HOME AUTOMATION CHALLENGE 2018.

EVENT PROGRAMME

06 July 2018
Manufacturing Technology Centre (MTC), Coventry
www.imeche.org/hac
WELCOME TO THE HOME AUTOMATION CHALLENGE.

On behalf of the Institution of Mechanical Engineers, I welcome you to the Home Automation Challenge 2018. Courtesy of our sponsor we are delighted to return to the Manufacturing Technology Centre (MTC).

The challenge is now in its fourth year and it is evident that the Challenge continues to grow and expand as 10 teams registered this year. We are pleased to have some of them here with us today and extend a warm welcome to all.

The Home Automation Challenge is organised by the Manufacturing Industries Division’s Young Members Committee of the Institution of Mechanical Engineers (IMechE). The challenge aims to give apprentices some hands-on experience of manufacturing and broaden professional development and understanding of key EngTech competences.

As well as the manufacturing, teams learn a huge amount about how important the ‘softer’ skills can be including project management, team building and leadership.

This year the Home Automation Challenge is also proud to announce, thanks to our sponsor The Manufacturer, that the winning teams will have the opportunity to attend the TMMX Awards as well as exhibit their winning prototypes in Innovation Alley at the Smart Factory Expo.

Finally, I must thank the outstanding dedication and efforts of the IMechE staff, the Home Automation Challenge Steering Committee, the judges, sponsors, scrutineers and the many volunteers who have willingly given up countless hours of their precious time to make this event a success and without whom the challenge would not be possible – thank you!

I’m sure you’ll agree that the Home Automation Challenge has an exciting future. If you are interested in talking to apprentices to sign up more teams, sponsoring or helping out with future events, then there are lots of fantastic opportunities with us. Please speak to either me or IMechE staff about how to connect.

We are in for an incredibly exciting day and are expecting to see some amazing engineering innovations. We very much welcome all teams and their companies, and we look forward to seeing their designs in action. I wish you all good luck!

Joanna Horton
IMechE Member Operations Director

It gives me great pleasure to send you this message of support and good wishes for the 4th Home Automation Challenge at the Manufacturing Technology Centre, Coventry. I would like to thank all those involved in the Challenge; the teams, sponsors, volunteers, judges and staff whose efforts have made this event possible.

This is the Institution’s leading annual apprentice competition and provides apprentices with valuable opportunities to learn practical engineering skills, team work as well as commercial skills to name a few. On behalf of the Institution I wish you all the best of luck!

Jason Yearsley
Chair, Home Automation Steering Group

TEAMS 2018

A. Aston Martin
TEAM: HAVEN
Ryan McLaren, Ben Newman, William Savage, Gian Sebastian, Curtis Turton

B. Manufacturing Technology Centre (MTC)
TEAM: ENDEAVOUR
Bradley Sheffield, Oscar Pickerill, Chris Daly, Kai Stevens, Alistair Bradford, Sam Smith

C. Manufacturing Technology Centre (MTC)
TEAM: WMCTA
Tilly Brogden, Natalie Johnston-Plant, Evarney Enock, Melissa Chigubu, Charitini Konstantelias

D. Leonardo Airborne & Space Systems
TEAM: CURT & ROD
Rhys Lewis, Katie McAleese, Sam Orr, Ben Campion, Callum Waterton, Christopher Domy

E. Leonardo Airborne & Space Systems
TEAM: THE PILGRIMS
Jack Hempsall, Jonah Quinton, Joe Marney, Connor White, Jake Ebhodaghe, Alexander Downing

F. PA Consulting Group
TEAM: TOP CAT
Oliver De Roeck, Dominic Lam, Callum Franks
HOME AUTOMATION CHALLENGE 2019.

DO YOU WANT TO DEVELOP YOUR ENGINEERING SKILLS AND WIN £2,000?

This competition is for teams to design and manufacture a product to make a job in the home easier.

REGISTER YOUR INTEREST TO PARTICIPATE THIS AUTUMN

Do you have an idea that will make life easier for everyone? Then join us in the Home Automation Challenge and share your idea with industry leaders.

