FINNISH TEXTILE & FASHION

At the head of the circular economy II
The circular economy aims to keep textile materials and their value in circulation as long as possible. In the textile and fashion industry, these practices have developed at a rapid pace in recent years.

This publication is a continuation for At the head of the circular economy published in January 2017. With these publications, Finnish Textile & Fashion aim to present the versatile possibilities of the circular economy of textiles and good practices of companies in the industry.

In addition to interesting company examples, we have compiled a list of common terms related to the circular economy at the end of the publication.

We hope that this publication encourages more and more operators to find new business opportunities in the circular economy of textiles and offers ideas on how to commercialise the solutions and bring them to more widespread use.
# Opening words

At the head of the circular economy II

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New growth through the circular economy

The aim of the circular economy is to utilise all resources as efficiently as possible, direct the materials to reuse or recycling after use or to lengthen the life cycle of products with services. In the textile and fashion industry, companies actively utilise the circular economy as a part of their business.

Textile use has grown steadily in recent decades. At the same time, the average number of uses of products has decreased. Global trends, such as population growth and depletion of natural resources, challenge companies to look for new solutions to continue to be successful in the future.

In the textile and fashion industry, circular economy practices are developing at a rapid pace. Utilising materials multiple times saves costs and natural resources. In addition, the circular economy allows business to grow without increasing material consumption. Innovations and partnerships only need to be commercialised into profitable business models.

In this publication, we have compiled examples of Finnish companies in the textile and fashion industry who have seized the opportunities created by the circular economy. The companies also describe how developing the operational environment could speed up the development of the circular economy of textiles.

Plenty of opportunities in textile circulation

Waste is an obsolete idea in the circular economy. Today, many materials and products could be utilised after use, if they were treated as material instead of waste. In Finland, approximately 70 million kilograms of textiles are removed from use annually. The majority of this is discarded textiles from consumers.

Discarded textiles can be utilised in same use or recycled as fibres or as raw materials for new products in other industries. Only a fraction of discarded textiles currently ends up in recycling, as the majority is utilised as energy.

Separate collection of textiles will become mandatory in the EU in 2025. In Finland, preparations for the change are made by planning a processing plant for discarded...
textiles that would offer recycled material for further processing. Pioneers in the industry are already working on new solutions and see plenty of new kinds of opportunities in the circular economy.

The journey of a discarded textile product back to clothing is still long. However, the mechanical recycling method has already been used for decades, and chemical recycling solutions are being developed at a rapid pace. Due to their properties, textiles are also suitable as raw material for many other products. The materials can be utilised in e.g. insulation products in construction, different fillings and paddings as well as composites, which allows them to replace virgin raw materials.

The circular economy is much more than recycling. Its operational models include the efficient use of materials in product design, services to lengthen the life cycle of the product and directing products for reuse, among other things. To promote the circular economy, it is important to develop new recycling solutions for materials and services side by side.

Innovations into practice and speed for solutions

There is vast global business potential in the circular economy of textiles. Finnish companies in the textile and fashion industry have the opportunity to stand out as pioneers in international competition. This can be sped up by developing the business environment, supporting the commercialisation of innovations and encouraging the deployment of business models based on new services.

In Finland, work has been done for a long time to develop textile recycling methods and new recycled fibres. To make innovations commercially profitable, we need bold investments and support for marketing new ecological solutions. It is of paramount importance also in the circular economy that the solutions are told about and marketing the new innovations to consumers is invested in.

Finnish Textile and Fashion supports its members in developing operational models for the circular economy and finding new partnerships. With the help of this publication, we also want to encourage other operators to see the opportunities in the circular economy of textiles and to find new growth in the circular economy.

**View of the textile and fashion industry in Finland**

| 3,500 companies, net sales €4.5 billion, employs 22,000 employees |

Both the textile and fashion industries are in a new growth. In 2017, the net sales of the textile industry increased by 2.5% and the fashion industry by 5.9%.

*Includes manufacturing in the textile and fashion industry, textile and clothing maintenance and retail operators.
Closed loop models

One of the core aspects of the circular economy is how to keep raw material in circulation and how to utilise it as many times as possible. Products do not end up as waste at the end of their life cycle, but rather the materials can be utilised as raw material for new products. In the bioeconomy, on the other hand, renewable raw materials are used to replace fossil raw materials.

