



## E-Performance to the power of three – a day in electrified Monaco

**28/05/2025** Between the sea, the metropolis and motorsport: the Principality of Monaco is considered a pioneer of electric mobility. And there's more than one way to experience that with Porsche.

There are places where the future begins quietly – and yet seems loud. Monaco is such a place. It's a city state balancing on a rock, surrounded by glamour, seeped in history and speed. But anyone who believes that Monaco is merely a backdrop for the norm underestimates just how visionary it actually is. Electromobility is important here, and has been for longer than one might think.

As early as the 1990s, Monaco set an example for an electrified future with the aim of improving both the quality of the air and of life. The principality promoted the purchase of electric vehicles, enabled free charging and began to build a charging infrastructure – long before electromobility became a global topic. Today, according to official figures, approximately 300 public charging points are available on a piece of land that is less than two square kilometres – and has a population of around 38,000. The idea is that every Monegasque should have access to a free public charging station within a maximum radius of 200 metres.

## E-Performance for everyday use

The morning air is clear as we plunge into the urban canyons of Monaco in an all-electric Macan 4S. A gentle push on the accelerator pedal sets Porsche's first all-electric SUV in motion, past awakening street cafés and boutiques. An electrically powered bus stops a few metres away – local transport is also whisper-quiet in Monaco. On the Boulevard Albert 1er, the Porsche appears calm, clear, focused. At the next traffic lights, a Taycan pauses next to us. The first all-electric sports car from Zuffenhausen has long been part of the cityscape in this principality – not an exception, but an expression of change.

The Macan quickly climbs up the slope to the Place du Palais, which borders the official residence of the princely family. This is where Prince Albert II was chauffeured through the narrow streets in an electric car about 20 years ago. Today's Provence-coloured Macan seems to merge with the city, between stone steps and palm trees, between the past and a vision of the future. Anyone who drives an electric car in Monaco is not making a statement against sportiness and speed, but in favour of a new dimension of performance.

At the end of 2013, the Macan made its debut with a conventional combustion engine in its nose. In 2019, Porsche entered the electric age of sports cars with the Taycan. The Macan Electric followed in 2024 – not as a derivative, but as an independent interpretation. Technically, this means a lithium-ion battery with a gross capacity of 100 kWh, 800-volt architecture and DC charging power of up to 270 kW. This means that enough energy can be recharged in around 20 minutes to drive hundreds of kilometres further – a charging stop takes hardly longer than a cappuccino in a street café.

With the electric version of the Macan, Porsche is ushering in a new chapter that is emblematic of the technological leap of recent years. Two electric motors enable all-wheel drive and, in the Macan 4S, with which we are exploring Monaco, an overboost output of up to 380 kW (516 PS) – enabling impressively strong acceleration. Just the blink of an eye and the sprint to city speed is done. Performance does not come at the expense of efficiency. Thanks to modern battery technology and intelligent energy management, the electric SUV achieves ranges that do not have to shy away from comparison with conventionally powered cars. It symbolises a new generation of Porsche vehicles that combine responsibility and performance. And it is representative of how far electric mobility has developed since Monaco's pioneering days.

## Gliding on the Côte d'Azur

From the road to the water: the Frauscher x Porsche 850 Fantom Air leaves the Quai Louis II barely audibly. The slim, white silhouette lies as if drawn in the water – a maritime promise of lightness, performance and beautiful lines. Even the name sounds like speed, like silence, like a new way of getting around. And there's an air of mystery too.

As soon as the high-voltage battery and electric motor of the sports boat are called upon, a sound is

created as if from another dimension. No roaring, no smoke, not a drop of oil clouding the water. The eFantom lives up to its name: eerily quiet, it cuts through the harbour basin of Monaco, out into the open blue. Only the patter of the spray on the hull, the whirring of the stern drive underwater and the distant call of a seagull accompany the trip.

The Côte d'Azur shows itself in its concentrated beauty: pastel-colored facades on green slopes, the Mediterranean deep blue, above light dancing on the waves. The wind blows over the deck as Bastien Bonnet, General Manager of Frauscher France, pushes the throttle forward. "What you don't hear on this boat is all the more noticeable," says Bonnet, looking ahead. The eFantom combines speed and silence. Monaco on the port side is getting smaller, the Mediterranean Sea spreads out in front of the bow – and with it a touch of futuristic elegance.

## **Frauscher x Porsche – the best of both worlds**

The Frauscher x Porsche 850 Fantom Air is one of the most advanced electric boats in its class. A symbiosis of Austrian boatbuilding and Zuffenhausen's vision of the future. The 8.67-metre-long and 2.49-metre-wide day cruiser is based on the proven Frauscher 858 Fantom Air and has been reinterpreted for the electric age in close partnership with Porsche.

