

IMechE 2027 DESIGN CHALLENGE NEW PROJECT SPECIFICATION CONTEST

Design Challenge New Device

Key HQ Contact: Olivia Evans Walcott, Projects and Events Executive

designchallenge@imeche.org

Please check the IMechE Design Challenge website for updates.

Introduction

The Design Challenge (DC), organised by the Institution of Mechanical Engineers, is an annual competition for engineering and engineering sciences students from universities and university technical colleges (UTCs).

For 2027, the DC Steering Committee is looking for innovative projects that could still be scaled in two different levels of complexity and perform a task – mission or a series of operations.

Please submit your project, following these requirements:

- 1) The device shall represent basic functions of an existing series production solution, either as volume – series production, prototype, concept and / or large infrastructure installation.
- 2) The device shall use hydraulic (normal water) as key element of the function either as working fluid, energy transmission media or environment it operates in. Maximum quantity of water needed is 25L (twenty-five liters) per device.
- 3) Device name or definition: max 4 words; the title should be specific and descriptive of the device function and mission.
- 4) Device and challenge description – Concept and Foundation classes: max 200 words to describe a project where no programmable electronics could be used. Only mechanical and analogue electrical circuits shall be specified. The whole device shall be designed, assembled and tested in a small facility by undergraduate/UTC students. The device mission should be a repetition of activities. Max budget / cost for the realisation £40.00.
- 5) Device and challenge description – Advanced class: max 200 words to describe a project where programmable electronic devices (Arduino, Raspberry and similar) can be used. The whole device shall be designed, programmed, assembled and tested in a small facility by undergraduate/UTC students. The device mission should be a sequence of activities, similar but not a repetition of the same task. Max budget / cost for the realisation: £90.00.
- 6) 1 sketch representing one of the competing devices to be associated to the submission.
- 7) All in max 2 A4 pages, including full name and contacts of the team – university/UTC – individual submitting.