In Finland, there has been active development of textile recycling methods and new, more ecological textile fibres. Discarded textiles are already used to manufacture e.g. yarn and various insulation and filling materials through mechanical recycling. The methods of chemical recycling and manufacturing new, bio-based fibres, in turn, are currently in the commercialisation stage.

Currently, only a minority of textiles ends up in recycling after use. However, new innovations for the circular economy of textiles are continuously developed. The aim is that all materials would circulate in the future. After use, fibres could be utilised either in the same process again or as raw material for some other industry. New solutions are often based on utilising the bioeconomy and circular economy side by side.

Solutions based on textile recycling and new fibres offer Finnish operators good opportunities to stand out as pioneers of the circular economy of textiles. However, international competition is tough. Commercialising innovations should be boosted to get the financial gain to Finland.
Touchpoint turns old workwear into terrace furniture

Workwear manufacturer Touchpoint has developed into a pioneer of the circular economy of textiles in the last ten years. In cooperation with long-term customers and international partners, the company has been able to create a service model where old workwear can be recycled eight times into new clothes and into composite material after that.

What?

Touchpoint is a Finnish company that manufactures workwear and corporate gifts guided by a passion for developing sustainable solutions. In addition to modern and ecological workwear, the company wants to develop closed loop business models for the industry.

‘It is senseless to dispose of material that could still be used. Fortunately, our customers share the same ideology,’ says CEO Outi Luukko.

In a pilot carried out in the summer of 2017, Touchpoint collected 15,000 kilograms of used workwear and 1,000 kilograms of dispensable plastic reels from their customers. Touchpoint’s Dutch cooperation partner Dutch Aawareness had them manufactured into composite material that was used to make terrace furniture for the fast food chain Hesburger and other companies that participated in the pilot.

Touchpoint offers a 50-year guarantee for the terrace furniture. After use, they can be recycled as composite again. The successful pilot resulted in a continuous operational model and a service concept where Touchpoint takes care of recycling their customers’ old workwear.

Challenges

Touchpoint has actively participated in various projects promoting the circular economy and also sought partners around the world. According to the company’s experiences, comprehensive circular economy projects do not succeed without courage and the right partners.

‘I see plenty of opportunities to recycle materials in Finland. However, realising them requires long-term commitment and genuine cooperation,’ says Luukko.

Luukko calls for concrete actions from decision-makers as well. According to her, legislation and economic instruments could influence, for example, the use of recycled materials and taking recyclability into account already when designing the product.

Future

Touchpoint has used lots of time to find ecological material options suitable for workwear. Now they offer their customers e.g. the Infinity polyester fabric that can be recycled eight times as well as a polyester recycled from used plastic bottles.

‘Sustainability has become an important part of the company’s values, and the workwear is one way of realising it. We have gathered an international network of pioneers, with whom we can offer comprehensive and sustainable solutions to our customers,’ says Luukko.

Touchpoint has an ambitious growth strategy, and the company’s goal is to scale their business model to the international market as well. Luukko believes that the growing interest towards the circular economy and sustainable solutions supports the company’s goals.

Touchpoint Oy
Founded: 2008
Net sales: €1,876,000 (2017)
Main products: ecological workwear

* Read the story about Touchpoint also from the first At the head of the circular economy publication.
Infinited Fiber Company develops technology that can be used to make new fibre from old clothes. After use, the fibre can be recycled over and over again without compromising quality. The company is currently looking for financiers to establish a commercial-scale production facility.

**What?**

Infinited Fiber Company aims to replace cotton with their new fibre. According to the company’s CEO Petri Alava, the market potential of the new fibre is huge. The fibre can be used in anything from clothes and home textiles to hygiene products and technical textiles.

‘The current model makes no sense. We continuously waste precious materials. Operators in the textile and fashion industry are under massive pressure to find new, ecological solutions,’ says Alava.

According to Alava, Infinited Fiber Company cooperates with both Finnish and international operators. Its current customers include e.g. Adidas, H&M and the nonwoven supplier Suominen.

Infinited Fiber Company utilises technology developed at VTT Technical Research Centre of Finland allowing discarded textiles to be used to manufacture new fibre with a chemical recycling method. With the technology, cellulose-based materials are transformed into a solution that is used to manufacture fibre.

