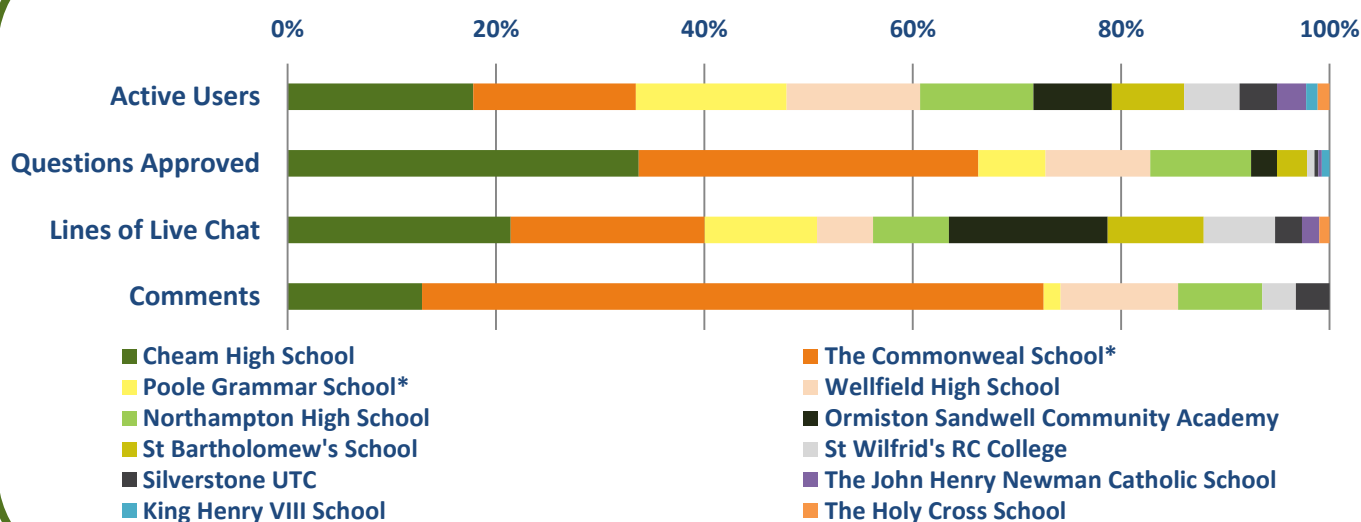


June 2016

The Aerospace Zone was a themed zone funded by the Royal Academy of Engineers. Michael is a Senior Lecturer in aerospace engineering who researches ways to calculate noise in order to design quieter engine systems, Kirstin designs software which is used in military planes and helicopters and John is a Professor of Automotive Engineering who specialises in turbocharging. Chris works on the Exomars project currently working on sending a rover to Mars, and Agata is a research engineer who develops aerospace assembly systems. This zone was one of the busiest in June's event, with a higher than average number of questions approved and live chats booked. Chris and John, who came first and second respectively, accounted for over half of all answers and live chat by engineers.

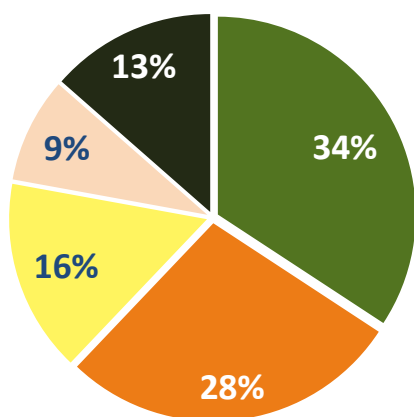
School data at a glance



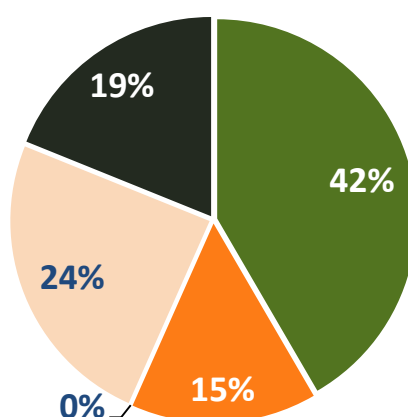
* Widening participation schools, as defined at <http://about.imascientist.org.uk/2016/widening-participation-2016>

