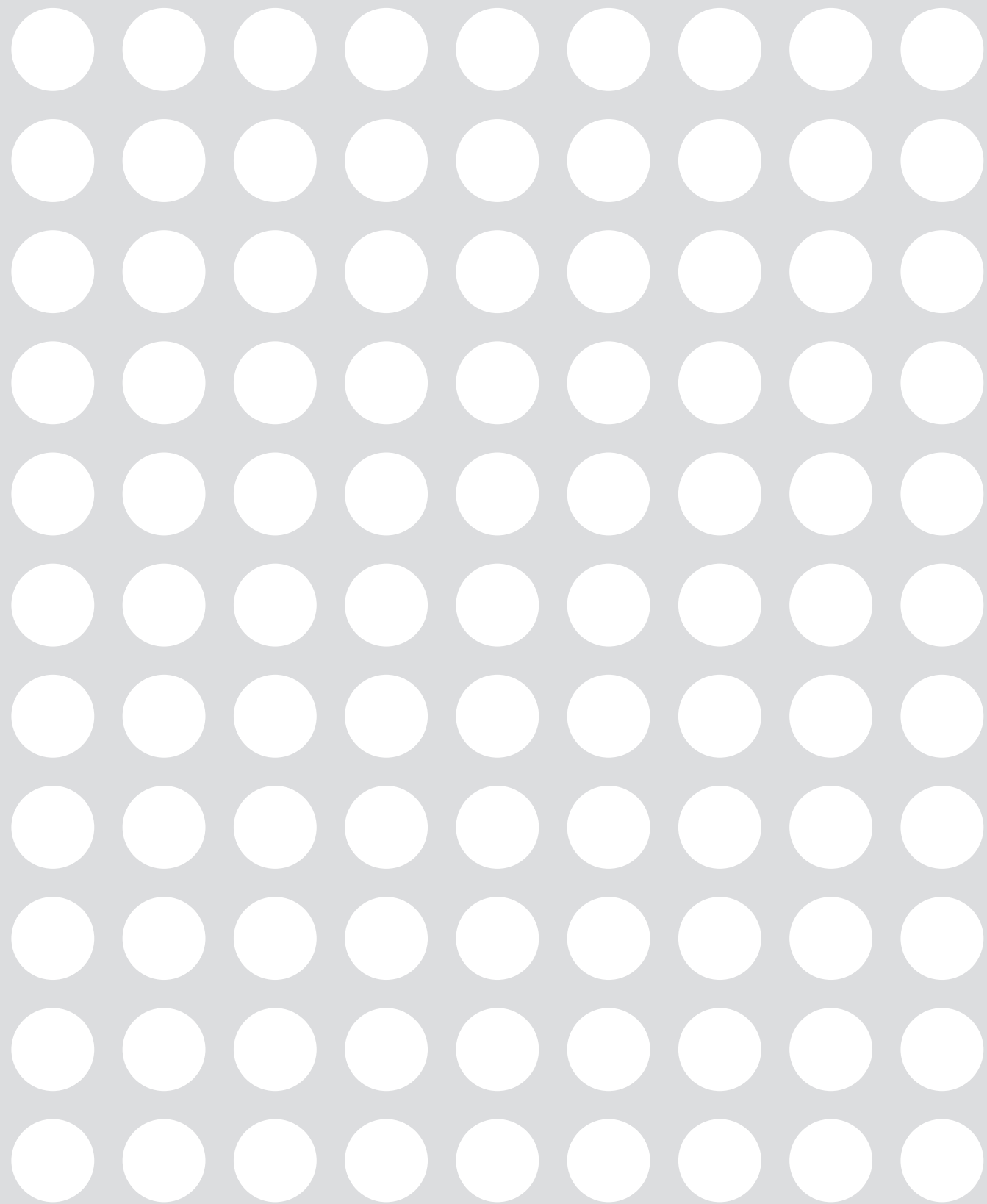




# Global Change Award

AN INNOVATION CHALLENGE  
BY H&M FOUNDATION

the fashion industry. It was initiated in 2015 by the H&M Foundation to accelerate the shift from linear to a circular economy. We are looking for more innovative solutions and opportunities to have a real impact on a large scale. From thousands of applications from 25 countries, we selected 58 teams to share a grant of €1 million and a mentorship program. The H&M Foundation, Accenture and THL Royal Academy of Sciences are bringing their expertise to the program to see the innovation possibilities and maximize their impact on the industry. Previous winners have shown impressive results. Neither the H&M Foundation nor the H&M Foundation has any rights in the innovations.



Global Change Award is one of the world's leading challenges for early stage innovation, and the largest initiative of its kind in the fashion industry. It was initiated in 2015 by the non-profit H&M Foundation to accelerate the shift from a linear to a circular fashion industry. Ultimately, our aim is to speed up the progress toward the UN Sustainable Development Goals for 2030, protecting the planet and our living conditions.

We are looking for tomorrow's game-changers – ideas that can make a large-scale impact.

Each year, an Expert Panel selects five winners from thousands of applications from around the world. This year, we received 5,893 entries from 175 countries. The winning teams share a grant of €1 million and get access to a one-year Innovation Accelerator Program provided by the H&M Foundation, Accenture, and KTH Royal Institute of Technology.

The program supports the winners to scale their innovations and bring them to the market as quickly as possible in order to maximize their impact on the industry. Previous winners have shown impressive results, far beyond anybody's expectations. Neither the H&M Foundation, nor the H&M group, take any equity or intellectual property rights in the innovations.



# Karl-Johan Persson

## Five Years of Innovative Impact

**This year marks the five-year anniversary of Global Change Award. What are your reflections on these years?**

“With over 20,000 entries from more than 200 countries and territories, it’s obvious that there are so many amazing innovations and entrepreneurs in every part of the world. Before we launched Global Change Award, we saw a need to gather these innovators and connect them with the fashion industry. I’m happy that our innovation challenge has contributed to building this platform, and that the H&M Foundation has been able to be a catalyst in that work.

We know that many start-ups and innovators never get their ideas to the market because they lack funding and support. On the other hand, the fashion industry urgently needs new ideas, and to be challenged in how things are done to become fully circular. We wanted to support innovators with early stage ideas – financially, but also with know-how and coaching. I’m proud to see that five years later, our winners have kept up their momentum and are progressing. Some have already reached the market with successful collaborations.”

**How has the challenge developed since it was initiated five years ago?**

“The interest from the industry in the innovations has grown each year as well as the general understanding of circularity. This has made it possible for us to connect the entrepreneurs to a broader network. Accenture and the KTH Royal Institute of Technology are still the main partners who have been involved from the start, and together we have found additional experts and players within fashion, innovation, business and sustainability who have created even more value for the innovators. We also realized the value of continuing our relationship after the Accelerator year, for us as well as for our winners, so we created an alumni network that is really thriving. Through the alumni, the winners share experiences and tips, and some are even



collaborating with each other.”

**Are there any memorable moments or achievements that you are especially proud of or impressed by?**

“To see a Global Change Award innovation scale and be adopted into the industry is very rewarding. Our past winners have collaborated with several brands in the industry, from creating collections in store to supporting new business models. The H&M Group has also had the pleasure of collaborating with some winners. For example, Orange

Fiber and Vegea have both been part of the H&M Conscious Collection of 2019 and 2020, respectively, and Weekday is collaborating with Unspun to custom make denim jeans. And there are more winners on the radar. All of these achievements show that Global Change Award has a real impact on the industry.

**Karl-Johan Persson**  
Board member, H&M Foundation.

# Expert Panel

## Global Change Award 2020

The Global Change Award Expert Panel are chosen for their extensive knowledge within fashion, sustainability, circularity, and innovation. Working pro bono, they help us identify the five pioneering innovations that are best equipped to push the fashion industry forward to become fully circular.



**Wanjira Mathai**  
Chair of the Wangari Maathai Foundation and the Green Belt Movement. Vice President and Regional Director for Africa at the World Resources Institute.



**Malin Åkerman**  
Celebrated actress, producer, model, and singer. On the Board of the non-profit Environmental Media Association (EMA), whose mission is to provide a unified voice for the planet.



**Tariq Fancy**  
Founder and Chairman at Rumie – a social technology startup bringing free digital learning to remote communities. Chief Investment Officer of Sustainable Investing at BlackRock.



**Abrima Erwiah**  
Co-Founder and President of Studio One Eighty Nine, a fashion lifestyle brand and social enterprise that focuses on the empowerment of artisanal communities in Africa.



**Betelhem Dessie**  
CEO of the Anyone Can Code initiative at iCog – Ethiopia’s first AI and robotics lab. Founder and Project Advisor for Solve IT, equipping youth with innovation and startup skills.

“Over the past five years, Global Change Award has been the global pioneer in sustainable fashion – discovering, supporting, and nurturing brilliant minds and genuine hearts that are determined to turn the fashion industry around.”

– Vanessa Cheung, Founder of The Mills



**Vanessa Cheung**  
Founder of The Mills, a revitalization project of the Nan Fung Textile Mills in Hong Kong into a global innovation techstyle gallery, incubator, and retail destination.



**Burak Cakmak**  
Dean at the Parsons School of Design. In the past two decades, Cakmak has facilitated collaborations with a wide range of stakeholders to drive positive, ethical industry change.



**Rosario Dawson**  
Actress and Co-Founder of Studio One Eighty Nine and Voto Latino. Board member of V-Day, The Lower East Side Girls Club, Operation USA, and the Environmental Media Association.



**Sonam K Ahuja**  
Awarded actress, philanthropist, and entrepreneur. Founder of high street fashion brand RHE-SON, and hailed as one of the “100 most influential women on Twitter” by *Huffington Post*.



**William McDonough**  
Chief Executive at McDonough Innovation, advising leaders worldwide on sustainability. Consultant through MBDC, the creators of the Cradle to Cradle Certified™ framework.



# From Concept to Reality

Three experts discuss circularity then, now, and beyond.



**Edwin Keh**  
CEO of The Hong Kong Research Institute of Textiles and Apparel (HKRITA).

**From your perspective, how has the general view on the circular economy developed in recent years?**

“Not so long ago, manufacturers and brands talked about circularity as ‘the right thing to do’. But in the recent two years, circularity has become something that customers and stakeholders are demanding from brands and suppliers. Today, among our more progressive partners, circularity is a matter of survival.”

**In your area of research, have you seen any especially promising breakthroughs toward circularity?**

“New recycling and separation methods (like the hydrothermal technology we developed with the H&M Foundation), highly automated mechanical recycling, new classifications of green materials, and new circular business models are all leaving the lab and entering the market. These and others will scale, disrupt, and make a significant impact. What we don’t see is a ‘silver bullet’ cure for all of the challenges. So, in the end, it will be a series of new solutions that will change the game.”

**What is still needed to make the fashion industry circular?**

“All of us working in research still use a very academic, linear research model to reduce risks and unknowns. The climate crisis won’t allow us to proceed in this slow manner. We will have to take more risks and simultaneously solve science, engineering, and business challenges as well as create more collaborative, multi-discipline platforms for stakeholders so that solutions are rolled out urgently.”



**Erik Bang**  
Innovation Lead at the H&M Foundation.

**How do we talk about circularity now compared to when Global Change Award was launched?**

“Five years ago, circularity was still an odd bird. Although curious, very few companies and organizations were actively invested in the concept. Now, we see a steady stream of companies wanting to join in, new commitments being made and, more importantly, tangible actions and solutions. Circularity is becoming the new normal, and consumers are pushing for more action and impact in our industry and beyond.”

**Have you seen any hopeful changes in the fashion industry, bringing us closer to circularity?**

“I see lots of promising changes, not only new innovations but also a new openness toward change. The industry is willing to try, test, fail, and succeed. That said, there is so much more to do.”

