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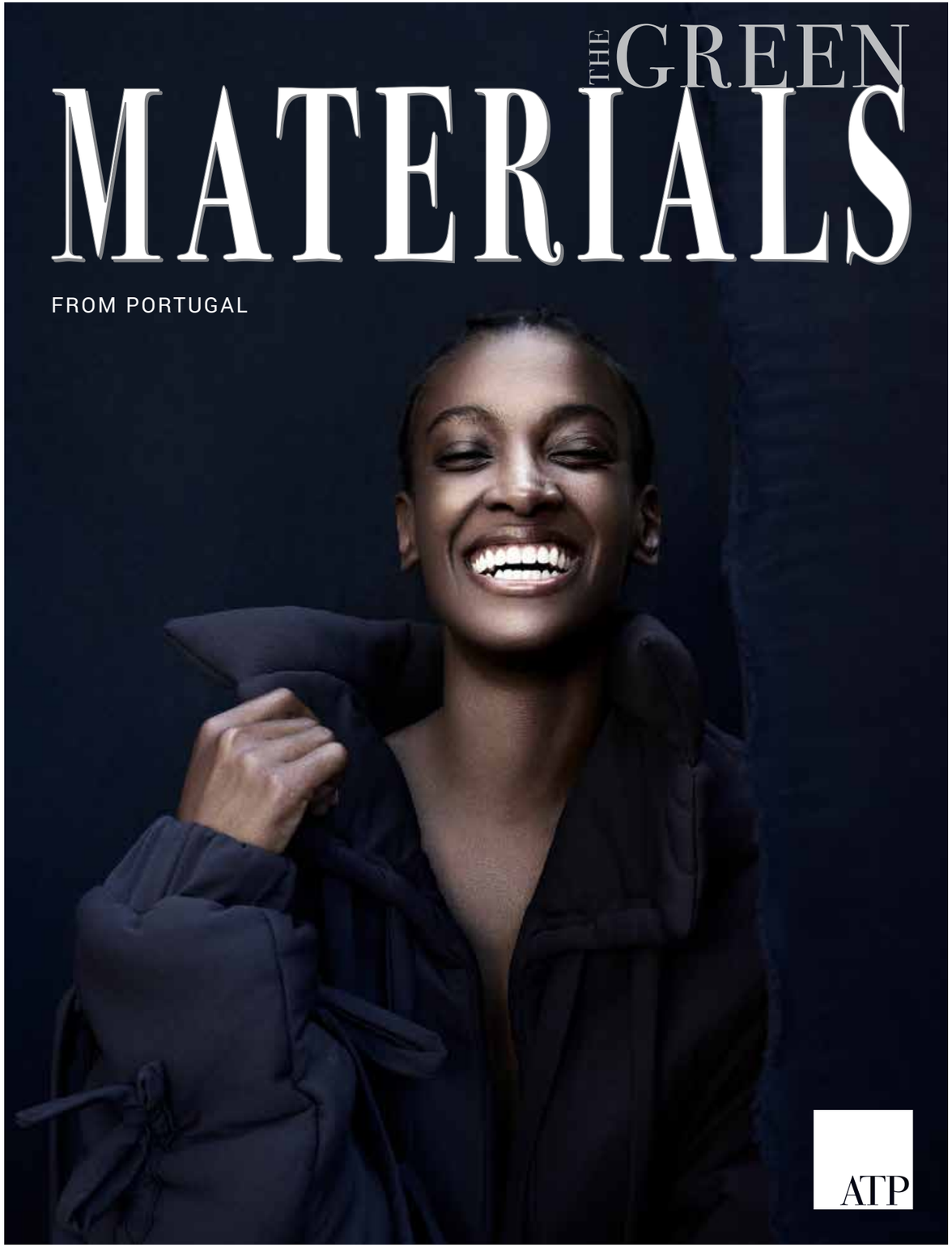
2022

SUSTAINABLE FASHION FROM PORTUGAL

THE GREEN MATERIALS

FROM PORTUGAL



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SUSTAINABLE FASHION FROM PORTUGAL

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THE GREEN MATERIALS

PROJECT DIRECTOR _ *Sofia Botelho*

EDITOR & CREATIVE DIRECTOR _ *Paulo Gomes*

PHOTOGRAPHY _ *Sorin Opait* _ *Nicole Muller*

GRAPHIC DESIGNER _ *Maria João Pereira*

ANA TAVARES INTERVIEWED BY _ *Patrícia Barnabé*

SPECIAL REPORT BY _ *Céline Alexis Buehrer*

TRANSLATOR _ *Francisco Chagas*

MODELS _ *Tiago Severo* _ *Nádia Sena* _ *Thais Borges*

SPECIAL THANKS TO _ *Ana Afonso* _ *Leonor Gorjão* _ *Luís Renato* _ *Central Models* _ *Elite Lisbon* _ *Paulo Miranda*

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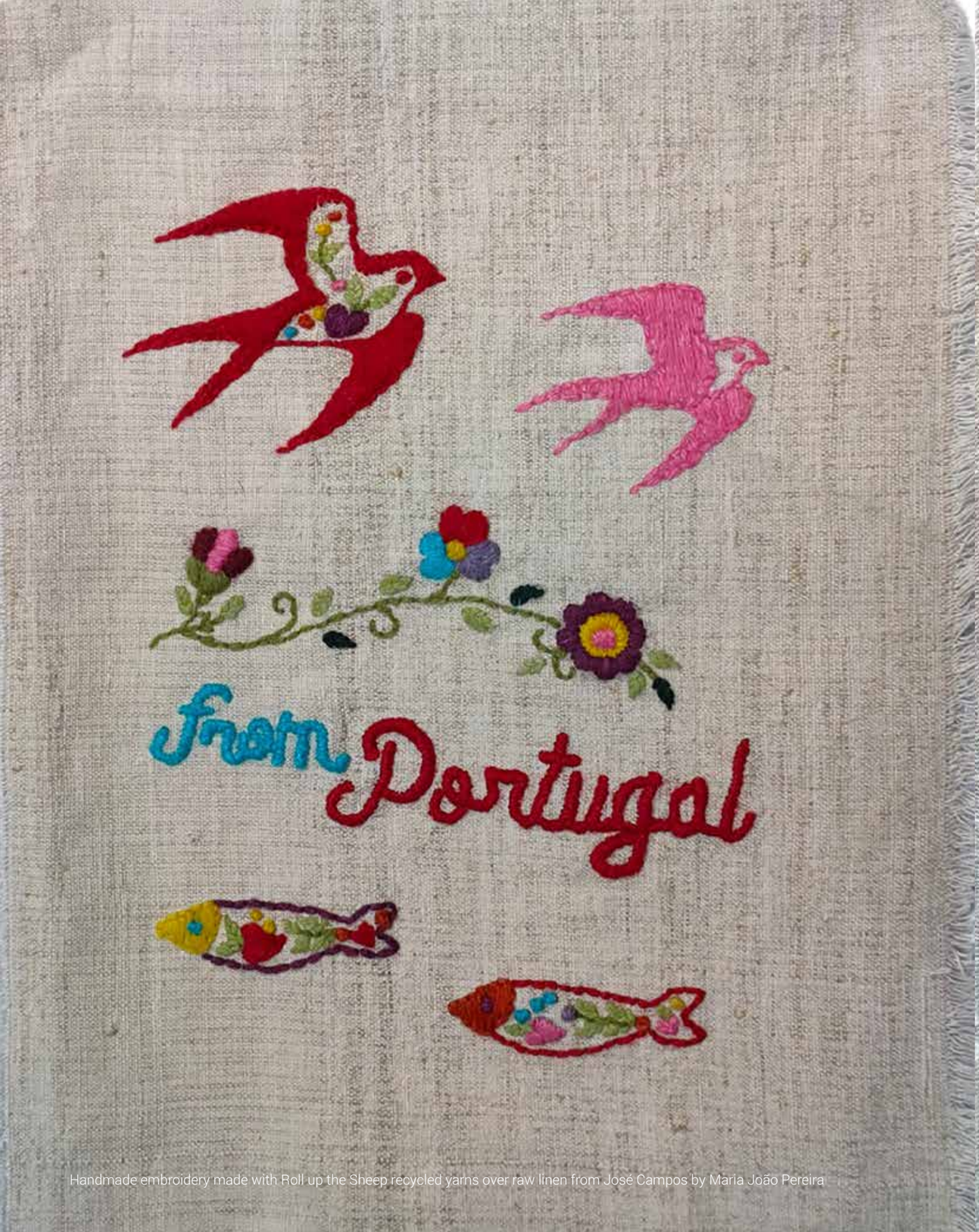

Handmade embroidery made with Roll up the Sheep recycled yarns over raw linen from José Campos by Maria João Pereira

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Handmade embroidery made with Roll up the Sheep recycled yarns over raw linen from José Campos
by Maria João Pereira & Paulo Miranda

EDITO _

BACK TO TRACK

Once you start thinking this way, you just see the future.

