

**PREMIERE**

**918 SPYDER**



# 918 SPYDER THE FUTURE HAS ARRIVED

**IT SOUNDS SO EASY AND PROMISES SO MUCH:** Powerful driving pleasure on even less fuel. But there is a lot more to Porsche's hybrid breakthrough and its three spectacular hybrid sports cars than catchwords. The absolute highlight in the "Porsche Intelligent Performance" strategy is the high-performance mid-engine 918 Spyder.

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**Six letters of the alphabet** electrify not only the Geneva Motor Show but the entire automotive world: “hybrid!” And it’s especially exciting if the hybrid drivetrain comes from the sports-car manufacturer with seven letters. Blazing headlines broadcast Porsche’s own smashing version of E-mobility following a world premiere spelled out in three numerals and six letters: 918 Spyder. It is a project of the greatest urgency, with an equally high need for secrecy, and the outcome is nothing less than astounding. On the eve of this spring event, Porsche is already earning accolades for the “car of the future.” From then on, the security guard will not be leaving his post next to the 918 Spyder. The huge crowds and the worldwide response spring from what at first seems unimaginable about this project: at Porsche, the hybrid era has begun.

The 918 Spyder sets a new milestone. It demonstrates that Porsche can build a super sports car with even lower emissions than those of a subcompact. No one else has accomplished that until now. The Spyder emits less than 70 grams of CO<sub>2</sub> per kilometer under the New European Driving Cycle (NEDC), which corresponds to a fuel consumption of three liters per 100 kilometers (78.4 mpg). The Spyder is powered by a V8 gasoline engine and three electric motors. The car operates ▶

**ACCELERATION INSIDE AND OUT: THE SYNTHESIS OF EFFICIENT FUNCTIONS AND AN ERGONOMIC, HIGH-TECH USER INTERFACE** provides a glimpse of possible interior designs of future super sports cars. The harmony in design embodies the Porsche DNA in both form and function, with all of its power and dynamics.



according to the plug-in hybrid principle, which enables the lithium-ion batteries to be charged on the regular electrical network. It has a range of up to 25 kilometers (15.5 miles) on electric power alone. On the other hand, the Spyder can also lap the North Loop of the Nürburgring in less than 7.5 minutes, and thus sets a new benchmark.

The “test drive” of the spectacular sports car takes place early on during the Volkswagen Group’s traditional “Brand Evening.” Porsche CEO Michael Macht surprises the crowd by personally chauffeuring the 918 Spyder onto the stage, using its combustion engine. His passenger, Walter Röhrl, takes the wheel for the near-silent exit, using the electric drive. The applause for the soundless Spyder gets even louder. Even a racing legend like Röhrl can still enjoy new experiences.

The story of the 918 Spyder begins with Macht’s resolve to urgently boost the emotional appeal of the Porsche brand. In Wolfgang Dürheimer, supervisory board member responsible for development, he finds an ally to help convert the emotion into technology: “We want to create a product that fascinates people—a drumroll that will remind people that Porsche is a powerhouse for new ideas, which can point the way to the future and spearhead technological development.”

The small project team makes excellent progress, but the final decision to use Geneva for the world premiere is not reached until Christmas, requiring an all-out effort to define a new dimension of high-performance sports car. “We had to work faster than ever,” says chief design engineer Michael Mauer. He leaves it to others to rate the result. The audience response is impressive. Weissach engineers attending the unveiling as observers actually report being quite touched by spectators turning “glassy-eyed.” Threefold Formula One World Champion Jackie Stewart cannot tear himself away from the concept car at the center of the display area, and continues to circle the 918 Spyder again and again. The Scotsman’s expression is wishful—a look that becomes commonplace among the spectators during the days that follow, lending added weight to Macht’s statement: “What we claim, very simply, is that no one builds more efficient high-performance sports cars than Porsche. But at the same time, environmental compatibility has to become an even higher priority for sports cars.” ▶

**IN ITS FULLY ELECTRIC-POWERED MODE, THE 918 SPYDER SPEARHEADS THE PORSCHE HYBRID BREAKTHROUGH. THE HIGH-PERFORMANCE SPORTS CAR ALSO PROVIDES THREE OTHER OPERATING MODES.**



THE CONCEPT CATCHES ON FAST AT THE SPECTACULAR WORLD PREMIERE OF THE 918 SPYDER AT THE 80TH GENEVA MOTOR SHOW. THE WORLD'S PRESS CALLS THE CONCEPT STUDY A "SUPERCAR." IT IS A MILESTONE IN THE PORSCHE STRATEGY TOWARD "ELECTROMOBILITY."

Porsche knows new technologies are an absolute must in the high-end segment, and its strategy and technology have long been aligned accordingly. By consolidating these objectives under the "Porsche Intelligent Performance" program, the company now goes on the offensive. Although the 918 Spyder, the Cayenne S Hybrid, and the 911 GT3 R Hybrid are based on different concepts, they are all part of the same push for the environment and for the future. The first day of the Geneva Motor Show has not even officially started yet, and the sky is still pale over Lake Geneva when Macht presents the formidable hybrid trio from Porsche. The event is perfectly scripted: the Cayenne S Hybrid opens the act with the lowest CO<sub>2</sub> emission levels of any Porsche production vehicles. Then the GT3 R Hybrid is highlighted as a new chapter for the racetrack. And a countdown begins. "We've got even more to show you," Macht promises—and the 918 Spyder is unveiled as if by a magic hand.