**What innovations, insights, or changes are still needed to make this shift?**

“We are still in urgent need of all of the above to safeguard the welfare of humankind. There is an incredible impact from regenerative farming and addressing pain-points on water, energy, and chemical use. We need to change the business model and logistics of the industry, so that only what is already sold and will be worn by a customer is produced in the first place, and we need better legislation favoring the circular economy, innovation, and business models. This is also why we continue to develop Global Change Award to create even more impact.”



**Andrew Morlet**  
CEO of the Ellen MacArthur Foundation.

**How has the awareness of the circular economy developed in recent years?**

“We are now seeing more and more companies bringing circular economy practices into their business models. Globally, a growing number of governments – at the city, regional, and national levels – are shifting the policy landscape. Actors from across the world at all levels of the industry are coming together to bring about systemic change, which is the only way the circular economy will happen.”

**In what areas of the fashion industry have you seen great examples toward circularity?**

“In recent years, we have seen clothing rental and resale surging in popularity, alongside business models that include subscription, repair, and maintenance. Initially, in the domain of start-ups, we are now seeing established companies adopting these circular models.”

**What, from your point of view, are the top three urgent priorities to make the fashion industry circular?**

“Increasing the number of times we wear our clothes is the most direct way of designing out waste and pollution in the clothing industry. Our second priority should be to dramatically improve the recycling of clothes, by aligning the design and production of clothing with our recycling capabilities. We should also invest in recycling technologies to improve the quality of the materials recovered and the ability to sort materials. The third priority for the fashion industry should be to phase out substances of concern and microfiber release.”

# Measuring Readiness

A Scientific Approach to Innovation

Kicking off the one-year Innovation Accelerator Program, the Global Change Award winners are coached by the KTH Royal Institute of Technology in Stockholm, where a unique Readiness Level model is applied.

At the bootcamp week in Stockholm, the Global Change Award winners meet Gustav Notander and Lykke Westgren, Business Development Coaches at the KTH Royal Institute of Technology. Usually, Lykke and Gustav support researchers, employees, and students at KTH in commercializing their science results and developing business ideas. But their expertise in early stage innovation development is also used to coach the annual five awardees. During the accelerator year, the teams develop their innovations based on the KTH Innovation Readiness Level Model (kthinnovationreadinesslevel.com). The model is a framework to clarify the readiness of an idea or business in six key areas. In each area, there are nine levels – from thought to the full sale of your product on the market.

“The model can also be used as a planning tool – a structure in which you can see which steps are needed to reach the next level, based on what we’ve seen in the development of early stage innovation,” says Gustav. “It helps you to do the right thing at the right time, and make sure you have the right resources to do so.”

**How many levels on the scales do the winners usually progress during the accelerator year?**

“Usually from one to three steps in several different areas, which is natural in such a huge and complex industry as fashion. Some of the steps can be quite demanding – if you, for example, have a new recycling process, you may have to build a pilot plant to reach the next level.”

**If you are on level one in all of the six areas, where do you start?**

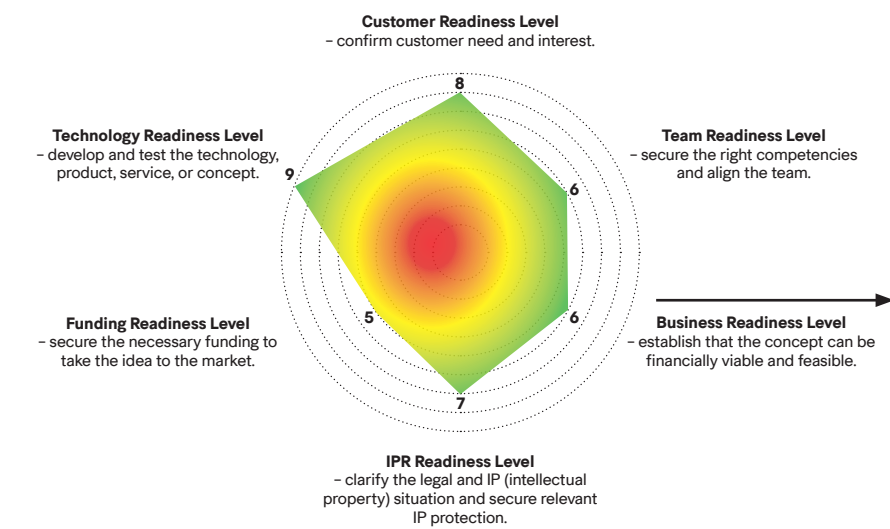
“All areas are interdependent, but the Customer Readiness Level is the driver of all the others. You need to know who your customer is and what problem you’re solving. And that is, in turn, intimately connected with your Business Readiness Level (your business model) as well as your Technology Readiness Level (what type of product you need to solve the problem). Then comes your IPRL strategy, how you are going to protect your idea legally, and your team. Together, these five areas determine your Funding Readiness – how much money you need and will be able to make, and for how long you will need investment. If you have no expe-

rience in the fashion industry coming into Global Change Award, its complex value chain can be overwhelming. This is a way to break it down and find your place in it.”



**Six areas of innovation development**

The key dimensions that the tool clarifies (and an example of development stages):



**Nine Levels of Readiness**

An example of the levels or steps in the Business Readiness area:

- 9. Business model is final and is scaling with growing recurring revenues.
- 8. Sales and metrics show that the business model holds and can scale.
- 7. Product/market fit and customers willingness to pay is shown.
- 6. Full business model, including pricing, is verified on customers.
- 5. First version of revenue model, including pricing hypotheses.
- 4. First projections to show economic viability and market potential.
- 3. Draft of business model with value proposition, infrastructure, customers and finances.
- 2. First possible business concept is described by the innovation team.
- 1. The team is still hypothesizing on a possible business concept.



# Global Change Award

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## Winners 2020

We proudly present our future heroes. They have different backgrounds and experiences, but they are joined together in a mutual mission to disrupt the fashion industry and create a sustainable fashion future for generations to come.



## Incredible Cotton

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by **GALY** awarded **€300,000**  
 Using biotechnology to create lab-grown cotton.

You may rarely think about it, but a lot of resources have gone into the making of your favourite cotton t-shirt. And we mean a lot. Conventional cotton production requires massive amounts of water, land and a hefty cocktail containing thousands of chemicals. It also results in considerable greenhouse gas emissions. It makes you wish there was a smarter way to make cotton.

And luckily, there is! By producing cotton from cells - not plants - in a lab instead of on huge farms, this innovation makes it possible to grow the same cotton everybody loves, but in a different

way. The lab-grown cotton can be grown anywhere, without being dependent on soil and weather conditions, and without exhausting our planet.

The method is ten times faster, and uses less than 80 percent of the water and land while emitting only a fraction of the greenhouse gas compared to traditional cotton. The price would be the same as for the high-quality cotton on the market today.

Does this story sound fluffy to you? Yes, it's the kind of cotton soft fluff not only dreams are made of but also a greater, more sustainable future for everyone.

**Team:** Luciano Bueno, Paula Elbl, and Leticia Luz. **Country:** Brazil, based in the US.  
[galy.co](http://galy.co)





## Feature Fibres

by **Werewool** awarded **€250,000**

Creating fabrics from protein DNA with natural colors, stretch, and other features.

We ask a lot from our clothes. Not only should they look great and come in our favorite colors but we also want them to be affordable yet durable, comfortable yet presentable, rainproof yet breathable.

However, our desires come at a price. The dyes, coatings, and finishing processes that our clothes go through are often toxic and take a great toll on the environment as they require lots of water and chemicals along the way.

This innovation takes its cues from the earth itself. The outcome is a revolu-

tionary fiber that provides the desired features from scratch, built into the fabric on a DNA level. Without harming the organisms involved, the proteins found in coral, jellyfish, sea anemones, turtles, oysters, and even cow milk can be used to make materials with the desired color, stretch, moisture, and water repellence.

No need for further processing and, like other organic matters, the fiber is naturally biodegradable.

What do YOU look for in a piece of clothing? Tell us and we'll design it for you.

**Team:** Chui-Lian Lee, Valentina Gomez, Morgana Kattermann, and Theanne Schiros. **Country:** US. [werewool.bio](http://werewool.bio)



## Tracing Threads

by **TextileGenesis** awarded **€150,000**

Tracking sustainable fibers through transparent and reliable blockchain technology.

The demand for sustainable textiles is increasing, which is great news. But guaranteeing that the materials are sustainably produced is tricky even for the most devoted fashion brands. This is especially true when it comes to sustainable viscose and recycled polyester, where vital information is often limited if at all available.

By using blockchain technology, this innovation is a great step towards a more sustainable future. Thanks to increased transparency, it will be easier to verify that the sustainable fibres are used all the way from fiber production to retail just as

promised. Each material batch is certified with a twin fibercoin, a digital token that can be likened to a fingerprint, ensuring a unique digital identity for the material that is sustainably produced. It's like a digital accounting system that can't be manipulated, changed, or tampered with, and its recorded history lasts forever.

No more ugly surprises, only trustworthy information regardless of how many times the material is used and recycled. Great for fashion brands, great for consumers, and great for the planet.

**Team:** Amit Gautam, Akanksha Sharma, Pradeep Padmarajaiah, and Ashraf KA Mohammed. **Country:** India, based in Hong Kong/India. [textilegenesis.com](http://textilegenesis.com)





## Zero Sludge

by **SeaChange Technologies** awarded **€150,000**

Separating and cleaning wastewater to eliminate toxic sludge in landfills.

For many people, new seasons mean new color trends. But before the latest fashion piece caught your attention, it likely went through an extensive dyeing and finishing process at the factory, an undertaking that emits great volumes of greenhouse gases and pollutes the water. And that's not the end of it. You see, polluted water turns into a thick toxic sludge that is tough to handle. Every day, the apparel industry generates hundreds of tonnes of murky sludge which is often dumped in landfills.

This solution connects a smart gadget to the existing systems. The innovation separates the water from the toxins with the help of a powerful jet turbine. The result? Zero sludge! Instead, the toxins are separated into a neat, manageable powder while the clean water is turned into a mist that can be released or reused. Through this process, the carbon footprint is significantly reduced too.

Let's be colorful, but crystal clear: no more toxic sludge!

**Team:** Dipak Mahato, Meredith Metz, Randall Marcuson, and James Eide. **Country:** US. [seachangetechnologies.com](http://seachangetechnologies.com)



## Airwear

by **Fairbrics** awarded **€150,000**

Converting greenhouse gas into sustainable polyester.

Do you know what you're wearing? If you're like most people, you're probably wearing at least one thing made partly out of polyester. It's one of the most common materials in today's fashion industry. Conventional polyester is derived from petroleum in a process that emits huge amounts of greenhouse gases. However, it's a scientific fact that our planet can't cope with the increasing levels of carbon dioxide. Wouldn't it be great if there was a way to turn textile production into a part

of the solution instead of the problem?

Great news: There is! For this innovation, the sky is full of resources. Instead of emitting carbon dioxide into the air, the gas is trapped, activated, and transformed into sustainable polyester pellets. The result - a sustainable fabric that looks and feels like regular polyester. The more thread we make, the better it will be for the planet. Talk about fashion for the future.

