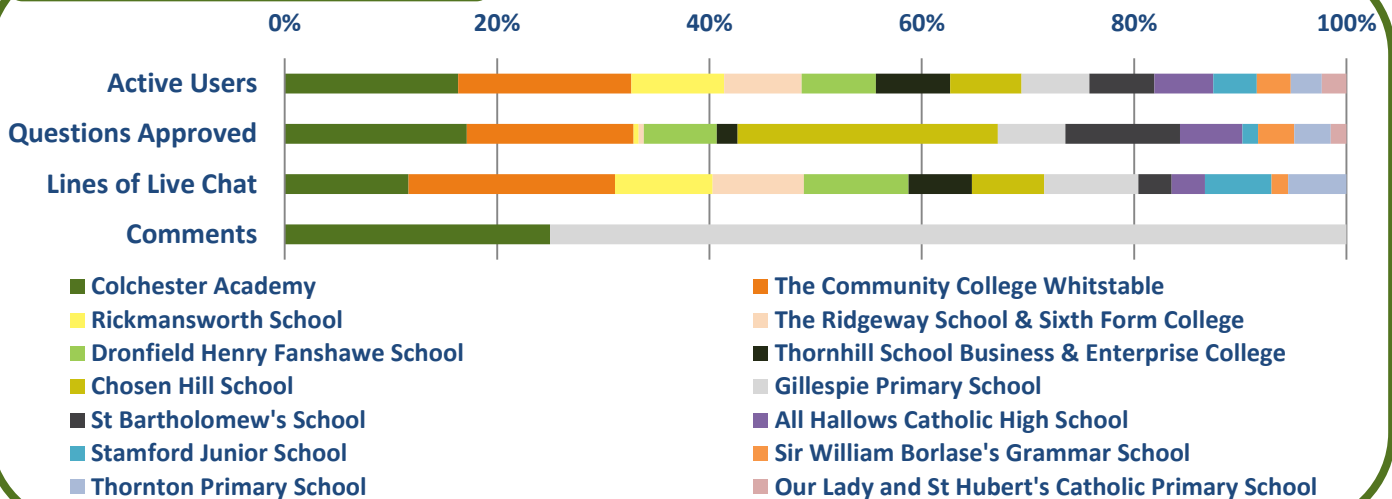


November 2015

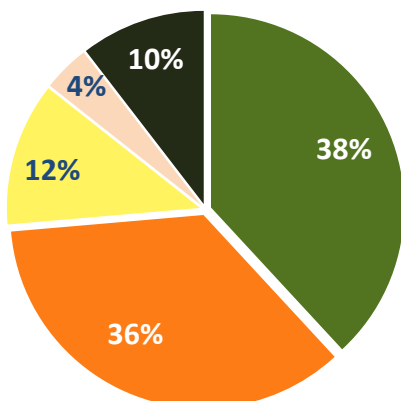
The Production Zone was funded by the Institution for Mechanical Engineers and the Institution of Engineering and Technology. All the engineers were involved in aspects of production from programming robots, to using lasers to make aircraft parts, to finding more efficient ways to make processed food, to using living cells to make drug molecules. The Zone was busy in both live chats and ASK, where the 796 submitted questions was well above the *I'm an Engineer* average. Due to students asking about the different jobs of each engineer, the zone was focused on the theme of production, as well covering engineering in general and current issues, such as gender representation. In particular, Mark and Michael engaged strongly with students, accounting for 75% of the ASK questions and live chat lines between them.

School data at a glance

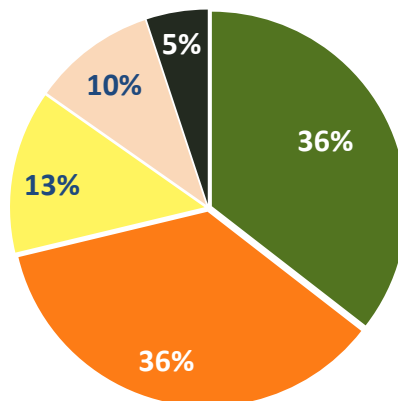


Engineer activity

Answers



Lines of live chat



Engineer	Profile views	Position
Michael Sulu	883	Winner
Mark Dougherty	791	2nd
Holly Miller	596	3rd
Chris Francis	539	4th
Lydia James	513	5th

Key figures from the Production Zone and the averages of the November zones

PAGE VIEWS	PRODUCTION ZONE	NOV '15 AVERAGE
Total zone	17,196	16,066
ASK page	1,313	1,169
CHAT page	2,644	2,390
VOTE page	1,362	1,298

