Engineer Briefing Notes

I'm an Engineer Get me out of here
Ireland Ireland

1. The Event

I'm an Engineer, Get me out of here! is a two-week long STEM engagement event that takes place online. It's a competition for engineers, where classes of school students vote to decide who wins in each zone.

The event gets young people talking to real engineers online, to learn about the context of their studies. It goes deeper than 'flash-bang-wow-inspiration!'. Students have fun but also get beyond stereotypes, learn about how STEM relates to real life, develop their thinking and discussion skills and make connections with real engineers. Ultimately, it's about helping all students, *whoever they are*, feel that STEM can be something *'for them'*. The event is split into zones, and in each zone there are 6 engineers and around 400 students aged 9-18. The zones are either general or themed.

Event objective: The primary objective of the event is to show students the context of their studies, and make them feel that engineering is something they can relate to. Giving students some real power (i.e. deciding where the money goes) makes the event more real for them.

What's involved?: You interact online with young people, answering their questions about engineering, your work, and just about everything else. You also read students' opinions on engineering and get them thinking about how their studies relate to the real world and how engineering affects their daily lives. All you need to take part is a computer with an internet connection.

In addition to your profile there are three sections to the site:

Ask ? Students ASK you questions which you answer in your own time; the sooner the better.

Chat You CHAT with students online, answering their questions and hearing their opinions.

Vote Students VOTE for the engineer in their zone they think should win a prize of €500 to spend on a STEM engagement project. Evictions take place in the second week of the event until the winner is announced on the last Friday.

The winning engineer in each zone gets €500 to be spent on a STEM engagement project. Please think seriously about what you want to do with it as the students will ask you about it. Some suggestions include:

• Funding engineer visits to schools, or school visits to labs.
• Producing podcasts about different areas of engineering that are currently making headlines.
• Developing and building portable demonstrations to take to science and engineering festivals.
• Giving the money to a school in Uganda to pay for engineering kits and a projector to watch science and engineering films on.

2. How to use the site

Logging in

The event takes place completely online. To begin, go to imanengineer.ie and enter the username and password that we'll have emailed to you.

Your username will usually be 'firstnamesurname' (e.g. joebloggs).
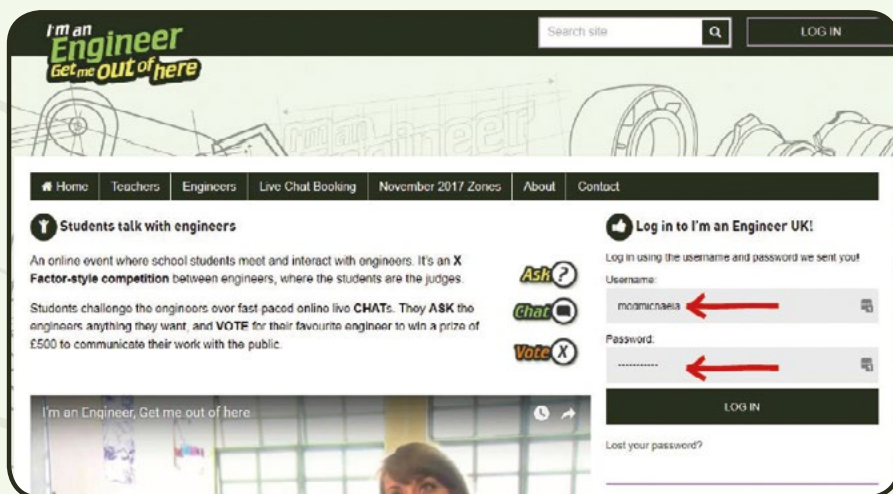
My profile

Once logged in you can go to your profile page, where you can tell students about yourself and your work. You'll need to fill in your profile at least two weeks before the event, as this is when classes will start going to the site to do lessons on the engineers in their zone. When filling out your profile remember to save regularly and after filling in each section.

Your profile includes a photo of you, information about you and your work, and a set of 'interview' questions. This enables the students to find out more about you and your job, and helps them to think of more questions to ask you. Photos of you and where you work are also helpful. You'll need to fill in your profile at least two weeks before the event, as this is when classes will start going to the site to do lessons on the engineers in their zone.

When filling out your profile remember to save regularly and after filling in each section.

For some profile questions you'll be asked for a one sentence summary, and then a longer version. The short versions are all displayed on one page with a 'read more' option underneath. This is because testing showed this makes it much easier for low literacy students, while it's easy for students who want to read more to access it.

