

# EXTRABARK PROJECT: Towards a reinforced circular economy valorization of wood bark by-products by the extraction of valuable molecules as an alternative to synthetic products in agronomy and wood protection.

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## 1 Introduction

The Grande Région is characterised by a very large, well-established and interconnected wood processing industry, which generates various by-products, including bark, which is currently under-valued. Chemical companies in the region are looking for bio-based alternatives for their products. They are very interested in molecules extracted from plants, but there are still few specialist stakeholders capable of meeting this demand. EXTRABARK aims to fill this gap by exploring the development of such a sector.

The objective of ExtraBark is to develop and validate innovative and industrializable solutions based on the use of barks for the extraction of high-value-added molecules. Two priority application sectors will be investigated in light of current environmental challenges: plant protection and wood material protection.

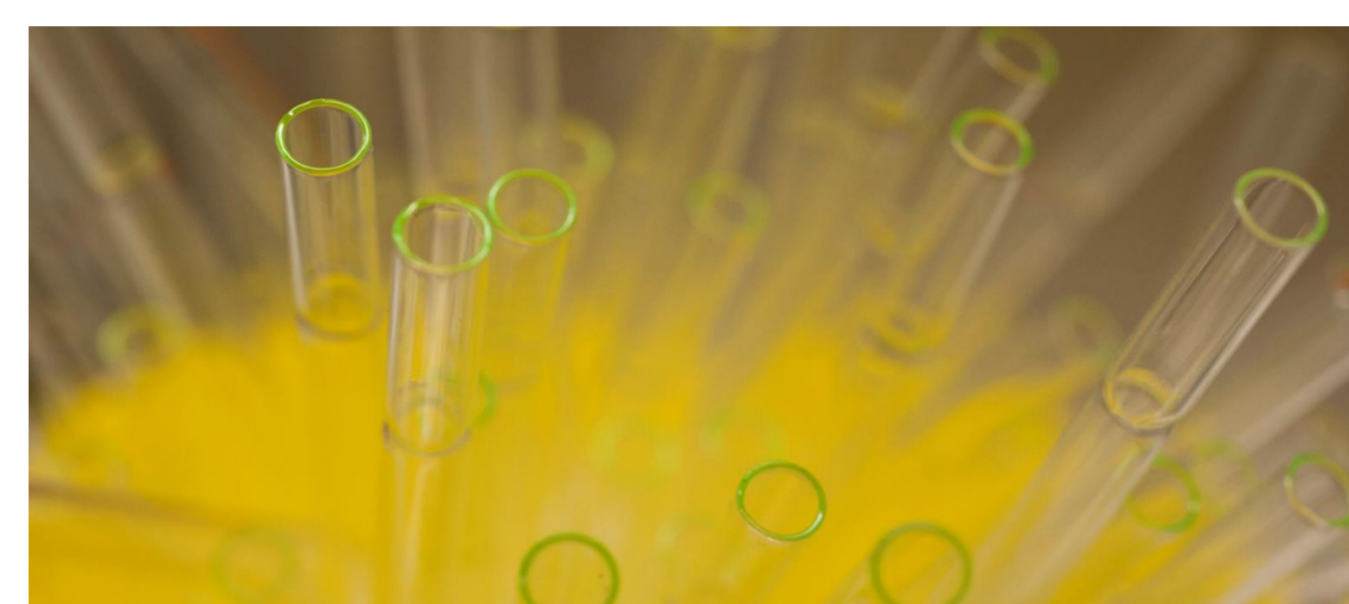
**Keywords:** Bark – Molecules – Plant protection – Wood protection



