ADHERENCE

EXPLORATORY RESEARCH

ANNA GREADY | BARRETT BENTON
RINNE FURLOW | VIVIAN AGUIRRE

What is Adherence?

Adherence, LLC is a materials science company developing compostable adhesive technologies to address the growing environmental impact of packaging waste. Rooted in the University of Georgia's New Materials Institute, Adherence was founded with the goal of replacing conventional, persistent adhesives with biodegradable alternatives that support truly compostable products.

Compostable adhesives are a critical component of sustainable packaging systems. Even when packaging or labels are designed to be compostable, traditional adhesives can prevent full biodegradation and contaminate compost streams. Adherence's work focuses on solving this overlooked challenge by enabling adhesive materials that align with circular economy principles and responsible end-of-life outcomes.

Meet the Client



The Bioseniatic™ Laboratory

Dr. Evan M. White

Dr. White specializes in materials science, Bioseniatic materials, degradable polymers, composites, and coatings. He earned his PhD in Chemistry from the University of Georgia in 2014 under the direction of Professor Jason Locklin. In 2017, he joined the newly founded New Materials Institute within the division of Technology Development and Implementation, where he focuses on translating innovative laboratory research into commercially viable technologies.

Biodegradable Materials



What Does “Biodegradable” Mean?
Biodegradation is the process where materials break down naturally through microorganisms such as bacteria and fungi. To be considered biodegradable, a material typically must decompose by at least 90% within six months under appropriate conditions. During this process, biodegradable materials can transform into compost, which can be used to enrich soil and support healthy ecosystems.

Why Adhesive?

The Problem with Conventional Packaging Materials

Many packaging applications rely on oil-based polymers, which are largely non-biodegradable and often difficult to recycle or reuse. These materials are frequently manufactured as complex composites, making them prone to contamination and incompatible with existing recycling systems.

> **“A wide range of oil-based polymers is currently used in packaging applications. These are virtually all non-biodegradable, and some are difficult to recycle or reuse due to being complex composites having varying levels of contamination.” (Song et al.)**

Even packaging materials that are already branded as, or considered, biodegradable often use traditional adhesives, so the products aren't truly biodegradable. Adhesive solves that problem by addressing components often overlooked when discussing compostable materials.

Why Biodegradable Materials Are Important

Reducing Pollution
The United States is the largest producer of plastic waste globally, generating over 73 million metric tons per year (2019), or approximately 286 pounds per person.

Protecting Ecosystems
Persistent plastics harm wildlife, degrade soil health, and contaminate water systems.

Encouraging Sustainable Business Practices
Biodegradable materials support a circular economy by using renewable resources, reducing landfill dependency, and lowering long-term waste management costs.



Design and launch a compelling, professional website and supporting brand kit for Adherence, LLC that communicates the company's mission, compostable adhesive technologies, and scientific credibility to a diverse professional audience.

GOALS

01. BRAND KIT DEVELOPMENT

Design a cohesive brand identity system that reflects Adherence's focus on sustainable materials, innovation, and scientific credibility.

The brand kit should provide clear parameters that allow creative exploration while ensuring consistency across digital and future materials.

02. WEBSITE DESIGN & LAUNCH

Design and build a launch-ready website that communicates Adherence's mission, technology, and expertise in a clear and engaging way.

- Present Adherence's compostable adhesive technologies.
- Showcase company credentials, leadership, research experience, and affiliations
- Provide easy-to-find contact information for clients, collaborators, and investors
- Support large images and videos to visually present research, materials, and applications

03. LONGEVITY

Backend designed for long-term maintenance by non-developers
Clear handoff documentation for updating content and basic site maintenance

TARGET AUDIENCE

Adherence's website is designed for prospective clients, research collaborators, grant funders, and investors.

These audiences fall into two main groups:

Research Collaborators: Scientists, academic partners, and institutions interested in compostable materials, polymer science, and collaborative research opportunities.

Clients and Investors: Industry partners, sustainability-focused companies, investors, and funders interested in real-world applications, environmental impact, and commercial potential.

