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ANNUAL REPORT



Letter From Our Co-Founder & Chief Executive Officer

NICOLE RAWLING

Dear Friends and Supporters,

I am delighted to share the exciting developments and progress the Material Innovation Initiative (MII) has made on behalf of people, animals, and the planet in 2023.

If you are new to MII and the next-gen materials industry, welcome! I hope you will be inspired to learn more about the industry after your journey through the stories and triumphs that fill this report. Our stories reflect the promise and uniqueness of the next-gen materials industry, representing an awe-inspiring blend of beauty, nature, innovation, and technology. In the pages that follow, you will witness the transformation of renewable and abundant materials all around us into ethical replacements for animal- and petroleum-derived materials.

We founded MII in 2019 to profoundly reduce the harms caused by the production and use of materials in the fashion, automotive, and home goods industries. Our goal is to unite all of our stakeholders around a shared vision for a brighter future, one where the materials we use every day protect human rights and health, mitigate climate change, spare trillions of animals' lives, and preserve our planet for generations to come.

To achieve our goal, we engage with investors, brands, and material companies as allies and co-creators of our vision. We have built MII's vision around the conviction that if we want these stakeholders to embrace more sustainable and humane materials, we must first ensure there is a clear path for the development of next-gen materials that meet their performance, aesthetic, and volume needs and are at a reasonable price parity.

Our 2023 annual report highlights some of the strides MII and our stakeholders have made in clearing this path and creating a more humane and beautiful modern materials economy.

A few highlights from our report:

- Since our founding in 2019, we have helped inspire more than 2.31 billion USD in investments into next-gen materials, and 504 million USD in 2023 alone. We highlight some of the support we provided to investors this past year on pp. 36-43.
- Our 2023 research on U.S. consumer perceptions of next-gen materials (p. 19) demonstrates that the vast majority of U.S. consumers (92%) surveyed are likely to purchase next-gen products, representing an enormous opportunity for brands and other stakeholders to profit.
- Brands are experiencing commercial success through their collaborations with next-gen innovators and in-house innovations. One of the most exciting industry developments in 2023 came from the luxury brand Gucci, which developed a next-gen leather called Demetra. Gucci received wide acclaim from the press for partnering with musician activist Billie Eilish to promote its iconic 1955 Horsebit bag in Demetra leather (p. 21).
- We were appointed by the New York City Mayor's Office to serve on a task force (p. 64) that is responsible for sourcing more sustainable and humane materials for the entire city, including materials for office furniture, fire department uniforms, and MTA seats.
- We increased the visibility of next-gen materials through our events across the world (pp. 50-61), from Israel to Malaysia, and through mainstream press and publications that have a combined readership of more than 100 million.

All of the achievements in our report were only made possible through the support of generous donors, savvy investors, ingenious innovators and scientists, and forward-looking brands. Together, we are creating a more sustainable, humane, and beautiful world. I hope you will be inspired to reach out to our MII team and learn about how we can work together to create this better world together.

With appreciation and optimism,

Nicole Rawling



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WELCOME TO THE NEXT-GEN MATERIALS INDUSTRY

The [Material Innovation Initiative \(MII\)](#) accelerates the development of environmentally preferable, humane, and ethically produced next-gen alternatives to animal and petrochemical-derived materials.

We envision a world where the materials we wear and use every day are produced in a way that allows the planet, its inhabitants, and future generations to thrive.

The modern materials industry is a primary driver of:



Climate change



Biodiversity loss



Microplastic pollution



Slavery and human rights abuses



Wild and farmed animal suffering



Pollution and environmental degradation



Poor public health










Image credit: Christian Faesecke / We Animals Media
A worker drags several water-soaked hides behind him at a tannery in Bangladesh, 2015.



Image credit: Christian Faesecke / We Animals Media
A contributory to the River Buriganga in Bangladesh is littered with rubbish and the remains of leather.

Next-gen materials are ethical alternatives to animal and petrochemical-derived materials

Compared to conventional synthetic and animal-derived materials, next-gen materials:

-  Emit dramatically fewer greenhouse gas emissions
-  Contain significantly fewer or no microplastics or other toxins
-  Preserve biodiversity and restore habitats
-  Spare the lives of trillions of wild and farmed animals
-  Support sustainable and regenerative agricultural practices
-  Are developed by companies that prioritize human rights and safety
-  Foster circular economies for the products we wear and use every day

Next-gen materials are more sustainable, humane alternatives to petroleum-based synthetic materials and animal-based leather, silk, wool, down, fur, and exotic skins.

Next-gen materials are sourced from abundant, renewable, and nontoxic resources such as plants, algae, agricultural waste, fungi, microbes, and captured CO₂.



Image credit: Karl Lagerfeld
Karl Lagerfeld and Amber Valetta feature a Desserto® bag sourced from cactus.



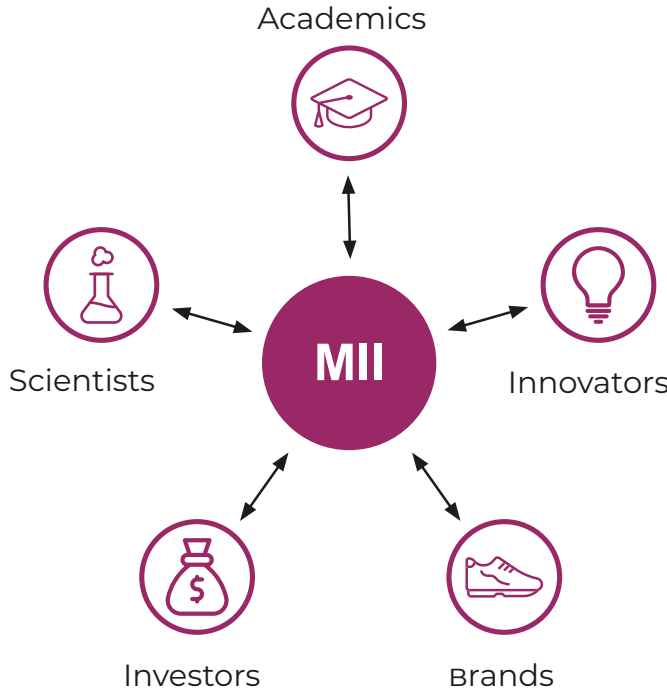
Image credit: von Holzhausen
This chair is made from REPLANT™, a carbon-negative, renewable luxury material sourced from plant waste.

Why MII

No one else does what we do

MII is the only organization that is accelerating the development of the entire next-gen materials industry.

We collaborate with investors, innovators, scientists, academics, and brands to help next-gen products scale and reach the mass market.



Our collective goal is to ensure that next-gen materials are:



High-performance



Aesthetically appealing



Affordable



Scalable



Competitive in the mass market



I'm deeply passionate about animal welfare and was immediately drawn to MII's mission to create the ecosystem for the next-gen materials movement. It struck me as such a forward way of thinking, a "one tide raises all ships" approach, designed to make it possible for the industry to thrive.



Liz Friedland
Brand, Marketing & Communications Strategist
General MII Advisor



Image credit: Courtney McLeod
Designer Courtney McLeod features a Toray Ultrasuede® HP couch, sourced in part from agricultural waste.



Image credit: Payal Pratap

The Indian fashion brand Payal Pratap features a next-gen silk material made from Bemberg™, a biodegradable and compostable fiber developed by the company Asahi Kasei.

We support our stakeholders through three core strategies:



Science & Technology

MII stimulates new start-ups to fill white spaces, supports scientific research, and provides scientific and technical guidance for investors and brands.



Innovation

MII analyzes the state of the next-gen materials industry, disseminates research data and insights, and facilitates connections among start-ups and investors.

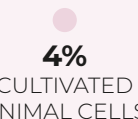
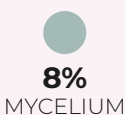
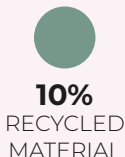
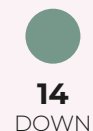
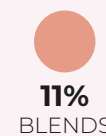
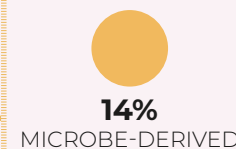
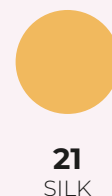
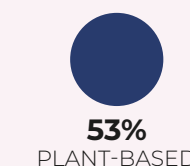


Brand Partnerships

MII helps brands invest in, source from, and partner with next-gen material companies.

STATE OF THE NEXT-GEN MATERIALS INDUSTRY

State of the next-gen material industry at a glance (2023)



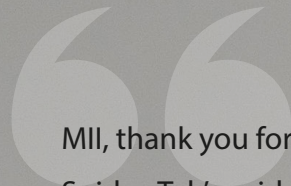
We saw an increase in next-gen material companies from 102 in 2022 to 141 in 2023. This increase is, at least in part, due to MII's efforts to increase the number of entrepreneurs and scientists in the industry and to encourage companies to enter the next-gen materials industry.

Increased competition leads to lower prices, higher quality products, a wider variety of options, and accelerated innovation.

Each player has their part to play, with MII serving as the industry analyzer, idea generator, facilitator, and connector. By engaging more scientists, entrepreneurs, investors, material companies, and brands in advancing the industry, we will more quickly meet our goal of creating environmentally sustainable and animal-free materials that are high quality, beautiful, price-competitive, and at sufficient scale to reach the mass market.

REPORTS

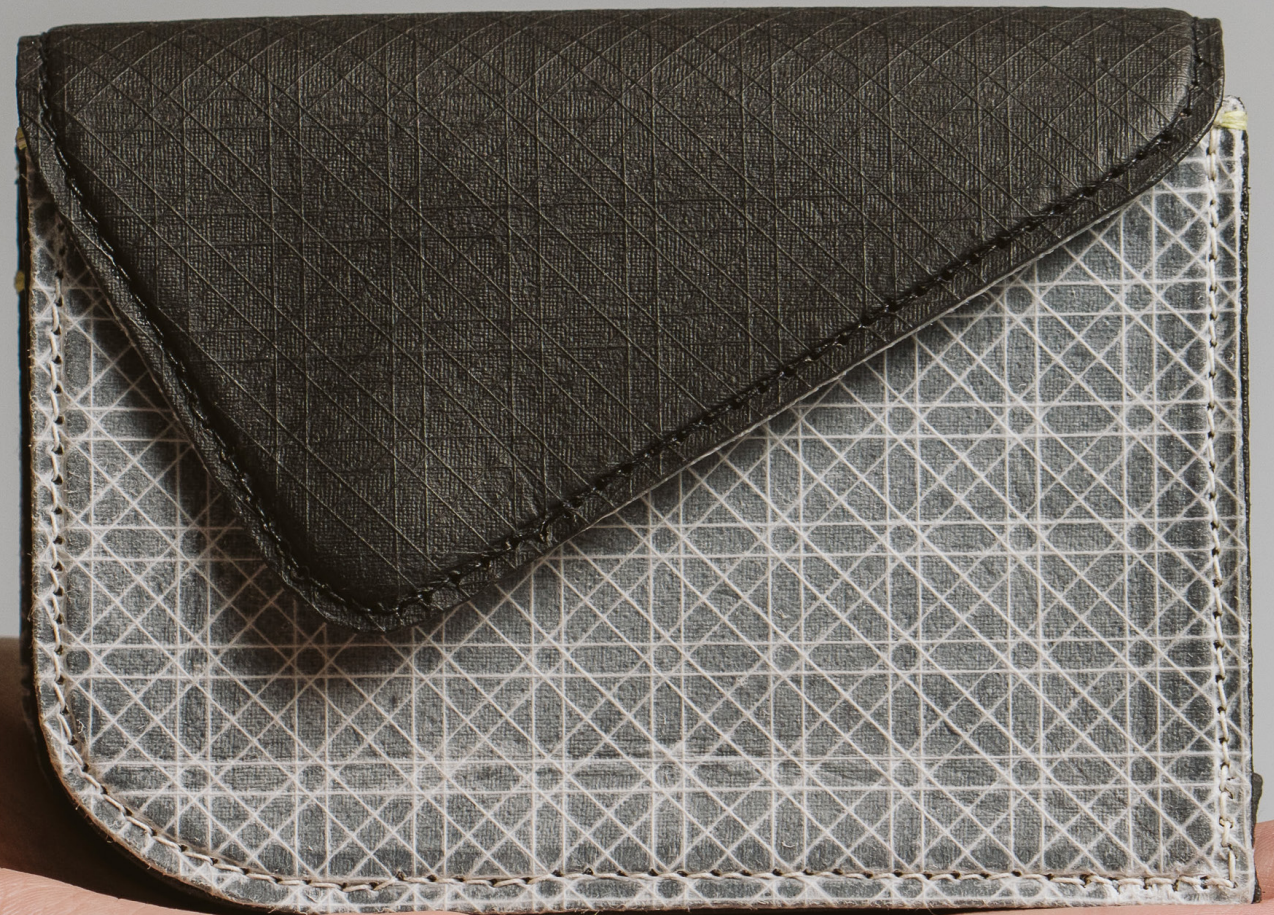
We published four high-impact reports in 2023, all of which are intended to help fill critical innovation and sci-tech knowledge gaps across the next-gen materials ecosystem, create more transparency, and provide a strong foundation for the industry to grow.