## 2 Expected outcomes

### Applications

Formulation of biocide products from bioactive materials



Formulation of wood treatment products using bioactive materials



### Target audiences

#### Primary target audience

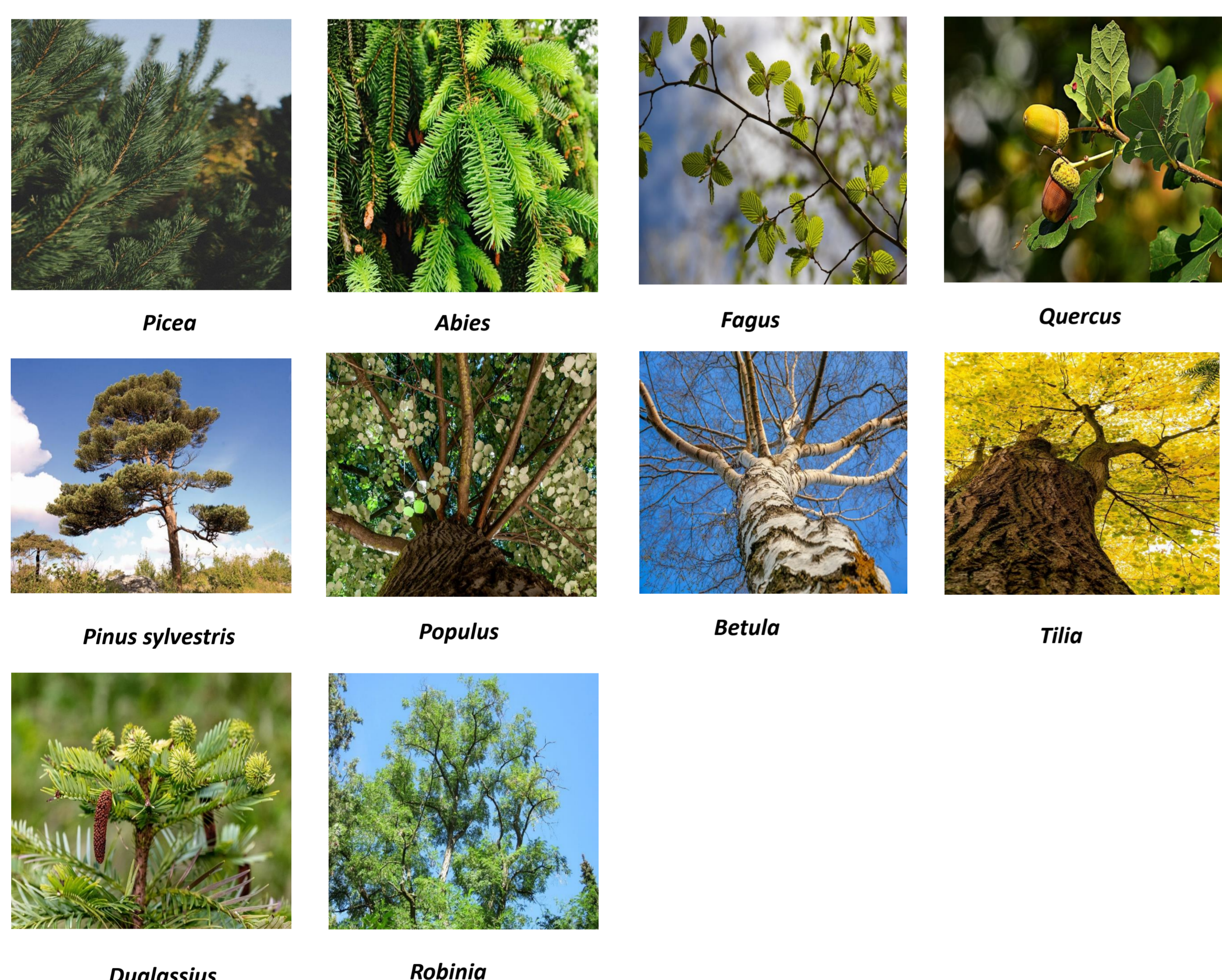
- Businesses and SMEs;
- Economic stakeholders in the chemical and wood industry;
- Sectoral agencies;
- Higher education and research institutions.

#### Secondary target audience

- Regional public authorities;
- Business support organization;
- General public.

