



Session 9	Leading Pilot Facilities for the Bioeconomy
Pitch Title	VTT Bioruukki Pilot Centre for scale-up of biobased materials and chemicals
Company	VTT Technical Research Centre of Finland Ltd.
Speaker	Mika Härkönen
Keywords feedstock	cellulose, lignin, sugars
Keywords technology	biomaterial conversion, chemical modification, industrial biotechnology, scale-up, piloting
Keywords End-Product	biobased materials, biochemicals, packaging, textiles, construction

Abstract:

VTT is one of Europe’s leading research institutions owned by the Finnish state. We advance the utilisation and commercialisation of research and technology in industry and society. VTT Bioruukki Pilot Centre is one of Europe's largest innovation and open access pilot platforms with a unique combination of pilot-scale process development units and R&D services for new biobased products and circular economy solutions. In the laboratories and pilot plants customer organisations of any size can develop and scale-up innovations and processes and generate data to support investment decisions accelerating their innovation cycles.

Our areas of expertise in the fields of biobased materials and chemicals include biomass processing with focus on lignocellulosic raw materials, industrial biotechnology for strain development and bioprocesses, industrial chemistry for modifications of raw materials or further refining intermediate products, and production processes of biobased materials mainly for packaging, textile or construction applications. The process development and scale-up is supported by versatile modelling tools as well as by state-of-the-art techno-economic and environmental assessments.

The experimental facilities for biomaterial development are typically continuous pilot scale units simulating the industrial processes. Industrial biotechnology fermenters and bioprocess downstream units are for early scale-up steps. The biomass processing and process chemistry pilots consist of multi-purpose pressure reactors and versatile downstream units capable to handle dangerous chemicals. All pilot scale facilities are supported by laboratory scale units and advanced analytics. The professional staff has broad experience on working with wide variety of tasks and companies.