



# PRIMARY ENGINEER® MACROBERT MEDAL 2025

Primary Engineer®  
...the first step



THE MACROBERT TRUST

**WEIR**



Christopher  
Ward



“The MacRobert Trust is proud to support the Primary Engineer MacRobert Medal, which exemplifies the spirit of innovation and collaboration in engineering. Inspiring young people to engage with real-world engineering challenges is essential to nurture the next generation of creative and skilled innovators. Through our partnership with Primary Engineer, we are honoured to encourage curiosity, critical thinking and ambition amongst young people. Engineering is at the heart of the future and addressing opportunities at an early age is so important.”

**Gillian Currie, Chief Executive Officer  
at The MacRobert Trust**





## Introduction

The Primary Engineer MacRobert Medal stands as a cornerstone of the Leaders Award Competition, which asks the question, 'If you were an engineer, what would you do?'. It celebrates the innovation that occurs when engineers meet the creative solutions young people devise to problems great and small.

The competition invites pupils aged 3–19 years to interview an engineer, identify a problem in the world around them and draw and annotate a creative solution to that problem. They also write a letter to an engineer explaining their idea and why it should be built. Last year, at the 25 regional awards ceremonies, we presented over 800 awards to pupils. Their empathy, care and insight left us in awe and wonder – a real sense that the world will be a remarkable place should these young people become the next generation of engineers.

What follows is the elevation of these ideas, lifted from drawings on paper into the world of computer-aided design, 3D printers, lathes and electronics – in essence, the world of engineering and engineers. ProtoTeams, formed by our funding partners, comprise university students, lecturers, technicians, early years careers engineers and professional engineers. During the prototyping journey, they publicly share what did not work and what did, and the best teams engage with the pupil who originated the idea throughout the process – working with them as if they were the client. It is a true journey of innovation and resilience, culminating in the satisfaction of seeing the ideas brought to life.




This year, we extend our heartfelt thanks to our esteemed judging panel, chaired by **Paul Sheerin**, CEO of Scottish Engineering. The panel also included **Dr Becky Smithson**, Trustee at the MacRobert Trust; **Debbie Johnson**, Head of Innovation Talent and Skills at UK Research and Innovation; **Hannah Swales**, FOSTER Programme Manager at UK Atomic Energy Authority; **Professor Helen James OBE**, Chair Education and Skills Strategy Board at the IMEchE; **Matthew Kleanthous**, UK Social Impact Manager at National Grid; **Dr Ollie Folayan MBE (FREng CEng FICHEM)**, Chartered Chemical Engineer and Co-Founder of AFBE; **Paul Wright**, Merchandising and Supply Chain Director at Christopher Ward; **Paula Clayton-Smith**, Chief Executive at LCRIG; **Air Marshall Phil Osborn CBE**, Chairman at RAFCT and **Zach Eaton-Rosen**, Senior Research Engineer at Google Deep Mind.

They faced the difficult yet rewarding challenge of selecting the medal recipients, having to assess not only merit but also innovation that aligns with the high standards expected of these medals. They also considered how each ProtoTeam collaborated with pupils to ensure the final product was as close to the pupil's original vision as possible. This year, we continued the Commendation Medal, which adds an additional layer of excitement and community to the award ceremony as it is decided by public vote.

The continued growth of this competition is a testament to its impact and to the dedication of everyone involved. The immense task of reading, grading and evaluating every entry underscores our commitment to celebrating the next generation of engineers. These pupils clearly view engineering as a creative and caring profession, encompassing everything from sustainable solutions to life-changing medical devices.

Today, we honour everyone involved – the pupils, parents and carers, engineers, teachers, judges and our dedicated supporters. We extend our deepest gratitude to The MacRobert Trust, Christopher Ward and Weir for their essential support and spirit of innovation.

Thank you all for joining us in celebrating these '**Engineers in the Making**'.





# Welcome

## Welcome to the official award ceremony for the Primary Engineer® MacRobert Medal

Welcome to our Fourth Annual Primary Engineer® MacRobert Medal Award Ceremony. Today, you'll witness the ProtoTeams from our university and industry partners, along with the school pupils whose ideas inspired the prototypes, as they receive bronze, silver and gold medals. We'll also be awarding the Commendation Award to the prototype selected as the public's favourite.

You'll have the chance to meet the pupils, students and young engineers involved in designing and building these prototypes as we come together to celebrate their achievements.

"Engineering and innovation drive progress - and sit at the heart of Christopher Ward's DNA. That's why we're so proud to support Primary Engineer's MacRobert Medal, which celebrates the creativity and productivity of young people across the UK. The prototypes are a powerful reminder of what happens when imagination meets engineering - a spirit that has long defined the UK's inventive tradition. By helping to bring some of these ideas to life, Primary Engineer is doing a fantastic job to inspire the next generation to stay curious, think differently, and use their talents to make the world a better place."

