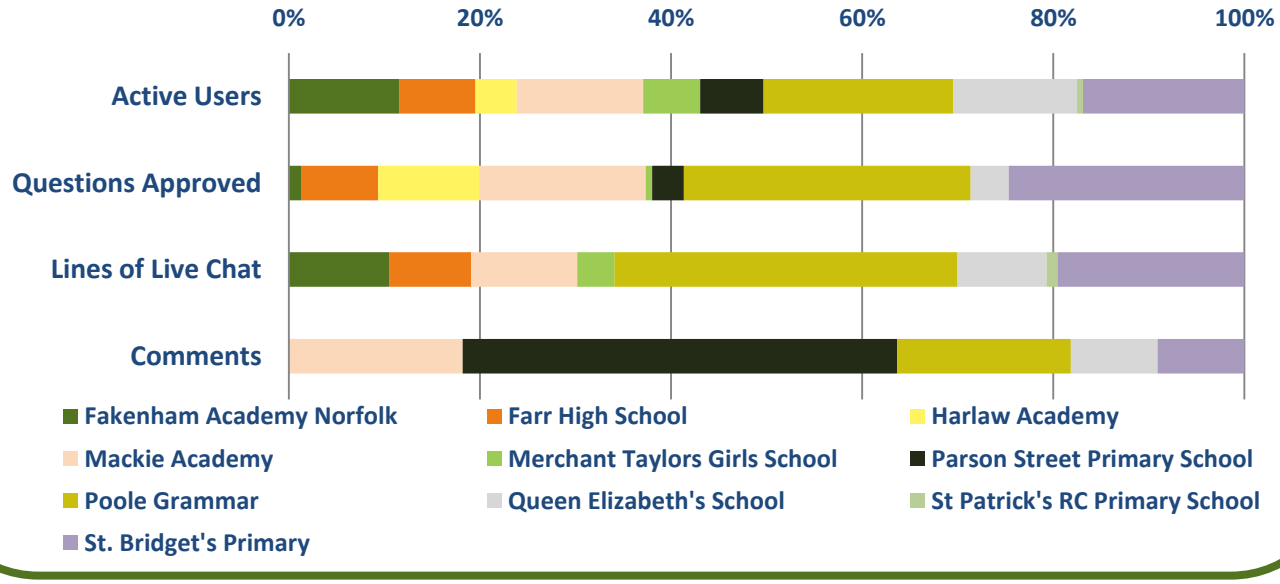
March 2016

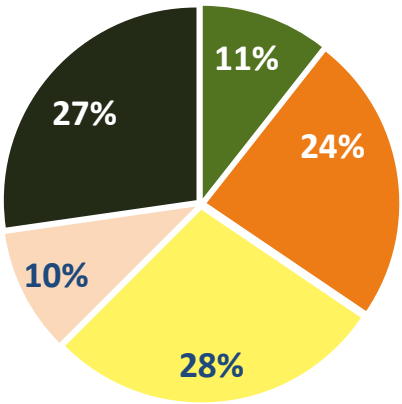
The Fuel Zone was a themed zone, funded by the Royal Academy of Engineering. Ryan designs powertrains for Jaguar Land Rover, Sarah designs mini nuclear power plants for the Royal Navy's submarines, Priyanka researches aerodynamics and heat transfer for jet engines at Oxford University, Paul is an Electrical, Control and Instrumentation Engineer at a nuclear power station and Chris works for the BRE National Solar Centre researching new storage for renewable energy. The zone was lively with most of the engineers highly active in the CHAT and ASK section throughout the event. There were many interesting and thought provoking questions, with a lot of interest in the future of engineering and topics such as solar power and transportation.

School data at a glance

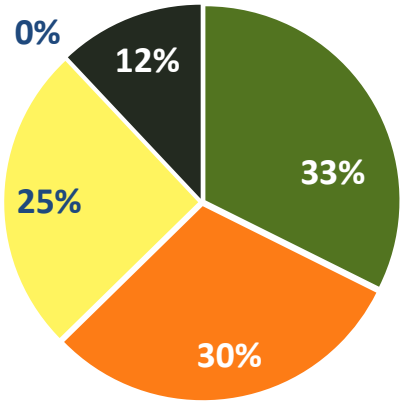


Engineer activity

Answers



Lines of live chat



Engineer	Profile views	Position
Ryan Bakewell	517	Winner
Sarah Hargreaves	609	2nd
Priyanka Dhopade	575	3rd
Paul Duff	357	4th
Christine Coonick	343	5th

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

PAGE VIEWS	FUEL ZONE	MARCH '16 AVERAGE
Total zone	14,510	16,578
ASK page	1,352	1,344
CHAT page	1,609	2,283
VOTE page	821	1,170

