

# AGRICULTURE AND ENVIRONMENT

BIOINDUSTRIAL AND CIRCULAR INNOVATION

BIOINDUSTRIAL MATERIALS

FUNDING  
DETAILS

## Developing an Eco-friendly Multi-functional Exterior Cladding System for North America Market

The project aims to develop a wood-based multi-functional exterior cladding system for the North American market. ProPetra is an inorganic composite material made from minerals and water-based resin additives that can be applied on different substrates for interior finishing applications. By applying it to wood-based panel materials like OSB and plywood, the project team aims to create a more sustainable and durable exterior cladding product to replace single-functional exterior sheathing and cladding materials. It will also be used to form an integrated exterior cladding solution. The long-term goal is to establish a plant in Alberta to use local OSB to produce the value-added cladding materials.



**RECIPIENT:**  
BM Homes



**PARTNERS:**  
Landmark TekStart  
Zhejiang EMA  
Material Technology  
Co.



**TOTAL BUDGET:**  
\$960,000



**AI FUNDING:**  
\$480,000



**PROJECT DATES:**  
Feb 2023 –  
March 2026



**PROJECT TRL:**  
Start: 4  
End: 8

## APPLICATION

According to a market report, North America siding market reached 60 billion USD in 2019, dominated by fiber cement board and vinyl siding. The project partners, BM Homes and Landmark TekStart, saw great potential of combining the characteristics of ProPetra and the structural property of wood-based panel materials such as OSB and plywood to develop an innovative exterior cladding system that meets the structural, fire resistance, air/water barrier requirements, while providing attractive aesthetic appearance.

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## BIOINDUSTRIAL AND CIRCULAR INNOVATION

### BIOINDUSTRIAL MATERIALS

## PROJECT GOALS

- Utilize the innovative ProPetra technology to develop a wood-based multi-functional exterior cladding system for the Northern American market.

## BENEFITS TO ALBERTA

- The results of the project will help to establish a complete value chain for producing ProPetra coated OSB cladding materials in Alberta, from forest to market, which will increase the province's manufacturing capacity for value-added forest products, create jobs, and diversify Alberta's economy.
- By utilizing underutilized local forest resources, this project will stimulate the development of rural communities and attract further investment along the value chain of Alberta's bio-industrial sector, generating primary and secondary value-added potential, job opportunities, and economic growth in the forestry, manufacturing, and construction industries.
- The project will help maintain Alberta's leadership position in engineered wood products and construction industrialization while providing sustainable and affordable siding materials for the local housing industry.



3 Publications



2 Patents



3 Project Jobs



25 Future Jobs



2 New  
Products/Services



1 Spinoff  
Companies

## CURRENT STATUS

### April 2025 – In progress

The project team has completed the literature review on the technical and market requirements for cladding materials in North America and generated a requirement document. Meanwhile, the project partner, Zhejiang EMA Materials Technology Co. Ltd., started the product development process by applying the ProPetra coating to OSB panels and produced several test samples. Based on the testing results, a new coating technique was developed and sample product was produced for performance testing.