"Material is the message in today's design world, with designers looking at both low and high-tech ways to reinvent the elements with which they work, all the while staying connected to the Earth". This statement by Li Edelkoort – the dutch forecaster who, for more than 30 years, has worked toward anticipating trends in the fashion and design spheres – says it all.

Be it recomposed from scraps of matter, reimagined with both natural and synthetic ingredients, recycled and reincarnated, cultured and grown to give new life to texture, fibres and colours, designers aim for the adoption of more sustainable production and consumption processes, and, through creative means, make us aware just how much positive impact might be generated from embracing change and being environmentally conscious. They seek to use little to no chemicals, water and energy in their work, while producing locally, and often experimenting with recycled or upcycled materials.

Today, our society – a post-fossil one and the first of its kind – is truly rising up to the occasion, providing humanity with some much needed hope and belief to carry over into the future – spawning a reset in attitude and mentality, which entwines our well-being with that of Earth's. Therefore, this magazine will draw inspiration from and try, through the work of the leading forces in Portugal's textile industry and beyond, to reestablish, as humans, a spirit of self-respect and a sense of adoration toward the biggest gift of them all, our planet.

Likewise, what a blissful realisation, it was, to understand that Portugal is at the forefront of this revolution, thus becoming a hub for the incessant blossoming of innovative ideas and concepts, all of which pertain to the development of new, greener, materials and processes. For, in doing so, we must remind ourselves: textiles are vital to who we are.

And, in the same way that I started this text by evoking the wisdom and foresight of Trend Union's founder, Li Edelkoort, so too will I close it with it:

"From land to sea, from forest to mountain, a wealth of ideas sprout from the Earth, analysing and cataloguing its components: transformed into new materials, recycled remnants, oxidized alloys and vegetal colours."

Paulo Gomes

paper sample made with textile waste (Valérius 360)

ALL THE CLOTHING USED
IN THE FOLLOWING FASHION
EDITORIALS ARE PART OF
5TH EDITION OF ITECHSTYLE
GREENCIRCLE SHOWCASE
POWERED BY CITEVE

ECODESIGN LAB

MANUFACTURING COMPANIES _

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YOUNG FASHION DESIGNERS _

FINALIST STUDENTS OF THE 3TH YEAR OF FA.UL
COORDINATED BY MÁRIO MATOS RIBEIRO _
FINALIST STUDENTS OF MODATEX LISBOA
COORDINATED BY CRISTINA BARRADAS AND ANA AFONSO

FROM FIBERS TO FABRICS

PHOTOGRAPHY _ *Sorin Opait* . ***MODEL*** _ *Nádia Sena*

Trousers (previous page) _ 98% Polyamide (Mery Sublime – Zero Microfibres)
Jacket _ 100% Polyamide (Mery Sublime – Zero Microfibres) by **A. Sampaio e Filhos**
We have decided to address the issue of microplastics. The target is to reduce the amount of microfibers released during the lifespan of one garment. We have developed a range of fabrics in cooperation with Nylstar®, the fibre producer and owner of the brand Meryl®.
We have a range of fabrics with this technology and different spinning technologies ("normal" texturized, air texturized, "flat" yarn, so that we can have different handfeels, from "cotton" handfeel to "silky" handfeel). Dope dyed is also possible. New fabrics with this technology (Ecodye) that saves all the water and energy necessary for dyeing PA are under development at A. Sampaio at this very moment. Circularity was not left behind in the quest to reduce microplastics in the environment. Most of our fabrics in this range are available with recycled PA content (aprox. 50%, yarn is GRS certified).

Dress _ 100% Organic Cotton by **Joaps Malhas**
Based on the principles of organic farming, with the objective of reducing the environmental impact on soils and human beings, caused by conventional production, this quality was developed in organic cotton, a product free of substances harmful to the planet, without the use of pesticides, herbicides. or other chemical fertilizers, simply the best for the environment and health.

Dress _ 100% Organic Cotton by **Polopiqué Tecidos**
Combining rustic style and sustainable materials, we developed a 100% organic cotton fabric made in a PosiLeno®.

Jacket _ 87% Cotton GOTS - 13% Cork by **Têxteis Penedo**

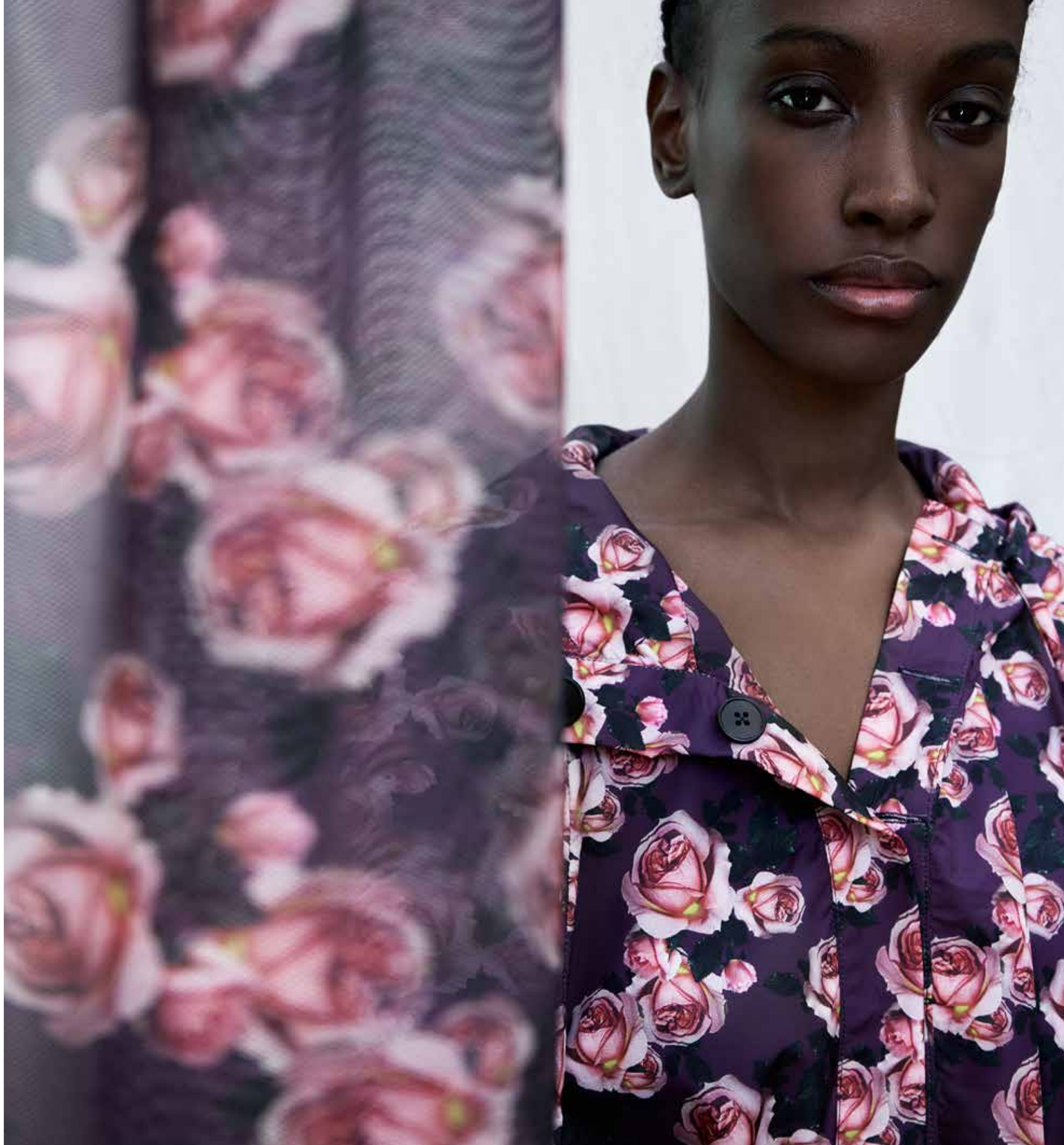
Cor-a-Tex yarn was born from two traditional portuguese industries: cork and textile. This yarn is a beautiful example of *one man's garbage is another man's gold*. Using a waste from cork industry and combining it with cotton GOTS yarn, we were able to make a value-added yarn that can combine features of cork like anti-mites, anti-bacterial, good fire resistance, high thermal insulation capacity, high soundproofing capacity, with the touch and comfort of the textile.

Waistcoat _ 97% Organic Cotton - 3% Elastane by **Bloomati by Carvema**

Jersey produced with 97% of organic material and meets all GOTS certificate standards.

Long Hoodie _ 95 % Lyocel (Lenzing) - 5% EL by **Acatel, Acabamentos Têxteis**
Lyocell, dyed with Colorifix's new technology. Through the study of DNA from plants and animals it is possible to replicate the colors of nature in its real essence through the growth of bacteria.100% natural process, without addition of any chemical and process with water reduction, and energy around 40%.The silky, fresh and hydrating touch is the result of the application of a natural softener based on plant oils. We are proud to transform this mesh into an industrial process without resorting to any chemical type.