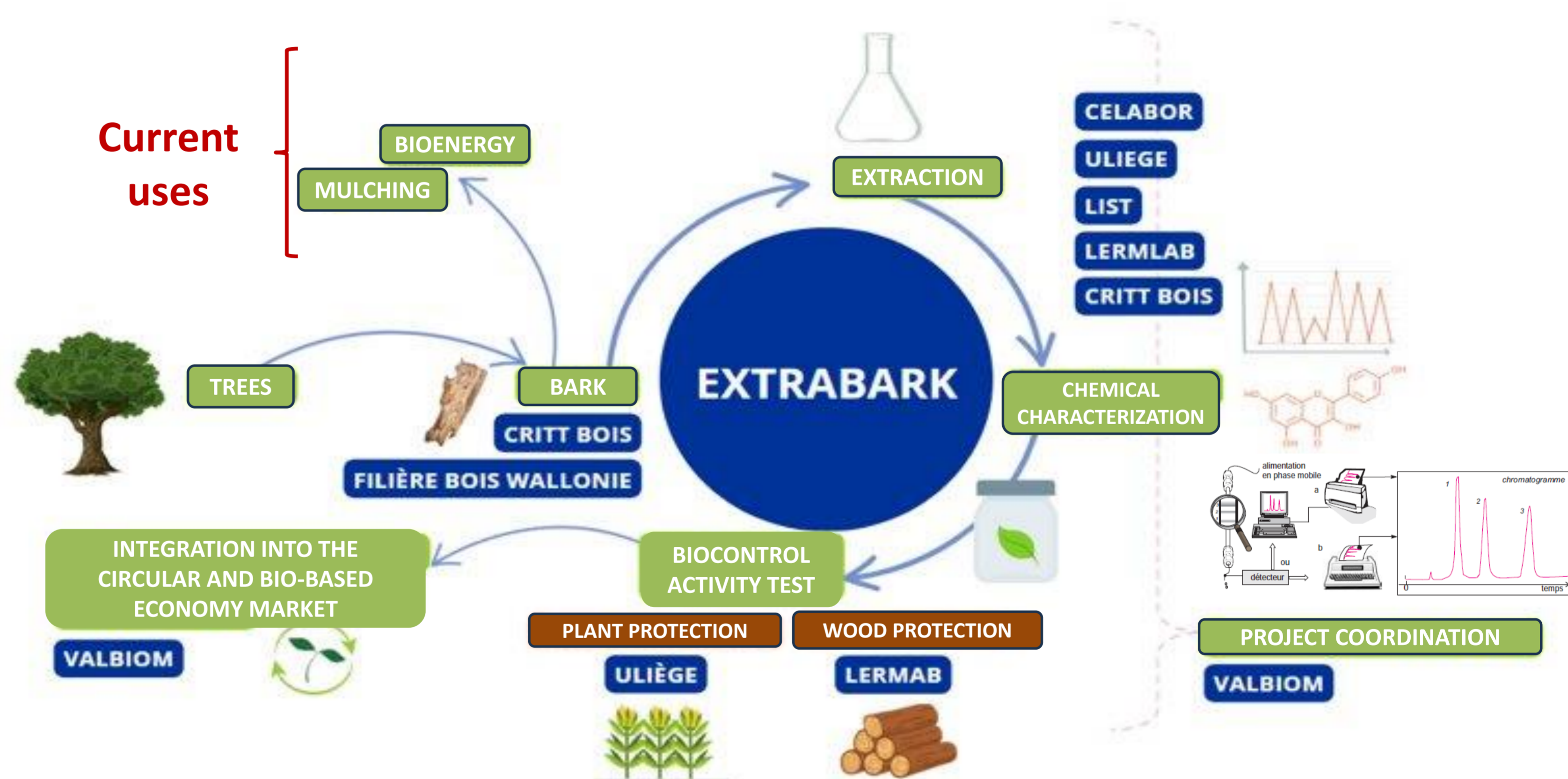
## 3 Method

### Selected of bark species



**Project schedule:** 01/03/2024 – 28/02/2027

**EXTRABARK** has **07 financial** partners and **04 methodological** partners.



The molecule of interest will be quantified in the extracts by UV- spectrophotometry and HPLC-DAD. Chromatographic methods (GC-MS, CC, TLC, analytical and preparative HPLC) will be used in combination with NMR (1D and 2D NMR) and mass spectrometry to provide access to the molecular structure of the compounds which will also be subjected to biological screening for applications in agronomy and wood protection. The objective of the entire process is to generate bioactive materials with strong biocidal potential.

## 4 Conclusion

EXTRABARK is an Interreg Greater Region project aimed at valorizing bark (by-products of the wood industry), which are currently undervalued but widespread in Wallonia, through the extraction and characterization of molecules of interest for the production of new plant and wood protection products, as an alternative to synthetic products. The great diversity of partners involved in the Extrabark project guarantees the integration of all methods of bark valorization.

## Acknowledgements

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