Teams of apprentices from businesses across the country, colleges and training providers of engineering and manufacturing technologies from all years are invited to participate.

The objective is simple - to design and manufacture a product to automate a task in the home. It could be a device to help get you out of bed in the morning or it could be something to make an otherwise boring task easier and quicker to do. The limit is your imagination!

How will you and your employer benefit from taking part?

- Gain further technical skills (research and practical)
- Broaden your professional development and key EngTech competences
- Enhance your project management skills
- Widen your manufacturing experience
  - Develop your leadership and team working skills
  - Raise your profile and add the project to your CV
  - Raise the profile of your employer and your team

For further information for information and sponsorship opportunities contact: hac@imecheearlyou.org

The competition is organised by the Manufacturing Industries Division, Young Members Committee. For more information visit the Home Automation Challenge webpage on the IMechE website.

For information about the Home Automation Challenge, or to submit an entry or to enquire about sponsorship, please contact Anjali Blagbrough. Tel: +44 (0)207 973 1252 or Email: a_blagbrough@IMECHE.org

www.imeche.org/hac
MEETING
YOUNG MEMBERS
2018.

Young Member Panels
The Institution has a Young Member Panel (YMP) in each region. The overall aim of the YMPs is to provide a mixture of learned society activities including prestige lectures, talks on popular subjects, visits to industrial organisations, aspects of Continuing Professional Development, student prizes and social functions.

Joining a YMP
Joining your local panel is a great way to find out more about the opportunities available from IMechE and can provide a number of benefits; whether you’re studying, looking for work or in the early stages of your engineering career. Young Member Panels welcome all mechanical engineers including affiliate, associate, corporate members and those working towards CEng, IEng or Eng Tech status.

Getting Involved
Information on how to get involved, upcoming events and contacts for each panel is provided on their respective page on the NearYou website, http://nearyou.imeche.org/nearyou/UK

SPEAKERS AND AWARD PRESENTERS

KEYNOTE SPEAKER & AWARD PRESENTER
Ian Joesbury, President Elect, IMechE

Ian has been a Chartered Engineer and a Member of the IMechE for 25 years, becoming a Fellow in 2011. He is also a fellow of the Royal Aeronautical Society. Having graduated in engineering from Imperial College, London in 1986 with a BEng in Mechanical Engineering his early career spanned Automotive and Process Industries with Ford Motor Company and then Imperial Chemical Industries. Following an MBA at Warwick Business School Ian returned to automotive with Lucas Aftermarket but soon moved onto Aerospace where he has spent the last 20 years.

During his career in Aerospace Ian has carried out a number of senior Operations and Programme roles within Lucas Aerospace, Smiths Aerospace and Meggitt plc. Having joined Meggitt initially to create the Operations Excellence group function and embed Strategic Sourcing into the business he became President of Meggitt Polymers & Composites, a division with over 2000 employees, facilities in the UK and US and a broad customer base.

Ian is now CEO of Advanced Laser Technology Ltd. An innovative technology company based in Manchester.

MASTER OF CEREMONIES
Ted Wiggans, Chief Operations Officer, Xaar plc.

Ted has over 30 years’ experience in the high-tech industries. He is a Fellow of the Institution of Mechanical Engineers, a Chartered Engineer and a former Chair of the Manufacturing Industries Division Board of the IMechE.

During his career Ted has run operations in Sweden and Germany in addition to the UK and established and ran one of the first semiconductor joint ventures in the People’s Republic of China.

In his role of Chief Operations Officer and main board Director at Xaar, Ted has responsibility for R&D, Operations (manufacturing and logistics) and Quality. Prior to joining Xaar, Ted was the Chief Operating Officer at Cambridge Semiconductor, Operations Director at Zetex Semiconductors and in addition, he has held senior-level manufacturing, engineering and quality roles with Motorola and Philips.

Ted is passionately committed to the engineering and manufacturing industries and in particular to the encouragement of young people to enter the industry. The ‘Home Automation Apprentice Challenge’ was established whilst he was Chair of the MID Board and he has also two sponsored two ‘Imagineering’ clubs at schools in Huntingdon and Cambridge.
SPONSORSHIP OPPORTUNITIES 2019.

