

Innovation in Forest Management and Value Chain for Latvia's Growth: New Forest Services, Products and Technologies



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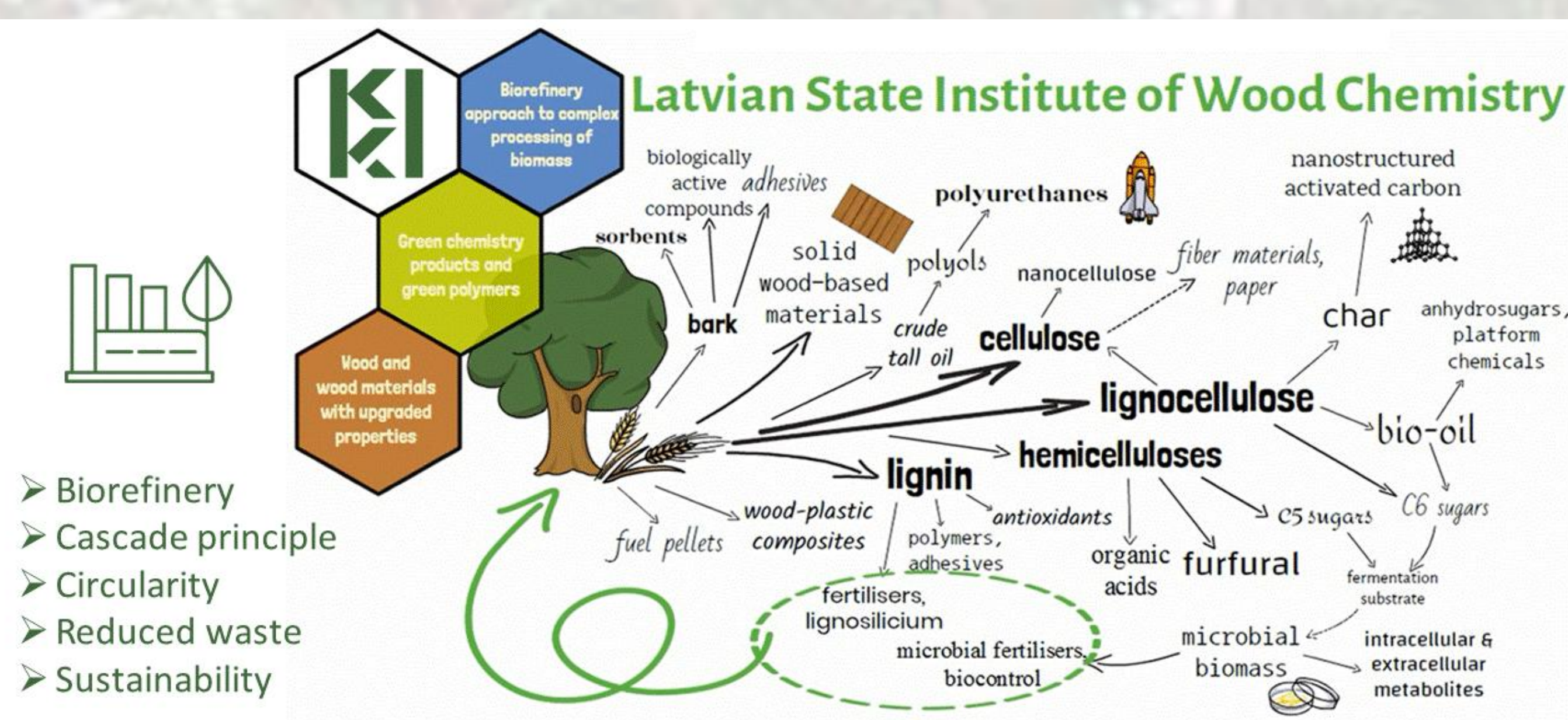
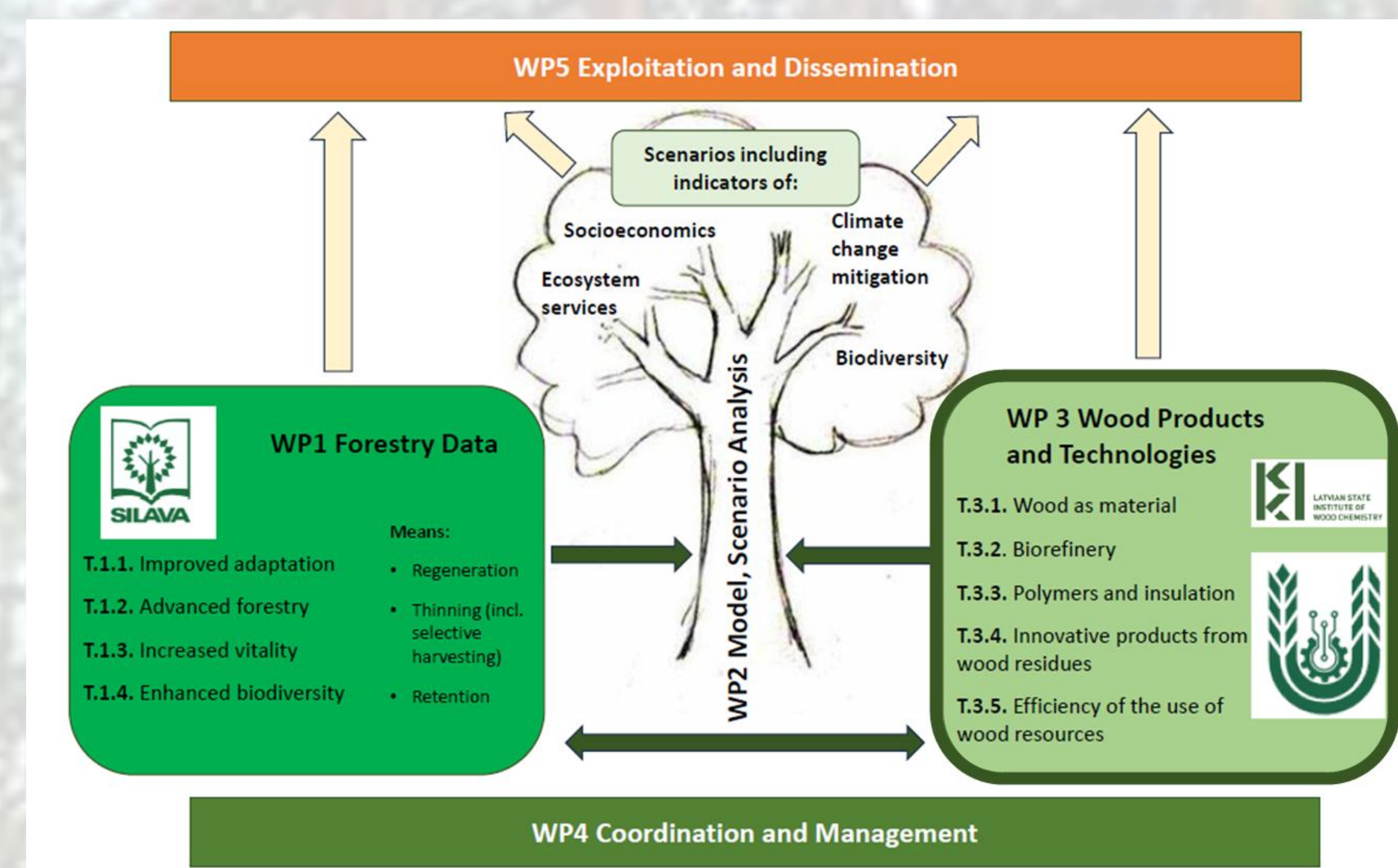
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Latvia, rich in forest resources, ranks fourth in the European Union for forest area per capita. Forests are essential to public welfare, providing timber for construction, furniture, energy generation, as well as space for living and food. They offer vital ecological, economic, and social services, significantly contributing to Latvia's climate policy and international greenhouse gas reduction commitments. Forests also preserve cultural and historical heritage and are key elements of the landscape.