**Mike France, CEO and Co-Founder, at Christopher Ward**

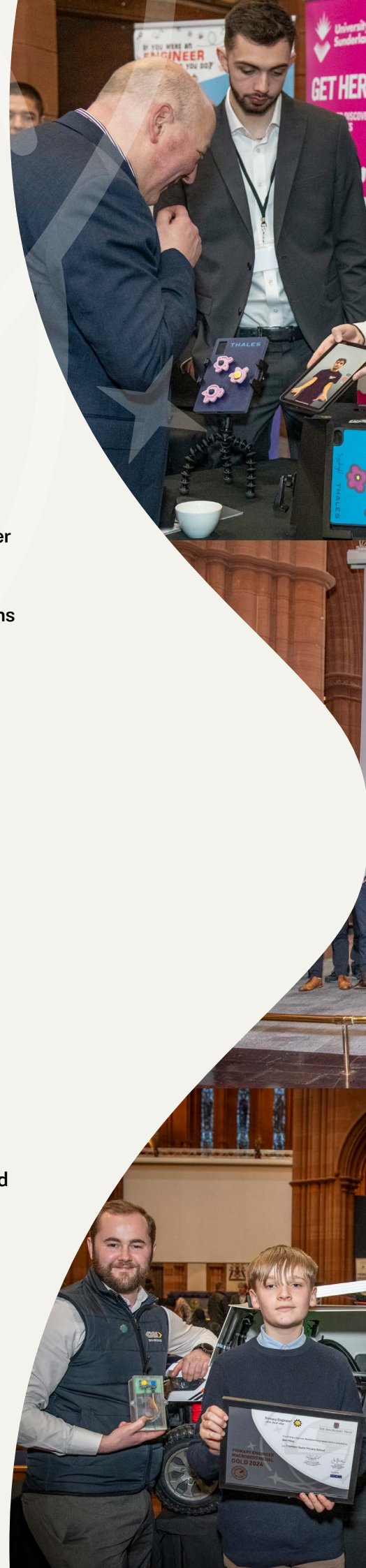
## What is the Primary Engineer® MacRobert Medal

These awards celebrate the innovation, public engagement and industry connections of the Primary Engineer ProtoTeams, who have transformed school pupils' ideas into reality through the creation of prototypes. The ProtoTeams, comprising our university and industry partners, reflect the spirit of the MacRobert Award by recognising the creativity and ingenuity of the next generation of engineers.

In the 2024/25 academic year, there were **18** ProtoTeams, and **9** of them will be awarded medals today.

"Innovation is essential for solving today's complex challenges – from climate change to digital transformation – and Primary Engineer is uniquely positioned to inspire the next generation of problem solvers. By engaging young people in real-world engineering projects, we unlock their creativity, build confidence, and connect classroom learning to industry and beyond. Their fresh thinking and unconstrained problem-solving bring energy and passion to innovation and creativity, helping shape inclusive, future-ready solutions. Involving children in co-creation and design not only develops critical STEM skills but also ensures that tomorrow's engineers reflect the diversity and ambition of the world they'll help build."

**Jon Stanton, Chief Executive Officer at Weir**







## Order of Events

### 13:30 - 14:50 - Prototype Exhibition and Networking

The event opens with an exhibition of our prototypes, giving you an opportunity to meet this year's medallists, as well as enjoying some refreshments and networking. (Guests will be shown to their seats so proceedings can begin at 15:00)

### 15:00 - 16:30 - The Official Award Ceremony

The official awarding of the Gold, Silver and Bronze Medals followed by the unveiling of the Commendation Award Winner

### 16:30 - 17:00 - Additional Networking and Medallist Photography

Further photography will be carried out with the medallists while guests are invited to continue their conversations.

### 17:00 - Event Close

Event formally closes

Follow the action and share your stories from Primary Engineer® MacRobert Medal on our socials:  
[@PrimaryEngineer](#) [#EngineersInTheMaking](#)



# 2024 - 2025

## 70,381

School Pupils



## 4,272

Teachers



## 982

Schools



## 1,719

Engineers



## 25

Regions



## 18

Online Interviews



## 47

Grading & Judging Days



## 25

Awards Event & Exhibition



## 818

Winners & Highly Commended



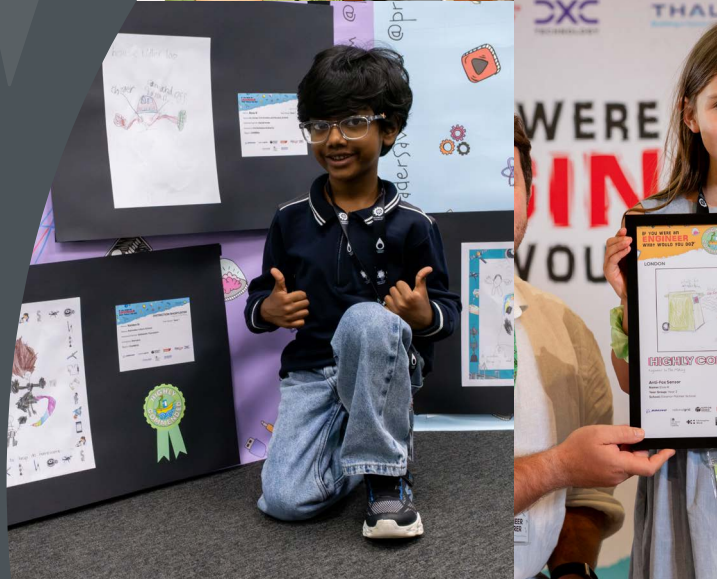
## 18

ProtoTeams



## 9

Primary Engineer®  
MacRobert Medals







## If you were an engineer, what would you do?®

Our 'If you were an engineer, what would you do?' Leaders' Award Competition is a UK-wide competition open to pupils aged 3-19. Pupils are tasked with interviewing an engineer before being asked to identify a problem in the world around them and coming up with a creative, engineered solution to that problem.