**Team:** Benoit Illy, Tawfiq Nasr Allah, and Ali Nasr Allah. **Country:** France. [fairbrics.co](http://fairbrics.co)

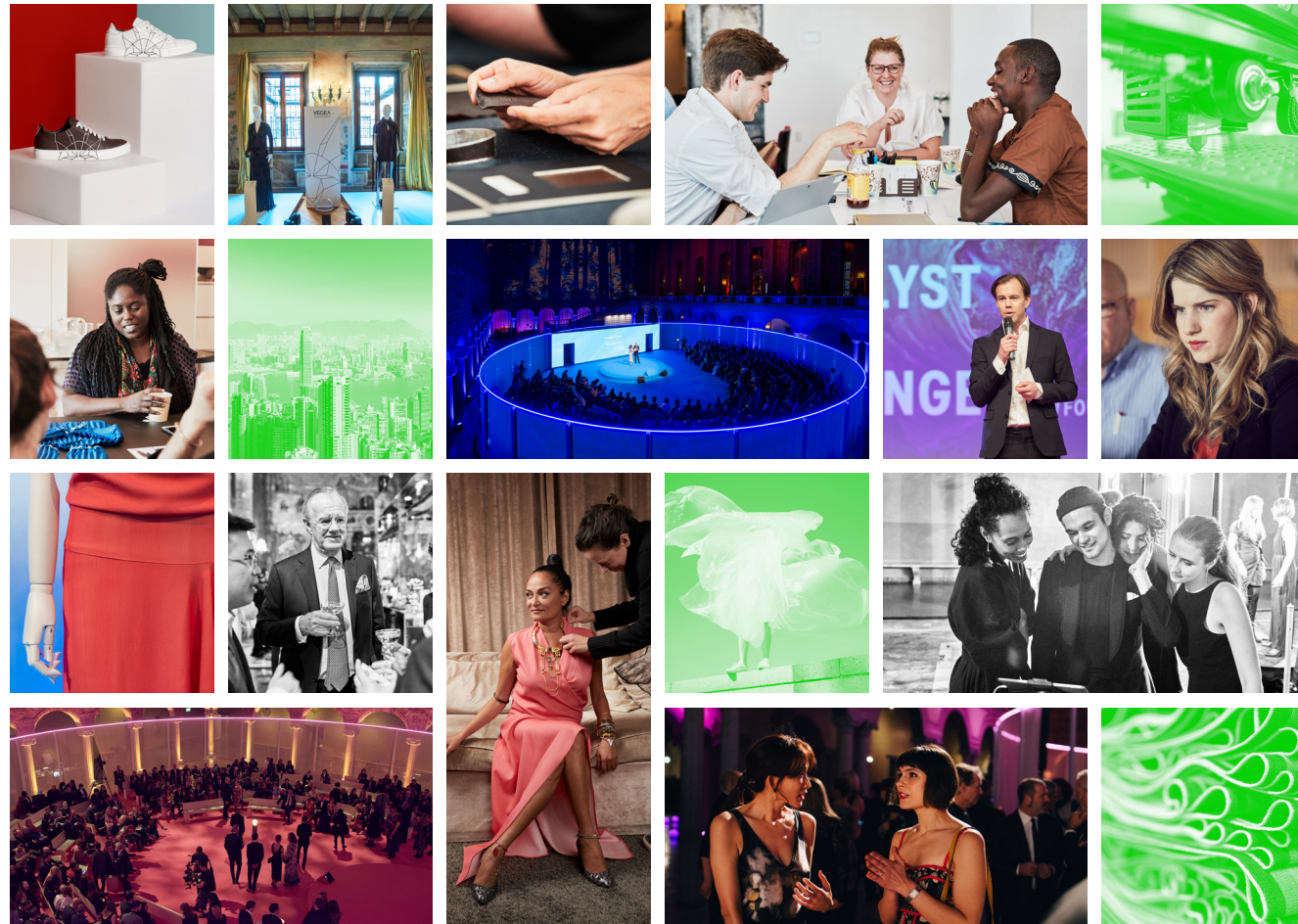


# Global Change Award Five Year Anniversary



“Every year, we are overwhelmed with the amazing response that we receive from innovators across the world, and the interest from the industry, investors, and other stakeholders keeps growing. We are proud to support our winners on our joint journey to make the fashion industry circular.”

– Clara Alderin, Project Manager of Global Change Award at H&M Foundation



**The Loop Scoop**  
by *circular.fashion*  
Using tech to make fashion circular from sketch to scrap.  
Awarded: €300,000 Year: 2019

A digital system that specifies how material choices, cut, and production in garments affects the planet – providing designers with tools for increased recyclability as well as a digital entity that can be scanned by consumers.

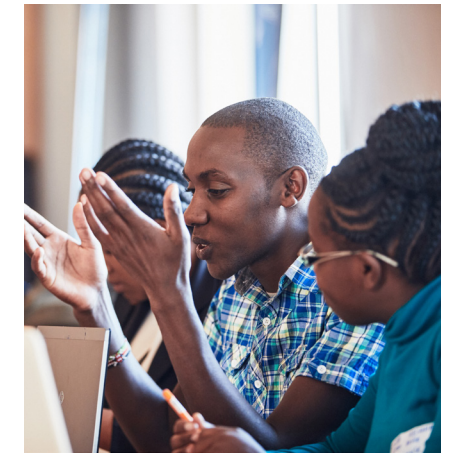
**Team members:** Ina Budde, Mario Malzacher, Jonna Haeggblom, Uwe Kamper.  
**Country:** Germany. *circular.fashion*



**Sane Membrane**  
by *dimpora*  
A biodegradable and mineral-based membrane for outdoor wear.  
Awarded: €250,000 Year: 2019

Dimpora designed a game-changing membrane that withstands harsh weather without using polluting substances. Currently, the team is scaling up production to meet demands from partnering outdoor brands.

**Team members:** Mario Stucki and Anna Beltzung. **Country:** Switzerland. *dimpora.com*



**Sustainable Sting**  
by *Green Nettle Textile*  
Growing nettles to create sustainable fashion and livelihoods.  
Awarded: €150,000 Year: 2019

Nettles can be turned into a sustainable linen-like fabric, while potentially providing job opportunities and nutrients for more than 200,000 small holder farmers across Kenya alone.

**Team members:** Jonah Mwangi, Esther Muthoni, Sophia Mwai, and Susan Macharia. **Country:** Kenya. *greennettletextiles.com*



**Clothes that Grow**  
by *Petit Pli*  
Outfits that expand with the child while reducing environmental impact.  
Awarded: €150,000 Year: 2019

Inspired by space engineering and the ingenious folding techniques of origami, the Petit Pli team developed garments that are windproof, rainproof, and expandable to fit each child for years.

**Team members:** Ryan Mario Yasin, Arabella Turek, Fanny Lefebvre-Nare, and Alicia Martinez-Rodriguez.  
**Country:** Peru. *petitpli.com*



**Lab Leather**  
by *Le Qara*  
Using microorganisms to create vegan, biodegradable fashion.  
Awarded: €150,000 Year: 2019

The lab leather from Le Qara is derived from Peruvian flowers and fruits, making it fully biodegradable. It can be produced to mimic any desired leather texture, colour, toughness, and thickness.

**Team members:** Isemar Cruz Loayza, and Jacqueline Cruz Loayza.  
**Country:** Peru. *leqara.com*



**Algorithmic Couture**  
by *Synflux*  
Redesigning fashion with artificial intelligence.  
Awarded: Early Bird Year: 2019

An innovative solution that provides a transparent system for pattern making, by using artificial intelligence to reduce waste as well as energy use throughout the creative process.

**Team members:** Kazuya Kawasaki, Kotaro Sano, Kye Shimizu, and Yusuke Fujihira.  
**Country:** Japan. *synflux.io*





**Crop-A-Porter**  
by Circular Systems/Agraloop  
Making sustainable bio-textiles by using leftovers from food crop harvests.  
Awarded: €300,000 Year: 2018

Since winning the award, Agraloop has reached several milestones including a successful pilot in China and partnerships with major brands like Levis, Converse, and Veja shoes.

**Team members:** Yitzac Goldstein, Geof Kime and Isaac Nicholson.  
**Country:** US.  
[circular-systems.com](http://circular-systems.com)



**The Regenerator**  
connected to RISE IVF  
Separating cotton and polyester blends and turning them into new textile fiber.  
Awarded: €250,000. Year: 2018

The team discovered a circular technology that uses an earth-friendly chemical to gently separate and regenerate cotton and polyester blends into new, fully useable textile fibers.

**Team members:** Zengwei Guo, Lisa Schwarz Bour, Erik Nilsson, Erik Perzon.  
**Country:** Sweden.  
[swerea.se/en](http://swerea.se/en)



**Algae Apparel**  
by Algalife  
Turning algae into bio-fibers and an eco-friendly dye.  
Awarded: €150,000 Year: 2018

Algae is renewable and degradable, and can be used for both bio-fibers and environmentally friendly dye. And as if that wasn't enough, the fabric releases antioxidants, vitamins, and other nutrients into the skin.

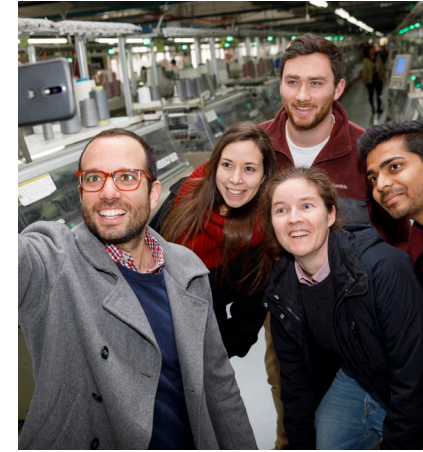
**Innovator:** Renana Krebs, Dr. Oded Krebs and Karin Bakshi.  
**Country:** Israel. [alga-life.com](http://alga-life.com)



**Grape Leather**  
by Vegea  
Using leftovers from winemaking to create fully vegetal leather.  
Awarded: €300,000 Year: 2017

Since winning the award, Vegea was named one of the best European startups of the new millennium by the European Parliament. In 2019, Bentley chose Vegea's vegetal leather for the interiors of their new car model.

**Team members:** Rosa Rossella Longobardo, Gianpiero Tessitore, Francesco Merlino and Valentina Longobardo.  
**Country:** Italy. [vegeacompany.com](http://vegeacompany.com)



**Solar Textiles**  
by Sunthetics  
Harvesting the sun's energy to make fashion fabrics.  
Awarded: €250,000 Year: 2017

A nylon production process using only water, plant waste, and solar energy. In 2019, the team found a way to improve the efficiency of their process by 30 percent with the help of artificial intelligence.

**Team members:** Miguel A. Modestino, Sophia Haussener, Daniela Blanco, Adlai Katzenberg and Saurab Tembhurne.  
**Country:** US and Switzerland.  
[sunthetics.org](http://sunthetics.org)



**Manure Couture**  
by Mestic  
Extracting and using the cellulose in cow manure to create textile.  
Awarded: €150,000 Year: 2017

This process turns ingredients from cow manure into materials like bioplastics and bio textile. It also eliminates the manure's methane gas production and prevents contamination of soil and water. Since winning the award, the team has focused on upscaling their pulping method.

**Team members:** Jalila Essaidi and George Johannes van Trier.  
**Country:** Netherlands. [mestic.eu](http://mestic.eu)



**Smart Stitch**  
by Resortecs  
A dissolvable stitching thread that makes repairing and recycling a breeze.  
Awarded: €150,000 Year: 2018

Dissolving at high temperatures, the thread enables easier recycling of clothes with zippers and buttons. Since winning the award, Resortecs set up industrial production, and recently launched a collaboration with GCA winner Unspun.

**Team members:** Cédric Vanhoeck and Vanessa Counaert.  
**Country:** Belgium. [resortecs.com](http://resortecs.com)



**Fungi Fashion**  
by EFFA/MycoTEX  
Custom-made clothes made from de-composable mushroom roots.  
Awarded: €150,000 Year: 2018

Combined with 3D modeling, MycoTEX produces custom-made clothes out of mushroom roots, without cutting or sewing. The award sped up Aniela's development, and she plans to have a pilot collection ready for testing in 2020.

**Innovator:** Aniela Hoitink.  
**Country:** Netherlands.  
[neffa.nl](http://neffa.nl)



**Squid Style**  
by Tandem Repeat  
Using self-healing squid genes to create biodegradable fabric.  
Awarded: Early Bird Year: 2018

A new material made with squid genes, that is biodegradable and self-repairing. It also minimizes the shredding of micro-fibers during wash, protecting against the plastic pollution of the oceans.

