

**APPRENTICE
AUTOMATION
CHALLENGE:
RULES & INFORMATION
PACK 2026**

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1. CHALLENGE OVERVIEW AND SCOPE

The Apprentice Automation Challenge (AAC) tasks teams of apprentices to design and manufacture a product, from concept to prototype, to automate an everyday device.

Teams are required to submit a report by a given date (see Key Dates) which should contain the details of what your product is, how it works, and how it will be manufactured. A business case for your idea should also be included, with some idea of what makes your product attractive to the market with supporting market research. The product needs to be suitable to take to production at your projected volumes based on your market research and cost analysis or other suitable metrics for industrial applications. See Deliverables for further information on what your report should include. Reports should be submitted via document sharing platform Mashoom. Login details for each team will be supplied following registration.

For the final's day, date and location to be confirmed in the Key Dates, you must create a prototype or demonstrator for your device, the closer the product is to the final iteration the more impressed the judges will be.

Entries should fit under ONE of the following product categories:

1. Environmental
2. Accessibility
3. Domestic – affect your home and garden
4. Industry – affect your industry or company
5. Wellbeing
6. Humanitarian
7. Other – if none of the above applies, teams should contact the IMechE AAC team and we will advise on which category they fall under.

It is highly recommended to communicate to the target market to discover any problems or annoyances in their life. The best solutions tend to solve problems that people weren't even aware they needed fixing.

We will not accept a purely software solution to the problem, a physical prototype or demonstrator is required alongside any software. Examples of devices within the scope are:

- Something that improves an industrial process
- Something that increases accessibility and/or safety
- Something that reduces an environmental impact
- Something that solves or automates a common problem
- Something that assists a humanitarian cause
- Something that enhances health and well-being

The above guidelines are included to spark your imagination. Do not be afraid to try something original and pioneering.

2. ELIGIBILITY

2.1. Team Composition

- The challenge is open to teams of apprentices of all levels from companies, colleges and training providers of engineering and manufacturing technologies.
- More than one apprentice team can enter from any particular company, college or training provider.
- The competition is open to UK and International teams.

2.2. Team Requirements

- All team members must be on an apprenticeship or industrial training scheme at the time of the competition.
- All team members must be a member of the Institution of Mechanical Engineers at the time of the competition (Finals Day).
- To apply for **free** IMechE membership, please visit our [affiliate membership webpage](#) and complete the relevant application form if you are not already a member. Please allow up to a month for your membership application to be processed. If you experience any difficulties registering, please contact membership@imeche.org.
- We recommend teams of 6 and **must not exceed 8 team members**.
- HQ must be notified of any changes of team members by contacting AAC.challenge@imeche.org.
- Completed registration forms and team reports must be submitted by the deadlines.
- Teams must provide a monthly update on their progress. A template will be provided along with dates for submission at the Welcome Webinar and will thereafter be available on the competition website
- Monthly updates should be submitted via document sharing platform Mashoom. Teams will be provided with login details for the platform following registration.
- Where permission is granted, the IMechE may use any images submitted for marketing and publicity purposes

3. ENTRY REQUIREMENTS

Team entry is **free** but teams must complete the [online registration form](#) to enter and compete.

4. INSURANCE AND REGULATION

4.1. Public Liability Insurance:

Teams are required to confirm adequate public liability insurance is in place (at least £10M). This will cover all members of the team, and Teams should simply be able to obtain proof of cover from their companies.

Public liability insurance covers the cost of legal action and compensation claims made against your team if a third party is injured or their property suffers damage as a result of your action.

All on site participants will be required to sign a liability waiver (which can be found on the competition website) to confirm that public liability insurance is in place.

4.2. Risk Assessment

Teams are required to have assessed any risks associated with demonstrating their prototypes in the form of a risk assessment document. There is no specific requirement for the format of the risk assessment, and any conventional format will be acceptable. Teams should ensure that they carefully consider and document all potential hazards and who might be affected and how these will be mitigated.

