



FINLAND

– A HUB FOR RADICAL INNOVATIONS FROM WOOD



Photo: Sulapac

BUSINESS OPPORTUNITIES IN FINLAND

Everything that is made out of oil today can be made out of wood tomorrow – and in Finland we are already doing it!

The industrial exploitation of wood-based biomass is in transformation, creating compelling new business opportunities and possibilities. In addition to traditional forest products like mechanical wood products, pulp and paper, wood is now increasingly used in new added value products.

RESEARCH-BASED SPIN-OFFS AND START-UPS LEAD THE WAY

The start-up boom, which began in Finland around the turn of the century in the ICT industry, has also energized the bio-based sector. Research-based spin-offs and start-ups now constitute a core element in the business ecosystem of a Finnish biorefinery. Investments have been made in new pilot and demonstration facilities, helping start-ups and established companies to test their inventions and to accelerate the transition from basic research to commercialization.

New products such as biocomposites, paper mulches and biofuels have been launched in recent years. Wood cellulose,

lignin and bioactive components can also offer new product opportunities for companies that are currently using other raw material sources, and create business possibilities for new companies. Guitars, interior design lights and health-promoting sap and phenolic extracts are examples of the already existing new generation products. The true potential of new added-value wood-based products and applications is in the innovative use of the inherent, unique properties of wood and its components in combination

with novel production and conversion technologies, product design and the Internet of Things (IoT).



Photo: Paptic

GLOBALLY ACKNOWLEDGED, NEW SMALL AND MEDIUM-SIZED COMPANIES PRODUCING ADVANCED BIOMATERIALS:

LUMIR: Biofibre based acoustic solutions

MONTISERA: Spruce hemicellulose for helping to alleviate urinary tract symptoms

ONBONE: Non-toxic and moldable material made from clean wood and biodegradable plastic to be used in orthopaedics, traumatology and occupational therapy

PAPTIC: Wood-based alternative to plastics

SPINNOVA: Fibre yarn directly from market pulp

SULAPAC: Fully biodegradable package made of renewable and sustainable raw materials to be used in e.g. cosmetics

WALLPLUS: Customized and designed light weight wall tiles

WELMU INTERNATIONAL: Transparent and thin wood based biowrap

LARGE COMPANIES WITH NEW INNOVATIVE BIO-BASED SOLUTIONS

METSÄ GROUP

Opened new bioproduct mill in 2017. The mill manufactures a number of different bioproducts in addition to pulp, produces more bioenergy than it needs, and uses no fossil fuels at all. The network of companies around the mill, set to expand in the future, converts pulp and the side streams of pulp production into bioproducts that offer higher added value than before.

STORA ENSO

The first company to successfully launch a commercial paperboard packaging including microfibrillated cellulose (MFC). Commercial activity started in 2015 at the Stora Enso Imatra plant, which is the world's largest MFC facility. Due to its exceptionally high strength properties and 100% renewable raw materials, MFC is designed to outperform current fossil-based materials, such as plastics, in a variety of applications.

UPM BIOCHEMICALS

Focuses on four product categories: chemical building blocks, lignin products, biofibrils and biomedical applications. UPM Biochemicals develops lignin-based solutions for a broad range of applications, especially for bio-based resins and binders. GrowDex® is a novel wood-based cellulose nanofibril hydrogel for 3D cell culturing and other biomedical applications.

KOTKAMILLS

Produces high-quality barrier board that is recyclable, repulpable and renewable, unlike other generally used plastic-coated boards. The new product includes protection layers to prevent grease, liquids or moisture from absorbing into the package. The versatility of the board is increased by its heat sealing capacity, cleanness, lightness and first-class printing surface.