**Team members:** Melik Demirel, Gözde Şenel-Ayaz, Sung Yeul Kim, and Dennis Werger. **Country:** US.  
[tandemrepeat.com](http://tandemrepeat.com)



**Denim-Dyed Denim**  
by Deakin University  
Colouring new denim with used denim.  
Awarded: €150,000 Year: 2017

One of the most water intensive processes when making clothes is dyeing. This process lets one old pair of jeans dye ten new ones, with zero water usage. Now they're working on scaling the method.

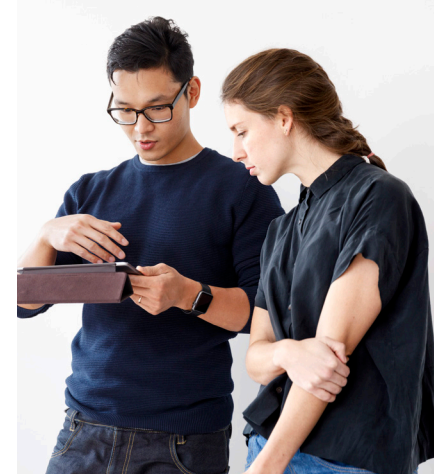
**Team members:** Professor Xungai Wang, Dr. Rangam Rajkhowa, Dr. Rebecca Van Amber, Dr. Christopher Hurren, and Dr. Nolene Byrne.  
**Country:** Australia. [deakin.edu.au/ifm](http://deakin.edu.au/ifm)



**Content Thread**  
by EON/Adetexs  
Facilitating sorting and recycling of clothes using a digital thread.  
Awarded: €150,000 Year: 2017

A thread that stores digital information, which can be scanned from a distance and reduce waste throughout the entire supply chain. EON is currently leveraging their thread in pilots with global brands.

**Team members:** Natasha Franck, EON and Anura Rathnayake, Adetexs.  
**Country:** US and UK.  
[eongroup.co/adetexs.com](http://eongroup.co/adetexs.com)



**Unspun**  
by Unspun  
A machine that spins custom-fitted clothes - and then unspins them again.  
Awarded: Early Bird Year: 2017

Unspun's innovation scans your body and makes jeans based on your exact size. There will be no excess stock, almost no waste, and you'll receive a pair of jeans you feel good in.

**Team members:** Beth Esponette, Kevin Martin and Walden Lam.  
**Country:** US.  
[unspuntech.com](http://unspuntech.com)





**Cotton Rebirth**  
by Ioncell  
Conversion of waste-cotton into new textile.  
Awarded: €300,000 Year: 2016

Ioncell turns used textiles, pulp – or even old newspapers – into new textile fibers without harmful chemicals. The next step is inviting industrial partners to their pilot plant, due to open in 2020.

**Team members:** Ali Harlin, Michael Hummel, Ilkka Kilpeläinen, Pirjo Kääriäinen, Herbert Sixta and Marjaana Tanttu.  
**Country:** Finland. [ioncell.fi](http://ioncell.fi)



**Polyester Digester**  
by Ambercycle  
A recycling technology to make polyester everlasting.  
Awarded: €250,000 Year: 2016

Since winning the award, Ambercycle's molecular recycling process has reached demonstration scale. The team has proven the economics of it and are now approaching deployment.

**Team members:** Moby Ahmed and Akshay Sethi.  
**Country:** US.  
[ambercycle.com](http://ambercycle.com)



**Algae Atelier**  
by AlgaeFabrics  
Using algae to make renewable textiles.  
Awarded: €150,000 Year: 2016

A technology that extracts cellulose from algae cell walls and immerses it in a liquid, enabling the fibers to stick together in straight lines. In 2018, an algae reactor for fast-growing was put in use, to test the most suitable conditions for growth in saline and fresh water systems.

**Innovator:** Tjeerd Veenhoven.  
**Country:** Netherlands.  
[tjeerdveenhoven.com](http://tjeerdveenhoven.com)



**100 Percent Citrus**  
by Orange Fiber  
Creating new textile out of by-products from citrus juice production.  
Awarded: €150,000 Year: 2016

Since winning the award, the Orange Fiber has been included in collections by Salvatore Ferragamo, H&M Conscious Exclusive, and E. Marinella.

**Team members:** Adriana Santanocito, Enrica Arena, Francesco Virlinzi, Antonio Perdichizzi, Corrado Blandini, Andrea Bonina, Giovanni De Caro, Moreno Petrulli.  
**Country:** Italy. [orangefiber.it](http://orangefiber.it)



**Scrap Mapper**  
by Reverse Resources  
An online platform, where textile left-overs from fabric and garment production are mapped, traced and traded.  
Awarded: €150,000 Year: 2016

In 2018, the team shifted their idea to focusing on tracking and tracing cutting scraps to create market insight for industrial recyclers, and solve an even bigger problem than their original idea.

**Team members:** Ann Runnel, Nin Castle, and Dea Lasting.  
**Country:** Estonia. [reverseresources.net](http://reverseresources.net)



**Travel Vendi**  
A vending machine for rental clothes.  
Awarded: Early Bird Year: 2016

When the Global Change Award was launched in 2015, one of the first entries was Travel Vendi. As with many early stage innovations, this one didn't develop further. The team members are now working on other projects.

**Team members:** Yoo Jung Kim, Ik Sung Lee and Changyong Rhee.  
**Country:** South Korea.

# An Ecosystem with Room for More

After five years of Global Change Award, with 25 winners and 5 Early Bird winners, we wanted to map the innovations against a circular fashion value chain in order to show how they are reinventing the industry.

The circular fashion value chain model shows how the Global Change Award alumni have become an ecosystem in itself, targeting almost every step of the value chain. It also illustrates that the Global Change Award innovators provide complementary solutions with synergies beyond their individual impact. This is

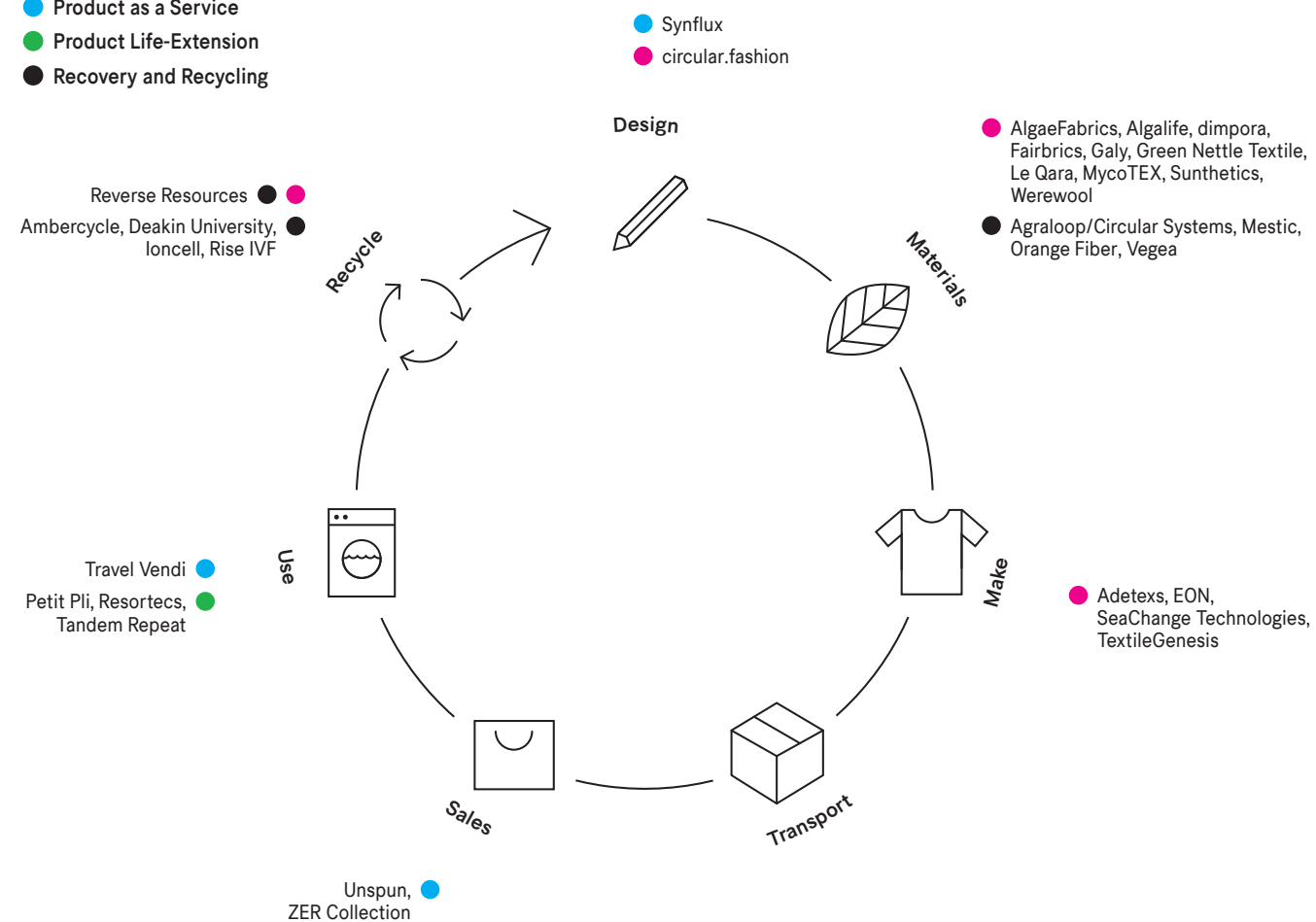
already embodied by Resortecs and Unspun, which have collaborated to create a joint solution and product: Rebirth, custom-made jeans sewn with a dissolvable thread (read more on page 20).

The model is also a valuable reminder for Global Change Award as well as for the entire industry that we are far from

done. We still need new solutions across all steps of the value chain, and there is especially room for progress in the Make, Transport, and Sales steps. Here, we believe that both digitalization and technology will unlock major breakthroughs, and we still need to attract that innovation talent to the fashion industry.

## Circular business models by Accenture

- Circular Supply Chain
- Sharing Platform
- Product as a Service
- Product Life-Extension
- Recovery and Recycling



For more information on the circular business models, see pages 30-31.



## When Great Minds Meet

### Flourishing Partnerships between Global Change Award Alumnis



Through the years, Global Change Award has shown to be an important door opener and accelerator for innovators. In addition to the one-year Innovation Accelerator Program, with coaching, knowledge, and networking through our partners Accenture and KTH Royal Institute of Technology, the Global Change Award winners have the opportunity to join previous winners in the Global Change Award alumni network.

"We have built an alumni program, since we realized that neither we nor the winners wanted to let go of each other after the Innovation Accelerator," says Erik Bang, Innovation Lead at the H&M Foundation. "There were so much more value and great synergies still to be unlocked from extending the successful accelerator into an alumni network. So now we have a group of alumni winners who share ideas, experiences, and contacts with each other – and some teams have started to collaborate with each other. It's an ecosystem that we are really proud of."

One great example is the collaboration between the previous Global Change Award winners Unspun, designing custom made denim from 3D scanning, and

Resortecs, which invented a dissolvable thread that simplifies repair and recycling.

"Our collaboration started out as a friendly joke at the Global Change Award ceremony in Stockholm," says Walden Lam, Co-Founder of Unspun. "We continued to work on testing the threads and developing the products remotely across three continents up until the launch event in November 2019."

The result, called Rebirth, is a perfect match between two genius innovations: jeans that are designed and woven on-demand, with threads that enable them to be easily disassembled and redesigned again. Pairing the two technologies will make it possible to reduce the CO2 emissions from the production and disposal of a pair of jeans by 27 percent.

"We will be able to separate the trims and reuse the pattern fabric pieces at scale by putting hundreds of the Rebirth jeans in an oven," explains Walden. "Both the metal trims and the fabric pieces will be redesigned and reused in new products, without going through a mechanical or chemical recycling process."

