

# Staffordshire University Formula Student team enlists local manufacturer for bespoke racing car exhaust

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Staffordshire University sought collaboration with leading exhaust manufacturer, Klarius Products, to provide a bespoke system for its Formula Student team's latest racing car. The custom system has supported the development direction of a new car, ensuring that the team will be ready to hit the track at Silverstone on 22<sup>nd</sup> July 2023, hoping to regain their 2021 champions title.

A steppingstone into the world of professional motorsport, Formula Student brings 130 university teams from over 30 countries together to develop, build and run a single-seater race car. All aspects of car design, project management and procurement are handled by the students – simulating the realities of running a race team. As well as leveraging in-house engineering expertise, participants work closely with local businesses to source key components and assemblies.

Joe Grimer, Team Leader at Staffordshire Uni Racing, elaborates: "For this year's car we wanted to improve packaging and reduce weight compared to our previous entry 'Bertha'. A key development path was adopting side-mounted radiators, and accommodating this meant we needed a new exhaust design. Due to its support for us in the past and its local manufacturing expertise, we asked Klarius to help."



The largest manufacturer of aftermarket exhausts in the UK, Klarius Products employees over 300 people at its headquarters in Cheadle, Staffordshire. As well as producing OEM quality systems for road cars and vans, it supports grassroots motorsport with short production runs for spec series, racing teams and local Formula Student entries.

Jayson Prince, a member of the race team and Project Engineer at Klarius, designed the exhaust: "The exhaust manifold is a critical area for performance gain. Pipes must enable a smooth, high velocity flow of exhaust gases from the engine, which is a considerable challenge within the confines of a well packaged race car. In our case, this was further complicated by the car's high-revving 675cc bike engine, all of which would inherently require a bespoke solution."

Klarius fabricated custom pipes, carried out welding, installed fixtures and assembled the full exhaust using a bespoke jig. The system was ready ahead of car testing, ensuring that the team could gain a competitive edge in preparation for the event. It also conforms to mandated clearances and meets noise regulations.

Doug Bentley, Head of Research and Development at Klarius and a former Staffordshire University engineering student, concludes: "We are proud to support young engineers with our expertise. The fact that Formula Student helps the industry is very apparent, as shown by Jayson of the Staffordshire Uni Racing team joining our company on a working placement. From everyone at Klarius, we wish the team all the best of luck at Silverstone."



#### Image captions:



**Image 1:** The Klarius team alongside Jayson Prince of the Staffordshire University Formula Student team



**Image 2:** Klarius Products provided a bespoke exhaust system the Formula Student team's latest racing car



**Image 3:** Doug Bentley, Head of Product Development at Klarius inspecting the race car





**Image 4:** Joe Grimer, Team Leader at Staffordshire University Formula Student team



Image 5: Staffordshire University Formula Student team



Image 6: Staffordshire Uni Racing logo

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#### **About Klarius Products**

Klarius Products is a dedicated Emission Control Products manufacture and supply company servicing primarily the UK and EU markets. The business supplies type approved exhausts, CATs and DPFs designed, developed and manufactured in the UK and delivered via its own logistics operation. Klarius Products operations are centred on the manufacturing, R&D, test track, logistics and stock facility hub based in Cheadle in the UK.

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