Here are some templates and examples: <https://www.hse.gov.uk/simple-health-safety/risk/risk-assessment-template-and-examples.htm#article>

4.3. PAT Testing

All electrical equipment must be PAT tested prior to the finals event.

5. COVID-19 PREPARATIONS

The Institution takes every endeavour to operate all our events as “COVID-safe” as possible. This includes additional preventative measures, such as cleaning rotas and air ventilation. For further information on our activities in this area, view our infection control solutions webpages.

In the event a face-to-face finals day is unable to go ahead, we will shift to a virtual event. In this instance, further guidance will be released closer to the time.

6. DELIVERABLES

Your product will be marked based on a 50/50 grading of your team report and final prototype.

6.1. Team Report

For your report, you must have a detailed specification of what your product is and how it works. You must also include details of how to operate your product. Great consideration must be given to how your product will be mass produced. We expect to see some detail around all the processes that you will consider using to manufacture your product in a safe and economical manner. As part of your report, you must include a business case detailing the costs involved, your target market and the unique selling point of the product. Please also consider the product lifecycle, health and safety, and any other regulations which will have to be adhered to for your product to be used in the home.

The report will be marked by looking at the following categories. In brackets next to each is the number of marks that category carries. Additionally, we have provided areas to think about for each but note this is not an exhaustive list.

- **Design Specification (20)**
 - Show your design approach and discuss considerations you have made in the creation of your chosen prototype.
- **Prototype Development (25)**
 - Outline the plan to develop and functionally assess your prototype.
 - Document how you have developed your prototype and any changes made to the design throughout the process.
- **Manufacturing Process (25)**
 - Are you able to show the cost calculations for the prototype (including materials and processes)?
 - How will these costs change when moving to a mass manufacture?
 - How do you plan to make your prototype?
 - How would you make a mass production version? What changes would you need to make and why? What changes arose from design for assembly and manufacture considerations?
- **Business Case (20)**
 - Have you considered how you would take the product to market?
 - What is the current state of the market?
 - Have you conducted a sale and profit forecast?

- **Presentation & Structure (10)**

- Proofread the report and check for any typos.
- Ensure the report has an easy-to-follow structure and is well laid out

6.2. Finals Day

The final demonstration event will be an opportunity for you to showcase your product to all who attend. During the day, judges will assess each participating team on how well you delivered upon key criteria.

The key criteria will be judged in the following categories, the questions under each category will offer guidance in developing your presentation. Each category carries an equal weighting towards your final score.

- **Design**
 - Does your prototype or demonstrator meet the requirements laid out in the report? Have you exceeded them?
 - If something needed to be changed from your plan, can you explain why?
- **Quality of Prototype**
 - How operational is your prototype or demonstrator?
 - Is it consistent and reliable?
 - Does it show a high build quality?
- **Product Functionality**
 - Here the judges will be looking at the prototype or demonstrator from innovation, usability, marketability perspectives.
- **Depth of Knowledge**
 - Are you showing a good understanding of the project from a technical (design, development, manufacture) and commercial aspect?
- **Presentation**
 - Are you showing good teamwork within your group?
 - How well are you communicating both with the judges and between yourselves?

6.3. Media and Marketing

Teams are required to produce marketing content to promote their product and engage with the wider audience. This section will be marked separately from the report and finals day presentation.

- **Monthly updates (10)**

This is not part of the report, but it will contribute to 10% of the Report marking scheme.

- Each monthly update slide should be submitted **by 17:00 GMT through Mashoom** on the last Friday of each month; 24 April, 29 May, 26 June, 31 July

and 28 August. With your consent these will be posted on the IMechE Facebook and Twitter accounts.

- Two marks per post (10 in total) – one for post submission on time, another for the criteria outlined below:
 - Professional, high-quality content – both image and written.
 - Eye-catching, specifically for the target audience.
 - Concise, skillful articulation of key points.