‘The technology is also suitable for mixed fabrics, since materials unsuitable for the new fibre, such as polyester, can be removed during the process. The most financially profitable solution would be to find someone else to utilise them,’ says Alava.

**Challenges**

The business potential of Infinited Fiber as a replacement for cotton is interesting to investors, but the slow schedules related to establishing a production facility slows down finding financiers. There is potential, however, since the global cotton market is worth billions.

‘Finland is missing funding instruments to support these kinds of industrial innovations,’ says Alava.

**Future**

Currently, Infinited Fiber Company is piloting their fibre production at VTT’s Bionuki centre in Espoo. The company’s customers are convinced of the new fibre’s properties and hope to receive larger amounts of it as soon as possible to develop commercial products.

‘If we manage to get funding to establish a production facility, the first products made of Infinited Fiber would be available to consumers at the beginning of 2020,’ Alava estimates.

Alava considers establishing a production facility in Finland to be a realistic plan. According to his calculations, it would directly create 30 new jobs and offer Finland the opportunity to become a global leader in textile recycling.

**Infinited Fiber Company**

*Founded: 2016*

*Net sales: €121,000 (2017)*

*Main products: a new, recycled textile fibre*

Commercialising industrial innovations takes considerably longer than information technology or services. Alava hopes that funding instruments would be developed to also support early-stage growth companies.

Building up profitable production also requires that a sufficient amount of discarded textiles suitable for raw material is available. According to Alava’s estimate, the textile waste produced in Finland would be enough to run one medium-sized production facility.
Spinnova develops a new kind of ecological fibre

Spinnova is an innovative developer of bio-based textile fibres. The company will launch a new, environmentally friendly, wood-based raw material for textiles that can be recycled back into fibre after use.

What?

Founded in 2015, Spinnova manufactures yarn directly from wood fibres without chemical processes. Using this method, they avoid processes that consume chemicals, energy and water in conventional viscose manufacturing. In addition, it is likely that the fibre can be made from either renewable or waste material.

‘Our process consumes approximately 99 per cent less water than cotton manufacturing. In addition, fabric made from Spinnova’s fibre can be recycled back into fibre in accordance with closed loop principles,’ says head of communications Emmi Berlin.

According to Berlin, the manufacturing technology is currently being developed to be suitable for an industrial scale. They are planning to open a pilot factory in Jyväskylä before the end of 2018.

Spinnova is cooperating with the Finnish design company Marimekko. They are also cooperating with other internationally recognised brands.

Future

Spinnova’s future looks bright, since there is currently more demand than the company can supply. Berlin also believes that the company’s patented technology can help replace cotton and synthetic fibres in the future.

‘Our goal is to create a technology for fibre production that conserves the environment, is completely recyclable and can be duplicated anywhere in the world,’ Berlin summarises.

Spinnova’s business model is to search for partnerships with big brands, since most of the fibre manufacturing will be done through joint companies or technology licensing in the future. Spinnova is planning to remain a research and product development organisation that continues to develop ecological material options in the future, as well.

Challenges

Development projects related to new materials are long, and it may take years until the product can be offered to customers on a commercial scale. Berlin dare not estimate when the first products manufactured from Spinnova’s fibres will be available to consumers.

‘Of course our partners hope that they can offer more ecological products to consumers as soon as possible. However, it is important to develop the fibre to be suitable for products and to hold up to the standards set by consumers,’ says Berlin.

Currently, Spinnova’s partners are waiting for the pilot factory to be finished so that they can manufacture larger quantities of samples and test them in use.
All material in use

At best, what is waste to some is raw material to others in the circular economy. Unnecessary consumption of natural resources is avoided when the existing materials are utilised as efficiently as possible. In textile products, virgin raw materials can be replaced with leftover materials from production and by recycling discarded textiles.

The textile and fashion industry has a long tradition of utilising cutting waste from production. Materials have been utilised in manufacturing filling and insulation materials, for example. Currently, more and more operators in the industry are also looking for uses for consumers’ discarded textiles.

Textiles have qualities that make them suitable for a great number of uses. There are already many great examples of utilising recycled materials in Finland. It is usually easier to utilise production waste, since the material is homogeneous and it can be received in large quantities at a time. Textile waste from consumers, in turn, contains very different kinds of products from party dresses to bedsheets and outdoor clothing, and they must be sorted before utilisation.