MII, thank you for featuring our company Spidey Tek's spider silk fibers technologies in one of your next-gen materials reports. Since its publication, our company has received several inquiries from multinational corporations interested in partnering to bring our eco-friendly sustainable materials and products to markets. Thanks again for this invaluable opportunity.



Roberto Velozzi
CEO, Spidey Tek



State of the Next-Gen Materials Industry Report

Our annual [State of the Industry Report: Next-Gen Materials](#) aims to accelerate the growth of the next-gen materials industry by inspiring more research, investment, company development, and brand adoption of next-gen materials.

We were very encouraged by the state of the next-gen materials industry in 2023. Despite global VC funding falling 42% and deal count falling 30% to reach a six-year low in 2023, funding for next-gen materials companies increased by 10%.

Stakeholders who download our State of the Industry Reports each year provide us with overwhelmingly positive feedback.

- Innovators have shared that these reports save them significant time and money. Without these reports, innovators would have to pay for research and spend time analyzing it, which many cannot afford during their early stages of development.
- Material companies have used information from these reports to develop pitches, share industry projections with investors and brands, and optimize their product R&D process.
- Investors and brands have used these reports to learn about exciting white spaces and identify opportunities to profit from next-gen material partnerships and investments.
- Members from all of our audiences shared that the report offers the only in-depth overview of the entire next-gen materials industry.



Image credit: LENZING™
EcoVero™ is a more sustainable viscose sourced from wood that meets FSC® or PEFC standards.

“There don't seem to be any other sources that describe this market segment in such detail. The overviews are great and allowed us to better understand what the market is looking for and why. The commitment, expertise and diligence of the MII team shows in your conference and in your reports, generating true impact. Many thanks!

General manager
of a biomaterials company

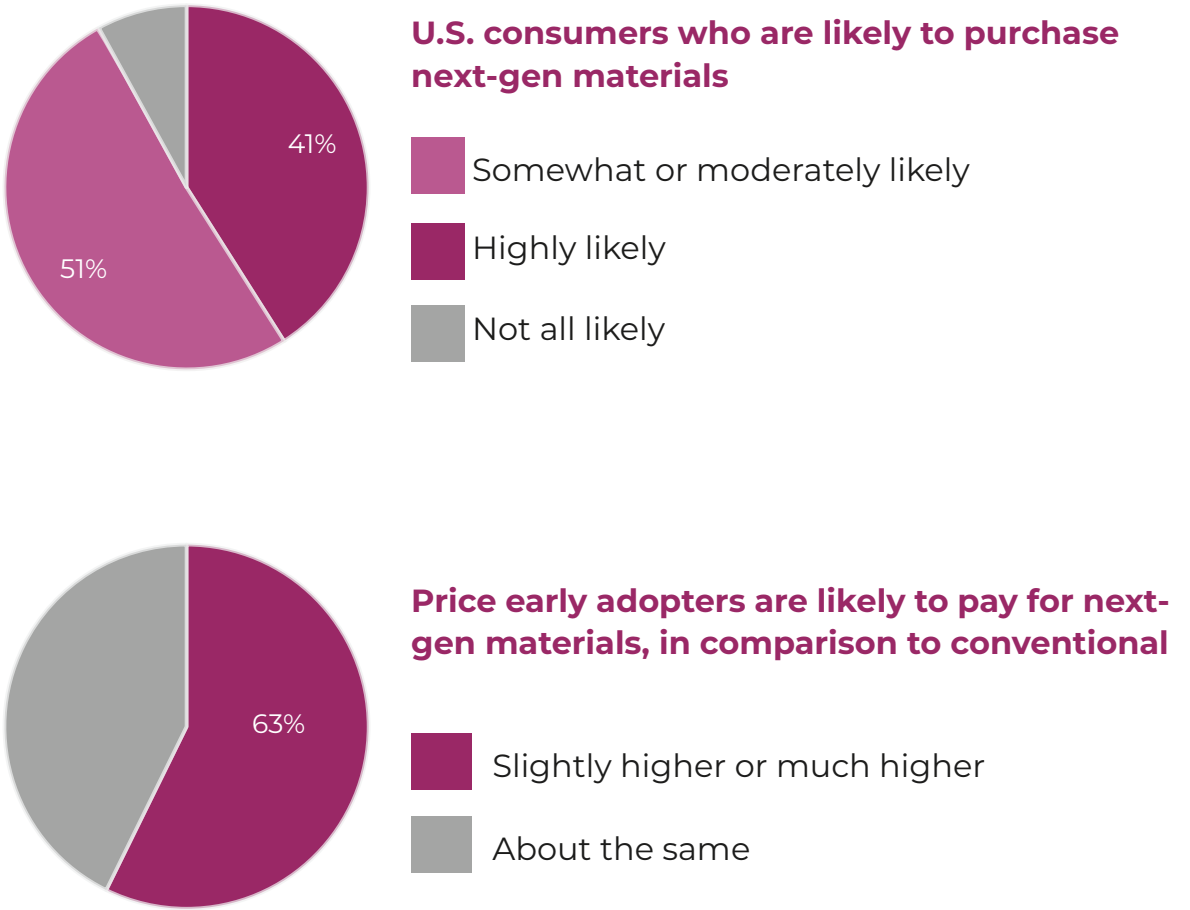
“You guys have once again nailed it with the State of the Industry Report. It's the most helpful report of the year for looking at the next-gen landscape, and I really admire your work.

CEO
of a material science company

U.S. Consumer Research: Next-Gen Materials



Our [U.S. Consumer Research: Next-Gen Materials Report](#), which was spearheaded by the consumer research firm [North Mountain Consulting Group](#), assessed the potential for consumer adoption of next-gen materials across diverse segments of U.S. society. We found that a vast majority of respondents were open to purchasing next-gen materials, including 51% who were somewhat or moderately likely and 41% who were highly likely to purchase. Within this latter group, whom we defined as potential early adopters, 63% were willing to pay more for next-gen materials. The potential market shares for each next-gen material type ranged from 55-62%.



We shared these exciting results with brands, investors, next-gen material companies, and the media.

Brand Engagement Report

Our 2023 [Brand Engagement Report](#) highlights how leading fashion, automotive, and home goods brands are using next-gen materials to meet shifting consumer demand, increase environmental sustainability, and address growing animal welfare concerns. This report is a visually appealing, inspiring lookbook of promising next-gen materials that shows brands what's possible for their product lines, highlights their competitors' successes, and informs their new product development.

We've seen more next-gen companies open factory doors and take production orders in 2023 and have witnessed an explosion of exciting collaborations being formed between innovators and brands around the globe.



Image credit: Mara Hoffman

In 2023, Mara Hoffman unveiled a dress with the capacity to be recycled indefinitely. Aptly called “The Dress that Changes Everything”, the dress is made from waste-derived lyocell from Circ. Circ uses recycling technology to break down existing textiles to create its proprietary recycled lyocell. Over the next three years, Hoffman plans to eliminate all virgin lyocell from her brand and only include Circ’s recycled lyocell.

VOGUE BUSINESS

By Rachel Cernansky October 5, 2023

The race for leather alternatives has been heating up, and many if not most major brands have tested or invested in at least one of them: Hermès working with MycoWorks, Louis Vuitton with Biopolioli, Stella McCartney with Natural Fiber Welding and Ganni with Vegea and Ohoskin, while Gucci has developed its own leather alternative, Demetra, in house.

ethos

By Jill Ettinger November 18, 2023

Celebrities are powerful influencers who have the ability to motivate and inspire people to purchase items just by what they wear,” Nicole Rawling, co-founder and CEO of the Material Innovation Initiative think tank told Ethos. “Whether they offer formal endorsements, or just walk to the grocery store, their clothing, the shoes they wear, and the bags they carry can inspire people to seek out next-gen materials.”



Image credit: Gucci

Gucci and Billie Eilish Next-Gen Collaboration

One of the most exciting industry developments in 2023 came from the luxury brand Gucci, which developed an in-house next-gen leather called Demetra. Gucci partnered with musician-activist Billie Eilish to promote its iconic 1955 Horsebit bag in Demetra. Demetra has received wide acclaim from fashion and industry press, inspiring other brands in the industry to follow suit.

What Makes Silk, Silk Revisited Report

Our [What Makes Silk, Silk, Revisited](#) report includes highlights from our original silk report, published in 2021, plus notable product and scientific updates from the past two years. By exploring silk's unique properties and innovation opportunities, this report is intended to inspire a new generation of scientists, investors, and entrepreneurs to develop high-performance, luxurious, and sustainable next-gen silk materials.

