

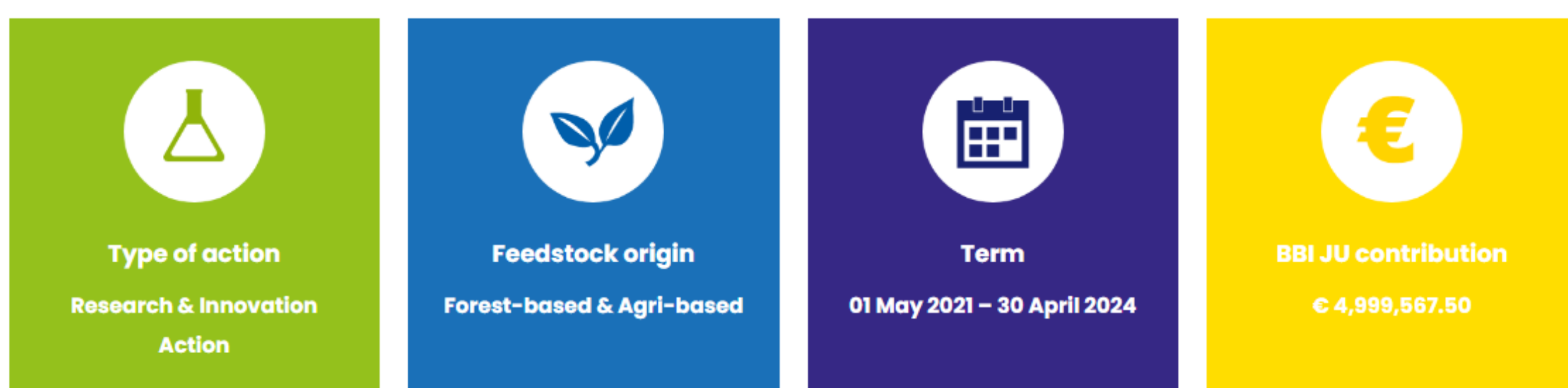


# PERFE COAT - High Performance Bio-based Functional Coatings for Wood and Decorative Applications

## INTRODUCTION

The pursuit of a climate-neutral Europe and a truly circular economy requires attention to virtually all fields of production if fossil-based materials are to be eliminated. This relates not only to manufactured goods but also the paints and coatings used to protect them; of the almost 1 million tonnes of paints and coatings produced in Europe each year, more than 80% are derived from fossil resources. Reducing the impact of these coatings would represent a major advance in Europe's climate ambitions. To address this challenge, the PERFE COAT project develops and validates a new generation of industrial wood and decorative coatings with significantly more than 25% bio-based components. The project addresses three important markets for coatings: high-volume, UV curable clear coatings, waterborne trim paints for do-it-yourself (DIY), and waterborne wall paints. These coatings target reaching, and even surpassing, the current quality and sustainability standards.

## ABOUT THE PERFE COAT PROEJCT



PERFE COAT will be able to offer bio-based coating ingredients from climate neutral sources and processes.

