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**ENGINEERING EDUCATION: PILOTING APPROACHES TO EMBEDDING SDGs**

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**ABSTRACT**

The UK Government is committed to the delivery of the 17 Sustainable Development Goals SDGs [1]. Hosting COP26 [2] and the Presidency of the G7 in 2021 have helped maintain focus and clarity on this commitment. Examining the 17 SDGs reveals that few disciplines have a more important contribution to make than Engineering. However, its full potential will only be realised if engineering educators embrace effective pedagogies around the SDGs. These call for a more multi-disciplinary, inter-disciplinary and holistic approach than traditional teaching methods have practiced.

This paper describes a ‘prototype’ residential Summer School, innovative and inclusive by design, where ten engineering students from Ulster University, and ten students from Technological University Dublin spent five days working together (in Northern Ireland and in the Republic of Ireland). Students engaged in a series of activities devised to develop their intercultural awareness, collaborative team-working skills, self-awareness and knowledge and understanding of SDG12 - Responsible Production and Consumption. Industry partners, namely, Spirit Aero and Artemis Technologies Ltd, provided educational site visits which were integral to the Summer School schedule.

The importance of SDG12 was reinforced for industry partners whilst students gained valuable practical and commercial insights. Students witnessed at first-hand how knowledge is applied in industry through a range of approaches to address sustainable consumption and production, mindful of competitive pressures. Preliminary feedback from students indicates they thoroughly enjoyed the residential experience and gained a fulsome appreciation of the SDGs in general, and SDG12 in particular. The unique Summer School also provided opportunities to stimulate discussions between students; interestingly, this highlighted different perspectives that exist around sustainability and the interplay with individuals’ personal circumstances (socio-economic and cultural).

The challenge for educators, is how we might scale the Summer School experience and embed the learning and skills development within undergraduate engineering curricula.

1. [Implementing the Sustainable Development Goals - GOV.UK (www.gov.uk)](https://www.gov.uk/government/publications/implementing-the-sustainable-development-goals/implementing-the-sustainable-development-goals--2)
2. [COP26: Together for our planet | United Nations](https://www.un.org/en/climatechange/cop26)