Jacket _ 100% Recycled Polyester (30% Seaqual) by **Lemar**
Because sustainability is a major goal, a great number of our fabrics is weaved with Newlife™ and Seaqual™, 100% recycled polyester yarns made from post-consumer plastic waste captured from the Mediterranean Sea as well as in waste land sources, helping us to preserve natural resources, clean our oceans and decrease our environmental footprint.



Dress _ 50% Recycled Polyester - 50% Recycled Polyamide by **LMA**
Fabric entirely made with recycled materials, increasing the circularity of materials.

because
we care

because
we love

All the clothing are part of 5th edition of Itechstyle **Greencircle showcase**

Ana Tavares _ Graduated in Chemical Engineering, Ana started her professional career in a spin-off at the University of Minho, from where she went to the University of Leibniz in Hannover, Germany, joining a research group in the area of materials for biomedical applications for 2 years. She led the sustainability department of a dyeing, finishing & coating mill (Tintex Textiles) for 5 years, focused on product and service innovation, ensuring process certification and traceability. During the last few years Ana has attended several national and international events, promoting the best practices of the company and the Portuguese textile sector. Until March 2021, she was responsible for Communication and Partnerships at Smartex, a start-up that develops technology based on artificial intelligence to detect defects in the production of circular knits. Currently, Ana is the coordinator of the Strategic Agenda for Sustainable, Bio and Circular Economy at CITEVE, the technological center for the textile and clothing industries in Portugal.

TALKING ABOUT MATERIALS GREEN

Patrícia Barnabé _ Journalist

In the future, garments will be (nigh) immortal

Ana Tavares, currently at the very tip of the spear that Portugal is throwing at the unavoidable target that is sustainability, works in one of the oldest, most complex and internationally renowned industries – the textile industry. Along this interview, the engineer takes an in-depth look at said industry, guiding the reader through its very processes and challenges while providing one with practical examples and ideating probable scenarios – all of which start precisely at the beginning of the production chain, *the great universe of fibres*.

Fibres are at the birth of it all, in the textile industry. With this, one wonders: what might just be the major differences between the most commonly used fibres, both in the clothing and fashion spheres, here in Portugal?

To put it simply, fibres may fall under three categories natural fibres, artificial fibres and synthetic fibres. Natural fibres may be obtained from of a multitude of different sources, be these animal, vegetable or mineral. The best known ones are cotton, wool, silk, linen and hemp. Then, we move onto the synthetic kind. These are fibres that, for the most part, have their origin in fossil fuels. In this category, one may find the familiar polyester, polyamide and elastane. And, lastly, we have artificial fibres. Artificial fibres are somewhat of a mélange of both concepts and their source is renewable, normally cellulose – extracted from wood –, which is the most abundant natural polymer in the world, for it exists in all higher plants. We are able extract this cellulose to make fibres that are deemed artificial – and they are deemed so, for a manipulation process, or, more precisely, a chemical process is used to obtain these fibres. Said fibres are not considered synthetic, since they are of a natural, non-fossil origin. They are, however, known as "man-made fibres" – due to them being processed by Man – or, just as often, "regenerated cellulose fibres". This latter group of fibres is, without a doubt, the one that has experienced the most development, both currently and in recent years. Essentially, these developments will typically give rise to fibres that we already know as viscose,

Fibres are not considered synthetic, since they are of a natural, non-fossil origin. They are, however, known as *man-made fibres* (...) or *regenerated cellulose fibres*

lyocell, modal, etc., since the production process involved is quite similar, but the origins of the fibres themselves are fairly diverse, stemming anywhere from bananas, to pineapples and orange peels, and not only wood as was the norm. Additionally, chemical recycling also leads to the attainment of these fibres: cellulose is extracted from end-of--life textile materials, such as cotton – the purest source of cellulose in the world. This area has also been subject to quite the stark progress. The potential here is enormous, thus, this part of man-made fibres is where our gaze has turned to the most.

Can you give us some examples where, in your perspective, the creation of these artificial fibres was particularly successful?

Here, in Portugal the production of fibres is residual: we are, first and foremost, users. In the "BioEconomia" project, we are able to take into account the installation of industrial pilots, where new factories, aimed at the production of regenerated cellulose fibres, shall be created from the ground up. The sources involved herein are the most diverse: be it waste from the agro-food industry, forestry, and even textile waste, which, at the end of its life, may originate new fibres. It's a work in progress. But, nonetheless, these are still extremely good news. And now, with the pandemic, we were able to truly grasp this reality: we are completely dependent on other countries, when it comes to obtaining textile fibres. Therefore, the more development occurs here, in our country, or close to our country, the better for us. I would say that the next few years will be years

of major investment and development in this area for Portuguese companies. And then, as users, what we've seen occurring is some companies, more often than not start-ups, managing to develop and patent fibre production processes based on new technologies. These companies, mostly pioneers in the field of fibre development – such as Spinnova, Infinited Fiber and Circulose – come to Portugal to invest in all stages of production: from the production of yarn, to the production of knitting or fabric, and, lastly, to the production of a final, now complete piece. This happens due to the fact that Portugal is recognised worldwide for its ability to innovate and work on new projects in this sector. Having said that, one concludes that Portugal is, undoubtedly, very well positioned in terms of innovation in the field of materials.

Portugal is recognised worldwide for its ability to innovate and work on new projects in this sector (fibre development)

What problems or hurdles has the industry faced, both in the process of manufacture and in the usage of these new fibres?

Take spinning, for example, where details are plentiful. In this case, the spinning equipment needs to be adjusted in order to accommodate the new fibres. We know that to achieve a certain yarn quality, we must use a certain spinning typology. Many times, when we delve into this area of recycled fibres, the resistance of the fibre is not, or may not be, entirely consistent, especially if we are talking about mechanically recycled fibres, deprived of chemical processes. We are aware that the resistance of the fibre is not the same because the process cuts the fibre, thus, the fibre will be shortened. This may mean that we will have to use a different type of spinning. Likewise, we also know that this is one of our major hurdles: in order to find the right balance to produce high added value materials, we must adjust this process.

Then, during the knitting or weaving stage, the subject of resistance is also extremely relevant, for the very morphological traits of the fibre can, too, hinder the overall knitting or weaving process. As an example, should the fibre be very coarse, it won't be as easy to knit as cotton yarn would, as the latter is much softer and may be fed far more easily, between the needles. Throughout the dyeing and finishing stage, some adjustments will also need to be made. There is a whole world of adjustments that have to be made throughout the entire textile production process, these are the so-called technical barriers that we all must overcome. But, when it comes to most fibres that are already on the market, these challenges have, in some way, already been overcome. In terms of dyeing processes, certain ones may be much more difficult to conduct: for example, we know that we won't generate black with a natural dyeing process. But, as time passes, and as progresses are made in the field of fibres, I believe that these hurdles shall also be overcome.

Most natural fibres are very much linked to the local and the seasonal – two of the mainstay concepts of sustainability. Still, which ones do we use the most in our textile industry?

The most used natural fibre is cotton, which brings me to quite an interesting realisation: there is a big push to try to "cottonise" artificial fibres, that is, to make artificial

FROM NATURE TO NATURE

PHOTOGRAPHY _ Nicole Muller *MODEL* _ Tiago Severo

Material made with 100% Organic Lyocell

Material made with 100% Organic Cotton

Material made with 100% Organic Cotton

Material made with 30% Recycled Wool - 29% Recycle Polyamide - 10% Recycled Silk - 29% Lyocell - 2% Elastane

fibres look and feel like cotton. And it is not by mere chance that this is happening, after all, cotton has the natural properties and allows for the familiar comfort that the consumer has grown used to. For example, people only want to have their children wear cotton, and cotton alone, due to some of its particular natural properties, which we know are superior than those of synthetic fibres. Thus, there is an attempt to mimic said properties, as we are able to acknowledge their value. Other fibres, where consumption is much lower, like wool, have also been garnering their fair share of interest, but generally in areas where its usage would not be inherently obvious, like sports. Then again, wool benefits from valuable natural properties like thermoregulation, which allows it to regulate the wearer's body temperature without the need for or use of chemical finishes. Or also, among other benefits, if we produce a woollen fabric, it is much less susceptible to creases than a cotton fabric. In other words, wool has many properties that are now in great demand.

there is a big push to try to "cottonise" artificial fibres to make artificial fibres look and feel like cotton

We know that in Portugal we also produce burel, a fabric that is much in demand for use in other areas, such as interior textiles, architecture and even interior design. Burel benefits from an enormous growth potential and, environmentally speaking, it provides major advantages. Not only so, because burel is produced locally, we can supply markets that are very close to us and we don't need to rely on major, invasive chemical finishes – of the fibres and the fabrics created – because these much desired properties are intrinsic to the material itself. And the sheep, which are used for the production of the burel, too need to be shorn. Therefore, we are not harming them, quite the contrary, the sheep are shorn with great care – a fact that most people might be unaware of. Also, our usage of woollen garments is much more considerate than our usage of other types of fibres, for woollen garments have a different kind of added value and entail completely different instructions for use – people cherish that. A wool jumper or a wool jacket are garments that can almost last a lifetime's worth of usage. We know this, and that's why we take care of them: that's sustainability too, after all, we're extending the life of the garment. There is a myriad of factors to consider when it comes to natural fibres. Of course, each one has its own particular traits, all of which make bring the matter of sustainability to the forefront of our lives. This, however, may not happen in the most obvious of ways, but rather indirectly. Overall, natural fibres have an exquisite potential that must not be disregarded.

