The background of the entire page is a close-up, high-resolution photograph of a pink fabric with a fine, woven texture. The fabric is draped and folded, creating soft, undulating curves and shadows that give it a three-dimensional appearance. The color is a vibrant, slightly muted pink.

Circular X Fashion Tech

Trend Report 2018

Table of contents

- 1 Introduction to the Global Change Award**
- 2 Fashion Tech as a Driver of Sustainable Fashion**
- 3 Purpose-Driven Women**
- 4 Enabling the Shift to a Circular Economy**
- 5 The Winners of Global Change Award 2018**
- 6 Methodology**
- 7 About Accenture and H&M Foundation**

Executive summary

How can game-changing ideas from 151 countries spark the shift toward a circular fashion industry?

The world is plagued by economic, social and environmental problems. Organizations can no longer look to their internal capabilities to solve the immense problems we face today; therefore, new collaborative business models are emerging.

To ignite a shift toward a circular fashion industry, the Global Change Award was initiated in 2015 by H&M Foundation, in collaboration with Accenture and the KTH Royal Institute of Technology in Stockholm. Transforming from ‘take, make, waste’ toward ‘take, make, take, make, take, make’ gives the circular economy a clear advantage, and there is a potential payoff corresponding to US\$ 4.5 trillion from achieving sustainable circular economy business models by 2030¹.

Some of last year’s winning innovations were leather made of wine making leftovers, digital threads weaved into garments to ease the recycling processes and climate positive nylon made from water, plant waste and solar energy.

This report aims to identify insights and trending concepts within innovation and illustrate key strategies for unlocking sustainable value from Fashion Tech. In short, Fashion Tech can be described as where a garment’s physical characteristics converge with a digital experience. It is about using technology to transform the fashion industry.

The findings of this report are based on applying data analytics to over 8,000 innovations that the Global Change Award has gathered so far.

Section 1

Introduction to Global Change Award

The Global Change Award and the Trend Report

The fashion industry is one of the most resource intensive and polluting industries in the world, resulting in enormous amounts of waste. It is possible to re-use or re-cycle about 90 percent of the clothing being thrown away today. However, only 15 percent are donated or re-cycled². There is an urgent need for both innovation and technology to enable a transformation of the fashion industry, from linear to more circular business models.

The Global Change Award was first launched in 2015 with the goal to find game-changing innovations that help protect our planet and improve our living conditions. The non-profit H&M Foundation, in collaboration with Accenture and the KTH Royal Institute of Technology in Stockholm, initiated the challenge. For the past three years, the

annual challenge has gathered over 8,000 revolutionizing ideas on how to accelerate the shift from a linear to a circular non-waste fashion industry.

The successful partnership continues to evolve and the Global Change Award 2018 was launched last fall. Now, the annual innovation challenge for early-stage innovations is one of the largest of its kind in the fashion industry. Through catalyzing the ideas, we can help create fashion for a growing population, while improving our impact on the environment.

Each year, an international panel of experts selects five Global Change Award winners. The global public is then invited to an online vote to distribute a €1,000,000 grant between the five winning innovations. The winners are granted access to a one-year accelerator program provided by the H&M Foundation, Accenture and KTH Royal Institute of Technology in Stockholm. The accelerator program is designed

to provide the five winners unique insights, access to the fashion industry and unmatched opportunities to maximize their potential to transform the fashion industry.

The Global Change Award continues to attract attention and received more than 2,600 applications from 151 countries in 2018. By leveraging Accenture's capabilities in analytics and data visualization on the application dataset, we can identify unique patterns and provide new insights to help catalyze the move to circular fashion.

This report is intended to provide valuable guidance on how technological advances can accelerate the transformative journey toward reinventing the fashion industry.

Let's rethink fashion. Together.



“Now in its third year, the Global Change Award has really become a positive force in the fashion industry. It has proven to be a true catalyst for the winners, giving them support and access to a valuable network so they can bring their innovations to the market quicker and better prepared.”

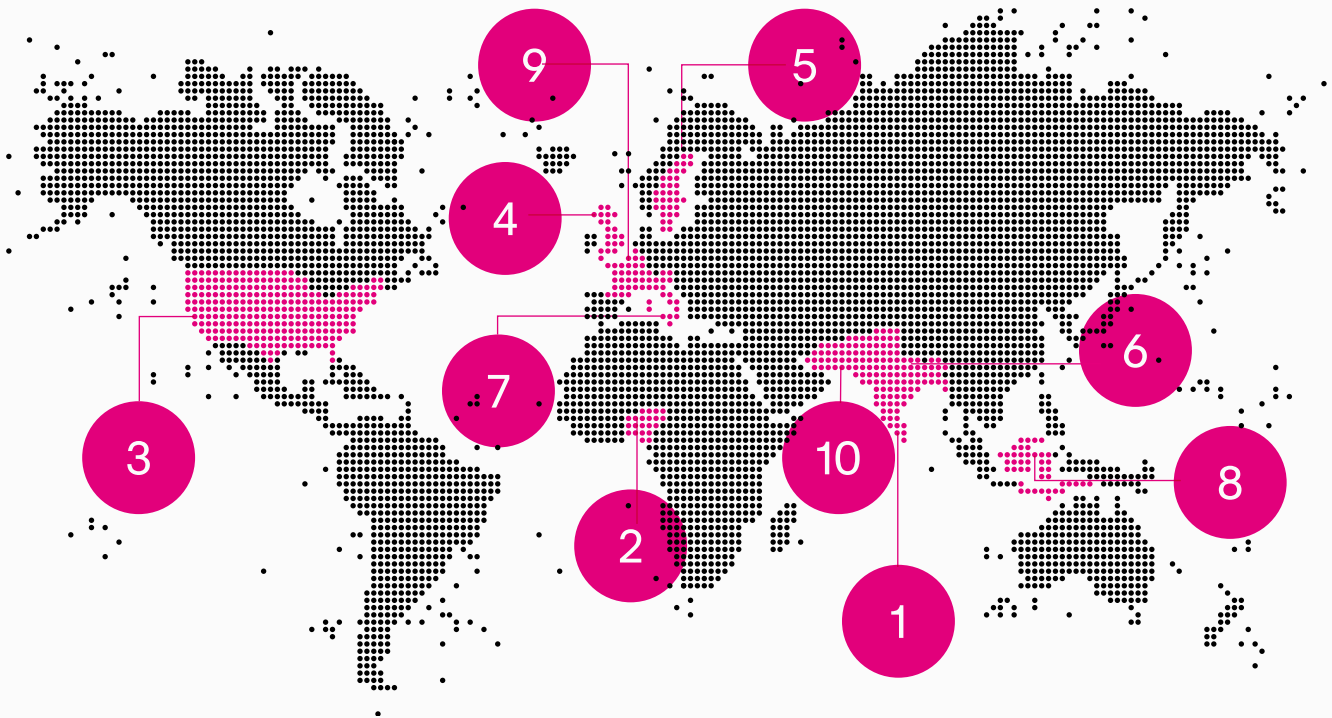
Karl-Johan Persson, board member of the H&M Foundation and chief executive officer of H & M Hennes & Mauritz AB.

Key Statistics and Infographics

Based on the 2,600 Applications

For the past three years, the Global Change Award has gathered disruptive ideas from innovators all over the world. In 2018, the award gathered over 2,600 ideas from 151 countries. The award also showed an increase in the number of countries reached and represented, as well as an increase in female applicants. A strong focus on technology and need for clarity in support can also be concluded.

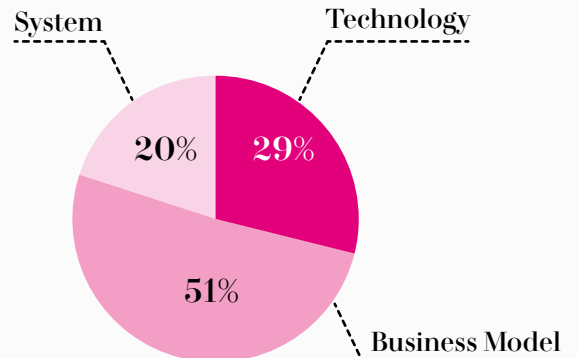
The key statistics presented in the following section will be further explored throughout this report.



Top 10 countries by number of entries
1. India 2. Nigeria 3. U.S. 4. U.K. 5. Sweden 6. Bangladesh
7. Italy 8. Indonesia 9. France 10. Pakistan

While there is a broad range of ideas submitted, close to a third of the innovators in 2018 applied with a technology-centric idea, indicating technology's central role in accelerating the shift to a circular fashion industry.

Your idea is mainly a:





Technology is a broad concept that can be divided into key categories. The most common digital technology that about a third of the applicants intend to employ is internet of things (IoT), which can be explained as the technology wave that connects billions of objects to the internet. This connectivity allows smart objects to have their own identity and communicate valuable information. The connected devices, such as smartphones or sensors, can collect data, create efficiencies and reduce waste for both consumers and companies across the industry. IoT also contributes to the rapid growth of data that is generated

and stored. To make use of this big data, emerging advanced analytical techniques combine various datasets for detailed analysis.

Nearly a third of our 2018 applications intend to use analytics and close to a fifth will use big data, either separately or combined with other technologies.

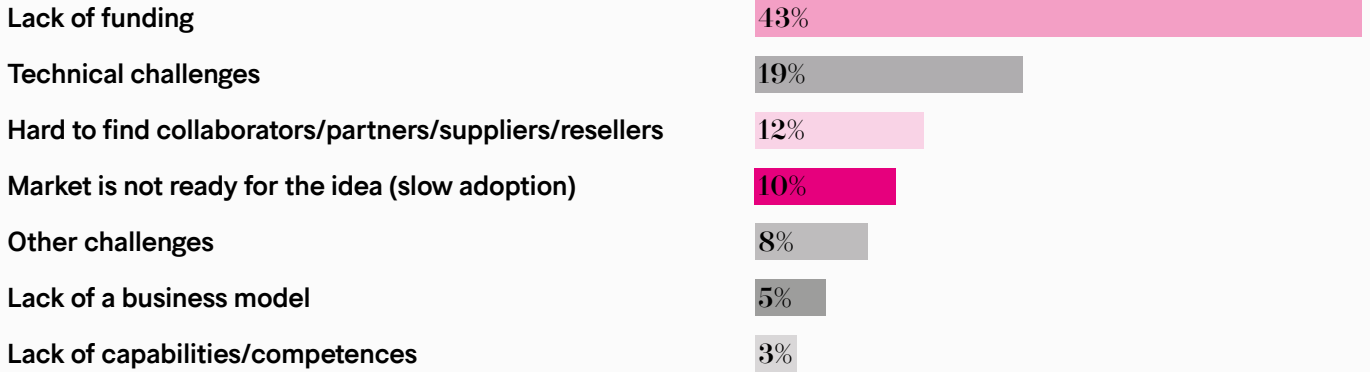
The large share of female-led applications, 61 percent in 2018 (56 percent in 2017), reflects the Global Change Award's opportunity to tap into a diverse source of innovation.

