

Monetizing grants for bio-based innovations in the Central and Eastern European countries

Introduction of BioSPRINT

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BIOEAST webinar, 28 April 2022



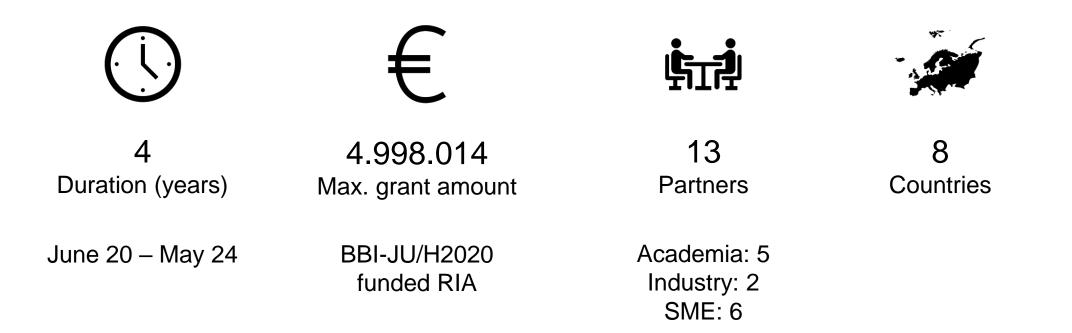








## BIOrefining of Sugars via PRocess INTensification



## **BioSPRINT** consortium







BioSPRINT aims at:

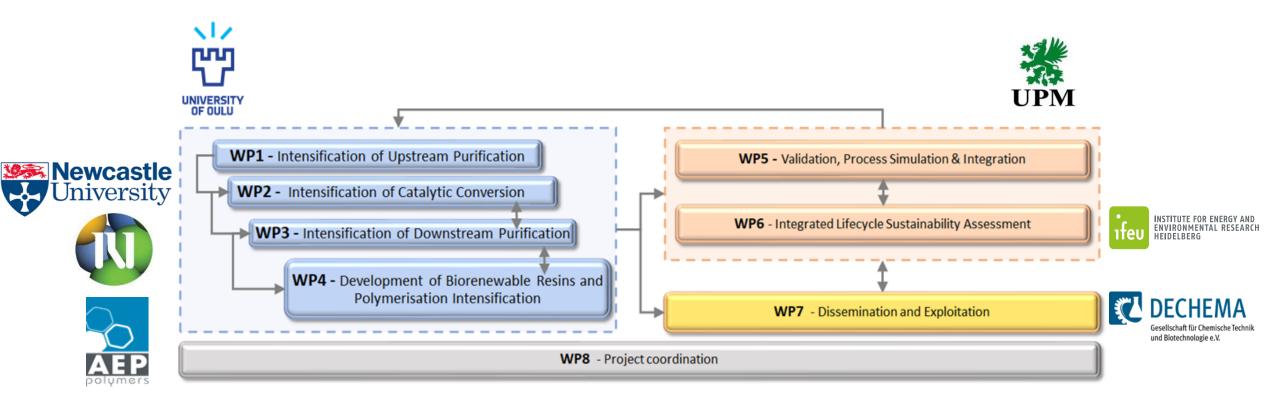
- utilising and valorising hemicelluloses,
- pursuing intensified processing steps and technologies towards 'zero-waste' bio-based operations and
- applying an integrated biorefinery concept that embodies the cascading principle to create new HMC-derived products
- maximise conversion of the lignocellulosic biomass feedstock and its byproducts, side streams and residual streams into higher added-value products.

> Valorising the previously-discarded or costly side streams and closing the loop

## **BioSPRINT** concept and focus areas



HMC-stream	Upstream purification	Catalytical conversion	Downstream purification	Polymerisation
	C5/C6 sugars		5-HMF / Furfural	Resins & Polyols
	Process intensification of			
	precipitation and solids handling with spinning disc reactors	extractive reaction via agitated cell reactors	liquid-liquid phase separation with hydrocyclones	polymer production with spinning disc reactors
	Hybrid membrane purification HMC-stream analysis Solvent & water recovery	Catalyst formulations via HTP & ML methods	Development of distillation (with & w/o extraction)	Development & benchmark of resin and polyol formulations
	Identification & recommendations of scale-up challenges via process systems engineering tools (PSE) such as CFD & PAT			
Validation, process simulation, integration & scale-up of BioSPRINT concept				
LCA, TEA, Socio economic, process and product safety assessment				
Dissemination, Exploitation and project coordination				







Bio*SPRI* 



## Thank you for your attention



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This project has received funding from the Bio-based Industries Joint Undertaking (JU) under the European Union's Horizon 2020 research and innovation programme under grant agreement No 887226. The JU receives support from the European Union's Horizon 2020 research and innovation programme and the Bio-based Industries Consortium