If I were a 10-year-old child, I would have to ask the following: why not just use natural fibres, and nothing else?

Textiles, both in type and application, are vast and diverse, and as such, they need to benefit from different properties. Take the resistance of the fibres, for example, their solidity, which is the way our materials will react to sunlight, and take the example of cars. Using natural fibres in cars is not something entirely obvious, nor something that can be done without prior research and much investment, because cars are subject to

Material made with 80% Organic Cotton - 20% Pineapple Fiber

Material made with 98% polyamide (Mery Sublime - Zero microfibers)

the most adverse conditions, and natural fibres are more susceptible to falter under such conditions. A car with natural fibres that is exposed to the sun every single day, will inevitably wither at a much faster pace than an identical car sporting synthetic fibres. As such, there are many applications, and many properties, that we can't quite get from natural fibres alone. We are, however, trying to find ways out of this predicament, which is why there is a lot of talk about biopolymers and biocomposites – materials of a natural origin developed to benefit from properties similar to those of synthetic materials.

We do not use synthetic fibres for the sake of using synthetic fibres. We use them because they have properties that, to date, have yet to be found or replicated throughout the development of natural materials

In other words, we do not use synthetic fibres for the sake of using synthetic fibres. We use them because they have properties that, to date, have yet to be found or replicated throughout the development of natural materials. We cannot ignore several crucial applications that promote our well-being, such as flame retardant applications in firemen's uniforms, among others, where we use synthetic fibres. And, evidently, we are not going to stop producing cars or work uniforms. Thus, there are still many needs that may not be satisfied by natural fibres alone.

Out of all synthetic fibres, which ones are used the most in the textile industry, namely in Portugal, and what are the pros and cons of said usage?

The most used synthetic fibre in the world, in terms of volume, is polyester, which has several benefits in terms of performance and price, as it is a relatively cheap fibre compared to its alternatives. Its production process is now stabler than ever, and the properties of this fibre are noteworthy – it benefits from a good resistance, and it is fairly easy to process, be it in terms of spinning, dyeing or finishing. These aspects are already a certainty and, being more than proven, they guarantee a certain quality for the final product, becoming a reliable choice for those who use and market it.

There is also another synthetic fibre that, in my opinion, is very relevant: elastane. If, on the one hand we say “We have to eliminate elastane because it raises a few hurdles when it comes to product recycling, and it's simply not easily degradable", on the other, we must acknowledge that elastane has brought to our lives something that we don't want to part with, comfort. Very few denim jeans contain no elastane, and this is no coincidence, as elastane allows for a comfort that is only attained by wearing something that moulds to our body and our movements. This is being worked on a lot, because while we want to overcome the many obstacles leading to the recycling of end-of-life garments, we must not allow ourselves to take a step back and deprive consumers of their comfort, for no one will be keen to accept a product that is not comfortable. I have always bought products from that one brand that I certifiably like, if the brand suddenly changes and, in turn, loses some of its properties, I will probably stop buying from it, as it is no longer what I want(ed) nor what I had grown used to. Because this adaptation is a difficult process, one realises that it really needs to be thought through.

Material made with Jersey 80% Tencel™ Modal / 20% Hemp

What we must to do is find alternative ways of reducing these materials made out of fossil fuel

Then, we have polyamides, which are also used in things that we don't pay much heed to, but are, nonetheless, still very much part of our daily lives – take fishing nets and carpets, for example, these are made from polyamides. Therefore, we cannot be extremists, we must try to find alternatives first. We must capitalise on natural, renewable resources in order to obtain new fibres with properties similar to those of synthetic fibres, for the latter have had and continue having a great impact on the world around us. Plastic changed the world, and it did so to a point where it has become impossible to picture our lives without it. What we must to do, instead, is find alternative ways of reducing these materials made out of fossil fuel, and to actually hold onto them over time, while mitigating the trade-offs that their use entails: contamination by micro-plastics and the non-degradation of such materials in landfill. While there are many disadvantages associated with the usage of plastic – all of which need to be solved – there is also a multitude of benefits that mustn't be disregarded.

So, these synthetic fibres are also being worked on a lot by recycling experts, right?
The recycling potential of these fibres is much higher than that of natural fibres. It is not by chance that the first recycled fibres to appear on the market were synthetic fibres – in comparison with the natural kind, it is much easier to recycle synthetic fibres while maintaining the properties of the virgin fibre. We are able to make a polyester t-shirt with the same quality as the original and we can do so much more easily than if it were a cotton one, for example, and this cannot be overlooked. Today, we are able recycle synthetic fibres multiple times. This, unfortunately, is just not the case for cotton – at the moment, it loses many of its properties upon being recycled just once. The potential of synthetic fibres is astounding in terms of performance, and this aspect should not be overlooked while we keep on evolving alongside this field of knowledge.

Recycling, in itself, may be a chemical or mechanical process. Which of the two is most common in Portugal?
Mechanical recycling, by a wide margin. The majority of all recycled products we see were mechanically recycled. In terms of hardware requirements and complexity, it is far more accessible than chemical recycling. Additionally, to achieve a recycled fibre, its production process calls for less research and overall development time. I'll give you an example: currently, at CITEVE, there's a mechanical recycling pilot machine which aims to explore the recyclability of any material. Upon processing a given material through mechanical procedures, the user is able to discern whether the now processed material may or may not be potentially recycled at an industrial level. This has become more or less of a common reality with companies with comparable goals. In terms of chemical recycling, we need to consider processes that require extensive research. Behind every type of synthetic fibre or cellulose, there are copious studies on which chemical ingredients may be used to process the aforementioned, and many parameters here far exceed the complexity of the ones employed in mechanical recycling, as a whole.

Material made with 50% Organic Cotton - 50% Hemp

Material made with 50% Recycled Cotton - 50% Organic Cotton

I believe that, with time, chemical recycling will become much more preponderant than mechanical recycling. Nonetheless, chemical recycling won't thrive detached from its mechanical counterpart, as cutting – a mechanical process, in itself – is a necessary part of any fibre recycling initiative.

If we're talking about recycling chemicals, those must be green, too, correct?
Yes, green chemistry is a much-discussed matter in our industry, mainly as applied to the post-processing of woven and knitted fabrics, after knitting. Plenty of chemicals are used in this post-processing stage, from the dyes themselves, to dyeing or bleaching auxiliaries, to the finishing products that grant the quality and feel that we have grown so accustomed to.

textile chemistry has also been oft studied in the textile industry, but the overall subject might be too complex to go about, now.

Fabric softeners make up the most common type of finishing, as most materials are softened before being used to make garments. Nowadays, we have observed that there is a persistent attempt to extract oils, sometimes even essential oils, from plants in order to produce this type of softeners for the textile industry. In the past, said type of products was mostly comprised of synthetic components and silicones, most of which were extremely detrimental to the environment. The industry heeded results, and not much else. Nowadays, that is no longer the case. Another example would be: while most dyes used today are still synthetic, having been sourced from the metal and mining industries, there has been an astounding rise in new processes involving natural dyes, the latter being obtained from the most diverse plants (from thyme, pine bark, etc.), to bacteria – which are actual living beings, living organisms that synthesise this dye – thus replacing traditional dyes, and this shift has the potential to generate immense savings in terms of water and energy. While it amounts to a very small percentage of the overall market, constant developments have been made in this area. At the same time, textile chemistry has also been oft studied in the textile industry, but the overall subject might be too complex to go about, now.

