

## June 2019

The Milliampere Zone was a general zone supported by the Science & Technology Facilities Council (STFC) and NCOP schools. The six featured engineers were all employed or funded by the STFC, or worked at an STFC partner company:

- Ryan Smith, the winner of this Zone designs and builds cameras that go to space to look back at Earth or out to the stars.
- Nadine Priestman processes hardware kits containing engine parts for aeroplane.
- Matt Keith is trying to figure out how to recycle really big things like bikes, cars and aeroplanes.
- Emma Hancock is an apprentice in the second year of a University degree, currently working on software for detector systems.
- Daniel Wye is the Flight Controls Lead Engineer for the Lightning II F-35B fighter plane.
- Allanah Green is an apprentice for BT developing services for customers worldwide.

### Key figures from the Milliampere Zone and the averages of the June zones

PAGE VIEWS	MILLIAMPERE ZONE	JUNE '19 ZONES AVERAGE
Total zone	14,635	14,855
ASK page	912	1,164
CHAT page	1,342	1,425
VOTE page	1,435	1,442

### Popular topics

Space was a popular topic in the Milliampere Zone, stemming from Ryan's work building cameras for spacecraft. Students asked him what the cameras take photos of, how he stops space dust from sticking to the lens and how they get the images back to earth, as well as more general space-related questions about space travel, NASA and other planets.

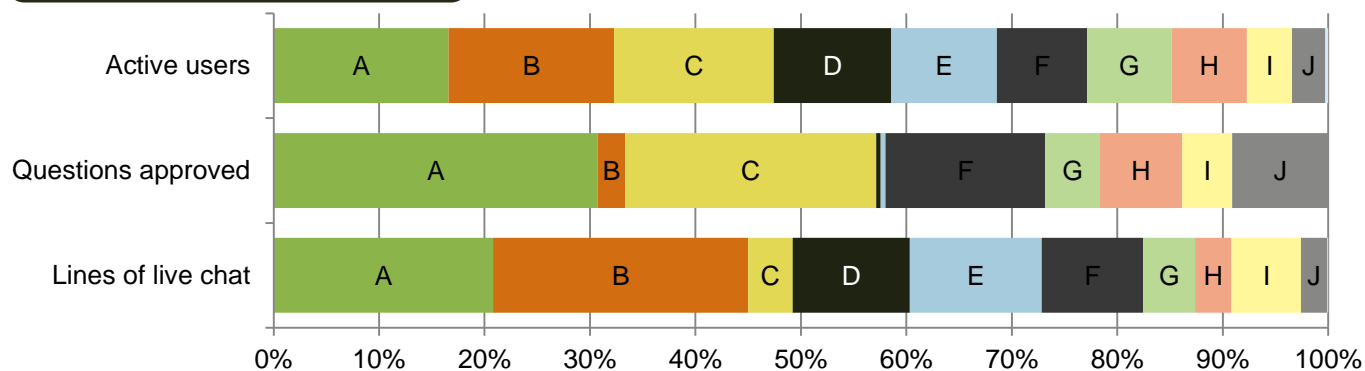
Students were also interested in Nadine and Daniel's work making parts for planes and fighter jets, asking how they test the aircrafts and how they solve problems when something goes wrong.

Engineers bonded with students through conversations about favourite foods and music, and experiences at school such as favourite subjects.

Many questions in ASK and the live chats were about careers and education. Students were keen to ask for advice on their own aspirations, such as working in the space industry, applying for University or developing software engineering skills. Students also wanted to know what the pay was like, how long they had studied for to get their current jobs, and what the future of engineering looks like.

