

The Engineering Education Scheme – A Success!

In October, Abby Bryce of 12F, Allyce Beaumont of 12N, Kelly Egerton of 12A and Doug Rutherford of 12C were interviewed and selected to form the Hemel Hempstead School team for the Engineering Education Scheme (EES). They were linked with Renewable Energy Systems (RES), a global company based in Kings Langley.

The project set by RES was ‘To develop a process and any accompanying tools to enable the most efficient and effective way of determining the layout of a wind turbine foundation casting taking into consideration all the constraining factors’. The team learnt that the task of setting out a wind turbine is not easy. The difficulty lies in the necessity for many constraining factors to be considered at the same time. For instance, based on the terrain of the site, the prevailing wind direction and the road access then the crane pad, the door, the control box and attached underground ducting would have to be efficiently and effectively positioned. These are just some of the many factors which have to be considered for each and every turbine of which there could be up to 500 on one site! This job currently takes the engineers many hours of trial and error, using various stationary objects around the office desk as props to model the different wind turbine components. This process is tedious and not very ‘slick’ to say the least! This is where our team of students came in.

After six months of regular meetings, a trip to Northern Ireland to see a wind farm in construction and a two day workshop at the University of Hertfordshire, the team produced a working model of a wind turbine foundation. This model would allow the engineers at RES to quickly and easily test out different solutions for setting out the turbine foundation. It was based on a central measuring disk against which all the components could be positioned and referenced