

**The 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 in order to accelerate the shift from a linear to a circular fashion industry and, ultimately, to protect the planet and our living conditions.**

**We are looking for tomorrow's game-changers – innovations that have the possibility to make a real impact on a large scale.**

**Each year, an expert panel selects five winners from thousands of applications from around the world. This year, we had 6,640 entries from 182 countries. The winning teams share a grant of €1 million and get access to a one-year accelerator program provided by the H&M Foundation, Accenture, and KTH Royal Institute of Technology.**

**The aim of the program is to scale the innovations and bring them to the market as quickly as possible, maximizing 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.**

## Expert Panel

### Global Change Award 2019

This year's Global Change Award winners, presented on pages 8–13, were identified with the help of the Global Change Award Expert Panel. The members, who all work pro bono, are chosen for their extensive knowledge and experience within fashion, sustainability, circularity, and innovation.



**Leila Janah**  
Young Global Leader of the World Economic Forum and CEO of Samasource and LXMI, two companies that go beyond charity to #givework to low-income people around the world using cutting-edge social enterprise models.



**Tariq Fancy**  
Chief Investment Officer of Sustainable Investing at BlackRock and Founder and Chairman at Rumie – a social technology startup, whose award-winning technology brings the free digital learning revolution to remote and offline communities globally.



**Amy Webb**  
Quantitative Futurist and Founder of the Future Today Institute, Professor of Strategic Foresight at the New York University Stern School of Business, and bestselling author of *The Signals Are Talking: Why Today's Fringe Is Tomorrow's Mainstream*.



**Steven Kolb**  
President and CEO of The Council of Fashion Designers of America (CFDA) – the trade association for the American fashion industry. Ranked as one of 500 people shaping the fashion industry by the influential website *The Business of Fashion*.



**Wanjira Mathai**  
Chair of Wangari Maathai Foundation and the Green Belt Movement. On the boards of WMI, GBMI Europe, GBMI-USA, and Resonate. Director of Partnerships for Women's Entrepreneurship in Renewables, Wangari Maathai Institute, University of Nairobi.



**William McDonough**  
Globally recognised leader in sustainable development, and the architect of many recognized flagship buildings of sustainable design. Chief Executive at McDonough Innovation, advising commercial and governmental leaders worldwide.



**Chiling Lin**  
Actress, model, host, charity icon, and sustainability pioneer in Greater China. Works with charity organizations and founded Chiling Charity Foundation in 2011 that focuses on child welfare and education.



**Edwin Keh**  
CEO of The Hong Kong Research Institute of Textiles and Apparel and faculty member of the Operations and Information Management Department at Wharton School, University of Pennsylvania.



**Bandana Tewari**  
Fashion journalist, sustainability activist, and contributor at the web publication *The Business of Fashion*. Formerly editor-at-large at *Vogue India*.

## Grand Award Ceremony

### Last Year's Winners Awarded at the City Hall in Stockholm

On March 21, 2018, the winners of Global Change Award 2018 were crowned at the Grand Award Ceremony at the Stockholm City Hall. Last year's edition of the innovation challenge attracted 2,600 entries from 151 countries. The winning innovations included clothes made from food crop leftovers and mushroom roots, a dissolvable thread that facilitates repairing and recycling as well as advanced

recycling processes and bio-fibers with health benefits. The winners shared a grant of €1 million, and embarked on a one-year accelerator program together. The program is provided by the H&M Foundation with partners Accenture and KTH Royal Institute of Technology.

"I congratulate all five winning teams," said Karl-Johan Persson, Board member of the H&M Foundation and CEO at

H & M Hennes & Mauritz AB. "They show that innovation knows no national borders and can rest in anyone's head."

On April 3, this year's winning innovations are awarded in Stockholm. Learn more about them, as well as all the previous Global Change Award winners and their progress so far, on pages 8–17.



## One Year of Acceleration

The one-year accelerator program brings significant value to the Global Change Award winners. With tailor-made sessions and support, it has proven to cut years off the development timeline.

As soon as the Global Change Award winners have been granted their awards at the ceremony in Stockholm, Sweden, they start their one-year accelerator program – described by many previous winners as far more valuable than the cash grant.

“Their growth during this year is obvious,” says Erik Bang, Innovation Lead at the H&M Foundation. “Mentally, they gain confidence and faith in their vision, product and technology. They also gain experience, and the activities during the year make them feel that they own all the contexts that they need to operate in.”

During the year, the winners make three trips together to key fashion industry hubs on three different continents. In between these trips, the winners stay in their home countries, working within their own networks and infrastructures but with access to virtual sessions and personal assistance from all three partners of the Global Change Award.

The accelerator year starts in April with a one-week bootcamp, provided by KTH Royal Institute of Technology in Stockholm. The bootcamp is designed to create insights on innovation readiness, goal setting, IPR protection, and innovation development.

Before summer, the teams meet again for a week of idea acceleration in New York, provided by Accenture. Here, they meet leading experts on the circular economy and innovation, get insights into future digital customer experiences, and have opportunities to meet investors.

In the autumn, the teams meet in Hong Kong SAR, China, for a final week focused on industry access provided by the H&M group and the H&M Foundation. They also get access to network opportunities and knowledge about circularity in the fashion value chain.

“Neither the week in Stockholm and New York nor Hong Kong could comprise an accelerator in itself. The concept is based on gradual development, spanning over three occasions on three different continents,” explains Erik Bang. “New York and Hong Kong are both key hubs in the fashion industry. New York is the home of many major fashion brands,

influencers, and investors, and in Hong Kong the winners get access to brands and investors as well as producers and manufacturers. It’s also a springboard into Asia, for understanding its vital role in the fashion industry.”

Erik Bang likens the accelerator program’s final week in Hong Kong to a graduation: “By then, it’s clear what a difference this program makes for these teams. They’re ready to take on investors and pilot their innovations within the industry. In short, they’re ready to go from the drawing board to reality.”



### Bringing the Global Change Award alumni together

The one-year accelerator program’s final week in Hong Kong brings all the previous Global Change Award winners together (20 teams by now).

Erik Bang, innovation lead at the H&M Foundation, was there for the premiere of the Global Change Award alumni meeting in 2018 that will also be included in the upcoming accelerator programs:

“The winners from all the previous years are such an inspiration to each other,” he says. “As soon as they meet, they naturally start collaborating, sharing technologies and experiences, and networking, and many of them continue to collaborate after the alumni week.”

## A Triad of Experience

The partners of the Global Change Award provide the winners with unique skills and knowledge during the accelerator program. Three representatives discuss how they work with the awardees.



**Gustav Notander**  
Business development coach at KTH Innovation at KTH Royal Institute of Technology.

### What does KTH Innovation contribute to the accelerator program?

“We have a lot of experience in working with early-stage ideas for technologies, products, and services, and KTH Innovation have developed an effective model that helps the winners identify their concept’s readiness levels in key areas. This helps them prioritize so that they make the right kind of effort at the right time, and invest their resources in the right areas.”

### Apart from working with the readiness model, what do you focus on during the bootcamp in Stockholm?

“We help them develop a solid business plan, and we prepare them for all the media attention that they are going to get – helping them to express their ideas in an effective and comprehensible way. We also work a lot with bringing the teams closer to each other. The more close-knit they are from the very start of the accelerator, the more they can support and accelerate each other by sharing experiences, skills, and networks.”

### You have been part of the Global Change Award since the start in 2015. Is there anything that has surprised you or exceeded your expectations?

“The recent growth of the Global Change Award has surprised all of us, both when it comes to the number of applicants (which really exploded this year) as well as the international reach. I’m also happy about the fact that there are many female applicants compared to other innovation and technology challenges.



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

### What is the role of the H&M Foundation in the accelerator program?

“Our job is to facilitate as much progress as possible for the winning teams – from introductions to specific industry contacts to opportunities for exposure at conferences or in the media. Always working for their specific needs, we invest all we have in them because, ultimately, the Global Change Award is defined by the innovations’ impact on the industry.”

### Looking back at the progress of the Global Change Award over the years, what has exceeded your expectations?

“The development of the teams and the change that they contribute to gives all three partners enormous amounts of energy. The truly tangible progress and mounting success of so many of the winning teams helps us include even more of our internal and external networks in the accelerator program. This, in turn, gives even more value and success to current and future winners.”

### How has the significance of Global Change Award developed?

“It’s amazing to see how GCA has been established as a key player in the industry and as a platform for innovation. This is notable in the increased industry access we get as well as the interest in the teams and their innovations. The industry wants to be part of this change, and the range of radical and circular innovations has grown tremendously. It’s now up to the industry to be bold and pilot these innovations with customers in a commercial context.”



**Jennie Perzon**  
Strategy Principal Director Sustainability, Accenture.

### Accenture has been a Global Change Award partner since the start in 2015. How would you summarize these years?

“The partnership has developed into a broader ecosystem with a truly global reach. Together, we challenge the status quo with a new mindset for change. We have seen that a groundbreaking idea can come from anyone, anywhere.”

### What does Accenture hope to bring to the development of these teams and their innovations?

“As well as helping the winners with business strategy, business development, and ecosystem ways of working, we bring deep expertise on what is essentially our sweet spot – sustainability, technology, and innovation. We also offer access to our global network of experts, brands, partners, and investors.”

### Have you adjusted or further developed the program?

“The great thing about the Global Change Award is its constant change and our joint ability to tailor the program to the innovators’ needs. It’s also great to engage with our alumni group of innovators continuing their journey.”