Engineer activity

Answers



Lines of live chat



Engineer	Profile views	Position
Chris Hackett	697	Winner
John Allport	547	2nd
Kirstin Rouse	679	3rd
Michael Carley	647	4th
Agata Suwala	438	5th

Key figures from the Aerospace Zone and the averages of the June zones

PAGE VIEWS	AEROSPACE ZONE	JUNE '16 AVERAGE
Total zone	19,736	19,051
ASK page	1,631	1,397
CHAT page	2,114	2,696
VOTE page	1,086	1,146

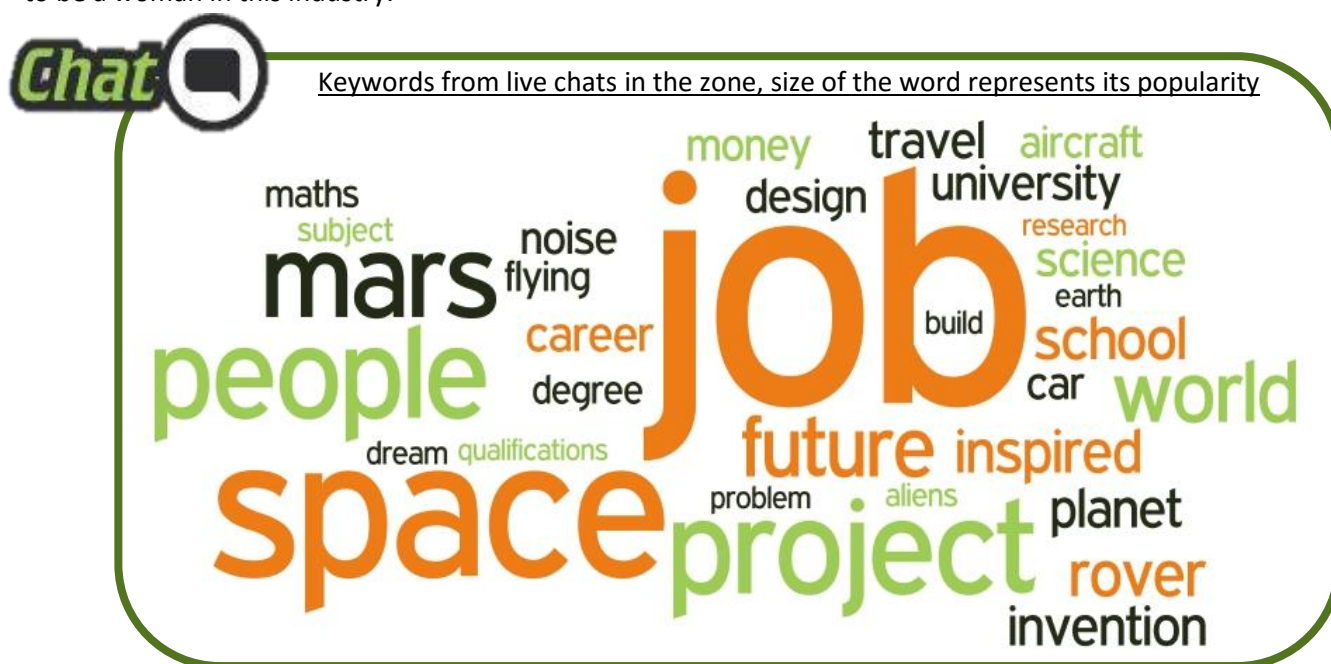
Popular topics

There was a wide variety of questions in ASK, with a lot of interest in engineering as a career. Students wanted to know about how the engineers progressed into their current roles, whether they got to travel with their work and if thought their work was making a difference to the world.

