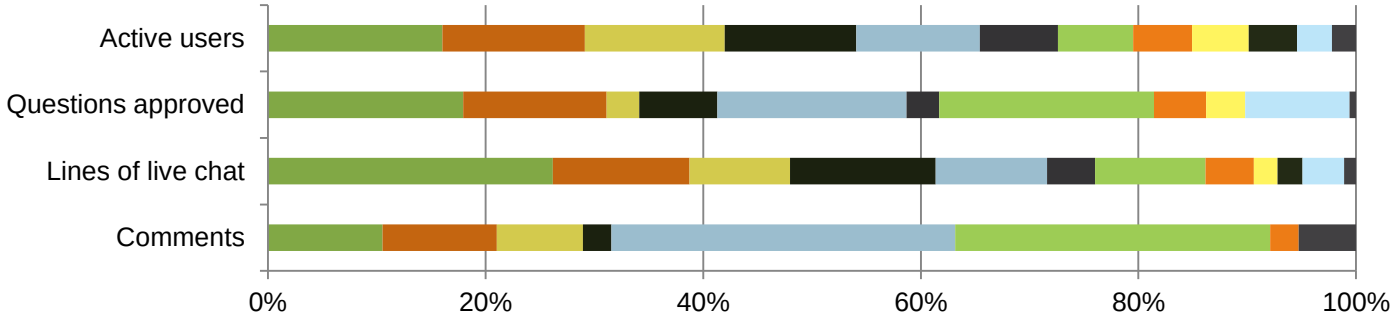
March 2018

The Satellite Zone was funded by the UK Space Agency with six engineers working in different fields within the space industry.

- Sylwia is a Geographic Information Systems specialist working on digital mapping technology
- Stephen designs software that gathers pictures of Earth from satellites
- Phil designs, manufactures and tests spacecraft
- Matt is a director of space engineering who communicates with spacecraft around Mars
- Hollie, the winner in this zone, develops coatings that can be used in extreme environments such as rocket thrusters
- Helen is working on an instrument for a satellite to get closer to the sun than anything has before

All of the engineers in this zone took an active role in the event and were great at building a rapport with students, as well as answering questions openly and informatively.

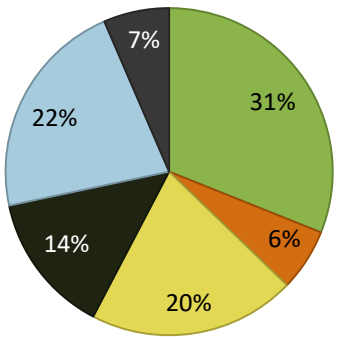
School data at a glance

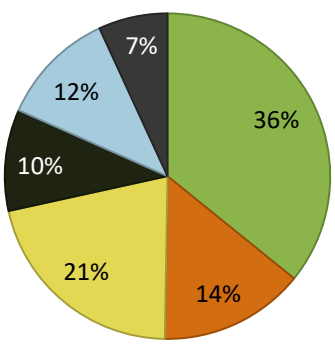


- St Bridget's Primary School & Nursery Class (WP)
- Pitteuchar East Primary School (U)
- The Gateway Academy (WP/U)
- The Camden School for Girls (WP)
- Birchwood Community High School
- Aith Junior High School (U)
- Broadoak Mathematics and Computing College (WP/U)
- All Hallows Catholic High School
- The Dukeries Academy (WP/U)
- Speyside High School (U)
- St Winefride's RC Primary School (WP/U)
- Skegness Academy (WP/U)

We want to increase the participation of under-represented groups going into STEM careers. Find out what we mean by our under-served (U) and WP schools (WP), and how you can support us in working with more of these at **about.imascientist.org.uk/under-served-and-wp/**

Engineer activity





ENGINEER	PROFILE VIEWS	POSITION
Hollie Heard	730	Winner
Phil Allen	636	2nd
Stephen Williams	654	3rd
Helen O'Brien	433	4th
Sylwia Nikel	627	5th
Matt Cosby	492	6th

Key figures from the Satellite Zone and the averages of the March zones

PAGE VIEWS	SATELLITE ZONE	MAR '18 ZONES AVERAGE
Total zone	16,758	14,904
ASK page	1,126	1,061
CHAT page	1,866	1,692
VOTE page	1,738	1,324

	SATELLITE ZONE	MAR '18 ZONES AVERAGE	IAE 2012-18 AVERAGE
Schools	12	13	11
Students logged in	461	458	410
% of students active in ASK, CHAT or VOTE	88%	88%	85%
Questions asked	455	597	611
Questions approved	167	181	225
Answers given	293	300	448
Comments	59	42	45
Votes	393	322	306
Live chats	18	20	18
Lines of live chat	7,941	7,154	5,575
Average lines per live chat	441	367	319

Popular topics

There were lots of questions about working in the space industry, with students asking about space travel as well as engineering in general. Students were curious about how the engineers used their knowledge to design satellites and rockets, asking Phil about spacecraft design and Helen about the technicalities of building an instrument designed to fly so close to the sun.