	FUEL ZONE	MARCH '16 ZONES AVERAGE	IAE AVERAGE
Schools	10	10	10
Students logged in	339	415	368
% of students active in ASK, CHAT or VOTE	89%	90%	85%
Questions asked	654	538	529
Questions approved	150	211	196
Answers given	264	422	425
Comments	13	31	38
Votes	251	313	285
Live chats	15	18	16
Lines of live chat	4215	5011	4917
Average lines per live chat	281	280	301

Popular topics

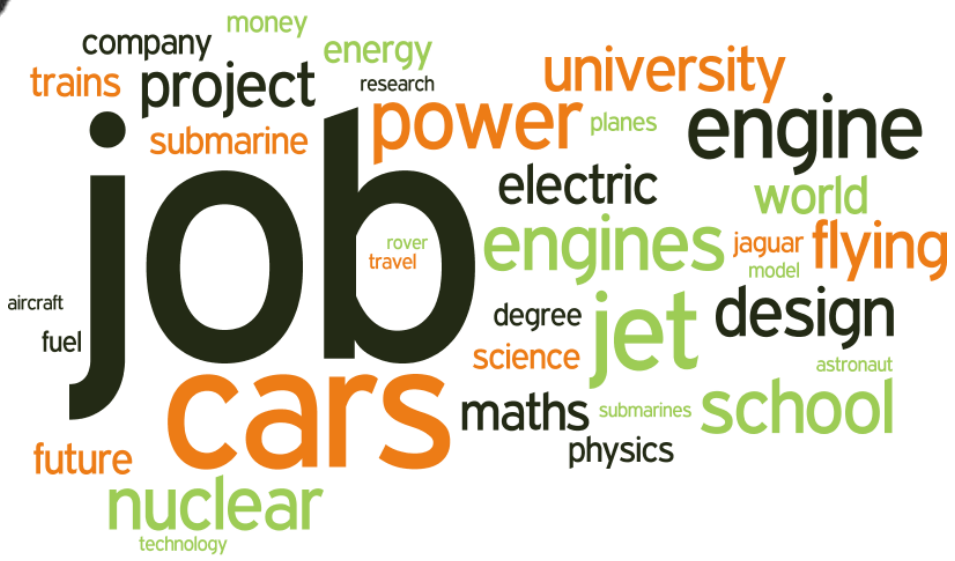
Many questions in the zone were career related, with students asking about work/life balance in engineering, working hours and pay. There were also more informed and specific questions, about engine design, for example, and a lot of interest in the future of engineering with questions about the pros and cons of nuclear power.

Within the chats, students were mostly curious about specific projects engineers had worked on, showing that they had read the engineers' profiles. For example, Ryan received questions on the cars he has worked on, Sarah on submarines and Priyanka on jet engines. There were several discussions about being a female engineer and female role models and these questions were directed at Sarah, Priyanka and Chris.

Students also wanted to know about the engineers' lives outside of work and were able to relate to each other through similar interests such as Lego or cars.