	PRODUCTION ZONE	NOV '15 ZONES AVERAGE	IAE AVERAGE
Schools	14	16	10
Students logged in	370	378	359
% of students active in ASK, CHAT or VOTE	95%	90%	84%
Questions asked	796	647	528
Questions approved	204	161	193
Answers given	383	312	426
Comments	4	14	39
Votes	326	310	280
Live chats	16	18	16
Lines of live chat	5,673	4,936	4,899
Average lines per live chat	354	287	304

Popular topics

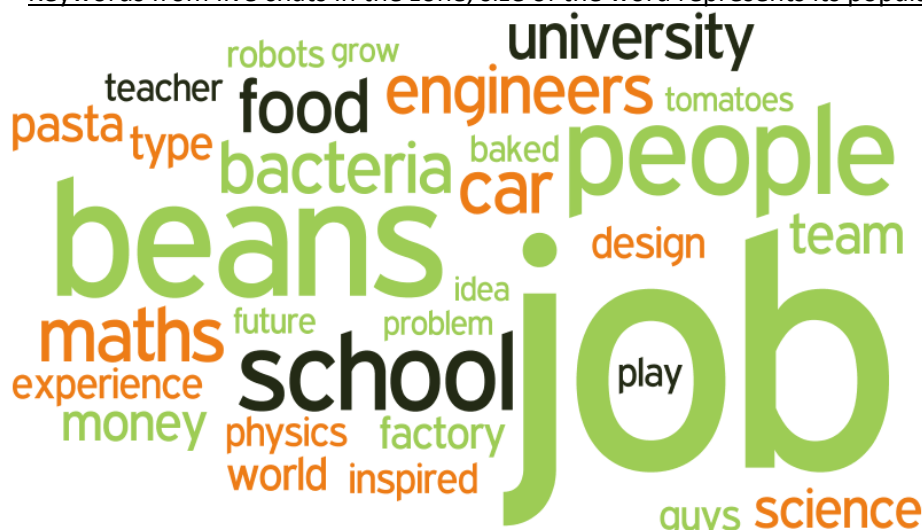
The questions about production engineering in the zone related to the jobs of the engineers, demonstrating that the students were engaging with their profiles. In particular, Mark received many questions about making baked beans and other food in both ASK questions and live chats. Likewise, Lydia was asked about robots and programming, Holly talked about making cars, Chris described managing the production processes in his company and the students were interested in how Michael could use bacteria to produce different substances.

Students also asked questions about engineering in general and the engineers' motivations. Due to the varied educational backgrounds and current roles of the engineers they were able to provide diverse answers to these general questions. More specific questions sometimes followed, for example about Lydia's BTec. There were also questions asking for careers advice, as several students felt engineering was not represented well in school.

Another popular subject for students, which all the engineers engaged with, was whether women are treated differently in engineering and reasons why the field needs more women. Some students asked about making mistakes and Mark and Michael were able to give helpful responses on this topic.