Pioneers of the circular economy are open-minded experimenters who see all materials as precious raw materials. Sorting discarded textiles for further processing, however, still requires developing the technology. In addition, more bold and new innovations for using recycled textiles are required to find a reasonable use for all materials.
Finarte combines design and ecological material choices

Finarte is a Finnish manufacturer of design rugs that is also known as a reformer of traditional rag rugs. Since the beginning, the company has used leftover materials from the textile industry as material for their rugs.

What?

Finarte’s products combine Finnish design and traditional crafts with ecological materials. Larissa Immonen runs the company founded by her parents in 1985. She wants to show that stylish design products can also be manufactured ecologically with recycled materials.

‘My mother Eija Rasinmäki’s vision of reforming rag rugs originally drove Finarte to utilise leftover material from the textile industry. This is a value judgement for me as well, and I want to hold onto it,’ says Immonen.

Since the beginning, it has been clear for Finarte that existing materials will be utilised as efficiently as possible. Cutting waste, scraps of cloth and leftover materials from the clothing industry are mechanically shredded, after which machines spin them into yarn used in cotton rugs. In addition, several rugs are made from cutting waste, as it is or dyed.

All of the company’s products are manufactured in India, where Finarte has cooperated with the same partner since the 90s. In addition to leftover materials, the company has utilised e.g. bicycle tyres and polyester yarn recycled from plastic bottles in their products.

Challenges

Finarte seeks growth on the international market. However, according to Immonen, people in different countries have very different attitudes towards recycled materials. It is also difficult to explain the variation related to the quality of recycled materials to some customers.

‘The origin of the raw materials varies, so the dye of the recycled materials, for example, may vary from one batch to another. In addition, the constant uncertainty of the availability of materials is something that we just need to accept when using recycled materials,’ says Immonen.

Future

Finarte engages in constant product development together with their Indian cooperation partner to find new materials and production methods. Immonen sees that sustainable material choices are an opportunity to stand out especially in the international market.

‘We have believed since the beginning that existing materials are the best and that by modifying them we can create something beautiful,’ says Immonen.

However, Immonen points out that the use of recycled materials is rarely the most important factor in consumers’ purchase decisions. Most people find it an interesting addition that provides a third compelling dimension alongside design and price.

Finarte (India) Oy
Founded: 1985 (1993)
Net sales: €1,700,000 (2017)
Main products: rugs
Finlayson manufactures towels from old jeans

Home textile manufacturer Finlayson has expanded their collection with several products made from recycled materials. One of the company’s ideas was to collect Finnish people’s old jeans and utilise them as raw material for towels.

What?

Finlayson started collecting consumers’ used denim clothes in their shops in February 2017. Earlier, the company had collected old sheets from consumers’ closets as material for the Rag Rug Pieces products*.

In 2017, approximately 12,000 kilograms or approximately 8,000 pairs of old jeans were collected in 25 shops. Finlayson’s cooperation partner sorts and processes the collected jeans into material suitable for towels in Belgium and Germany. The finished towels contain 30 per cent recycled fibre.

‘The recycled material is mixed with viscose and virgin cotton to produce a durable structure,’ says Finlayson’s corporate responsibility manager Elli Ojala.

According to Ojala, utilising recycled materials has a significant environmental impact. She says that in 2017 alone Finlayson’s denim towels conserved more than 10 million litres of water when compared to similar products made from virgin cotton.

Challenges

Finlayson has surprised the public over and over again with campaigns and ideas that speed up the circular economy. Work related to the product development of recycled materials takes time, however, and there are also challenges.

‘Each used product has its own history that we do not know about. The materials need to be tried and tested several times so that we can be sure that they are safe and suitable for our products,’ says Ojala.

Future

Collecting jeans and sheets has become a permanent practice in Finlayson’s shops. Currently, materials unsuitable for recycled products are delivered to the Netherlands to be utilised, because there is no industrial-scale processing facility for discarded textiles in Finland yet.

We want to be forerunners in all things related to textile recycling in the future, as well. We actively participate in projects promoting the utilise of discarded textiles and constantly survey new recycled materials with our cooperation partners,’ says Ojala.