The drive in the hull of the boat comes from the Macan, and boasts a 100-kWh HV battery feeding a state-of-the-art permanent-magnet synchronous electric motor. Up to 400 kW (540 PS) of power is available – more than enough to put the eFantom into stable planing in seconds. Its top speed in Sport Plus mode is around 90 km/h (49 knots). It's as if the boat is flying – without any effort.

The eFantom stands not only for performance, but also for style and exclusivity. Design details from Zuffenhausen can be found everywhere onboard – from the Porsche sports steering wheel at the helm to specially designed bucket seats with an embossed coat of arms. At the world's largest boat and water sports trade fair, Boot Düsseldorf 2025, the eFantom was named Powerboat of the Year in the Electric category. At the Boot & Fun in Berlin, it won the Best of Boats Award in the Best Electric category, which is one of the most prestigious awards for motorboats in Europe.

Not only at full speed, but also when charging, the eFantom defines new standards. Thanks to Porsche's 800-volt technology, it can charge at around 250 kW. Under ideal conditions, its state of charge climbs from 10 to 80 per cent in less than 30 minutes. In Monaco's marina, we find the best conditions for this in the form of DC fast-charging stations at the pier. The principality is not alone here: electromobility on the water has developed rapidly on the Côte d'Azur in recent years. Other coastal cities such as Nice and Cannes are also committed to building the supporting infrastructure. Not least for the Frauscher x Porsche project, these are ideal conditions.

## Cooperation with pioneering spirit

Anyone who takes a look behind the scenes of this partnership will recognise the great pioneering spirit behind it. "My grandfather built our shipyard's first electric boat in 1955," says Managing Director Stefan Frauscher. Since its founding in 1927, the family-owned company has repeatedly tested new forms of propulsion, including hybrid, hydrogen and battery systems. But the team had searched in vain for ways to add a fast electric boat to the portfolio for a long time – until Porsche came into play as a partner. In 2021, the sports car manufacturer from Zuffenhausen came forward with the vision of bringing the Porsche legend to the water in an electrified way.

Jörg Kerner is involved, among others, from Porsche's side. The Vice President of the Macan model line is not interested in a prestige project, but in a technological transfer with substance. He emphasises that his team's task is to drive sustainable change and show that Porsche believes in electric mobility and its future – and develops new technologies accordingly. Kerner, himself an enthusiastic boater for more than 25 years, knew that Porsche daring to take the plunge onto the water was never going to be done half-heartedly. Just a few months after the starting gun, a first prototype was making its rounds on Lake Tegernsee. "Normally, it takes 10 years for innovations like this to arrive in boat building," says Kerner. A lot of fine-tuning was necessary before the market launch in the autumn of 2023. Even the Porsche steering wheel has been marinised. "Salt, sun, sunscreen – all of this was a challenge for leather and drive technology," says the head of the model line, looking back.

## Monaco in energy mode – Formula E

In the afternoon, a new futuristic soundscape settles over Monaco. It is the turn of Formula E on the legendary street circuit. All-electric racing cars have been lapping here since 2015 – initially on a shortened track, and since 2021 on the full Formula 1 Grand Prix circuit. At the Sainte-Dévote corner, cars shoot past spectators.

Porsche works drivers Pascal Wehrlein and António Félix da Costa recover energy with every braking manoeuvre. In Monaco, the future drives within sight – and it is breathtaking. Not least when the Porsche Taycan Turbo GT takes to the track as a safety car, it becomes clear that the electric age of motorsport is well and truly with us. Right here, right now, tradition and transformation merge: Casino Corner, The Tunnel, the Swimming Pool Chicane – everything is as it always has been, only sung in a new key when you compare it to Formula 1.

Behind the scenes, Florian Modlinger, Team Principal and Formula E Overall Project Manager at Porsche, analyses the data. Time for a few questions.

## High performance under high voltage

"The learning curve since the start of Formula E in 2014 has been enormous," explains Florian Modlinger. The current GEN3 Evo race cars have an output of up to 350 kW (467 PS) and weigh a little more than 850 kilograms – values that were like Utopia for electric cars just a few years ago. In fact, the electric motor has always been considered efficient. But the Formula E teams have taken the topic of energy efficiency to a completely new level. Take their braking system, for example: the Porsche 99X Electric recuperates at up to 600 kW. With the aforementioned 850 kg of vehicle weight, this alone would almost feel like emergency braking for ordinary mortals.