Teachers get the opportunity to be introduced to an engineer and bring them into the classroom or take the class, and on occasion, the whole school join one of our high-profile live interviews, giving them the opportunity to ask the questions that matter to them. This introduces them to inspiring people they can identify with, helps broaden knowledge and career aspirations and dismantles stereotypes.

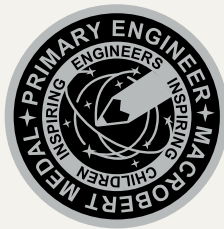
Once they have interviewed an engineer, pupils start looking at the world around them to see if there is a problem they can solve with engineering. They create an annotated drawing of how their idea would work and write a letter to an engineer explaining why their idea should be built. All entries are read and graded by engineering professionals, with every single pupil who takes part receiving a named and graded certificate. They are graded based on the quality of the idea and the problem, large or small, that it is solving. Shortlisted entries are then sent to exclusive judging days where the invited judges, formed from leading industry and engineering professionals, select the designs to be celebrated at our 25 regional Award Ceremonies.

The competition culminates in exciting regional public exhibitions and award ceremonies, where teachers, pupils, their families and industry professionals are invited to celebrate ingenuity and create lasting memories. The shortlisted designs are displayed, and the winners and those who are highly commended are invited on stage to receive their awards, with a surprise award for the judge's favourite at the end.

Each year, our university and industry partners choose from thousands of shortlisted entries submitted by pupils across the UK, which are displayed at our public exhibitions, to turn into a prototype. 18 ProtoTeams then selected ideas to build and unveil at the exhibitions and award ceremonies. Today, we celebrate them.

The competition is running across the UK for its 13th successive year, and if you would like to take part, you can register at [leadersaward.com](https://leadersaward.com).





## 4 Bin Swopper

**Partner:** The University of Southampton

**ProtoTeam:** Tim Woolman

Ian Williams

Duvayndren Jegathesan

Hiroki Yamashita

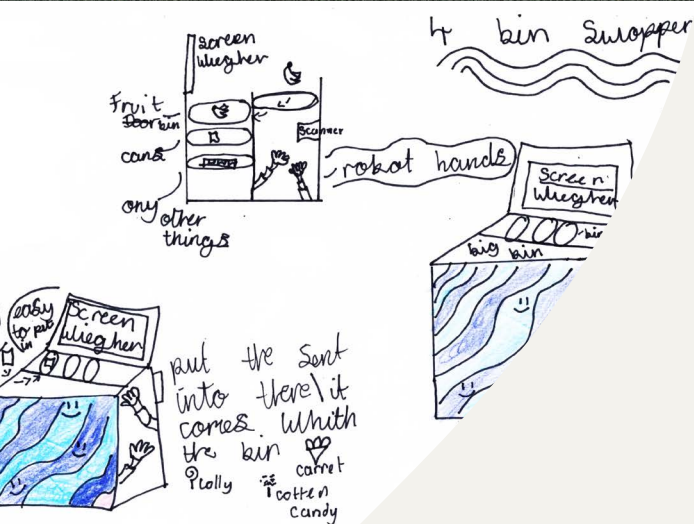
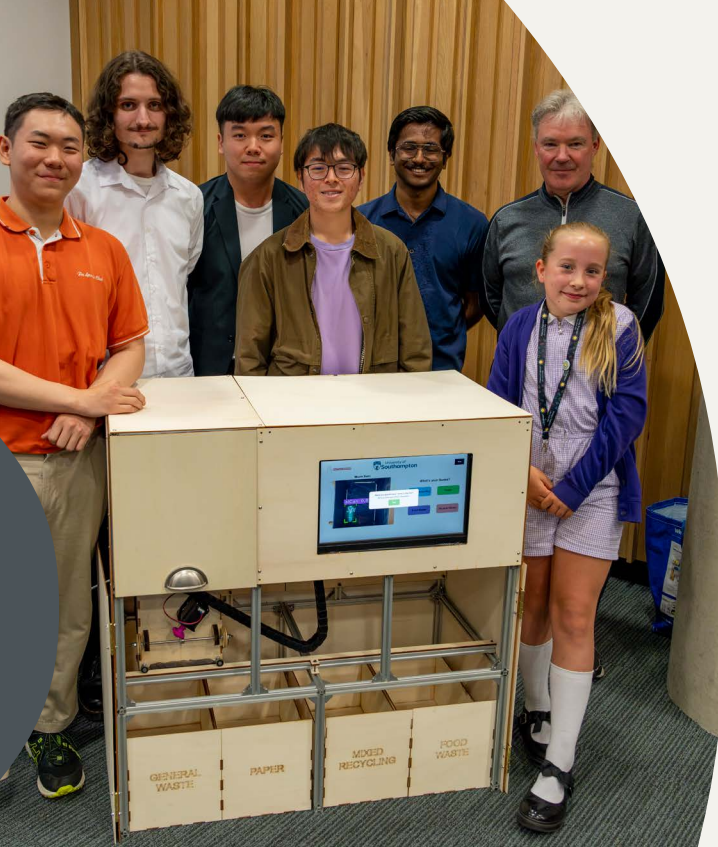
Zhe Wen Teh

