

TECHNOLOGY

RISE[®] 2025: Where Innovation Meets Impact — Redefining the Future of Nonwovens

Keel Labs Wins RISE[®] Innovation Award for Kelsun[®] Fiber

The RISE[®] (Research, Innovation & Science for Engineered Fabrics) Conference 2025 brought together the brightest minds in the nonwovens industry — from pioneering scientists to visionary entrepreneurs — under one roof at North Carolina State University's McKimmon Center. Co-hosted by INDA and The Nonwovens Institute (NWI), this year's edition ignited conversations that are shaping the sustainable, high-performance future of nonwoven materials.

With a focus on **circular innovation, renewable carbon, green chemistry, and breakthrough fiber technologies**, RISE[®] 2025 stood out as a living laboratory of ideas — where sustainability isn't just a goal, but the foundation of progress.

Keel Labs' Kelsun[®] Fiber: A Seaweed Revolution in Sustainable Textiles

The coveted RISE[®] Innovation Award 2025 was presented to Keel Labs for its pioneering Kelsun[®] fiber — the world's first high-performance, seaweed-based fiber engineered for commercial-scale nonwoven applications.

Plastic-free and tree-free, Kelsun[®] sets a new benchmark for material sustainability. Its unique composition offers *softness, strength, natural flame resistance, antimicrobial protection*, and complete *biodegradability* — all without shedding microplastics. Designed to integrate seamlessly into existing nonwoven manufacturing, it symbolizes a future where **performance and planet coexist in perfect balance**.

Other finalists reflected the spirit of innovation that defines RISE[®]:

- **EsterCycle by EsterCycle LLC** — a low-cost, low-emission chemical recycling process capable of safely treating contaminated PPE and mixed polyester nonwovens, closing the loop for critical waste streams.
- **Fentanyl Detection Wipe by Rockline Industries** — a potentially life-saving innovation enabling instant identification of fentanyl traces, protecting first responders worldwide.

(Last year's RISE[®] Innovation Award was won by Hempitecture, Inc. for its PlantPanel™, a 100% biobased insulation material combining acoustic and thermal efficiency with sustainability.)



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Innovation Through Collaboration: Highlights from RISE® 2025

The conference showcased how collaboration between academia, industry, and start-ups is accelerating the evolution of nonwovens into smarter, greener, and safer materials.

Key sessions delved deep into **bio-based materials, renewable carbon pathways, circular economy frameworks, and advanced recycling technologies** — alongside crucial insights into **trade, tariffs, and policy trends** shaping the global textile innovation landscape.

Keynote Spotlights

- **Dr. Lars Börger**, CEO of *nova-Institute GmbH*, explored the power of **molecular design** in driving renewable materials and circular business models.
- **Dr. John Warner**, CEO & CTO of *The Technology Greenhouse*, inspired attendees with a vision for a **renewable carbon economy** — a system where chemistry and sustainability co-engineer a resilient industrial future.

“RISE continues to spotlight the technologies that are redefining what's possible in nonwovens,” said **Dr. Matt O'Sickey**, INDA's Director of Education & Technical Affairs. “From renewable carbon to AI-enhanced fibers, this year's conference showcased the creativity and collaboration shaping a more sustainable future for our industry.”

Empowering the Next Generation of Innovators

RISE® 2025 also served as a launchpad for future talent, with **over 30 graduate students**

presenting research that ranged from **biodegradable composites to advanced filtration materials**. Through poster sessions, tabletop exhibits, and mentorship dialogues, the event bridged the gap between emerging science and real-world industrial application.

Complementing the conference was a **charity golf tournament** supporting student participation in INDA events, as well as a guided tour of **The Nonwovens Institute's \$65+ million pilot lines and analytical labs** — where next-generation materials move from prototype to proof of concept.

Looking Ahead: RISE® 2026

As the 2025 edition closed on a note of optimism and discovery, attendees looked forward to **RISE® 2026**, set to return to the **McKimmon Center in Raleigh, North Carolina, on August 25–26, 2026**.

With each passing year, RISE® continues to strengthen its position as **the premier global platform for sustainable innovation in engineered fabrics** — a place where science meets imagination, and where the materials of tomorrow are born today.

Editorial Insight

From seaweed-based fibers to molecular innovation, RISE® 2025 was not merely a conference — it was a **movement toward a circular future**. The breakthroughs unveiled in Raleigh reaffirm one truth: **sustainability is no longer a trend; it is the new engine of competitiveness and creativity** in the world of nonwovens