	MILLIAMPERE ZONE	JUN '19 ZONES AVERAGE	IAE 2012-19 AVERAGE
Milliampere Zone Schools	10	11	11
Students logged in	380	362	400
% of students active in ASK, CHAT or VOTE	92%	93%	86%
Questions asked	694	461	582
Questions approved	231	177	224
Answers given	627	535	445
Comments	39	35	42
Votes	335	322	299
Live chats	17	18	17
Lines of live chat	6,503	6,808	5,577
Average lines per live chat	383	378	319

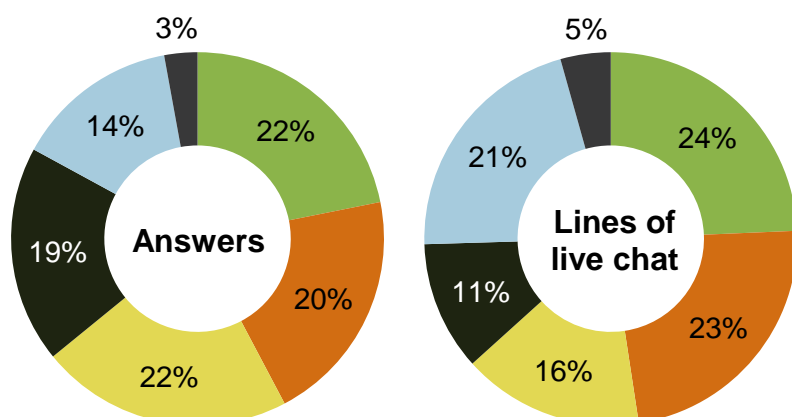
## School data at a glance



School	Year/s	Classes
A Stanhope Primary School, South Shields (WP)	5	2
B St Anne's RC High School, Stockport (WP)	7	3
C Preston Lodge High School, East Lothian (U)	7	2
D The Charles Dickens School, Broadstairs (U)	9	2
E St John's School, Bishop Auckland	9	2
F Tonbridge Grammar School, Tonbridge (U)	8	1
G Beech Hill Community Primary School, Wigan (WP/U)	5	1
H Heaton Avenue Primary School, Cleckheaton (WP)	5	1
I Haileybury Almaty, Kazakhstan	10	1
J The Wellington Academy, Ludgershall (U)	7	1

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/](https://about.imascientist.org.uk/under-served-and-wp/)

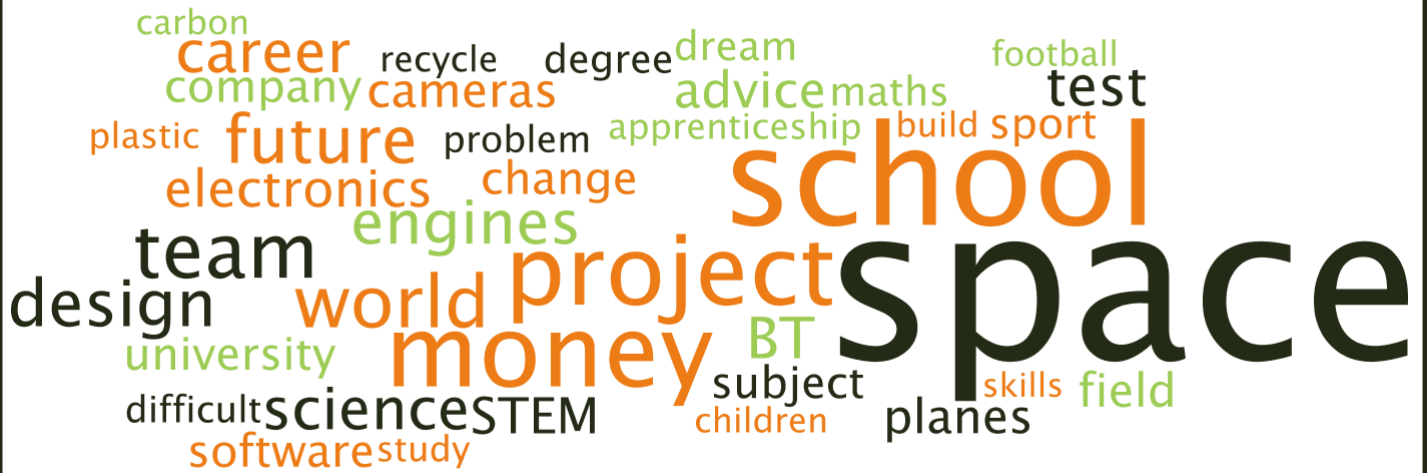
## Engineer Activity



ENGINEERS	PROFILE VIEWS	POSITION
Ryan Smith	730	Winner
Allanah Green	713	2nd
Daniel Wye	530	3rd
Matt Keith	453	4th
Nadine Priestman	493	5th
Emma Hancock	432	6th