In November 2019, the world's first commercially available, digitally-fitted jeans with dissolvable threads were

presented to a group of industry leaders, and a public pop-up store opened in Hong Kong.

"At the moment, we are planning for European and North American launch activities, while the team is busy processing the pre-orders," says Walden Lam.

#### What made the teams from Unspun and Resortecs a perfect match?

"Perhaps what made it perfect was that we recognized that we were both imperfect. Mutual trust and conviction allowed us to move rather rapidly. We were lucky that the Resortecs team is very strong at end-of-life garment treatment and life-cycle assessment, while we have had some experience with running retail, design and supply chain. I think what this collaboration enables is a whole generation of products created on-demand and circular, leaving behind no excess inventory waste," says Walden Lam, pointing out the need for more collaboration in the strive for positive change:

"It is clear that teams and organizations need to co-create openly to enable the paradigm shift that the future of humanity demands. Rebirth is a humble attempt by two small insignificant players to inspire that change."

## Call to Actions

### From the Winners to the Industry

Through these past five years, Global Change Award has proven that the world is brimming with innovations that have the potential to change the very foundation of the fashion industry, and to bring us leaps closer to a prosperous planet. So what is stopping them from scaling up and reaching their maximum potential? We asked some of the previous winners.

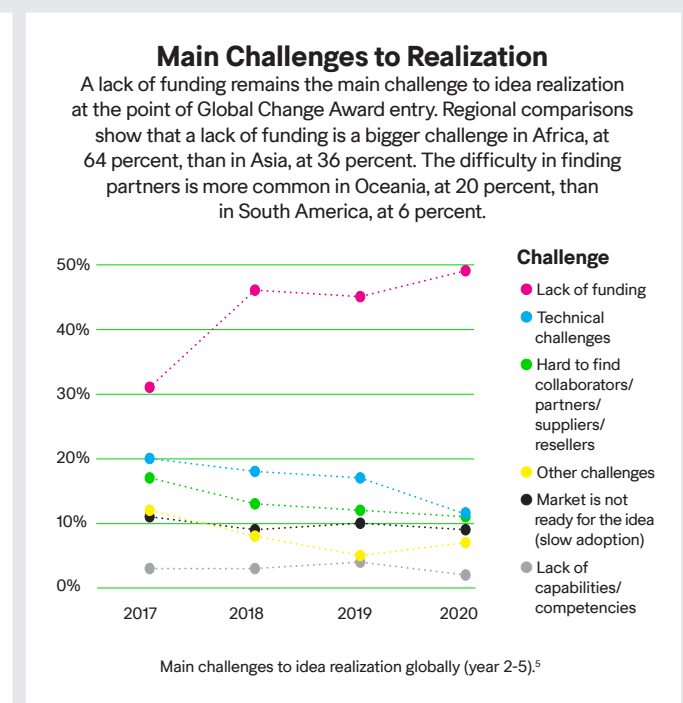
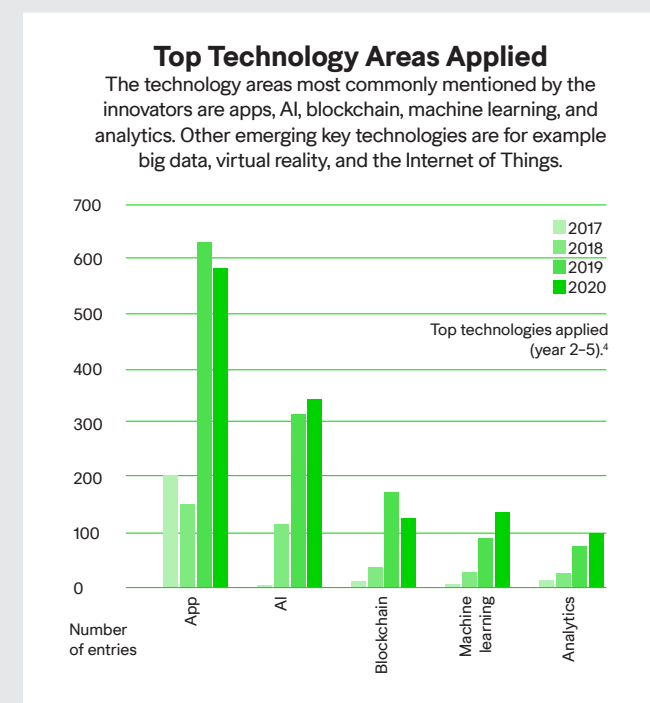
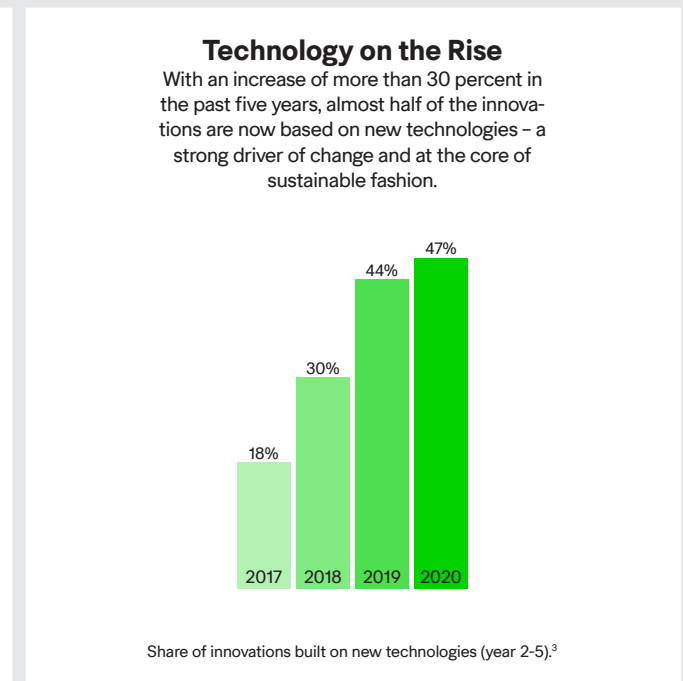
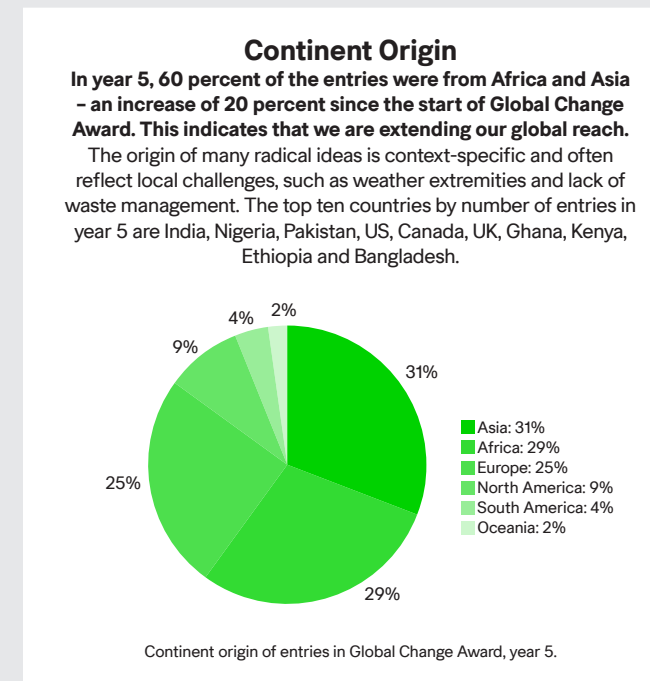
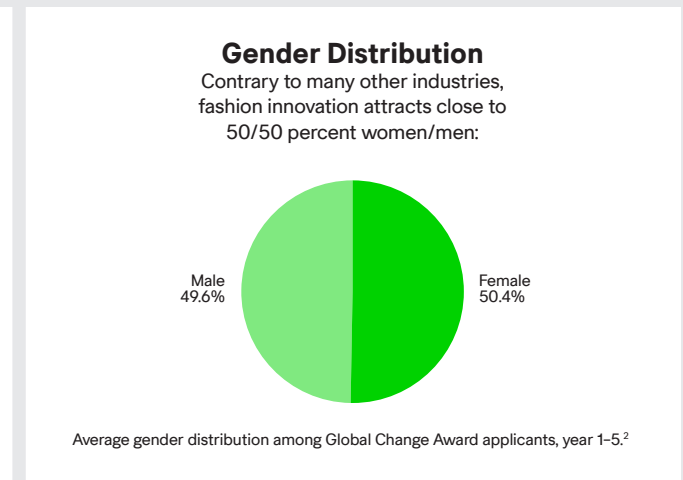
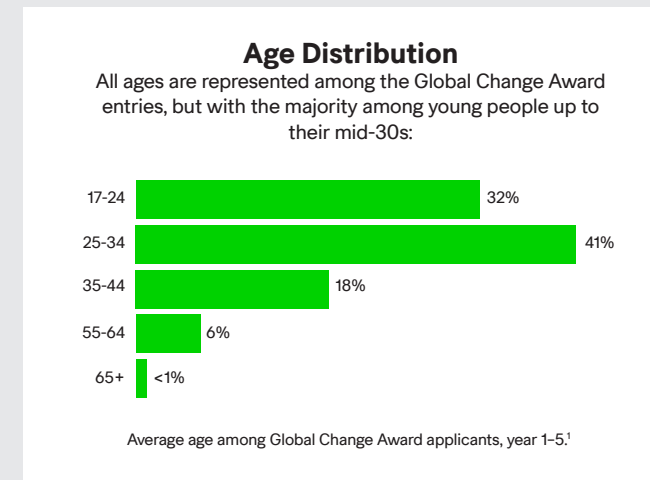




# Harnessing the Power of the Consumer

## Trend Report by Accenture

Since the launch of Global Change Award five years ago, we have seen a truly diverse and global commitment to drive sustainable fashion forward. The Accenture Trend Report, based on analyses of more than 20,000 entries from 206 countries and territories, shows that emerging markets remain strong in the field, more eager than ever to solve the challenges our planet is facing. While funding remains a big threshold, new tech is also central to realizing the ideas that enable a shift in the fashion industry. The innovations needed to push the industry from its traditional linear model to a circular and sustainable one are out there. They come from everyone and everywhere. The time has come to harvest the creative thinking of our diverse world, and to leverage these opportunities to pivot the industry at its core.





# The Need for Change

## Disrupting the Value Chain

Alongside a growing global population, social and emotional drivers intensify the demand for clothes. To meet this fast-rising demand, the entire traditional value chain – from production to consumption – must be disrupted.

One important factor driving the accelerating fashion demand is the growing middle class in emerging markets. Another factor is the increasing interest in clothes seen over the past years, with higher fashion sales per person in mature economies.<sup>8</sup>

We consume a lot, for many reasons. There are social influences making us want to wear something new for every Instagram picture and for each event. Always wanting novelty, we habituate to and get fed up with what we bought. Add

the greater fashion accessibility to this, with online shopping available 24/7, faster turnaround time of new trends, and a larger number of collections per year.<sup>9</sup> Looking ahead, we foresee the accelerating fashion demand to continue ▶

increasing, and growing much faster than the expected population. Instead of producing more, how can we optimize what we already have? New consumption models are a big part of the solution, often enabled by new technologies.

With the fashion industry considered as one of the largest polluters in the world, increased consumption within our current models is not sustainable. The fashion value chain must be disrupted and we all need to rethink how we design, produce, and consume clothes.

There is a big opportunity in changing the way we use and care for our clothes, with a lot of usability still left in most clothes when they are discarded. Some garments are estimated to be thrown away after just seven to ten wears. Globally, the number of times a

garment is worn dropped by 36 percent between 2002 and 2016. China has gone from more than 200 wears per garment to about 60 during the same time period. The US has a significantly low average usage rate at about 40 wears, compared to the global average in 2016 at about 130 wears.<sup>10</sup> Instead of producing more, we should ask ourselves how we can use what we have in a better way.

