

Please find enclosed the first presentation of Aventor at the 2015 Geneva international motor show which will happen from March 2nd to March 15th, 2015 (<http://www.salon-auto.ch/fr/>), stand 0031, hall 1 press room, and door E 6



The Aventor team is glad to present you for the first time its mono-places.

In addition to show the performances of electrical races cars, the challenge is to find, and quickly test, solutions to boost the rise of the clean vehicles. Aventor has bench test function for Softcar SA in Fribourg

ENVIRONMENTAL SAFETY:

Aventor is a laboratory, focusing solutions for speed, energetic efficiency, lightness and safety, while using exclusively recyclable materials.

Our goal is to demonstrate that a race can even have a low ecological footprint. We designed these mono-places to be fully recycled.

The carbon architecture has been replaced by an advanced composite structure (recyclable as opposed to carbon composites) and bio-polymer bodywork. We name this new architecture "Bio Polymers".

All the parts are made with one single material and easily removable. At the end of life, the parts are removed, crushed or melt. The waste becomes a raw material and is used to produce new similar parts in a sustainable loop. For the first time in the automobile history, the tires are recycled by Aventor after the races.

This bio-polymer architecture is close to the mammal architecture, with the frame structure and the bodywork, replacing the skeleton and the muscles. More generally, this architecture corresponds to a "circular economy" (CE) which describes an economical industry wherein the material flow continues to circulate with a high quality (concerning the properties, the functions and the various uses) after the first use, without going by the biosphere. This idea is a result of the living world observation. Its economical application is currently a model for China, Germany and Switzerland, through political directives. The sport car, designed by this way, becomes a communication vector of the circular economy for the young generation.

Confederation posting on the circular economy:

http://www.satw.ch/publikationen/schriften/kreislaufwirtschaft/index_EN

DYNAMIC:

The Aventor is fully designed and produced to increase the energetic efficiency.

The Aventor are ultra light, because they use advanced techniques to lighten the structure, the suspension system and the bodywork.

The bearings are specially developed for low masses and present a very low friction resistance.

The 3 wheelers Aventor have a mass of **280 kg**, and the 4 wheelers have a mass of **350 kg**. We develop new parts using finite elements calculations to reduce these masses.

The ground clearance is important (70mm) and we have kept a low negative lift without any aileron. The Aventor are first of all made for urban races, in Europe and Asia. The centre of gravity is precisely settled, taking the driver into account.

By this way, the guiding centre and the centre of gravity are very close and it brings a safety and a vivacity feeling to the driver

The mono-places are ready for delivery with 30 kW.

The 60 and 120 kW will be available from August 2015.

The torques on the rear wheel are between 406 Nm for the first ones, and 1400 Nm for the 120 kW.

The tests made by **Alexandre MANTOVANI** and **Rolf BILAND** at Lignières proved that these electrical rockets have a lively behaviour and an outstanding accuracy for the positioning on the track.

SAFETY:

The foamed bio-polymer architecture absorbs the impact energy. The frame structure has 2 roll bars and a double safety cage in aluminium around the driver.

These parts have been designed and sized according to the 2013 FIA F3 technical regulation document.

Two side wings have been integrated for the first time. Their function is to absorb the sides impacts, to prevent the cars overlap, and to protect the driver from wastes or suspension parts coming at the moment of the crash.

ENERGETIC EFFICIENCY:

The Aventor are made to recover energy from braking.

On the starting line, all the cars have the same level of energy.

They are designed to run in race condition during 20 minutes + 1 lap.

During this final lap, the driver which managed the energy on the best way, has more power than its competitors.

The 3 wheelers only use electrical brake on the rear wheel.

The efficiency optimisation on the motor controller, on the electronic, on the drive train and on the motor has been pushed to an extreme way.

Aventor, we are going to the next epoch, but we keep the same passion

The first races will happen in China and in Switzerland this year.

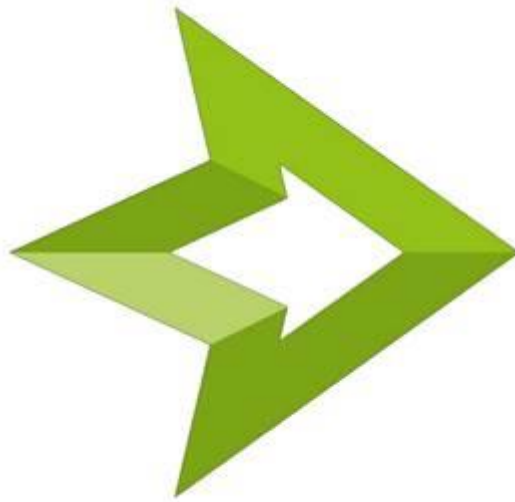


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