The State Research Program **Forest4LV** aims to develop a holistic approach to ensure the sustainability of Latvia's forestry sector while optimizing the use of forest resources. This strategy will enable the production of globally competitive products while preserving biodiversity and the social value of forests for future generations.



We offer:

- **Research in the field of non-food bioeconomy**, wood science, biorefinery, cellulose and lignin chemistry, biotechnology, thermolysis, polymer chemistry and technology;
- **Analysis and tests** of forest and nature origin materials, polymers, foams;
- **Workplaces** where students, including foreign students, develop their research work;
- **Up-scaling of processes** developed in laboratories. Increasing TRL up to 46;
- **Organization of conferences and summer schools.**

Wood Materials

Wider use of wood and wood-based materials in building and construction:

improving the durability properties and providing a predictable service life. In the studies, ecological and economical products and technologies are sought for improvement of biodurability and ageing resistance.

Biorefinery

The valorization of European and local plant biomass:

mainly wood and its by-products, considering biorefinery and wasteless conceptions, is the vital conditions for the development of bioeconomy. The advanced analytical tools for chemical analysis of natural products and processes of their obtaining are directed to complete sustainable use of raw materials, through designing of a multi product or feedstock portfolio.

Green Chemistry

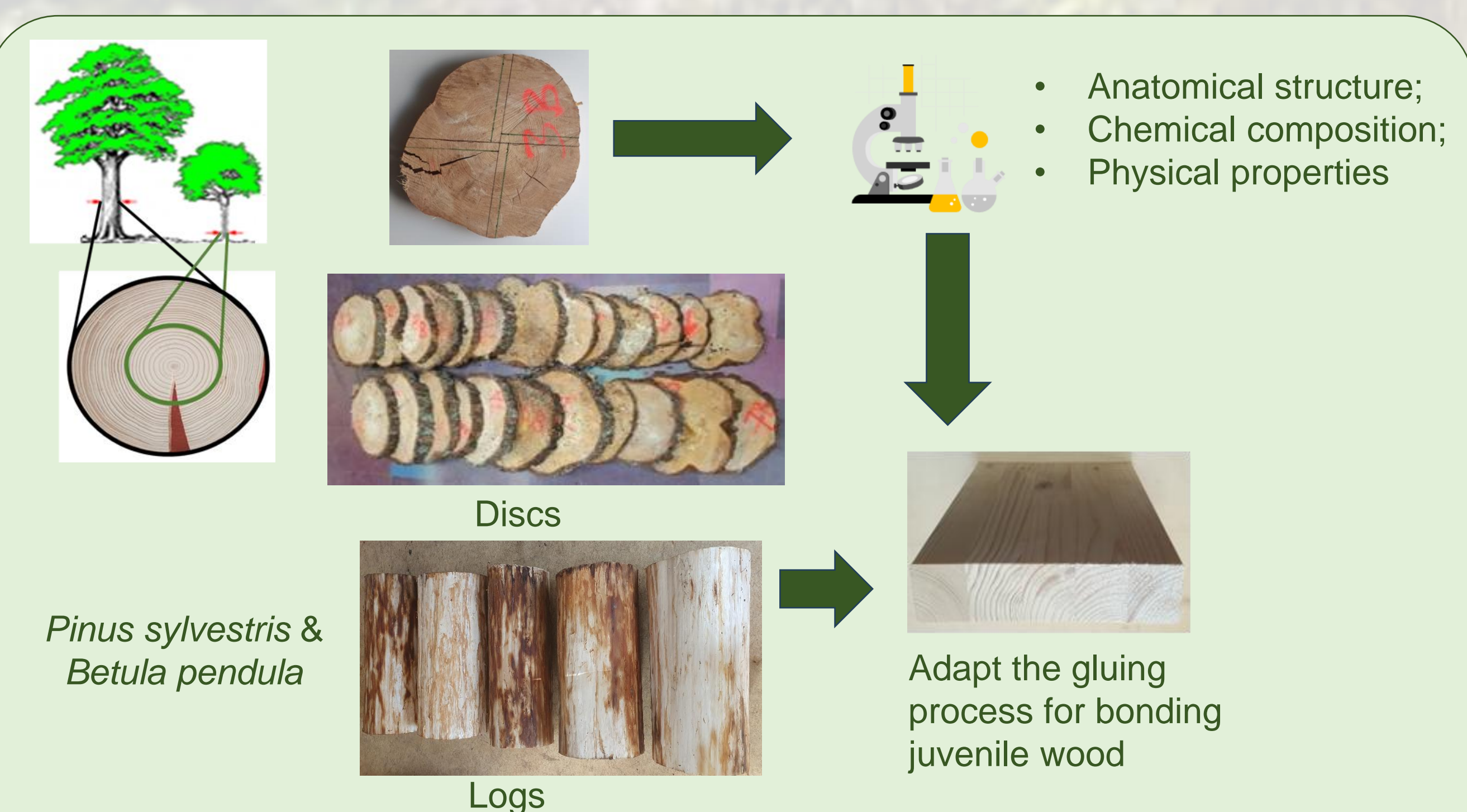
Renewable feedstock as raw materials for synthesis and production of chemicals and polymers:

which substitute petrochemical origin materials. Ecologically and economically viable polymers synthesis method, up-scaling of polymer production. Life cycle analysis (LCA) of developed processes.

