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Welsh academics and industrial partners have come together to develop a new wood treatment method which is set to grow the Welsh timber industry.

Welsh Government innovation funding backed by EU funds, has enabled Bangor University and a number of industry partners to collaborate in order to identify a unique wood thermal treatment system, which will support the development of the timber industry in Wales.

The project brought together seven timber users and associated companies to work with Bangor University's BioComposites Centre (BC) in the development of a new attractive, joinery-quality, high value timber product through thermal modification of softwoods such as western hemlock and larch, which are currently rarely sought for commercial production.

The new thermal modification technology changes the form and characteristics of softwood timber, resulting in an enhanced product. The thermal treatment process is better known from European imports of Thermowood, but the new lower intensity process has been developed here in Wales to compliment local timbers and be easily produced by small businesses.

While current European thermal modification processes predominantly focus on durability, this new thermal modification process concentrates on enhancing the characteristics of the wood such as changing its colour to bring out its grain, and improving the timber so it can be used for joinery purposes and work better for use outdoors by being less susceptible to weather changes.

The project engaged carpenters, joinery manufacturers and furniture

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makers from across the UK to test and feedback on the new process, and has supported the production of timber for high quality joinery products such as furniture and kitchens.

One such venture is the development of timber cladding for the new visitor centre at the salt cote building of renowned Anglesey Sea Salt producer Halen Môn, which was delivered by Coed Môn and Menter Môn.

Larch timber from Welsh forests was treated at the UK's only active thermal modification kiln on Anglesey for the elegant new building. The treatment was less severe than European processes due to the inherent natural durability of larch heartwood. The outcome was an attractive colour and an easily machined product with enhanced stability.

Partners involved with the project included Coed Cymru (Newtown), Menter Môn (Isle of Anglesey), Coed Môn (Llangefni, Anglesey), Vintage Joinery (Gwent), Arnold Laver Timber World (Sheffield), Hexion UK Ltd) (South Glamorgan) and Vista Craft Eco-Cabin Systems (Llanbedr Gwynedd).

Dr. Morwenna Spear, project manager at the Bio Composites Centre, Bangor University said: "This project came about after a number of investigations into the durability of timber and how different thermal treatments influence the quality of less sought after timbers, to make them more desirable and useful. Softwood timbers such as larch and western hemlock are readily available here in Wales, but until the discovery of this revised thermal treatment, they weren't of interest to most joiners, carpenters, kitchen and furniture makers. The scale up of this thermal treatment technology is of huge significance to the timber industry, and seeing the final installation of the thermally treated cladding product on a prominent tourist attraction is a brilliant showcase for this technology. We have also showcased the products at Venturefest in Cardiff and at the Royal Welsh Show to engage with future timber users to try out the material."