Darcy Kirwan

Ji Kit Lee

**Pupil:** Maisie Lewis

**School:** Evendons Primary School



Maisie, a Year 3 pupil at Evendons Primary School in Wokingham, designed the **4 Bin Swopper**, a smart recycling bin that automatically sorts waste into four categories. Her concept aimed to make recycling more accessible and engaging, particularly for younger students and those with visual impairments. The University of Southampton selected Maisie's idea to develop into a working prototype during the 2024-2025 academic year, recognising its potential to improve recycling practices in schools.

A team of final-year engineering students collaborated closely with Maisie throughout the development process, engaging her in design discussions and incorporating her input to shape the project's direction. Maisie's enthusiasm and insights were instrumental in refining the prototype and ensuring it aligned with her original vision.

The development journey presented several engineering challenges. The team explored various methods for waste identification and sorting, ultimately integrating a Raspberry Pi mini-computer and a webcam to recognise waste items. The sorting mechanism automatically directs items into the correct compartment, and an interactive screen provides feedback to users, encouraging them to adopt correct recycling practices.

Despite these challenges, the team successfully created a prototype that met the design objectives. The completed **4 Bin Swopper** was officially unveiled on 11 June 2025 at the South England regional award ceremony hosted at the University of Southampton. Maisie and her family attended the event, expressing immense pride in the project's success and the collaboration that brought it to life.







## Heat Sensor

**Partner:** AVEVA  
**ProtoTeam:** Abi Kinnard  
Alli Orton  
Martin Downey  
Oliver Rylance  
Sean O'Sullivan  
Somayeh Touranian  
**Pupil:** Veda Guttha  
**School:** Dilkes Academy

Veda, a Year 2 pupil from Dilkes Academy in South Ockendon, designed the **Heat Sensor** to address energy wastage caused by heating or air-conditioning systems running when doors or windows are left open. Her innovative solution used sensors on doors and windows that illuminate red or green to indicate whether they are open or closed. The system then communicates with a controller to take the necessary action, such as turning off the heating or air-conditioning to conserve energy.

AVEVA, a company committed to sustainability, selected Veda's idea to develop into a working prototype during the 2024-2025 academic year. The AVEVA ProtoTeam, based at the Cambridge Science Park, collaborated with Veda to bring her concept to life. The team initially faced challenges due to limited experience with sensors and control systems.

They overcame these obstacles by using an IKEA smart-home kit, which included programmable APIs, to control heating and air-conditioning systems. They also developed custom software to bridge the gap between the sensors and smart plugs, enabling the system to function as intended.

To demonstrate the concept effectively, the team constructed a cardboard model of a house, incorporating the sensors and smart plugs to simulate a smart-home environment. This hands-on approach provided a tangible representation of Veda's idea and showcased its practical application.

The completed **Heat Sensor** prototype was officially unveiled on 26 June 2025 at the East of England regional award ceremony hosted at Anglia Ruskin University. Veda and her family attended the event, expressing immense pride in the project's success and the collaboration that brought it to life.





## Focus Band

|            |  |
|------------|--|
| Partner:   | Thales (Glasgow)   |
| ProtoTeam: | Desmond Jemwa<br>Tomi Akintunde<br>Luke Brand<br>Ronaldo Mupudzi<br>Emma Russell<br>Ellen Taylor |
| Pupil:     | Sophia Scouler   |
| School:    | Gargieston Primary School  |



Inspired by a classmate who faced challenges in class, Sophia, a pupil from Gargieston Primary School in Kilmarnock, designed the **Focus Band** to help individuals with learning difficulties – such as ADHD or autism – maintain concentration during school work. Her concept featured a headband equipped with noise-cancelling earbuds, a smart camera, desk projection and a customisable design. The goal was to eliminate distractions and enhance engagement and learning.

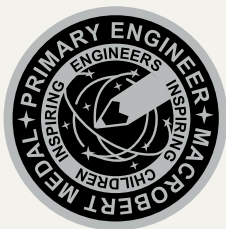
Thales Glasgow selected Sophia's idea to develop into a working prototype during the 2024–2025 academic year. The Thales ProtoTeam, comprising the Team DELTER, which consisted of six members, collaborated closely with Sophia throughout the development process. They engaged her in design discussions, allowing her input to shape the project's direction. Sophia's enthusiasm and insights were instrumental in refining the prototype and ensuring it aligned with her original vision.

The development journey presented several engineering challenges. The team worked on integrating various components into the headband, including noise-cancelling earbuds, an accelerometer for motion tracking, Bluetooth connectivity for software integration and optional features such as a microphone for lesson recording and text-to-speech functionality. The accompanying software was developed in C++ and JavaScript using React Native to create a cross-platform application that interprets data from the headband and provides user-friendly feedback.