According to Ojala, a product made from recycled materials needs to be at least as good as a product made from virgin raw materials. As an indication of this, Finlayson’s denim towels have the Oeko-Tex quality and product safety certificate granted by a third party.

Finlayson

Finlayson Oy

Founded: 1820

Net sales: €36,500,000 (2017)

Main products: home textiles

* Read the story about Finlayson’s Rag Rug Pieces from the first At the head of the circular economy publication.
Muotikuu’s tulle skirts turn leftovers into luxury

The products of Muotikuu, specialised in evening dresses, glow with glamour and elegance. Leftover materials from the cutting stage of other products, which otherwise would have been disposed of, have been utilised in the hem of a voluminous tulle skirt.

What?

Muotikuu’s beautiful evening dresses are created by entrepreneur-designer Jaana Varkki-Terho. Voluminous tulle skirts designed by her have been Muotikuu’s trademark since the beginning. Their selection includes lots of tulle skirts in different lengths, designs and colours.

Muotikuu manufactures and sells approximately 1,000 tulle skirts annually. Inevitably, some waste is created when cutting the skirts. Varkki-Terho’s spouse did not want the valuable material to go to waste, so he collected it and stored it in boxes.

‘We had not thought of a use for the leftover material but did not want to throw away such high-quality material. Finally I got an idea of a frilly, slightly more casual tulle skirt that the pieces would fit perfectly,’ says Varkki-Terho.

Muotikuu’s frilly tulle skirt is an example of ecological product design at its best. By its appearance, you would not guess that it is made from leftover materials. However, by utilising this material, several hundred metres of new tulle is conserved annually.

Challenges

Muotikuu’s clothes are elegant and stylish. They are usually worn in celebrations or the most special moments of everyday life. Although Varkki-Terho is passionate about being ecological, and interest towards sustainable material options has increased, Muotikuu has not marketed the frilly tulle skirts as being ecological.

‘All the materials used in our products are of premium quality, and all products are finished to the tiniest detail. We have not wanted to raise one product above others,’ says Varkki-Terho.

Future

Muotikuu’s strengths are their unique outfits and the option to tailor the products according to the customer’s wishes and measurements. In addition to the tulle skirts, Varkki-Terho plans to utilise the leftover materials in the future in individual custom-made products when possible.

According to feedback from customers, ecological solutions are desired more and more in unique evening dresses as well,’ says Varkki-Terho.

Muotikuu

Muotikuu Oy
Founded: 1992
Net sales: €3,674,000 (2017)
Main products: women’s evening dresses
Added value through design

The circular economy is not just about keeping materials in circulation but also about opportunities to increase the value of waste by utilising it in products with more added value. The textile and fashion industry is creative by nature, so it offers many examples of giving new life to useless materials.

In the textile and fashion industry, added value for leftover and recycled materials can be created with design. Even though the product would no longer serve in its original use, the material can be utilised in other products. Many companies in the textile and fashion industry utilise materials that would normally end up as waste in a creative and innovative way.

Designing reuse products from leftover and recycled materials requires time and special skills. The procedure is different from traditional design work because, instead of working with large, solid pieces of material, the starting point is the existing material. In addition, the quality of the material may vary and the availability may be challenging to predict.

Several companies in the textile and fashion industry see new opportunities in materials useless to others. The number of consumers interested in individual design and ecological aspects is also constantly on the rise. To implement a new kind of thinking more widely and to make ecological product design financially profitable, companies should be supported and encouraged in implementing new practices.
Costo is making headway around the world with ecological accessories

Born from the vision of three Finnish designers in 2006, Costo manufactures hats and accessories from leftover fabrics from the furniture industry. Behind the brand is the founders’ desire to show that success does not require constant production of new material. They aim to make ecological solutions without compromising quality, appearance and usability.

Why?

Combining quality, ecology and style, Costo is known for their hats adorned with colourful bobbles. Over the years, their collection has expanded to other accessories as well, such as beanies, bags and ties. The brand’s vision is to design timeless, high-quality products for everyday use.

‘At first, the idea was not to make products out of recycled materials. We used a furniture store’s fabric samples as material because they were available,’ says Hannes Bengs, one of Costo’s founders.

Soon Bengs and his partners realised that there was more material suitable for hats just lying around unused. Today, more than 90 per cent of Costo’s products are made from leftover fabrics from European furniture factories. Mostly utilising leftovers, batches with dyeing defects and last season fabrics has also proved to be a profitable business.