Only for even more deceleration does the front friction brake intervene – disc brakes as we know them. With an outer diameter of 258 millimetres, it is quite small for a racing car. More is simply not necessary due to the cars' high electric braking power. The two discs at the rear are even just decoration – they only intervene in the event of a failure of the Reku. Modlinger recalls: "In season 1, the drivers had to change cars halfway through the race because the battery was depleted. Today, we drive the entire distance with one car and recover up to 55 per cent of energy through recuperation. The progress is enormous. And, in 18 months, the next big step will come: with even more recuperation and more than 600 kW. The GEN4 will be the biggest leap in performance to date."

Energy management in Formula E is by no means a show. "We have 38.5 kWh of energy available for each race – regardless of the race distance. For longer races, that means less energy per lap and more strategic thinking," says Modlinger. Those who achieve efficiency gains through software solutions can drive faster with the same amount of energy. "That's our real drive: to make more out of less." These are keywords for Porsche and highly relevant for the series.

How efficiently these drives actually are can be impressively demonstrated in Monaco. "We're driving here on the same track as Formula 1," says Modlinger. "The F1 cars are about 18 per cent faster, which is clear. But with the equivalent of our 38.5 kWh of energy, they would only get a handful of laps – then the 'tank' would be empty. We can drive for more than 45 minutes. "We can achieve efficiency of more than 97 per cent with the powertrain of the Porsche 99X Electric. A hybrid Formula 1 drive is well below 55 per cent – classic combustion engines on the road are worlds away from that."

For Porsche, Formula E is more than just a world championship: it is a test laboratory and an engine for innovation. The findings from each E-Prix flow into series production development. The engineers of the racing team sit shoulder to shoulder with engineers for the road-car projects in Weissach. The exchange, from which both sides benefit, takes place daily – and does not require specially scheduled meetings.

Returning to the principality, dusk is descending. In front of the casino, the silhouette of the Macan is reflected in the windows. In the harbour, the eFantom rocks gently at its berth. Up in the grandstands of the race track, the wind blows away the last echoes of the E-Prix. Monaco showed in one day what e-performance can mean to the power of three: movement on the road, the water and the race track. A

future you can touch, without local emissions, without compromising on excitement. This small principality may not be the biggest stage in the world. But for the mobility of tomorrow, it is certainly a glamorous one.

# MEDIA ENQUIRIES

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## Consumption data

**Taycan Turbo GT (WLTP)\*:** Electrical consumption combined: 21.2 – 20.5 kWh/100 km; CO<sub>2</sub> emissions combined: 0 g/km; CO<sub>2</sub> class: A

**Macan 4S (WLTP)\*:** Electrical consumption combined: 20.5 – 17.7 kWh/100 km; CO<sub>2</sub> emissions combined: 0 g/km; CO<sub>2</sub> class: A

**Macan (WLTP)\*:** Electrical consumption combined: 19.4 – 16.8 kWh/100 km; CO<sub>2</sub> emissions combined: 0 g/km; CO<sub>2</sub> class: A

\*Further information on the official fuel consumption and the official specific CO<sub>2</sub> emissions of new passenger cars can be found in the "Leitfaden über den Kraftstoffverbrauch, die CO<sub>2</sub>-Emissionen und den Stromverbrauch neuer Personenkraftwagen" (Fuel Consumption, CO<sub>2</sub> Emissions and Electricity Consumption Guide for New Passenger Cars), which is available free of charge at all sales outlets and from DAT (Deutsche Automobil Treuhand GmbH, Helmuth-Hirth-Str. 1, 73760 Ostfildern-Scharnhausen, [www.dat.de](http://www.dat.de)).

## Image Sublines

Path: E-Performance to the power of three – a day in electrified Monaco/Images/img\_2.jpg

Title: Macan 4S, Monaco, 2025, Porsche AG

Subline: [ci:Macan-4S-Electric]

Path: E-Performance to the power of three – a day in electrified Monaco/Images/img\_4.jpg

Title: Pascal Wehrlein, TAG Heuer Porsche Formula E Team, António Félix da Costa, TAG Heuer Porsche Formula E Team, Frauscher x Porsche 850 Fantom Air, Macan 4S, Monaco, 2025, Porsche AG

Subline: Porsche works drivers Pascal Wehrlein and António Félix da Costa

Path: E-Performance to the power of three – a day in electrified Monaco/Images/img\_6.jpg

Title: Florian Modlinger, Director Factory Motorsport Formula E, Formula E, Monaco, 2025, Porsche AG

Subline: Florian Modlinger, Team Principal and Formula E Overall Project Manager

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