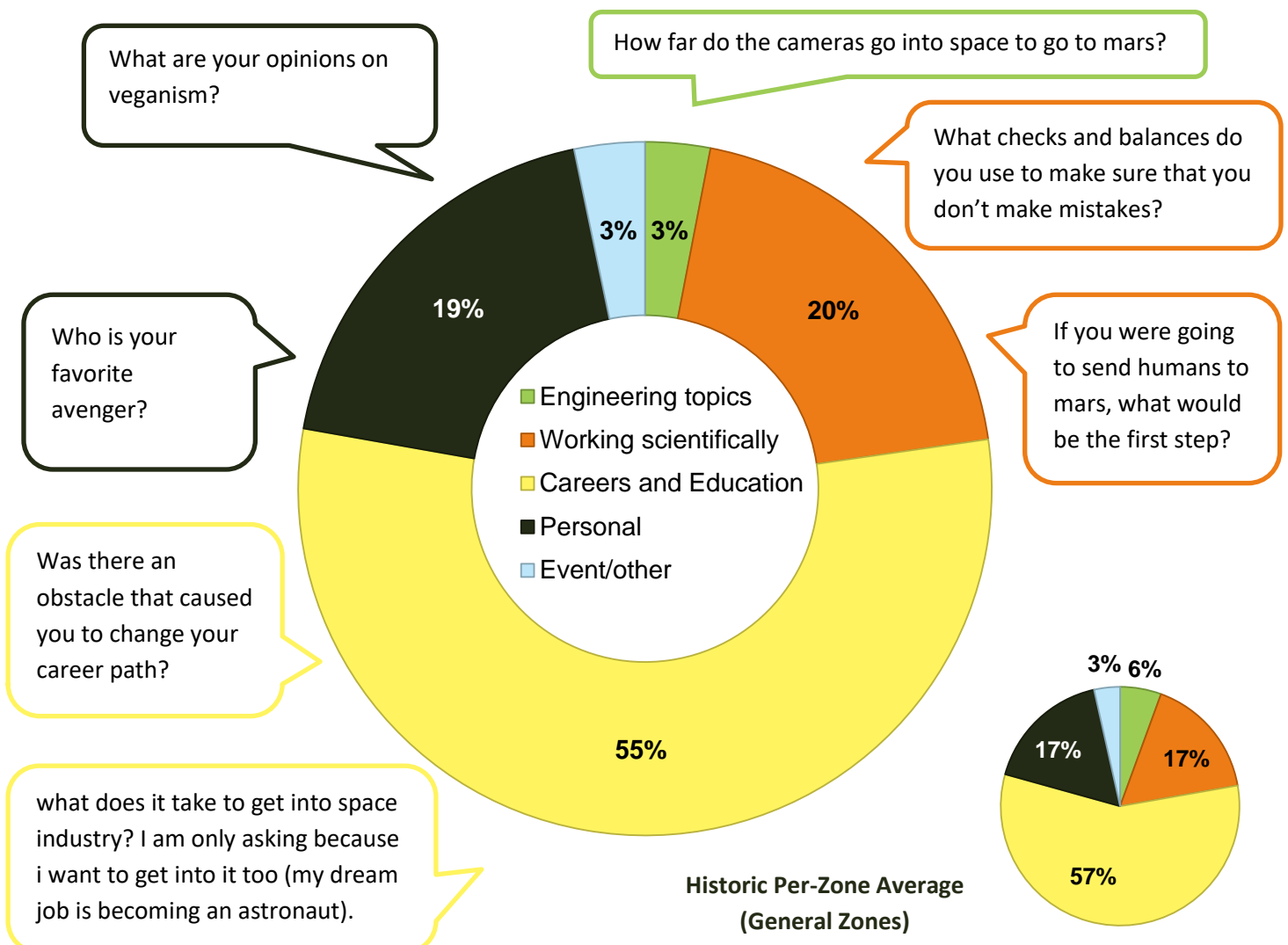


Frequent words used in live chats by students and engineers. Size of the word represents its popularity



### Question themes and example questions in the Zone

Find out about how we've coded the questions at [about.imascientist.org.uk/what-do-students-ask-about/](http://about.imascientist.org.uk/what-do-students-ask-about/)



## Examples of good engagement

Within the chats students often took the opportunity to ask for advice on careers in engineering:

*"Daniel what's ur biggest achievement for the F-35B?" – Student*

*"I worked on the project to clear the F-35B for flight on the Queen Elizabeth Aircraft Carrier for trials at the end of last year" – Daniel, Engineer*

*"How could I potentially work on the F-35B when I'm older?" – Student*

*"You'd either need to work from the Ministry of Defence or Lockheed Martin, both of which have jobs in the UK and both offer training schemes! Take a look at their websites!" – Daniel, Engineer*

*"What grades do I need to have to do an apprenticeship at Lockheed Martin or the MOD" – Student*

*"All apprenticeships have different requirements, but usually it's 5 GCSEs A\* to C including at least one STEM subject" – Daniel, Engineer*

Students showed an awareness of current issues such as climate change, and were very interested in the engineers work and how it can be used to help:

*"How much have you recycled?" – Student*

*"I work in research so only do very small-scale experiments. Over the past 3 years I've probably recycled about 3 kg of material, some of which has been used to make a kayak!" – Matt, Engineer*

*"Sounds fun! is what you do saving wildlife and sealife?" – Student*

*"Not yet! My work is on a very small scale, but hopefully I, or someone else, will be able to use my results to develop a process which is able to recycle lots more material. This would then hopefully have a direct impact on saving wildlife!" – Matt, Engineer*