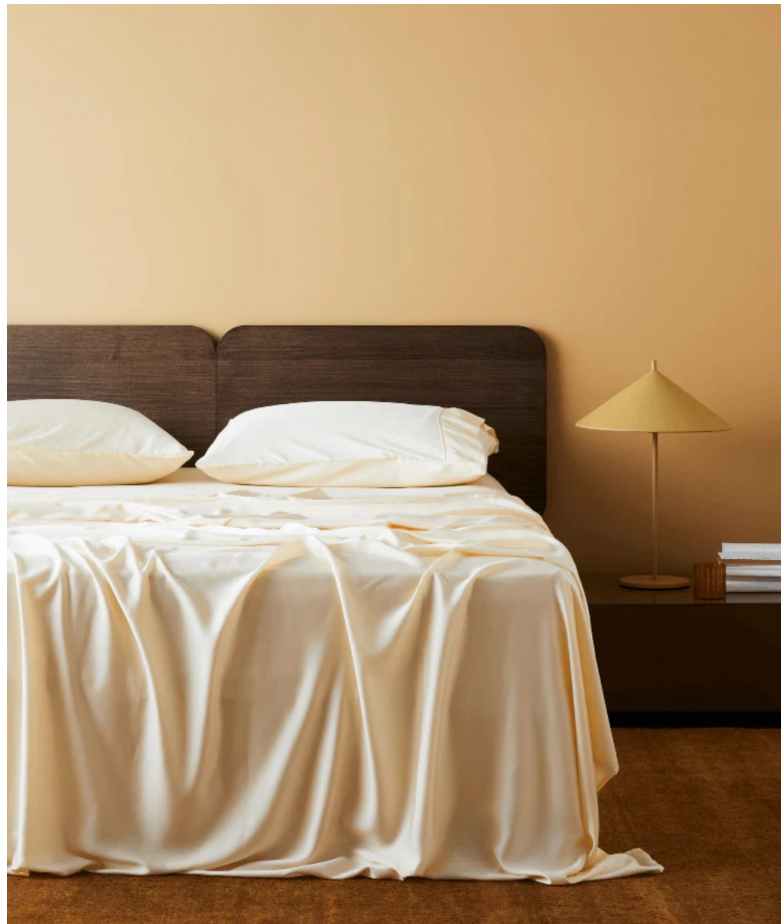


Image credit: ettitude
ettitude's next-gen silk bedding is sourced from bamboo.

Animal-based silk has the highest environmental footprint across nearly all reported categories compared to other materials.

Polyester and other synthetic silk alternatives are the #1 source of marine microplastics, which damage ecosystems and the animals that depend on them for survival.



Image credit: FARM Rio
The fashion brand FARM Rio features Lenzing next-gen silk dresses.

Our report features the research of Dr. Anna Rising, Senior Scientist at the Karolinska Institutet and Professor at the Swedish University of Agricultural Sciences. We advised Dr. Rising on a revolutionary next-gen silk project and are helping her commercialize the next-gen spider silk fibers her lab has developed. Dr. Rising's research is filling major white spaces in the next-gen silk industry, including by developing a very high yield of next-gen silk protein and by spinning a fiber with high mechanical properties.

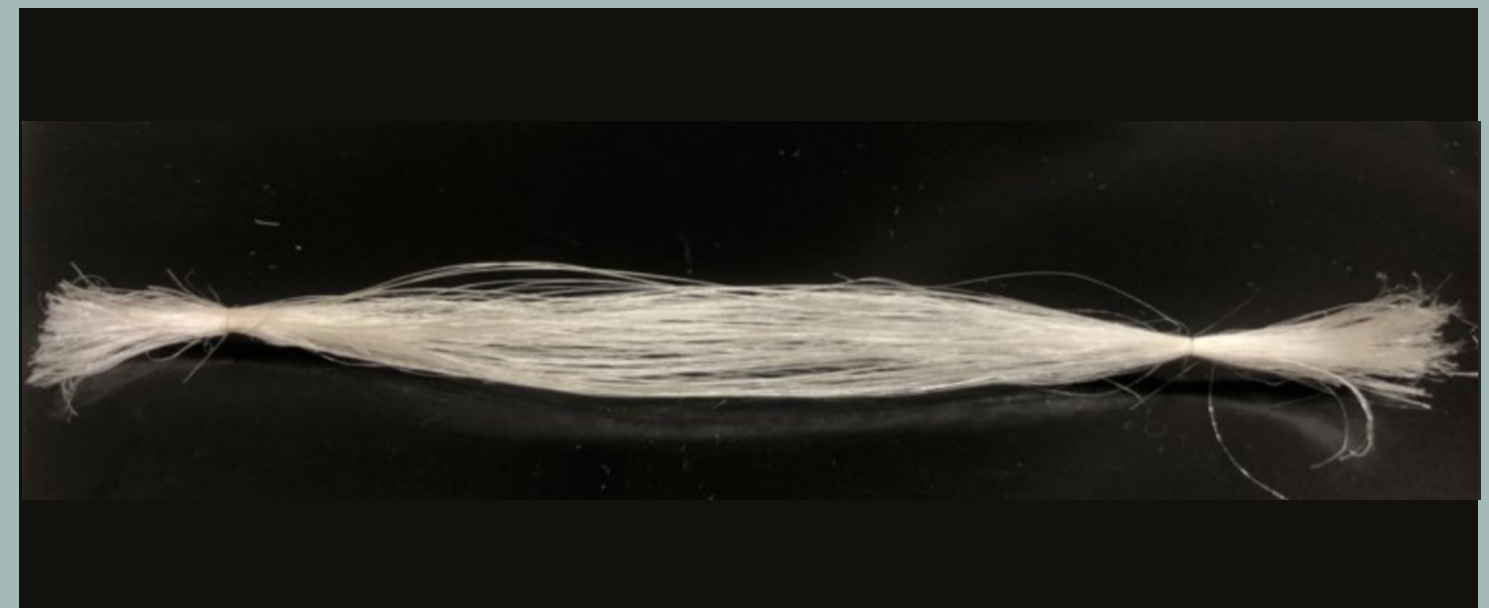


Image credit: Marlene Andersson
Dr. Rising's research lab produced next-gen silk fibers with a toughness equal to silk from spiders. (Source)

NEXT-GEN MATERIAL INNOVATION

In 2023, we provided support to nearly every next-gen material company, including by analyzing the state of the next-gen materials industry, mapping out white spaces in which new companies can form, connecting promising innovators to these opportunities, and sharing their fundraising information with investors.

Our publicly accessible [Innovator Database](#), which includes information about nearly all next-gen material companies, helps next-gen material companies build market exposure and recognition and helps investors and brands access innovator information.



Image Credit: Vitro Labs

Vitro labs has created lab grown, cruelty-free cow leather.

MODERN MEADOW

MII has supported our colleagues at Modern Meadow in developing their next-gen material Bio-Tex™. The fashion brand Tory Burch incorporated this material into its Ella Bio, an evolution of the brand’s iconic Ella tote.



MII Chief Executive Officer Nicole Rawling features her Ella Bio tote at our Los Angeles screening of the documentary SLAY (details on pp. 58-61)



Modern Meadow is immensely grateful to the Material Innovation Initiative for their unwavering efforts to foster a sustainable future. They have provided invaluable opportunities for innovators and brands like us to engage in meaningful conversations about the adoption of new sustainable technologies. Together, we are showing the world that high quality, sustainable, next-gen bio-materials driving a positive impact are possible.



David Williamson
President and COO
Modern Meadow

B
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Image credit: Ganni
Ganni bag made with BioFluff’s SAVIAN fur.



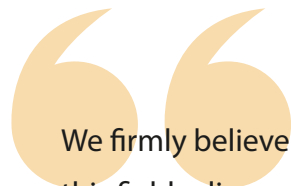
Today, BioFluff is the first 100% plant-based and biodegradable fur to break ground in the high fashion industry, a status that wouldn’t have been possible to achieve without the invaluable help of the Material Innovation Initiative. Their industry reports and relationship-building resources have helped our small team overcome challenges. MII’s information was integral to the development of BioFluff’s intentions and vision. MII was right there beside us as we built our team and laid our stakes in the ground.



Martin Stübler
Co-Founder and CEO
BioFluff



T A N D E M
R E P E A T



We firmly believe that the success of this field relies on the collaboration of industry leaders, start-up accelerators, and brainstorming sessions – and this is why MII’s work is critical.

MII is a hub for innovative technologies, prioritizing research and knowledge-sharing and fostering connections among environmentally preferable and animal-free materials.

Tandem Repeat

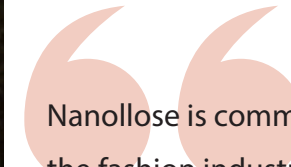


Image credit: Tandem Repeat
This dress is made with Squitex, Tandem Repeat’s animal-free, climate-positive material inspired by squid protein.



Image credit: Nanollose
Nanollose features the world’s first tree-free viscose garment.

nanollose™



Nanollose is committed to helping the fashion industry reduce its impact on deforestation by developing Nullarbor™ tree-free and forest-friendly lyocell fibres from bacterial cellulose. Nanollose is a small company based in Western Australia and so MII provides a valuable opportunity to showcase our materials to a much larger global audience than we could achieve by ourselves. In addition, as an expert independent organisation, MII lends credibility to the companies and materials it promotes. MII is also an excellent source of valuable in-depth information, enabling us to keep abreast of other new technologies, materials, and trends in the industry.



Dr. Wayne Best
Co-Founder and Executive Chairman
Nanollose

BRAND PARTNERSHIPS

MII supports fashion, automotive, and home goods brands by sharing industry and technology overviews, conducting consumer research, and facilitating partnerships with material companies. Our collaborative work with luxury brands is especially influential, as the majority of other brands copy the trends and products that luxury brands create.

Nearly all of MII's work with brands is under NDA. We regularly collaborate with six conglomerates and 16 of the brands they own, whose combined total annual revenue exceeds 170 billion USD.

Nearly every brand MII met with in 2023 (95%) is working on incorporating more sustainable and humane materials into their product lines, both to meet consumer demand and to achieve their environmental, social, and corporate governance (ESG) goals with our help.

Highlights of Brand-Innovator Partnerships in 2023

Ettitude launches a plant-based cashmere throw for US\$169.



FEB

Tory Burch debuts its first plant-based leather alternative tote, the Ella Bio with **Modern Meadow**.

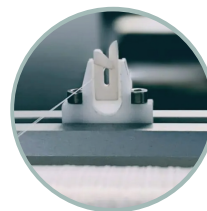


Stella McCartney's iconic Falabella and Frayne bags crafted from **MIRUM®**, Winter 2023 Paris Fashion Week.



MAR

Bestseller and **Reformation** to prototype **Kintra Fiber's** bio-polyester.



Zara launches recycled poly-cotton capsule from **Circ**.



APR

Levi's launches plant-based version of classic 501 jeans with a patch made from **NFW's MIRUM®**



JUL

Reformation bringing greater consumer awareness to **TENCEL™** by **Lenzing**.



AUG



Calvin Klein partnered with **Ananas Anam** and **TENCEL™** to launch "The Sustainable Knit Trainer".

SEP



GANNI partnered with **Modern Synthesis** on their Bou Bag made by bacteria.

OCT



Toyota's Land Cruiser Prado, the world's first vehicle to feature **Brewed Protein™** fibers by **Spiber** in its interior.

NOV



Launch of new **Gucci** Horsebit 1955 crafted in Demetra, next-gen leather developed in-house by Gucci.

DEC



Kering backed Sustainability Market fronted by **Stella McCartney** at COP28 showcasing next-gen companies **BioFluff**, **Keel Labs**, **NFW** and more.



Image credit: LENZING™ TENCEL™

Multinational fashion conglomerate case study

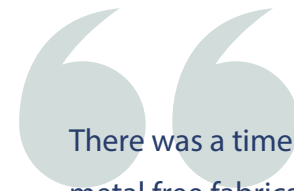
We facilitated partnerships between next-gen material innovators and one of the world's five largest manufacturers and retailers of private-label apparel. One of these partnerships has already culminated in the release of high-end next-gen products in stores across the world.



Image credit: Stella McCartney
This UPPEAL™ bag is sourced from apple waste.

Our next-gen innovator partner shared:

MII has brought together a community of materials innovators that will drive the environmental impact of what we make, use, and wear for generations. I met some of the most consequential people for expanding my company through MII, including an international retailer that is releasing my collection of next-gen products in stores across the world. And that this MII community is led by some of the most forward-thinking and proactive women in the industry is purely inspiring.