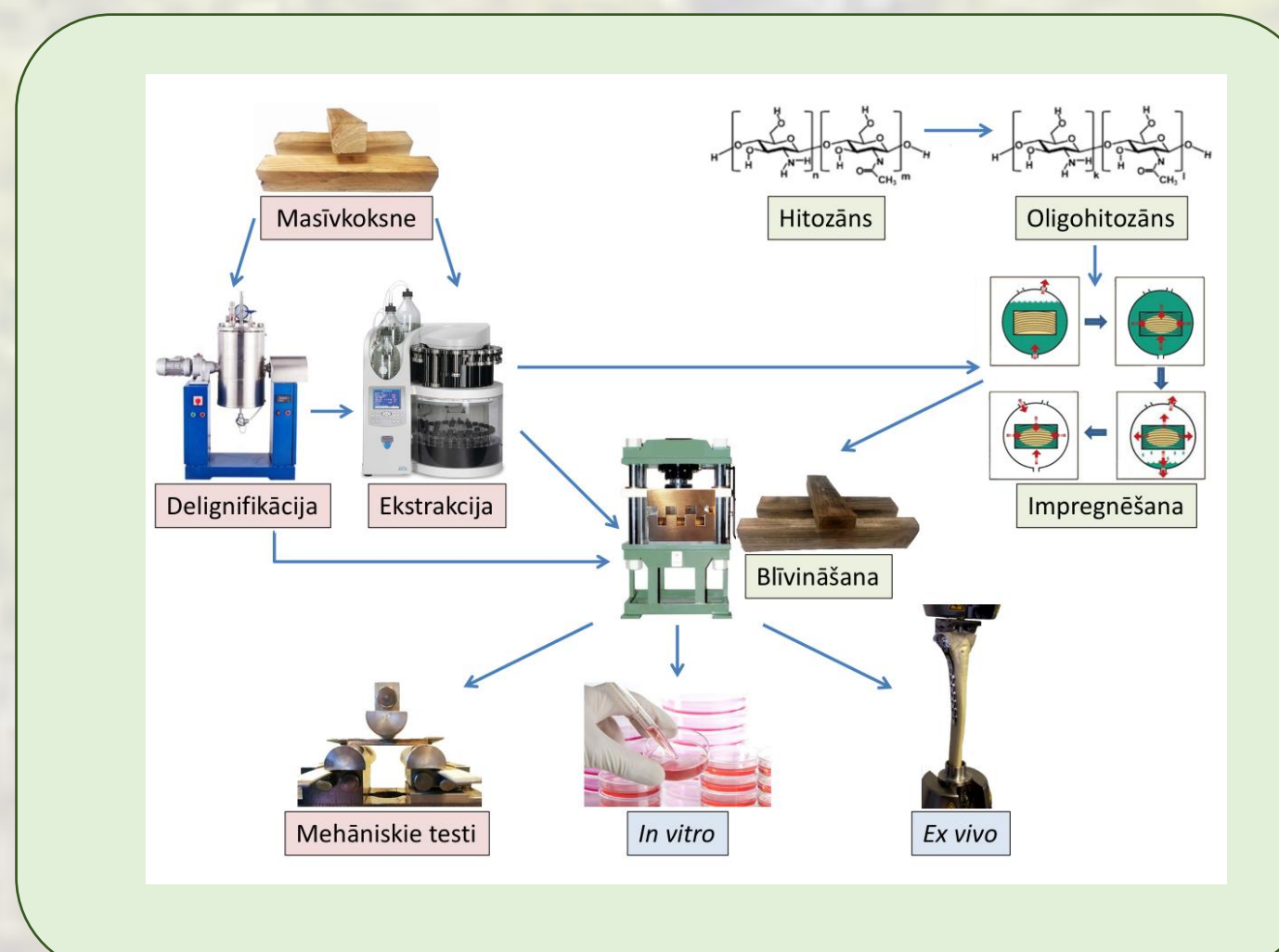
Thermally stable rigid polyurethane foam with reduced flammability from wood processing by-products