Don't feel you need to write loads for the longer versions – people reading online tend to prefer shorter texts.

A. About Me
This lets students find out more about you and your interests

B. My Work and My Typical Day
This lets students read about what you do in more detail.

C. What I'd do with the money
Students vote for the engineer they want to win, so they want to hear how you would use the prize money towards further STEM communication.

D. CV
This shows students how you've got to where you are now.

E. The interview
These questions are here to show your personal side to students, who often feel that engineers are not like real people they can relate to.

When you have finished, click the 'Update Profile' button at the bottom. You can come back and edit your profile at any time.

Adding images and other media

You can put photos or other images (for example, graphs or images that illustrate your research) into the long answers only of sections A-C; 'About me and my work', 'My typical day' 'What I'd do with the money', and also into the 'Work photos' section.

To do this, upload as many images as you wish by clicking the 'ADD MEDIA' button and insert them where you want them to appear. Adding them all to a gallery lets people see a bigger version of the image when they click on it.

Add a profile photo

Please upload a full colour photo of your friendly face to the 'Profile Image' section. A big part of the event is for students to be able to identify with and relate to engineers as normal people, and having a photo of yourself really helps with this. Your profile image will always be circular on the site.

Personal contact information

For safeguarding reasons, all interaction between engineers and students needs to be moderated and take place on the site. Please don't include any links to your personal Twitter, email address or similar on your profile – we'll be checking over your profile, too, and if we spot anything we'll let you know. In the very unlikely event that a student does contact you outside of the site, don't respond and let us know.

Please don't give out any personal information in ASK or the live chats either (even if a student really wants to know your Instagram handle!)

Answering questions

You will be notified by email of all new questions. You can answer them in your own time, but the sooner the better.

i. Log in

ii. On your profile page you will see a 'My Unanswered Questions' box on the right hand side. Up to 100 recent unanswered questions will appear in this box as clickable links.

iii. To answer a question, click the link and type your answer. You will also be able to view other engineers' answers to the question.

To make it easier to find questions moderators will tag keywords in questions. The keywords are then used to list any similar questions in the 'Related Questions' box on the right hand side.

It is up to you what answers to give and how much detail to go into. Don't be afraid to write a really long answer, but at the same time you don't need to write long answers.
Our advice is simple – be honest, straightforward and to the point in your answers.

My Unanswered Questions

> What is your life ambition
> (Asked of 3, answered by 1)
>
> who inspires you?
> (Asked of 3, answered by 1)
>
> what current engineering project are you working on?
> (Asked of 3, answered by 1)
>
> Did you watch Eurovision?
> (Asked of 3, answered by 2)
>
> Whats the best thing about your job?
> (Asked of 3, answered by 1)
>
> what quote inspires you?
> (Asked of 3, answered by 2)
>
> Who is you toughest competition in this programme?
> (Asked of 3, answered by 2)

Live chats

Live chats are consistently the most popular part of the event for students, teachers and engineers. They are like WhatsApp group chats or Facebook Chat, where students ask you questions and express their opinions. Live chats are fun and give immediate contact between engineers and students, allowing students to relate to you. Many teachers tell us that quieter students are more active in these text-based live chats than face to face, providing an interesting change to class dynamics.

i. Find the up to date list of booked live chats at imanengineer.ie/live-chat
Filter by your zone and leave a comment on each chat to let us know whether or not you will be there. This is really important, so we know there are enough engineers available for each chat. You will also be emailed about new bookings.

ii. To access a live chat session, log in and click the Chat icon at the top of the page

iii. We'll open the chat on this page about five minutes before the start of the session
This gives you time to say hello to the moderator and the students as they arrive. Simply type into the entry box beneath the chat box, and press return. There is no character limit, but the box will turn red if you write a lot. It's a good idea to keep things short if you can, as the chat moves quickly!

> **Top Tip:**
> Filter by your zone and the date at **imanengineer.ie/live-chat**
> Once you've signed up to chats, remember to add each one to your personal calendar, e.g. Outlook, Google Calendar, leatherbound diary.

How it works:

- Test the chat out by coming to the drop-in chat session and get your head round how it works. Date and time are on the Key Dates page and we'll also email you a reminder.

- Your chat lines are right-aligned and students will be on the left. Moderator lines will be in yellow and anyone with a mortarboard symbol next to their name is a teacher.

- Click on a student's question to reply to it (otherwise they may not realised you've answered, and keep asking it).