There was a time when today's common technologies like breathable membranes, metal free fabrics, and formaldehyde free textiles were ignored and doubted by many. MII is helping to platform the next generation technology and bringing it to the right hands. It's my pleasure in helping MII bring planet and animal friendly form factors into those hands.



Harrie Schoots
AATCC Past President (2023-2024)
Textile Consulting, dba Revive USA, LLC
Brand Partnerships Advisory Council member



Image credit: Toyota Motor Corporation
Toyota's 2023 Land Cruiser Prado is the world's first vehicle to feature Brewed Protein™, a next-gen material produced through microbial fermentation.

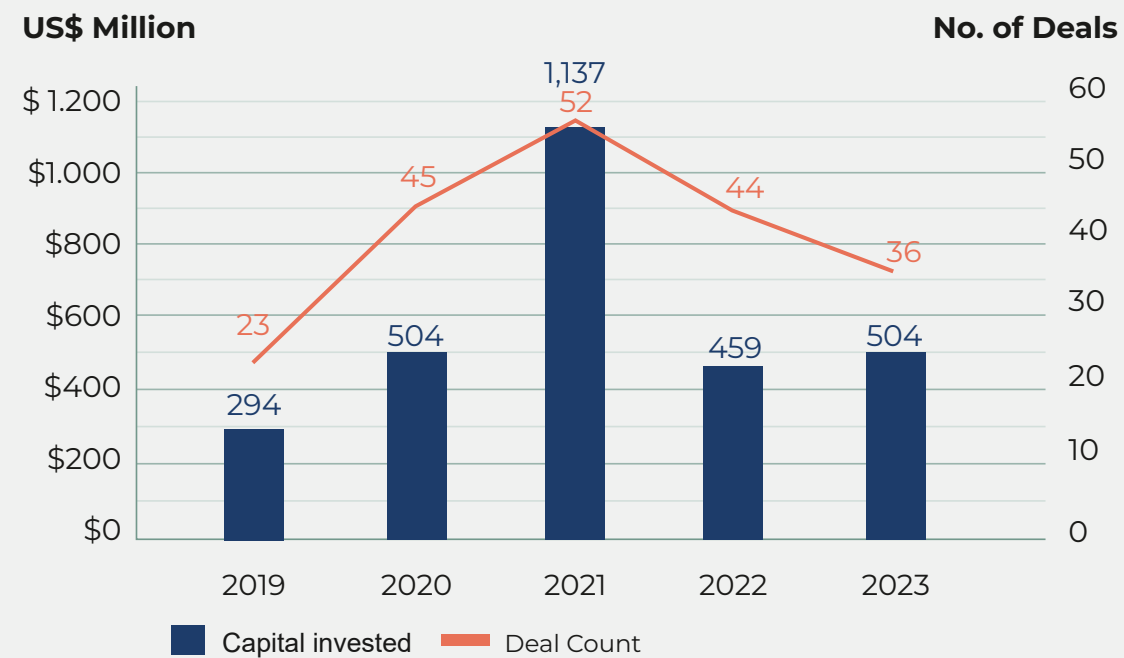
INVESTOR ENGAGEMENT

One of MII's highest priorities is securing investments for next-gen materials.

Each year, MII provides impartial scientific and technological advice to hundreds of investors who are interested in learning more about next-gen material technologies, white spaces, and industry challenges. We also connect investors to next-gen material investment opportunities, offer guidance to help them make informed investment decisions, and send them monthly next-gen deal updates.

Since we founded MII in 2019, more than 2.31 billion USD has been invested in next-gen materials, a term we coined. While we cannot claim sole credit for any investment, we can confidently say that we presented to many investment firms that chose to invest in next-gen materials and we provided them with in-depth sci-tech and innovation resources, industry news and trends, and connections to promising investment opportunities.

Capital invested in next-gen material companies, 2019-2023



Capital invested in next-gen material companies, 2019-2023

Source: MII analysis on investment activities in companies included in MII’s company database, based on data from PitchBook and primary research.



Image credit: Taneira
This next-gen silk sari is made of TENCEL™ LUXE, a fine and extremely strong filament.

“ MII is a great resource for startups and investors in this space. Their viewpoint into this segment is unique and their ability to identify whitespaces and trends is valuable. There is a lot happening with next-gen materials and it's so important to have them as an aggregating entity to support this growing movement.



Karla Mora

Founder & Managing Partner, Alante Capital
 MII Investment Advisory Council member

“ MII has been a fantastic resource for information in the alternative materials market. They are well connected to new companies in the space, know the brands, and understand the market. As an investor, MII’s resources such as white papers, deal flow, and industry reports are a great catalyst for driving change in the industry.



Corinna Chen

Partner, Material Impact
 MII Investment Advisory Council member

MII's Databases for Investors and Next-Gen Material Innovators

Our [Fundraising Database](#) features information about next-gen material companies' current fundraising activities, including their pitch decks and product information. We share that information with accredited investors who have opted into our [Investor Database](#) and allow investors to reach out to companies directly.

In 2023, we featured 32 deals to 79 accredited investors in our fundraising database.

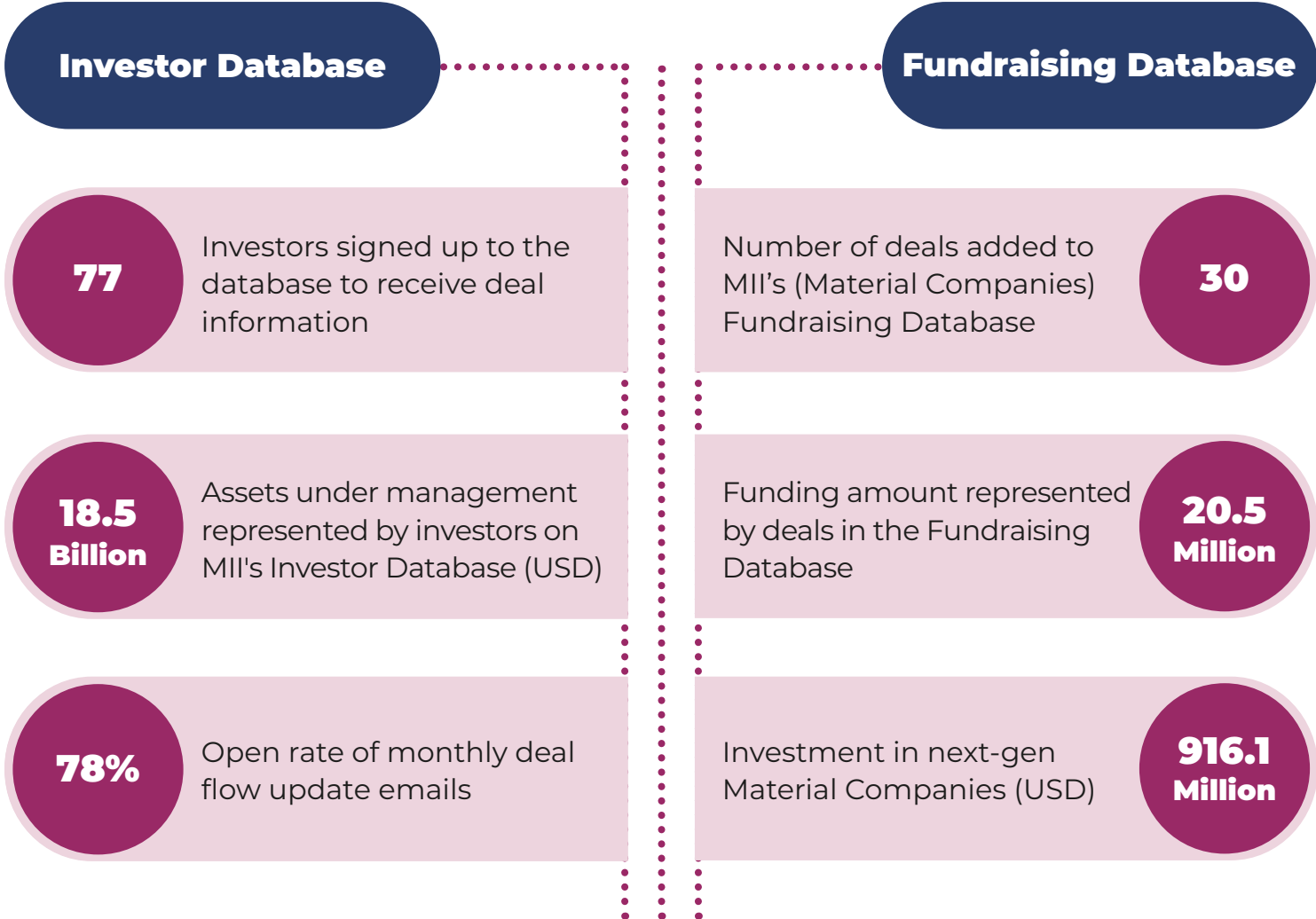


Image credit: Norse Projects
This Thermore® Ecodown® next-gen down coat is composed of 100% recycled fibers sourced from PET bottles.



We closely collaborate with GlassWall Syndicate, a large group of venture capitalists, foundations, trusts, nonprofits, and other investors that is committed to accelerating the mainstream adoption of products and services that benefit the planet.

We founded and now lead its Next-Gen Materials Committee, which helps investors navigate the next-gen materials landscape and connects them with next-gen innovators. In 2023, we joined its Emerging Growth Consortium, which supports investors who are considering Series B or C investments in next-gen material companies.

GlassWall Syndicate investment firm members frequently ask MII questions about start-ups' technologies, manufacturing processes, ability to serve consumer needs, and potential to scale. Our ability to answer investors' questions and to serve as a resource has inspired them to support next-gen companies with a complete understanding of the technology, science, and risks involved in doing so. MII offers this service to any investor who seeks our guidance, both within GlassWall Syndicate and outside of it.