The idea catches on quickly, even across centuries—because in the year 1900, Ferdinand Porsche had already developed a hybrid drive for the Lohner Porsche Semper Vivus. "The 918 Spyder is clearly consistent with our roots as a sports-car builder. For us, efficiency and performance are not incompatible," says Macht, who views the Porsche hybrid debut as an "intelligent answer to the most urgent questions of our time." With the three electric drivetrains on wheels, Porsche is responding appropriately to those key issues while nevertheless conveying all the right emotions that go with a sports car.

The V8 engine in the 918 Spyder is an advanced development of the successful 3.4-liter power unit in the RS Spyder racing car and is located midship in front of the rear axle. Thanks to its excellent balance, this configuration ensures superb performance for the lightweight body design with a carbon-fiber-reinforced plastic monocoque and use of magnesium and aluminum. This design not only accounts for the low weight of less than 1,490 kilograms (3,285 lbs.), but also provides high torsional rigidity that maximizes precision handling.

Power is transmitted to the wheels by a seven-speed PDK transmission, which also feeds the power of the electric-drive system to the rear axle. The front-wheel electric drive powers the wheels through a fixed transmission ratio. Energy storage is provided by a fluid-cooled lithium-ion battery positioned behind the passenger cell. The big advantage of a plug-in hybrid is that the battery can be charged on the regular electrical grid.

## DATA SHEET 918 SPYDER

<b>Drivetrain:</b>	<b>High-speed V8 engine, plus electric motors on the front and rear axles, plug-in hybrid, seven-speed PDK transmission</b>
<b>Performance (V8):</b>	<b>Over 368 kW (500 hp)</b>
<b>Performance (E-Drive):</b>	<b>160 kW (218 hp)</b>
<b>Top track speed:</b>	<b>Over 320 km/h (199 mph)</b>
<b>Acceleration :</b>	<b>0–100 km/h (0–62 mph) in 3.2 sec.</b>
<b>CO<sub>2</sub> emissions:</b>	<b>70 g/km (113 g/mile)</b>
<b>Fuel consumption (NEFZ):</b>	<b>3.0 l/100 km (approx. 78.4 mpg)</b>

## QUESTIONS AND ANSWERS ABOUT THE 918 SPYDER

### What's the idea behind "Porsche Intelligent Performance"?

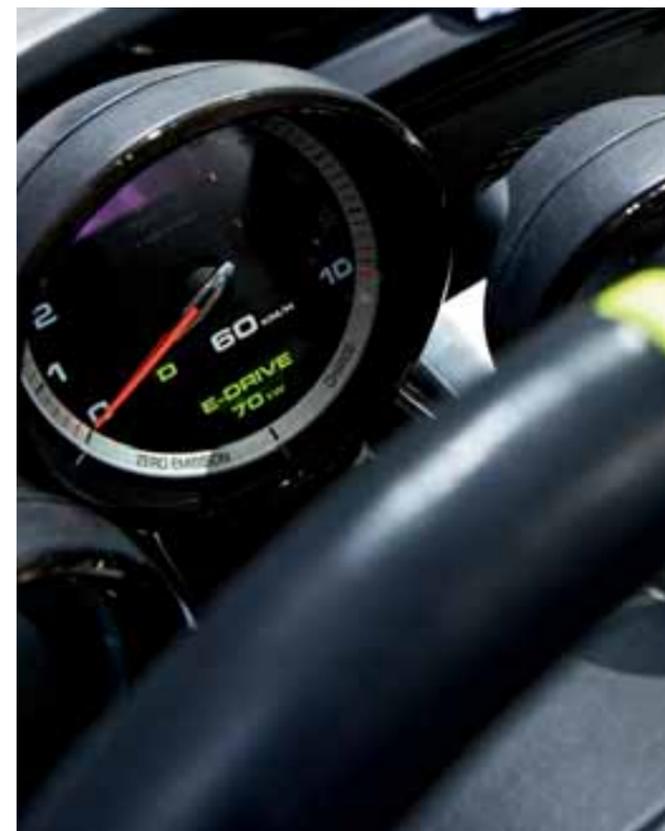
The claim that no one builds more efficient high-performance cars than Porsche. At the same time, environmental compatibility becomes an even higher priority.

### When will the 918 Spyder go into production?

Initially the vehicle will remain a technology demonstrator while Porsche studies customer response. Only one of all the concept cars that Porsche has ever displayed at auto shows did not become a production vehicle. So the odds are very good this car will be produced.

### How much will it cost?

Of course it is too soon to announce an accurate price level, but its precursor, the Carrera GT, sold for about €450,000.



In addition, regenerative braking converts otherwise wasted heat energy into electric current and feeds it back into the battery. That provides additional energy for fast acceleration.

A button on the steering wheel allows the driver to choose among four different operating modes: the E-Drive mode is for running the car under electric power alone, with a range of up to 25 kilometers (15.5 miles). In the Hybrid mode, the 918 Spyder uses both the electric motors and the combustion engine as a function of driving conditions and requirements, offering a range from particularly fuel-efficient all the way to extra powerful. The Sport Hybrid mode likewise uses both drive systems, but with the focus on performance. In the Race Hybrid mode, the drive systems are running at the limit of their power and dynamic output. This wide range of hybrid performance options renders the 918 Spyder equally capable of racing-car lap times and of road driving with exceptional fuel economy.

It is certainly no coincidence that the neckties of the Porsche board members in Geneva match the color scheme of the Spyder: Porsche in green. ◀

## THE WAY TO THE FUTURE 918 SPYDER

- 1 Power electronics
- 2 Electric drive
- 3 Lithium-ion battery
- 4 V8 high-speed engine
- 5 Porsche dual-clutch transmission (PDK)
- 6 Electric motor
- 7 Power electronics