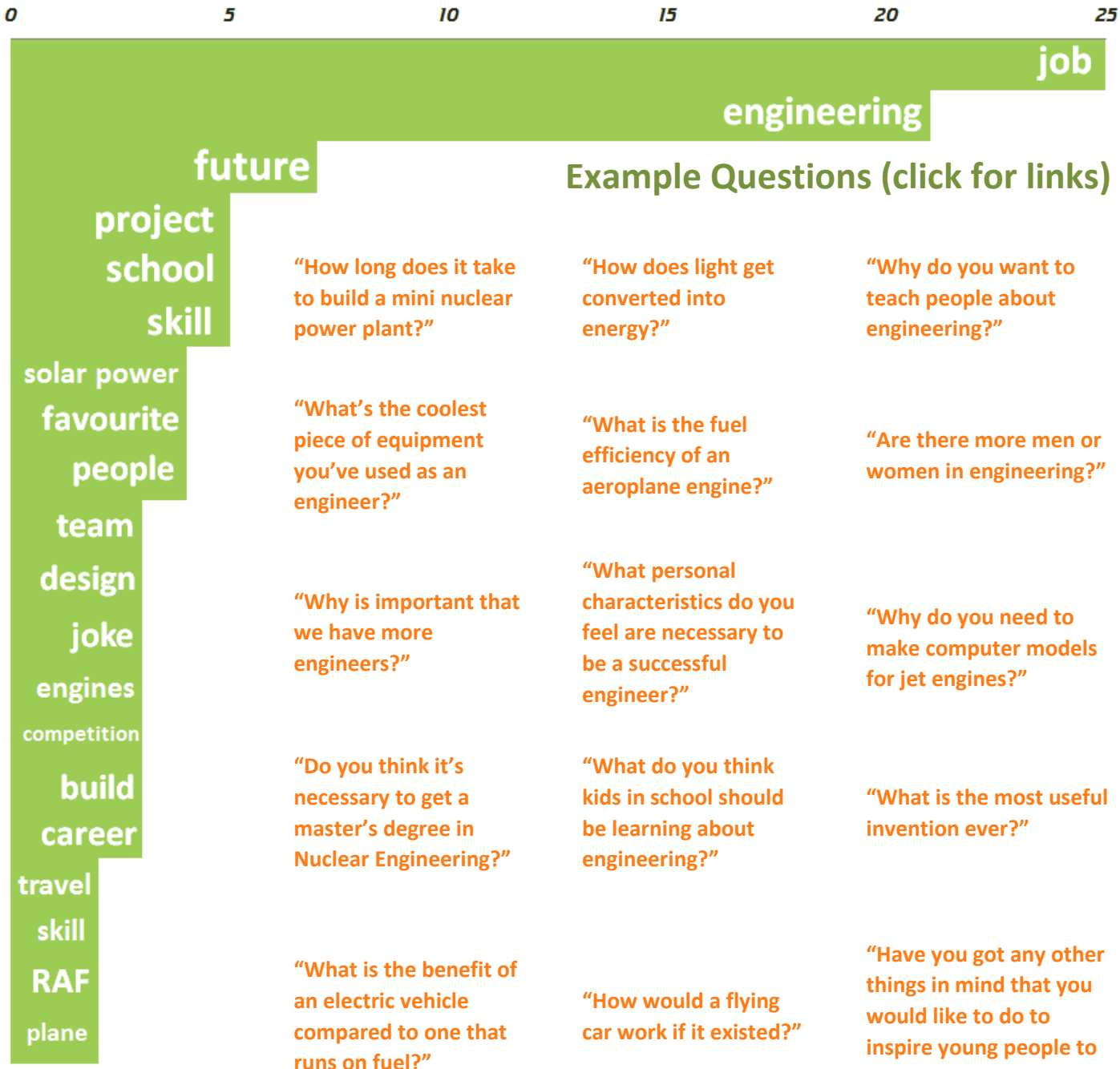
Chat

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



Ask ?

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



Example Questions (click for links)

"How long does it take to build a mini nuclear power plant?"

"How does light get converted into energy?"

"Why do you want to teach people about engineering?"

"What's the coolest piece of equipment you've used as an engineer?"

"What is the fuel efficiency of an aeroplane engine?"

"Are there more men or women in engineering?"

"Why is important that we have more engineers?"

"What personal characteristics do you feel are necessary to be a successful engineer?"

"Why do you need to make computer models for jet engines?"

"Do you think it's necessary to get a master's degree in Nuclear Engineering?"

"What do you think kids in school should be learning about engineering?"

"What is the most useful invention ever?"

"What is the benefit of an electric vehicle compared to one that runs on fuel?"

"How would a flying car work if it existed?"

"Have you got any other things in mind that you would like to do to inspire young people to become engineers?"

"Do you believe long term sustainability is going to be ensured by engineers?"

"What would you say the future of engineering will be in 30 years?"

"How long does it take to get money back from solar panel use?"

"What is a maglev train?"

Examples of good engagement

Many chats were lively with flowing conversations involving a number of students and engineers discussing a topic. Engineers often used examples students could identify with to further engage them:

> *"Why did you choose to be an engineer?"* **– Student**
>
> *"I love understanding how things work and building things. I loved Lego, so this is why I chose to study engineering"* **– Sarah, engineer**
>
> *"I don't understand how important things like Lego and KNEX are to engineering as a whole?"* **– Student**
>
> *"They're important because ultimately engineering is about creating things. You can use Lego and KNEX to create lots of things. You should see if you can make a bike out of KNEX. Or even more ambitious...an aeroplane. It could be done!"* **– Ryan, engineer**
>
> *"@ryan I like your thinking ;)"* **– Student**
>
> *"What's better to use for models, Lego or KNEX?"* **– Student**
>
> *"Definitely Lego!"* **– Sarah, engineer**

Engineer winner: Ryan Bakewell

Ryan's plans for the prize money: "*I want to start an Engineering academy in the local area to inspire Primary School children. My vision is to start some after school clubs and summer camps focused on Engineering to inspire young people. My wife is a primary school teacher and I'm a qualified engineer – so our ambition is to join forces and inspire the young engineers of the future!*"

Read Ryan's **thank you message**.

Student winner: Jazzy

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…

"thanks @ryan @sarah it was brilliant to talk to engineers" **– Student**

"Thanks for chatting with us, I had an amazing time!" **– Student**

Dr Pri Aero @drpriaero · Mar 7

Great start to #IAEUK this morning in the #Fuel zone - lots of good questions from curious students! Really had to think! @IAEGMOOH