U.S. firm developing hardwood CLT product

TECHNOLOGY

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BOSTON, MASS. - IKD, a Boston-based architectural design firm led by Yugon Kim and Tomomi Itakura has been awarded $250,000 for a two-year United States Forest Service Wood Innovations Grant to fund the development of Hardwood Cross Laminated Timber (Hardwood CLT) and the construction of the first Hardwood CLT project in the United States.

SMARTLAM Workers in Montana craft a hardwood cross-laminated wood panel. IKD, a Boston based architectural design firm is working to develop hardwoods traditionally used for low value pallets into a high end construction material. - Photo: IDK

The project, titled the Indiana Hardwood CLT Project, will create a new timber product by upcycling low-value hardwood sawn logs that are extracted from regional forests in Indiana.

The state's largest cash crop is hardwood, but over 55 per cent of each log processed is of low value. The idea is that low-value hardwood, such as grade three common oak, maple and ash can be used to create high-value CLT, which can then be used in commercial applications. IKD was selected from 114 national applicants and is the only architectural design firm to have won a grant this year.

CLT can be used to construct mid- to high-rise buildings in urban settings. In the United States, however, CLT is currently made only of softwoods; the hardwood variety is not available as it is in Europe.
Hardwood CLT offers numerous benefits over softwood, included superior mechanical properties, material volume savings and higher quality appearance in visible settings, states a release.

IKD has identified an underutilized trove of hardwoods in Indiana, which is currently used to produce low-value products like pallets.

IKD has proposed using this new Hardwood CLT in an installation, titled the Conversation Plinth, that the firm has designed for Exhibit Columbus, an annual celebration of architecture, art, design and community in Indiana that will have its inaugural exhibition this year, opening in August. IKD's project was selected to win an inaugural J. Irwin and Xenia S. Miller Prize as part of a national competition; the five Miller Prize winning installations form the centerpiece of Exhibit Columbus.

The project leverages the full support of the National Hardwood Lumber Association and the Indiana Hardwood Lumbermen’s Association, and has secured partnerships with SMARTLAM, the first CLT manufacturer in the United States, structural engineering expert Benson Wood and Clemson University’s Wood Utilization + Design Institute. IKD has also partnered with the Indiana Department of Natural Resources, the Hoosier National Forest office and the Indiana Society of American Foresters.

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