



The Chinese flag is displayed on a team Techeetah car undergoing pre-race preparations.

PHOTOS BY ANGUS MCNEICE / CHINA DAILY

Electric cars race ahead

Formula E becomes a surprise hit with motorsports fans in China while acting as a proving ground for environmentally friendly technology

By ANGUS MCNEICE

angus@mail.chinadailyuk.com

When Alejandro Agag took the wheel as CEO of the Formula E championship five years ago, cynics claimed the sport would struggle to catch on.

Electric racing cars are unable to match the power and noise of those with combustion engines, and many hardcore motorsport fans doubted Formula E would be thrilling enough to build a real support base.

What the doubters failed to recognize is that some of the biggest car manufacturers in the world were already locked in an arms race to successfully develop electric vehicles for mass production. And many identified the fiercely competitive world of racing as the ideal proving ground for their technologies.

The teams, sponsors and partners for Formula E's inaugural 2014-15 season boasted some of the biggest names in the auto industry, including Michelin, Williams, Audi and Renault.

There was also strong name recognition among the drivers. Nico Prost and Nelson Piquet Jr, sons of Formula one stars Alain Prost and Nelson Piquet, and Bruno Senna, nephew of racing legend Ayrton Senna, were behind the wheels of the new generation of race car.

Formula E pulled in 190 million viewers worldwide that season. Against the odds, Nelson Piquet Jr won the championship by one point for Team China Racing.

"It was the underdog team, with

the smallest budget at the time," Piquet Jr said, speaking from the tarmac at Tempelhof Airport, site of the Berlin ePrix on June 10-11. "To step into the car and win it was an amazing feeling."

Chinese involvement has increased rapidly since then. Team China Racing rebranded as NextEV NIO, owned by Chinese premium electric car manufacturer NIO.

Team Techeetah, owned by Chinese sports marketing company SECA, entered the sport last year after acquiring Team Aguri. Jia Yueting, founder of electronics firm LeEco, is one of the investors behind US team Faraday Future Dragon Racing.

In May, basketball star Yao Ming's company Yao Capital and public equity firm China Media Capital (CMC) together acquired a stake in Formula E Holdings. The deal made the Chinese investors the third largest shareholders in the company. Li Sheng, CEO of SECA, which is backed by CMC, now sits on the Formula E board.

Agag, the CEO of Formula E, said: "We had the hope that we would get traction in China and now, with Chinese teams and Chinese investors, that is confirmed."

"In China, electric vehicles are a priority, and they see Formula E as a platform to develop their strategy in electric mobility."

Agag called the level of Chinese involvement in Formula E a positive surprise.

"Chinese companies are taking it seriously," he said. "We had contact from a lot of Chinese investors. We decided to do this strategic invest-

ment with CMC and Yao. They are very committed to us, they are great financial and strategic investors and they can help us grow in China."

Agag said Chinese TV viewing of Formula E is consistently rated in the top five, with between 1 million and 3 million tuning in to watch ePrix events on CCTV.

The championship has held an ePrix in China in all three seasons — twice in Beijing and once in Hong Kong — and Agag is in talks about adding Shanghai to the calendar.

"The priority for season five is to have a race in the Chinese mainland," Agag said.

"All the teams want it. We are going to keep Hong Kong and we had a very good meeting in Shanghai with the deputy mayor. We looked at some very cool locations there to do the race."

Agag links China's enthusiasm for Formula E with the country's efforts to combat climate change. China invested \$102.9 billion in renewable power and fuels in 2015, more than a third of the global total, and the government is discussing legislation that would see domestic automakers produce a mandatory percentage of electric vehicles annually.

"The Chinese government is taking leadership in the fight against climate change," Agag said. "We are getting toward a point, in two, three or five years, when suddenly there will be a massive change toward electric cars. And China will be at the forefront."

"China is the place where the battle will be won. If we win in China with electric cars, the whole world will follow."

Buyers benefit from Formula E technology

Advances such as longer battery life are quickly transferred to road vehicles

By ANGUS MCNEICE

While the young sport of Formula E has evolved rapidly over the course of three seasons, its founding aim has remained constant — to demonstrate the potential of electric vehicles through motorsport.

It has done this in part by taking electric cars to the public, staging urban races where city dwellers in Monaco or Paris can watch from their windows as the cars whip by at speeds of up to 225 kilometers per hour.

And it has done this through advances in technology, producing new motor, inverter and gearbox solutions that are transferrable to commercial electric vehicles.

Ivan Yim, managing director of Chinese Formula E team Techeetah, said: "With Formula one, it typically takes five to 10 years for the technology to go from there into your commercial road car."

"In the context of Formula E, the technology is immediately available for use in commercial road cars."

Battery and charging technology developments are key areas in the world of electric vehicles. Formula E drivers must change cars during a pit stop, halfway through the race, due to limited battery charge. This made BMW hesitant to join the championship, as the range of electric cars compared with combustion engines is a common concern for potential consumers.

This is all due to change next year. The Williams battery that all cars are mandated to use will be replaced by a new McLaren cell that can last the entire length of a race, and all cars will use them when season five begins in late 2018.

In season one, all cars had the

same McLaren power train — the term used to describe the parts of the car excluding the battery and chassis, namely the motor, transmission, driveshaft and differential.

From season two onward, teams could use different designs. In 2018, BMW will join as one of nine manufacturers of Formula E power trains.

Jean Todt, president of motorsport's governing body, the Federation Internationale de l'Automobile, said: "The homologation of the power trains that will be used from season five is a very significant step because it means the cars will be able to run for twice as long while, at the very least, maintaining the same performance level."

He added: "This highlights how motorsport can stimulate and accelerate development of new technologies which can then be applied to road cars."

"And in this case, it has even more of a key role, given that at the moment, electricity is one of the more practical alternatives when it comes to finding new forms of more sustainable mobility in the future."

According to Gerry Hughes, team principal of team NextEV, the link between innovation in Formula E and the commercial electric vehicle industry is what makes the sport so attractive to manufacturers.

NextEV is owned by Chinese electric car manufacturer NIO, where Hughes is also head of the performance program.

"There are direct synergies and links between what we're doing here in the field and in road vehicles," Hughes said. "We are in the dawn of a new era. Formula E is very relevant to the consumer on the high street."



Ivan Yim, managing director of Chinese Formula E team Techeetah, in the Techeetah garage.