early Volkswagen: with his commitment and passion, Christian Grundmann has been influencing the vintage car scene for decades.



I have spent a lot of time in archives and doing research. This also helps to ensure we restore them as authentically as possible." Decoration also forms an important aspect of the collection. Whether vehicles, contemporary everyday objects or accessories, Grundmann has the same approach: "I never go looking for anything specific, but always find something beautiful!"

#### CORNERSTONE OF THE GRUNDMANN COLLECTION

It all started with a 1957 Volkswagen Karmann Convertible. Traugott Grundmann, a pilot in California at the time, restored it and used it to travel the across the USA with his family. This was little Christian's first intense experience of Volkswagen. Fast forward a few decades and the son is now generally the driving force when it comes to uncovering new treasures. Together with his friend Björn Schewe, Grundmann has primarily found many rarities in the former GDR since the fall of the Berlin Wall: "We soon earned a reputation as weirdos, spending so much money on old cars. At the same time, the sums were nothing like the ones you have to spend today."

Father Traugott is the technician, son Christian the creative force. Together, and with the help of many friends, they have put together a unique collection over several decades: starting with four, the collection has grown to over 80 classics. They include the oldest Hebmüller convertible, a Herbie and a VW38 prototype, as well as the Rometsch Archive and a Beetle helicopter.

The Grundmanns' halls house a record-breaking number of rarities. If you are lucky, you might even experience one of the few tours, which can be arranged individually. After all, Christian Grundmann loves nothing more than to share his passion: "That is a living project with friends. I am happy to see people enjoying Volkswagen. That is what it is all about!"

1 "The collection is like a family member to me," says Jens Meusel (right), who has been involved in Hessisch Oldendorf for years. Christian Grundmann (left) sees the project as a complete oeuvre: "It is quid pro quo. Everyone here has their own passion."

2 Treasures in the Karmann corner: the Karmann Ghia Type 34 Convertible once belonged to the Karmann family. The Type 34 Convertible never went into production and is one of eight prototypes.

3 An exotic item in the collection of official vehicles: the 1958 T1 remains the only radiation monitoring vehicle in Lower Saxony – even today.

4 Volkswagen Convertible Hebmüller No. 5: Christian Grundmann is often offered cars, because people know they are in good hands here. The oldest existing Hebmüller model, dating back to 1949, recently starred in the two-part ARD television programme "Anne Burda".

5 The only Rometsch Car Body Museum in the world: seven classics from the Berlin coachbuilder are on display here. The collection also offers insights into the development of special bodywork based on Volkswagen, as well as the company's furnishings.





# There's always room for one more ...



20

PEOPLE

Twelve passengers in a camper van? Not bad, but still rather civil. The world record, on the other hand, stands at 20 people in a Beetle – with the doors closed!



**1** Ladybug: first 35 students from Wisconsin, then a legendary 57 female students from Graz squeezed in and on the icon from Wolfsburg.

**2** Take your seat, please: in 2011, 15 women and one man somehow defied physics to find sufficient space in the brand-new up!

**3** Guinness record, set on 9 December 2010 by the Asbury University Emancipation Project (USA), to raise awareness of human trafficking: 20 people in a 1964 Beetle.

“Cramming” is the common term used internationally for the phenomenon of squeezing as many people as possible into a car – voluntarily, to set an official world record. No small number of Volkswagen have been “inhabited” in this manner.



**The odd, and** yet amusing, activity of “cramming” was invented in the USA, where a group of people decided it would be a funny idea to squeeze into the world-famous “bubble car”, the Beetle. This example set a precedent: since then, it has become a global trend to allow yourself as little breath as possible by cramming yourself and as many contemporaries as possible into vehicles. Ouch!

In order to earn a place in the official Guinness Book of Records, however, you must play by strict rules. These include the fact that the cars must be standard production models, the doors must be closed for at least two seconds during the cramming, and the engine must be started.

Time for a short extract from the list of records involving Volkswagen models? It would be our pleasure: 17 people initially fit into the Beetle – with doors and windows closed. In 2010, 20 people – apparently able to endure great suffering – raised the Guinness World Record by three in Wilmore (Kentucky). In the USA, a remarkable 27 students of Penn State Abington University managed to cram themselves into a New Beetle. Three years later, an attempt was made to exceed that figure – but came up just short: 26 people. In 1983, 30 flexible Austrians from Langenlois squeezed into a Golf. And in 2011, it was a matter of “upload”, when 16 people somehow crammed into a standard Volkswagen up!, without the use of a single clamp.



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