

A gentleman and a record-breaker

09/06/2022 With his electrically powered Blizz Primatist, the Italian entrepreneur Gianmaria Aghem set seven world records on the circuit of the Nardò Technical Center, impressively demonstrating the potential of electric mobility.

Ganmaria Aghem has already driven more than 400 vintage car rallies in his life, and he has won a fair share of them. His car: a 1965 Lancia Fulvia Coupe. “I love the classic design, the vintage technology, and the sound of the engine,” says the 74-year-old entrepreneur from Turin with evident delight. His living room is adorned with over 70 trophies.

And now another standout achievement that one might not have expected from a classic car fan like Aghem has been added to his bevy of awards: In the spring of 2021, he set seven world records on the grounds of the Nardo Technical Center (NTC) in southern Italy. He was driving the ultra-modern electric single-seater Blizz Primatist, a car that he played a key role in developing and which has little in common with his Lancia Fulvia Coupe. You'll search in vain for the flashing chrome radiator grille, rally headlights, or classic curved shapes of the Lancia. Indeed, the four-meter-long and one-meter-wide vehicle with a tailfin is more reminiscent of a torpedo. When accelerating, you won't hear the rich throatiness of a four-cylinder, but only the quiet hum of the e-drive.

Impressed by the Z.E.R

The “Blizz” in Blizz Primatist references Aghem’s company Blizz Timing, which he founded a few years ago and which manufactures high-quality chronometers for rallying, while “Primatist” underscores the vehicle’s aspiration of always being the first to cross the finish line. The car was modeled on the legendary Z.E.R. (Zero Emission Record) launched by the Italian design firm Bertone in 1994. With its sensational Cd value of 0.11, the electric vehicle was a futuristic reinterpretation of the Abarth 750 Record, a 1950s racing car also built by Bertone.

Like its forebear, the Z.E.R. was designed exclusively to deliver top performance. And it certainly did: the electrically powered car set two world records. One came in 1994, when it covered a distance of 199.881 km in one hour. The following year, it set a new top-speed record for electrically powered vehicles: 303.977 km/h.

Gianmaria Aghem saw the Z.E.R. for the first time in 1996 at the AutoClassica fair in Milan. He was immediately impressed by the concept. For Aghem, the Z.E.R. was more than just a Bertone classic. To him, the car’s new drive technology represented a foray into uncharted territory. And that is exactly what the Turin car fan wanted to do roughly a quarter of a century later as well: drive the Z.E.R., improve it, and set new records with it. Unfortunately for him, the car was not available. After Bertone’s bankruptcy, the Italian classic car club ASI (Automotoclub Storico Italiano) bought the entire collection of the Bertone Museum. Now the vehicles – including the Z.E.R. – were on exhibit at Volandia, a museum near Milan Malpensa Airport.

In-depth expertise in automotive engineering

So Aghem decided to design his own vehicle. Having acquired in-depth expertise in automotive engineering over the years, he had the requisite knowledge. “When engineers get stuck, they call here and ask him,” says his wife, Rossella Conti. Aghem also brought in engineer Eugenio Pagliano, who had developed the Z.E.R. and was now to join him in launching its unofficial successor. But the Blizz Primatist was never intended to be a mere improved copy of the Z.E.R. “We developed all the components from scratch,” Aghem emphasizes.

The capabilities of the electric engine and the efficiency of the battery cells are state of the art. The battery in the Blizz Primatist consists of 2,688 lithium-ion cells that deliver a total of 34 kWh of energy. Electric propulsion is provided by a 20 kg, three-phase asynchronous motor from Switzerland, which can deliver a peak output of more than 147 kW and enable a top speed of more than 300 km/h. Energy management is handled by a complex algorithm that determines the maximum speed at a given distance or time. All information coalesces in the cockpit, with its digital readouts and black-and-gray LCD displays, which is almost as spartan as a Formula 1 cockpit. The electric car is steered with a yoke similar to those used in airplanes.

