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R&D Works – April 2015

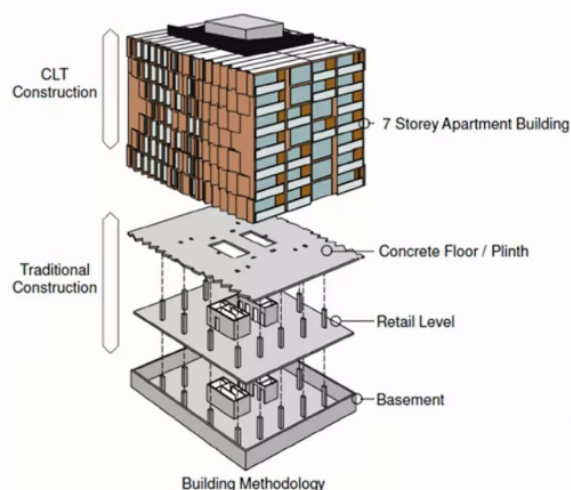
Welcome to our April edition of the R&D Works newsletter.

This month our stories include a study of global map changes in vegetation biomass through natural radio waves emissions; new products such as a lightweight composite panel with a corrugated wooden core; a new paper-based test strip that utilises multi-layers and micro-channels in its design; research into nanocrystals and their strengthening effect in concrete; and an FWPA funded project that investigated case studies into the comparative cost of constructing four commercial building types in timber versus traditional materials.

I do hope you enjoy reading about these exciting research projects.

Chris Lafferty
R&D Manager
FWPA

MAIN NEWS



Commercial Building Costing Cases Studies – Traditional Design versus Timber Project

For building professionals in the non-residential sector, constructing multi-storey buildings in timber has been an opportunity seldom taken advantage of. As a consequence, and to demonstrate the opportunities available this research project has developed a set of realistic construction cost comparisons for four commercial building types when built in

timber or using traditional materials, such as steel or concrete.

[More](#) | [Link to report](#) | [Link to Webinar](#)



Optimising continuous cover management of boreal forest

Decisions on forest management are made under risk and uncertainty because the stand development cannot be predicted exactly and future timber prices are unknown. Deterministic calculations may lead to biased advice on optimal forest management.

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Research says wood products are better for health

Surrounding yourself with wood products is good for your health, according to a study commissioned by environmental organisation Planet Ark.

The findings, based on meta-analysis of dozens of studies from both here and abroad, suggest that timber products have atmospheric and even psychological properties unmatched by synthetics.

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Researchers create fast-growing trees for fuel

Researchers at the University of Georgia have discovered that manipulation of a specific gene in a hardwood tree species not only makes it easier to break down the wood into fuel, but also significantly increases tree growth.

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NEW PRODUCT INNOVATIONS



New titan brick is environmentally friendly

A new exterior building material has emerged from the U.S.A that manufacturers say is stronger than concrete blocks, cheaper than timber in almost every way and is better for the environment than conventional bricks.

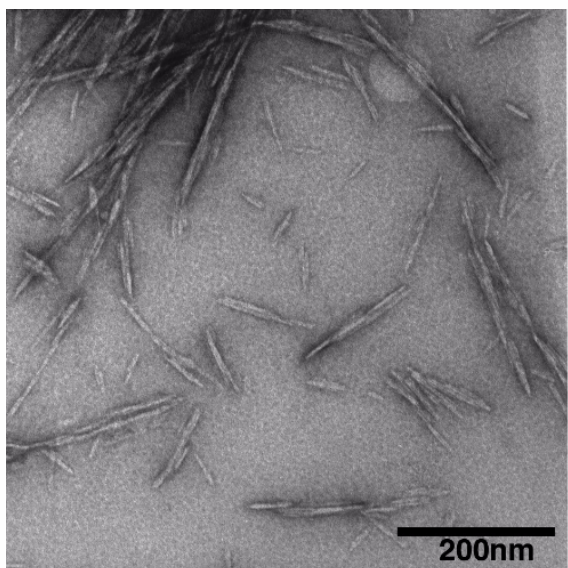
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New bio-based packaging film

Finland based VTT has developed a new packaging film that is fully bio-based and transparent. This product won the “New Tree award”, a competition launched to find the best solutions for exploiting wood-based materials.

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Natural nanocrystals shown to strengthen concrete

Cellulose nanocrystals derived from industrial byproducts have been shown to increase the strength of concrete, representing a potential renewable additive to improve the construction material.

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FOREST GROWING



Satellite study finds global forest loss reversing

Analysis of 20 years of satellite data has revealed the total amount of vegetation globally has increased by almost the equivalent of 4 billion tonnes of carbon since 2003. This is despite ongoing large-scale deforestation in the tropics.

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Aerial robotics add new dynamic to forestry

Aerial imagery, near infrared detection and aerial robotics sound like they belong in a military operation, however these advanced technologies are set to change the dynamics of forest management.

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WOOD PROCESSING AND MANUFACTURING



A new generation of lightweight composite panels

Canadian manufacturer, Corruven, recently launched a new patented technology of a corrugated wooden core for the manufacture of lightweight panels, marketed by numerous industrial partners. The technology combines the natural strength of wood, the corrugated form and green chemistry to make a smarter use of the resource.

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Researchers develop new paper-based portable lab

A team of University of Rhode Island engineers led by Professor Mohammad Faghri has created a new paper-based platform for conducting a wide range of complex medical diagnostics.

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The X-Carve creates 3D pieces from wood, metal & plastic

3D printing promises to be the gateway to a world where a person's ideas are literally made manifest. However, 3D printing isn't suitable for everything and, with materials issues and finish quality to take into account, plastic is the most widely used raw material for the average user.

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