▪ **Marketing Video (15)**

Teams must create a short promotional video showcasing their product. This is not a condensed finals day presentation but an elevator pitch designed to sell the concept.

Requirements

- **Duration:** 1–3 minutes.
- **Purpose:** Highlight the product's value and appeal for marketing purposes.
- **Content:**
 - **Who:** Introduce your team and target audience.
 - **What:** Explain what the product is and the problem it solves.
 - **How:** Show how it works (prototype footage encouraged).
 - **Why:** State why it matters – benefits, impact, uniqueness.
- **Format:**
 - Can include voiceover, text overlays, and music.
 - No AI-generated voices or text-to-speech.
 - Please use copyright free music or images
 - Professional tone and branding encouraged.
- **Visuals:**
 - Show the prototype in action.
 - Use clear, uncluttered backgrounds.
- **Technical Quality:**
 - Minimum resolution: 1080p recommended.
 - Clear audio and legible text.
- **Submission:**
 - Upload via Mashoom by the specified deadline.
 - Consent for IMechE to share on official channels (YouTube, social media).

Marking Criteria:

- Creativity & Engagement (5 marks): Eye-catching and memorable.
- Clarity of Message (5 marks): Clear communication of product purpose and benefits.
- Production Quality (3 marks): Visual/audio quality and professionalism.
- Adherence to Guidelines (2 marks): Duration, format, and ethical compliance.

7. USAGE OF ARTIFICIAL INTELLIGENCE

These guidelines govern how participants may use Artificial Intelligence (AI) tools in the deliverables.

7.1. General Principles

- **Transparency:** Participants must disclose their use of AI tools when submitting entries.
- **Fair Play:** AI must not provide an unfair advantage or violate the principles of fairness.
- **Accountability:** Participants are fully responsible for the outputs generated by AI tools they use, including any errors, biases, or intellectual property concerns.

7.2 Permitted Use of AI

- **Idea Generation:** AI can be used to brainstorm ideas, develop outlines, or generate initial drafts, provided that substantial refinement and originality are applied.
- **Data Analysis:** AI tools can assist with data collection, processing, or visualization, only if the analysis is the team's own interpretation.
- **Supportive Tasks:** AI may handle routine tasks such as grammar checks, spellchecks, or formatting.

7.3 Prohibited Use of AI

- Submitting work that is entirely or predominantly AI-generated without meaningful human contribution.
- Using AI tools to:
 - Plagiarise or replicate existing works.
 - Generate deceptive content or false data.
 - Manipulate or interfere with other participants' work.

7.4 Disclosure Requirements

Teams must include:

- A statement identifying all AI tools used during the competition.
- A brief description of how the tools contributed to the final submission.

7.5 Ethical Use

All tools must be used ethically, ensuring:

- Compliance with copyright and IP laws.
- Avoidance of harmful, discriminatory, or offensive content.
- Respect for the challenge's spirit and objectives.

7.6 Review and Enforcement

- The competition organisers reserve the right to review submissions for AI involvement.
- Teams may be asked to provide evidence or explain their use of AI tools.
- Any discovered violations may result in:

- Reduction in marks for written report.
- Disqualification from the event.

8. KEY DATES

Registration form **by 13 March 2026**
 Submit report by **25 July 2026**
 Video submitted by **3 September 2026**
 Prototype ready for **24 September 2026**

	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Registration Form		1 st						
Welcome Webinar		26 th						
Report Submission						25 th		
Presentation Webinar							12 th	
Competition Final								24 th
Monthly Updates			24 th	29 th	26 th	31 st	28 th	
Design Specification								
Manufacture Prototype								
Final Documentation								
Manufacture Demo Unit								

Prizes and Awards

Award Category	Prize
Grand Champion	Certificate Trophy £2,000
Highly Commended Award	Certificate Trophy £500 awarded by The Manufacturer
Peer Review Award	Certificate £20 Amazon Voucher per team member