Despite these challenges, the team successfully created a prototype that met the design objectives. The completed **Focus Band** was officially unveiled on 13 June 2025 at the Scotland South West regional award ceremony hosted at Glasgow International Airport in Prestwick. Sophia and her family attended the event, expressing immense pride in the 'project's success and the collaborative effort that brought it to life.







## The Attaching Suitcase

|                   |  |
|-------------------|--|
| <b>Partner</b>    | Civil Aviation Authority   |
| <b>ProtoTeam:</b> | Brenda Jefcoate<br>James Evans<br>Manali Pallegar<br>Akhil Sharma<br>Chris Malbon<br>Colin Greenwood<br>Karena Moore-Millar<br>Stuart Rankin |
| <b>Pupil:</b>     | Anna Li  |
| <b>School:</b>    | ST Leonard's CE Primary School   |

Anna, a Year 4 pupil at St Leonard's CE Primary School in Padiham, designed **the Attaching Suitcase**, a concept that allows multiple suitcases to magnetically connect and be pulled together with one hand. Her idea aimed to make travelling more manageable, especially for individuals navigating airports with multiple pieces of luggage. The Civil Aviation Authority (CAA) selected Anna's design to develop into a working prototype during the 2024-2025 academic year, recognising its creativity and relevance to aviation.

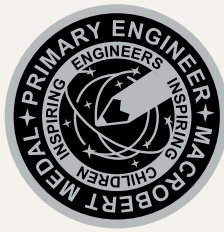
The CAA's multidisciplinary team began with virtual planning sessions, including a call with Anna and her teacher to better understand her vision. They explored different technical approaches to make the design both functional and airport-compatible. The main feature is a magnetic connection that allows suitcases to attach to one another, controlled by a button that turns the function on and off.

To bring the idea closer to reality, the CAA STEM team met virtually every two weeks and gathered in person to explore different suitcase models, materials and connection mechanisms. They created three potential prototype options, from which Anna selected the final design direction. The team agreed on a lightweight electromagnet embedded within the inner lining of the suitcase, keeping it discreet. A button on the top of the suitcase controls the magnetic function.

As the project neared completion, John and Max from Siemens Energy assisted in designing and building a mounting system that fitted perfectly onto all four suitcases, allowing the rechargeable electromagnets to be smoothly attached and detached.

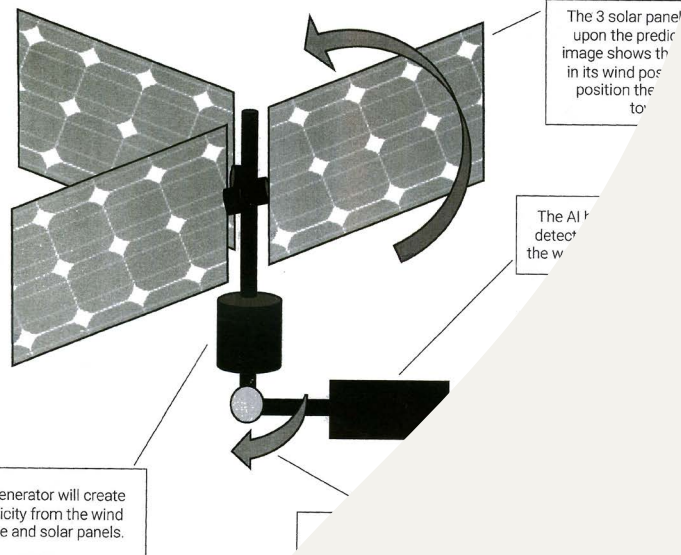
The completed **Attaching Suitcase** prototype was officially unveiled on 18 June 2025 at the Burnley regional award ceremony hosted at Victoria Mill, University of Central Lancashire (Burnley site). Anna and her family attended the event, expressing immense pride in the project's success and appreciation for the teamwork that made it possible.





## Hummingbird3000

**Partner:** Thales (Crawley)  
**ProtoTeam:** Henry Fuller  
Isabella Anderson  
Matthew Hodges  
Andrew Lucas  
Benji Beedles  
Alex Carlyn  
**Pupil:** Alexander Swain  
**School:** The Pilgrim School



Alex, an 11-year-old pupil from The Pilgrim School in Rochester, designed the **Hummingbird3000**, a compact green-energy generator featuring a wind turbine and solar panels. His concept aimed to provide a sustainable energy solution that could be easily installed on a wall or roof, producing enough electricity to power a household. The idea was inspired by Alex's interest in renewable energy and his desire to contribute to environmental conservation.

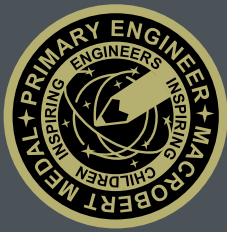
Thales Crawley selected Alex's idea to develop into a working prototype during the 2024–2025 academic year. The Thales ProtoTeam, consisting of six members, collaborated closely with Alex throughout the development process. They engaged him in design discussions, allowing his input to shape the project's direction. Alex's enthusiasm and insights were instrumental in refining the prototype and ensuring it aligned with his original vision.

The team faced several engineering challenges while integrating components within the compact design and ensuring the wind turbine and solar panels functioned efficiently together. They also focused on developing a user-friendly installation process to make the system accessible for homeowners. Despite these challenges, the team successfully produced a prototype that met all design objectives.