Portugal essentially recycles industrial surpluses rather than end-of-life garments, correct? How are we faring in this second variant?
Currently, most recycled fibres that have been placed on the market have stemmed from pre-consumption waste, that is, industrial waste typically generated during the making of clothes—be it from cutting, dyeing or finishing. When we process post-consumption waste, it more often than not ends up entailing synthetic materials or products, such as plastic bottles, that, while being the catalyst for a slew of issues, are used to make new polyester fibres. Post-consumption textile recycling is barely residual, too, but plenty of work and resources have been invested by all the major players in this sector, spanning brands and agents from all kinds of industries, from clothing manufacturers to spinning mills, and change is felt even at the level of the business model of companies. Clothing

Material made with 95% Organic Cotton - 5% Seacell

manufacturers realised that they could have easy access to pieces – and do so to a much greater extent than a spinning mill, for example, that is far behind in the value chain and which would typically entail this process, for a spinning mill is the one entity that has first access to the fibres. A shift is being felt industry-wide, because the former customers have become the new suppliers, and the former suppliers have become the new customers – and this changes everything.
But the issue of post-consumption is also garnering a lot of attention because, from January 2025, all European countries will be obliged to uphold selective collection practices – and this will have a great effect on the textile industry. In the same way that we now have bring-it-yourself systems, such as the familiar bottle banks, paper and

A shift is being felt industry-wide, because the former customers have become the new suppliers, and the former suppliers have become the new customers – and this changes everything

plastic recycling containers, we will too have a textiles recycling container, and, unlike today, this waste will have to be managed selectively. The goal is to create processes that allow for the lengthening of the life of these materials through other processes, of which there are several: resale of second-hand goods, donations – which will certainly continue to exist – repair for sale models and, as we have mentioned before, recycling.

Does post-consumer recycling face more barriers than pre-consumer recycling?
Absolutely. A pair of trousers, for example, has buttons and zip fasteners, in addition to the fibre itself. Thus, in order to recycle said pair of trousers, we must first remove each of these elements and make sure we separate them accordingly. It is necessary to separate these accessories. Buttons and zip fasteners cannot be recycled mechanically, since they are made of materials with a very distinct hardness. Therefore, at this stage, options to solve these problems are being carefully studied. At this moment, everything that is done is done so manually. Needless to say, automated sorting systems have already hit the market – with some local companies striving to obtain them – but they are still not an economically viable choice. The price tag and running costs of this machinery are far too expensive, and its overall reliability is still too low to justify using it in a country where post-consumption recycling is still lagging behind its pre-consumer counterpart.
There are several parameters in the separation of clothing that have to be taken into account, from the colour of the materials to the composition of the fibres themselves. And this is not a simple feat, since one garment may contain a multitude of fibres – it is very common to be faced with a mixture of materials, and materials of different origins. A mixture of polyester and cotton is extremely common in clothes, as is elastane. These automated systems must also be able to separate the fibres by fibre type through optical scanning. Plenty of hurdles need to be overcome for this new reality to work, but progress is ripe in this area and the establishment of said systems is fundamentally inevitable – and, it is precisely due to the fact that our industry recognises it as such, that it is working actively to overcome them. And then, there is also another factor that

comes into play: we must not focus solely on solving these problems, but actually avoid them, so that it will be easier to recycle these pieces, in the first place.

Can the design of garments, by itself, already take into account their subsequent life – which we are keen on extending as much as possible?
Yes, this is where eco-design comes in. Our way of designing garments must also change. While we have to think about how we can preserve all the desired technical qualities, the very familiar comfort, and so on, of our garments, we must too design them so that they are made to last. In other words, our main goal should be not to perceive garments as if they are ephemeral products. We need to keep them on the "circuit" for as long as possible.

The issues of transparency and traceability of all these processes are also very important, so that consumers know exactly what they are buying.
Traceability ends up being an almost inevitable variable to work on, for it is a necessary component towards enacting a proper management of the industry itself. Then, both as makers and consumers, we should always be able to know the origin of the materials that we purchase – and this is something we must answer for. From the get-go, whenever we bought a piece of clothing, we were already faced with a label stating "made in (some territory)". The principle of traceability has been a mainstay of our industry, the issue here lies in the way said laws are created and enforced. The consumer has the right to know what he, she or they are wearing, in the same way that one is entitled to know where one's food comes from. And, over time, the clothing industry has been increasingly fostering this rationale. The creation of a digital passport for products is a reality that is very closely aligned with the European strategy that we are working on: it

both as makers and consumers, we should always be able to know the origin of the materials that we purchase – and this is something we must answer for

is estimated that, by 2024, it will be functional, allowing us to gradually grow ever closer to actually mapping the origin of everything.
The textile supply chain has grown exceedingly complex, to a point where countless lives and livelihoods are inherently entwined with it. This complexity leads to an immense loss of information, therefore, enacting even the smallest of changes represents a very difficult endeavour. For example, in order to work with certifications – and this is what increasingly drives the consumers' trust – traceability has to exist. We, as an industry, need to be able to identify not only our suppliers, but the suppliers of our suppliers

Social sustainability is also a key driver. If people are not happy, everything will fall apart. Research also shows that brand employees, themselves, demand for brands to be aligned with their values.
All of what pertains to the social component of garments is of an even greater relevance than the matters we have previously discussed. In practice, this means that it should be

Material made with 70% Organic Cotton - 30% Hemp

Material made with 53% Linen - 47% Tencel

Material made with 88% Organic Cotton - 12% Recycled Cotton

Material made with 100% Recycled Polyester (30% Seaqual)

dealt with extreme care and attention, since it is known that the countries that produce cotton are, for the most part, developing countries. The leading cotton producers worldwide are situated far from Europe, and we have no control over what happens in such countries. In other words, we may be making sustainability claims about our materials without actually grasping the social circumstances of settings that are fundamental to the soundness of the supply chain. No matter how careful one may be with their direct supplier, if traceability doesn't work across the entire supply chain, these values are almost as good as lost. And we are able to identify a myriad of social issues linking back to the textile industry. As an example on the issue of raw materials, in Brazil there are many extremely poor cotton producers who live in a way that might be unfathomable to us. But there are also several problems to be solved, at a social level, in the clothing industry. Firstly, because no brand wants to be linked to scandals. One most certainly remembers the haunting story of the 12-year old Pakistani boy sewing a Nike football ball. This also happens in the textiles and clothing industry. Therefore, I think that the greatest catalysts for change are, in fact, the brands. The brands are a great driver in all stages of the value chain because, and no matter how much discussion said motion generates, we are in no position to demand changes within a company, only the client

No matter how careful one may be with with their direct supplier, if traceability doesn't work across the entire supply chain, these values are almost as good as lost. And we are able to identify a myriad of social issues linking back to the textile industry

is. So, as soon as these concerns come from brands, things will change. Nowadays, people tend to hold on to and actually voice the following thought "Brands should simply withdraw their operations, in such countries". However, reality isn't prone to such absolutes. If the people living in these countries already have poor living conditions, imagine what would happen if they had no actual form of income. The political establishment of these very same countries needs to be willing to promote change. Nowadays, brands, mainly European and American ones, can and should definitely play an active role in changing this scenario. From the moment the now famous clothing factory in Bangladesh, Dhaka, collapsed in 2013 – an event in which over 1,100 people perished – collective agreements were created, all of which ended up changing the working and safety conditions of many factories across the world. Today, more and more factories in Bangladesh are working in a different, safer environment. This is something that, for us, might be somewhat of a given, but we must realise that different countries do not quite all change, nor evolve, at the same pace. Our country, Portugal, more developed in this sense, should play an active role in what is enacting positive change in other countries. Then again, we cannot delude ourselves into thinking that we will be able to change the world, and do so overnight, because that is not going to happen. Should we embrace this delusion and not cope with the gradual pace of things, so will we become more prone to frustration, because these are undeniably time-consuming processes. Now

Material made with 100% Organic Cotton

Material made with 100% Organic Wool (Burel)

Now we are focused on actually applying these concepts in a business environment. This phase, in my opinion, is going to be quite long, as plenty work needs to be done

that the fashion industry has such a relevant pull when it comes to influencing people, this has become fairly clear: fashion is emotional, fashion is people.

What would you say is currently the greatest challenge for Portugal, in these areas? Where are we now and where are we headed to, immediately afterwards?

To provide a response to your questions, it is helpful to momentarily step back and go through our current strategy, which may be divided into three distinct stages. The first stage pertains to the grasping of concepts, that is, hearing about sustainability, understanding what it actually entails and recognise the significance of caring for our environment, and the need to do so as a society. We have just recently surpassed this stage. I would say that, in 2015, when I first joined the textile industry as head of the sustainability department in a dyeing and finishing company, in Portugal, it was the first of its kind. Currently, we are already beyond that, many companies have already redirected resources to work on this issue. I believe we can say that we are currently in a second stage, development; we have truly grasped the aforementioned concepts, accepted that the fight for sustainability is going to be part of our lives and our way of producing, consuming, etc., and now we are focused on actually applying these concepts in a business environment. This phase, in my opinion, is going to be quite long, as plenty work needs to be done. And, in the future, we will reach a third phase, in which we will enter at cruising speed, and in which our problems will no longer be the same. Now, there will certainly be problems to account for, of that I have absolutely no doubt, but the complexity of said concepts will be diluted in the knowledge we will have acquired by then, and the speed with which we will be able to overcome our challenges will be exponentially greater.