### How do you regard the Global Change Award in a global perspective?

“The complementary strengths among the Global Change Award partners spur the continuous evolution of the program, and our strong relationships enable us to be very brave in our ambitions. I think this is exactly what is needed to disrupt our current systems and move toward a more sustainable future.”

# Global Change Award

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## Winners 2019

Meet the five winners of Global Change Award 2019. These innovations of today are the solutions of tomorrow, presenting new circular approaches aiming to transform the fashion industry and craft a sustainable and stylish future.



## The Loop Scoop

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by **circular.fashion** awarded **€300,000**  
Using tech to make fashion circular from sketch to scrap.

Today, rather few garments are designed with perfect circularity in mind. However, to protect our planet, we need to shift from “take-make-waste” to a circular model where materials and valuable resources are used and reused repeatedly.

This innovation aims to solve the issue through a smart and thorough digital system with a straight forward mission: to close the loop on every garment from design to wear to recycling.

Designers are provided with the knowledge, tools, and resources that they need to design with recyclable intent. The system clearly specifies how

each choice of material, cut, and production affects the planet.

The product specifications are then saved as a digital identity. This circularity.ID can be scanned by consumers to access a product site presenting the best options once done with the garment, thereby encouraging consumers to reuse, update, or recycle their fashion.

The circularity.ID also facilitates proper handling at the sorting and recycling plant. All in all, this system provides a much-needed circular foundation for the innovative fashion brands and conscious consumers of tomorrow.

Team members: Ina Budde, Jonna Haegglom, Mario Malzacher, and Uwe Kamper. Country: Germany.  
<https://circular.fashion/>



## Sane Membrane

by **dimpora** awarded **€250,000**

A biodegradable and mineral-based membrane for outdoor wear.

It is ironic that clothes designed for people who truly love nature often cause considerable damage to the environment. The root of this problem is within the harmful substances added to outdoor wear to help the garments withstand rain and harsh weather conditions. The wear, tear and washing of such gear releases non-degradable carcinogenic toxins as well as microplastics into the world.

Now, however, an innovation is here to change all of that by taking a cue from

nature itself. This non-toxic, mineral based and fluorine-free alternative consists of a biodegradable solution that does the job just as effectively but naturally. It can be added to any kind of garment in the form of a micro-thin membrane that shields against the elements in a sustainable way. Indeed, protection against the cold, wind, and rain can be as natural and solid as the rock it came from.

You don't have to be a true nature lover to take this innovation to heart.

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



## Sustainable Sting

by **Green Nettle Textile** awarded **€150,000**

Growing nettles to create sustainable fashion and livelihoods.

What do you grow in hard-to-access, thin-soiled steep slopes where irrigation is tricky and machines can't reach them? The solution is as simple as it is brilliant - you grow what would grow there naturally.

Stinging nettles are true survivors, requiring just some sun, minimum water, and whatever soil you have. In return, the plant provides stalks that can be turned into a sustainable linen-like fabric.

Process leftovers can be used to make paper and dyes.

Besides potentially providing job opportunities and nutrients for more than 200,000 small holder farmers across Kenya alone, organic nettle fabric is a welcome, environmentally friendly alternative to conventional fabrics. Not to mention the fact that the stinging nettle finally gets the appreciation it deserves.

And, no, the fabric doesn't sting.

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



## Clothes that Grow

by **Petit Pli** awarded **€150,000**

Outfits that expand with the child while reducing the environmental impact.

Parents struggle to keep up in every way, including dressing their little ones as they crawl, climb and explore the world. As children grow 7 sizes in their first 2 years, there's an appalling amount of children's clothes that are bought but barely or never worn before they're outgrown.

This patent-pending innovation offers a smarter solution by presenting durable and appealing clothes that grow with the child. Inspired by space engineering and the ingenious folding techniques of origami to maximize volume in a minimum

amount of space, these garments are folded in a way that allows for tops and bottoms to expand and fit each child for years.

As children are extreme athletes, the material is windproof, waterproof, and designed for fun, adventurous play. You can make a single purchase and have your kid enjoy it over time and then pass it on to siblings or friends, teaching the next generation sustainability before they've even learned their ABCs!

**Team members:** Ryan Mario Yasin, Alicia Martinez-Rodriguez, Arabella Turek, and Fanny Lefebvre-Nare. **Country:** United Kingdom. [petitpli.com](http://petitpli.com)



## Lab Leather

by **Le Qara** awarded **€150,000**

Using microorganisms to create vegan biodegradable fashion.

Besides demanding the lives of millions of animals each year, conventional leather production is harmful to the environment due to the toxins and heavy metals used for tanning. Tanning also requires large amounts of water, which is often a scarce resource around the globe.

While there are vegan alternatives on the market, few have been able to match all the unique properties of real leather. That is, until now.

This innovation, derived from exotic Peruvian flowers and fruits, makes it possible to mimic virtually any desired

leather texture, color, toughness or thickness. The material, grown from microorganisms in a biotech lab, is produced in the same industry standard sizes as conventional leather, making the switch to this vegan alternative an easy and obvious decision for the eco-minded.

And since the material is 100 percent biodegradable, the remains from the recycling process can be used as a liquid compost. In short, this invention is a zero-waste solution that saves money, energy, and lives. You don't have to be a cow to love that.

**Team members:** Jacqueline Cruz Loayza, Isemar Cruz Loayza, and Maria Pia Soto Rodriguez. **Country:** Peru. [leqara.com](http://leqara.com)

# Previous Global Change Award Winners

## All of the Awarded Innovations from 2016 to 2018



### Algae Apparel

Turning algae into bio-fiber and eco-friendly dye that is also good for the skin.  
**Awarded:** €150,000. **Year:** 2018.  
**Company:** Algalife.

Conventional fibers, such as cotton, require large amounts of water. Textile dyeing is another challenge, both in terms of water use and pollution. Algalife has solved both these issues by looking under the sea to find an untapped resource in algae. Algae is a renewable and degradable aquatic organism, that can be turned into a bio-fiber and an environmentally friendly dye. A bonus effect of wearing these clothes is that the fabric releases antioxidants, vitamins, and other nutrients to the skin.

“The past year was like a rollercoaster,” says Renana Kelbs. “From being a young startup, we made a huge leap toward becoming a legitimate company, working with the biggest brands in all parts of the supply chain. The award was a beacon for us to achieve our vision, bring our new innovation and revolution to life, and be an enabler and green engine for the fashion industry.”

**Team members:** Renana Krebs, Dr. Oded Krebs and Karin Bakshi.  
**Country:** Israel.  
**Alga-life.com**



### Crop-A-Porter

Sustainable bio-textiles from food crop leftovers.  
**Awarded:** €300,000. **Year:** 2018.  
**Company:** Circular Systems/Agraloop.

A low-cost, closed loop technology that turns the bio fibres in harvest remains into textile fabric. As a bonus, it brings additional income to the farmers.

**Team members:** Yitzac Goldstein, Geof Kime, and Isaac Nichelson.  
**Country:** USA.  
**Circular-systems.com**



### The Regenerator

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

A circular technology that gently separates and regenerates cotton and polyester blends into new, fully useable textile fiber.

**Team members:** Zengwei Guo, Lisa Schwarz Bour, Erik Nilsson, Erik Perzon.  
**Country:** Sweden.  
**Swerea.se/en**



### Smart Stitch

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

A thread that dissolves at high temperatures enables easier recycling of clothes with zippers and buttons. With this thread, the whole piece of clothing can also be disassembled easily, so that the parts can be used in new ways.

**Team members:** Cédric Vanhooeck and Vanessa Counaert. **Country:** Belgium.  
**Resortecs.com**



### Squid Style

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

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

**Team members:** Melik Demirel, Gözde Şenel-Ayaz, Sung Yeul Kim and Dennis Werger. **Country:** USA.  
**Tandemrepeat.com**



### Fungi Fashion

Custom-made clothes made from decomposable mushroom roots.  
**Awarded:** €150,000. **Year:** 2018.  
**Company:** MycoTEX.

Combined with 3D modeling, MycoTEX found a way to produce custom-made clothes out of mushroom roots, without the need to cut and sew. Once you've worn it out, simply bury the garment in the ground to decompose.

**Innovator:** Aniela Hoytink.  
**Country:** Netherlands.  
**Neffa.nl**



### Solar Textiles

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

A process that replaces fossil fuels to make nylon from water, plant waste, and solar energy – while also binding greenhouse gases from the plant waste.

**Team members:** Miguel A. Modestino, Sophia Haussener, Daniela Blanco, Adlai Katzenberg and Saurab Tembhurne.  
**Countries:** USA and Switzerland.  
**Sunthetics.org**



### Grape Leather

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

Every year, 26 billion liters of wine is produced globally. This innovation uses the grape and stalk leftovers to produce a green alternative to animal and synthetic leather.

**Team members:** Rosa Rossella Longobardo, Gianpiero Tessitore, Francesco Merlino, and Valentina Longobardo.  
**Country:** Italy. **Vegeacompany.com**



### Manure Couture

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

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.

**Team members:** Jalila Essaidi and George Johannes van Trier.  
**Country:** Netherlands.  
**Mestic.eu**





### Content Thread

Facilitating sorting and recycling of clothes using a digital thread.

**Awarded:** €150,000. **Year:** 2017.

**Company:** EON.

One of the biggest barriers to textile recycling is that we often don't know what the clothes are made of. To bridge this communication gap between manufacturers and recyclers, the EON team developed a digital thread that stores the content information needed to recycle a garment automatically. The thread looks and feels much like a normal thread, but through RFID (radio frequency identification) technology, it can store digital information and be scanned from a distance. Lasting over the garment's lifetime, the thread enables product integrity, reduces waste throughout the entire supply chain, and drives the transition to a circular system in which materials can be perpetually recycled.