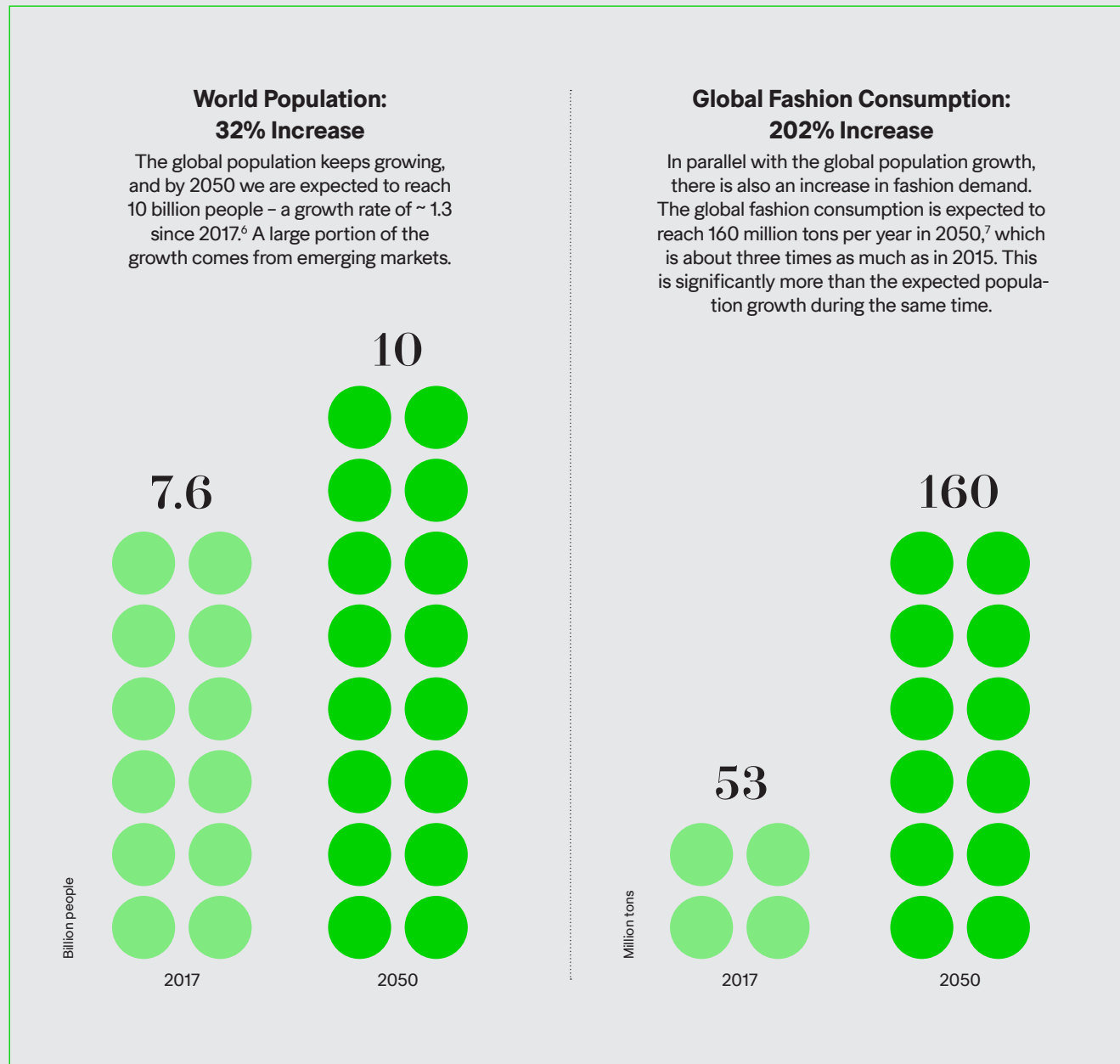
Circular business models allow the consumers to care for and use their garments in a more sustainable way. The pioneers offering clothing services such as rental, repairing, customization, and recycling already exist and must now scale to become the new normal.

These new business models are often enabled by new technologies, making it increasingly easy and handy

for the consumers to use, change, swap, adjust, and maintain their wardrobes.

This said, behavior change is neither evident nor trouble-free, especially when it comes to what we wear. Fashion is part of our identity, showing the world who we are, and we often develop a strong emotional attachment to clothes. A part of our nature is to self-enhance, and looking good is central to that. This essentially means that our desire to buy new clothes will persist as long as there are no equally attractive alternatives.<sup>11</sup>

However, the increased attention on the global climate crisis seems to make an impact on many people – not only to what we say but also to what we actually do. When we understand the climate impact on an individual level, we typically start to change our behavior.<sup>12</sup>



“Today more than ever, we have to look at protecting our natural resources. The fashion industry, as one of the world’s largest consumer sectors, plays a key role for future sustainability. We must find ways to continue creating great fashion, but with less impact on people and the planet.”

– Malin Åkerman, Actress, Environmental Activist, and member of the Global Change Award Expert Panel 2020.





# The Consumers

## More Powerful than Ever

In many parts of the world, sustainability in retail and fashion is quickly becoming the new normal. To grasp the consumer power of the future, companies must learn to better understand the values and beliefs of consumers, and start to value these when setting up their businesses.

Two main mega trends, spotted by Accenture research, with a significant impact on the fashion industry are “Sustainability as the new normal” and “Companies taking a stand”. 62 percent of consumers want companies to take a stand on broadly relevant issues like sustainability, transparency or fair employment practices.<sup>13</sup> 88 percent of investors see sustainability as a route to competitive advantage.<sup>14</sup> Consumers are no longer making decisions based on product characteristics and price alone, they now assess what a brand or product stands for. The closer a company’s purpose aligns to their own

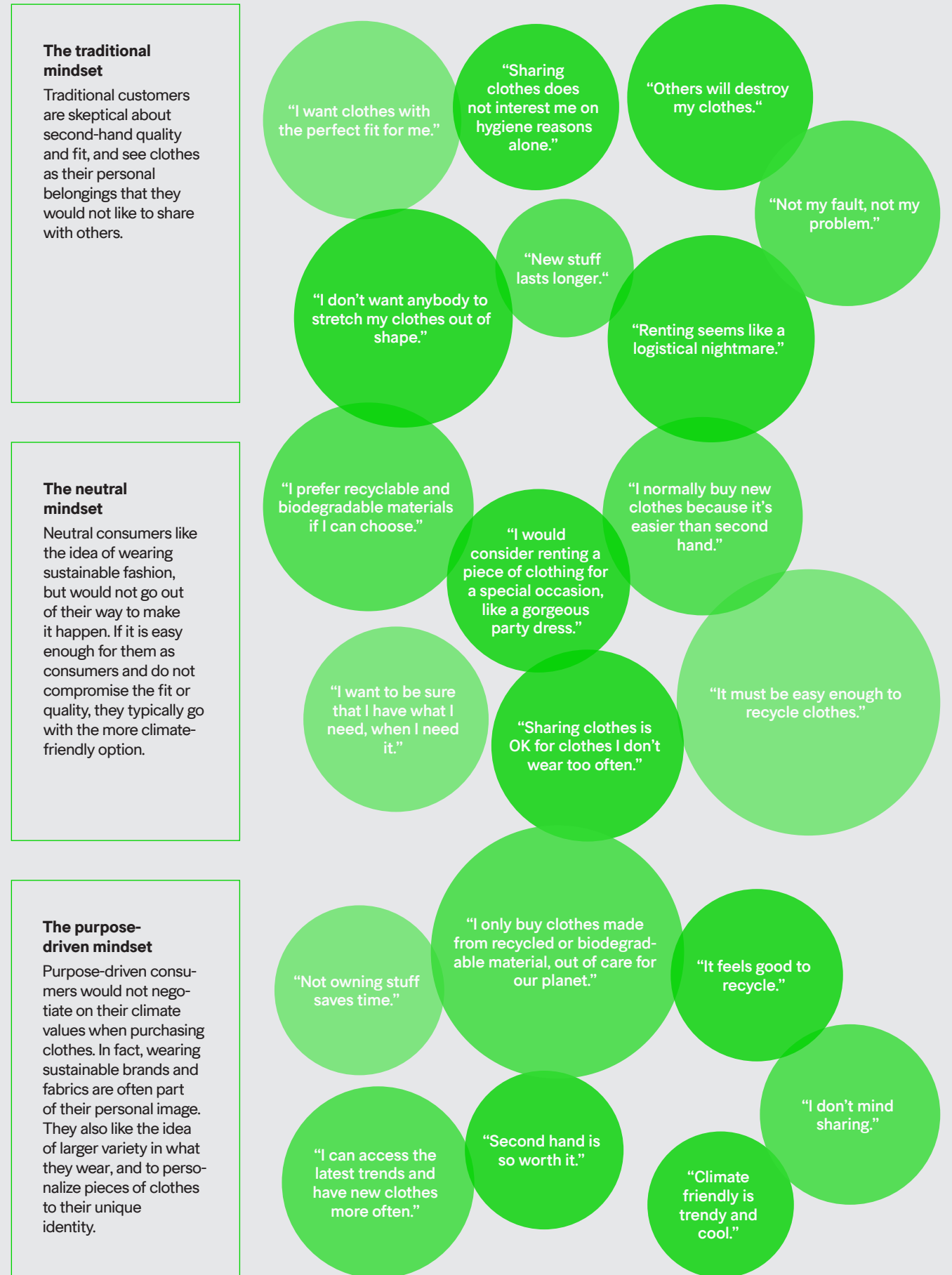
beliefs, the better.<sup>15</sup> Consumers also have more power than ever, mirrored in global movements leveraged by channels such as Twitter or Instagram. To succeed within fashion going forward, companies must grasp the potential of purpose-driven purchasing. We have taken a deeper look into the main values that consumers typically evaluate when purchasing clothes (see chart below). All values are not equally important to all consumers. The values also vary with cultural, social, and economic factors as well as the type of clothing. However, people do seem to become increasingly willing to give in to perceived

needs to support the climate cause. To see the full spectra of consumer beliefs, we have clustered common values into different mindsets (see chart to the right). They reflect typical fashion motivations of a traditional consumer at the one end, and of a more purpose-driven consumer on the other end. A consumer can move in the spectra between these different mindsets. Understanding consumer beliefs at a more or less local level will be key for any company looking to succeed in the fashion industry going forward – unlocking sustainable business opportunities centered around consumer values.