Some questions were particularly thoughtful.

For example, Kirstin was asked about how her designs are used for military purposes and whether she ever has second thoughts knowing what the purpose of them will be. Both Kirstin and John both answered this question very honestly, and this openness of all the engineers created a nice dynamic between them and the students. This translated to the live chats, where students seemed comfortable and built connections with the engineers.

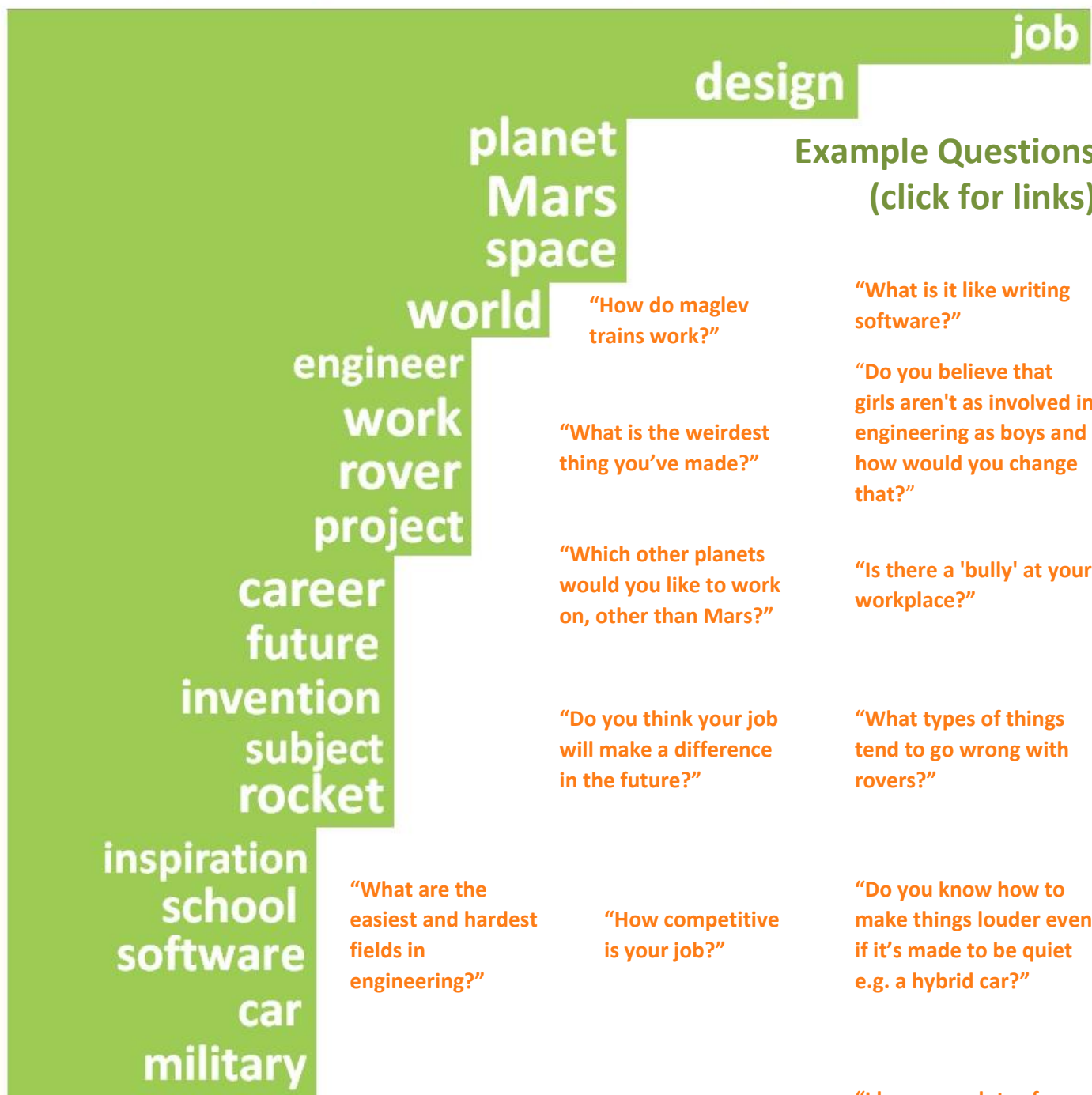
Space was a popular topic, and Chris especially was asked about his work on the rover, rockets, Mars and the Exomars mission. Students showed an interest in writing software with questions directed at Michael and Kirstin. There were questions about the gender division in engineering and whether Kirstin and Agata thought it was harder to be a woman in this industry.