The content thread can also be used for supply chain management, anti-theft, and "smart" connected clothing.

Since winning the award, the team has moved beyond proof of concept to a commercialized strategy. They've built partnerships with global brands that are purchasing and introducing their technology - and they've gone from only producing five sample threads to producing millions of tags in 2018.

"By accelerating the industry's adoption and understanding of connected and circular fashion, the Global Change Award's contribution has not only been paramount to the success of our company, but also paramount in powering the industry-wide transition to a circular economy," says Natasha Franck.

**Team members:** Anura Rathnayake and Natasha Franck.

**Country:** USA and United Kingdom.  
*Connect-fashion.com*



### Unspun

A machine that spins custom-fitted clothes - and then unspins them again.

**Awarded:** Early Bird. **Year:** 2017.

**Company:** Unspun.

Three entrepreneurs from the universities of Stanford and Colorado invented a machine that takes the customer's exact measurements in 3D, and then weaves the desired piece of clothing on-demand. This makes it possible to eliminate the current textile waste, since the production does not have to be estimated to future demand, no stock is needed and there is no cutting waste.

Perhaps even more revolutionary, the process might also one day be reversed: old garments made with the technology could be put into the machine and converted back to a reusable spool of yarn, which would mean that no clothes are thrown away.

In the second annual Global Change Award, the innovation of Beth Esponnette, Kevin Martin and Walden Lam were awarded the Early Bird prize as they were the best non-awardees to apply in the first half of the application period. The prize gave them the chance to join the other Global Change Award winners on a study trip to Milan.

"Winning the Early Bird Award opened up partnership opportunities for us," says Walden Lam. "Forward-thinking brands and manufacturers look among Global Change Award winners for innovative solutions to pilot and implement. Since the accelerator program last year, we have been working tirelessly on improving our product, supply chain, and customer experience now that we know we have the technology down. We recently opened our first permanent store in San Francisco that doubles as our office. We want to be able to showcase and iterate on what the sustainable future of fashion retail looks like, and hopefully inspire others to do the same."

**Team members:** Beth Esponnette, Kevin Martin and Walden Lam.

**Country:** USA. *Unspuntech.com*



### Denim-Dyed Denim

Using used denim to colour new denim.

**Awarded:** €150,000. **Year:** 2017.

**Company:** Deakin University.

Jeans are the most common apparel items on the market. Unfortunately, the traditional process of dyeing denim requires large amounts of water and energy.

By using pulverized old denim garments to colour new ones, the traditional water- and energy-consuming dying process can be surpassed.

**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*



### The Polyester Digester

A recycling technology to make polyester everlasting.

**Awarded:** €250,000. **Year:** 2016.

**Company:** Moral Fiber.

The crude oil used to produce polyester has already been extracted and refined. With molecular recycling, Moral Fiber wants to turn polyester into something of value and break the dependence on oil.

**Team members:** Moby Ahmed and Akshay Sethi.

**Country:** USA.

*Mrlfbr.com*



### Making Waste-Cotton New

A chemical-free solvent for recycling cotton without quality loss.

**Awarded:** €300,000. **Year:** 2016.

**Company:** Ioncell-F.

Cotton is one of our most beloved materials. But producing 1 kilo requires 10,000 liters of water. Ioncell-F developed a non-toxic solvent that dissolves the cellulose without damaging the cotton.

**Team members:** Ali Harlin, Michael Hummel, Ilkka Kilpeläinen, Pirjo Kääriäinen, Herbert Sixta and Marjaana Tanttu.

**Country:** Finland. *Ioncell.fi*



### Algae Fabrics

Growing textile fiber under water.

**Awarded:** €150,000. **Year:** 2016.

**Company:** Studio Tjeerd Veenhoven/AlgaFabrics.

Algae contain 70 percent cellulose, and requires neither land nor fresh water to grow. This technology extracts cellulose from algae cell walls and enables the fibres to stick together in straight lines, ready to be turned into textiles.

**Innovator:** Tjeerd Veenhoven.

**Country:** The Netherlands.

*Tjeerdveenhoven.com*



### 100 Percent Citrus

A new textile from citrus juice by-products.

**Awarded:** €150,000. **Year:** 2016.

**Company:** Orange Fiber.

The Orange Fiber team extracts cellulose from citrus waste and spins it into a silk-like, biodegradable fabric. In 2017, their fabric was used in a collection by the Italian high fashion brand Salvatore Ferragamo.

**Team members:** Enrica Arena, Moreno Petrucci, and Adriana Santanocito.

**Country:** Italy. *Orangefiber.it*



### Travel Vendi

A vending machine for rental clothes.

**Awarded:** Early Bird. **Year:** 2016.

When the Global Change Award was launched in September 2015, one of the first entries was Travel Vendi - a vending machine for renting clothes. The team behind the idea won the Early Bird award, giving them the opportunity to meet the other winners in Shanghai to participate in workshops and visit relevant factories.

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

**Country:** South Korea.



### Online Market for Textile Leftovers

A digital marketplace for leftover materials from manufacturers.

**Awarded:** €150,000. **Year:** 2016.

**Company:** Reverse Resources.

More than 100 billion garments are produced each year. 15 percent of the materials produced in the process go to waste. Reverse Resources created an online marketplace for these leftovers.

**Team members:** Aili Aamissepp, Dea Oja, Urmas Pappel, Neeme Praks, and Ann Runnel.

**Country:** Estonia. *Reverseresources.net*

# Accenture Global Change Award Trend Report

## Ecosystem Innovation with a Purpose

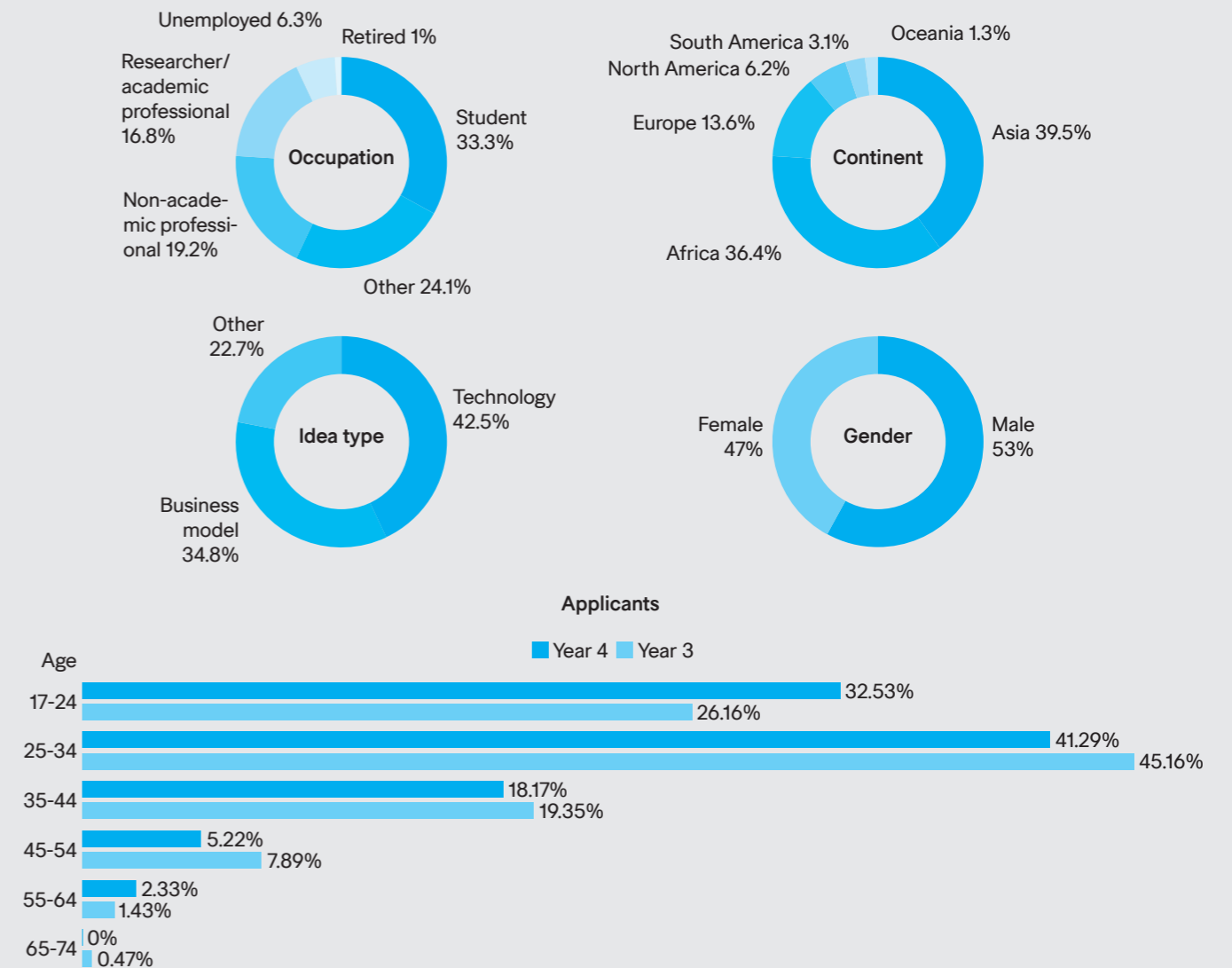
What can we learn from 6,640 game-changing ideas from 182 countries<sup>1</sup> to accelerate the shift toward a more sustainable future? The fashion industry is facing major economic, environmental, and social challenges. This is an opportunity to reinvent and ignite the shift to a sustainable industry powered by technology, innovation, and ecosystem ways of working.