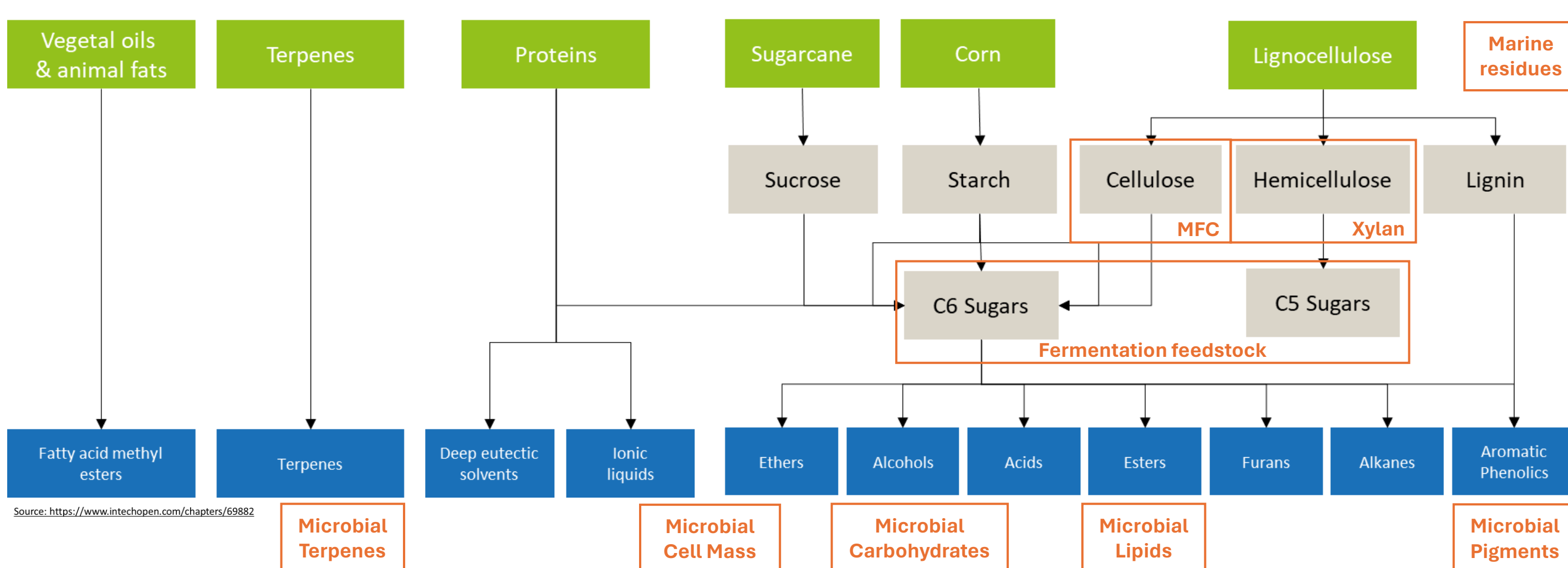
## THE PERFE COAT OBJECTIVES

The overarching objective of the PERFE COAT project is to develop novel sustainable coatings that will ultimately be available to the public. Within this, the project will pursue a number of specific objectives.

- From an environmental perspective, the PERFE COAT project will contribute to reducing Europe's greenhouse gas emissions by developing new industrial bio-based coatings for wood with more than 25% of bio-based components produced from climate neutral sources and processes.
- From an economic perspective, the PERFE COAT project will help to prepare the coating market for new formulations performing at least equally to existing fossil-based products.
- From a social perspective, the project will demonstrate the potential for creating new job opportunities in the bio-based sector in rural and coastal areas, where urban migration remains a challenge.