Applicants noted a variety of challenges to realizing their ideas. More Global Change Award innovators (43 percent) consider lack of funding as the most important challenge in 2018, compared to 32 percent in 2017. While lack of funding is a consistent and growing challenge, the innovators also list technical challenges (19 percent), difficulty finding collaborators, partners, suppliers and resellers (12 percent), and the market not being ready for their idea (10 percent) as critical challenges.

Key Statistics and Infographics

Based on the 2,600 Applications

What is the most critical challenge to realizing your idea?



“We’re facing some big challenges. The way we consume resources will not be a viable option moving forward. Yet, within these challenges lie big business opportunities as humans strive to live and consume in a more sustainable way. New technology is the enabler. I believe the Global Change Award is instrumental in finding and supporting these early stage innovations that is needed for a real, impactful change.”

Sophia Bendz, executive in residence at Atomico and Member of the Global Change Award Expert Panel



“Business models and partnerships are evolving into interdependent eco-systems that have benefits far beyond monetary results. There are calls from both practice and academia for more inclusive and innovative ways of working.”

Jennie Perzon, Accenture sustainability and doctoral student at Misum, Stockholm School of Economics



“Each year, the Global Change Award gathers numerous truly groundbreaking ideas from across the globe. Through this program, we are collaborating to innovate with a purpose and solve some of the toughest challenges out there. Talk about a huge impact!”

Hanna Karlberg, strategy consultant, Accenture

Section 2

Fashion Tech as a Driver of Sustainable Fashion

The need for sustainable fashion has never been stronger. We must protect our planet and improve living conditions for future generations, while at the same time securing clothing for a growing population. This call for radical change is a central pillar to the Global Change Award.

Technology innovation is a must for the development of circular business models. Emerging technologies allow organizations to create value in a circular economy. Furthermore, technology drives new communication channels, processes and ways of working, and ultimately enables better use of resources and economic growth.³

Technological disruption fuels innovation and creates sustainable value as seen in the Global Change Award applications. The value potential of Fashion Tech is significant across economic, environmental and social value and it is safe to say; Fashion Tech concepts will be an important driver of the circular fashion transformation.

Let's unleash the value and promise of Fashion Tech!



“We began this journey with the H&M Foundation three years ago, and it has been particularly interesting to see the increasing utilization of digital technologies in the Global Change Award innovations. As the results of the accelerator program start to come to fruition, we think there is a huge opportunity to incorporate these types of new innovations into the fashion industry’s business models. Our belief is that technology can provide some critical solutions to the sustainability challenges the industry is facing.”

Jill Standish, senior managing director and head of Accenture Global Retail

9 Trending Circular Fashion Tech Concepts

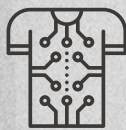
- Digital, Physical and Biological Technology

Based on analysis of the applications, we found nine circular Fashion Tech concepts that can be brought to bear to drive sustainable value and reach the next level of circularity.

These concepts are divided into three main categories based on the characteristics of the technologies used: digital, physical and biological. In short, the digital Fashion Tech technologies are based on communication, electronics and computer sciences. The physical ones are mainly based on the material's elementary characteristics, while the biological ones are focused on the function and structure of living organisms, their systems as well as derivatives thereof.

To fully unleash the potential of the emerging technologies, we must first overcome a few challenges to secure a positive impact on our planet and living conditions, both in the short and long run.

When combined, these different technological advances provide an opportunity to truly disrupt the fashion industry's current way of working.⁴



Digital Technology



1. Wearables
2. Circular Consumption Models
3. Connected Supply Chain



Physical Technology



4. 3D Solutions
5. Nanomaterials
6. Robotics



Biological Technology

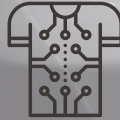


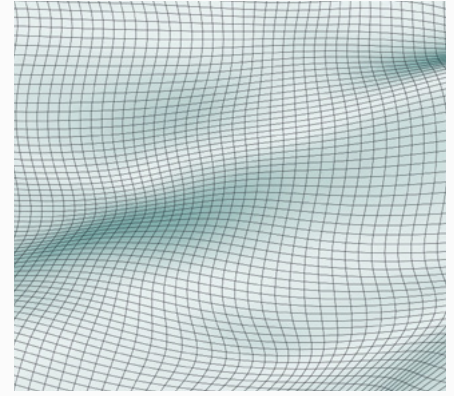
7. Bio-Based Materials
8. Renewable Energy and Bioenergy
9. Biomimicry

Digital Technology

The fashion industry has only just begun to unleash the potential of the digital Fashion Tech concepts based on computer sciences, communication and electronics. These technologies are recognized for using higher information intensity and connectedness of physical resources than the fashion industry has ever seen. We divide the digital Fashion Tech concepts into three groups; wearables, circular consumption models and the connected supply chain.

Let's embrace the power of digital clothing!





1. Wearables

Wearables are not only about gadgets; they are equally about connected garments that impact our lifestyle.

Wearable technology devices that have a positive impact on quality of life, social setting and environment can include, for example, a fitness tracker that monitors health conditions.

By integrating wearables in fashion, it is possible to encourage the user to engage and interact with, and ultimately impact, our surroundings. Tracking our personal carbon footprint not only makes us more environmentally aware. It also enables integrated solutions, such as suggesting local and ethical store alternatives. Energy needs could be met as rechargeable batteries—or even solar cells—could be integrated into a garment, making a wearable a source of power for portable devices.

Connected clothes show great promise. In a digital dressing room, sensors can read radio frequency identification (RFID) tags or threads put on or in the clothing items a customer is trying on, connecting with a smart mirror. The customer is able to browse styling options, summon a staff member to bring a different size and even order additional matching clothes from inside the fitting room.⁵ All ensuring that the customer gets the correct size and that each purchase is well-informed.

Sustainable impact:

- Increased likelihood of improved utilization rates resulting from an improved fitting experience and well-informed and ethical purchase-decisions. In other words, the customers only buy clothes they will use.

- Increased awareness regarding the implications of ones' behavior, ultimately improving conscious consumption, decreasing energy needs and reduce waste.
- Enabling positive implications on the health of the user as the wearable provides real-time tracking of health conditions.

Challenges to overcome:

- Establishing digital trust by protecting the individual's integrity while efficiently handling and using an increasing amount of generated data.





2. Circular Consumption Models

Circular models have been around for centuries, but not until recently have we seen a significant shift as new technologies enable the transformation from linear to circular fashion consumption models.

Customers are more conscious than ever and are demanding more customized solutions. This trend is causing a shift from first-hand retailing of clothes being produced and sold in store or online, to new consumption models such as clothes-as-a-service, where potentially the user only pays for the actual amount of usage of a selected garment. Ultimately allowing other users to share the garment when it would otherwise have been kept in a clothing drawer in a linear model.

This concept also includes using sharing platforms that allow users to rent garments or post their own garments for rent or sale. This approach increases the utilization rate throughout a garment's useful life. Moreover, the sharing economy is a new approach to doing business and it challenges the traditional ways of selling by connecting the user with the resource, such as a garment.

This consumption model prevents waste and allows otherwise underutilized clothing to be monetized. Now, the transaction offers temporary access rather than ownership. And at the same time, companies can stand out by showcasing value-added features, such as improved user experience, customer support and premium products.

Sustainable impact:

- Higher utilization rate as the user selects specific garments and only pays for the actual usage and then returns them, in this way clothes can be shared between multiple users.

- Reduces waste of textiles and natural resources used in the production process as there is a decreasing need to buy new clothes for a specific occasion.

Challenges to overcome:

- Risk of generating a rebound effect where consumers start consuming more once it becomes 'cheaper,' ultimately resulting in consumption and waste levels back to the ones we see today.





3. Connected Supply Chain

Blockchain and IoT are two advancing technologies that create opportunities for an end-to-end connected and transparent fashion supply chain.

With distributed database protocols, blockchain enables a complete audit trail throughout the entire fashion value chain.

In addition, IoT enables connected clothes across the very same value chain.

Until now, manual intervention was required to recycle a garment due to limited information about the item. It took effort to determine a garment's ingoing materials and whether it could be recycled. In other words, there has previously been a barrier to automated recycling. In fact, statistics reveal that most of clothing currently being discarded as waste could have been recycled.

In a connected supply chain, there is information available across the entire value chain. For example, putting RFID tags on garments and inventory provides opportunities for instant traceability, improved inventory management and automated recycling.

Naturally, a connected supply chain also generates vast digital information, where analytics can be used to establish circular insights that enable more predictive ways of working.

Sustainable impact:

- Automated sorting of clothing based on the ingoing textile components enables more efficient recycling and reduces waste, for example simplified separation of cotton clothes from ones made of polyester.
- Improved logistics, inventory management and planning of collections contributing to less waste, obsolete items and greenhouse gas emissions.

- Enables transparency and instant tracking, both of material sources and social aspects, for example under which conditions a certain piece of clothing has been manufactured.
- More information available to the end consumer enabling more well-informed purchase decisions.

Challenges to overcome:

- As technology plays a more central role in people's lives, securing privacy and safety is essential. The first referring to the risk of your personal data not staying private and the second to the risk of a data breach and your personal data ending up in the wrong hands. Finding the right balance to establish digital trust throughout the connected supply chain is key.



Physical Technology

To protect Mother Earth, its resources and enable a sustainable future, physical Fashion Tech concepts are fundamental. These concepts are based on technologies that use physics. Examples of these are the fundamental property of materials, the nature's forces and energy, as well as the interaction between these aspects. There are numerous physical Fashion Tech concepts, which are divided into three main groups: namely 3D solutions, nanomaterials and robotics.



4. 3D-solutions

Imagine pushing a button and your new pair of sunglasses or running shoes are instantly manufactured in your living room.

3D solutions, such as printing and scanning, are providing new opportunities in sustainable sourcing and production. Now, you can finally get that perfectly tailored suit whenever you want, wherever you are. The 3D solutions bring the fashion customer and production site closer to each other. When 3D scanning and then 3D printing a garment, sequential layers of fabric are shaped to create a piece of clothing.

The process is controlled by a computer and can be manufactured at an industrial scale.

This approach enables just-in-time product development in your living room or favorite store.

It also minimizes waste of raw materials as well as packaging and transportation. Combined, this Fashion Tech concept enables personalized clothes that fit perfectly.



Sustainable impact:

- Personalized clothes with a perfect fit are likely to result in an increased utilization rate and decreased amount of clothes being thrown away after barely being used.
- Speedier just-in-time production

processes lower the dependencies on long-term forecasting, decreasing the risks of over-stocking clothes, thereby minimizing waste.

- By having the consumer and production closer to each other, the need for packaging, transportation—and ultimately carbon footprint—can be reduced.