Tintex Textiles & Tearfil Textile Yarns

RESET _ Is a new generation of knits, in which we merge a careful choice of fibers spun together with our dyeing and finishing expertise. The yarn is crafted from premium spinning waste of Tearfil, our spinning specialist partner. Previously waste, fibers of cotton, lyocell and linen are combined with 13% of virgin Tencel™ Lyocell to guarantee the durability, comfort, and performance of this innovative material class. RESET, this new range of circular, GRS certified fabrics is set to support the industry to draw a new standard on responsible textiles.
There is no sustainability without innovation, that's why we are constantly investing in new solutions, from yarns going all the way to finished fabrics.

INTERLOCK _ Double structure of compact, versatile and adaptable character. Suitable for any season, occasion and gender. Ideal for feeling comfortable with protection.

JERSEY _ A simple and practical structure that dresses in a versatile way, adapting to diferent situations all day long.

RIB _ Texture raw structure that blends to the body, adapting to both delicate second skins and protective outerlayers. Versatility and practicality for your daily day.

FLEECE & FRENCH TERRY _ Compact and dense structure of comfortable nature, with a sense of protection, calm and coziness.

There is no
sustainability
without innovation

Têxteis J.F. Almeida

PAPILIO _ is a multi-colour yarn produced in Portugal by Têxteis J.F. Almeida, S.A. It is an innovative product which can be produced in any type of fibre, with a combination of up to 6 different colours per reel, thereby guaranteeing the textile sector an infinite range of possibilities.
The Papilio brand was created based on pillars of excellence, promoting and ensuring standards of quality and transparency both in the market and for its customers and partners. Can be produced in any combination of fibres and colours, and, as such, can be used in an infinite range of products.
Environmental Sustainability _ In addition to the innovative, versatile and top quality characteristics of Papilio, the dyeing process used also boasts the following advantages when compared to normal yarn dyeing processes:

_ Cold processing _ Unlike normal yarn dyeing, stamping process does not require the use of thermal energy;
_ Fewer auxiliary products _ dyeing process requires just 1/3 of the auxiliary products used in normal dyeing processes;
_ No salt nor hydrogen peroxide is used in the processing of cellulosic fibres;
_ The mechanical and chemical process used is significantly less intense, this minimises impairment and alterations in the properties of the fibres arising from the dyeing and finishing processes;
_ 0% reprocessing.

FORTeams LAB

TO BE GREEN _ Is a project developed by FORTeams LAB in partnership with a spin off from the University of Minho, concerning the post-consumer waste of clothing that belongs to the final consumer. After acquiring the recycled material yarn, FORTeams LAB produces differentiated products with a second use for the consumer. More and more we value these initiatives of circular economy in the search of adding value in a greener and conscious future.

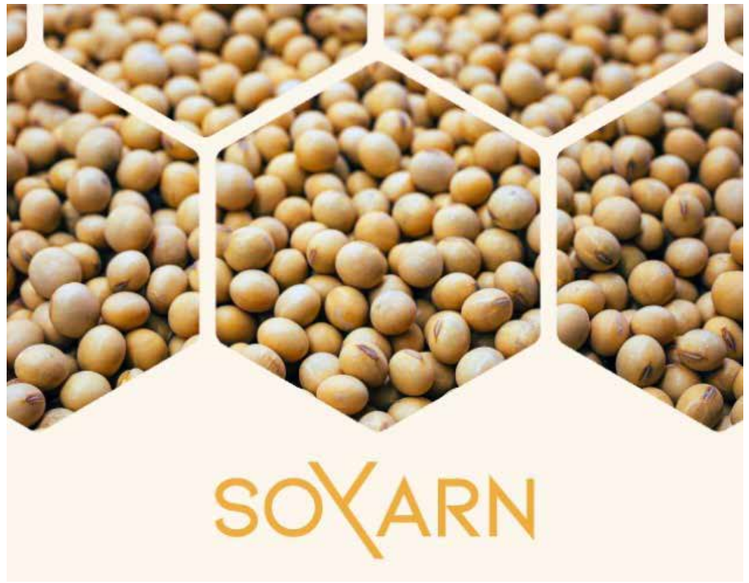
100% recycled yarn (Ne 11/1, 60% Polyester, 10% Cotton, 8% Acrylic, 7% Nylon, 6% Wool, 9% Other Fibers)

Tearfil Textile Yarns

Eco Heather _ Say hi to our reborn yarns range. Waste involved in standard spinning production is not desirable and yet, inevitable. But also, only a problem if we don't take the opportunity to rethink it That's why we decided to reuse, recycle and upcycle all our spinning waste, and we give it a fresh new life. Our Eco Heather brand was born from this circular idea.
Our water-conscious colored ECO HEATHER melanges are produced through our in-house water-efficient process, where our own spinning waste is recycle into true quality and sustainable yarns, available in a broad variety of shades. Our Reborn Yarns Range products contain the lowest possible amount of virgin materials and contribute to saving the water that would be used for growing virgin fibers. Applications: Sportswear; Decoration and Furniture; Loungewear; Home Textiles. Proprieties: 100% Recycled ; Softness; Durability.

Filasa

SoYarn _ Due to the enormous necessity to reduce the ecological footprint, FILASA always seeks sustainability and environment preservation. In that regard, it constantly tries to implement in its production more sustainable mechanisms and renewable, recyclable, organic and biodegradable materials.
Following Filasa's mission statement, it presents "soYarn", a yarn resulting of fibers blending such as cotton, wool or bamboo with the only protein material in the world of botanic origin: Soy. Soy's fiber is the result of production residues from soy oil, tofu, and soy milk, which are normally discarded. The obtaining process of this fiber is harmless and recyclable. Due to its renewable and biodegradable characteristics, it is, therefore, known as a "green fiber". Soy gives a noble, silk-like appearance and shine, the same moisture absorption as cotton, a superior UV protection than cotton, silk and viscose. It provides a "skin to skin" feeling due to its softness and comfort. In addition to the aspects mentioned above, it has also several features such as: antibacterial, protective and nourishing effect to the skin and contains 16 amino acids such as hydroxyl, carboxyl and cinnamid.



Somelos Tecidos

Woolentw _ This collection is our 100% Merino wool performance collection, a unique expression of the technological innovation that has been guiding Somelos since day one. A biodegradable, natural, soft and multifunctional fabric with outstanding wearing comfort. The fabric possesses unique features: it is wrinkle free, breathable and comfortable, odour resistant, moisture management and thermoregulating being ultra light weight in summer and used as a layer of insulation in winter. A washable shirt fabric made of extra fine Australian and Argentinian merino wool (Super 120`s) sustainably obtained from free living sheep and mulesing free guaranteed. Merino wool is 100% natural, bio-degradable, recyclable, reusable and eco-friendly.

Burel Factory

Zero-impact _ Following the concept of zero waste, Burel Factory perceives nature as the source of all the inspiration, moving forward with a collection of recycled burel wool fabric. Natural, sustainable and biodegradable. A commitment that comes from afar, through the constant use of raw materials with a circular life cycle in production, leading the brand on the creation of Reloved, Weaving a Better World, a sub-brand made of recycled burel and blankets made from “waste”. This commitment fits the main values of Burel Factory, in its constant mission to prosper the heritage of burel fabric through innovation and conscious production. It was recently acknowledged with the RCS (Recycled Claim Standard) certification, validating its recycling standards and the warranty on the minimum ecological impact. For a comfortable world.

LMA

Coffee ground fibre _ Using this raw material, a combination of coffee and recycled polyester, they finished a textile quality with an appearance are as good as those achieved by using new materials. A process created to use coffee grounds, which was generally treated as waste, through extraction, nano grinding, metropolis, and wicking material improvement.
This is then used to create technical composite fibre which can be used for knitted and woven clothing, a single cup of coffee can make the two T-shirt.
It is possible to mix the coffee fibre with other material like polyester and more traditional material like nylon. The benefits of these products are more numerous.