We need to move from linear “take-make-waste” production and consumption models to a circular “take-make-take-make” economy that eliminates waste.

The Global Change Award is uniquely positioned to apply purpose-driven ecosystem ways of working to accelerate innovation and technology, and ultimately spark the shift to a circular future.

Our learnings from the Global Change Award show that to enable innovation and solve the fashion industry’s great challenges, collaboration across the ecosystem is essential.

Global Change Award year 4 in numbers



## Innovation Ecosystem

### The Key to Thrive in the New

Humanity’s consumption of our planet’s resources is outstripping its capacity to regenerate, and is a clear indication that we need to disrupt our current trajectory. We have a huge opportunity to reinvent our future.

In a world where the speed of change is faster than ever, the need for disruptive innovation goes beyond our imagination. In parallel, there is a strong movement of more collaborative ways of working. No single player – innovator, brand, business, financial institution, government, society, academia, or individual – can solve our global challenges alone.

Partnerships are not a new concept – but, as the operating environment becomes increasingly complex and competitive, new multi-stakeholder, collaborative business models are emerging across

industries. Traditional partnerships based on self-interest and strong contractual arrangements are evolving into broader, collaborative ecosystems based on interdependent resources, trusted relationships and shared value creation.

The definition of value is changing rapidly, moving from being linked to product and consumption toward focusing on outcomes such as product as a service. This strengthens the need for ecosystem collaboration where diverse players collaborate to deliver holistic solutions to the customer.

What differentiates ecosystem ways of working from other multi-stakeholder collaborations is firstly the value consideration – value sits in the system rather than in the sum of the players’ pooled resources. Secondly, instead of traditional

collaborative models that often consist of players motivated by principles of efficient transaction, ecosystem collaboration centers activities around a joint value proposition and seeks to identify the set of players that need to interact for the proposition to come about.

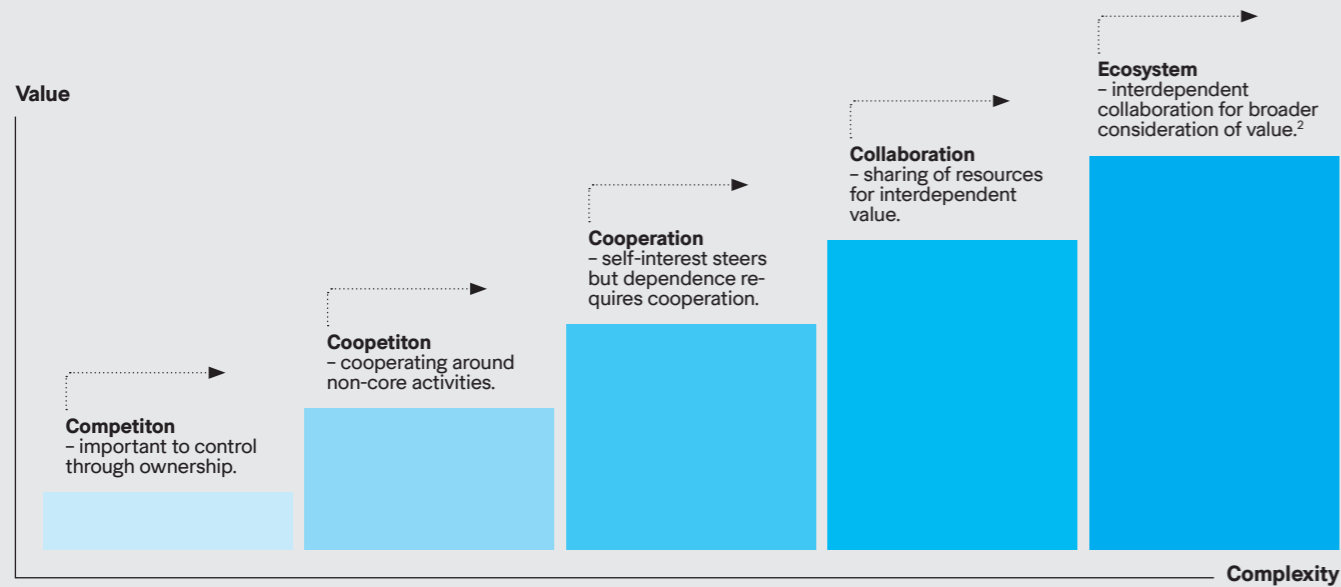
Ecosystem participants are interdependent with not only one, but several of the players, and in fact the complete system. Successful ecosystems often consist of players from different sectors, of different sizes and with significantly different competencies. To thrive, a shift in mindset and culture combined with reimagining operating structures and processes are required. This enables the collaborators to create outcome-based value, offering holistic end-to-end solutions to the customer.

**Exponential Value to be Unlocked from Ecosystem Ways of Working**  
 The value created by the ecosystem exceeds the value from combining each player's value. In fact, ecosystems can in the next 10 years unlock value of \$100 trillion for business and society. In addition, 76% of more than 1,200 business leaders agree that it will not be possible to recognize today's business models in the next five years and that ecosystems will be the main driver of change.

“Making the industry more sustainable requires a paradigm shift. A mindset revolution in what constitutes value is happening. There is an urgent opportunity to act and to succeed, and we need to rethink when, how and with whom we collaborate.”  
 – Jennie Perzon, Accenture Sustainability Director and doctoral student at Misum, Stockholm School of Economics



Winners of the Global Change Award at the accelerator in New York 2018.

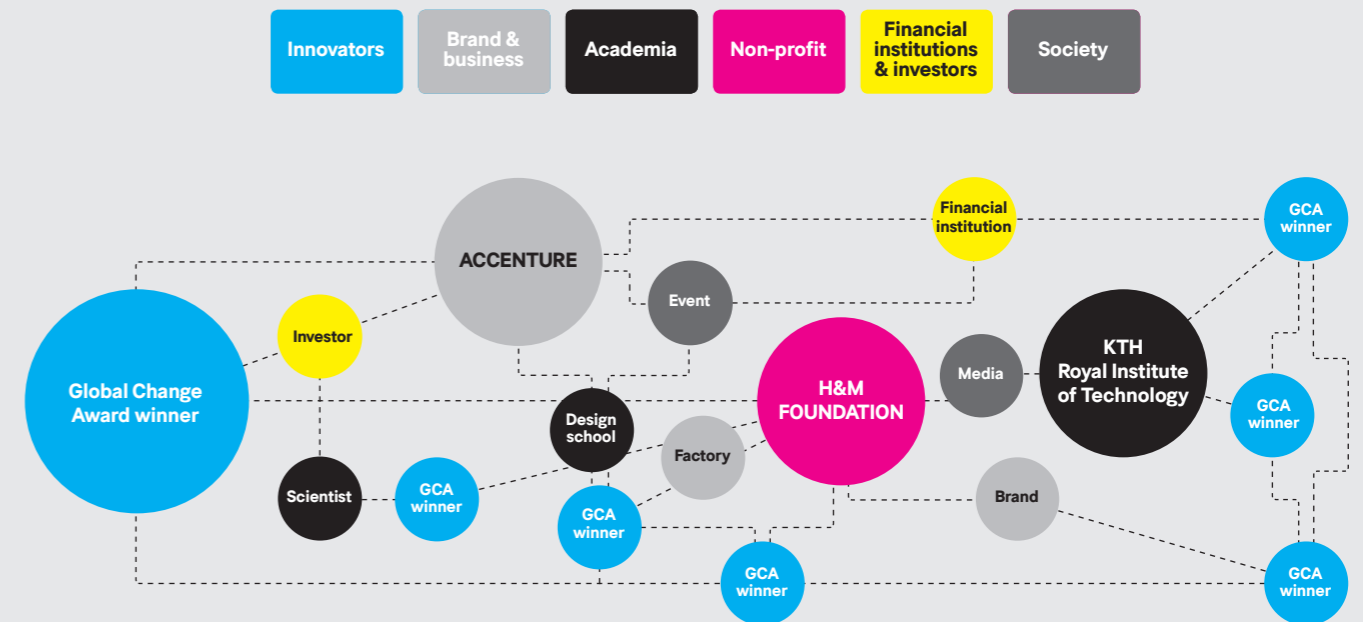


**An Innovation Ecosystem Co-Creating Value.**  
 An innovation ecosystem is a cluster of diverse players within or across industries, united around a common purpose. It is this purpose, or value, as defined by the ecosystem, that drives groundbreaking innovation, rapid disruption, and growth. The ecosystem way of working describes the operating model of successfully innovating and co-creating value, which is key to thriving in the new business landscape, ignite the shift to a more sustainable future, and solve humanity's major challenges.

# The Global Change Award

## Insights from a Successful Ecosystem

The Global Change Award is a worldwide collaboration between unlikely partners united around the common purpose to reinvent the fashion industry. It exemplifies a successful innovation ecosystem that includes innovators, different companies, a global non-profit organization, investors, factories, brands, scientists, an expert panel, academia, and media.



“The Global Change Award gathers bold, game-changing solutions from across the world. The annual innovation challenge has proven to be well positioned in uniting the players of the innovation ecosystem, but also in emphasizing co-creation, data-driven innovation insights, and working with purpose at heart.”  
 – Hanna Karlberg, strategy consultant, Accenture

### Three Insights from the Global Change Award Ecosystem

Applying data visualization and analytics to the 6,640 pioneering ideas from 182 countries<sup>1</sup> gathered in the fourth annual Global Change Award reveals patterns and unique insights that provide guidance for the future of sustainable fashion. Three insights stand out:

1. Emerging markets are on the rise.
2. Harnessing technology is a driver of change.
3. Funding remains the main challenge to idea realization.