Challenges to overcome:

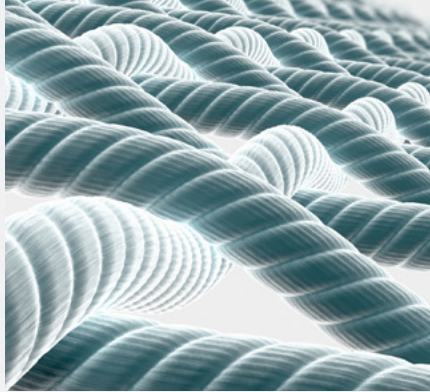
- The level of sustainability is determined by the ingoing material. Today, however, metal and plastic are two of the most common input materials, limiting the positive impact.



5. Nanomaterials

Nanomaterials enable the fashion industry to shift from traditional materials to new 'smart' fabrics that have novel capabilities, such as a structure at nanoscale with unique optical, mechanic or electronic properties.

For example, this approach can include changed textile behavior and materials with stain-repulsion and increased durability. There are various nanoparticles that can be added to clothing. One thing that these ultrafine particles have in common is their small size, between one and 100 nanometers – or between one and 100 billionths of a meter.⁶ To fully leverage this Fashion Tech concept, however, it is critical to ensure the particles do not come off the clothes during use or when washed.⁷



Basically, a material changes behavior when its size is drastically decreased. For example, not much can be done chemically with 'big silver,' however, when its size is decreased to a nanoscale, it can be added to fabrics to kill microbes.⁸

This approach can prevent unpleasant odors rising from sportswear by eliminating fungi and bacteria.⁹ Different materials can also be combined to attain the desired qualities.¹⁰ Additional examples include antistatic and silica nanoparticles. Antimony-doped tin oxide, titanium dioxide and zinc oxide are examples of antistatic nanoparticles. These particles conduct electricity that can disperse the static charge that is created when, for example, wearing synthetic garments made of nylon or polyester. Silica nanoparticles can be incorporated into a fabric to create a water-repelling and stain-resistant garment.¹¹



Nanomaterials can be used to create clothing that is self-cleaning or even absorbs pollutants. This could result in purer air as well as a reduced need for both water and cleaning products. Imagine never having to wash your clothes again.

Sustainable impact:

- Reduces the need for water and cleaning products as a piece of clothing is less prone to stains and odor, or it even cleans itself.

- When each garment can be used many more times, fashion industry waste can be reduced.
- An extended clothing lifecycle will decrease the need for buying new clothes due to old ones breaking.

Challenges to overcome:

- Much is still unknown regarding the impact of nanoparticles on our planet and living conditions for the long run. It is also essential to ensure that nanoparticles are not dislodged during the lifecycle of a garment. For example, nanoparticles being taken up by the skin or coming loose in the washing machine and later entering our fresh water.



6. Robotics

The robotics Fashion Tech concept has great potential to be used across the fashion value chain.

Artificial intelligence (AI) consists of numerous technologies that can be combined for smart machines to comprehend, act and learn.

AI is a successful driver of innovation and profit. If absorbed into the economy, AI can increase gross value added (close approximation of GDP) by more than US\$ 2.2 trillion in the wholesale and retail industry by 2035—a number corresponding to a 59 percent increase compared to the steady state. However, to unleash its full potential, organizations must first establish a people-first mindset.

For example, AI and analytics can enable increased precision in forecasts and production planning. In this way, companies can reduce waste due to too high stock levels and obsolete products. In addition, robotic process automation (RPA) can further help improving efficiency, accuracy, quality of planning and monitoring following defined principles.

For an automated physical production process, physical robots offer interesting opportunities. Until now, it has been challenging to use robots in the clothing production process, due to the materials' characteristics, such as being soft, elastic and fragile. As we rotate into the new, even the production process of clothing can be automated using technological advances such as IoT, AI and physical robots. More specifically, a robot's movements could be carefully directed by technology continuously capturing and interpreting real-time photos of the garment. This helps to ensure that the textile is handled in a proper manner and is not overly stretched.¹² In addition, physical robots can sort and collect waste. Automating this process improves productivity.

This Fashion Tech concept shortens the distance between the production and user.¹³ In addition, using AI enables the workforce to spend more time on value-creating tasks instead of standardized routine tasks.



Sustainable impact:

- Increases efficiency and accuracy in forecasting, minimizing waste and carbon footprint.
- Decreases the need for transportation around the globe as the production site and the end user are located closer to each other.
- Positive social impact as technology supports labor and enables spending more time on value-adding tasks.
- Speedier production processes lower the dependencies on long-term forecasting, decreasing the risks of overstocking clothes and thereby further minimizing waste.

Challenges to overcome:

- Ensuring organizations establish a people-first mindset and through that, enable the workforce to be supported and not replaced.



Biological Technology

To protect our planet, we need rethink what a fabric is and what it can be made of. It is time to start using byproducts, previously discarded as waste, to produce sustainable materials. We need to turn to and make the best out of what Mother Nature has provided us with in terms of organic materials.

Biological Fashion Tech concepts are characterized by using technologies with roots in biology. This includes creating products and processes for a specified usage based on biological systems, living organisms and derivatives thereof. Picture wearing a pair of trousers made from citrus waste, residues from wine making or even cow manure.

Here, three fundamental biological Fashion Tech Concepts are derived and are as follows; bio-based materials, renewable energy and bioenergy, and biomimicry



7. Bio-Based Materials

Today's technological advances enable making biodegradable materials from biomass feedstocks and other organic components.

Both bioplastics and cellulose fibers are examples of biomaterials. This Fashion Tech concept uses what previously has been considered waste, to create biodegradable materials. Using this type of resource instead of new materials to produce a garment can ultimately reduce usage of energy, water and raw material throughout the fashion production process.



Sustainable impact:

- Increases recycling rates and reduces waste as garments are made from recyclable, smart and biodegradable material.
- More value is kept in the system from each clothing item due to efficient methods for capturing embedded values in the fashion recycling and production process.

- Decreases the need for new input materials with a significant environmental impact. For example, leather made of winemaking leftovers as suggested by Vegea (Global Change Award Winner 2017) can be used instead of traditional leather.
- Speedier production processes lower the dependencies on long-term forecasting, decreasing the risk of overstocking clothes, thereby minimizing waste.

Challenges to overcome:

- Using great amount of land and water resources for biomass crops instead of, for example, food production.



8. Renewable Energy and Bioenergy

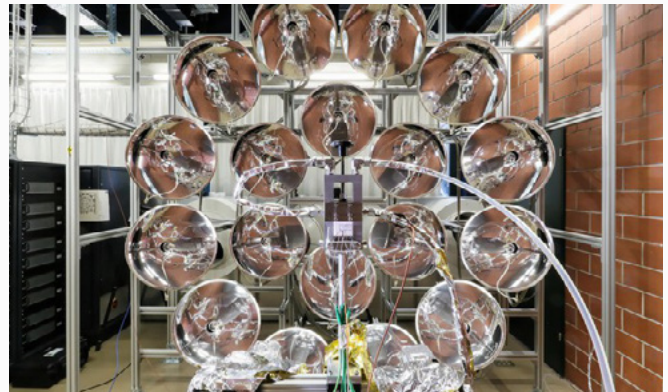
**Bioenergy is an example of renewable energy.
Its energy originates from sunlight and photosynthesis.**

Moreover, bioenergy is derived from biomass or bioenergy feedstock.

Examples of biological ingoing materials include plants, waste, animals, wood, alcohol fuels and hydrogen gas.

Using bioenergy throughout the fashion value chain can significantly reduce the fashion industry's negative environmental impact.

For example, imagine running all transportation and production of fashion garments on renewable energy that is only derived from plants or sunlight.



Sustainable impact:

- Reducing overall waste by deriving biodegradable energy from biological materials including what is otherwise considered waste.
- Minimizing dependencies on fossil fuels and their harmful effects on the environment, i.e. reduced greenhouse gas emissions.

Challenges to overcome:

- Bioenergy can be considered inefficient when compared to fossil fuels. Today, there is not enough biomass and bioenergy to replace all energy originating from fossil fuels.
- There is a risk of deforestation, as this approach requires wood from natural forests. A responsible approach is essential, for example, ensuring replanting efforts counteract the cutting down of trees.

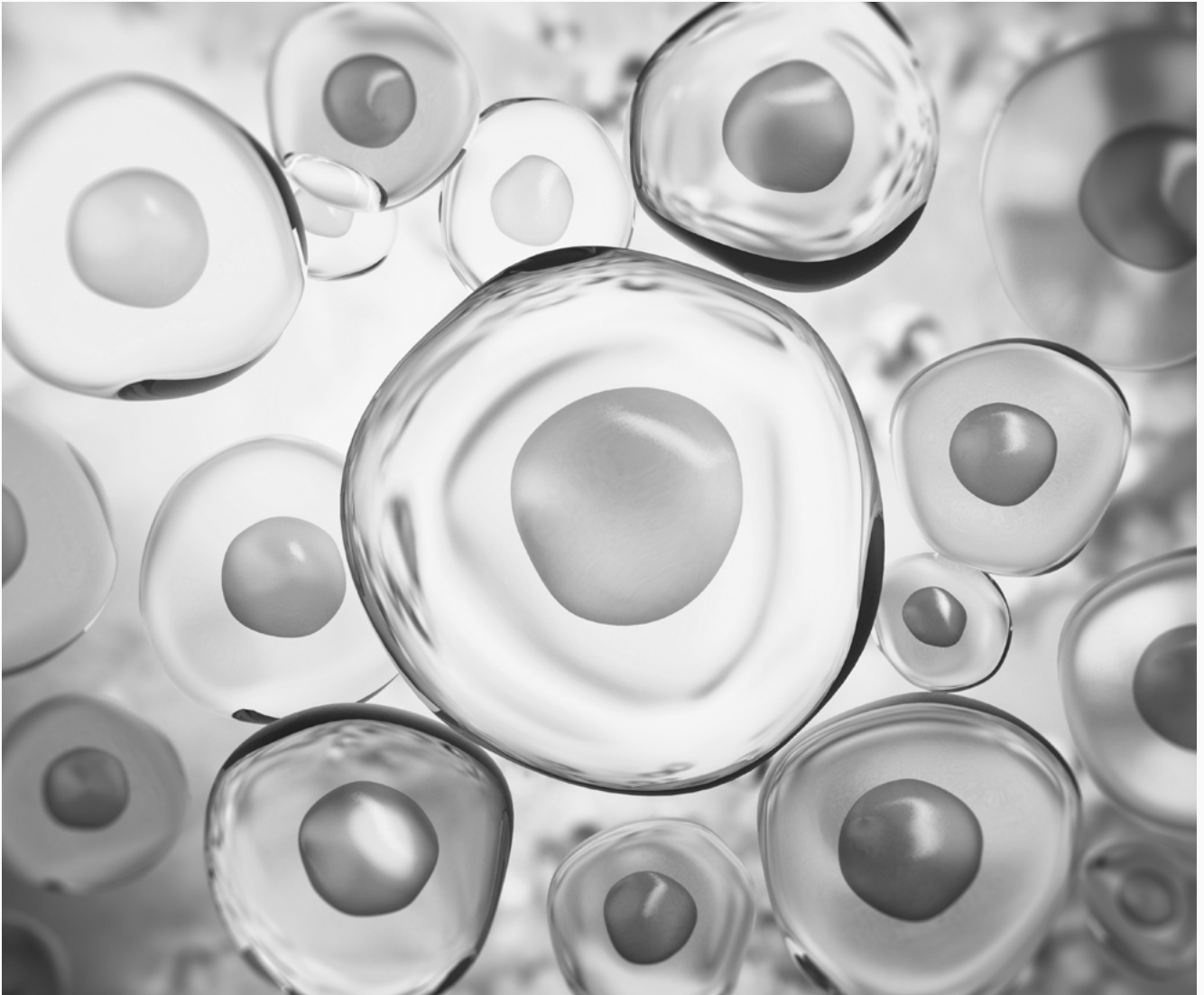


9. Biomimicry

Biomimicry refers to solving human challenges in a sustainable manner by studying and imitating nature's best designs and processes.