Sylwia was asked about her work in GIS, what it is like to work with information systems and how GIS technologies are used in everyday life. All three female engineers received questions about what it is like to be a woman in their field. Within both ASK and the chats there were conversations about the uneven ratio of men to women in engineering and what could be done to encourage more women to embark on STEM careers.

Lots of questions focussed on the engineers' hobbies and interests with students wanting to get to know them as people as well as professionals.

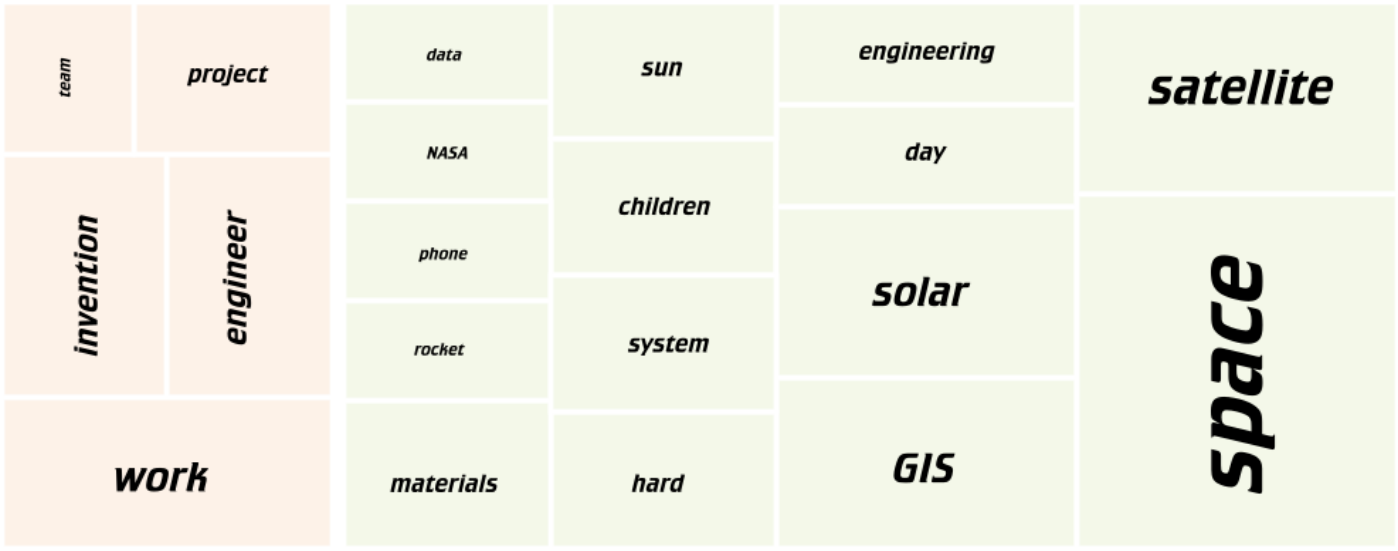
Chat

Keywords from live chats in the zone, size of the word represents its popularity

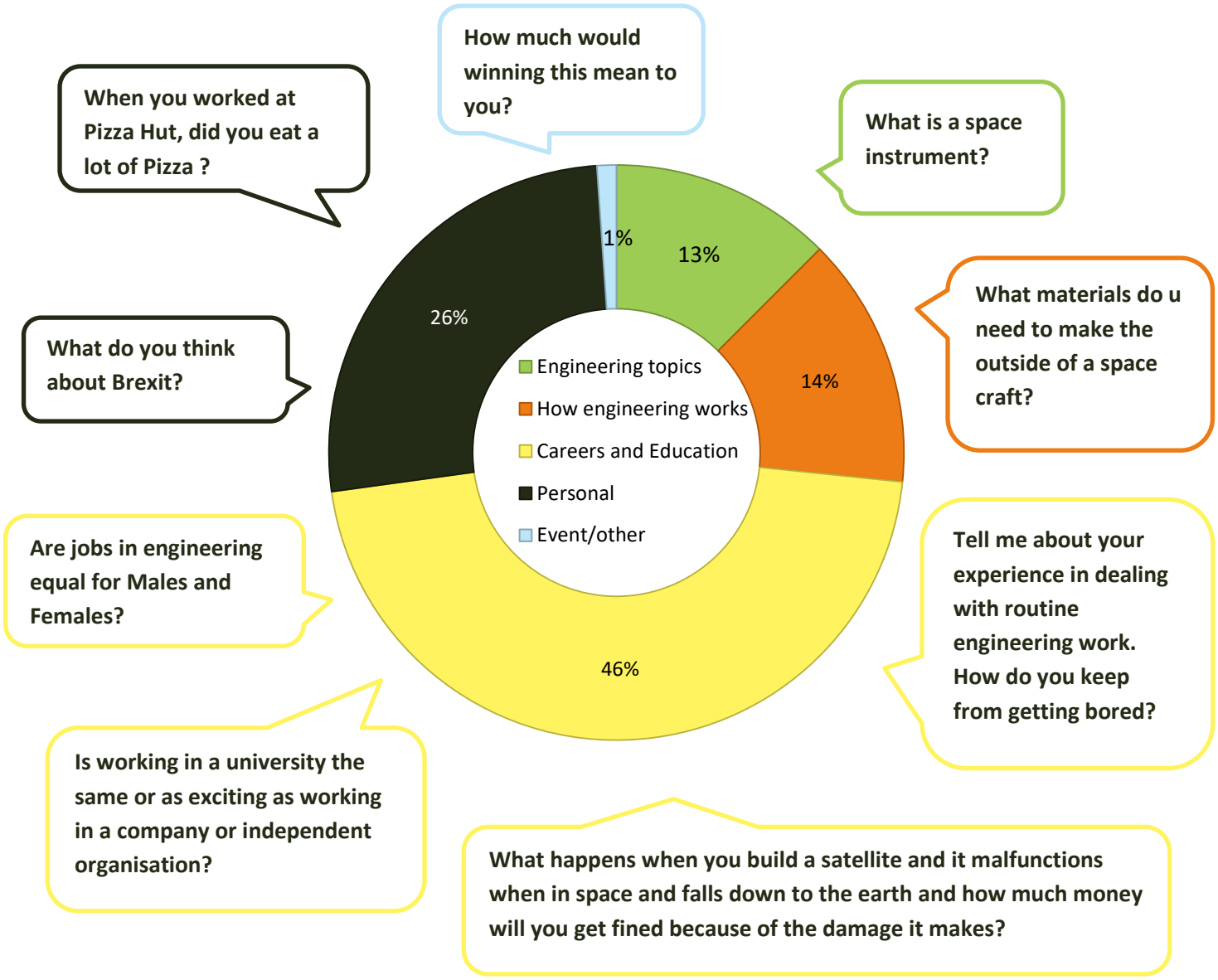
Ask ?

Top Keywords of questions approved in the Zone

Area represents frequency of use



Question themes and example questions in the Zone



Find out about how we've coded the questions at about.imascientist.org.uk/2017/student-question-coding

Examples of good engagement

Students were interested in the engineers' work, often asking follow up questions within the chats, such as in this conversation with Matt:

> *"is there any other planets what our technology has been on?"* ***– Student***
>
> *"Russian's landed on Venus. Several missions on the Moon and a lander on Saturn's moon Titan"* ***– Matt, engineer***
>
> *"Are you planning on going to any other planets?"* ***– Student***
>
> *"Going to Mars in 2020 - but now working on going to the Moon (not a Planet - but planetary body!) As an engineer - we are given the job of communicating from the surface. We only need to know the environment*

that we are going to be working in. This is the key. We enable the robot to do the scientific work" ***– Matt, engineer***

"what type of robots do you use and how can people on earth control robots on mars and the moon?" ***– Student***