### Insight 1: Emerging Markets are on the Rise

This year, we have seen a tremendous increase in engagement and entries from emerging markets.

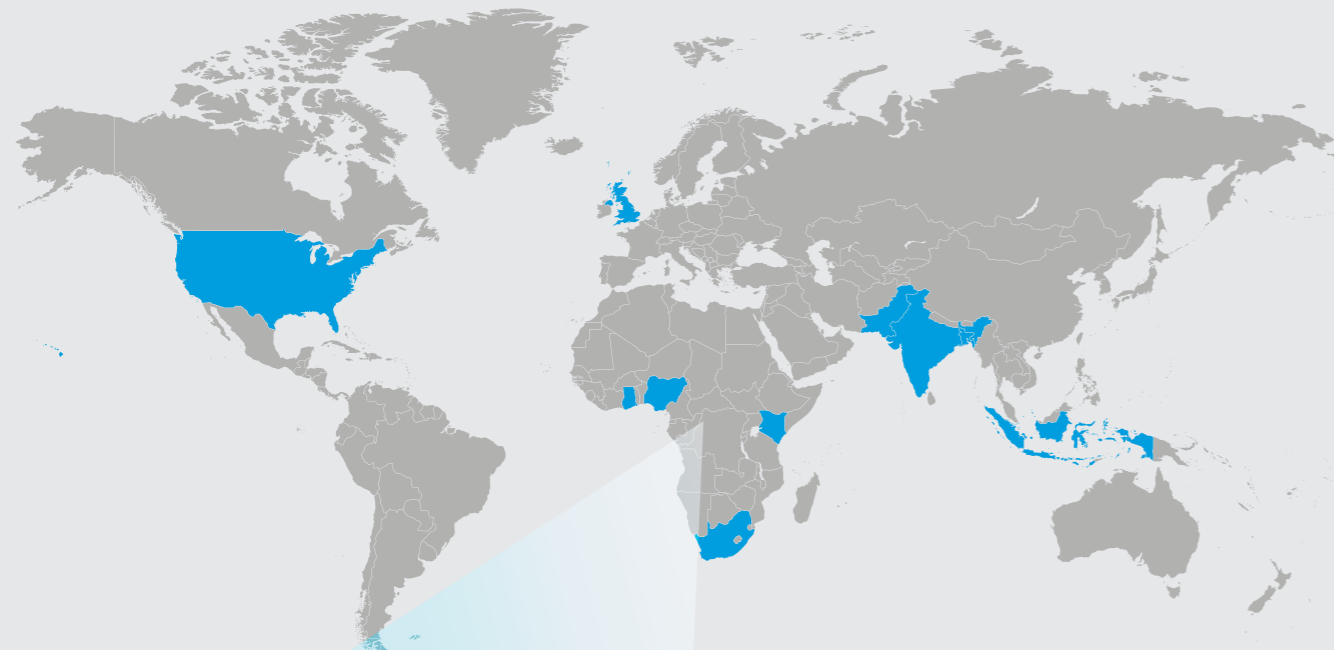
For example, the number of entries originating from Africa and Asia has increased almost 200% and 90% respectively between years 3 and 4.

In addition, more than 37% of the ideas from innovators in African countries

are technology-centric, with almost 41% business models and almost 22% other solutions. Furthermore, about 31% of the ideas are female-led, 83% of the applicants are between the ages of 17 and 34, and almost 35% are students.

Nigeria, with the fashion capital Lagos, and Kenya, with Nairobi, are both among the top ten countries by number of

applications. In fact, almost 10% of the applications from Africa are submitted by innovators residing in Lagos and more than 7% in Nairobi. In Lagos, more than 41% of the ideas are female-led, almost 71% are between the ages of 17 and 34, and almost 24% are students. In Nairobi, the corresponding numbers are 40%, 88%, and 44%.



#### Top 10 countries by number of entries:

1. India
2. Nigeria
3. Pakistan
4. United States
5. Ghana
6. Bangladesh
7. Kenya
8. United Kingdom
9. Indonesia
10. South Africa

“African entrepreneurs have a renewed confidence and have recognized that they need to be a force for change.

Technology is enabling African startups to leapfrog the market and lead exciting initiatives. The answers are out there. The ecosystem is bringing people, technology, and humanity closer together.”

– Rory Moore,  
Accenture Africa Innovation Lead

### Insight 2: Harnessing Technology is a Driver of Change

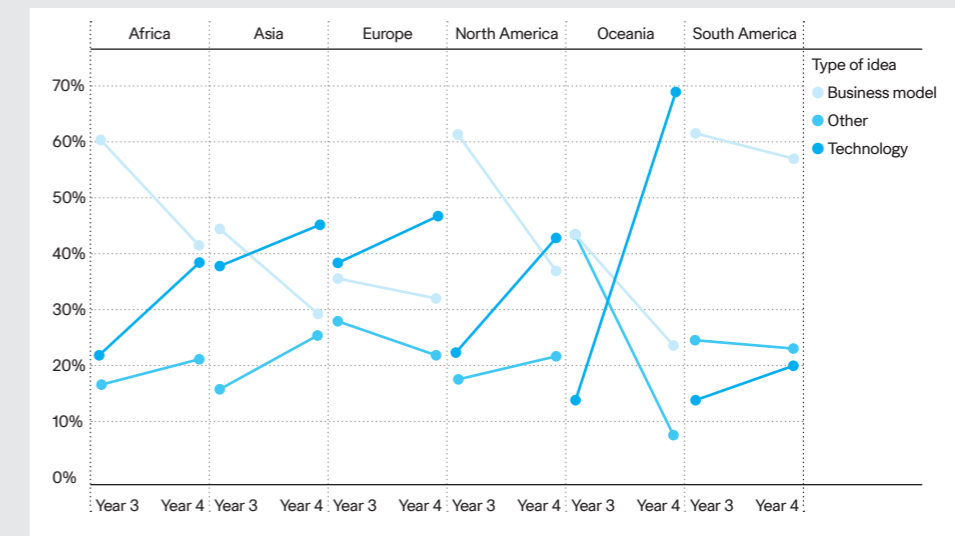
Technology is an important enabler for solving humanity's challenges and ignites the shift toward a more sustainable fashion industry. In today's highly connected and rapidly changing world, the need to identify the right partners is growing. In the case of the Global Change Award, leveraging the strengths of each ecosystem partner and harnessing technology

is essential for global innovation.

In year 4, about 42% of the ideas are technology-centric, 35% business model and 23% other (31%, 49% and 20% respectively in year 3). In fact, a technology-centric idea is now the most common type of idea, regardless of gender of the applicants. The share of female-led entries is almost 47%. Among this year's

applications, the use of technology-related words has increased, demonstrating further evidence of technology's increasingly central role. For example, about two-thirds of the applicants from Europe, North America, and Oceania refer to emerging technologies. The numbers in Africa, Asia, and South America are increasing, but remain below 50%.

Type of Idea – Year 3 and Year 4 per Continent



#### Five sets of technologies with increasing importance in empowering ecosystem innovation have been identified:

• **Big Data, Analytics and Artificial Intelligence (AI):** Big data and analytics drive disruption and enable today's economy to run on live information. In 2017, revenues from big data and analytics were predicted to be USD 151 billion.<sup>3</sup> AI is a set of technologies that enables machines to sense, comprehend, act and learn. AI is predicted to be even more disruptive than 'digital' disruption, which has pushed 52% of the Fortune 500 out of business since the year 2000.

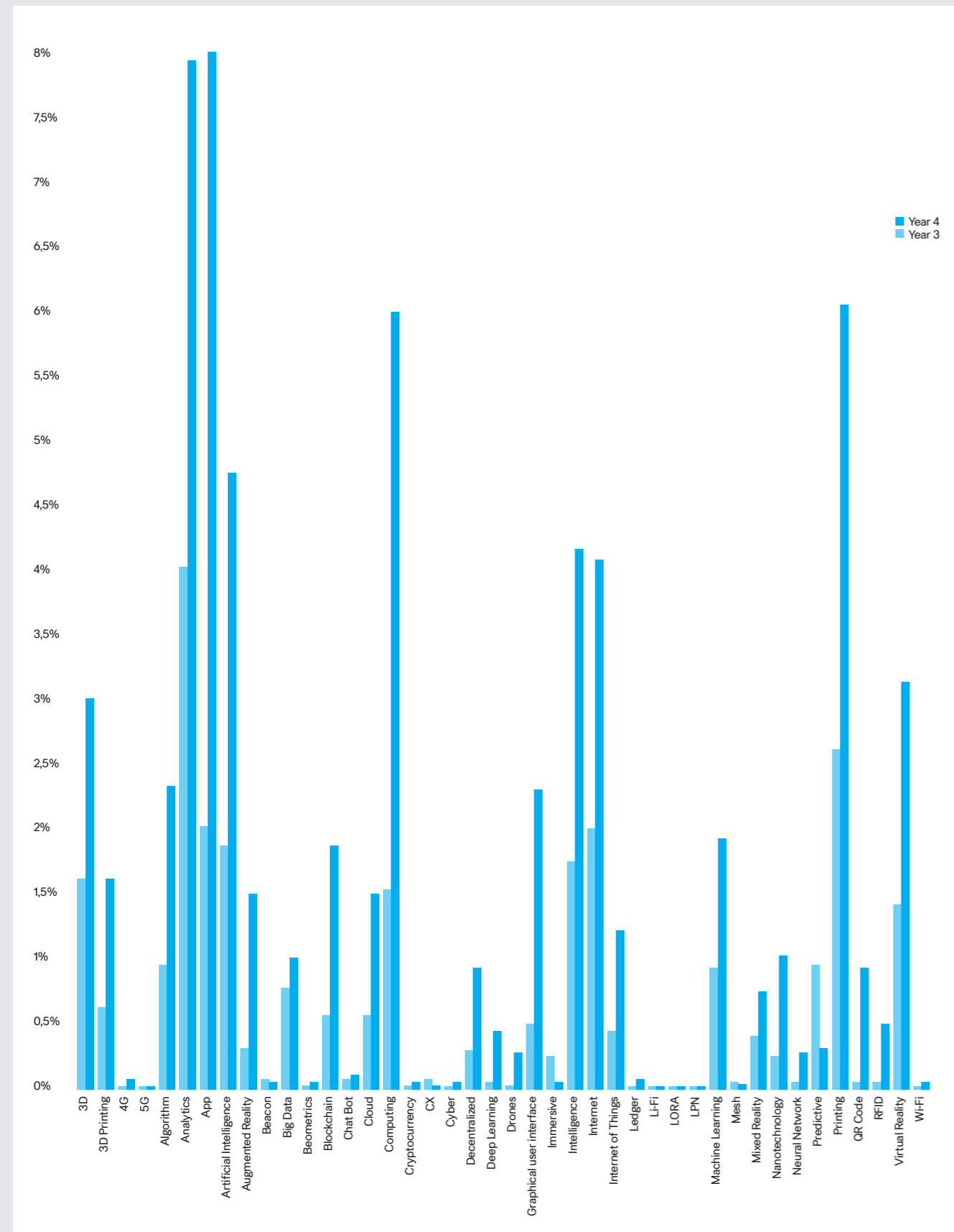
• **Digital Manufacturing:** This includes solutions such as 3D printing, and enables new opportunities in sourcing, production, and personalization through just-in-time product development. Digital manufacturing minimizes waste in production packaging and transportation through bringing the customer and production closer.