A main idea is that organisms have been optimized throughout the evolution. Furthermore, biotechnology can also be applied directly to manipulate the genome of an organism. For instance, biomimicry can result in increased crop yields and a lower need for pesticides. Examples of this trending Fashion Tech concept includes spider silk to produce biodegradable garments, artificial leather made from wood, and altering cotton crops to enable faster growth and less need for water.

Let's move away from non-renewable materials toward a circular fashion value chain with a closed-loop production process!



Sustainable impact:

- Increased crop yields enable the fashion industry to use less land area.
- Reduces the need for toxic synthetic chemicals in the dyeing process through the utilization of naturally pigment-producing organisms.

- Reduces the need for non-environmental friendly, non-biodegradable input materials as spider silk can be used.
- About a third of the pesticides currently used could be removed by using genetic engineering.
- Reduces the need for non-environmental friendly, non-biodegradable input materials.

Challenges to overcome:

- Manipulating natural ecosystems and resources provided by Mother Nature may result in unforeseen consequences. In addition, experts from various fields, such as biology, product development and sustainability must unite and collaborate across traditional borders.

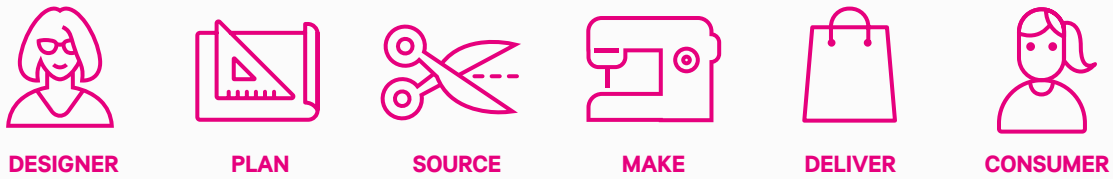


How to Unlock the Full Potential of Fashion Tech

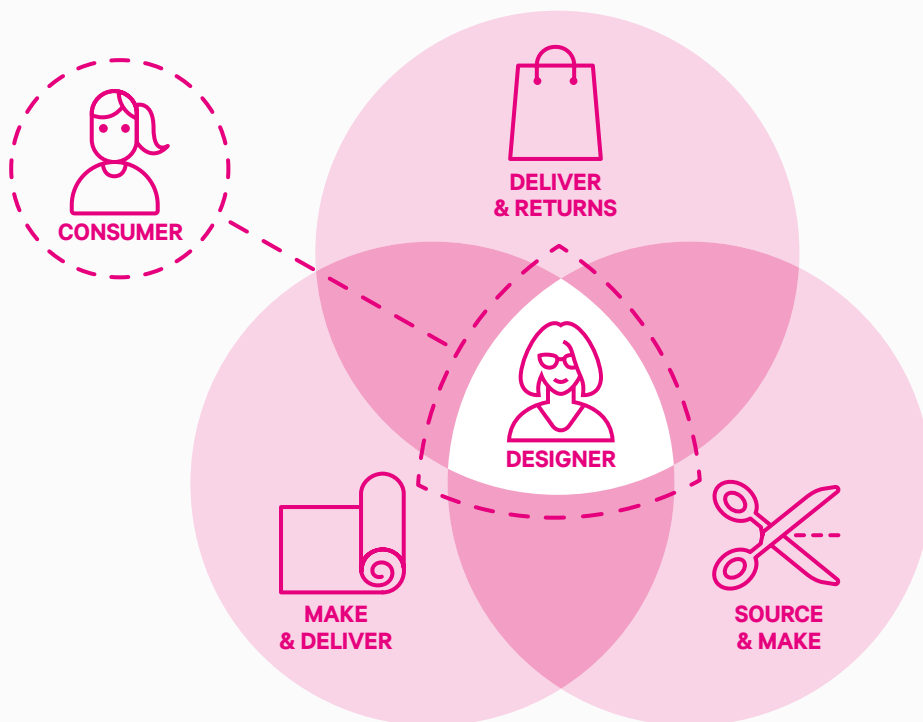
Historically, fashion and technology have been approached separately. To unlock the full value of circular Fashion Tech, a whole new mindset is required. Actors in the fashion industry need to radically adopt their go-to-market strategy and ways of working. Transforming the go-to-market strategy includes revisiting the

business model, customer experience and channels. The same applies for the internal operations including the organization, capabilities and processes. Consumers and designers of a garment have traditionally been separated from each other. In that siloed sequential way of operating, the manufacturers,

suppliers and distributors have been most powerful, both in terms of influence and in negotiation power. Today's new technological and digital advances ignite a shift where the power is transferred across the partners of the fashion industry's supply chain.



The new way of working emphasizes being interactive, interconnected, nimble and agile. Now, the designer is at the center, allowing for collaboration across the entire process. The designer becomes the point of connection for different parties. Another important change is that the designer will provide a clear brand point of view, as well as identify and align both the target consumers and the corresponding touch points. In essence, the designer is the glue keeping the players in the supply chain aligned.





Unlocking the value of circular Fashion Tech also requires new ways to collaborate across traditional borders. Open innovation is increasingly playing a central role across industries in today's technology-driven world. Open innovation enables the use of external technology, knowledge capital, solutions and resources early on in an innovation process. More and more partnerships arise and we see large global

organizations collaborating with smaller entrepreneurs and venture capitalists to speed innovation, reach common goals and create unique new value. Research shows that collaborating across traditional boundaries and leveraging the differences each partner brings, facilitates and enables innovation value. Funding is fundamental to unlock the potential of new innovations, but that

alone will not drive the full scale and impact needed to change the industry. Building the capabilities in all organizations in the fashion ecosystem to use technology and collaborate is necessary to fully realizing the value.

Section 3

Purpose-driven Women

Innovation is a critical component for a successful strategy in today's sustainable development agenda.

Furthermore, diversity fuels successful innovation.¹⁴

Across industries, but in fashion in particular, innovation is needed throughout the value chain.

Although the fashion workforce is composed of 70 percent women, only 25 percent of the top positions in the fashion industry are held by women.¹⁵

Emerging technology reshapes the nature of the fashion industry as we know it. In this rapidly changing environment, Fashion Tech plays an important role as a bridge maker for getting more women to use technology in fashion. An important step to reach a more diverse industry.

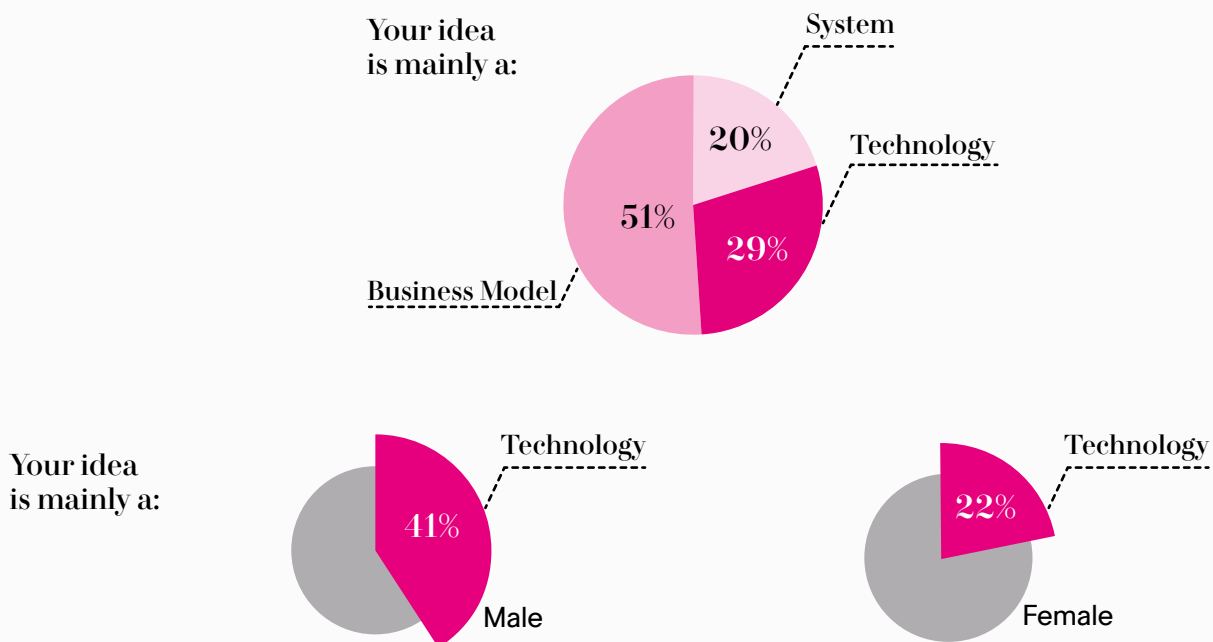
We need more purpose-driven female innovators in the fashion industry to create a sustainable industry for the future. Now.

Most of the Global Change Award Applications are from women

Looking at this year's applications, we see a large degree of female-led Global Change Award applications.

Specifically, 61 percent in 2018 (compared to 56 percent in 2017). Furthermore, a clear pattern emerges

when analyzing the innovations; close to a third of all applications state that the idea is mainly about technology. Even though 61 percent of the innovators are women, the 'typical' tech-innovator in the fashion industry is often a man. According to the data, 22 percent of female applicants are targeting technology innovation, compared with 41 percent of male applicants. There is a need for a more gender-inclusive approach to technology innovation.



Arguably, the Global Change Award can foster technology innovation, regardless of the applicant's gender.

Moreover, the challenge facilitates and enables innovations that may otherwise not be seen.

Fashion Tech Is a Possible Bridge Maker to Get Women into Tech

Digital fluency and tech immersion are two fundamental pillars to empower women. The two concepts empower purpose-driven women to excel in their careers. Digital fluency is best described as the degree to which individuals make use of digital technologies to work, learn and connect.

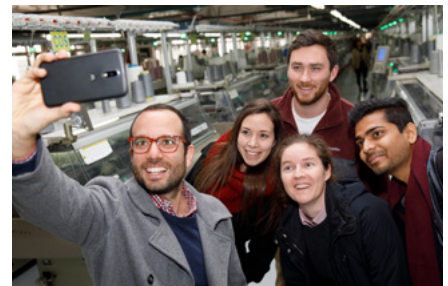
Alone, digital fluency can help close to 100 million women to join the paid workforce across the globe. Tech immersion refers to women being able to advance as quickly as men by acquiring stronger technology and digital skills.