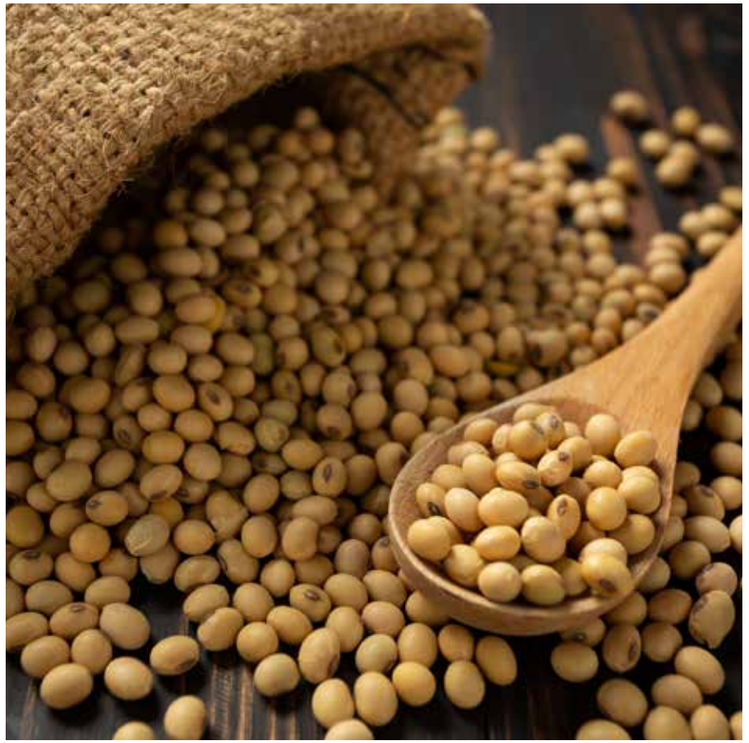
From the table to the closet

RDD Textiles

Harvest selection _ We're diversifying our range of bio-based materials to help address the problems linked to the worlds over-reliance on cotton. We've developed fabrics that look and feel like cotton, with zero cotton used.
For example the banana and pineapple fibres, dyed with avocado and rhubarb pantones, based on these four ingredients – as fruit fibres or food-inspired colours – we've put together a unique group of organic-related jersey fabrics that we called the Harvest selection.

Adalberto

AD.Food lab _ Soy fabric is derived from protein found in the hulls of soybeans, and is usually reserved for apparel due to its natural elasticity, and impressive softness. At Adalberto they usually mix the soy waste with cotton and modal. Being 100% biodegradable and compostable, this vegan fabric becomes an exquisite opportunity to transform waste without harming natural resources avoiding CO_2 emissions, and it is a cruelty-free product, using only seaweed to become soft.

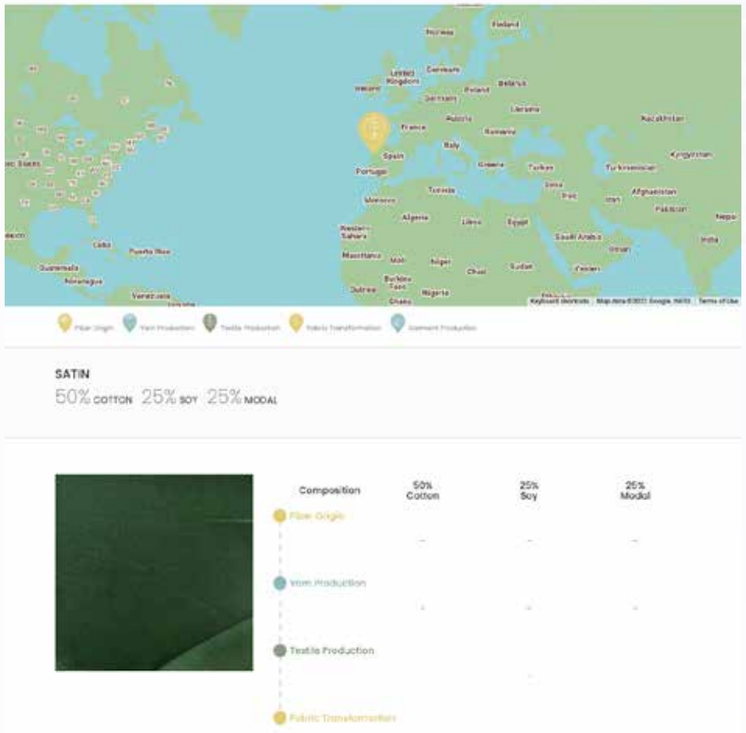


Somelos _ Acatel

Organic Linen _ Small gestures can be one of the biggest contribuitions to sustainability. Saving as much water as we can. Being criteriousis of our use of energy choosing eco friendly products. Prevailing organic and recycled, opting for the renewable sources of material and energy. If multiplied these little things can help us keep the planet as beautiful as it can be. At Somelos, Acatel, Lameirinho and All Cost, for instance, they do them all. This is how we weave our 100% organic linen. This is our vision of sustainability.

Adalberto _ Acatel

Transparency & Traceability _ This is not a fashion theme but a change in the way the industry must work. With consumers increasingly requesting more information about where and how their clothes and accessories were made, and warning more detail than simply the "made in" country of manufacture, there needs to be a shift towards greater transparency, to encourage visibility along the entire value chain and increase trust. Traceability is a very powerful tool for allowing companies to make progress in issues of social and environmental responsibility and prove the sustainability of their products by sharing the product's backstory. It transmits data about the various components of a product, as well as information all along the value chain. It ensures the accuracy of information such as quality, compliance with regulatory standards and the respect of social and environmental best practices.Some portuguese textile companies, such as Acatel and Adalberto, are already implementing this system in relation to some of the raw materials they supply.



GREEN

NEW

SOLUTIONS

PHOTOGRAPHY _ *Sorin Opait* . *MODEL* _ *Thais Borges*

Shirt _ 100% Lyocell (Tencel Luxe) by **Riopele - Têxteis**
100% made with Tencel Luxe branded lyocell filaments, the revolutionary eco filament technology, designed for transforming the future of fashion, yet engineered with environmental responsibility. The eco-botanic filament is derived from renewable resource wood and based on a closed loop process and environmentally sound technology. The closed loop is based on a solvent, of which more than 99% is recovered and reused, with close to zero emissions.

Cape _ Cetim Heavy Tracey - 95% Organic Cotton - 3% Elastane
by **Adalberto**
Produced by a single-pass inkjet printer, using only water-based ink, we can deliver to the market high resolution printed drawings, achieving the highest net productivity available with a digital textile printer. Saving time, energy and natural resources is definitely important to achieve sustainable processes.
Allied to digital printing processes, one must not forget the important role of the fabrics used. This article is made of recycled polyester avoiding all the impact related to chemicals, energy and water usage during the production of the virgin fibre.

Hoodie _ 50% Organic Cotton / 50% Viscose (Circulose®) by **Tearfil Textile Yarns**
Circulose® changes fashion. Circulose® from Renewcell is a new material made by recycling cotton from worn-out clothes and production waste. It makes fashion circular. Using a breakthrough process powered by 100% renewable energy, old clothes are transformed into a pristine natural material that needs no cotton fields, no oil, and no trees. By chosing Circulose® garments, you are cutting your waste, climate, water, microplastics and deforestation fashion footprint to almost zero.

(next pages)

Aviator Jacket _ Interlock jacquard 100% Organic Cotton by **Brito Knitting**

Dress _ Polar 100% Recycled Polyester by **LMA**
Fabric entirely made with recycled polyester, increasing the circularity of materials. Eco-conscious consumers will also appreciate that this polyester fibre can be made with either 100% textile waste or recycled PET bottles.

Bag _ 100% Wool by **Burel Factory**
For the production of burel of we turn to local shepherds who graze sheep outdoors on the upper plateaus of Serra da Estrela, where the grass is softer and makes the wool extra soft. We use wool from Bordaleira and Churra, two indigenous breeds, as well as Portuguese Merino, assuring that the animals are treated well, live happily, and that the shearing is done manually in order to not cause any animal distress. Wool is the foundation for everything we do, without causing an environmental impact. It is a natural and non-polluting product. Recyclable, renewable and durable.

(previous pages)

Brown Jumpsuit _ Jersey 80% Tencel™ Modal / 20% Hemp by **Tintex Textiles**
Smooth movement jersey with soft touch due to the use of Tencel™ Modal – this kind of fibres exhibits high flexibility and a long-lasting quality of softness, improving the feeling of comfort. Clean surface with slightly texture from the use of hemp – one of the strongest and most durable of all natural textile fibers. Not only is hemp strong, but it also holds its shape, stretching less than any other natural fiber.

Dress _ 100% Organic Linen by **Somelos Tecidos**
Small gestures can be one of the biggest contribuitions to sustainability (saving as much water as we can, and being criteriousis with the use of energy). Choosing eco friendly products prevailing organic and recycled, opting for the renewable sources of material and energy. At Somelos we do them all. This is how we weave our 100% organic linen.

Green Jumpsuit _ 100% Organic Cotton by **Armaco – Comércio Têxtil**
Made with organic cotton with GOTS certificate and Standard 100 by Oeko-tex – Class I is perfect for the more enviromental and sensible costumer. All chemicals used are completely suitable from those with more sensitive skins, kids and babies. It's also made with entiretly Europe production.

(previous pages)

Top _ Interlock 100% Lyocell (20% Seacell)
by **Tintex Textiles**

Trousers _ 100% Recycled Polyester (30% Seaqual)
by **Lemar**
Because sustainability is a major goal, a great number of our fabrics is weaved with Newlife™ and Seaqual™, 100% recycled polyester yarns made from post-consumer plastic waste captured from the Mediterranean Sea as well as in waste land sources, helping us to preserve natural resources, clean our oceans and decrease our environmental footprint.

Hat _ 100% rabbit fur
by **Fepsa Feltros Portugueses**
The product design and production process are continually reassessed, seeking continuous improvement in the use of safer chemistry, reduction of the carbon footprint, use and impacts of water, social responsibility and good practices.