### Main Consumer Fashion Values<sup>16</sup>

Product experience	Convenient access	Sense of responsibility	Peace of mind	Value for money
<ul style="list-style-type: none"> <li>• <b>Quality</b> – the perception that the garment has good quality and will last for a long time.</li> <li>• <b>Right fit &amp; style</b> – clothes that fit the individual's body shape and expression of their identity.</li> <li>• <b>Customizability</b> – the possibility to customize and give clothes a new look or touch of an individual's unique style and personality.</li> <li>• <b>Novelty</b> – the pleasure of desiring something that we do not have.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Easy access</b> – the knowledge that the clothes are always in the wardrobe, to be worn at any given time.</li> <li>• <b>Access variety</b> – the ability to select among a broad range of options.</li> <li>• <b>Privacy</b> – some items considered too personal to share, such as a pair of favorite jeans or lingerie.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Resources</b> – products made by recycled or biodegradable material.</li> <li>• <b>Sustainable production</b> – the knowledge that clothes were made by climate clean production with fair labor standards.</li> <li>• <b>Cool factor</b> – the modern and caring image supported by sustainably produced clothing.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Trust</b> – the assurance that the company knows what it means to act responsibly and make sure to do so.</li> <li>• <b>Transparency</b> – the brand's standards when it comes to ethical questions are in line with personal values.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Cost effective</b> – the thinking that buying clothes seems cheap, whereas rentals or subscription services seem expensive.</li> <li>• <b>Recover value</b> – the use of the second hand market to sell used clothes and finance purchase of new products.</li> </ul>

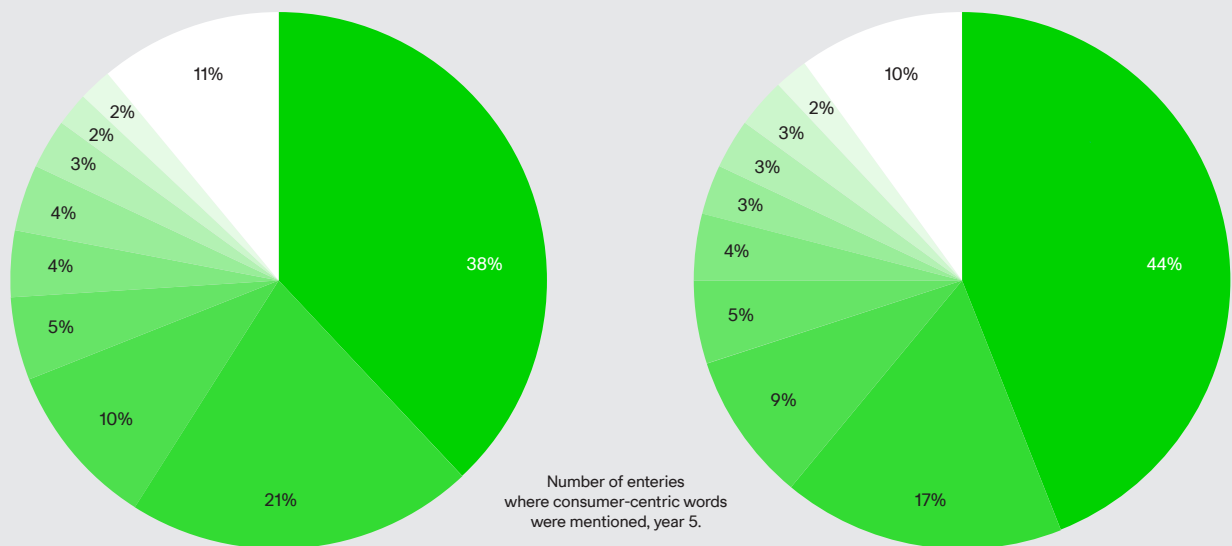
### Fashion Consumer Mindsets<sup>17</sup>





### Consumer-centric focus by region

The Global Change Award innovation data show some regional differences in what the entrepreneurs are focusing on when it comes to consumer-centric behavior.<sup>18</sup> In Africa, entrepreneurs are twice as focused on recycling than in North America. Also, charity, product service, and responsibility are more in focus. In North America, entrepreneurs are twice as focused on circularity than in Africa. Here, crowdfunding is also much more common than in Africa.



Number of entries where consumer-centric words were mentioned, year 5.

#### North America

- Circular: 38%
- Recycling: 21%
- Consumption: 10%
- Behavior: 5%
- Rental: 4%
- Subscription: 4%
- Crowdfunding: 3%
- Repair: 2%
- Customization: 2%
- Others: 11%

#### Africa

- Recycling: 44%
- Circular: 17%
- Consumption: 9%
- Responsibility: 5%
- Rental: 4%
- Behavior: 3%
- Product service: 3%
- Charity: 3%
- Subscription: 2%
- Others: 10%



“In this new era of transparency, retailers need to operate responsibly in order to attract and maintain consumers who are shopping more and more with their values. Research estimates that more than 300,000 tons of clothing every year is incinerated or sent to landfills, so it is critical to design strategies, products, and services in a responsible way. The Global Change Award continues to be an important platform for driving sustainability in fashion forward.”

– Jill Standish, Senior Managing Director and Head of Retail at Accenture

## Circular Business Models

### With the Consumer at Heart

Unlocking sustainable business opportunities by leveraging consumer values is not necessarily an easy switch. For many companies, this means adjusting their business models radically, and taking a holistically new approach to how they make money. This is where circular business models become central for future fashion.

Circular business models can have a great impact with the consumer in focus. It is all about understanding how to best leverage and manage consumer values in a sustainable fashion world. To succeed with this shift, it is important to focus on business models that meet consumers' expectations, and support consumers in driving the right behaviors. This means overcoming barriers or uncertainties that resides with consumers. To better understand the potential of circular business models, we have app-

lied the consumer values to five main circular business models in fashion (see figure on the next spread):  
 The “Circular supply chain” model uses bio-based or recyclable materials and renewable energy, and applies the “designed-to-last” principle to e.g. recycling or upgrades.  
 The “Sharing platform” model increases usage rates through collaborative models for usage, access, or ownership, e.g. rentals.  
 The “Product as service” model lets

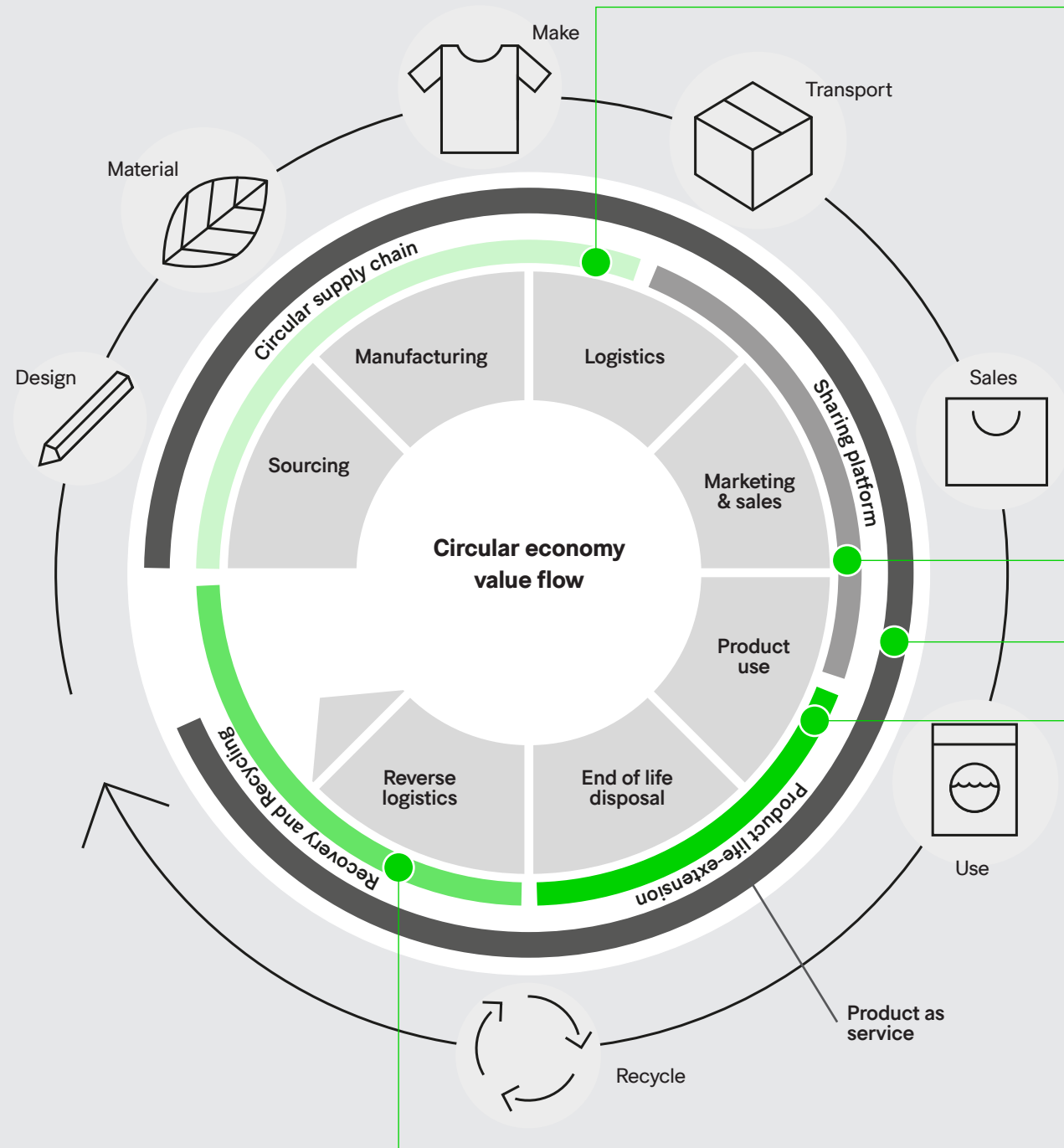
garments be consumed as a service based on usage with retention of the product at the retailer, e.g. subscriptions.  
 The “Product life-extension” model prolongs the life cycle of clothes through repair, reprocessing, upgrading, and resale.  
 The “Recovery and Recycling” model recovers usable resources or energy from waste or by-products.  
 Each model showcases example consumer drivers, potential barriers, and tactics to overcome them.

During the Accelerator Week in New York, Kye Shimizu from Synflux met with Burak Cakmak, Dean at Parsons School of Design, to show samples and discuss ideas.





Circular business models in relation to consumer fashion values<sup>17</sup>



**Circular supply chain**

**Example consumer drivers**  
*Sense of responsibility:* Clothes made out of recycled or bio-based materials is a good way to contribute to the planet.  
*Cool factor:* Considered stylish and modern to wear clothes made out of unconventional materials.

**Potential consumer barriers and how to overcome them**  
*Quality:* Uncertainty on quality related to non-conventional materials.  
 ► Showcase strong quality of garments, and focus on designed-to-last.  
*Novelty:* Perceived less appealing than something brand new.  
 ► Make sustainable, circular fashion something desirable, fun, and fashionable.

**Sharing platform**

**Example consumer drivers**  
*Access variety:* Wear the latest trends and clothes best suited for each specific occasion.  
*Cost effective:* Wear premium clothes at a low cost.

**Potential consumer barriers and how to overcome them**  
*Trust:* Perception that items would not be treated with the same level of good care and hygiene by other users.  
 ► Set rigid and transparent routines to care for the clothes when switching users.  
*Right fit & style:* Difficulty in finding what you want in the right size and at the right time.  
 ► Use data and analytics to predict and plan for customer demands, and consider limiting item variety.

**Recovery & recycling**

**Example consumer drivers**  
*Peace of mind:* Contribution to the environment and saving the planet.  
*Recover value:* Monetary rewards when returning clothes for recycling.

**Potential consumer barriers and how to overcome them**  
*Resources & disposal:* Perception that it is a hassle to return clothes for recovery or recycling.  
 ► Set a straightforward, simple, fast, and flexible process to dispose of clothes, making it easy for the consumer.  
*Transparency:* Distrust in actual value of recovery and recycling, and to what extent it might just be a branding strategy instead of real action.  
 ► Showcase how the clothes are transformed into new garments, other products or energy, and the benefits of this to the planet.

**Product life-extension**

**Example consumer drivers**  
*Customize:* Customize, personalize, upgrade, or use as completely new products.  
*Recover value:* Second hand market leveraged to sell used clothes and finance purchase of new products.

**Potential consumer barriers and how to overcome them**  
*Quality:* Perception that quality might be insufficient.  
 ► Set clear and transparent processes to ensure sufficient quality in the garments, e.g. testing or certification.  
*Right fit & style:* Perception of being non-modern.  
 ► Play on nostalgia and the cycle of vintage looks.

**Product as service**

**Example consumer drivers**  
*Access variety:* Follow the fashion trends by wearing the season's latest styles.  
*Resources:* Responsibility for the planet by enabling clothes to be used for longer periods of time.

**Potential consumer barriers and how to overcome them**  
*Easy access:* Perception that ordering, paying, receiving, and returning shared clothes is complex and time-consuming.  
 ► Set a straightforward, simple, fast, and flexible process that makes consumption easy.  
*Cost efficient:* Consumers subscribing to multiple platforms over time, adding up to high costs. Also, the perception that subscriptions are expensive compared to the upfront cost of budget fashion chains.  
 ► Set a business model with clarity to the customer on cost and benefits. Also showcase the possibility to wear high-quality, premium, and sustainable clothes at a relatively low cost.