Together with digital fluency and tech immersion, the nine Fashion Tech concepts ignite a shift toward getting more women into technology. These concepts accelerate the shift, ultimately establishing a well-balanced sustainable fashion industry for future generations.



“We need diverse teams and more women on today’s transformative journey where fashion and technology intersect. The current Fashion Tech revolution provides great opportunities to close the gender gap by inspiring women to pursue a career in technology. Women who later act as role models encourage younger women to pursue a future in technology and innovation. It is a long way to go, but Fashion Tech has a great potential to finally get us there.”

- Josefine Olsson, strategy consultant, Accenture



Diversity Drives Innovation

Why?

Currently, women are underrepresented in the global workforce. Globally, only 50 percent of women in working age are active in the workforce, while the corresponding number for men is 76 percent.

In the fashion industry alone, only one in four top positions is held by a woman. In addition, male designers lead 60 percent of womenswear brands.¹⁶

However, research shows that there is a clear statistical correlation between

companies' profitability and gender diversity. The same applies for the companies' success in capital markets and gender as well as international diversity of the boards of executives. Research also reveals that economies grow when women enter the workforce.

Naturally, a diverse set of worldviews and strengths can improve complex problem solving and fuel innovation.¹⁷ Furthermore, diversity as a driver of innovation can be split into four dimensions: perspectives, interpretations,

heuristics and predictive models. All four dimensions are fundamental for innovation.¹⁸

Clearly, a diverse team is more innovative and achieves higher results when compared to a homogenous team filled with likeminded people. It is safe to say, diversity drives successful innovation and outcomes.



Portraits of Purpose-Driven Women within Global Change Award



Jennie Perzon

Accenture sustainability and doctoral student at Misum, Stockholm School of Economics

What purpose is driving you?

We live in a world facing a crisis, where there are several large challenges – from social inequities to climate change – affecting the lives and wellbeing of billions of people globally. However, there are many reasons to be hopeful and I am ridiculously convinced that we can redirect and create a more sustainable future if we work together. I am passionate about testing new forms of collaborations and partnerships and my ambition is to try and make these often-unlikely connections work for a greater good. This is true across what I do, and therefore it is great to be part of the Global Change Award journey.

What role do you think women play in sustainable innovation?

Capabilities to innovate are becoming more and more important to survive in

our fast-changing world and we know that innovation thrives in diverse environments. The role of women and gender diversity in sustainable innovation is huge and arguably those who realize and act on this now have the potential for both competitive advantage and significant impact.

How can we better use the power of diversity in the fashion industry?

I think it is important to not only recognize differences, but set up strategies and processes to truly capture the value that can be created when those differences meet. The power of diversity spans across industries, however the fashion industry is one where radical change is urgently needed. It is, at the same time, an industry with huge potential to leverage its already diverse actors.



Diana Amini

global manager, H&M Foundation

What purpose is driving you?

I have defined three core values to remind myself of what I really strive towards: Generosity, courage and diversity. These three words represent my purpose, not only at work. I want them to be my guiding principles when I make all types of decisions.

In addition to that, I love to be a catalyst – to be the one connecting people and organizations that will benefit from each other’s knowledge, or to build a strong and committed team that can achieve great results.

What role do you think women play in sustainable innovation?

A majority of the innovators taking part in the Global Change Award are women. After summarizing the first three years, which include more than 8,000 entries from 151 countries, I can definitely say that women play a decisive role in driving positive change and finding new sustainable solutions.

How can we better use the power of diversity in the fashion industry?

We need to include different perspectives in all levels and processes. This is not just an issue related to equality and being fair. It is also crucial from a business perspective and for the whole industry. To be able to make the shift needed to protect the planetary boundaries and people’s living conditions, we can’t afford to lose brilliant ideas and competencies. That’s why we need to make it easier for different innovators to reach the industry with their ideas.



Valentina Longobardo

founder & chief marketing officer, Vegea

What purpose is driving you?

Fashion is fun and inspiring, but we rarely ever think about how a product is made or who it is made by. What is driving me is the desire to develop new technologies that can help businesses and the industry to minimize their environmental impact while driving economic benefit. This purpose is the reason of my journey.

What role do you think women play in sustainable innovation?

In terms of fashion and sustainability, there are a lot of women out there doing really inspiring work and playing a very important role in sustainable innovation. It makes me hopeful that humans can achieve some of the big changes that need to happen in the fashion industry. I do believe in the power and positive influence of our voices on the innovation industry, its impact, and clients.

How can we better use the power of diversity in the fashion industry?

Diversity in fashion industry is a topic of conversation that is often brought up. Raising awareness of the benefits of gender equality is a key priority. Women perfectly know how fashion works and how consumers want to experience it, moreover we are ambitious, creative and natural-born multitaskers able to quickly assess multiple points of data and see solutions others might not. All this is finally proving age-old stereotypes wrong.



Adriana Santanocito
chief executive officer & co-founder

Enrica Arena
chief marketing officer & co-founder

Orange Fiber

What purpose is driving you?

With our Orange Fiber we are committed to bringing sustainable design values to the fashion industry, helping those who wear our products to become not just consumers, but contributors of a totally new way to experience fashion and luxury, based on an ethical and sustainable lifestyle and driven by the respect for our planet and future generations, transparency and circularity.

What role do you think women play in sustainable innovation?

We believe that women play a key role in sustainable innovation.

They have the power and the responsibility to inspire other women to follow their dreams and try stronger to pursue their path to success. More women entrepreneurs and innovators means more women in leadership positions, that is the basis for a society founded on gender equality, the key to the success of sustainable development– economic, environment and social–that we hope for the future.

How can we better use the power of diversity in the fashion industry?

Diversity–of gender, age, color, style and background–reflects the beautiful variety of our world, showing the infinite ways of being.

For this reason, we believe that we could use its amazing power in the fashion industry to create new processes of identification for consumers. Celebrating diversity in the fashion industry, we can increase the reach of positive models that exist but are not known–models that consumers can identify with, creating a better ‘trend’ for the future of our planet.



Lisa Eriesson

head of KTH innovation

What purpose is driving you?

I am driven by making impact in all areas of my work. As head of the department, I strive to create an environment where I, my colleagues and the people we support, can really grow and develop. Taking action is important to me and I prefer a lean approach of testing and iterating instead of going for perfection before launching something in the market.

What role do you think women play in sustainable innovation?

Women have as much of a role to play in sustainable innovation as men do, but we need to raise awareness of the fact that women struggle under harder conditions. Many studies show that women have a tough time funding their industry ventures, for example, and that they are excluded from powerful networks where deals are made. We must get better at reducing this gender bias and create more equal conditions. Big challenges need better use of all talent!

How can we better use the power of diversity in the fashion industry?

I believe that all industries benefit from increased diversity. There are many studies that show how cross functional teams perform better, are more effective and deliver superior results. It is important that we highlight the bias against certain stereotypes that exists in all organizations, and that we push ourselves to reach further. The Global Change Award is about finding ground breaking innovations that challenge traditional methods and processes. Diversity is simply a prerequisite for successful disruptive innovation.



Ann Runnel

founder and chief executive officer, Reverse Recourses

What purpose is driving you?

I come from a country that is rich of forests and free nature and the cold winter always remind us of the need to consider the rules of nature. As an economist, my passion is to demonstrate that our economy and urbanized lifestyle can be functioning in harmony with nature. I find the key to that in circular economy, switch from product-based economy to service-based as well as slowing down material flows humankind needs while enabling a good life for everyone—and everything—on the planet.

What role do you think women play in sustainable innovation?

One of the key issues in sustainable innovation is focusing on the right things instead of being very efficient on doing a wrong thing. I think it applies the same for men and women, but for women it's easier to follow the deep intuition guiding them to find the right path. I find intuition is the most important asset in my work. The usual way of thinking in business pushes us to prioritize economic goals over environmental or social. But sustainable innovation means finding a good balance between these goals, you can't set one above the other. Intuition helps to find this balance.

How can we better use the power of diversity in the fashion industry?

Over the years I've learned that in fashion, (as probably in any other industry), what currently matters most is the voice of those in power. Either it comes by branding and marketing, money power, access to information, force or some other way. But this power game blocks diversity to have a real voice. A great innovation is more probable to emerge from where you have a pain, you don't have proper means to solve it and you have to find ways around the roadblocks. Innovation needs to combine different knowledge that is not common in the mainstream. The fashion industry can only make a real change happen if it was open to listen, cooperate and open up its information to those outside the existing power structures of the industry. Innovation can only come to life through an open dialogue.



Natasha Franck

founder EON.ID

What purpose is driving you?

I'm interested in how technology can enable us to create systems that emulate nature – systems that are circular and regenerative. I believe that at the intersection of technology and nature, we can introduce solutions that simultaneously power our economy and our sustainable future.

What role do you think women play in sustainable innovation?

Women tend to approach work and problem solving with a human-centered approach – with empathy, collaboration, innovation and discipline. It is these qualities that are key to pioneering a sustainable future and new paradigm for capitalism – where people and purpose are equal to profit.

How can we better use the power of diversity in the fashion industry?

Innovation happens at the intersections – of arts and humanities, of technology and nature, of science and history. The more an industry expands to include a wider breadth of perspective, opinions, approaches, histories, cultures, ethnicities, races and values – the more intersections of thoughts there are. The more intersections of thoughts we have – the more opportunities for innovation we have. Fashion needs to encourage multidisciplinary engagement with diverse and global communities – to create a thriving industry that is adding value to people, profit and planet.

Section 4

Enabling the Shift to a Circular Economy

The world currently faces tough challenges. To secure our world for future generations, we need to rethink the linear fashion industry. Furthermore, there are primarily three drivers for circularity: (1) consumption models are changing, (2) global resources are being squeezed and (3) technology developments are enabling new innovative efficiencies.

Transforming from ‘take, make, waste’ toward ‘take, make, take, make, take, make’ gives the circular economy a clear advantage, and there is a potential payoff corresponding to US\$ 4.5 trillion from achieving sustainable circular economy business models by 2030.¹⁹

The aim of the circular economy is to maximize the time products, components and materials are in the kept economy—it’s an endless cycle of use. To close the loop and gain a competitive advantage from the circular economy, repair, reuse, remanufacture and recycle are all essential. To unleash its full potential, the circular economy requires fundamental changes in our ways of working, designing, producing, consuming and how we approach financing these events. Ultimately, a greater flow of goods and services will be secured by rebuilding financial, human, social, manufactured and natural capital.²⁰ Technological innovations are driving and enabling the transformation, some more mature than others.



