



Mazak



NORTHROP GRUMMAN



UB Racing

UBR21

University of Birmingham



New Year, New Opportunities

Newsletter January 2018

Happy New Year!

The team have seen in the beginning of 2018 picking up where they left off at the end of 2017: with lots of hard work! The wing and chassis manufacturing are well underway with lots of jobs for new team members, meaning everyone is getting stuck in. Team Principal, David Owen, said “[2018] is looking like a very promising year with lots to build on and we look set to be ready earlier than previous years, so we’re optimistic looking forward”. Still a long way to go but here’s to 2018.

Formula Student UK 2018

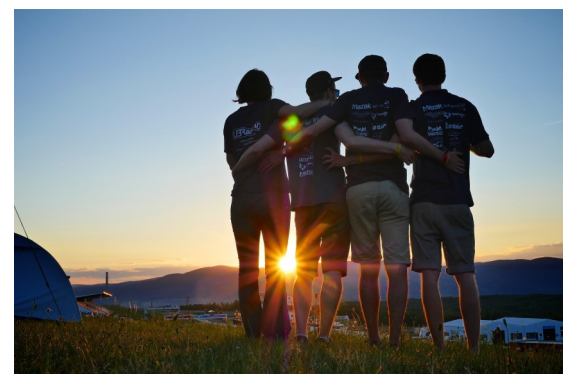
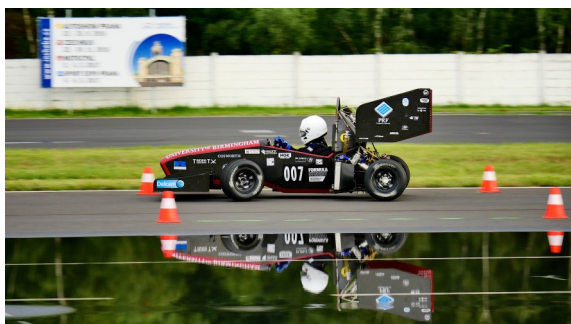
The team will, of course, be attending the UK competition this year and we will have the number 2, following our second place overall at FSUK 2017. There is a wide variety of teams this year including from the USA, Egypt, Malta, Iran and Saudi Arabia. We look forward to seeing the regular faces there too!

#UBRAufTour

As well as the usual UK competition, UBRacing are proud to say that we will be attending the Formula Student Germany competition! The team completed the quiz for Germany on the 22nd January in the 7th fastest time but were kept in suspense as to how many had been answered correctly and how everyone else had done, due to a longer than normal protest period. But after a long wait, the team were thrilled to hear we were the only English team to get in, with Strathclyde being the only other UK team. We are hugely excited and cannot wait to pit ourselves against the best teams in the world.



To celebrate our entry to FSG 2018, here's a look back at our last European competition, FSCzech 2016.





James Davies -
Head of Drivetrain

James is a second year mechanical engineering student who is a local lad to Brum and who joined the team last year, helping with manufacturing.

As well as being the team's token ginger (which means you can spot him from a mile off), James is without a doubt one of the loudest members of UBRacing. James is not a man to deal with silence so he is sure to fill it with noise, be it singing, beatboxing or just random noises.



Bulraj Mahe -
Head of Cost Report

Bulraj is also a second year mechanical engineer who joined the team last year and aided in the cost report.

Just like James, Bulraj is one of the louder members of UBRacing, but Bulraj is more known for his famous quotes rather than general noise. There are three things certain in life: taxes, death and Bulraj saying something that makes no sense. Whether it's about his readiness to be a father or his ability to use a toilet, it's fair to say the cost judges are in for a treat.

This year the team will be introducing carbon fibre wheels to the car after a couple of years of research and development. We spoke to Michael Gibbins, Head of Driver Interaction, who is testing the carbon wheels for his final year project.

What will we be gaining from changing to carbon wheels?

The change to carbon fibre wheels will lower the mass of the wheels while also reducing the unsprung mass of the car and the rotational inertia of the wheels meaning it will be more advantageous than losing weight on other places on the car. It will help improve the cornering of the car as well as reducing the overall weight.

What are the challenges faced when designing and manufacturing them?

The wheels require many layers of carbon fibre due to the great stresses that the wheels go through which means manufacturing requires lots of hours of carbon cutting and laying up. Also, the wheel centres go through high forces and need to be designed rigorously and have been optimised many times since being initially designed by the team last year.

Have any been made?

Yes, we have one that has been fully made (photo below) and now we are in the process of making the other seven needed for the full set of wet and dry tyres that we require.



PRF Composite Materials have sponsored the team for a number of years and are the team's supplier of carbon fibre. The partnership is even more valuable than it was previously with the team increasing the number of parts in the aerodynamics package this year, the use of carbon fibre wheels, and the move to a carbon fibre monocoque in 2016.

PRF are a composite specialist who offer bespoke solutions to fit any technical, manufacturing or budget requirements. They are a leading manufacturer and supplier of high-performance materials for the advanced composite industry. They supply a number of industries including motorsport, automotive, aerospace, defence, wind energy and Formula Student (through UBRacing).