- **The number in the circle next to a student's name in the chat shows the number of times they have been answered. To make sure every student gets an answer, look out for 0s and 1s.**

- If a chat is very busy, use the 'show messages @me' button in the top right. This will filter the chat so you will only see messages students have tagged you in.
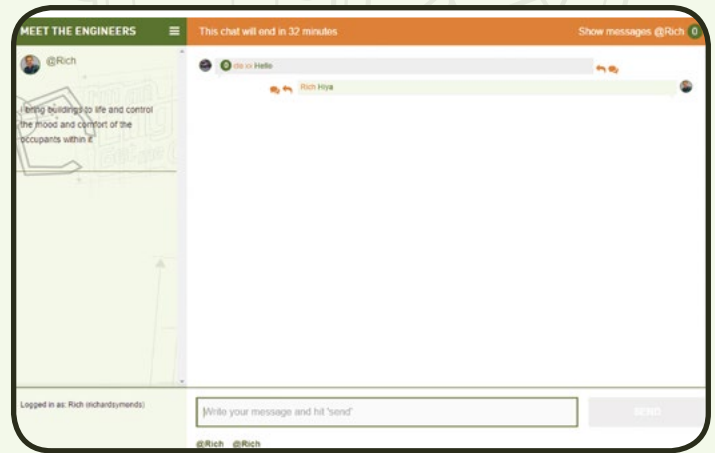
Some handy hints:

- Chats can be very hectic, but also exhilarating. Enjoy the hurly-burly and don't worry too much about your spelling!

- There will be a moderator in each chat to help things along and to answer any questions you might have. From time to time there will be the odd chat that we cannot get on track – bear with us, we're doing our best!

- Be patient. Some young people's turn of phrase and use of language may be different from academic discourse. It may take you a little while to understand what they are trying to ask. This is especially true when lower ability students or primary classes are involved.

- Be tolerant. Sometimes young people can be over-exuberant online. Chat with them and they will calm down and engage with you.

- Don't take offence. Sometimes you will receive questions which seem quite blunt, but usually students don't mean to be offensive. The benefit of an online event is that they feel empowered to ask.

- Keep an eye out for students who stand out in the chats and/or by their questions in ASK. Use the form on your profile to nominate students who have engaged well, and one student from your zone will be selected to receive a €20 voucher.

Moderation of questions – our policy

All questions are moderated before they are sent to you. The moderators work very hard to strike a balance between making your lives easier as engineer participants, and giving the young people the chance to ask real questions. Remember students are aged 9-18, with Sixth Form classes, primary schools, Special Schools and young offender institutions taking part too. Most students will never have had the chance to talk to an engineer before.

Duplicates: We know you will get sent some very similar questions (believe us, the moderators wade through and weed out a lot more of them!). Moderators will take out duplicate questions, but allow through questions which may be similar, but make additional or slightly different points.

Offensive questions: Moderators will remove rude or offensive questions (there are generally very few) and anything which breaks the house rules. They will allow challenging questions. They will allow irreverent, but friendly, questions.

3. Four key things you need to know

1. **This may take about 2-3 hours per day.** When we asked scientists in the sister I'm a Scientist event, we found out 27% spent 1-2 hours a day, 48% spent 2-3 hours a day, some spent less than 1 hour a day but about 23% spent more than 3 hours a day. Mainly because they really got into it! Many engineers spend time in the evening answering questions, and it doesn't matter if on some days you are less available.

   The time involved depends, to an extent, on how busy your zone is, but also how long you spend on your answers. Classes vary on how much time the teacher spends on it and how much the kids get into it and we can't predict that beforehand. We try to even it out!

2. **This is not a seminar for the super-smart engineers of the future.** There will be a wide variation in the students taking part, with a big variation in age and ability. Some will be 'gifted and talented' students, some will be lower ability classes, or have special educational needs. The point of *I'm an Engineer* is to try to engage all students, not just the ones who might go on to study science at university.

   Most teenagers won't grow up to be engineers, but they will all grow up to be people. As adults they'll have to make decisions about science – as voters, as patients, as consumers – and we are trying to help them develop the skills and confidence to do that. For some, 'Do you like your job?' may be the most pressing question they can think of. Part of the point is that this event humanises engineers for young people – they realise that you are 'like normal people' who they can relate to.

3. **Don't be afraid to say 'I don't know'.** You will be asked many questions which are not in your area. Answer what you feel you can, but don't feel you have to Google all evening to answer these questions. Part of the point of the event is that students get a more realistic idea of engineering and discover the breadth of engineering as a subject and career.