• **Extended Reality (XR):** A range of experiences blurring the line between a simulated and the real world, including Virtual Reality (VR) and Augmented Reality (AR). VR commonly takes the user to a visual virtual world using a headset and controllers. AR enables the user to experience a mix between the real and digital world by overlaying digital objects into the real world. Together, the technologies reduce distance between the customer and business.<sup>3</sup>

• **Internet of Things (IoT) and Radio Frequency Identification (RFID):** These play an integral part in shifting established business models. For IoT, 50 billion devices could be connected by 2020.<sup>4</sup> For RFID, retailers piloting or adopting the technology report 8.3% return on investment on average. Globally, the RFID adoption is about 69%, meaning RFID itself is quickly becoming a commodity as well as an important enabler of blockchain and smart technology.<sup>5</sup>

• **Blockchain:** This comprises a distributed ledger in which a time stamp and data link separate each block from the previous block. Blockchain is predicted to generate business value of USD 3.1 trillion by 2030. It can increase trust, transparency and coordination across the supply chain. It can also solve transactional complexity and secure connections and transactions without a traditional authority for validation.<sup>4</sup>

Share of ideas in the Global Change Award where technology words were used in Year 3 and Year 4, respectively:



### Insight 3: Funding Remains the Main Challenge to Idea Realization

Innovation, technology, and collaboration across the ecosystem are fundamental to reinvent the industry. Funding is also required, but remains a major challenge for innovators, especially in the circular economy. This is despite the opportunity presented by the circular economy to spark the shift to a more sustainable future. In fact, shifting from linear business models to a non-waste circular economy corresponds to a potential payoff of USD 4.5 trillion by 2030.<sup>6</sup>

In addition, there is an imbalance in investment distribution. For example, only 7% of the capital invested in European technology companies went to female-led or mixed gender founding teams in 2018. However, a shift is predicted to take form in 2019, for example through emerging first-time funds targeting underrepresented communities.<sup>7</sup> Clearly, there are indications of an untapped potential in investing in underrepresented founders. A next wave could very well be

targeting emerging markets. Still, funding is considered the most critical challenge to idea realization for more than 45% of the Global Change Award innovators, regardless of the type of idea.

There are also regional differences, and funding is considered especially difficult in Africa, where almost two-thirds of the Global Change Award innovators rate it as their most critical challenge. In Nigeria and Kenya, for example, both among the countries with the most applications this year, almost 80% and 70%, respectively, consider funding their main challenge.

Funding is considered especially pressing for innovation in development and ready-to-launch phases, which are also the phases where funding is essential to progress the innovation to the next stage.

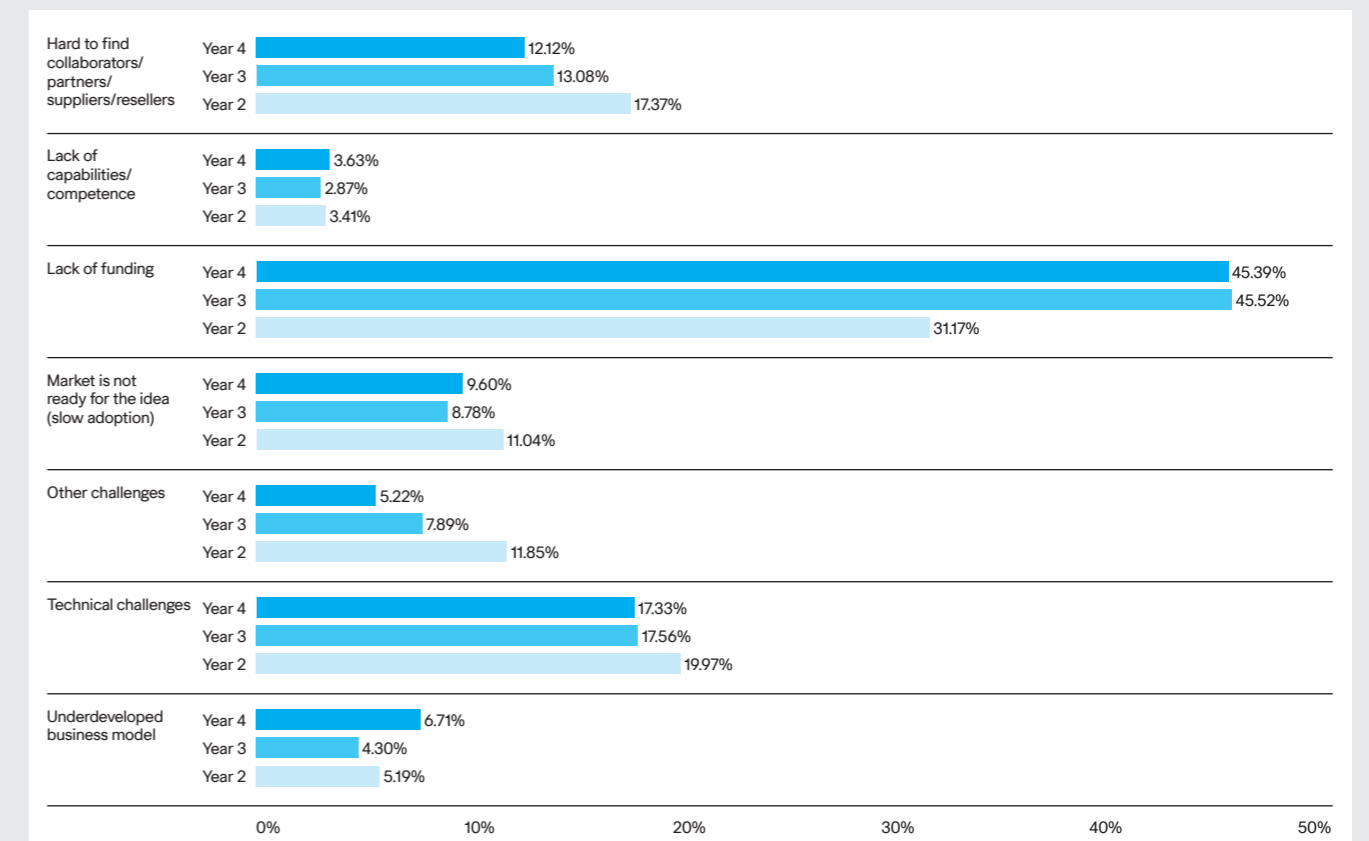
For example, crowdfunding has the potential to overcome funding challenges. Powered by technology and often managed online, it creates an opportunity to raise monetary contributions from a large

group of people.<sup>8</sup> It offers a solution to the funding challenges faced by many innovators and can prove especially suitable for early stage ideas in which traditional investors and financial institutions may be hesitant to invest. It provides transparency and a direct connection between innovators, investors, and customers.

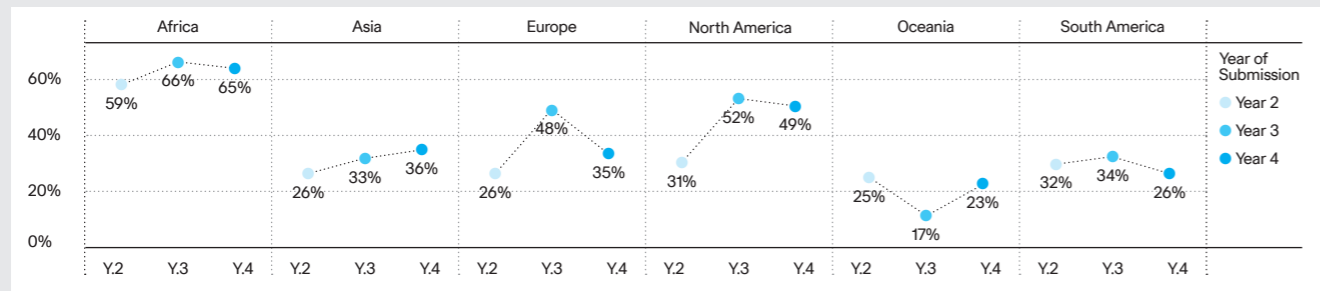
Over the past decade, crowdfunding has grown tremendously and is now a USD 16 billion market, and growing at 300% per year. To date, it has been heavily focused around Europe and North America. The African crowdfunding market, for example, corresponds to about USD 70 million.<sup>9</sup>

While still at a low level, the share of Global Change Award applications referring to crowdfunding has started to increase. Clearly, crowdfunding holds great untapped potential as a funding option as well as an opportunity for the innovation ecosystem to contribute and make a difference.

