



# CocoTex – Coir Fibre for Textile Usage

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## Coir for Textiles

### From 90% Burning Rate to 100% Value Creation

- **Global Production:** ~62 million tons of coconuts annually.
- **The Waste Problem:** The husk (exocarp & mesocarp) accounts for 35% of the total fruit weight.
- **Current Deficit:** Currently, ~90% of these fibers are burned or left to rot, releasing massive amounts of CO<sub>2</sub> and methane.
- **The Opportunity:** Converting lignocellulosic waste into elementary fibers for the textile industry.
- **Impact:** Massive CO<sub>2</sub> reduction and creating a secondary income stream for smallholder farmers.



### Breaking the Coir Barrier – Technological Leap

<b>Feature</b>	<b>State of the Art (Coir)</b>	<b>Cocon-Tex Innovation</b>
<b>Fiber Morphology</b>	Rough, thick fiber bundles (0.1–0.3 mm)	<b>Individualized elementary fibers (&lt; 20 µm)</b>
<b>Tactile Feel</b>	Prickly, stiff (suitable for mats)	<b>Soft, flexible (suitable for clothing)</b>
<b>Processing</b>	Manual/Mechanical retting	<b>Advanced Bio-Chemical Disruption</b>
<b>Application</b>	Low-value (geotextiles, brushes)	<b>High-value (Fashion, Home-Tex)</b>

### ITA RWTH Aachen: Engineering the Textile Future

- **Process Development:** Engineering the machines and processes of industrial processes along the textile value chain
- **Spinning Trials:** Prototyping yarn blends (e.g., Coconut/Lyocell/cotton) at the ITA's industrial-scale spinning center.
- **Quality Validation:** High-tech fiber analysis and standardized stress testing.
- **Digital Integration:** Developing a 'Digital Fiber Twin' to manage the natural variability of coconut husks for stable industrial production.



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## Call for Partners: Sourcing & Sustainability

- **We are seeking consortium members to cover the following domains:**
- **Raw Material Sourcing:** Partners in coconut-producing regions for logistics and standardized collection of husks.
- **Primary Decortication:** Experts in local pre-processing to reduce transport volume.
- **LCA & Certification:** Specialized agencies to conduct Life Cycle Assessments to verify CO2 savings according to EU Horizon standards.



## Call for Partners: Industrialization & Branding

- **Green Chemistry:** Partners to provide eco-friendly enzymes or solvents for fiber separation.
- **Industrial Weavers/Knitters:** SME textile mills ready to test coconut-fiber yarns on a large scale.
- **Fashion Brands/Retailers:** 'Early Adopters' to design and market the first Cocon-  
Tex pilot collection.



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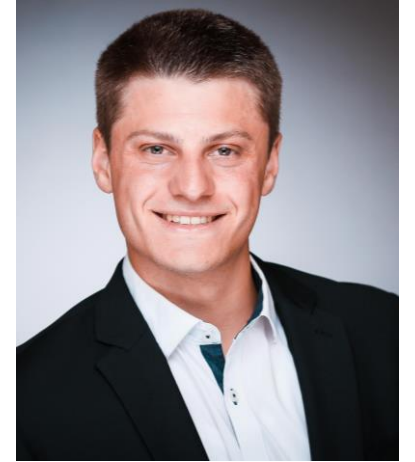
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**Thank you**  
**for your attention!**