ISSUE NO. 2

BFS

Bern Formula Student

NEWSLETTER MARCH 2020

Photo courtesy of BFS

OUR STATEMENT TO **COVID-19**

On March 23th, Formula Student Germany (FSG), the umbrella organisation with 80% ownership of the European Formula Students Competitions, **have officially announced the cancellation of all race events for the 2020 calendar.**

As CEO of Bern Formula Student (BFS), my highest priority is to ensure the safety of each member & sponsor inside our project. For that reason, **all physical tasks of the team have been formaly stopped and are postponed till further notice.** Any BFS related tasks are now performed remotely.

On the other hand, we would like to use our time wisely. Therefore, we have established a new set of initiatives which we want to reconsider and bypass during this period of time:

1. **A-Arms Carbon Fiber Suspension Concept**
2. **3D-Printed Uprights**
3. **3D-Printed Rockers**
4. **Energy Recovery Implementation**
5. **E-Differential Implementation**

To ensure the feasibility among these concepts, the team will prepare, organize and set a validation process in each one of the proposals. With such approach, we are expecting to have our validations up and running by the time school reopenes. Based on our results and findings, the team will also determine which of these concepts will be taken to reality.

What does this mean for the team and our current sponsors?

In mutual agreement, the team have decided to **extend the season 2019/20 till the 2021 calendar.** That said, we would like to empathize that all money, materials and work which have been committed to AQUILA (Car 2019/2020) will be used in the next Formula Student Events in 2021. The team won't perform second build-up labors or similar; instead, the subteams have adjusted their racing calendar in a way to do further developments.

If the situation allows it, the team plans to have a driving car by Autumn 2020. During that time, it would prepare an extended testing phase which will guarante the collection of precious data prior Winter 2020/Spring 2021. This will also allow us to start the concept phase 6 months before the official season opening, and assure a competitive advantage against previous years.

This health crisis has an impact in everything, but we are confident into use these circumstances in our favor. This is only possible by our team spirit and all our generous sponsors.

Thank you for your support! If you have any concern or question please contact me

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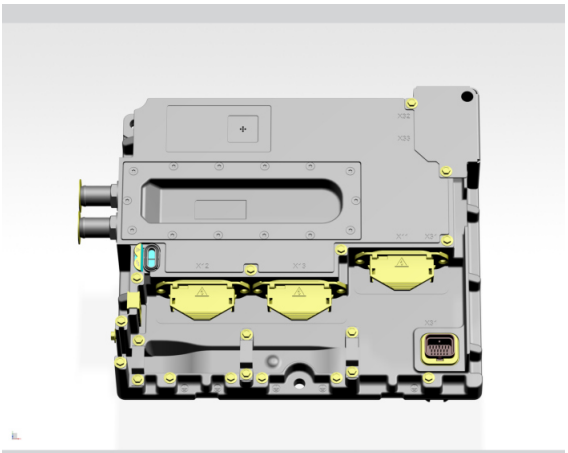
AQUILA 2020

Photo courtesy of BFS

NEWS

DESIGN PRESENTATION



More power than ever

By Alberto Fuente
Photo courtesy of BFS

On Thursday, March 5th; Bern Formula Student (BFS) officially announced the release of its new prototype: **AQUILA.**

Evolution, the key for improvements

To create AQUILA, BFS based his efforts around its predecessor AROLA; and through reverse engineering, the team was able to expunged her drawbacks, and create improvements where its was really needed.

To increase reliability around the car, the whole electrical system has been re-worked. Among the key points are:

- Integration of all electrical components through a new CAN-Bus system.
- Implementation of a Battery Management System (BMS)
- Deep changes in Drivetrain, such as: New inverters with CE-Certificate for Automotive Industry to lower EMC Emissions.

Due to these improvements, the Drivetrain have also collected new set of engines with higher torque and efficiency. A brand new Two-Stage Planetary Gearbox has been also developed for higher loads handling, with a ratio of i= 14.45, and a torque output increment of M = 420 Nm per gearbox.

THE SPIRIT OF OUR TEAM DEFINES US

WHAT'S NEW?

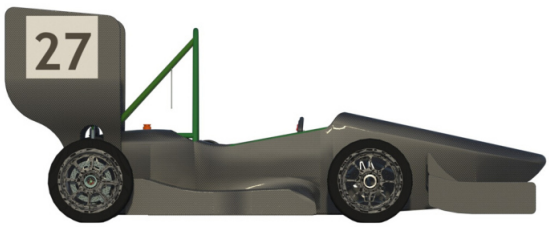
Photo courtesy of BFS

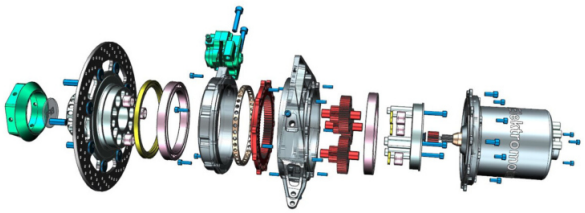
In light of such advances, a new partnership has been made with **Fischer Elektromotoren GmbH** and **Lenze - Schmidhauser AG;** which have resulted in a 50% build up - self made engine case. This will ensure a better transfer of energy and effiiciency through the rear axle.

On the other hand, a new aero-package has been established to improve the cooling system through the aerodynamical gain of the car. The result is a better cooling performance throughout the components, without drag coefficent penalties. Another addition it is the rise of the driver's ergonomics by moving the front dampers under the body structure. Among the positive side effects, are yet again, a reduced drag coefficent and lower center of gravity.

With all these innovations, the team expects to have a bigger presence on track, and higher profits at the competitions.

BFS thanks and appreciates the presence of sponsors, families and team members during this special occasion.





Team reveals new half self made engine tech

By Alberto Fuente
Photo courtesy of BFS

FORMULA SPIRIT

"Our enthusiasm when facing a challenge defines us. Our commitment, as school of life, must give us self-improvement, the brotherhood of our team and the glory in competition." - Alain Morand

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THANK YOU ALL FOR YOUR SUPPORT- YOU MAKE THIS UNIQUE PROJECT POSSIBLE!

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