Low Carbon Learning:
Next Gen

Construction Skills Programme for 16—24 year olds

Key Facts

Organisations Attending:

Inverness UHI, Inverness High School, Forres Academy, Elgin Academy, Lochgilphead High School, Yell Academy & Anderson High School Grangemouth High School, Lochgilphead High School, Moray High School, Forres Academy, Inverness UHI, Calderglen High school, Braes High school, Inverkeithing High School, Bannerman High School, St Mungo's Academy.

Total Attendees:

108 students aged 13-15
149 students aged 16-24
over 5 on-site workshops
and 5 off-site workshops

Digital Workshops

Each of the workshop days covered a range of sessions that were tailored to the group attending to ensure the length and number of sessions and complexity of information was suitable to the group. The aim of the workshop was to take students all the way through a design process showing how digital technology enhances each stage of the process.

At design stage we explored 3D models on Sketch up on ipads, tasking students to find various information from a suite of drawings. We discussed drawings as a communication tool and how information is typically represented. This gave students an insight in construction terminology and processes.

We introduced the drawing to the Wikihouse system which is used through the rest of the workshop sessions as an example.

Using a combination of AR Trimble Hard hat headsets and VR headsets we introduced how the same 3D models used above can also be explored in a virtual environment .

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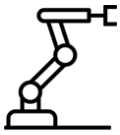
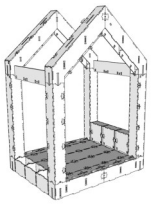
Digital workshops

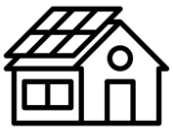
Live demonstrations of wikihouse pieces being cut using a CNC router allowed students to see how the design drawings translate in to real objects. The speed and accuracy of cutting far exceeds what would be possible using traditional methods allowing students an insight into how digital technology can compliment and evolve traditional building practices.



Kuka robot provided a demonstration of how robots can be used to make a site environment safer and assembly faster.

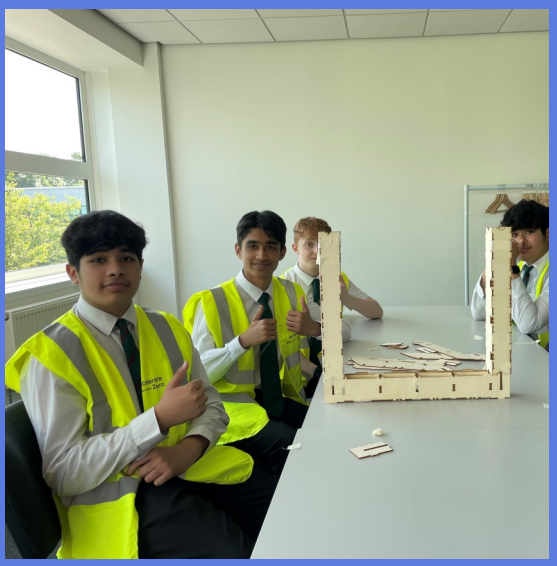


Working in groups students had full size pieces of wiki house to assemble. We also produced mini table top versions that allowed them to build models of the full structure and connect each of the component parts. This completes the process from design to manufacture of components to assembly and construction.



Students were invited to a tour of our Innovation factory space and our full scale demonstration builds. SYNRG is a two story demonstrator building showcasing the use of Scottish laminated timber. Students had the opportunity to explore the drawing on the ipads and within the VR headsets and then compare to the real life protype.

Nearhome shows the use of a digital menu of component parts used to create a modular fit out system that is easily demountable.



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