“Sustainable and responsible consumption is the way forward. We must find better ways to make what we use, and wisely use what we have. The Global Change Award is an important initiative to drive this forward. By intentionally and thoughtfully reusing, recycling, and repurposing, we can drive significant and radical improvements to our world”

Professor Edwin Keh, chief executive officer, The Hong Kong Research Institute of Textiles and Apparel and member of the Expert Panel and Member of the Global Change Award Expert Panel



“Enhancing resource efficiency in its supply chain will not only help the fashion industry mitigate the impacts of climate change, it will also be better for business, enhance brand value, and appeal to concerned youth who will be tomorrow's leaders in protecting our planet.”

Vikram Widge, head, climate finance & policy, IFC, World Bank Group and Member of the Global Change Award Expert Panel

Making the Shift Requires Knowledge, Network and Funding

It is agreed that many aspects need to be considered and aligned to enable the shift from a linear to a circular fashion industry.²¹ In addition to finance and various forms of capital²², knowledge and

network are two essential enablers of the circular economy.²³

The Global Change Award displays this new way of working. The accelerator program has proven to be both successful and well positioned with a €1.000.000 grant, but also the unique accelerator

program that includes skill building, a global network, industry access and coaching. The partners behind the grant and the accelerator program apply their diverse and unique capabilities and perspectives toward a common goal of making the fashion industry more sustainable.



“Winning the Global Change Award opens a lot of significant doors and provides a powerful boost through funding, coaching, access and validation that you probably can’t find elsewhere. If you want to reinvent one of the largest industries in the world, this is the place to go”

Erik Bang, innovation lead, H&M Foundation.

Network and Skill-Building Are Fundamental

The complex nature of the circular economy requires a diverse network and new skills. For example, networking enables information sharing, which by itself, is an important enabler of circularity.²⁴

The world is changing, and so are current power balances and roles among actors. Skill building, innovation and flexibility are becoming more and more important to operate successfully in this world where new ecosystems are quickly forming.

To become—and stay—successful in this rapidly shifting world, networking and

collaboration are more important than ever. There is also an interdependence concerning the world’s current challenges and solutions, making collaboration and partnerships important drivers of innovation.

Funding Is a Key Challenge for Innovators Within the Circular Economy

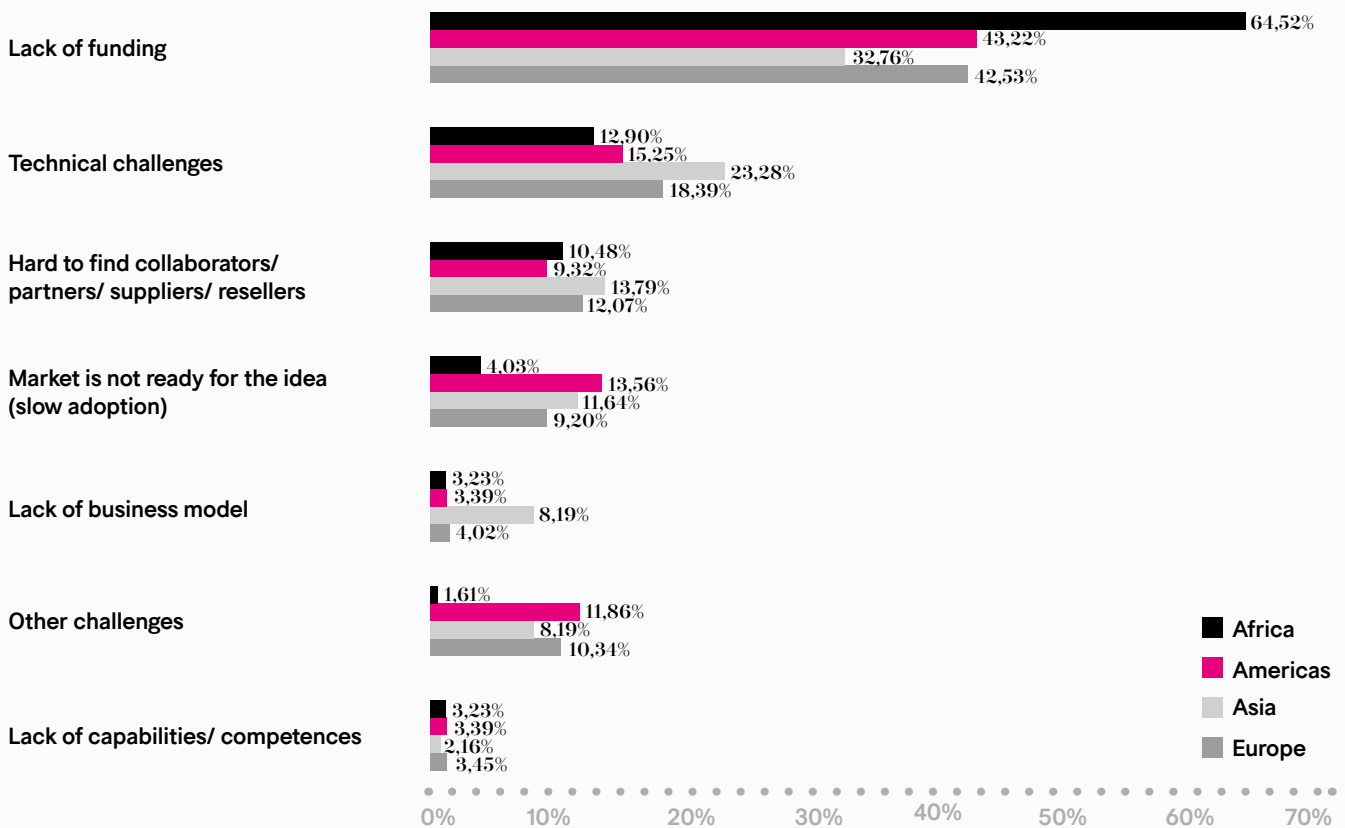
Even though there are various alternatives to secure funding for innovators within the fashion industry's circular economy, funding is commonly a key challenge to overcome. The various financing options range from traditional capital institutions, such as banks, to traditional philanthropy. The first seek to maximize the financial

return, while the latter aim to maximize the social return. In between, there are many examples including crowd funding, social venture capital, angel investors and grants^{25 26}, such as the Global Change Award.

In 2018, 43 percent of the Global Change Award innovators stated that lack of funding was their most pressing challenge standing in the way of realizing their innovation. The corresponding

number for 2017 was 32 percent. Some differences can be distinguished when considering the applicants' different regions of origin. Moreover, lack of funding is especially pressing in African countries, 65 percent say lack of funding is their most important challenge to overcome.

What is the most critical challenge to realizing your idea?





“We see that lack of funding is the most prominent challenge among innovators across the globe. In addition, it is an issue that it, despite many initiatives and accelerator programs, does not seem to get any smaller from previous years. Often there may also be a link to difficulties in scaling the ideas.”

Tomas Haglund, Nordic sustainability director, Accenture

5 Key Challenges to Funding a Circular Economy

There are multiple root causes as to why securing funding is especially challenging for fashion innovators in circular economy. One of the underlying reasons is that a circular business model by its nature, challenges the standard banking solutions.²⁷

More specifically, five key challenges to obtaining financing for a transformative circular economy project or innovation can be distinguished:

- 1** Lack of suitable infrastructure and asset finance: The existing infrastructure and asset finance do not support the shift to the circular economy.
- 2** Limited patient capital: Circular economy business models need more patient capital due to the longer-term returns.
- 3** Risk-averseness and limited capital: Small- and medium-sized enterprises tend to be risk-averse and often lack the required capital to finance the transformative journey.
- 4** Overstated risks: Risks are exaggerated as the risks related to the circular economy transformation are confused with more complex startup risks.
- 5** Lack of clearly stated support and finance: Essential sources to support and finance the circular economy are not indicated in a clear manner, making them hard to find.

Where the Investments Are Going Today

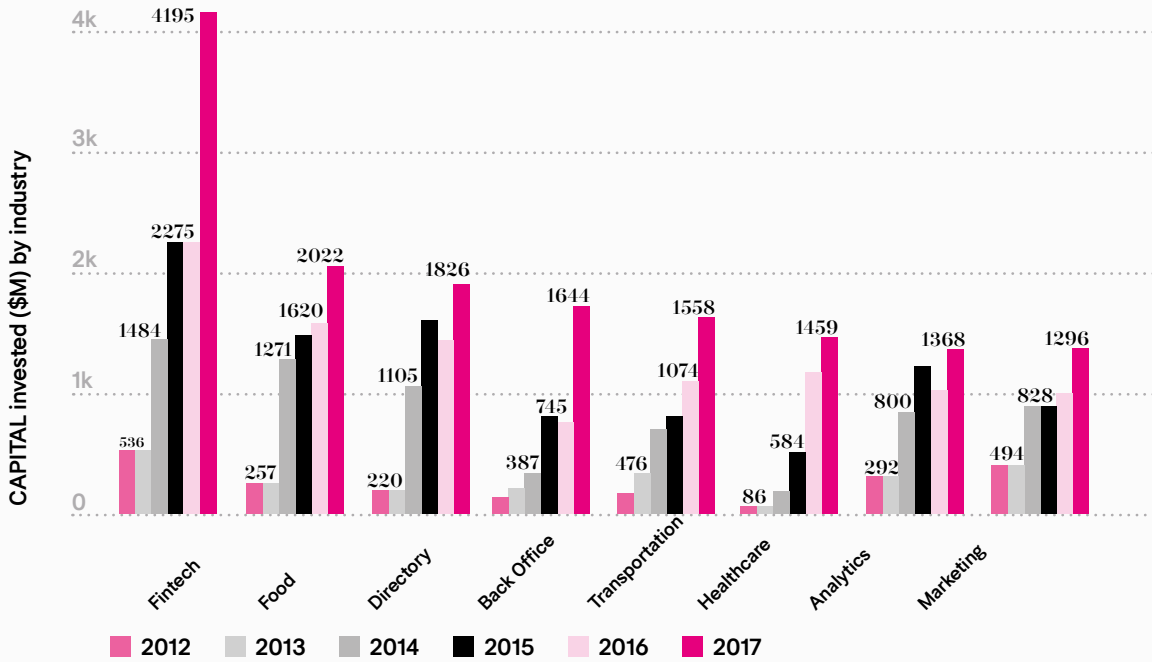
Overall, there is currently a good climate for capital investments across Europe.²⁸ However, few investments are going directly to circular economy innovators. Instead, investments are going to larger and non-circular economy projects where the risk is commonly considered to be lower.²⁹

When considering circular economy innovators in the fashion industry, the total capital investment can be described as relatively low. For example, in 2017, more than US\$ 4 billion was invested in the FinTech industry alone. The corresponding number for the food industry was over US\$ 2 billion and over US\$ 1.5 billion for the transportation industry. All three numbers are up when compared to previous years.

