



Private Company

Cellulose-based sustainable packaging

Packaging

Background

We are a global leader in consumer health and wellness, committed to integrating sustainability into our operations and products, focusing on reducing environmental impact while improving everyday health. As part of our sustainability goals, we are continually seeking cellulose-based primary packaging solutions across rigid, semi-flexible, and flexible formats that align with our ambition to make packaging more sustainable.

Packaging for food, drug, and medical applications must meet strict regulatory and performance requirements, including oxygen and moisture barriers and product-pack compatibility throughout the product's life cycle. Current cellulose-based solutions often rely on a significant mass of polymer-based multi-material liners, laminations, or complex multi-layered coatings to achieve these properties, which limits their recyclability and increases their carbon footprint. Technologies that combine high barrier performance, recyclability, and a reduced carbon footprint would enable truly sustainable packaging for regulated industries.

What we're looking for

We are looking for innovative technologies to advance cellulose-based packaging by combining high barrier performance, recyclability, and a minimized carbon footprint.

Solutions of interest include:

- Biodegradable coatings
- Polymer dispersion coatings
- Water-based barrier coatings
- Nanocellulose coatings
- Bio-based laminates
- Extrudable resins or additives for cellulose packaging

- Recyclable medium to high barrier films
- Compostable polymers and multilayer films
- Hybrid cellulose composites with sustainable additives

Our must-have requirements are:

- Medium to high oxygen barrier properties
- Medium to high moisture barrier properties
- By 2030, recyclable through single-stream paper/fiber recycling systems without processing disruption
- Adheres to healthcare-specific quality, safety, and regulatory requirements
- Strong adhesion to cellulose-based materials (applies to coatings and films-type solutions)

Our nice-to-have's are:

- Complete, ready-to-use cellulose-based packaging with high barrier properties and sustainability improvements
- Reduced water footprint compared to existing alternatives
- Lower Scope 3 carbon emissions compared to current options
- Non-cellulose content by mass below 5%
- Compatible with existing or emerging sorting and repulping technologies in recycling
- Readily scalable for industrial-scale production
- Compatible with traditional blister, bottle and tube manufacturing lines with minimal changes (no significant CAPEX for additional machinery required)

What's out of scope:

- Solutions that do not include cellulose as a primary packaging component

- Solutions requiring significant manufacturing line modifications, new equipment purchases, or substantial process redesign to integrate the packaging technology

Acceptable technology readiness levels (TRL):

Levels 4-9

1. Basic principles observed
2. Concept development
3. Experimental proof of concept
4. Validated in lab conditions
5. Validated in relevant environment
6. Demonstrated in relevant environment
7. Regulatory approval
8. Product in production
9. Product in market

What we can offer you

Eligible partnership models:

Sponsored research

Co-development

Supply/purchase

Material transfer

Licensing

Benefits:

Sponsored Research

Funding is proposal-dependent, starting with a proof-of-concept project that has the potential for expansion based on results and opportunities. The funding range is from \$25,000 to \$100,000 for a six-month project.

Expertise

We also offer the expertise of our team of scientists for collaboration and guidance during the project's development. Possible partnerships with us include, but are not limited to, sponsored research, joint development, supply, consulting, and licensing.

Please contact the University of South Florida Technology Transfer office representative for submission – Karla Schramm at kschramm@usf.edu