The completed **Hummingbird3000** prototype was officially unveiled on 18 June 2025 at the South East England regional award ceremony hosted at Canterbury Christ Church University. Alex and his family attended the event, expressing immense pride in the project's success and appreciation for the teamwork that made it possible.







## Rainbow Glasses

**Partner:** Thales (Cheadle)  
**ProtoTeam:** Sam Hassan  
Ben Butcher  
Hassan Shabbir  
Christian Moloney  
Tyler Creagh  
Harry Topping  
Faris Hussain  
**Pupil:** Millie Childs  
**School:** Light Oaks Junior School

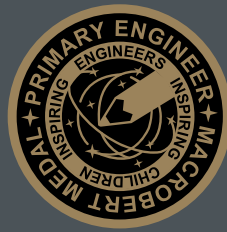
Millie, a Year 5 pupil from Light Oaks Junior School in Greater Manchester, designed the **Rainbow Glasses** to help individuals with dyslexia read more easily. Her innovative solution featured glasses with interchangeable coloured lenses, allowing users to select the hue that best alleviated visual stress and improved reading comfort. Thales Cheadle selected Millie's idea to develop into a working prototype during the 2024–2025 academic year.

The Thales ProtoTeam, initially comprising five engineers and later expanding to seven, collaborated to bring Millie's concept to life. After evaluating various options, including electrochromic and thermochromic lenses, the team settled on an LED-based solution.

This approach allowed the lenses to change colour to red, green or blue, providing users with the flexibility to choose the most suitable tint for their reading needs. The team engaged in weekly meetings, collaborated with researchers from the University of Georgia, and delivered STEM lessons at Millie's school to ensure the prototype met her expectations.

The completed **Rainbow Glasses** prototype was officially unveiled on 15 July 2025 at the Greater Manchester Awards Ceremony. Millie and her family attended the event, where she had the opportunity to showcase the prototype and discuss its potential impact on individuals with dyslexia. She expressed her pride in seeing her idea transformed into a real prototype and received positive feedback from attendees, including a member of the NHS who enquired about the possibility of further development.

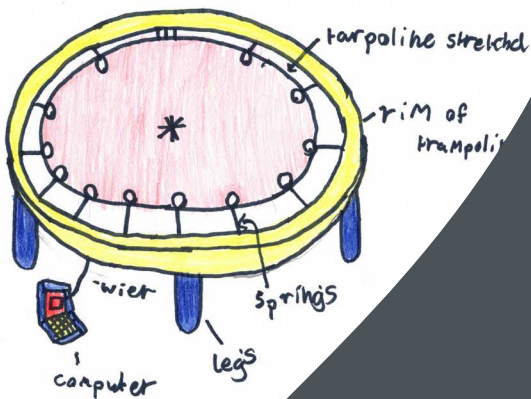




## Jump Charge

|            |   |
|------------|---|
| Partner:   | Thales (Glasgow)  |
| ProtoTeam: | Jamie Read<br>Tom Warburton<br>Sakaria Sallah<br>Darcy Weatherby<br>Neave Kelly<br>Connor Scott |
| Pupil:     | Adam Forrest  |
| School:    | Langside Primary School   |

do not have a lot of money.  
this will help get energy it  
charges ipads, computers and switches.



this is free to



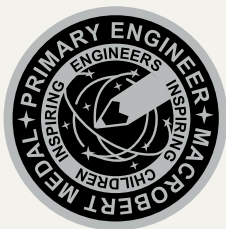
Adam, a pupil from Langside Primary School in Glasgow, envisioned a trampoline that generates electricity to charge devices, blending physical activity with sustainable energy. His innovative idea was selected by Thales Glasgow to be developed into a working prototype during the 2024-2025 academic year.

The Thales team, comprising graduates and apprentices, collaborated closely with Adam throughout the development process. They engaged him in design discussions, allowing his input to shape the project's direction. Adam's enthusiasm and insights were instrumental in refining the prototype, ensuring it aligned with his original vision.

The development journey presented several engineering challenges. The team explored two primary methods for energy generation: piezoelectric discs and a spring-magnet motor system. Initial tests with the piezoelectric discs yielded modest results, but after consulting with an electrical engineer, the team reconfigured the setup, achieving a more stable current sufficient to power an LED bulb. Concurrently, the spring-magnet motor mechanism was developed, integrating both energy generation methods into a cohesive prototype.

The completed **Jump Charge** prototype was unveiled on 5 June 2025 at the Scotland West regional award ceremony hosted at the University of Strathclyde. Adam and his family attended the event, expressing immense pride in the project's success and the collaborative effort that brought it to life.





## I CAN Swing

**Partner:** Thales (Belfast)  
**ProtoTeam:** Will Primrose  
Scott McGilton  
Jay Gibson  
Alistair Watt  
Rory Squire  
Zahra Syed  
Joe Castle  
**Pupil:** Malachy Marley  
**School:** St Oliver Plunkett Primary School

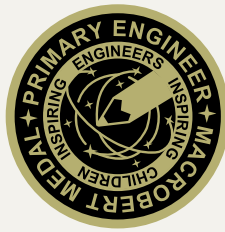
Malachy, a pupil from St Oliver Plunkett Primary School in Belfast, designed **I CAN Swing**, an inclusive playground swing for children with reduced mobility or wheelchair users. Motivated by a desire to provide equal play opportunities for all children, Malachy identified a significant gap in accessible playground equipment. His design sought to create a swing that could be enjoyed by children of varying abilities, fostering inclusivity and shared play experiences.