Join us as a partner/sponsor of the Home Automation Challenge (HAC). Launched in 2014, the challenge is our leading annual apprentice competition in the manufacturing sector. This is a remarkable opportunity for you, an industry leader, to join hands with us to support and uphold the future of young, aspiring apprentices by enabling them to gain industry experience, practical, enhanced business and people skills, all within a set time-frame.

WHY GET INVOLVED
• Consolidate support and uphold the future of the sector.
• Deliver profiled and relevant brand exposure.
• Support your corporate social responsibility agenda by raising the profile of innovation and manufacturing.
• Be part of a growing network of industry leaders that promote focussed innovation in the manufacturing industry.

THE CHALLENGE
The Challenge is open to teams of manufacturing and engineering apprentices from companies, colleges and training providers. Teams are required to design and manufacture a product to automate a task in the home or garden. In addition, participants will be asked to submit a report which is to include a design specification, manufacturing instructions and a business case for mass production and sale of the product. The prototypes will be judged at a finals event which takes place in July, where the Home Automation Challenge champion will be crowned.

BENEFITS
500,000 IMechE social media followers.
114,000+ IMechE members.
100+ attendees. Focussed and engaged professionals and participants at the event.
50+ apprentices.

At the finals event you will:
• Be invited to join the judging panel
• Be invited to a networking event with all competition participants and officials
• Have the opportunity to speak and present at the award ceremony
• Be given an exhibition space to display an item of innovation
• Have corporate branding displayed on selected promotional event collateral.

Contact Anjali Blagbrough, IMechE Projects Executive with a date/time for either a phone call or meeting to discuss how we could work together.
Tel: +44 (0)20 7973 1252  Email: A_Blagbrough@imeche.org

SPEAKER & AWARD PRESENTER

Jenifer Baxter, Head of Engineering, IMechE

Jenifer Baxter works closely with members to raise the profile of engineers and engineering potential, to generate discussion and provide thought leadership in the energy and environment sectors.

Jenifer is responsible for engaging with Government, industry and academia, aiming to ensure that the engineering perspective is included in policy making, innovation and research and development. Bringing the views of members, research and her knowledge of the sector together, Jenifer provides insight and opinion to the media ensuring greater awareness of engineers and their role.

Jenifer has published a number of academic papers on hydrogen technologies, the role of policy making in engineering innovation and innovation system modelling, as well as a number of magazine and opinion pieces for the Institution. She is a member of the Council for the Society of the Environment.

Jenifer joined the Institution of Mechanical Engineers as Head of Energy and the Environment in May 2015. Jenifer entered engineering in 1995 undertaking a BTEC in general engineering at North Hertfordshire College with an aim to change the world and create a cleaner environment through engineering. Following this Jenifer gained a BEng in Environmental Engineering in 2001 and an MSc in Sustainability, Planning and Environmental Policy in 2003, both from Cardiff University. Following an early spell in research, Jenifer went to work for the waste strategy team at the Welsh Government for six years until she left to study a PhD in technological innovation for hydrogen production from waste also from Cardiff University. Jenifer is an expert in combined research methods for engineering, the role of policy making in engineering innovation, waste and resource management and low carbon technologies.

Prior to joining the Institution, Jenifer was Head of Enterprise and Innovation at the University of East London and has also been Research Manager and Lecturer in the Engineering Department of the University of South Wales.

Jenifer’s enthusiasm for engineering comes from the incredible capabilities of humans to manipulate and change our environment for the good of society.