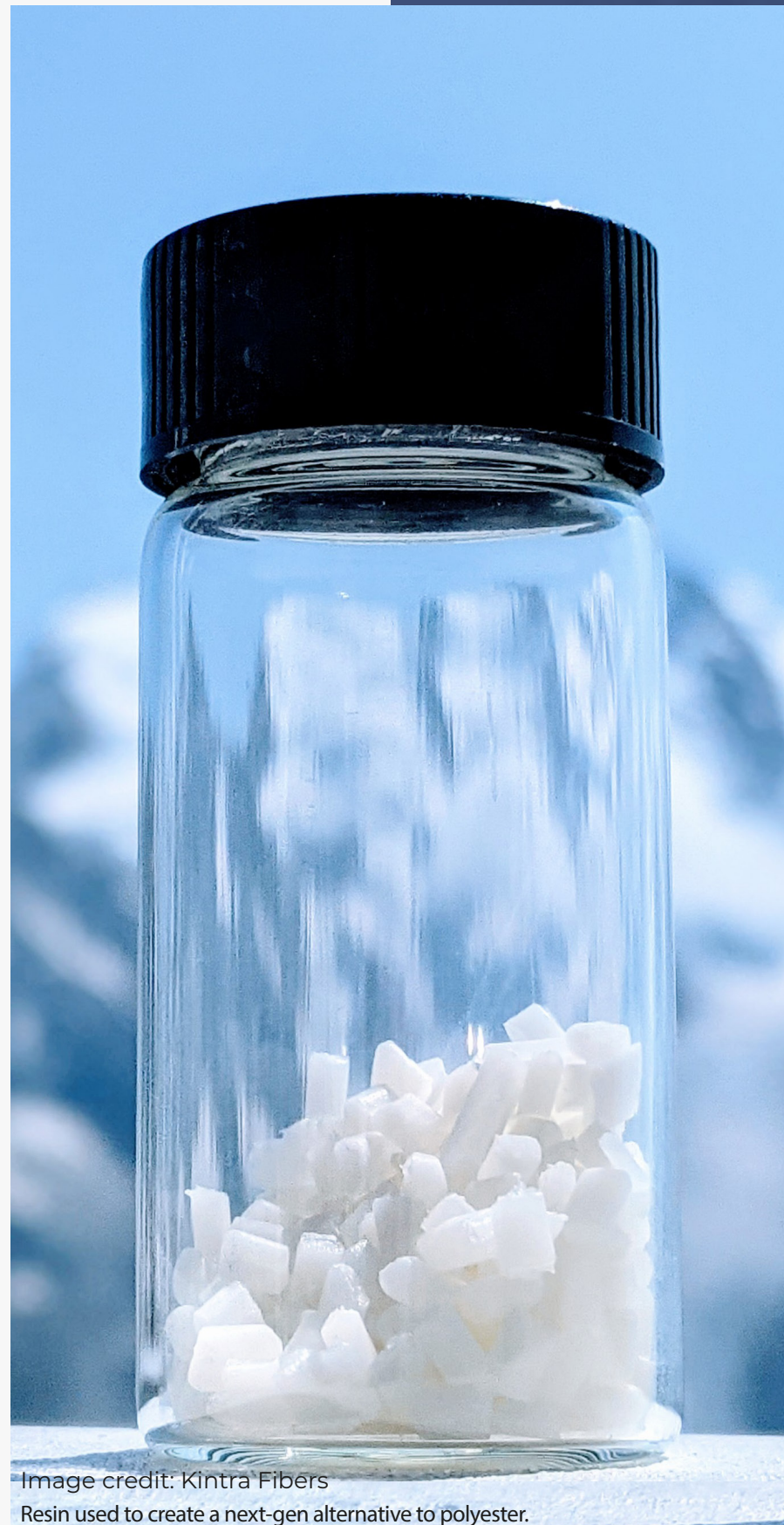


Image credit: Kintra Fibers
Resin used to create a next-gen alternative to polyester.



As the co-founders and leaders of GlassWall Syndicate's Next-Gen Materials Committee, MII has provided invaluable resources and sci-tech guidance to investors in our network and inspired them to invest in the next-gen materials industry. MII offers our members a win-win opportunity to invest in an attractive yet underserved market and advance our shared mission of improving the welfare of people, animals, and the planet.



Macy Marriott

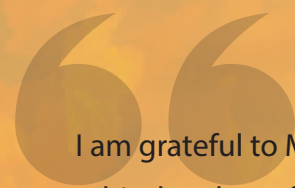
CEO and Executive Director
GlassWall Syndicate



Image credit: Kintra Fibers
This compostable next-gen material is responsible for 95% fewer greenhouse gas emissions than conventional polyester

COMMUNICATIONS

Prior to engaging with MII, many brands, investors, suppliers, scientists, and material companies possess minimal knowledge of next-gen materials. They have difficulty imagining how orange peels can transform into luxurious silk, tofu waste into soft cashmere, and agricultural waste into plush fur. Through our communications, MII catalyzes our target audiences to explore opportunities in next-gen material adoption, informs their material innovation teams, and sets the foundation for future work with us.



I am grateful to MII for helping society imagine and realize a more ethical and eco-friendly future by fostering more sustainable and cruelty-free replacements for animal products.



Mark Langley

Managing Partner at Unovis Asset Management & New Crop Capital
MII Investment Advisory Council member



Media Engagement

MII serves as an expert behind-the-scenes resource on next-gen materials for the media. Because the industry is new, journalists often need our support to report accurately on the industry, next-gen materials' R&D processes, and the environmental sustainability of next-gen products.

We cultivate strong relationships with and are featured in top media outlets, including:

WWD

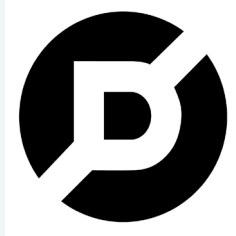
**BRITISH
VOGUE**

SOURCING JOURNAL

FAST COMPANY

BOF

**VOGUE
BUSINESS**



Investors are tightening their belts, how can fashion companies still get funding?



“There are a lot of investors now who are looking for both a financial and social return,” said Nicole Rawling, CEO of Material Innovation Initiative. “The reason we do believe there is a strong opportunity for financial return is [that] fashion, automotive and home goods brands are all really demanding these more sustainable, animal-free materials — and so are consumers.”

**BRITISH
VOGUE**

Could Fashion Have An Animal-Free Future?

As new innovations continue to scale up and improve, some in the industry believe there is an animal-free future on the horizon. “Next-gen materials represent a multi-billion-dollar opportunity – reduce [and] eliminate harm to people, animals, and the planet, and meet the needs of both consumers and brands,” [Dr. Sydney] Gladman concludes. “Without a doubt, we see a future where animal-free materials are the norm.”



Dr. Sydney Gladman, PhD, is MII’s former Chief Scientific Officer and current Science & Technology Advisory Council member.

BOF

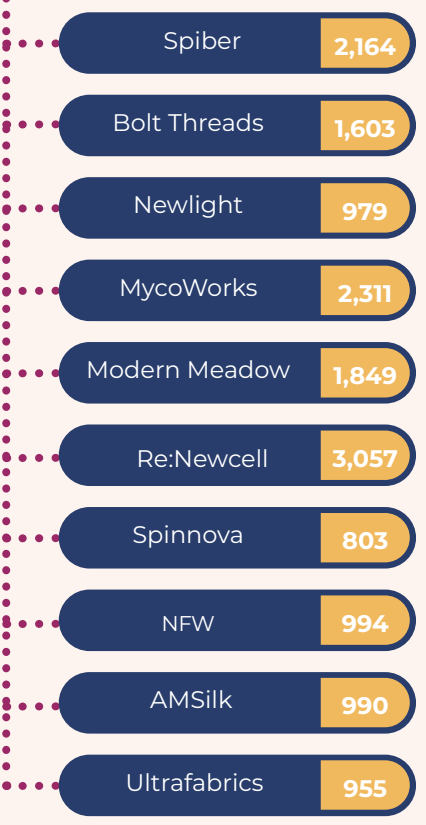
Fashion’s Material Revolution Is Here to Stay



Brands need new materials with lower environmental impact to meet bold and public climate commitments. And 92 percent of US shoppers say they would buy a product made from next-generation materials, with a significant number willing to pay a premium to do so, according to a recent survey by North Mountain Consulting Group for Material Innovation Initiative, a next-gen materials think tank. Simultaneously, consumers’ appetite for fashion and luxury continues to soar, necessitating new sources of materials to fuel growth.

Next-Gen Materials in the Media

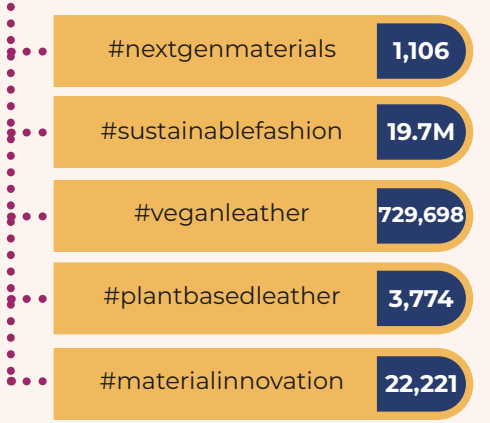
Number of times the top 10 most funded next-gen innovators (2023) were mentioned in verified media publications worldwide: **15k+**



Number of times these keywords appeared in verified media outlets



Number of times these hashtags have been used on Instagram:



Number of articles mentioning "next-gen materials" in verified news outlets: **1,293**

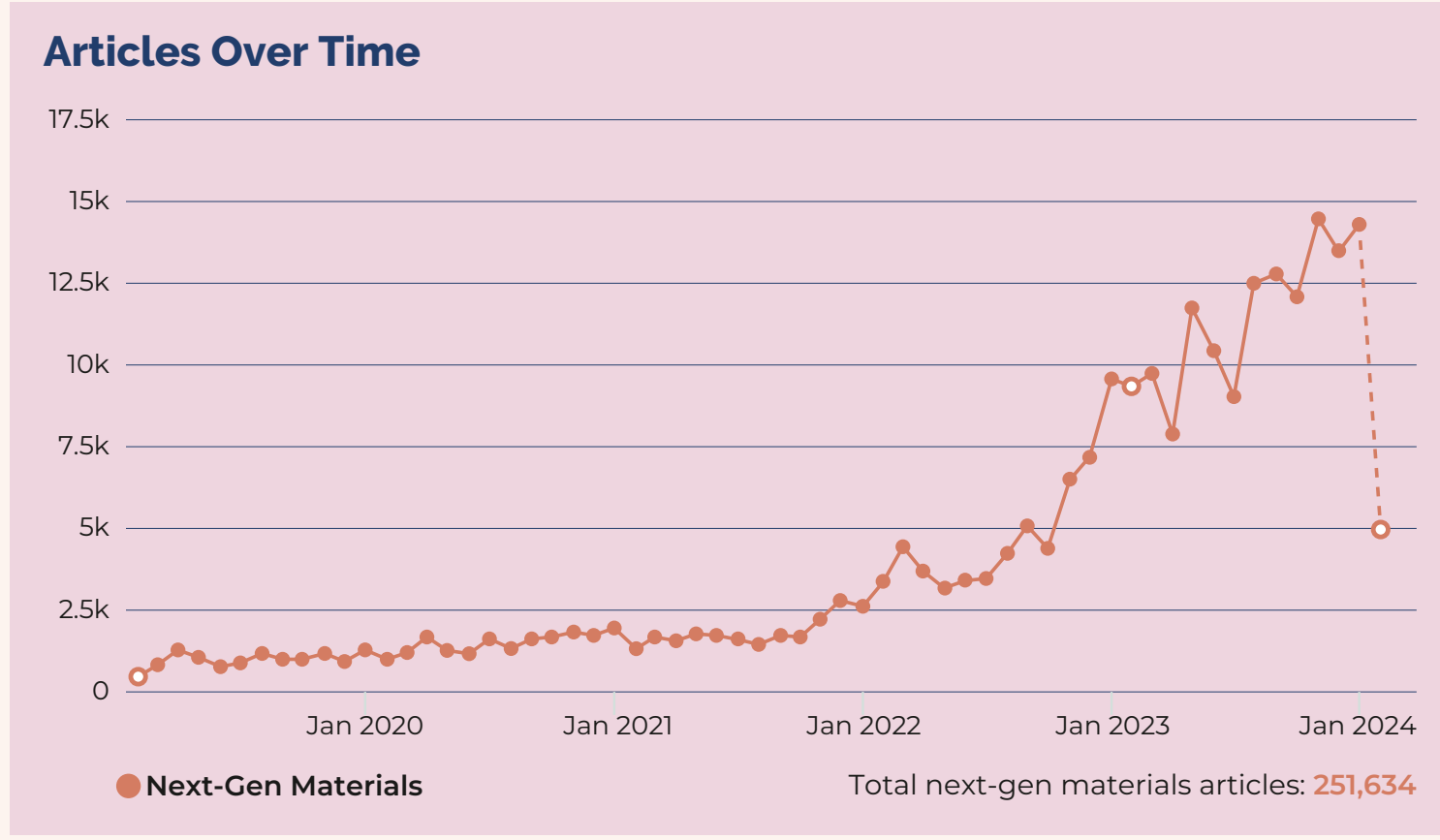
Number of articles mentioning "next-gen materials" in verified major fashion and fashion business publications: **94**

Number of MII Media Mentions: **71**

2023 has seen next-gen materials receive incredible media attention. Vegan leather is still the most written about next-gen material, likely due to the number of companies innovating in this area, as well as the exciting brand collaborations established across the year.