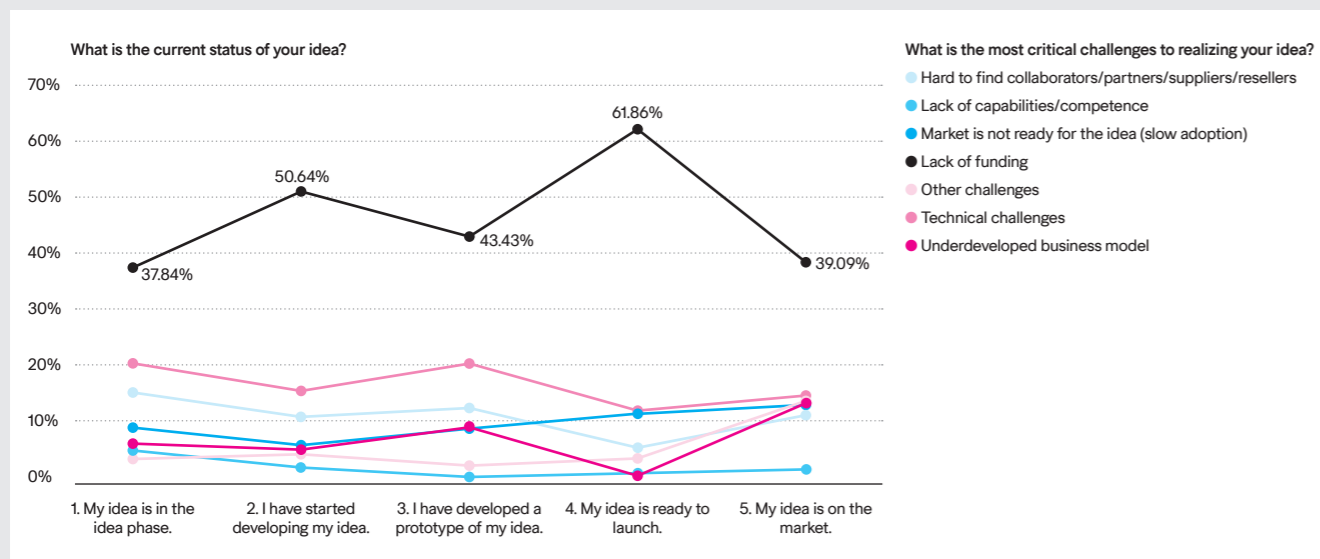
What the applicants perceive to be the greatest challenges to realizing their ideas:



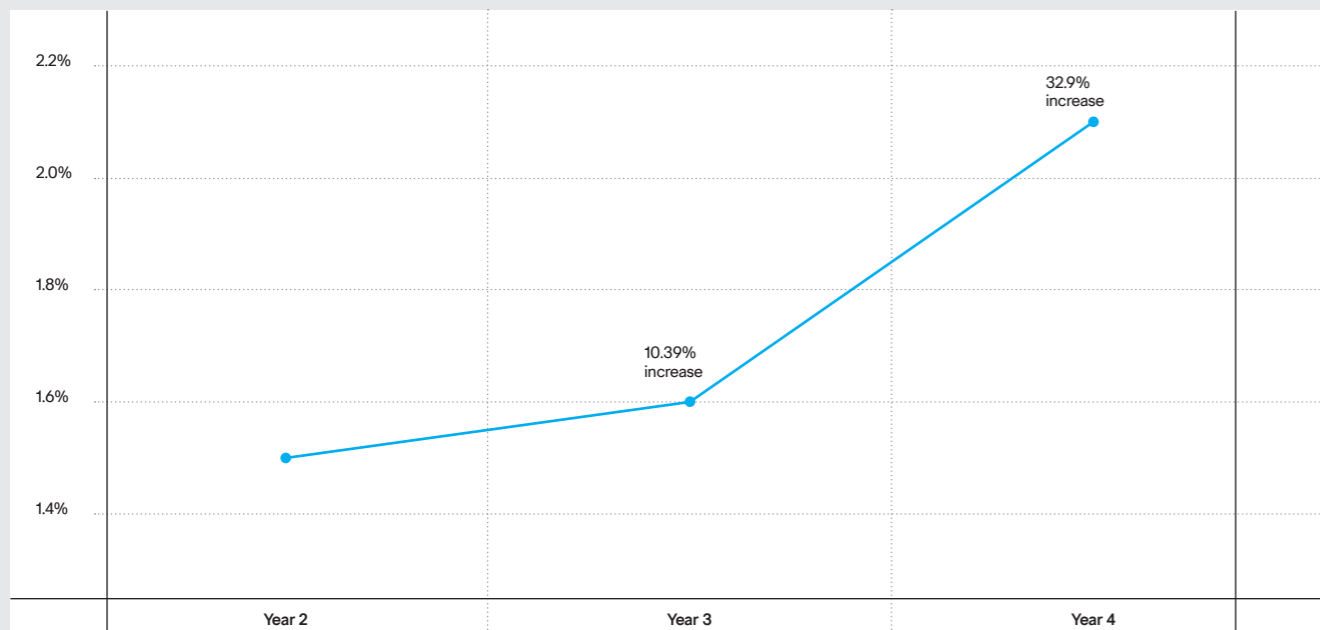
Share of innovators rating funding as their most critical challenge, per continent and year of submission:



Idea phase and the main challenge to realizing it: (Sum of % of total number of records)



Share of applicants referring to crowdfunding:



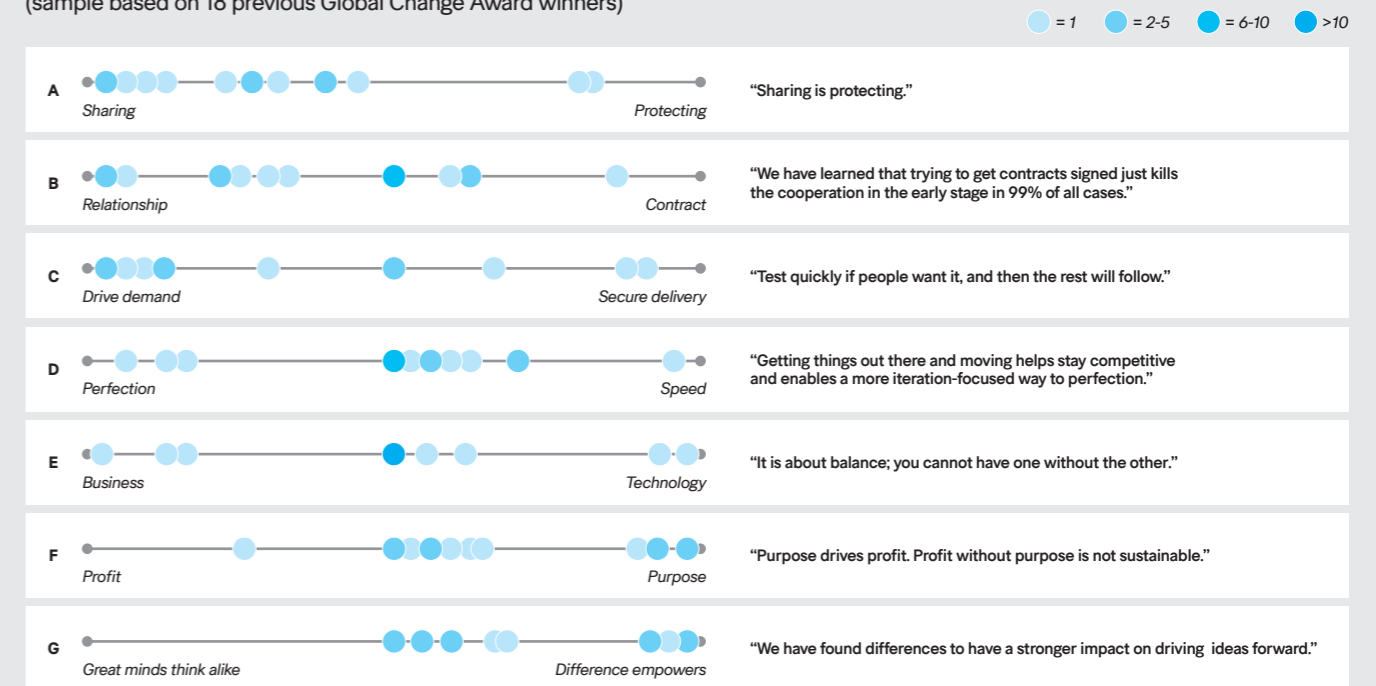
Top of Mind: The Mindset of a Global Change Award Innovator

Our previous Global Change Award winners provide unique insights on innovators' mindsets and how to unlock the potential of ecosystem ways of working. Clearly, strong partner collaboration, balance between business and technology, finding joint purpose, and diverse minds are among the critical success factors that fuel this successful fashion innovation

ecosystem. The Global Change Award ecosystem has proven to be well positioned across the key capabilities and to successfully unite winning mindsets. The innovators are provided with coaching, a valuable ecosystem network of interdependent partners, and are supported in capability development. The case is clear for leveraging

technology enabled and purpose-driven innovation ecosystems to solve humanity's major challenges. Key capabilities - culture, structure and process - and winning mindsets enable diverse players to flourish in an innovation ecosystem. There is an urgent opportunity for anyone to take part in sparking the shift to a more sustainable future.

