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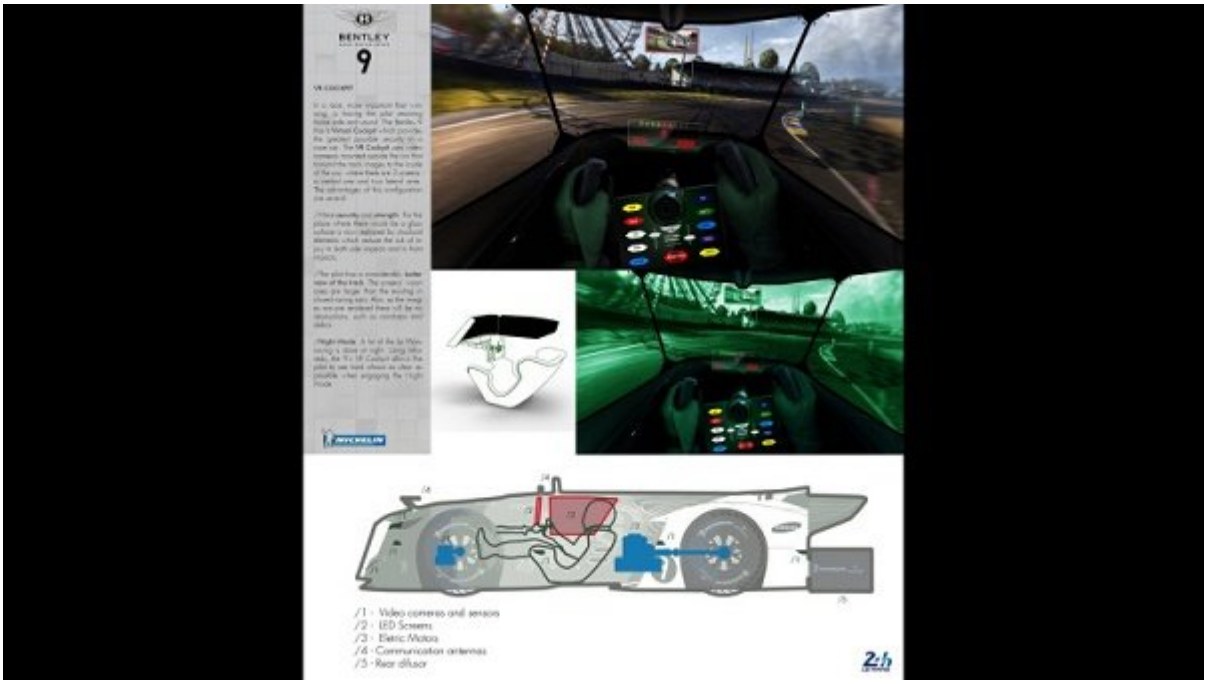
BENTLEY
DANIEL BACELAR PEREIRA
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MICHELIN
BatterySlick
24h LE MANS

BENTLEY
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24h LE MANS
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BENTLEY
9
24h LE MANS
"In 1924, John Duff and Frank Clement drove as a team for the second year in a row, this time winning 1st place for Bentley in a 3 Litre. Defeating many of the leading sports cars of the day, they set the precedent for the impressive Bentley wins still to come."
bentleymotors.com
Bentley 9 is inspired by an outstanding history and bravery at Le Mans.
MICHELIN


BENTLEY
9
24h LE MANS
THE BODY
The Bentley 9 perfectly blends classic and high-tech. Heavily inspired by the first cars to race at Le Mans, the 9 adopts a wide and striking "grill", a narrow, slender body and a strong presence on the track. However this shape is not merely aesthetic, but something aimed towards safety and aerodynamics priority. The slim and compact body offers a very efficient aerodynamic result while allowing a greater strength and endurance.
This shape is possible due the usage of a fully electric motor, which is substantially smaller and lighter than an internal combustion one, and much more environmental friendly. The wheels are covered by an aerodynamic element which is equal in the front and in the back, effectively reducing the production cost.
MICHELIN


BENTLEY
9
/1 - Video cameras and sensors
/2 - LED Screens
/3 - Eletric Motors
/4 - Communication antennas
/5 - Rear diffusor


MICHELIN
BatterySlick
DANIEL BACELAR PEREIRA


MICHELIN
BatterySlick
What is the biggest problem of electric racing cars today? Batteries! They don't last long enough to stand a normal race, much less a 24 hours endurance race. Charging the car in a pit stop would be unlikely... changing cars would be costly... What else has need for a constant replacement? The tires!
Michelin BatterySlick are racing tires with a set of batteries incorporated in their rims, which feed the racing car's electric motor. Some of the big advantages are:
/Combines two actions in one. Charging tires and batteries at the same time allows a faster and more efficient pit stop.
/It distributes the weight of the batteries by the four corners of the car, making it much more stable and safe.
/Airless tires. These tires have a thinner profile, so there is more space to accommodate the batteries maintaining the overall size almost the same as a normal slick. On the safety side, it reduces exponentially the chance of the tire punctures, bursting, and pressure problems.
/The Michelin BatterySlick allows the use of an all-electric car in an endurance race, something that will carry 24h Le Mans towards the future.
DANIEL BACELAR PEREIRA


