

Secondary Students from Coláiste an Phiarsaigh, Glanmire came second at the European CanSat competition



A team of nine students from Coláiste an Phiarsaigh, Glanmire, were placed 2nd at the European Final of the CanSat competition on Saturday 13th April. The students took on the challenge to create a CanSat – a simulation of a real satellite which fits into the volume of a soft drinks can. The CanSat includes all the major elements found in a satellite, such as power, computer, sensors and a radio communication system.

The **CaPSat** team, has worked since January designing, building and testing their CanSat, and has beaten stiff competition from six other schools at the Irish national final at the Lifetime Lab in Cork in March. The victory in Cork earned them their spot in the European CanSat final in the Netherlands, where their CanSat was launched to an altitude of approximately 1km by a rocket. Congratulating the students on their success, Sean Sherlock T.D. Minister for Research and Innovation said: *"I am delighted to hear of the Coláiste an Phiarsaigh students' success at the European CanSat final. The work and dedication that goes into competing at European level is to be commended. It is wonderful to see their hard work and quality being recognised."*

Minister Sherlock added "CanSat offers students an opportunity to get hands on with science and learn about it in a fun and innovative way. I hope that CaPSat's achievement at the European final will inspire even more students across Ireland to get involved with CanSat and other exciting hands-on science projects and competitions."

The travelling team was sponsored on their journey by Cork Electronics Industry Association (CEIA) and ESERO Ireland, the European Space Education Resource Office, which is co-funded by the European Space Agency (ESA) and Discover Science & Engineering, Science Foundation Ireland's (SFI) education and outreach programme. Once the CanSats are launched, the teams carry out tests as it is descending back to the ground with a parachute designed by the students. The primary mission of the CanSat is to measure air temperature and atmospheric pressure – which is also used to estimate altitude – and transmit the data to the ground station (laptop).

The CaPSat team got assistance from Tyndall Institute and CIT in identifying an interesting secondary mission and sourcing components required for its execution. The team integrated a micromachined wind sensor, developed as part of a Tyndall PhD project, in their CanSat. Data from this sensor was compared during the flight with data from integrated accelerometers and a GPS sensor. After collecting the data the CanSat teams each make a presentation interpreting the data from their CanSats missions. The CaPSat team were highly commended by the judging panel for their engineering skills, troubleshooting persistence and their excellent data interpretation and presentation. The CaPSat team came second ahead of the German SaSa team and were only narrowly beaten by the Polish KrakSat team, who set out to compare measurements of cosmic gamma and beta radiation made simultaneously during the flight and on the ground.

CaPSat team leader, Rónán Ó Cnoic said: *“To participate in the Irish and then the European CanSat competition was a great experience for the whole CapSat team. As well as getting to build a system that was launched in a rocket, we had the opportunity to see at first hand the facilities and work in the Tyndall centre and to work with CIT to design and assemble a complete electronics system. Our concluding presentation point was that **Science can be fun!** And I think all the teams at ESA would have agreed.*

Sean Gayer Chairperson of CEIA said: *“I want to sincerely congratulate the team from Colaiste an Phiarsaigh on their success at the European CanSat final. Representing Ireland on the international stage in itself is a great accomplishment but to take on eight other countries and to come in second place is a real triumph.”*

Stephanie O'Neill, ESERO Ireland Manager, said: *“The purpose of the CanSat competition is for secondary school students to get involved and hands-on with space and exploration. The Colaiste an Phiarsaigh team should be extremely proud of their achievements at both the national final in Cork and in their success at the European final. I hope that they will go on and share their experiences with their peers and friends and encourage them to get involved in similar projects.*

“Working in partnership with CEIA we plan to expand the National CanSat competitions across Ireland with support from industry and third level institutions the final in Cork is a great step towards realising this goal.”