Keywords of questions approved in the zone, length of bar represents frequency of use

0 2 4 6 8 10 12 14



Example Questions (click for links)

"What is it like writing software?"

"Do you believe that girls aren't as involved in engineering as boys and how would you change that?"

"Is there a 'bully' at your workplace?"

"What types of things tend to go wrong with rovers?"

"Do you know how to make things louder even if it's made to be quiet e.g. a hybrid car?"

"I have seen lots of movies about people on Mars, but how much do we actually know about what's on or what was on it like water, rocks and maybe even other living things?"

"How do maglev trains work?"

"What is the weirdest thing you've made?"

"Which other planets would you like to work on, other than Mars?"

"Do you think your job will make a difference in the future?"

"How competitive is your job?"

"What is the furthest planet that has been visited and how long it take to be reached?"

"What are the easiest and hardest fields in engineering?"

"Do you ever wonder where the stuff you make goes and is used for [in the military] and does the identity of the recipient of your creations ever give you second thoughts?"

"What are the subjects and grades needed to become a chemical engineer?"

Examples of good engagement

There was a lot of interest in space and Mars, because of Chris' work on the Exomars project, which led to some interesting discussions about space travel. Chris gave informative and interesting answers and students discussed ideas between themselves, showing a real curiosity and engagement with the subject.

"Do you think there could be life on Mars (to be clear the planet not the chocolate bar)?" – Student

"There have been pictures of ancient riverbeds on Mars, showing there was once flowing water, maybe there was life one day in Mars' history, hopefully we will find traces of it" – Chris, engineer

"How scientifically accurate do you think the movie The Martian was??" – Student

"It was a really enjoyable film which is what counts... there were a few things I disagree with, like how long the people spent in space, it would have given them so many health problems and they were fine with it. When in space, your muscles and bone density reduces unless you are doing exercise every day, even then it just slows the process down. You also have problems with your eyes and many other things" – Chris, engineer

"In what way will we get to Mars will we need to use a massive elevator or a massive gun from the moon using the technology we use to make electronic trains?" – Student

"I would suggest rockets instead of 'A Massive Gun from the moon'?" – Student

"A rocket would cost a lot more and we could only send a few at a time and if we made a gun from Earth the friction would cause too much heat, so it has to be done from the moon with little friction." – Student

Engineer winner: Chris Hackett

Chris' plans for the prize money: *"There is to be a new STEM centre built in Stevenage which will have interactive exhibits for students. I would like to contribute towards the workshops will be held at the new centre. I would want the money to go towards new kit for the workshops so that they can maximize their benefit to the students taking part in the events."* Read Chris' [thank you message](#).



Student winner: KelS

For great engagement during the event, this student will receive a gift voucher and a certificate.

Feedback

We're still collecting feedback from teachers, students and engineers but here are a few of the comments made during the event...

"Probably one of the better lessons we've had in this subject. Thanks! It was interesting." – Student

"It's a great platform for students to ask questions, especially ones that they probably wouldn't ask in person. It's important that we can make engineering as accessible as possible to students." – Engineer