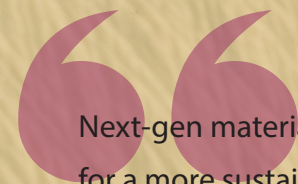
MII was mentioned 71 times, in a mixture of coverage of our many reports as well as requests to comment on important topics in the industry. Combined, these media outlets reached more than 265 million people.

Since MII was founded at the end of 2019, next-gen materials (a term we coined) have been mentioned in more than 251,000 articles. This is due in large part to MII's publications and relationships with the press. In 2023, we have seen a particularly large increase in articles, as we intensified our communication efforts with the media.



EVENTS

MII is often the sole voice representing next-gen materials at the events we participate in across the fashion, investment, food, and sustainability sectors. Our goals at these events are therefore to educate our colleagues about the connection between the modern materials industry and the global challenges they care most about, to explore cross-sector solutions to these challenges, and to establish new partnerships. We are encouraged by the number of new collaborators we have met at events who share our vision of creating a more sustainable, humane, and beautiful world.



Next-gen materials will revolutionize industry standards, and offer hope for a more sustainable world. Anyone passionate about sustainable, ethical supply chains should be excited about the growing influence of next-gen materials and the critical work of MII. MII's focus also aligns with the interests of emerging generations in the workforce; more than ever, people want to work for companies that deliver meaningful impact. As a specialist in organizational behavior, it's rewarding to support and bridge both of these passions: the advancement of sustainable solutions, for a workforce that is purpose-driven.



Jennifer Wynn
Strategic HR Leader
MII Advisor

Image credit: Ryan Duffin for Keel Labs

MATERIAL INNOVATION CONFERENCE

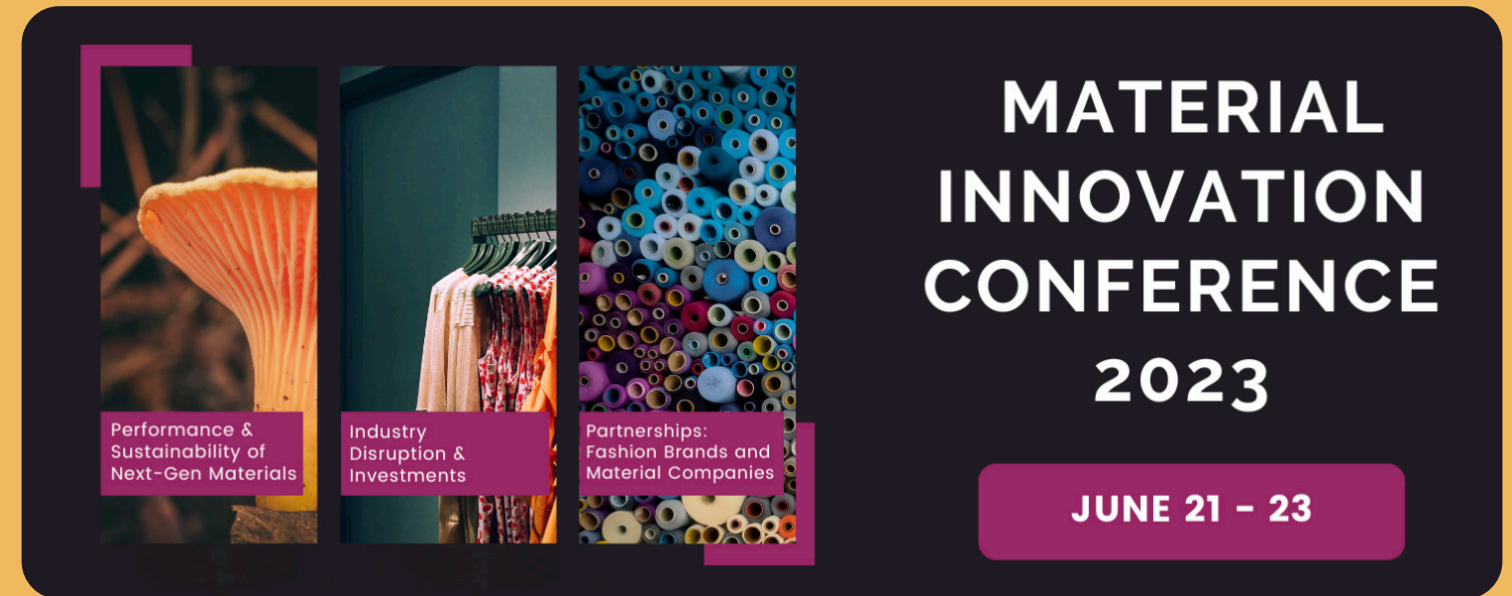
We held our flagship event, [the Material Innovation Conference](#), from June 21st through 23rd. Our virtual conference provided unique perspectives on the journey of innovation, from concept to commercialization, in the next-gen materials industry. Our sessions addressed topics such as scaling next-gen material technologies, bringing next-gen materials to market, and evaluating next-gen materials' end-of-life possibilities. We offered discounts to enable people from around the world to attend, regardless of their means. More than 200 live attendees from almost 30 countries joined us, and more than 700 additional people watched in the first week following the conference. You can watch the full conference for free on [YouTube](#) and can read our [full report](#) to learn more.



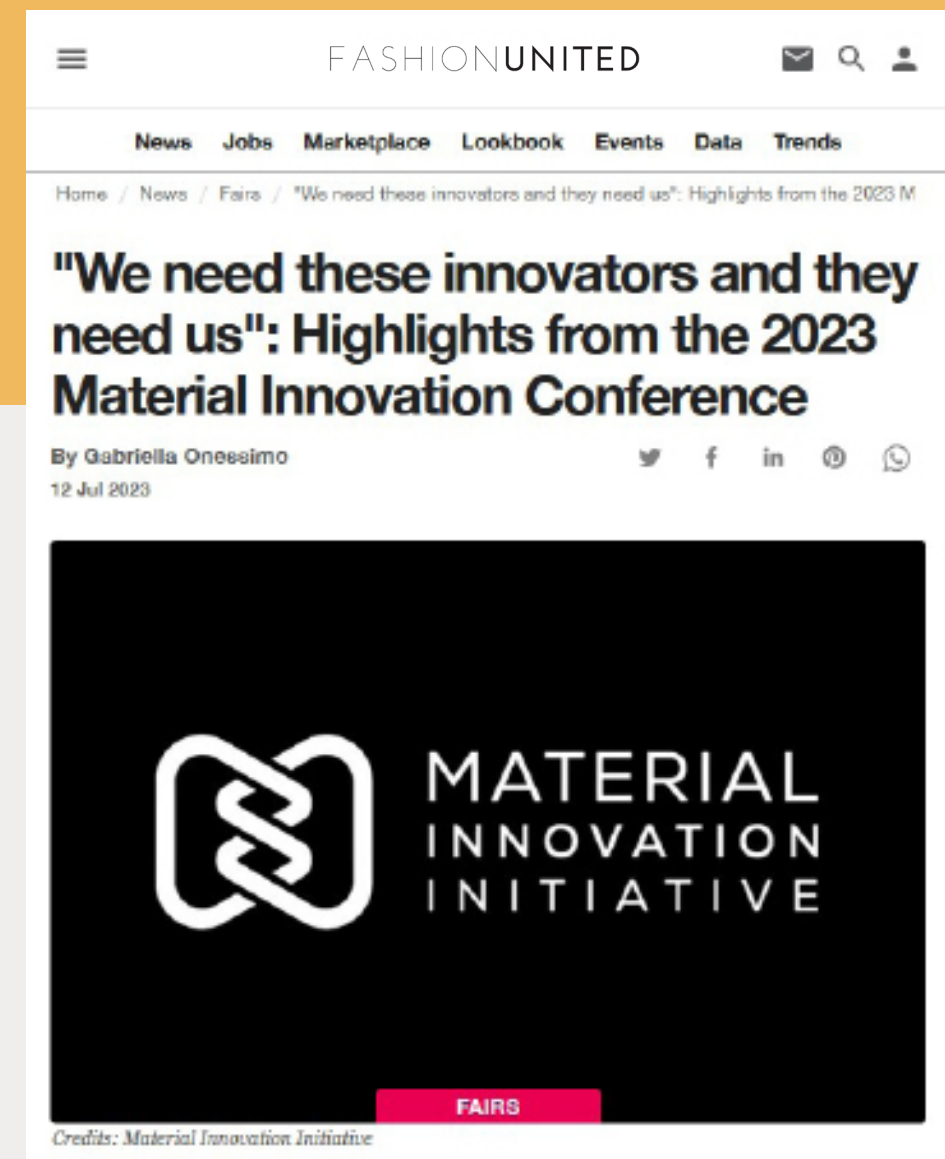
The MII Conference is one of the most important gatherings for those focused on next-gen materials. It brings together progressive innovators for technical discussions and inspires collaboration among those with a passion for change.



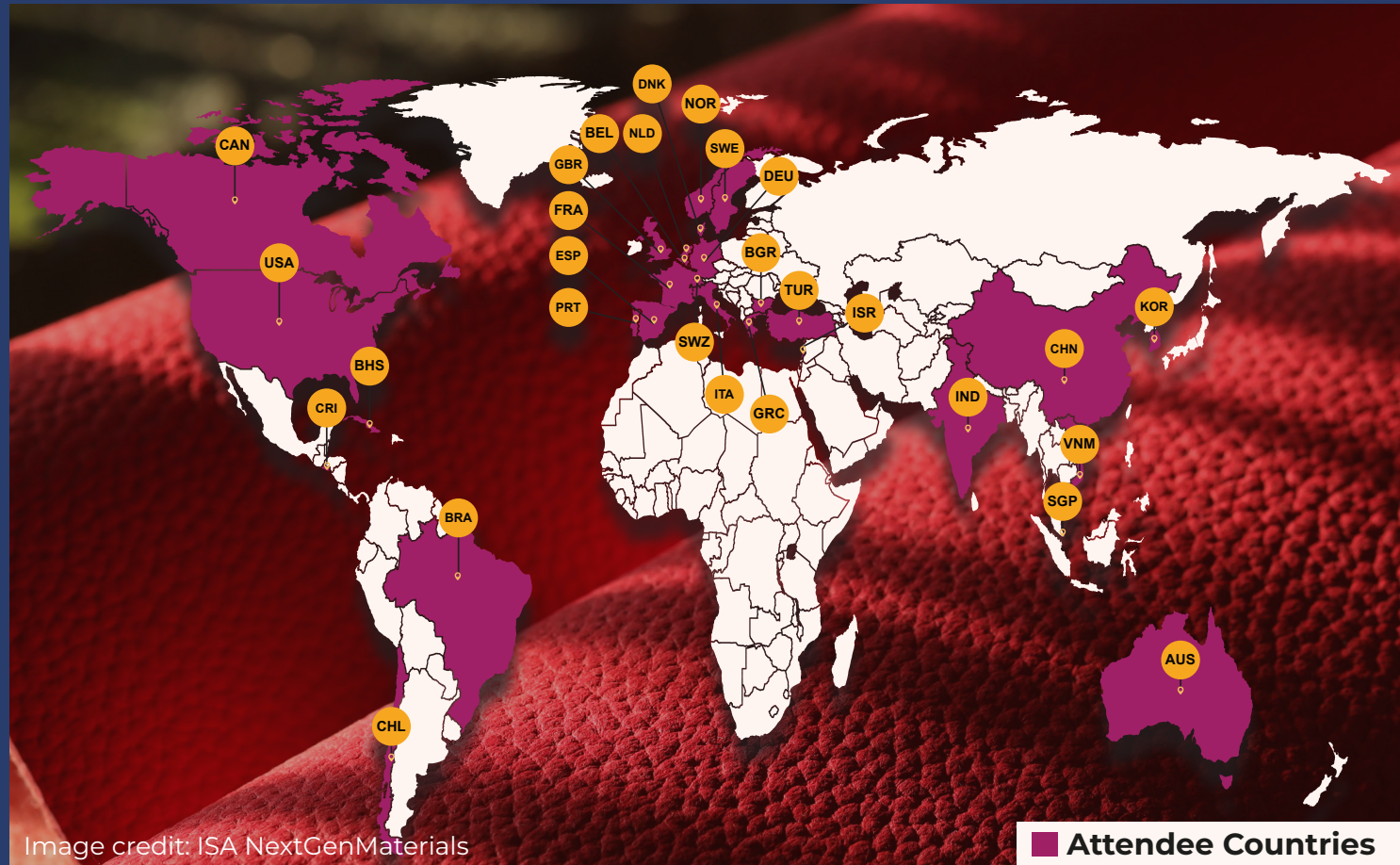
Lewis Shuler
Head of Innovation
Alpine Creations