The website will balance scientific credibility with clear, accessible communication for both technical and non-technical audiences

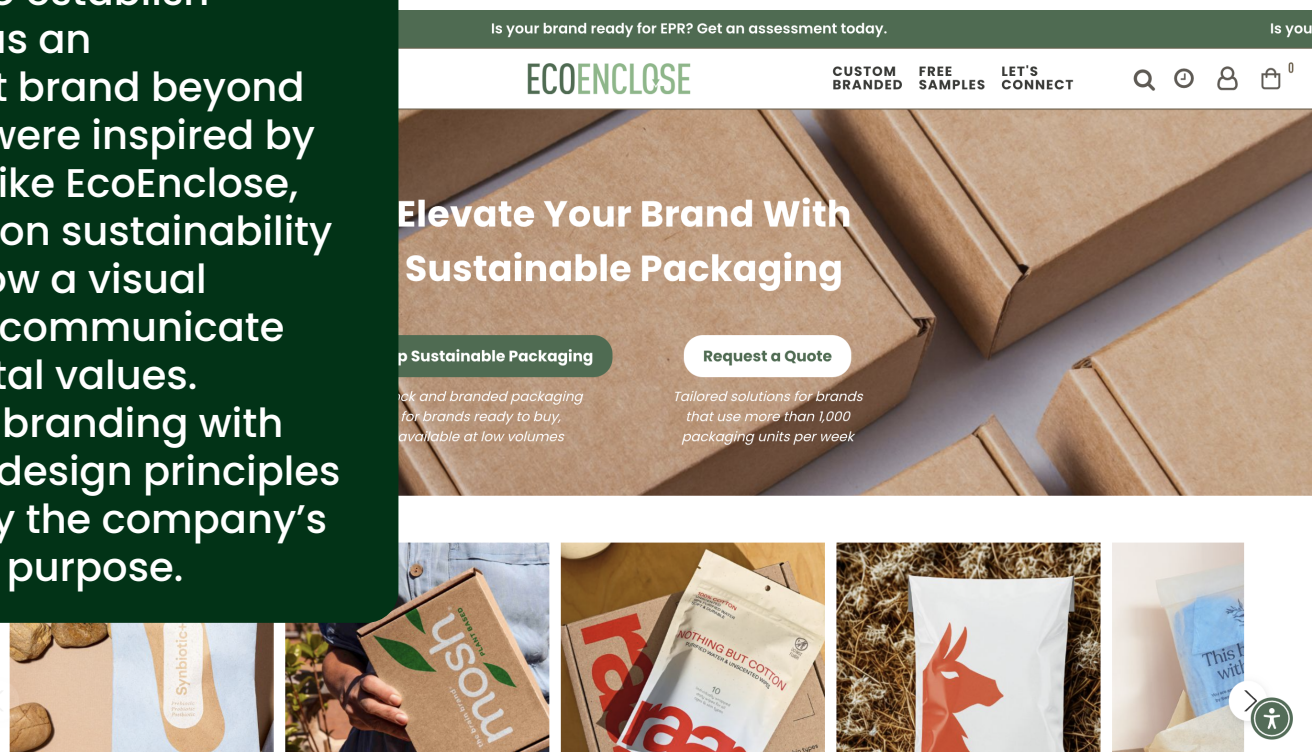
Our website should be distinctive while maintaining a professional apperance. The primary focus is on communicating the credibility of the technology and the research behind it, rather than marketing the product to a general consumer audience.

Inspiration



Since Adherence is within the New Materials Insitute, we want to work within some of the guidelines they have already established such as tone of voice and research methodology and presentation.

Our goal is to establish Adherence as an independent brand beyond UGA. So we were inspired by companies like EcoEnclose, which focus on sustainability and show how a visual identity can communicate environmental values. Aligning our branding with sustainable design principles helps convey the company's mission and purpose.



SOURCES

Research

https://pmc.ncbi.nlm.nih.gov/articles/PMC2873018/

https://www.globalbioenergy.org/biodegradable-meaning/

https://e360.yale.edu/digest/u-s-is-a-larger-source-of-plastic-pollution-than-previously-thought-report-finds

https://www.epa.gov/plastics/impacts-plastic-pollution

Inspiration

https://newmaterials.uga.edu/

https://www.ecoenclose.com/?srsltid=AfmBOoqDLXrxg7hvTa05VyZ8srODmNY26_TYNYENBu0cHi4Uz2I5ns0z