Thales Belfast selected Malachy's idea to develop into a working prototype during the 2024–2025 academic year. The Thales ProtoTeam, comprising six members from the Early Careers programme, collaborated to bring the concept to life. The team used their expertise in software design, 3D printing, computer-aided design modelling and project planning to transform Malachy's vision into a tangible product.

The development process involved careful planning and design to ensure the swing met safety and accessibility standards. The team focused on creating a prototype that was both functional and durable, suitable for installation in public playgrounds. Challenges included selecting appropriate materials and ensuring the swing's design could accommodate different wheelchair models.

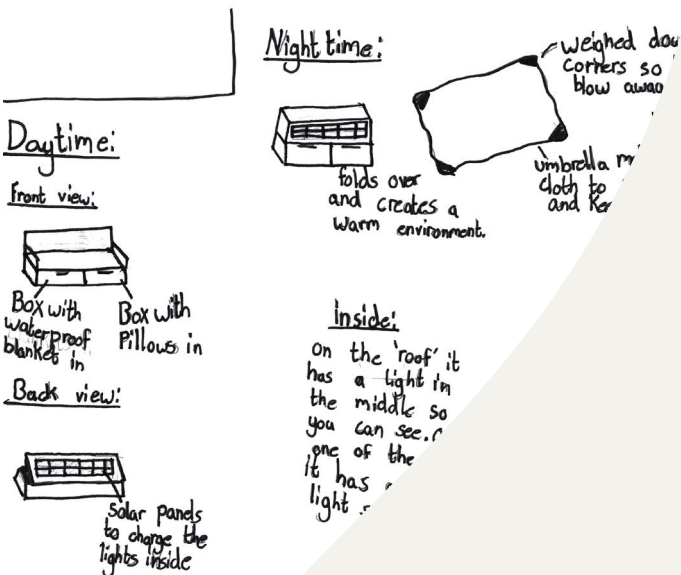
The completed **I CAN Swing** prototype was officially unveiled on 25 June 2025 at the Northern Ireland regional award ceremony hosted at Ulster University. Malachy and his family attended the event, expressing immense pride in the project's success and the collaborative effort that brought it to life.





## The Bench Bed

|            |  |
|------------|--|
| Partner:   | University of Edinburgh,<br>School of Engineering  |
| ProtoTeam: | Katie Grant<br>Alasdair Christie<br>Iain Gold Male<br>Steven Gourlay<br>Imogen Heard<br>Tom Bolland<br>Matthew Hunton<br>Adam Meek |
| Pupil:     | Libby Evans  |
| School:    | Cockenzie Primary School   |



**The Bench Bed** began as a caring and imaginative idea from Libby, a P7 pupil at Cockenzie Primary School in East Lothian. She designed a versatile street bench that transforms into a sheltered bed at night – complete with surrounding walls to provide a warm, safe spot for someone experiencing homelessness. The University of Edinburgh's School of Engineering selected her concept to develop into a working prototype, recognising its real-world potential and social compassion.

From the start, Libby was an active collaborator. The ProtoTeam welcomed her into the university environment, involving her in design discussions, decision-making and even hands-on tasks. She participated in a soldering workshop to assist in building the custom PCB that controls the Bench Bed's lighting and communication system. She even kept a second version as a keepsake. The team also engaged with Social Bite to ensure the design met real user needs, which led to the inclusion of a hidden drawer stocked with essential supplies such as pillows and hygiene items.

As the prototype evolved, the team navigated several engineering challenges. Scaling down the frame required switching to bendable aluminium extrusion, the electronics had to be compacted by reducing battery size and PCB footprint, and the solar panel was repositioned onto a non-rotating surface with wiring fed through a hinge. Despite these hurdles, the build progressed steadily.

The completed **Bench Bed** was officially unveiled on 28 May 2025 at the Scotland South East regional awards ceremony hosted at the University of Edinburgh, where Libby and her family celebrated the achievement alongside the ProtoTeam.





## Past Winners

We have two remarkable stories from previous winning prototypes that have continued to make an impact after being awarded medals.

### Solar Powered Heated Blanket – Silver Medal and Commendation Award Winner, 2024

Since receiving a Silver Medal and the inaugural Commendation Award, the ProtoTeam from Thales and pupil Rebecca Young have gone on to make a remarkable impact with their **Solar Powered Heated Blanket**.

Following their Commendation Award in November 2024, the Thales team set out to bring their idea to life, aiming to support vulnerable rough sleepers in Scotland. They are now building and donating 150 blankets to homeless charities in 2025.

Meanwhile, Rebecca Young – who first designed the concept at just 12 years old – was named TIME Magazine's Girl of the Year. She featured in a global Lego campaign alongside other inspiring women and received international recognition from the press for her innovation. To crown these achievements, Rebecca was also awarded the British Citizen Youth Award in October 2025 for her outstanding contribution to the community.