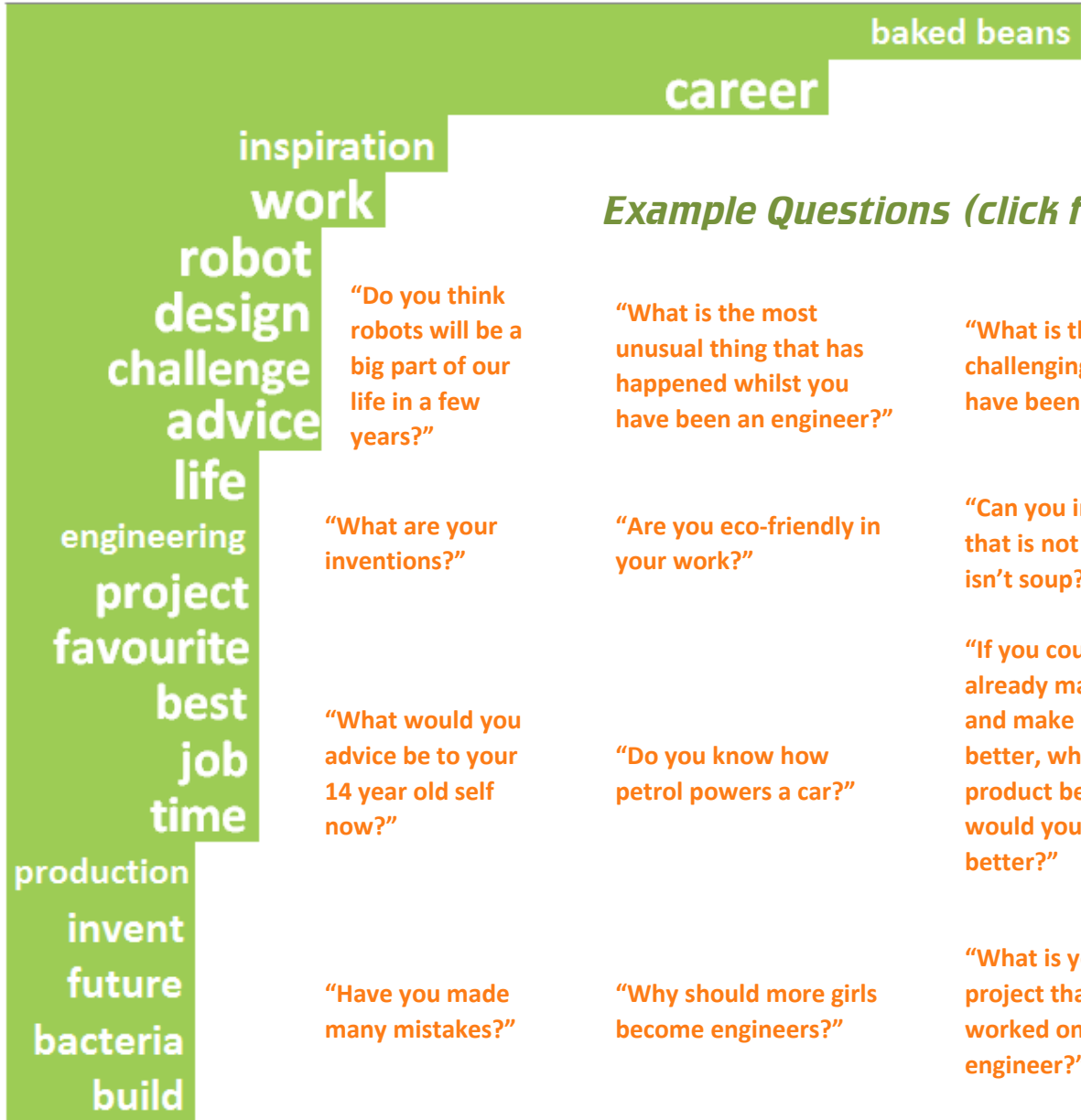
Keywords from live chats in the zone, size of the word represents its popularity





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

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17



Example Questions (click for links)

“Do you think robots will be a big part of our life in a few years?”

“What is the most unusual thing that has happened whilst you have been an engineer?”

“What is the most challenging project you have been a part of?”

“What are your inventions?”

“Are you eco-friendly in your work?”

“Can you invent a food that is not a solid but isn’t soup?”

“What would you advice be to your 14 year old self now?”

“Do you know how petrol powers a car?”

“If you could take any already made product and make it or design it better, what would the product be, and how would you make it better?”

“Have you made many mistakes?”

“Why should more girls become engineers?”

“What is your favourite project that you have worked on as an engineer?”

“Do you design object or do you make them?”

“Could you invent a lightsabre?”

“Why do beans need engineering?”

“How does engineering connect to bacteria and different viruses?”

“What would you say are the 5 key points for a successful career?”

“Are your jobs done by using a lot of /machinery or is some of it done manually?”

“Are flying cars invented yet and if they are where are they and can I have one when I’m older?”

“Have you ever done genetic engineering?”

Examples of good engagement

The live chats were often fast paced and entertaining, with both engineers and students enjoying speculating on different subjects. Mark often asked what the students thought, for example about new engineering ideas:

"@Mark what is your main priority at the moment" – **Student**

"Designing a new shape for pasta... any ideas what we could do?" – **Mark, engineer**

"You should make christmas pasta" – **Student**

"@Mark a good shape of pasta is a star shape" – **Student**

"You should make a fork shaped bit of pasta and a spoon shaped bit of pasta to eat your meal with. Then you could eat your knife and fork: no washing up" – **Student**

"Hahaha great idea!" – **Mark, engineer**

This question demonstrates how the issue of limited awareness in engineering was on the minds of students and engineers:

"Do you think it is important to raise awareness of engineering in schools? What would have caught your attention?" – **Student**

"I think it is very important. I really didn't know anything about engineering before I went to uni. It can be used in so many different ways now and it is usually fun and interesting...de pending on what you work on"
– **Holly, engineer**

Engineer winner: Michael Sulu

Michael's plans for the prize money: *"I would use the money to help start a STEM outreach project. Not many people know about growing organisms outside of brewing so I am currently in the process of designing a low cost reactor for demonstrating purposes, the prize money would allow me to produce more of these reactors after they have been designed and take them in to schools to teach people about biological processes"*.

Read [Michael's thank you message](#).



Student winner: Archimedes

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...

"@ Chris and Mark. Thank you very much once again, another happy and interested class" – **Westc, Teacher**

"Some of the questions coming through are amazing and a lot have cracked me up!" – **Mark, engineer**