What is top of your mind from your innovator perspective? (sample based on 18 previous Global Change Award winners)



Personas - Three Typical Global Change Award Innovators

Applying data visualization and analytics to the 6,640 Global Change Award 2019 entries<sup>1</sup> uncovers three personas representing the key characteristics of these innovators.

**George - the Well-Prepared Entrepreneur:**  
Nigeria | 27 years old | Fashion innovation interest | Business model idea | Talks about apps, analytics, computing, internet, and idea launch.

**Olivia - the Trendy Techie:**  
United Kingdom | 34 years old | Technology interest | Technology-centric idea | Talks about 3D printing, apps, intelligence, and analytics.

**Raj - the Environmentally Conscious Engineering Student:**  
India | 20 years old | Engineering studies interest | Technology-centric idea | Talks about apps, analytics, computing and artificial intelligence.

# Ecosystem Ways of Working

## How to Unleash the Potential

Although the business case is proven, most ecosystems face challenges in unleashing their full potential. In fact, only 12% of more than 1,200 business leaders expect to achieve a targeted revenue growth exceeding 5% from ecosystem ways of working.<sup>9</sup>

Tensions can arise across the ecosystem, resulting from varying perspec-

tives, values and objectives that make ecosystem ways of working challenging.

However, it can also be the very same tensions that drive the innovation required for the complex solving of the challenges our planet faces. This all makes finding common purpose an essential component of success.

Diverse players need to come

together to unleash the full potential of the ecosystem by looking to a broader definition of value and mastering the three fundamental capabilities – culture, structure, and processes.

To do this, players need to go beyond their own four walls and share results, lead from the top, and embrace ecosystem mindsets.



“Tensions generated at the intersection of diverse partners can fuel culture, structures, and processes needed to ignite ecosystem ways of working. Diverse mindsets finding common ground around a strong purpose spark the innovation required to have a real impact in today’s connected and rapidly changing world.”

– Josefine Olsson, strategy consultant, Accenture

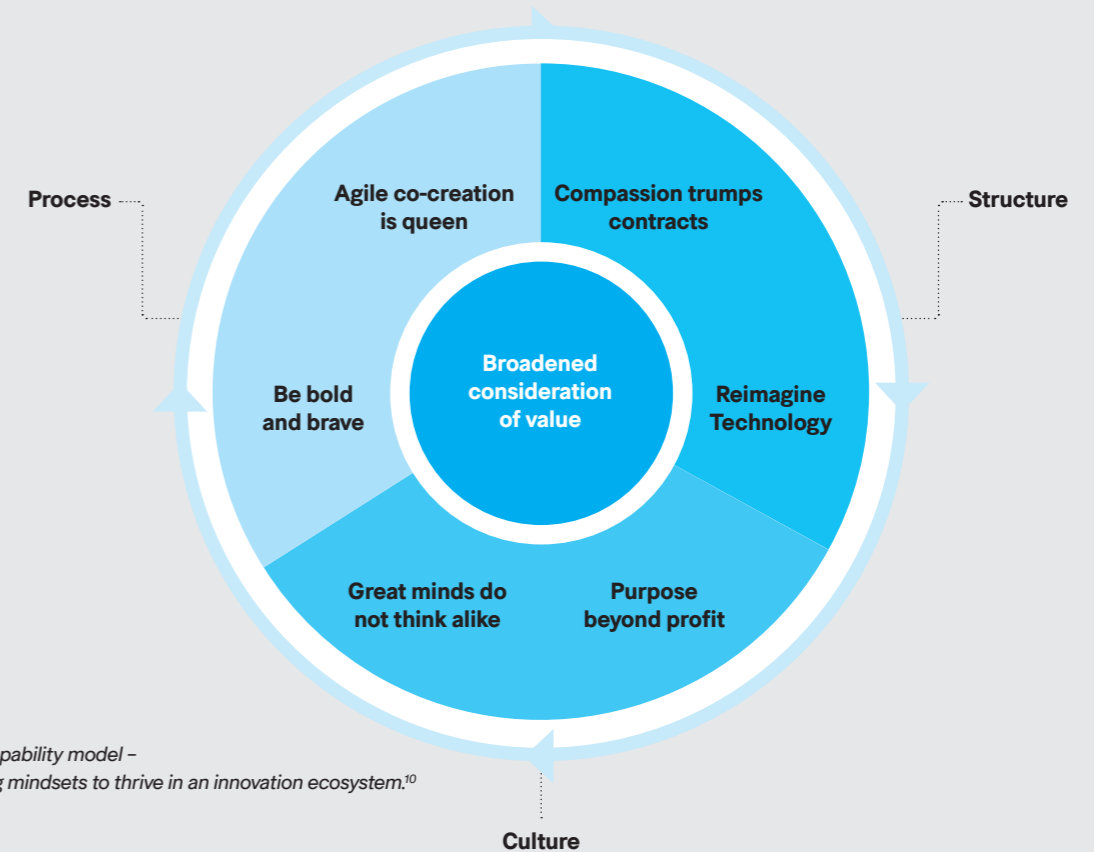
### Ways for Innovators to Tap into the Ecosystem

From an innovator perspective, the value that can be created from an ecosystem mindset reaches beyond funding and includes access to a network of potential customers, employees, suppliers, and different capabilities, all aiming to develop solutions with broader impact. In the Global Change Award ecosystem, we have seen how innovators leverage an ecosystem approach to create value in many ways. Examples include:

- 1. Securing funding and investment:** Search for funding with an ecosystem mindset and tap into a diverse range of potential investors, e.g. banks, financial institutions, VC-firms, angel investors, and crowdfunding platforms.
- 2. Attracting talent and future employees:** Recruit the best possible talent into the team by leveraging personal and professional networks from across the ecosystem.
- 3. Finding customers and clients:** Promote products and services through ecosystem players and engage ambassadors and influencers to amplify marketing efforts.
- 4. Connecting with peers:** Identify and build relationships with other innovators working on similar challenges, and exchange ideas and learnings to accelerate solutions.
- 5. Identifying mentors:** Look for functional and industry experts who can act as mentors and provide valuable guidance and coaching during the innovation journey.
- 6. Involving collaborators, partners and suppliers:** Collaborate with a diverse ecosystem of brands and partners as well as suppliers, and call on them to test innovation ideas.

### Seven Winning Mindsets to Thrive in an Innovation Ecosystem

We have identified seven winning mindsets to successfully drive innovation and value from ecosystem ways of working. Mastering these enables innovation ecosystems to flourish and ignites the shift needed to solve humanity’s greatest challenges.



Ecosystem capability model – seven winning mindsets to thrive in an innovation ecosystem.<sup>10</sup>

• **Broadened Consideration of Value**

In an innovation ecosystem, growth is not a zero-sum game. Shared value is key and the aggregated gain and loss across the innovation ecosystem can be larger than zero. It is time to be generous in the success of others and consider society and the environment as stakeholders.

• **Compassion Trumps Contracts**

With the world changing more rapidly, contracts dictating relationships between various partners quickly become outdated and a burden. Instead, trust enabled by compassion and commitment of the interdependent partners enables a connected innovation ecosystem.

• **Reimagine Technology**

Capability to leverage exponential technologies is key to staying alive in our new and rapidly changing environment. To benefit from future ecosystem gains, each player needs to develop partnerships to secure desired technology capabilities. For example, data collaboration needs to be integrated across the ecosystem.<sup>2</sup>

• **Purpose beyond Profit**

The players in an innovation ecosystem may have different values, objectives, and perspectives, but the joint, bigger purpose of the ecosystem plays a major role and influences all decision-making, sales, and operations.<sup>11</sup>

• **Great Minds Do Not Think Alike**

Untraditional and sometimes even provocative combinations of perspectives and innovation ecosystem players can unleash untapped value.

• **Be Bold and Brave**

To enable transformative change and innovation, all players must dare to rethink the fundamental basis of operations and ways of doing business.

• **Agile Co-Creation is Queen**

The new rules of the game, powered by technology, make it practically impossible to envisage the future. Agile mindsets and new ways of working are required.

**Call to action**

In a world with grand challenges, the importance of innovation is greater than ever. To reach the innovation needed, disruptive thinking is imperative – pushing boundaries and rethinking current business models. We need to collaborate to get there. We are strong believers in the Global Change Award movement. We believe that game-changing innovation can come from anyone, anywhere. Challenge your mindset, go seek those who think differently and join our innovation ecosystem – changing fashion together.

# Accenture Trend Report

## Method and References

Accenture leveraged the analytics and data visualization on the data set comprising the competition entries submitted during the four years of the Global Change Award. To enable the conclusions and interpretations presented, the analysis was combined with Accenture's expertise in sustainability, innovation, digital, and fashion. The analytical work was hypothesis-driven and utilized various analytical methods and tools.

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## 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 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.

#### 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 459,000 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).

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#### 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 collaborations. With around 50 teams working within the fields of the environment and sustainable development research, KTH acts as a driving force for the development 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. Learn more at [kth.se](http://kth.se).

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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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