WHAT IS THE FURIOUS PROJECT?

The **FURIOUS** project is an EU-funded initiative focusing on developing high-performance furan-based biopolymers. These polymers are designed to meet the stringent demands of various critical sectors including packaging, automotive, and underwater environments.

FURIOUS DEMONSTRATORS

- **Biomedical and Electronic Packaging**
  Polymers with high barrier properties and superior resistance to sterilization.
- **Automotive**
  Materials with high transparency, UV resistance, and moldability, while also integrating antibacterial capabilities.
- **Underwater Applications**
  Photoreactive and biodegradable polymers that perform well in marine environments, adaptable for 3D printing.

PARTNERS

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Stay tuned as we continue to drive the future of sustainable polymers!

FURIOUS

SHAPING THE FUTURE OF FURAN-BASED PLASTICS

VERSATILE FURAN-BASED POLYMERS FOR STRICT AND HIGH VALUE APPLICATIONS IN PACKAGING, AUTOMOTIVE AND UNDERWATER

START DATE: 1 JUNE 2023
END DATE: 31 MAY 2027

Circular Bio-based Europe Joint Undertaking
Bio-based Industries Consortium
Co-funded by the European Union

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THE CHALLENGE WE ADDRESS

Fossil-derived monomers are currently predominant in polymer production, but they pose significant environmental concerns. The **FURIOUS** project is dedicated to replacing these with renewable, bio-based alternatives.

KEY MATERIAL

2,5-Furandicarboxylic Acid (2,5-FDCA):
Derived from biomass sugars, this compound is crucial in creating our advanced biopolymers.

RESEARCH FOCUS

- Developing processes that adapt existing technologies to new biopolymer formulations.
- Validating synthetic methods at the laboratory scale for future industrial applications.
- Exploring innovative applications in emerging market fields.

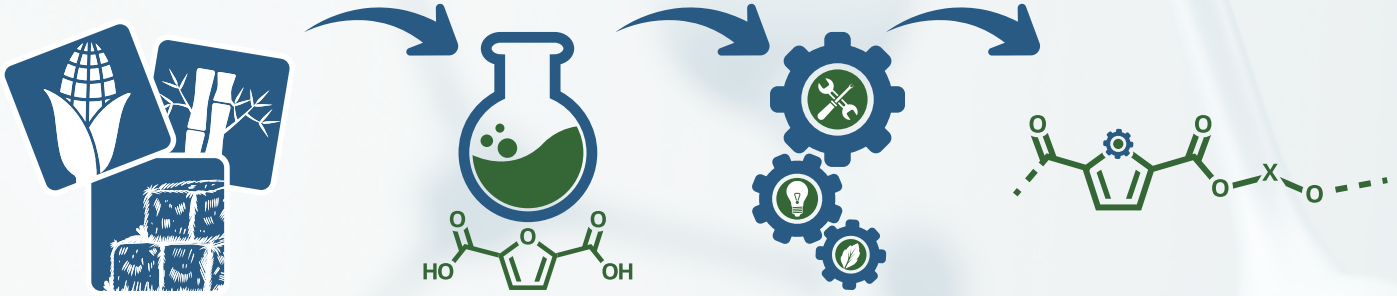
HOW WE INNOVATE

The **FURIOUS** project leverages state-of-the-art technologies and adapts them to novel material requirements. Our approach includes:

- Synthesizing high-quality biopolymers tailored to specific high-value applications.
- Optimizing these materials for challenging environments through rigorous testing and validation.
- Collaborating with industry partners to translate our lab-scale innovations to real-world applications.

FURIOUS PROJECT AT A GLANCE

- **Versatile Biopolymers:**
  Tailored for strict and high-value applications.
- **Eco-Friendly Solutions:**
  Focused on replacing fossil-derived materials with bio-based alternatives.
- **Cross-Industry Impact:**
  Applications in packaging, automotive, and underwater sectors.



Agricultural waste
Polysaccharide feedstock

2,5-furandicarboxylic acid
2,5-FDCA

HO-X-OH
Ad hoc chemical design & synthesis

PXF
New furan-based thermoplastic polyesters