

# NEWSLETTER



## UP-TO-DATE WITH RACETECH

### TOPICS:

#### >01 LATEST NEWS

Current topics as well as past and future events.

#### >02 NEW ARRIVALS IN THE WORKSHOP

Brief presentation of the components that arrived in the garage during the last two months.

Dear sponsors, friends and supporters,

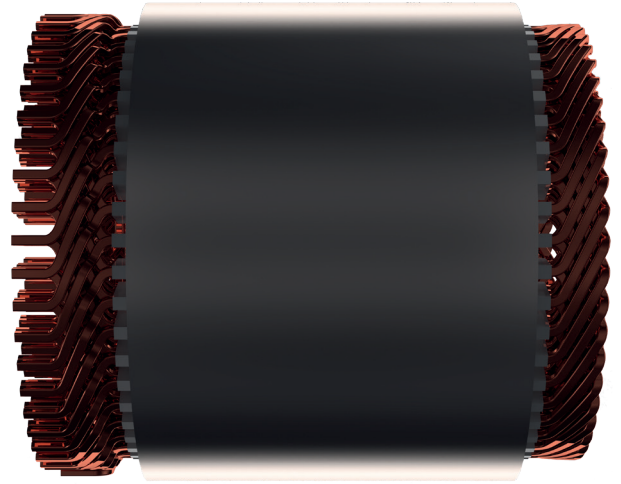
We hope that the newsletter brings you the best of health! The new semester has begun, so we are busy recruiting new members.

At the moment we are further working on the completion of our racing car. In the following we will introduce new components again.

We are pleased to inform you that the rollout of the RT14evo will take place on the 3rd of June 2022 at 6 p.m. We warmly invite you to the Alte Mensa Freiberg! A live stream of the rollout will also be available online. More information about the live stream will be announced later.

We hope you enjoy reading.  
Your Racetech Racing Team

## ENGINE DEVELOPMENT



*Engine development: CAD model*

Starting with the RT14evo, the motors of our vehicle are developed in cooperation with Krebs & Aulich and other sponsors, since off-the-shelf electric motors are expensive and cannot be adapted to the exact needs of the vehicle. The RT14evo is the first vehicle with such self-developed motors. It is driven by four synchronous machines that are part of the wheel assembly. The drive motors are one of the most important and at the same time one of the heaviest components of a Formula Student vehicle. The balance between weight and performance is therefore the focus of the engine development. The design of the next generation of in-house motors (RT15) is therefore mainly focused on weight saving. Another challenge is to get the most out of the available space. For example, since the wheels of the RT15 will be smaller than those of the RT14evo, the motors that sit inside the rims must also shrink accordingly. By optimizing with these factors in mind and using better materials, we can achieve an almost 40% lighter engine design. The design and the optimization of the rotor and stator topology happen in MotorCAD. The resulting geometry is translated into a CAD model with which, among other things, mechanical simulations can be carried out. The engine is then manufactured in various steps in cooperation with our sponsors.

# > 01 LATEST NEWS

## SPONSORSHIP NORELEM

We once again thank Norelem for their support this year. This year, we were supplied with a dial gauge and an articulated tripod with a magnetic base. This enables us to carry out precise measurements during the manufacturing process and to control our machines.

*Author: Max Reichert*



*Dial gauge on precision engineering lathe*

## NOT ONLY ADHESIVES

We are happy to count on the support of Henkel AG & Co. KGaA with a wide range of products again this year.

The various adhesives such as the instant adhesive 3090 and the structural bonding epoxy adhesive EA9466 are used in numerous subdivisions. We also use the SF 7061 cleaner to prepare bonding surfaces and the VR 610 lubricating oil.

We'd like to thank Henkel for providing the products and we are hoping for good collaboration further on.



*Products provided to us*

*Author: Svenja Linke*

## > 02

# NEW ARRIVALS IN THE WORKSHOP

*A huge thanks to all our sponsors who make these components possible for us!*

## EBS

In order to let the RT14evo drive autonomously, a software-controlled brake is obviously also required. To do this, we install two pressure reservoirs, which feed the pressure converter shown on the photo with compressed air. This enables us to direct sufficient pressure into the braking system to bring the vehicle to a stop as quickly as possible in the event of an emergency.

We would like to thank Konnerth Präzisionsteile for the speedy manufacture of the components.

*Author: Max Reichert*



*EBS (electronic braking system)*



THANK YOU FOR YOUR SUPPORT!

# OUR SPONSORS



AM METALS



THANK YOU FOR YOUR SUPPORT!



# RACETECH RACING TEAM



**1. MEMBER OF BOARD**  
**PHILIPP GEISLER**

**2. MEMBER OF BOARD**  
**JUEL KASSOU**



**TREASURER**  
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