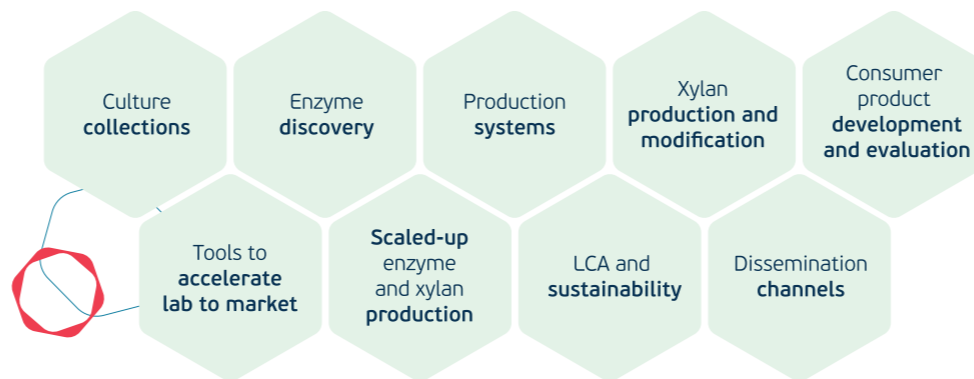




## The organisations behind EnXylaScope

EnXylaScope consists of 5 SMEs, 4 research institutes, 2 large industrial partners and 2 universities. The experienced project partners cover the entire value-chain:



## Partner organisations of the EnXylaScope Project



more information at:

[www.enxylascope.eu](http://www.enxylascope.eu)  
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# EnXylaScope

[www.enxylascope.eu](http://www.enxylascope.eu)

# Unleashing Xylan's Potential with Enzymes for a Scope of Consumer Products

## ▶ key aim of the project

To widen the scope and industrial potential of xylan debranching enzymes by developing enzymes with high catalytic activity and wide operation conditions, thereby demonstrating their ability to make

**xylan a platform polymer** for applications in a variety of consumer products.

The project outcomes are setting the basis for the following exploitable results:



▶ Four novel xylan-debranching enzymes to be used for xylan treatment.



▶ Three enzymatically modified xylan types.



▶ A decision-making platform to guide and facilitate the enzyme cocktail design.



▶ An efficient industrial process to produce selected enzymes and enzymatically modified xylans.

The potential of the novel enzymes to modify xylans for use in consumer products will be demonstrated by producing **6 xylan-based** products for three sectors.



Moisture Cream / Lotion . Emollient . Hand Sanitiser . Body wash  
Nutraceutical Binder and Prebiotic . Anti-inflammatory and Anti-Microbial Supplement

# EnXylaScope leads the path towards more sustainable products

Xylan is a highly-abundant lignocellulose polymer that, with appropriate modifications, has outstanding physical and chemical properties which **make it suitable for incorporation in an array of consumer products, replacing less-sustainable product components thereby allowing greener market options for the consumer.** Enzymes are by far the most sustainable and selective option for xylan modification, through the removal

of the polymer's side chains (debranching). This leads to a xylan polymer with unique functional properties (such as reduced water solubility and enhanced viscosity) and is suitable for direct incorporation in consumer products (e.g. everyday skin care) or for further modifications to confer the functional properties for more demanding applications (e.g. speciality skin care, personal care etc).

The streamlined research program and strategically-designed experimental methodology of EnXylaScope, **incorporating several key innovations to reduce the complexity of enzyme discovery, production, and application,** will result in xylan being demonstrated as a unique polymer that can respond to the fast-growing greener consumer products industry.