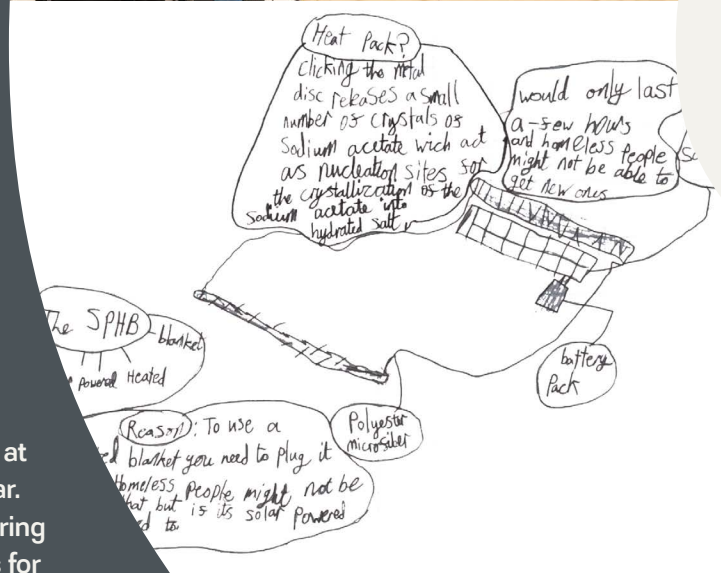
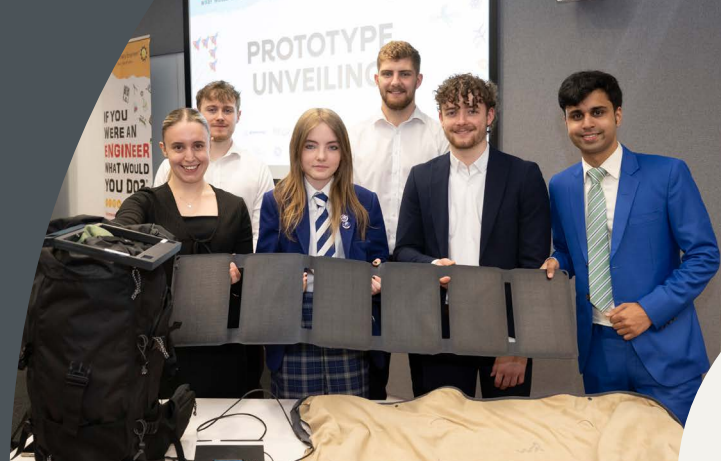
### SMA Jacket – Gold Medal, 2022

The **SMA Jacket** received a gold medal at the inaugural Primary Engineer MacRobert Medal Award Ceremony in 2022 for its life-changing design: an exoskeleton jacket that supports the back and spine, giving children with Spinal Muscular Atrophy greater strength and the chance to live more conventional lives. The idea was created by Krystyna, a 15-year-old from Burnley, who was inspired by her cousin who lives with the condition.

Dr Matthew Dickinson of the University of Lancashire, lead engineer on the ProtoTeam, continued developing the **SMA Jacket** and produced several new iterations exploring the wider applications of exoskeletons. His work led to collaboration with ASTM International's Exo Technology Center of Excellence, bringing together industry, healthcare, academia and government to accelerate safety and reliability standards for exoskeleton systems.

Dr Dickinson went on to found Viking Exos, a company developing state-of-the-art exoskeletons designed to enhance human performance, reduce injury risk, and transform the future of work and mobility.

It all began with the **SMA Jacket** – and that innovation is now helping to change the world.



## Join Us

As we continue to grow, we are seeking new organisations to partner with us in inspiring the UK's next generation. We not only help young people create these incredible stories – we are also experts in effective outreach, working with partners to deliver measurable social value and foster lasting, meaningful engagement with teachers and pupils.

Through our programmes, competitions, and qualifications, we enable teachers to confidently embed engineering and technology into their curriculum. Most importantly, we bring real-world context into classrooms by connecting pupils directly with the companies and organisations that support us.

In the 2024–2025 academic year alone, we worked with **108,395 pupils**, **6,059 teachers** and **2,384 engineers**. Together, this generated an extraordinary **775,860 pupil hours of engagement with engineering**.

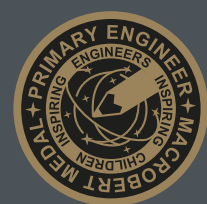
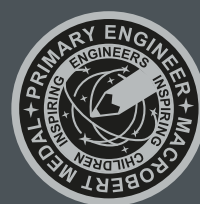
**If you want to be part of this journey and help shape the future of engineering in the UK, get in touch today.**

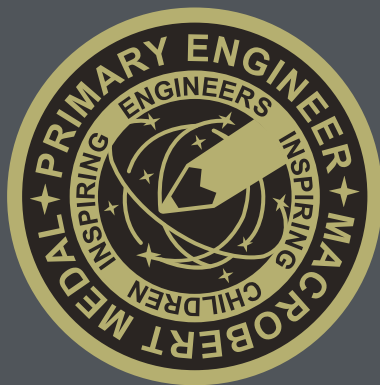




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