



Welcome to the 2019 Huddersfield Railway Challenge Team (HUDRAIL)

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**New Panel Designs**

The team is happy to announce the new side panels for the locomotive will be arriving shortly. The side panels support the new HudRail colours and the logo, along with the sponsors that have helped us throughout the year. A preview of the new panels can be seen above. The team has decided on a gloss finish to make the golden logo stand out even more.

**Testing**

The team has reached the testing phase of the year and is ready to check the new improvements made to the locomotive. The locomotive has been hoisted onto the rolling road and is awaiting a plan of what to test first. The rolling road will be used to test the auto stop challenge, ERS and the drive systems of the locomotive.

To help verify the teams' calculations, the team rolled the locomotive out onto the test track and used the weighbridge, which was designed last year to record the new weight of our locomotive after our changes. The weighbridge uses strain gauges on each rail, a calibration factor and a digital reader to give an accurate weight of each wheelset as well as the weight distribution.

The team is also ready to try and test their new auto stop system which uses a retroreflective sensor alongside a prismatic retroreflector to send a command to the PLC which activates the brakes of the locomotive. Once the locomotive passes the retroreflector, the PLC brings the locomotive to a controlled stop at a desired distance of 25m.

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**Reports**

The team has worked hard to submit the innovation and design reports required in the rules of the competition each report is worth 150 points in the competition. The innovation challenge is a report about how the team has created something new this year for the rail industry. The team has decided that our innovation this year was the multiple testing rigs that have been created as some of these things haven't been done for scale locomotives before. The design report is a full brief of the locomotive from safety and calculations to costing analysis and technical drawings. In total, the report amounted to over one hundred pages in the end.

**3M Video**



The team will be expecting the finished version of the 3M animated video of our locomotive that they have designed for us as a part of our sponsorship deal. The video will be used for promotional and educational purposes at the competition and HudRail showcases.