"Landers and rovers. There are plans to be able to control rovers on the Moon from the Earth. This helps as we are going to be using Humans and robots together in the future" ***– Matt, engineer***

In both ASK and chat questions, all the scientists and engineers engaged honestly with the students' questions and were keen to show their personality. Students often responded with their own views:

"What's your dream invention?" ***– Student***

"I would like to invent something that could clean plastic out of our water. I think plastic pollution (tiny flakes of plastic) is a going to turn into a huge problem for us as people work out the health and environmental impact of us all consuming this micro-plastic. What would you like to invent?" ***– Helen, engineer***

"I agree on the plastic problem! Who wants to lie on a plastic beach! As for inventions I would like to invent a phone that doesn't need charging and gets full signal everywhere. Then we could report this plastic problem from all corners of the globe." ***– Student***

"That would be a great invention!" ***– Helen, engineer***

Scientist winner: Hollie Heard

Hollie's plans for the prize money: "*would like to put together an astronaut training pack that has different science tools and physical activity equipment that can be taken into schools and help people participate.*" Read Hollie's **thank you message**.

Student winner: EvemckRI5

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 scientists but here are a few of the comments made during the event…

"I think it is a fantastic way to engage pupils and help them learn more about the World of Work. It enhances many areas of the curriculum… Thank you for involving us in this project." **– Teacher**

"this is the best science lesson ever :)" **– Student**

"I have learnt so much new information on how satellites are made, launched and controlled, I found it so interesting and made me intrigued to learn more information on this subject, the engineers were so nice to talk to as well" **– Student**