*"If your company was to get bigger would it decrease pollution?" – Student*

*"Definitely! At the moment, carbon fibre is recycled by burning away the plastic which creates a lot of pollution. My process dissolves the plastic so there is no CO2 or other toxic gasses formed" – Matt, Engineer*

*"Hopefully in a few years your company grows massive and helps the planet more!" – Student*

### Engineer winner: **Ryan Smith**

Ryan's plans for the prize money: *"I am part of a team developing a small "mars rover" for use in schools and outreach sessions here on site. It is designed to teach young people how rovers work, and what it takes to control one. The cost of each of the final design will be around £500 each once fully built, so I will use the money to build one more so I can run more outreach sessions. I can also test out new modules and ideas for how to make future ones cheaper and easier to use."*

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



### Student winner: **lilyj**

As student winner, lilyj will receive a gift voucher and certificate.

## Feedback

We're still collecting feedback from teachers, students and engineers but here are a few of the comments made about June's *I'm an Engineer...*

"I have learnt a lot i now want to be an engineer :)" – **Student**

"The questions were really good, and made me think so much about what I do, and how my job affects others. When I am working with groups in the future, I now know what you guys want to know" – **Ryan, Engineer**



**Antonia Tzemanaki**  
@DanielGiskard

Follow

Feeling hopeful for the next generation! Some questions in the #IAEUK @IAEGMOOH are TO-THE-POINT. I really hope the students are inspired and get into #enginnering, #robotics and #research. Take a look at an example here:  
[imanengineer.org.uk/2019/06/whats- ...](http://imanengineer.org.uk/2019/06/whats-...)  
#NHS

4:40 AM - 20 Jun 2019