MICHELIN
BatterySlick
24h LE MANS
/1- Brakes, disc brakes, suspension, power train and wheel nut. This is the only element that remains permanently attached to the car.
/2 - Battery pack. These are mounted in a carbon fiber case attached to the rim. They send the power through the wheel nut and power train to the eletric motor.
/3 - Rim out of carbon fiber shaped to reduce turbulence and drag.
/4 - Airless slick tire. More compact and, above all, more safe.
/2/3 and /4 are the Michelin BatterySlick main parts. They are meant to be one, as a common slick tire, changed like a common slick tire but do what no other tire can do: be the source of power of a racing car.
DANIEL BACELAR PEREIRA

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External Telemetry

A ring of LEDs communicate driving inputs. Intense inputs will lead to more intense light: red for breaking and blue for acceleration. This adds another level of interaction with spectators, both at the track and watching on TV.

Imagine being able to easily see which drivers are pushing the pace, and which are conserving fuel or tires.

Imagine being able to see who flinches and breaks first as two cars are neck and neck heading into a chicane.

24h LE MANS

MICHELIN Design For The Win

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How It Works

STEER USING THE WIND

Large vertical ailerons use oncoming air to push the front of the car left or right, allowing it to "fly" around corners.

This allows increased cornering speeds, less energy wasted through breaking, and less tire wear.

The result:
lower lap times and
fewer pit stops.

Because the turning force is generated from the air moving around the car, thinner profile tires can be used, and less down-force is needed on the front end of the car.



Electroactive Polymers

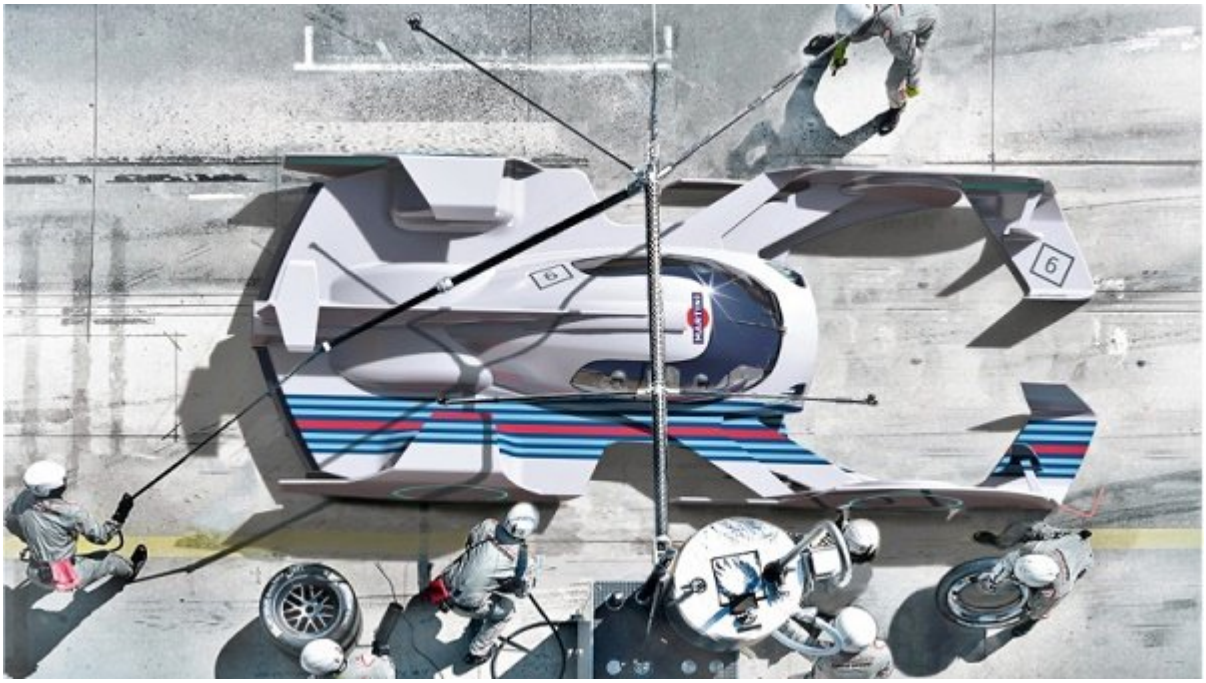
The front struts and hubs are made of a type of plastic that changes shape when an electric current is run through it.

As the components change shape they direct the wheels and the steering ailerons.

This eliminates moving parts for increased durability over a grueling 24 hour race.

24h LE MANS

MICHELIN Design For The Win



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