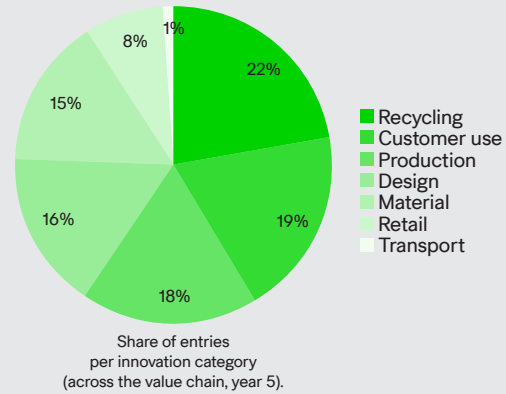


“Circular business models are about creating more from less. This is an integral shift for the fashion industry across the whole value chain, and a must to meet the demands of the future in a sustainable way. For most companies, it means taking a holistically new approach to making money.”  
 – Sofia Brandt, Strategy Manager, Accenture



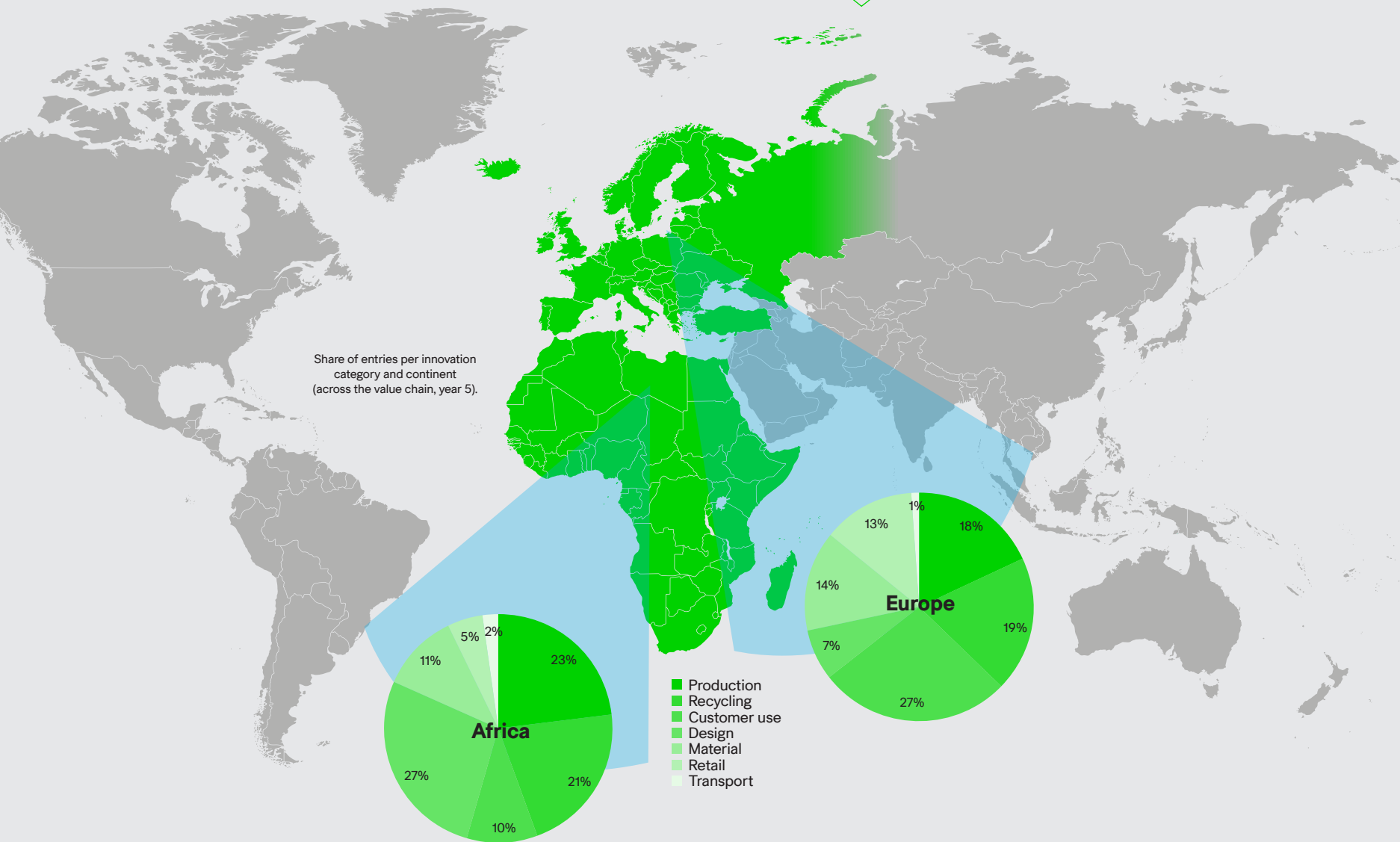
### Types of innovations across the value chain

Looking at the Global Change Award data, it is evident that circular business models are part of the innovation focus.<sup>20</sup> Recycling and Customer Use are the two largest categories for type of innovation across the value chain, together representing more than 40 percent of the innovations. Looking at gender differences, we see that women have a stronger focus on Recycling, Customer User and Materials, whereas men are oriented toward Production, Design, Retail, and Transport.



### Types of innovations in Europe versus Africa

There are clear regional differences when it comes to different types of innovations across the fashion value chain. Comparing for example Africa and Europe, we see that African innovators put more effort into design, production, and recycling, whereas European innovators focus dominantly on customer use.<sup>21</sup> One reason could be the more visible climate impact in Africa, and the perceived more urgent need to do something about e.g. water and land pollution (production) and waste (recycling). For Europe, it could reflect the growing attention paid to changing consumption behavior. The differences in focus tells us a lot about the market's needs and behavior. This is another key piece of information to keep in mind for any company looking to succeed in sustainable fashion.



## Sustainable Fashion

### Creating the Future Together

The force of innovation for sustainable fashion has great momentum. Enabled by new technologies, new materials, design methods, production systems, business models, and end-of-life solutions, it emerges from all over the world.

In parallel to an accelerating demand for clothes, the fashion industry still struggles with negative environmental impact. With an exponentially increasing consumption trend, the fashion value chain must be disrupted. One of the largest opportunities lies in how we use and care for our clothes, with a lot of usability left in most clothes before they are discarded.

With rising attention to the global climate crisis, values and personal beliefs are driving a change in purchasing behaviors. We see a behavior shift across consumer groups toward

purpose-driven purchasing to reinforce identity and personal ideals.

To succeed with circular business models from the perspective of the consumer, the fashion industry must understand all the different customer values and beliefs, how these interact and how they evolve over time. By segmenting and analyzing based on customer values, organizations can adjust their business models to meet the demands of this global behavior change.

The fashion industry faces a great challenge and at the same time an opportunity – to leverage the power of the consumer to drive sustainable change. It is about finding the common purpose, with the industry and consumers working together for a sustainable fashion future.

## Trend Report

### Method and References

Accenture leveraged analytics and data visualization on the data set containing the total entries submitted to Global Change Award since its start in 2015.

The analytical work was hypothesis-driven and leveraged various analytical methods and tools.

Other key sources of data was the Accenture Strategy Sustainability Consumer

Behavior in Retail and Clothing Research as well as Professor Carolyn Mair PHD, Behavioral Psychologist Insights & Analytics, H&M Group.

To enable the conclusions and interpretations presented, the analysis was combined with Accenture's expertise in sustainability, innovation, new technology, and fashion.

#### Footnotes

**1-2:** Global Change Award entries. **3-5:** Global Change Award entries. Note: Data for year 1 non-comparable. **6:** United Nations department of Economic and Social Affairs, World Population Prospects, 2017 and 2019. **7:** Ellen MacArthur Foundation, A New Textiles Economy, 2017. **8:** Ellen MacArthur Foundation, 2019. **9:** Professor Carolyn Mair PHD, Behavioral Psychologist Insights & Analytics, H&M Group. **10:** Ellen MacArthur Foundation, A New Textiles Economy, 2017. **11-12:** Professor Carolyn Mair PHD, Behavioral Psychologist Insights & Analytics, H&M Group. **13:** Accenture Strategy Global Consumer Pulse Research, 2018. Note: The extent of these trends and movements vary across regions and cultures. **14:** UN Global Compact and Accenture, The Investor Study, 2014. **15:** Accenture Strategy Global Consumer Pulse Research, 2018. Note: The extent of these trends and movements vary across regions and cultures. **16-17:** Accenture Strategy Sustainability Consumer Behavior in Retail and Clothing Research, 2016. **18:** Global Change Award entries. **19:** Accenture Sustainability Consumer Behavior Research, 2016. **20-21:** Global Change Award entries.

#### General references

Global Change Award entries, year 5  
 Accenture Strategy Global Consumer Pulse Research, 2018  
 Accenture Sustainability Consumer Behavior Research, 2016  
 UN Global Compact and Accenture, The Investor Study, 2014



# Kudos

## Global Change Award Partners

Since the launch of Global Change Award in 2015, we have created a miniature ecosystem of change together with Accenture and KTH Royal Institute of Technology. Our three organizations represent three radically different pillar perspectives in society: academia, business, and non-profit. Together, we are able to draw on the widest range of networks and expertise to create the unique and holistic support in the GCA Innovation Accelerator, helping the teams achieve an impact significantly faster. Both Accenture and KTH Royal Institute of Technology invest their resources and skills fully pro bono and without any ownership of the full benefit of the winning teams or the reinvention of the fashion industry. H&M Foundation wishes to thank both partners for supporting us in changing fashion and protecting the planet.

### KTH

KTH Royal Institute of Technology is one of Europe's leading technical and engineering universities as well as a key center of intellectual talent and innovation. It is home to students, researchers, and faculty from around the world, dedicated to advancing knowledge and to integrating environmental and sustainable development perspectives into education, research, and collabo-

rations. KTH conducts diverse, active and broad research within environment and sustainable development, and acts as a driving force for the advancement of sustainable technical and social systems. Adding extensive experience in innovation development, KTH Innovation supports KTH researchers and students in successfully bringing new technology to the market. Read more at [kth.se](http://kth.se).

### KTH Team

**Gustav Notander**, Business Development Coach, KTH Innovation.  
**Lisa Bäckman**, Marketing & Communications Manager, KTH Innovation.  
**Lisa Ericsson**, Head of KTH Innovation.  
**Lykke Westgren**, Business Development Coach Sustainability, KTH Innovation.  
**Cecilia Ljunglöf**, Project Manager, KTH.

### Accenture

Accenture is a leading global professional services company, providing services and solutions in strategy, consulting, digital, technology, and operations. Combining unmatched experience and specialized skills across more than 40 industries, Accenture works at the intersection of business and technology, to

help clients improve their performance and create sustainable value for their stakeholders. With 505,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives. Visit us at [Accenture.com](http://Accenture.com).

### Accenture Team

**Jennie Perzon** - Accenture sustainability director and doctoral student at Misum, Stockholm School of Economics.  
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**Sofia Brandt** - Strategy Manager, Accenture.  
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### H&M Foundation

The H&M Foundation is a non-profit global foundation headquartered in Stockholm, Sweden. Its mission is to drive long-lasting, positive change and improve living conditions by investing in people, communities, and innovative ideas. Through partnerships with organizations around the globe, the H&M Foundation aims to act as a catalyst for change and accelerate the progress needed to reach the UN Sustainable Development Goals by 2030. It focuses on four areas: Education, Water, Equality, and Planet, and it can also provide emergency relief.

The H&M Foundation is privately funded by the Stefan Persson family – founders and main owners of H & M Hennes & Mauritz AB. Since 2013, the family has donated 1.5 billion Swedish krona (\$200 million/€163 million) to the H&M Foundation.

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