‘The price of leftover material is a fraction of the equivalent normal material. The price of a single hat would double if we were to use equivalent virgin raw materials,’ says Bengs.

According to Bengs, virgin material is also accepted in Costo’s products if it is of sufficient quality. In addition, another company called Pure Waste Textiles has developed around the brand, which manufactures 100% recycled materials for both Costo’s products and other brands*.

Challenges

Costo’s bobble hats have been exported into 15 different countries around the world. The starting point for designing products from recycled materials is always the available material. The greatest challenge, according to Bengs, is selling a product based on recycled materials to retailers who are used to conventional fashion cycles.

‘Only after we know the material can we say how many pieces of each product and colour will be available,’ says Bengs.

On the other hand, Bengs sees their different way of doing things as a strength, because Costo can quickly react to current trends in their colour choices, for example.

Future

Costo is an example of an ecological brand that is making headway in the market design first. Currently, the brand is focusing on internationalisation one market area at a time. In addition, the collection is going to be expanded with e.g. high-quality knitted products.

‘Costo has always been a free spirit, open to everything, and it has found its way by experimenting. We do not want to make too specific plans,’ says Bengs.

* Read the story about Pure Waste Textiles from the first At the head of the circular economy publication.
Remake creates unique design products from used clothes

Remake manufactures new design products from used clothes. The company’s founder and designer Paula Malleus has been developing the MEM collection mass produced from used clothes since 2012.

What?

Remake’s MEM collection and design philosophy are something that the conventional clothing industry is still only getting used to. The starting point for designing the collection are clothes discarded by consumers which Malleus transforms into unique design products suitable for mass production.

“The materials used in the products of the collection are delivered to us presorted through our long-term cooperation partners, mainly the clothing collection of the Finnish Red Cross,” says Malleus.

In addition to design, the story of the materials is what makes Remake’s products unique, even though the collection is mass produced. Malleus also believes that the individual variation between materials in Remake’s products makes them special to those who wear them. In addition to the MEM collection, Remake functions as a repair and customization shop that repairs and remakes clothes and accessories. The company’s customers include many top artists in Finland.

“I think cooperation with artists is important for promoting thinking related to the circular economy,” says Malleus.

In addition to Remake, Malleus has engaged in strong social influencing by participating in building circular economy content in vocational education.

Challenges

Reuse production creates its own challenges in each production stage. In addition, the company is always dependent on the material flow from the recycling parties and the quality of the provided material. For this reason, Remake has narrowed down the materials used in the collections to denim, tricot and leather.

“The poor quality of today’s materials is a challenge for manufacturers of reuse products. It is important to me that our products endure normal washing and use for as long as possible,” says Malleus.

Remake offers all products in the MEM collection a 12-month structural guarantee and advises their customers on the maintenance of their products.

Future

Remake is constantly exploring opportunities to cooperate with other parties with similar ideologies. Malleus hopes that she will be able to create new kinds of operational models through Remake which could be applied more broadly in other companies in the industry, as well.

“I want to challenge the operators in the clothing industry to see new alternatives for conventional operational models and to prove that fashion can also be created sustainably,” says Malleus.
TAUKO offers a new life to discarded textiles from hospitals and restaurants

TAUKO is a Finnish design company that utilises discarded textiles as material for their clothes. The company reuses fabrics that have previously served as sheets and table cloths in hospitals, hotels and restaurants.

What?

With the sculptural look of the TAUKO products, it is impossible to guess that their materials have previously been used as sheets and tablecloths. The activity is influenced by the desire of the company’s founders Mila Moisio and Kaisa Rissanen to create fashion as ecologically and sustainably as possible.

‘Over the years, we have learned to read the material in a way that allows us to take typical mistakes into account already in product design and patterning,’ says Moisio.

TAUKO strives to manufacture their products close to the market and process the material as little as possible. The materials come from textile service companies, and the fabrics are transformed to fit the collection by re-dyeing them. Suitable cooperation partners have been found in Finland and Estonia.

Challenges

TAUKO strives to utilise the existing production models in the textile industry. Reused materials, however, pose challenges in conventional production because a hole in the sheet, for example, must be taken into account in the plan.