   Many things in science and engineering aren't known and even as adults we can learn new things all the time. Don't be afraid to let students in on that secret.

4. **Get your boss onside.** We'd strongly advise you to tell your boss you are taking part in the event, and get their support, if you can. Questions on the website can be answered during the evening, but live chats have to be during the school day so during working hours.

   Also, many engineers find themselves discussing some of the more intriguing questions with colleagues. This can be one of the most stimulating things about the event. Get your office involved in the fun! If you need ammunition to persuade your boss of the benefits, we suggest the following points:

   - Taking part in *I'm an Engineer* develops your communication skills.
   - It can re-energise how you feel about your own work, and get you thinking differently. Teenagers can ask great questions.
   - You're 'giving something back' and contributing to STEM education and the future of STEM subjects.

4. Advice on engagement

1. **Be yourself**
   Our best advice is to be yourself in your answers. You don't need to pretend to like Justin Bieber for young people to relate to you, being genuine is what's important.

2. **Be friendly**
   When we asked engineers what they would do differently if they did it again, one answer that summed up many was, *'I would be less formal and more personal from the start'.*

3. **Simplify your language**
   Even if you think you are using simple language, engineers work in an environment where there is a lot of jargon, and technical words are often used when simpler ones are available. It's easy not to realise when your language may be going over the heads of most 13 year olds.

   Don't 'identify', 'find'. Don't 'utilize', 'use'. Don't 'investigate', 'look at'.

4. **Talk to us!**
   Please communicate with other engineers and the moderation team, as well as the students. We'd much rather hear about technical problems or worries about particular questions at the time, rather than in feedback afterwards, so we can do something about it. Let us know if you're having problems using the feedback form on the right hand side of the browser when you're logged in.

   We use Twitter as a way to interact with engineers taking part in *I'm an Engineer*, amongst other things. It's a great way to communicate how the event's going, learn more about you, the engineers taking part, and ultimately keep in touch with engineers after the event. So get on board and follow us at @IAEGMOOH (twitter.com/IAEGMOOH) and keep an eye on tweets marked #IAEIE at twitter.com/search/IAEIE.

   Got any questions or feedback?
   Your feedback:
   If you'd like a response, add your name and email
   SEND FEEDBACK

5. **What to do if a student contacts you directly**
   To make sure that all interaction is moderated through the site, never share personal contact details with students. It's very unlikely to happen, but students can be pretty clever and could track down your personal email address or similar. If a student contacts you about anything at all, **please do not respond directly**. Instead, let us know immediately and we can suggest to their teacher that they establish contact themselves after the event.

5. Useful links on the site

1. See all the live chats **bookings** in your zone at imanengineer.ie/live-chat. You can filter the chats by zone and date.

2. Visit the **staffroom** at imanengineer.ie/staffroom during the event to say hi, or if you've got a question for the moderators.

Staffroom

6. Rationale behind the event

The boundaries of traditional engineering disciplines, originally developed in the 19th century are now being stretched by new industries and disciplines. With this rapidly increasing diversity comes an increasing need for engineers and there is major concern that the UK education system is failing to keep up. To address this issue, the Royal Academy of Engineering set up the working group Educating Engineers for the 21st Century and commissioned a report. One of the suggestions made in this report is that "much more must be done to ensure that school students perceive engineering as an exciting and rewarding profession that is worth pursuing".

Since the Bodmer report in 1985 there has been enthusiasm for increasing "the public understanding of science", which was originally conceived as 'teaching the public more science'. However growing public scepticism of science and technology called for scientists to open up and actively engage with members of the public. This more discursive approach towards science communication was advocated by the House of Lords "Science and Society" report in 2000 and has since been a common theme in public engagement. *I'm an Engineer* applies dialogue as a means of engaging the public and increasing public understanding of engineering. As engineering, like science impacts on the quality of people's lives, engineers should be the first line of communication concerning their profession.

Aside from contributing to society, engaging with the public can provide substantial benefits to the professionals involved. For instance listening and interacting with a non-specialist audience can enhance communication and personal skills. It can also raise the profile of a professional, their work and their institution and lead to networking and partnership forming opportunities.

In the long term, engaging students with engineering should help demystify a common public image of an engineer being "a person with a spanner and dirt under his fingernails". Through communicating with students, engineers can help show the diversity of modern engineering and build enthusiasm for it being an exciting and rewarding profession.

Contact
If you need any help please email admin@imanengineer.ie or call +44 (0)1225 326892.
For further information please visit: www.imanengineer.ie/engineers

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