Thank you to our conference sponsors — ISA Next-Gen Materials, Ecovative, Four Paws, Modern Meadow, Modern Synthesis, Synonym, Gozen, and von Holzhausen.



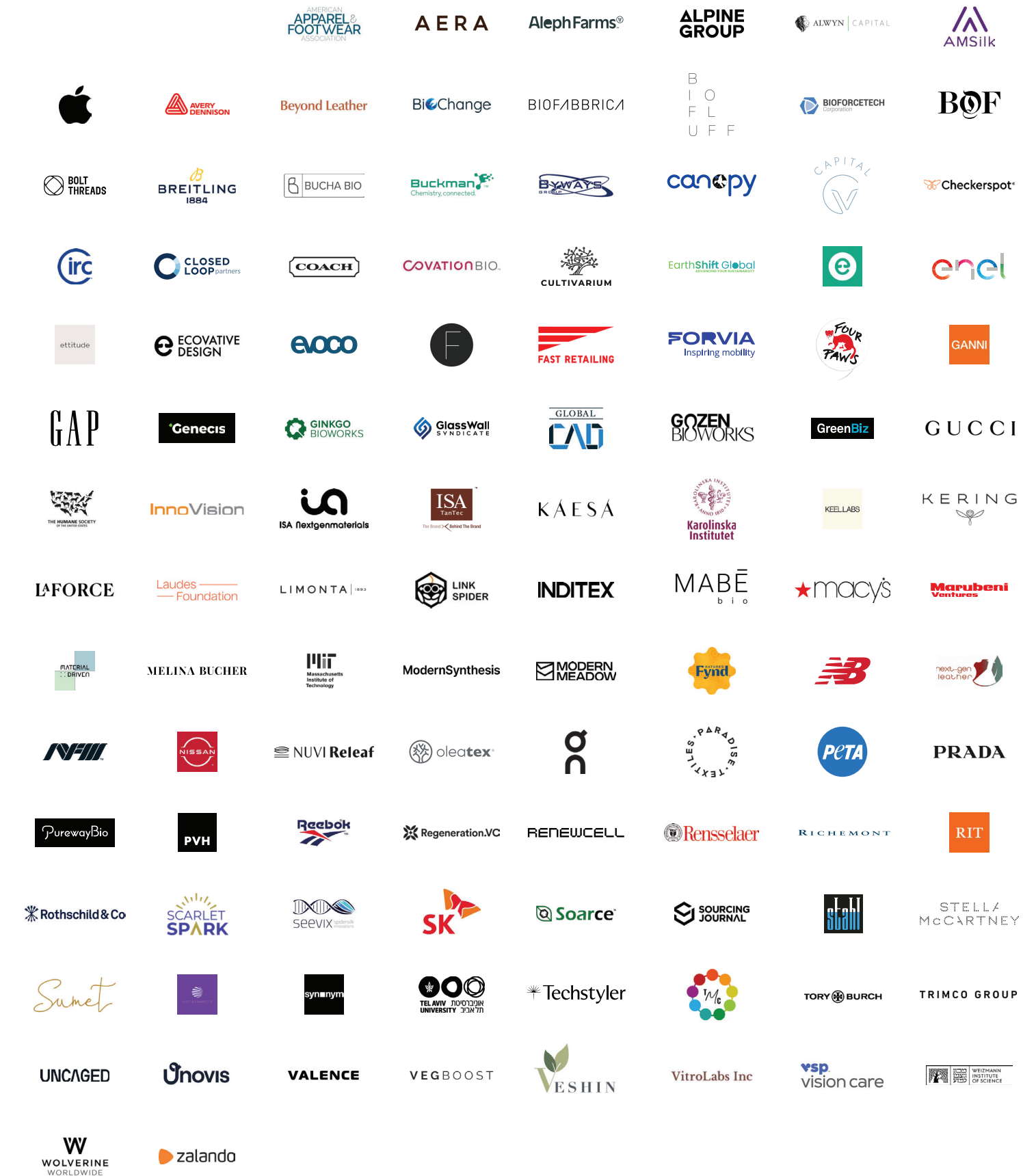
Attendee Overview



Country Breakdown

- Australia
- Bahamas
- Belgium
- Brazil
- Bulgaria
- Canada
- Chile
- China
- Costa Rica
- Denmark
- France
- Greece
- India
- Israel
- Italy
- Netherlands
- Norway
- Portugal
- Singapore
- South Korea
- Spain
- Sweden
- Switzerland
- Turkey
- United Kingdom
- United States
- Vietnam

Select Attendees



Asia Farm Animal Day

October 8-10 in Kuala Lumpur, Malaysia

MII's collaboration with partners in Asia is essential to revolutionizing the modern materials industry. Animal-based materials and their synthetic counterparts are produced in vast quantities across Asia, and the majority of MII's work in silk, fur, down, and cashmere is directed toward China.

China also represents the largest and most promising market for next-gen materials. According to consumer research conducted by North Mountain Consulting Group in partnership with MII, nearly all (99%) Chinese consumers surveyed reported that they are likely to purchase next-gen materials, with 90% reporting that they prefer next-gen materials over animal-based materials.

Our Co-Founder and CEO Nicole Rawling was featured as a speaker or moderator in three conference sessions and was listed as numerous attendees' favorite speaker at the summit. The focus of her sessions included the potential of alternative protein to be used in materials, factors that drive social change in the farm animal movement, and the technologies, sustainable practices, and innovative approaches that are reshaping agricultural systems across Asia.

We exhibited for the first time and were heartened to meet so many committed, caring people working to improve farmed animal welfare in Asia. We look forward to collaborating with our new partners to remove animals from the modern materials industry.



MII CEO Nicole Rawling exhibiting at Asia Farm Animal Day, produced in collaboration with AVA Summit.

SLAY Documentary

We co-hosted two successful screenings of the documentary [SLAY](#) in Los Angeles and New York. SLAY provides an in-depth look into the planetary impacts of the fashion industry and addresses harmful myths about the alleged benefits of animal-derived materials over synthetics and other alternatives. It is a great introduction to the importance of MII's mission and has a powerful, unforgettable, and ultimately hopeful message.

One of the most pervasive myths that SLAY debunks is the belief that leather is a waste product of the meat industry. Leather is not a byproduct or “waste-diverting charity.” It is a key profit driver for the meat industry and it fuels the beef industry’s ability to continue encroaching on the Amazon rainforest and other wild lands. SLAY demonstrates that it would be far better for people and the planet to let cowhides biodegrade naturally and use animal-free alternatives in their place.



Following each screening, Nicole participated in a panel discussion about the promise of next-gen materials to create an ethical fashion future. The musician and activist Moby, who was a panelist at our [Los Angeles screening](#), shared that after watching the film he's "so inspired" by the "very achievable activist goal to replace animal skin with next-gen materials."

SLAY has been shown at fashion schools with inordinately promising results. Before watching the film, 37% of the students who attended the screenings stated that they were committed to not using animals in their curriculum and career. After watching the film, that number increased to 93% of students.

We invite you to [watch the film on WaterBear](#) (where it's free) or [iTunes](#) and invite everyone you know to do the same.



Foxes and raccoon dogs in cages stare at the camera. Hebei, China © SLAY

Foxes and raccoon dogs in cages



SLAY LA panel featuring musician-activist Tanya O'Callaghan, SLAY director and producer Rebecca Capelli, MII CEO Nicole Rawling, and musician-activist Moby.



Young woman in Jajmau, Kanpur, India © SLAY

Woman exposed to toxins from leather production

PARTNERSHIPS IN AMERICA'S FASHION CAPITAL



Biotechnology is posed to drive a revolution in materials production, from an extractive model that results in environmental degradation and resource depletion to a regenerative model in which materials are grown sustainably. MII is at the forefront of this journey, driving positive change in the fashion material landscape, and I'm excited to be a part of it.



Lauren Dermody

Biotechnology Consultant

Science & Technology Council member

MII Joins the New York City Material Procurement Task Force

Thomasine Dolan Dow, our Director of Materials Innovation and Design, was appointed to the New York City Material Procurement Task Force, which advises the city on the purchasing and disposal of environmentally preferable textiles. We are thrilled to help New York incorporate next-gen materials into everything from police and fire department uniforms to MTA seats to furniture and rugs for office spaces.



Thomasine Dolan Dow (far left) and the New York City Material Procurement Task Force.

NY Fashion Innovation Center

A few years ago, MII consulted with New York’s government on developing a materials innovation hub. That project has finally come to fruition! [New York invested \\$9 million to develop a Fashion Innovation Center](#) at Rensselaer Polytechnic Institute (RPI), America’s first technological research university. MII’s partner Dr. Helen Zha, who leads RPI’s [Biohybrid Materials Lab](#), is an associate director of the new Fashion Innovation Center. The Center’s goal is to connect New York’s agriculture and biomaterials industries with New York’s fashion industry. The center will offer resources, testing facilities, mentorship, and funding for organizations and designers who want to develop more sustainable and humane textiles. MII has been enlisted to promote innovation opportunities at the Center and we look forward to supporting its growth!



Through Thomasine Dolan Dow’s leadership and expertise, Material Innovation Initiative brings an essential perspective to the unprecedented work of the Local Law 112 task force. MII’s involvement ensures that innovative materials are considered in the creation of a textiles purchasing guideline for the New York City government that is mindful of our environmental impact and ethical values.

Mayor’s Office

New York City

MII serves as an official scientific advisor to Dr. Zha, whose research focuses on the exploration of natural biomaterials and the synthesis of new biomimetic technologies. MII helped Dr. Zha secure a National Science Foundation grant for her research and has connected her lab with industry experts and material companies that can test its technologies. Dr. Zha is also an invaluable member of MII’s Science & Technology Advisory Council.