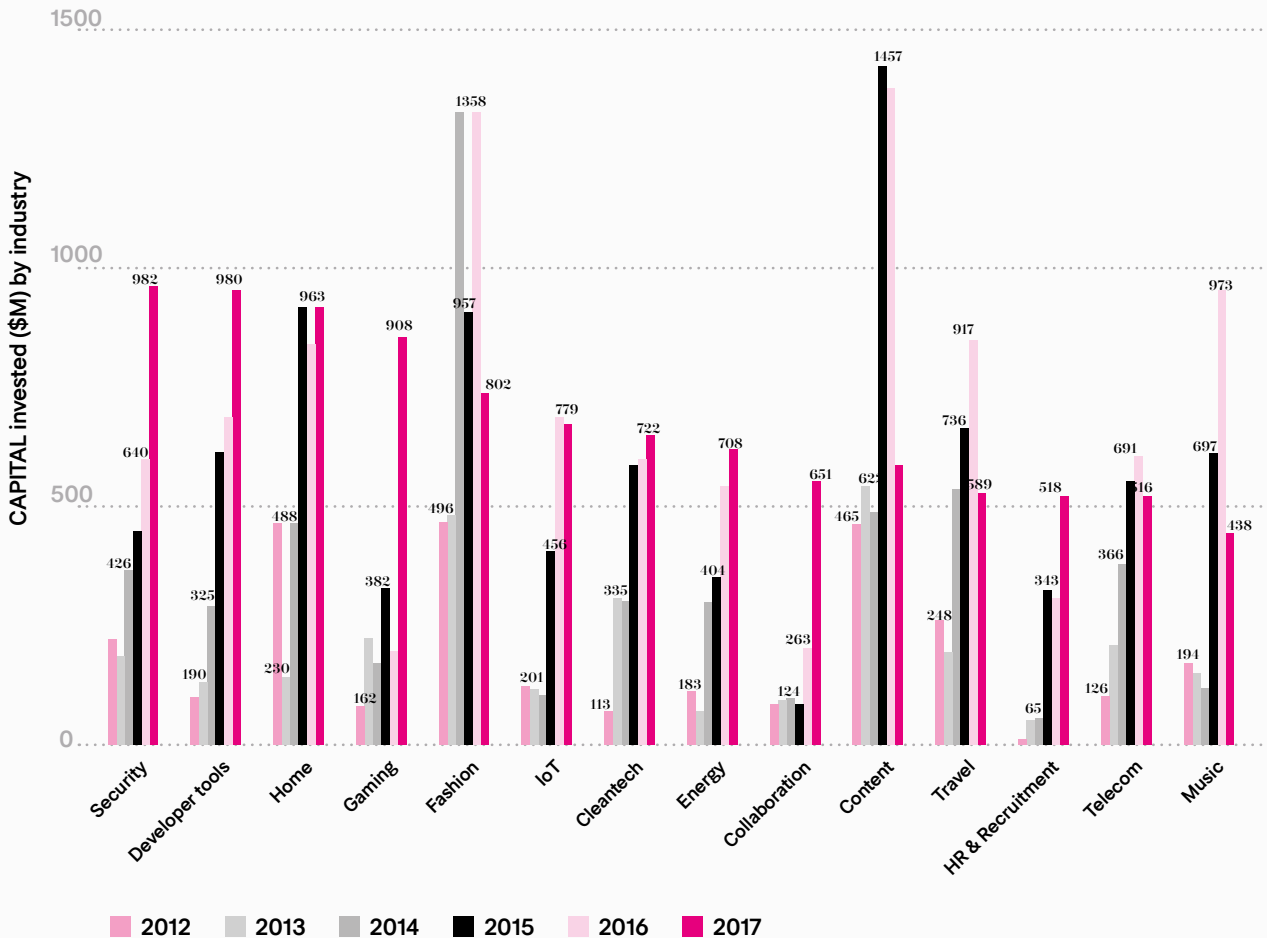
When considering the fashion industry, capital investments were US\$ 0.8 billion in 2017, down from above US\$ 1.3 billion in 2016.³⁰ When examining the capital invested in the fashion industry over the past six years, it is clear that the amount fluctuates significantly. The same large fluctuations cannot be seen in the other considered industries.³¹

Capital invested (\$M) by industry - Atomico, "The State of European Tech", 2017

Capital invested >\$18 in 2017



Capital invested \$500M - \$18 in 2017

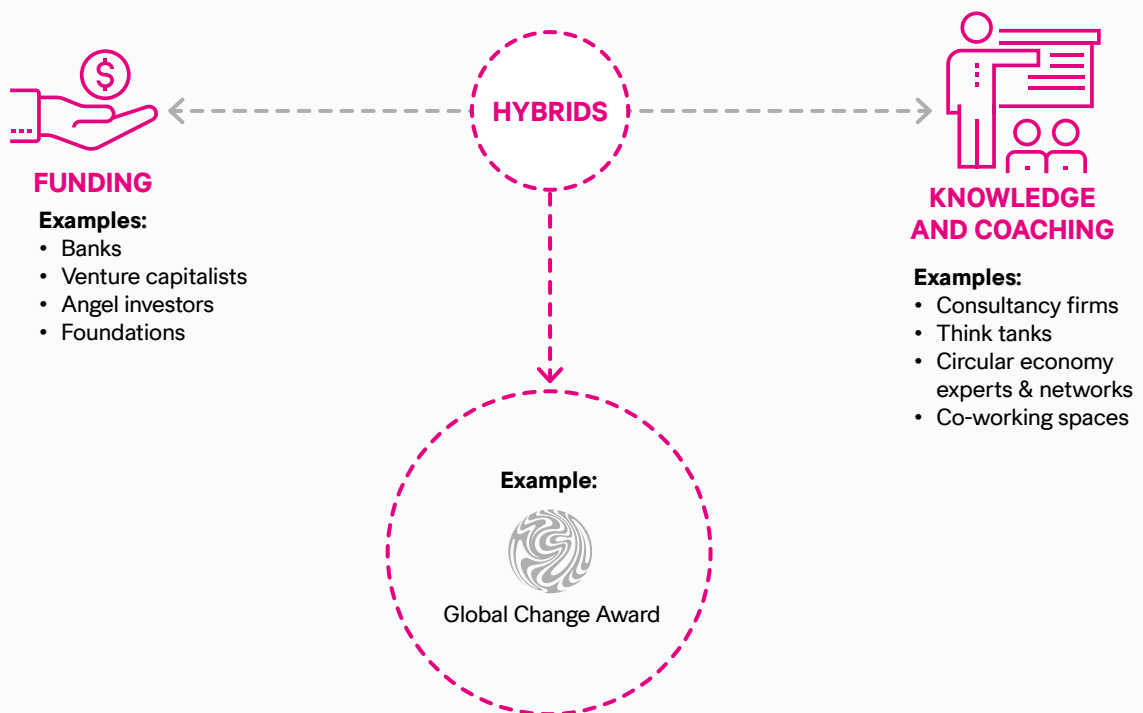


The Key Players in the Fashion Ecosystem and Financing of Circular Economy

To enable the shift to a circular economy, a systematic approach is required with a diverse set of players on different levels. Important players to include are the innovator, companies, financial institutions such as banks, R&D centers, policy makers and intermediate organizations.³² Additional examples of key players igniting this shift are venture capitalists, angel investors and specialized incubators, such as the Global Change Award.

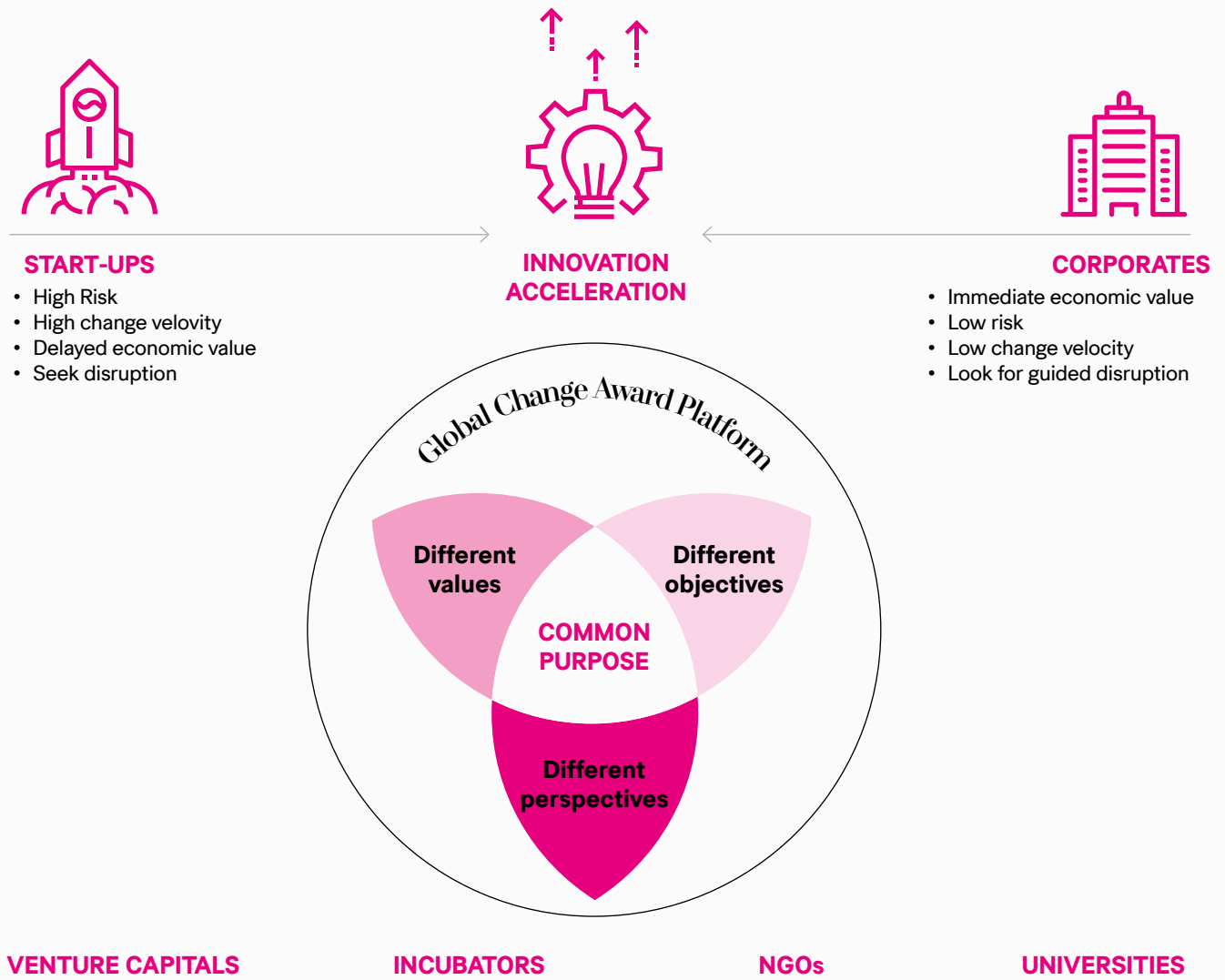
Traditionally, players financing the circular economy have either been focused on the pure financing of the innovations, or only knowledge and coaching. However, more and more hybrid players are breaking ground and appearing in the middle of the spectrum. These hybrid players share the capability to offer innovators the essential mix of financing, knowledge and coaching. In addition, more and more dedicated circular economy investors such as closed loop partners and circularity capital emerge. Clearly, this is a key to unlock the full potential of circular economy. This is the future.

