








ExpandFibre Ecosystem R&D&I focus points on the road towards the Vision 2030

Straw and wood as raw materials						
 Textiles	 Biocomposites	 Packaging	 Lignin products	 Hemicellulose products	 Sourcing & fractionation	 Other fibre and wood products
<ul style="list-style-type: none"> • New, sustainable textile fibres for wearable textiles and nonwovens • Staple fibre analytics and performance testing • New staple fibre applications and post-treatment technologies • Recycling and traceability • Business models to speed up global market entries 	<ul style="list-style-type: none"> • Raw material processing and converting • Material properties • Recycling and end-of-life • Biocomposites containing fibres and lignin • All-cellulose composites & natural fibre polymer composites • Additive chemistry 	<ul style="list-style-type: none"> • New pulp-based plastic-replacing packaging solutions • Tools and processes for designing sustainable packaging • Barriers and binders based on natural polymers 	<ul style="list-style-type: none"> • Lignin fractionation for material applications • Lignin as functional ingredient for thermosetting resins as well as for thermoplastics and bio-composites • Lignin dispersants • Novel methods for lignin functionalization 	<ul style="list-style-type: none"> • Hemicellulosic sugar refining and separation • Xylose, pentoses and furfural as industrial ingredients and platform chemicals • Polymeric hemicellulose as industrial ingredients and platform chemicals 	<ul style="list-style-type: none"> • Sustainable, low emission agricultural residue supply chains and networks • New fractionation technologies for processing of agro-residual and woody raw materials • Process side-stream utilization 	<ul style="list-style-type: none"> • New materials based on pulp fibres and wood for high-volume applications • Novel chemistry for pulp fibre and wood modification • Functional structures including hybrid materials • Advanced 3D and 4D processing methods • Fibre and specialty cellulose products from pulp, including MFC, MCC and chemically modified cellulose
Cross-cutting topics <ul style="list-style-type: none"> • Replacing plastics and fossil-based materials • Digitalisation & measuring 			<ul style="list-style-type: none"> • Emerging technologies • Sustainability assessment 	<ul style="list-style-type: none"> • Design for circularity • Piloting and test-beds for new applications • Following regulatory environment 		

Vision for 2030

- Investments in commercial production of new bioproducts (textile fibres, biocomposites, other bioproducts, etc.)
- New bioproducts available to the markets with significantly **lower carbon footprint**
- Sales and/or out-licensing of **new technologies** related to new bioproducts
- **Professionals** trained for new bioproduct businesses
- **Sustainability awareness** increased throughout the value chains