‘Leftover materials and second quality products are inevitable in production. Each batch must also be checked before sending the products to customers,’ says Moisio.

Moisio has noticed that consumers still tend to think that products made from recycled materials have a certain look. According to her, TAUKO has aimed to break people’s images of eco fashion by building an internationally successful fashion brand.

Future

TAUKO’s entrepreneurs believe that opportunities for growth can be found especially on the Central European market. For this, the collection is sought to be expanded with new products made from recycled fibres.

‘We actively follow what is happening around us and how different recycling methods evolve. Our next collections will feature tricot products made from the new recycled Refibra and knits made from recycled wool, among other things,’ Moisio promises.

Moisio also has a vision that discarded textiles could be utilised in the future by the local workforce and infrastructure all around Europe.

‘The discarded textiles at hospitals are the same everywhere in Europe and the amounts are massive. Our model could be replicated in different areas if the sales amounts could be raised to a level worth investing in,’ says Moisio.

TAUKO Design Oy
Founded: 2008
Net sales: €215,000 (2017)
Main products: womenswear
Longer life cycle through services

Product-related services are taking centre stage in new circular economy business models. Their goal is to sell a solution that takes the product’s entire life cycle into account. Services highlight the lengthening of the life cycle of textiles and separating a company’s growth from the constantly increasing consumption of natural resources.

With services, products are aimed to be kept in use as long as possible. This is essential when striving to minimise the environmental impact of textiles’ entire life cycle. Product rental services, second hand sales and repair and care services are examples of how companies in the textile and fashion industry have seized the new business opportunities created by services.

New circular economy business models require new kind of thinking. In business models based on services, the customer pays for the use of the product instead of owning it. Companies should invest in the quality of the product and lengthening its life cycle. Some services also enable the development of recycling solutions for discarded products. At the same time, services make customers more committed and provide more versatile service than before.

Consumers’ attitude towards owning products is changing. More and more companies are thinking about expanding their business model based on conventional sales. However, building a new business model, implementing technical systems and marketing the services require investments from the companies. Gaining new growth from services requires a change in business models, consumer behaviour and putting the services into practice.
Vaatetuu utilises new circular economy business opportunities. It offers women a shared wardrobe as an alternative to constantly increasing consumption. The service is currently used by hundreds of active users, and the number is constantly growing.

‘Most often, a new customer comes looking for an evening dress for a single occasion, browses the selection and finally joins as a member,’ says Linnemäki.

The selection of more than 3,000 products includes casual everyday clothes, workwear and evening dresses from Finnish and complementary Nordic brands. The members claim a membership suitable for their needs and borrow various outfits accordingly either for a week or longer. All the products can also be bought into your own wardrobe.

‘I want to offer everyone a chance to try what quality materials and good design feel like. With the service, you can easily get variety for your wardrobe and receive a chance to try outfits that you might not dare or be able to buy right away,’ says Linnemäki.

According to Linnemäki, the very idea of Vaatepuu is to help consumers make advised purchasing decisions and invest in quality instead of quantity when purchasing clothes. She also advises the members in the proper maintenance of the clothes, so that they would last as long as possible.

Challenges

Linnemäki believes that change in consumption will be achieved by making borrowing as easy as buying new clothes. Currently, using the service is still harder than buying fast fashion, because the customer must always wash and care for the clothes they have borrowed before returning them.

Future

Currently, Vaatepuu is open once a week in Tampere and Turku and twice a week in Helsinki and Järvenpää. Linnemäki is planning to expand the library’s services online to make it easier to use.

1 will start calmly by offering members the option to reserve products online, but hopefully in the future anyone in Finland could borrow clothes through Vaatepuu’s online service,’ says Linnemäki.
Emmy circulates pre-owned brand apparel

Founded in 2015, Emmy Clothing Company is the largest online store for second hand clothing in Finland. The service provides an opportunity to recirculate clothing that you have forgotten at the back of your wardrobe and no longer need, as effortlessly as possible.

What?

The idea of Emmy originated from the personal needs of company founders Hanna Autio and Markus Rautopuro. The fast circulation of clothing is everyday life especially in families with children, but there is not enough time to sell the products in conventional flea markets or online marketplaces.

'We wanted to offer a simple and attractive option for buying and selling second hand clothes,’ says Autio.

