

NunaX: fossil-free racing with solar and wind power

New software enhances reliability

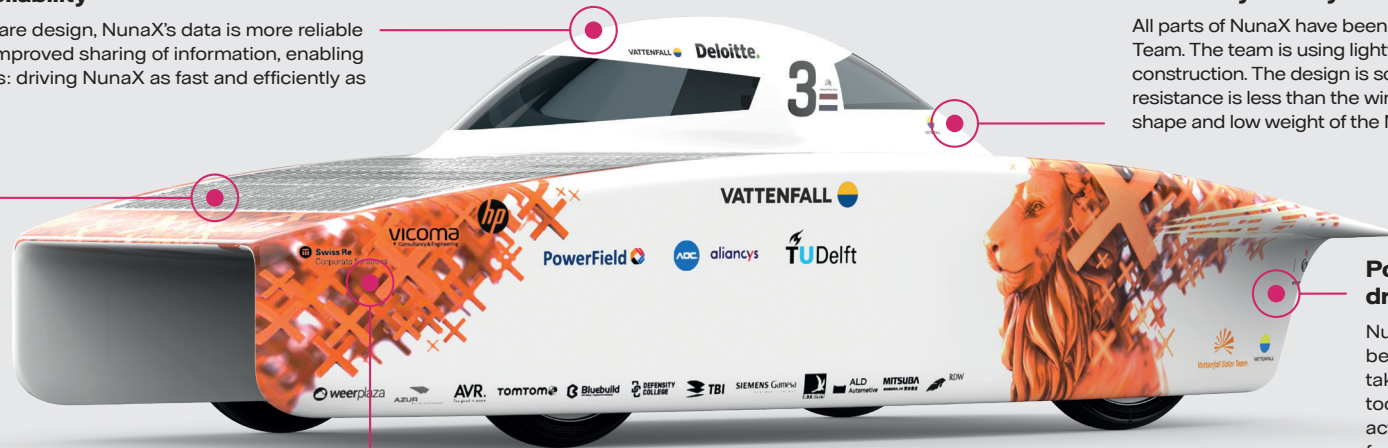
Thanks to a completely new software design, NunaX's data is more reliable than ever. Systems now allow for improved sharing of information, enabling the driver to focus on what matters: driving NunaX as fast and efficiently as possible.

Solar panel based on years of in-house R&D

The Vattenfall Solar Team designs and builds its own solar panel for NunaX. The panel features a clever layout for maximum yield in Australia. Meanwhile, a special coating on the solar cells ensures optimal light entry. The solar cells used in the panel come from the aerospace sector and are made from space-grade gallium arsenide.

Extremely aerodynamic and lightweight design

All parts of NunaX have been redesigned by the Vattenfall Solar Team. The team is using lightweight materials in the vehicle's construction. The design is so aerodynamic that the wind resistance is less than the wing mirror of a passenger car. The shape and low weight of the NunaX allow it to reach higher speeds.



Powered by the sun, driven by the wind

NunaX is designed to not only benefit from solar energy, but to take advantage of wind energy too. Parts of the car are shaped to act like a sail, creating a propulsive force under side-wind conditions. As a result, this solar car drives with a combination of solar power and wind power.

Better handling thanks to a revolutionary battery design

A radically new battery design allows the battery to be located at the front of NunaX. As a result, the centre of gravity of the NunaX is in front of the aerodynamic centre of the car. This allows for more stable handling. The Vattenfall Solar Team redesigned the battery from scratch, working with tolerances of less than a millimetre.



Racing 3,000 kilometres through the Australian outback

NunaX will participate in the biennial Bridgestone World Solar Challenge from 13 to 20 October 2019. Fifty student teams will race from Darwin - in the north - to Adelaide more than 3,000 kilometres to the south. This is the world's biggest solar race, and the winner can rightly claim the title of 'solar racing world champion'.



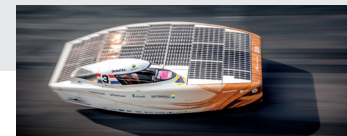
Reigning solar racing world champion

The Vattenfall Solar Team consists of 16 students from Delft University of Technology in the Netherlands. In 2019 the team will participate in the solar race in Australia for the tenth time. The Delft students have won the world title seven times already, including the most recent race in 2017.



Racing from dawn to dusk

In Australia the solar cars only drive from 8 a.m. to 5 p.m. as large parts of the race route are not lit. As it is also uncertain where the participants in the World Solar Challenge will stop each day, they camp at the side of the road.



Driving under extreme conditions

There are three drivers for NunaX, who take turns driving for periods of three hours. The temperature inside NunaX can be as high as 50 degrees Celsius. The route is on public roads, so safety is important. Along with top-grade materials, a special cage structure improves driver safety.



Vattenfall Solar Team heading for fossil-free living

The mission of the Vattenfall Solar Team is to show the world the opportunities offered by sustainable energy, e-mobility and technological innovation. This fits in perfectly with Vattenfall's efforts to make fossil-free living possible within a generation. That's why we at Vattenfall have been the proud main sponsor of the Vattenfall Solar Team since 2001.