Next-Gen Materials Education at Parsons

We presented on next-gen materials' benefits and opportunities to the Luxury Management and Design Innovation (EMiLUX) masters program at Parsons, The New School. Offered jointly by Parsons and ESSEC Business School, both among the top ten in their fields, the EMiLUX executive program is designed for working professionals and entrepreneurs who seek to develop a global perspective and deeper knowledge of international luxury markets. MII board member John Bartlett is leading the U.S. portion of this 13-month international intensive program.



Thomasine Dolan Dow, MII's Director of Material Innovation and Design, introduces next-gen materials to EMiLUX students.



Image credit: Zara
This outfit is made from CIRCULOSE®, a next-gen fiber created by Renewcell and sourced from textile waste.

OPERATIONS

Our Operations team is responsible for our culture, finances, IT, strategic, and day-to-day operations. They provide the back-end support to make sure MII operates smoothly and can complete our work efficiently. Everything the Operations team does underlies and boosts our efforts – we couldn't keep going without them. Learn more about our operations by visiting our website:

[Our Culture page](#) features our values in action, including transparency, respect, learning, innovation, integrity, inclusion, accountability, and a better world for all.

[Our Accountability page](#) features our 990s, audits, workplace policies and resources, and our commitment to social and environmental responsibility.

MII's Employee Handbook

In 2023, we finalized our 62-page employee handbook, which memorializes MII's policies, procedures, and values in one place. The handbook reflects MII's culture, fosters an inclusive workplace culture, and helps to ensure that we work as a cohesive team.

MII's Employee Onboarding Process

In 2023, we created a well-defined, inclusive onboarding process, complete with an MII buddy, extensive training in our systems and software, and frequent check-ins with Human Resources. Starting four weeks before a new employee's start date and ending after their sixth month, the process is designed to immerse new employees into MII's values, processes, and culture.

Scarlet Spark

The outstanding team at [Scarlet Spark](#), an organizational consulting firm, volunteered their time and expertise to provide professional development for MII's team. Our staff attended four trainings throughout the year:

- Strategic Thinking
- Foundations of Leadership
- Prioritization and Time Effectiveness
- Giving and Receiving Feedback

Scarlet Spark also provided one-on-one sessions with MII team members, including our CEO, Nicole, helping staff build better people and organizational skills and helping the organization become more efficient.



Image credit: Meyers Manx

This Meyers Manx dune buggy features an Ecovative mycelium-based interior.

As an Operations Advisor and former Project Manager at MII, I've witnessed firsthand the organization's incredible impact on driving meaningful change and paving the way for a better tomorrow. Being part of MII's mission is more than just supporting innovation; it's about shaping a future where animal welfare, sustainability, and progress coexist harmoniously.



Camilla Souza

Former MII Staff Member and Operations Advisor



Mycelium, an extremely versatile root-like structure of many fungal species, has emerged as an exciting next-gen material. Mycelium-based materials are much less harmful to the planet than their animal-based and synthetic counterparts and are prized for their softness, tensile strength, durability, light weight, water-resistance, and aesthetic appeal.

ADVISORS



Image credit: ettitude

This next-gen cashmere throw is sourced from bamboo.

MII's Brand, Investment, and Science & Technology Councils provide advice to MII in their areas of professional expertise, introduce MII to other partners that can advance the next-gen materials industry, and participate in MII projects and outreach campaigns. These councils comprise distinguished founders, CEOs, consultants, experts, researchers, and partners at major investment and venture capital firms, fashion brands, scientific and academic institutions, and [more](#).

Environmental constraints require us to pivot our industries towards sustainable materials and infrastructures. MII's research shows that the public is ready to adopt these next-gen materials, and we need bold and decisive buy-in from investors and brands to help them be adopted at scale. I'm proud to serve on MII's advisory board to help foster partnerships for this new frontier.



Kat Hoelck

Fashion Sustainability Faculty, Parsons School of Design

Science & Technology Advisory Council

- **Jayaranjan Anthonypillai**, Founder and CEO, Berkeley BioLabs
- **Sandra Bohne**, Co-Founder and Lead, FIBRAL Material Alliance
- **Lauren Demody**, Synthetic Biology Specialist
- **David Kaplan**, Professor and Chair, Department of Biomedical Engineering, Tufts University
- **Noëmi Kaufmann**, Business Development Lead, Sortex and Sustainability SEA, Bühler Group
- **David Kolesky**, Principal, Flagship Pioneering
- **Amy Landis**, Professor of Civil & Environmental Engineering, Colorado School of Mines
- **Erin Rees Clayton**, Scientific Research Advisor, Good Food Institute
- **Claudia Richardson**, Director of Materials Innovation, Allbirds
- **Lewis Shuler**, Head of Innovation, Alpine Group
- **Laurent Vandepaer**, ESG Explorer and LCA expert, On
- **Helen Zha**, Assistant Professor, Chemical & Biological Engineering, Rensselaer Polytechnic Institute
- **Ranjani Theregowda**, Environmental Data Scientist

Investment Advisory Council

- **Elise Bernal**, Impact Finance Advisor & Investor
- **Corinna Chen**, Partner, Material Impact
- **Heather Courtney**, Founder and CEO, Alwyn Capital
- **Taylor Davis**, Specialized Investment Research, Slate Path Capital
- **Mark Langley**, Managing Partner, Unovis Asset Management, B.V.
- **Macy Marriott**, Director, GlassWall Syndicate
- **Karla Mora**, Founder and Managing Partner, Alante Capital

- **Amy Trakinski**, Managing Director, VegInvest
- **Michiel van Deursen**, Vegan Investor, Capital V

Brand Partnerships Advisory Council

- **Liz Alessi**, Senior Consultant to the Executive Creative Director, Coach
- **Tina Bhojwani**, Co-Founder and CEO, AERA New York
- **Lauren Bright**, Project Strategy & Pilot Lead, Biomimicry Institute
- **Donnie Brooks**, Chief Executive, metric design LAB
- **Christine Goulay**, Founder, Sustainable Advisory Services
- **Kat Hoelck**, Creative Director and Brand Strategist; Fashion Sustainability Faculty, Parsons School of Design
- **Chase Kahmann**, Co-Founder and CEO, ESG Brands
- **Karine Kiicak**, Associate Director, Anthesis Group
- **Jessica Kruger**, Founder, Luxtra
- **Tara Luckman**, Co-Founder & Director, Flourish CSR
- **Alexandra Plante**, Founder and Principal, Playbook For Innovation
- **John Pletzke**, Former SVP Product Development & Global Sourcing, Kate Spade
- **Alison Rabschnuk**, Business Development Director of Plant Protein, Kerry
- **Natalie Rawling**, VP-Strategy Worldwide Entertainment Relations, Gucci
- **Harrie Schoots**, Textile Consulting, dba Revive USA, LLC
- **Tara St James**, Senior Director of Sustainability, Moose Knuckles Canada
- **Pasha Whitmire**, Material Development Leader, Gore
- **Barry McGeough**, Group Vice President of Innovation, AmeriCo
- **Joshua Katcher**, Founder, Brave Gentleman

MII LEADERSHIP

Board Chair and Director



JACQUELINE KRAVETTE
Senior Account Executive, OpenTable

Treasurer, Secretary, and Director



LINNE CAUDELL
Senior Director of Finance, Integer Holdings Corporation

Directors



JOHN BARTLETT
Director of Fashion for Executive Education at Parsons/New School



ELIZABETH NOVOGRATZ
Founder and President, Species Unite



AMY ROSENFELD
Senior Vice President, NBC Sports



NAOMI SACHS
Interim Chief Operating Officer, Oobli (formerly Joywell Foods)



KIRSTY STEVENSON
Director, Global Human Rights & Sustainable Operations, HP

MII Recognition

Both philanthropists and independent evaluators have recognized MII as a high-impact nonprofit:



As the Board Chair of the Material Innovation Initiative, I am deeply invested in the transformative potential of next-gen materials. Innovations in these areas promise to reduce our environmental impact, reliance on finite resources, and unnecessary animal harm. MII fosters collaborations and strategic initiatives to have a profound impact in accelerating the creation and adoption of eco-friendly alternatives. I fervently believe in responsible technology, innovation, and compassionate and conscious business choices. This organization supports these tenets but, more importantly, assists in bringing them from the conceptual to the marketplace, which is crucial for making any lasting change. As MII helps more industries invest in next-gen materials, we can move closer to a sustainable planet for future generations.



JACQUELINE KRAVETTE
Senior Account Executive
OpenTable

SUPPORT THE NEXT-GEN MATERIALS MOVEMENT

The planetary impacts of transitioning to a next-gen materials economy are profound, yet to date, few resources have been directed toward this critical task. Every scientist, investor, innovator, brand, and philanthropist dedicated to advancing next-gen materials therefore has a much greater impact than they would in a well-established cause area that is already widely supported.



Amazon rainforest

Donors enable MII and our partners to develop materials for our wardrobes, automobiles, workplaces, and homes that allow the planet, its inhabitants, and future generations to flourish.



Mink

Scaling next-gen materials is so crucial to alleviating the pressure on our planet - it's an area I care deeply about. MII works hard, smart, and with great agility to drive change in industries by understanding the key levers that will most effectively drive change, and that's why I support the team wholeheartedly.



Jessica Kruger

Founder of Luxtra
Brand Partnerships Advisory Council member

JOIN US!

Join our efforts to create a restorative, humane next-gen materials economy by visiting our [support page](#).

Sign up to our newsletter to keep up to date with progress and announcements

Sign Up Now

Help drive material change year round by joining our family of donors and advocates.



Image credit: Siegfried Poepperl



Image credit: H&M

This outfit is composed of Orange Fiber's next-gen silk material, sourced from discarded orange pulp.



I'm proud to support MII's unique mission and vision for a better world.

There are many products that drive the destructive animal-based food/product industry. Non-food products such as leather, feathers, etc. are often neglected by change advocates, but they are an important part of the overall industry profits. This is why I have been an avid supporter of MII since its inception, both as a funder and an advisor.

As a small organization with an ambitious mission, MII's emphasis on partnering with collaborators across industries enables it to tackle global crises, including human rights abuses, biodiversity loss, factory farming, and climate change.



David Meyer

Co-Founder & CEO of Humane America Animal Foundation

ABOUT THE MATERIAL INNOVATION INITIATIVE

The Material Innovation Initiative is a nonprofit think tank that accelerates the development of high-performance, animal-free, and environmentally preferred materials with a focus on replacing silk, wool, down, fur, and leather and their synthetic alternatives. We advance the next-gen materials revolution by connecting science and big ideas. We focus on research, knowledge-sharing, and fostering connections to fast-track the development of environmentally preferable and animal-free materials.

We work to cultivate a global market for next-gen materials across the fashion, automotive, and home goods industries. We work for materials that can do more while requiring less of the planet, animals, and people involved at every stage.

We imagine a circular future where the default choice for your sweater, sneaker, or seat is humane and sustainable. A future where animals are allowed to live free and thrive, the planet is saved from pollution and degradation, and workers are treated fairly and with respect.

Please consider a tax-deductible gift, or join us as a monthly-sustainer, and thank you.

[Support Our Work](#)

Material Innovation Initiative is a 501(c)(3) nonprofit, EIN is 84-3847333. Donations, not for goods or services, are tax-deductible.



Contact Us

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www.materialinnovation.org

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INITIATIVE