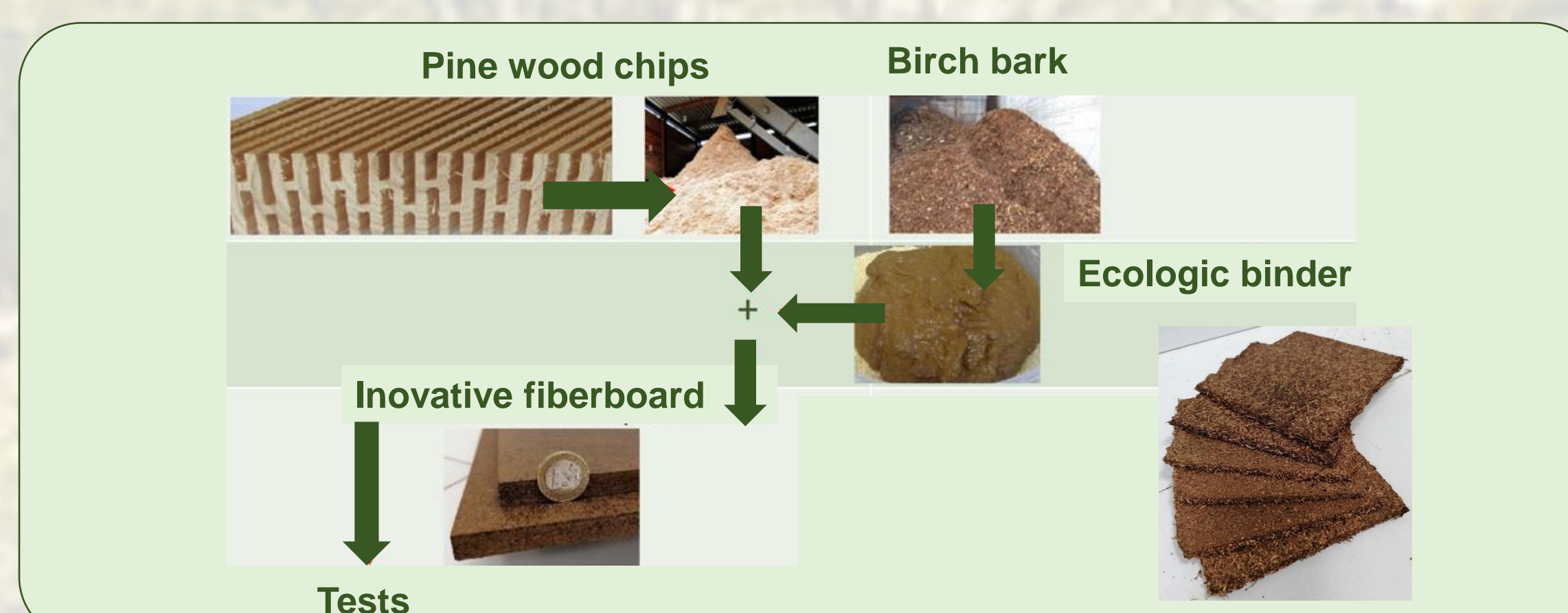
Research on small-sized/juvenile wood for expanding its use in construction and the living environment



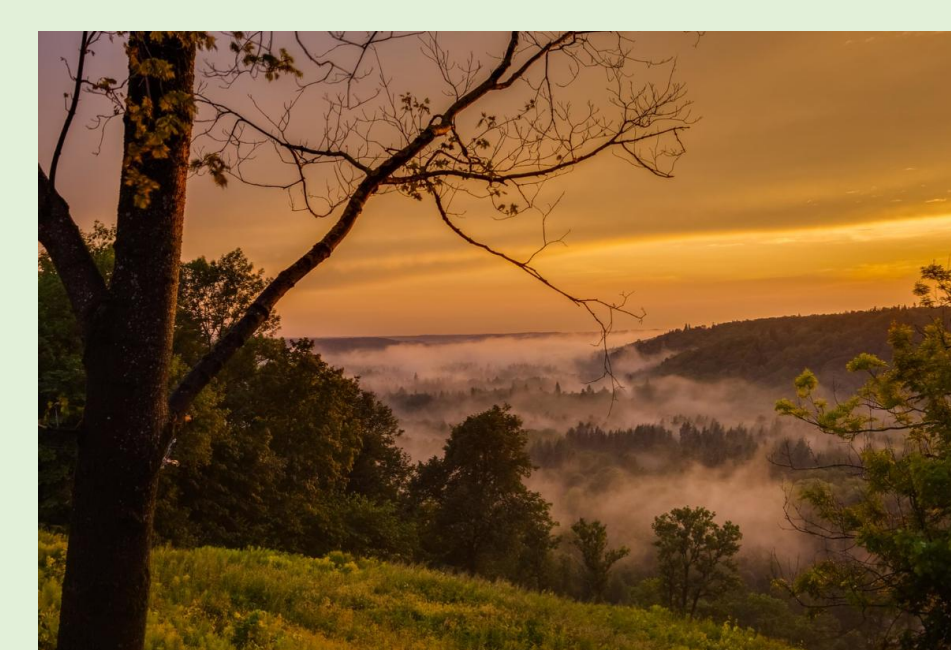
Densification of chemically pretreated wood for use in osteosynthesis implant materials



Development of natural wood composite for furniture and building structures



BTechPro 2026



International Conference for Young Scientists on
Biorefinery Technologies and Products



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