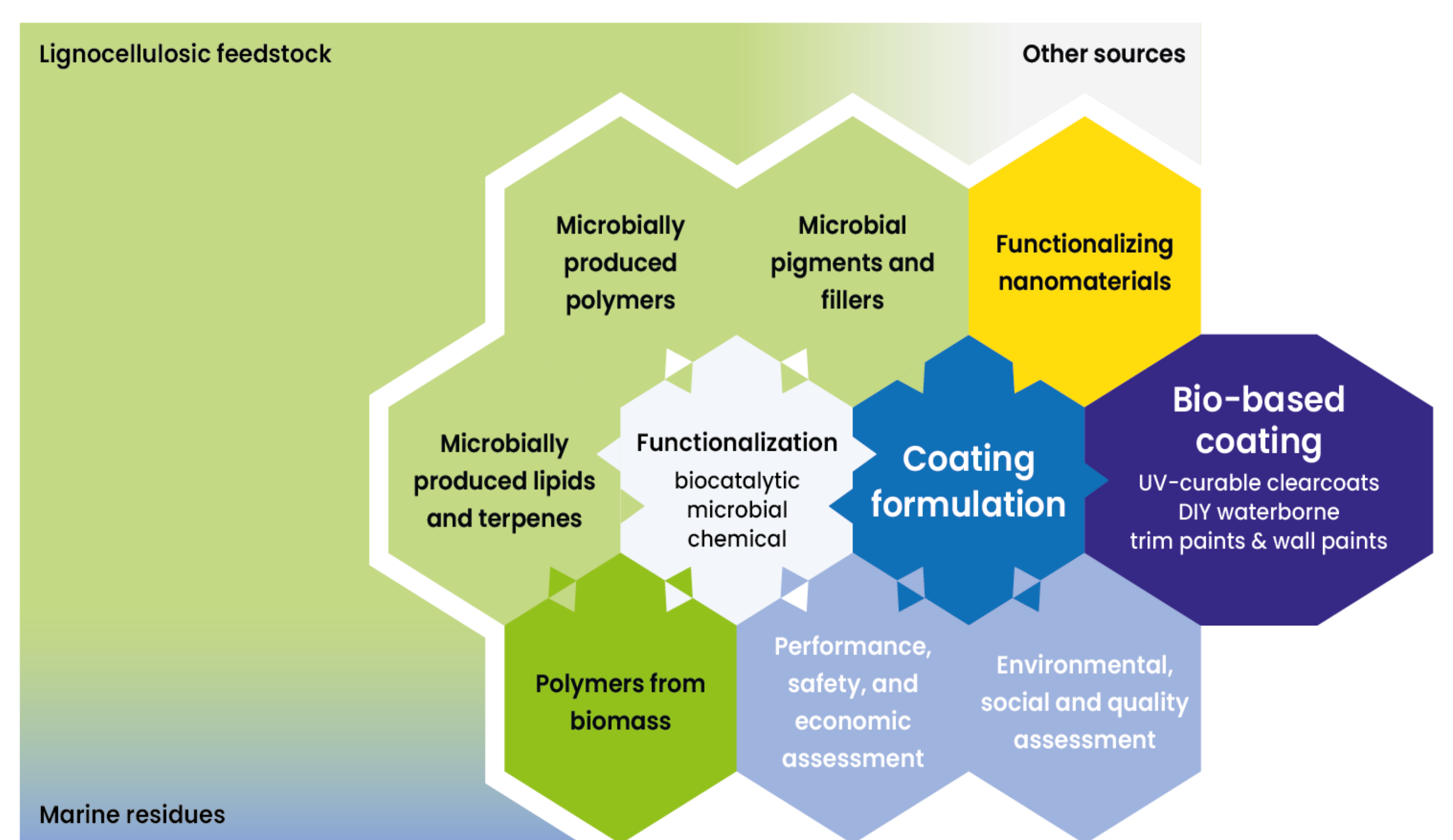
In addition, the project will enhance European leadership in the biotechnology sector and strengthen the EU's leadership in adopting renewables.

## BIOTECHNOLOGY APPROACHES IN PERFE COAT



The PERFE COAT project applies biotechnology to produce microbial polymers, lipids, terpenes, pigments, and cell mass from biomass sugars, as well as biopolymers through chemoenzymatic extraction from lignocellulose and marine residues. Chemical upgrading of these base compounds, guided by rigorous testing provides the required physical and chemical properties and activation for use as bio-based ingredients in new paint formulations with desired performances.

## MODULAR APPROACH OF PERFE COAT



Functionalization of microbial macromolecules to polymers and microbial pigments and biomass will enable replacement of significant percentages of fossil-based raw materials in decorative DIY paints and wood coatings.

## THE PERFE COAT IMPACTS

The PERFE COAT project aims at delivering a number of impacts that will contribute to the wider goals of the BBI JU. These will include:

- Creating a new cross-sectoral connection in the bioeconomy, linking the industrial biotechnology sector and the wood and decorative coatings sector.
- Establishing a value chain platform, integrating several value chains that deliver more sustainable ingredients for bio-based coatings. This will bring together several economic sectors and bio-based economy actors.
- Demonstrating new consumer products based on bio-based chemicals. These will be in the form of binder and additive materials as well as innovative bio-based coatings.
- Validating an improved processing technology reflecting a Technology Readiness Level (TRL) gain in various products. The technology will move from TRL 2 to 4 at the project's start and from TRL 4 to 5 at its end.

## THE PERFE COAT CONSORTIUM



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