Design optimization in the wind tunnel

However, Aghem's engineers were determined to adopt one thing from the Z.E.R.: the low Cx value of 0.11. to achieve this, the designers and constructors from Podium Engineering in Valle d'Aosta optimized the drag of the Blizz Primatist on the computer and measured it in the wind tunnel at the Polytechnic University of Turin. The car's long range is due in no small part to the modern lightweight carbon-fiber construction contributed by the Carbonteam company based in Saluzzo in Piedmont. In the end, the engineers stayed below the specified limit of 500 kg with the extremely low vehicle weight of 499 kg. The idea was to make it possible to compete in two different classes: electric vehicles weighing up to 500 kg and – with a few kg of ballast – electric vehicles weighing 500 to 1,000 kg. The 890 kg Z.E.R., outfitted with lead batteries, also competed in that class.

The Z.E.R. set its two world records on the circular track at the NTC in Apulia. So it was only logical for its successor to test its mettle on the same track. Antonio Gratis, managing director of the NTC, still remembers the call from Gianmaria Aghem clearly: "When I was asked if I could imagine opening the track for the record attempts, I didn't have to think twice. Testing the limits of the automotive future is part of our DNA – whether it's through safeguarding the vehicles of tomorrow or through unique record-breaking attempts. Automotive history has been written on our track. What would the Nardo Technical Center be without records?"

New track record over one hour

After the track had been inspected and certified by the FIA (Federation Internationale de l'Automobile), the big day arrived on April 30, 2021. A tow truck towed the Blizz Primatist to the starting position of the 12.6 km high-speed circular track at the NTC. The countdown ticked down on a display panel, and when it reached zero the black torpedo with the Italian tricolor painted on it started moving almost silently. The Blizz Primatist had embarked on its quest to break the record. At the wheel: Gianmaria Aghem.

On that day and the following, he roared around the track at constant speeds of between 200 and 250 km/h, setting seven records in two vehicle classes. On April 30, he covered the ten-mile, 100-km and 100-mile distances at the highest average speed that electric vehicles weighing up to 500 kg had ever achieved to date. Aghem also bettered the course record for the hour, covering 225.184 km. At the end of the day, the battery still had a charge of four percent. Thanks to intelligent energy management, Aghem had made optimal use of the available energy.

Overnight, the battery was charged again, and on May 1, three further records followed in the ten-mile, 100-km and 100-mile time trials in the 500 to 1,000 kg electric vehicle class. The times were certified by the FIA, whose experts traveled to the event together with representatives of the Italian automobile club ACI (Automobile Club d'Italia).

If he had taken more time and recharged the battery, Aghem could have achieved even higher speeds. “That wasn’t my objective, though,” he says. “I wanted to show that a battery-powered car can travel long distances at a high speed. I have achieved that.” Now he hopes that his vehicle will serve as an example to automotive manufacturer and spur them on. “This achievement was unimaginable just a few years ago,” Aghem said. And already next year he wants to increase it further: Aghem has announced that in May 2022 he wants to travel to Nardo with the Blizz Primatist and break more records.

Antonio Gratis is equally impressed: “Gianmaria Aghem’s records are proof of the great progress made in electric powertrain systems. Compared to the Z.E.R., the Blizz Primatist has a much higher range and thus represents a huge technological leap. I’m quite certain that the public will soon see more fascinating records in the electric vehicle class. And I am sure that NTC will play a major role as a ground of great achievements.”

Gianmaria Aghem passed on the chance to set an eighth record: the one-hour time trial for electric vehicles weighing up to 1,000 kg. That record is still held by the Z.E.R., at 199.881 km. “I could have topped that if I had driven slower in the other three categories on the second day,” Aghem said. “But I chose not to break that Z.E.R. record. That’s what my respect for the legend demanded.” His wife chimes in: “Do you hear that? My husband is not a cold-blooded record-hunter. He’s a gentleman.”

In brief

With his seven spring 2021 records, Italian entrepreneur Gianmaria Aghem demonstrated that all-electric vehicles can travel long distances at high speeds. This achievement was made possible by an efficient electric powertrain, state-of-the-art battery cells, and the Blizz Primatist’s low aerodynamic drag.

Info

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