CONSTRUCTION SCOTLAND INNOVATION CENTRE

Robotically Fabricated CLT Joint

OPPORTUNITY

The ability to build low-cost, low-energy, airtight, customisable small-scale, cross-laminated timber buildings entirely off site, in part using robotics. These buildings will be constructed at mass scale using Scottish cross laminated timber that is transported to sites across Scotland. The creation of a new product, along with digital manufacturing processes, that directly empower custom-builders to build their own home, hut, annex, or house extension.

PROJECT

The initial project consists of the creation of a series of prototypes by robotic fabrication. The joint/joinery that will be needed for the CLT panels and the creation of a series of finished rendered CLT panels will be robotically fabricated.

The final products will be able to be assembled in a complete house design. The unique outcome of the project is the machine code that drives the robots.

OUTCOMES

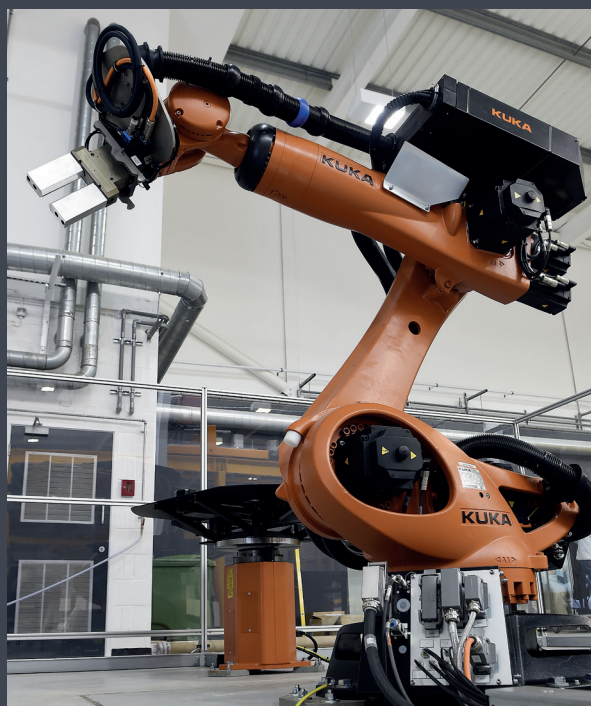
- Development of a modular system, improving speed and quality of build
- Use of robotics and automation in construction processes
- Integration of a house design prototype and robotic fabrication out of complex CLT panels manufactured off-site
- Plan to develop a family of houses and other buildings using the technology developed through the programme
- 3-4 new jobs, I new robotic process, 1 full turn-key "hut" design, supply, delivery and installation service will become available to the market, £500k increased revenue to the company.

SUPPORT

- Total project value - £22k
- CSIC Contribution - £10k

PROJECT DURATION

- November 2018 - February 2019



Innovation Support: Product Innovation

Sub Sector: Component Manufacture

GLULAM SOLUTIONS

ROBERT GORDON UNIVERSITY ABERDEEN

Edinburgh Napier UNIVERSITY