HONORARY GUESTS

Lord Mayor & Lady Mayoress of Coventry

JUDGES

Jenifer Baxter  Raymond Hodgkinson
Ted Wiggans  Michael Starling
Lydia Amarquaye  Mark Ireland
Sylvain Jamais  Siddarth Khaastgir
Christian Young  Jason Yearsley
Juan Andres Vasquez  Ion Costisanu
Richard Andreou  Bruce Cletheroe
Helen Meese  

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Jason Yearsley, Chair  
Home Automation Steering Group

Jason has been involved in the Home Automation Challenge for the past couple of years, and succeeded Lydia Amarquaye as the Chair of the Manufacturing Industries Division Young Member Subcommittee, who are effectively the organisers of HAC. Jason has found organising the competition an amazing experience and has greatly enjoyed seeing all of the excellent work that the engineering apprentices have completed. Each year he is impressed with the imagination and ingenuity of the inventions presented by the apprentices. He is happy that the apprentices have enjoyed partaking in the competition whilst gaining valuable experience towards meeting their EngTech competencies.

Jason graduated from the University of Southampton with a Master’s degree in Mechanical Engineering. Since graduating he has been working for Delphi Diesel Systems involved in the design, development and manufacture of fuel injection systems. Currently, he is working as the Lead Design Engineer for a new dual fuel injector.

Lydia Amarquaye  
Home Automation Steering Group

Lydia has been involved in the Home Automation Challenge since its inception, and is the Immediate Past Chair of the HAC Steering Group. Within the Institution of Mechanical Engineers, she is also Chair of the Young Member’s Board, representing the views of all young members within the Institution. Lydia is a Chartered Engineer working in the automotive sector, having graduated from Brunel University. She is passionate about development of Young Engineers and showcasing talent.

Toby Heagerty  
Steering Group

Toby is a research engineer at The Manufacturing Technology Centre in Coventry for the past six years currently working within the Mechatronics and Smart Devices team. His work involves specifying sensors to be used on customers’ machines, writing software to run the data loggers that will capture and process the information and finally performing post-processing and analysis on the results.

Toby has been on the steering committee since its inception. His involvement has ranged from working with the committee in brainstorming of what kind of competition we wanted to put forward, to assisting in marking the reports and judging the demonstrations on the finals day in previous years.

Jack Worboys  
Steering Group

Jack Worboys is a motoring journalist and graduate production engineer. He graduated in 2017 with First Class Honours in Mechanical Engineering (BEng) and is currently acting as Technical Assistant to Production Director with his current company. In his final year of study, the University of Surrey awarded him the IMechE Project Award for his final year individual project report. In the past he spent a summer working on classic Ferraris and has played a variety of instruments. When not working or writing he loves to get fit in the gym or on the bike, play golf, cook and travel.

Ion Costisanu  
Steering Group

Ion graduated from the University of Southampton with a Masters in Mechanical Engineering with Sustainable Energy. During his university years he has completed a number of internships in the Oil & Gas Industry, Finance, Aerospace and summer jobs at sporting events such as the London Olympics 2012 and Wimbleddon. Ion joined the Rolls-Royce Manufacturing Engineering graduate programme where he was involved in leading various forums and university campus activities. After successfully completed the program, Ion was accepted on to a fast track leadership programme. In his free time, he likes reading on the subject of psychology & physics and is running a martial arts club for Rolls-Royce employees. Ion believes in the HAC challenge as a means of providing a development platform for talented apprentices and a way of networking for the purpose of sharing best practice, ideas and technology awareness. The apprentices are a vital community which will be part shaping the engineering and manufacturing competitiveness of our nation.

Nick Valentine  
Steering Group

Nick is a graduate engineer in the Civil Service with an MSc in Robotics and Automation from the University of Salford. He has experience in infrastructure and has previously deployed overseas in support of the armed forces. He has volunteered for the IMechE for 5 years both on local area panels and on the Young Member’s Board, organizing inter-institution conferences for young engineers in Manchester for the past 3 years.

Anjali Blagbrough  
IMechE Projects Executive

Anjali graduated from King’s College London with a degree in Classics. Anjali began her career in the financial world before moving into the charity sector. She joined the Institution last year where she is a member of the Education Team. Anjali’s main responsibilities are the organising of the Home Automation Challenge and looking after the Young Members Board.

Additionl Team Members

General Volunteers
Gavin Kerby, Young Members Board Representative
John Butler, Midland Regional Education Officer

Staff
Sandra Balthazaar
Kristina Virkolich
Samantha Fitzpatrick