Players in the ecosystem enabling financing of circular economy



Global Change Award Ecosystem

The Global Change Award is well positioned to unite startups, corporations, venture capitalists, incubators, NGOs and universities. The players may have different perspectives and objectives, such as positioning in the market, engagement of staff and capability building. Yet what makes the Global Change Award ecosystem successful is the ability to find common ground and purpose around shifting toward a more sustainable fashion industry.



Clearly, we need more cross-sector collaboration, increased knowledge of the circular economy among decision makers and a more long-term mindset, as the shift toward realizing the circular economy will take time. Access to finance, experts and knowledge are all essential, thus a more integrated approach to financing, coaching and skill building is required.



Section 5

The Winners of Global Change Award 2018

Short brief on the five winning innovations



Crop-A-Porter

Making sustainable bio-textiles by using left-overs from food crop harvests.

Food crops bring food to the table, but crop waste creates a huge problem as it is usually burnt or left to rot releasing polluting carbon dioxide and methane gas into the atmosphere. Crop-A-Porter will change this by turning the waste into a valuable resource, that also generates an additional income to the farmers. Crop-A-Porter takes the harvest remains of crops such as oil-seed flax, hemp, sugarcane, bananas and pineapples and turns it into useful bio-fiber through a low-cost, closed loop technology. The bio-fiber can then be turned into textile fabric; and voilà - a new sustainable material ready to take the fashion world by storm.



Algae Apparel

**Turning algae into bio-fiber
and eco-friendly dye that is
also good for your skin**

Conventional fabric production causes many environmental concerns. Growing natural fibers, such as cotton, requires large amounts of water. Textile dyeing is another huge problem, both in terms of water use and pollution. Algae Apparel has solved both these issues in a brilliant way, 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 bio-fiber and earth friendly dye. A bonus effect of wearing clothes made from algae apparel is that the fabric releases anti-oxidants, vitamins and other nutrients into your skin. Clothes that both look great and literally make you feel great.



Smart Stitch

A dissolvable thread that
makes repairing and recycling
a breeze

Zippers and buttons make garment recycling complicated as the removal of such details calls for manual assistance, making the process both costly and time consuming. Smart Stitch solves this problem by supplying a thread that simply dissolves at a high temperature. This innovation works double wonders - it makes both repairing and recycling a breeze. And when used for regular seams, the whole piece of clothing can easily be disassembled so that the fabric can be used over and over in new ways, cutting the need to produce fabric from scratch. Stitch by stitch, this innovation brings new life to fashion.



The Regenerator

Recirculating fashion into
new textile fiber by separating
cotton and polyester blends.

Recycling fabric is tricky, especially mixed materials such as the hugely popular polyester and cotton blends. What if there was a revolutionary solution that could turn waste fabric into something valuable without harming the environment? That's the idea behind The Regenerator, a circular technology that uses an environmentally friendly chemical to gently separate and regenerate cotton and polyester blends into new, fully useable textile fiber. In short, this innovation will un-mix mixed fibers to create tomorrow's fashion.



Fungi Fashion

Custom-made clothes made from decomposable mushroom roots

There are more than 7 billion people on the planet who all need to be clothed. Many of us enjoy fashion and trends, but the clothes we get rid of along the way are a big problem. Fungi Fashion went to the root of the problem and found an unexpected resource in mycelium - mushroom roots. Combined with 3D technology, they've found a way to produce custom-made clothes out of this new natural fiber without the need to cut and sew. Once you've worn it out, you simply bury the garment in the ground and it will naturally decompose. Until now, fashion has been fun, but from now on fashion can also be fungi!



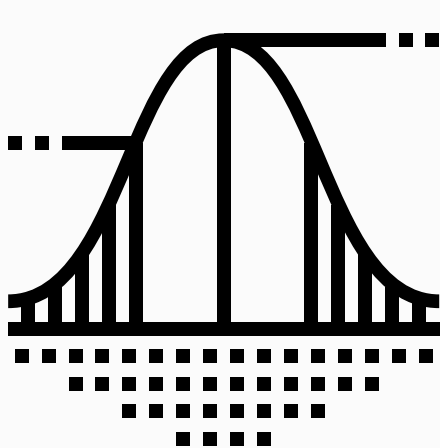
Section 6

Methodology and Tools

To produce this trend report, Accenture employed analytics and data visualization on the data set of over 2,600 applications that were submitted to the Global Change Award in 2017.

The analysis was combined with Accenture's expertise in sustainability, innovation, digital and fashion, to enable the conclusions and interpretations presented.

The analytical work of this report was hypothesis-driven and used various analytical methods and visual analytical tools. With such a large data set, some submissions will miss certain information and become incomplete. These submissions have therefore been removed to enhance the visualizations and the underlying analytical data set. Below you can find a brief description of the different methodologies and tools used in the analysis.



1

Data discovery using the entry data from Global Change Award allowing for in depth analysis of trends and demographics

DATA DISCOVERY

Interactive data visualisations for insight and discovery.

NATURAL LANGUAGE PROCESSING

Advanced analytical methodology using scikit-learn, R libraries, etc.

2

The project has applied advanced analytics using Natural Language Processing

- Understanding of applicants demographics
- In depth analysis of submitted ideas
- Discovering hidden topical patterns that are present across applicants ideas

Section 7

About Accenture and H&M Foundation

H&M FOUNDATION

H&M Foundation

Global Change Award is initiated by H&M Foundation, a non-profit global foundation, privately funded by the Stefan Persson family, founders and main owners of H&M group. The 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 world, the H&M Foundation aims to accelerate the progress needed to reach the UN Sustainable Development Goals by 2030. H&M Foundation has four focus areas; Education, Water, Equality and Planet.

Visit www.hmfoundation.com and follow @hmfoundation on Facebook and Instagram.



Accenture

Accenture is a leading global professional services company, providing a broad range of services and solutions in strategy, consulting, digital, technology and operations.

Combining unmatched experience and specialized skills across more than 40 industries and all business functions - underpinned by the world's largest delivery network - Accenture works at the intersection of business and technology to help clients improve their performance and create sustainable value for their stakeholders.

With more than 435,000 people serving clients in more than 120 countries, Accenture drives innovation to improve the way the world works and lives. Visit us at www.accenture.com

References

Used References

Executive Summary:

1. Peter Lacy and Jacob Rutqvist, From waste to wealth, 2015

Section 2: Fashion Tech as a Driver of Sustainable Fashion

2. Council for Textile Recycling, "Issue", 2018
3. Peter Lacy, World Economic Forum, "These 5 disruptive technologies are driving the circular economy", September 14, 2017
4. Peter Lacy, World Economic Forum, "These 5 disruptive technologies are driving the circular economy", September 14, 2017
5. Matthew Townsend, Bloomberg Businessweek, "'Smart Mirrors' Come to the Fitting Room", February 16, 2017
6. Holly Cave, The Guardian, "The nanotechnology in your clothes", February 14, 2014
7. Marjolein Lammerts van Bueren, Amsterdam Fashion Week, "Beta and fashion: what nanotechnology can mean for textiles", December 15, 2016
8. Marjolein Lammerts van Bueren, Amsterdam Fashion Week, "Beta and fashion: what nanotechnology can mean for textiles", December 15, 2016
9. Holly Cave, The Guardian, "The nanotechnology in your clothes", February 14, 2014
10. Marjolein Lammerts van Bueren, Amsterdam Fashion Week, "Beta and fashion: what nanotechnology can mean for textiles", December 15, 2016

11. Holly Cave, The Guardian, "The nanotechnology in your clothes", February 14, 2014
12. Kate Abnett, Business of Fashion, "The Robot Opportunity", May 19, 2016
13. Kate Abnett, Business of Fashion, "The Robot Opportunity", May 19, 2016

Section 3: Purpose-driven Women

14. Tendayi Viki, Forbes, "Why diverse teams are more creative", December 6, 2016
15. Business of Fashion, "How can fashion develop more women leaders", May 3, 2015
16. Helena Pike, Business of Fashion, "Female fashion designers are still in the minority", September 9, 2016
17. Steve Denning, Forbes, "Why is diversity vital for innovation", January 16, 2012
18. Tendayi Viki, Forbes, "Why diverse teams are more creative", December 6, 2016

Section 4: Enabling the Shift to a Circular Economy

19. Peter Lacy and Jacob Rutqvist, From waste to wealth, 2015
20. Stefan Acsinte and Arnold Verbeek, European Investment Bank, "Access-to-finance conditions for Projects supporting Circular Economy", December 2015
21. Stefan Acsinte and Arnold Verbeek, European Investment Bank, "Access-to-finance conditions for Projects supporting Circular Economy", December 2015
22. ING Economics Department, "Rethinking finance in a circular economy", May 18, 2015
23. Rizos et. al, MDPI, "Implementation of

- Circular Economy Business Models by Small and Medium-Sized Enterprises (SMEs): Barriers and Enablers", November 23, 2016
24. Stefan Acsinte and Arnold Verbeek, European Investment Bank, "Access-to-finance conditions for Projects supporting Circular Economy", December 2015
25. Jed Emerson, California Management Review, "The Blended Value Proposition: Integrating Social and Financial Returns", 2003
26. Stefan Acsinte and Arnold Verbeek, European Investment Bank, "Access-to-finance conditions for Projects supporting Circular Economy", December 2015
27. ING Economics Department, "Rethinking finance in a circular economy", May 18, 2015
28. Atomico, "The State of European Tech", 2017
29. Stefan Acsinte and Arnold Verbeek, European Investment Bank, "Access-to-finance conditions for Projects supporting Circular Economy", December 2015
30. Atomico, "The State of European Tech", 2017
31. Atomico, "The State of European Tech", 2017
32. Stefan Acsinte and Arnold Verbeek, European Investment Bank, "Access-to-finance conditions for Projects supporting Circular Economy", December 2015

Authors



Jennie Perzon,
Accenture
sustainability
and doctoral
student at Misum,
Stockholm School
of Economics



Josefine Olsson,
Strategy
consultant,
Accenture



Tomas Haglund,
Nordic
Sustainability
director,
Accenture



Hanna Karlberg,
Strategy
consultant,
Accenture

Analytics team



Axel Sundberg,
Analytics
consultant,
Accenture



**William
Svedström,**
Analytics
consultant,
Accenture



Linda Virkkala,
Analytics
consultant,
Accenture



Petter Bohman,
Analytics senior
manager,
Accenture

Special thanks to contributors

Fanny Sundblad, Anna Töndevold, Emelie Krantz, Therese Blum,
Barbara Ciocca, Aleks Vujanic, Franziska Reh, Ema Rogobete,
Erik Bang, Malin Björne, Clara Alderin, Linda Hilmgård, Pär Höglund
Global Change Award Expert Panel



Global Change Award

AN INNOVATION CHALLENGE
BY H&M FOUNDATION

H&M FOUNDATION **accenture**