The consumer using the service packs their unused clothes in a bag and delivers it to Emmy’s collection box. The company takes care of transport, sorting, pricing, photography, sales and delivery to buyers. Finally, the seller is paid up to 80% of the selling price depending on the product.

There are approximately 35 Emmy collection boxes adjacent to department stores and shopping centres around Finland. Nearly 300,000 items of clothing have been recirculated through the service so far. In addition, the company works in close cooperation with several Finnish companies, such as Stockmann, Reima, Papu Design and Vippa.

‘According to calculations by the Finnish Environment Institute, our operations have reduced carbon dioxide emissions by over 170 tonnes and conserved approximately 345 million litres of water so far,’ says Autio.

The resale value of durable products is good, and the amount of textiles ending up as waste is reduced. Autio hopes that the information provided by Emmy would also encourage consumers to purchase higher quality clothing.

Challenges

Emmy only collects usable clothing. Despite the instructions, products that are damaged or unsuitable for sale also end up in the collection boxes.

‘Approximately 90 per cent of the clothes we receive end up for sale. The rest of the reusable clothes we deliver to charity organisations and the others to the Tekstiilirinki textile recycling service,’ says Autio.

Future

Currently, Emmy only operates in Finland, but Autio says that they are planning to expand their operations to the international market as well. In the spring of 2017, the company collected more than 920,000 euros of funding for internationalisation.

‘First, our operations will expand to Estonia, but our goal is to grow into the leading online store for second hand clothing in Europe,’ says Autio.
Circular economy terms defined

In the circular economy, products and the materials they contain are kept in use for as long as possible. Below, we have compiled some common terms related to the circular economy of textiles with descriptions.

**Terms**

**Circular economy terms defined**

**Utilisation**

Utilisation means activity where textile waste is used as a replacement for virgin material otherwise used for the purpose. Discarded textiles can be utilised either as material or energy.

**Sharing economy**

The sharing economy is a new form of economy that allows products and services to be used without having to purchase them. The sharing economy can be used to promote the principles of the circular economy by reducing consumption and lengthening the life cycle of products.

**Chemical recycling**

In chemical recycling, the fibres of the textiles are separated by using chemical reactions. With chemical recycling, even worn fibres can be restored over and over again into raw material suitable for manufacturing new, high-quality textile products. The method is also suitable for recycling blended fibre materials.

**Recycling**

Recycling is transforming waste into products, materials or raw materials, for the original purpose or a new one. Textiles can be recycled using the mechanical, chemical or thermal method. People often speak of recycling clothes through flea markets, for example, but according to the waste legislation this is called reuse.

**Cutting waste**

In the textile and fashion industry, manufacturing products usually inevitably creates leftover material that cannot be used on the actual products. Cutting waste and leftover material are classified as waste unless an environmental authority has separately defined them as by-products.

**Mechanical recycling**

The textile and fashion industry has long used the mechanical recycling method of shredding the material back into fibres. The process damages the structure of the fibre and weakens its quality with each recycling round. Mechanical recycling is especially suitable for cutting waste created in textile manufacturing, which is usually very homogeneous.

**Discarded textile**

A discarded textile is a product that is useless to its owner. This includes both textile waste and used, reusable textile products. The waste legislation classifies all unsorted discarded textiles as textile waste.

**Closed loop**

In the closed loop model, materials are recycled over and over again into new materials. The model allows the material to retain its quality and value also after use.

**Textile waste**

Textile waste is waste removed from use that is no longer usable as it is, i.e. it is damaged or dirty. These kinds of textiles are currently sorted as mixed waste, where they are mainly directed to be utilised as energy. The majority of textile waste could be utilised as materials.

**Thermal recycling**

Thermal recycling is a recycling method suitable for synthetic fibres where the fibres are melted with heat. Thermally recycled material can be utilised e.g. as raw material for plastic and composite products but no longer as textile fibre.

**Reuse**

Reuse is using the product or part of it again for the same purpose it was originally designed for. Reusable and clean clothes, which are still usable as they are, are directed for reuse through second hand shops, for example. Clean materials can also be reused by using them in different textile product designs.

**Upcycling**

According to the waste hierarchy of the waste legislation, waste should be utilised into products of most value. Upcycling is a term that is usually used for operations aiming to increase the value of the waste with new operations, such as designing products suitable for new purposes from material that would normally end up as waste.