Scarf _ Raw Organic Linen by **Têxteis José Campos**
Handmade produced in a small scale with craft looms.

Skirt _ 100% Lyocell (Tencel™ Luxe) by **ATB**
Derived from renewable wood sources in a closed loop process, Tencel™ Luxe branded lyocell filament yarn defines the landscape of luxury fashion with its silky smoothness, liquid-like drape and color vibrancy.

Dress _ 100% Organic Wool by **Burel Factory**

Jacket ruffles _
_ 75% Organic Cotton - 25% Hemp
by **Troficolor Têxteis**
_ Ecolam - Twill yarn dye 50% Recycled Linen / 50% Organic Cotton soft wash
by **Lameirinho – Industria Têxtil**
_ Interlock 70% Recycled Cotton / 12% Recycled Polyester / 7% Recycled Tencel™ Lyocell / 6% Recycled Viscose / 5% Recylced Mixed Fibers – Eco Heather by **Tintex Textiles**

All the clothing are part of 5th edition of Itechstyle **Greencircle showcase**

(previous pages)

Pink Jacket _ Fleece 60% Bamboo Cly - 20% Nettle - 20% Seacell by **RDD Textiles**
PInt Fiber™ By Pangaia co-created with RDD Textiles, uses renewable, fast-growing plants such as Himalayan nettle, bamboo, eucalyptus and seaweed. Nettle plants are ecologically sustainable, requiring far less water, no chemical pesticides or fertilizatio. Seacell™ is a fibre with unique properties of seaweed that protect the skin against harmful environmental influences; Bamboo Lyocell is a new age artificial fiber characterized for being: absorbent, antibacterial, thermoregulating, and hypoallergenic.

White Jacket _ 100% Lyocell by **TMG Textiles**
Fabric made from 100% Tencel™ Lyocell with a non-mercerized finish, this article evidences a clean and more fluid appearance, with a soft and silky touch. The swatch is washed for a more casual look.

Green Jacket _ 80% Cotton - 20% Recycled Pre-Consumer Cotton by **Troficolor Têxteis**
Article composed with recycled cotton – GRS certified, from yarn and fabric waste. It's a Corduroy fabric with natural dyes from mineral source, taken from the rocks, no pigment is the same and so no shade will be the same, varying from piece to piece, resulting in a beautiful rustic and exclusive dyeing effect.

CÉLINE ALEXIS BUEHRER _ As a cross cultural designer, she lived and worked in Switzerland, Paris, New York, Mexico and Lisbon.
During the last 12 years, she worked as a Menswear Designer for small brands to big corporations as Surface to Air or Coach. Through the years, she has been able to work in a lot of different work environments or product ranges, from France to the US, streetwear to Luxury RTW, Show to Outlet.
Highly efficient and focused on managing calendar and deadlines, she successfully led teams during high demand seasons and managed special projects with artists like Kid Cudi, Chromeo, Gary Baseman, the Keith Haring foundation or Disney.
She is now based in Lisbon and focuses on responsible and sustainable projects bringing her expertise to create a positive impact on the industry, society and the planet and help other designers or brands to do so.

by **CÉLINE ALEXIS BUEHRER**

SPECIAL REPORT

at Modtíssimo – The Portuguese Textile Tradeshow

I go to fabric fair every season as part of my job, to look for specific requests from my clients, but also out of curiosity. To discover what's new out there, and to see how technology has advanced and to keep learning.
Because I now live and work in Lisbon my focus is on Portugal as I am trying to find the closest and best solutions to cut distances and also work within the market I am in.
And so, step by step, I am getting to know better all the actors of the fashion sphere from the fabric suppliers to the factories, and any other professions within this industry.
I have more opportunities to focus on what the fabric suppliers have to offer and it's exciting to see how everybody is working toward the same goal. I read and learn as much as I can, but at the end of the day, touching fabrics makes all the difference.

at MODITÍSSIMO

A.Sampaio _ We work in an industry that is not sustainable by essence, and we're fighting on a millions different fronts.
A.Sampaio is offering one key, a fabric that doesn't release microfibers. A new yarn that can be knitted in multiple fabrics and a new technology that can be adapted and multiplied hopefully to become a common characteristic.
Limiting microfibers is a step towards lowering our impact. If we are designing products that are more likely to be washed, we have an option to make it less harmful.

LMA _ Every season I touch fabrics, look at the description and wonder what it means. That's what happened when I arrived at LMA, it was one of the first stands I stopped to see and by the time I left, I knew 10 more acronyms. So welcome Naia, Hemp Agraloop, Pes seaqual, RWS, Pes Coffee and other green materials.
LMA has always been a stop to look for synthetic (and sustainable) knitted or woven fabric for a more sporty or outdoor product and it's fun to discover what they can do now.

Lemar _ Natural fibers are by essence biodegradable if treated correctly. But it's not the case for most synthetic fabrics. A nice surprise this season is the range of biodegradable fabrics that are available. Between the plain color nylon or the printed polyester, both of them are degradable in under 5 years in a predictable environment, like a landfill.

Somelos _ Is a mandatory stop when we are looking for shirting fabrics. For several years, they have been proposing recycled fabrics and sustainable solutions, but the offer is getting bigger every season, which allows us to switch a lot of our shirt fabrics to a more sustainable solution. This time they had a beautiful 100% Merino Wool, which is perfect for shirt or light suiting and is easy to care for and therefore use less water and no chemicals.

Acatel _ Was a new stop for me and allowed me to further my knowledge on prints and finishing.
The different technology they use, sustainable, chemical-free and their choice of partners they associate with is exciting and encouraging, and gives us more tools to play with.
They partnered with Colorfix to offer bacteria dying as an option, and they are developing more and more colors in linen quality, for example.
Their strength is also to have a very good transparency on their suppliers, like Good Earth Cotton, the first carbon positive crop, that uses the Fibretrace technology, to create E*retrace which encourages us to keep the traceability all along the value chain.

Adalberto _ I was curious about the ad-travel rep 3.0 that offers a water repellent exterior layer and an absorbent interior surface to suit our everyday body changes.
It's encouraging to see all the mixes that can be done with our food waste, organic cotton/seacell or pineapple mix, as a solution to reduce the consumption of cotton.
Adalberto proposes a full range of organic fiber and mix such as cotton/ /banana or pineapple that are 100% biodegradable or compostable. They also offer encapsulated scent or skincare with the Microcapsules technology.
It is also nice to see a company still proposing hand painted graphics aside from the digital ones, and keeping the craft within its walls.

Burel Factory _ I love Burel because it's simple. They have a few products and make them well.
I discovered Burel when I moved to Portugal and was looking for woven wool fabrics for Men's winter coats.
The wool they use is from portuguese sheeps and the fabrics are made locally. There is one basic reference in 3 different weights, plenty of colors and the minimums are attainable for small brands.
They now have a recycled wool option, where they can recycle their own fabrics or scraps into new fabrics and color ways, which helps close the circular cycle.

CFM _ Which stands for Conscious Fabric Maker, is the new little brother of Valerie's group.
I am interested in CFM because they offer a full circular solution as they have a recycling facility within their company so they can recycle their own waste and products.
Next to that there is always something new in their selection of fabrics.
They offer a beautiful range of Undyed Cotton to use as is in order to reduce chemical waste.
They are also working with non-chemical dying processes, like mineral dye or agriculture and herbal waste (Archroma).
It's like any choice you make with them is thought to be the most responsible possible.

RDD _ Is the big nerdy sister of the Valerius group. She's on the forefront of innovation and research in Portugal. I always stop by to see what's new and what we can expect from the future.
The experimental part of their business is really exciting. The partnership with Food Textile explores the dying process through food related items.
I never thought about how the color black could be pollution, I am now aware of it because of RDD and the new solutions they are developing such as Hemp Black (carbon negative alternative), Living Ink (from algae) and eco.black (made from wood waste).

Tintex _ With a sustainable approach Tintex has built his products throughout the years, it now offers a stock service solution of 100% organic fibers, which helps the smaller brands to have access to a good and responsible jersey quality. They also propose multiple recycled fibers fabrics mix (recycled cotton, recycled Lyocell and recycled linen).
The finishing and the touch of their jersey is always something I am looking for.

Joaps _ When I think about Joaps I think about texture jersey piqué, velours, terry, ribbed and fantasy knit.
Thay have two different poles, a very large range of organic and recycled fabrics and a collection with a more technical purpose.
They are very clear on the quality of fibers they are using and promote certificated fibers such as GOTS polyamide or Seacell OCS that offer traceability all along the production chain.

What is interesting is to discover all the different pieces of the puzzle. There is no one good solution, but we can move forward in a positive way with all the different propositions that are available and we can design from the fabric and its properties.
We have fewer excuses to not use non-organic or recycled options. One thing is certain, the suppliers are making sure we are not lacking tools to play with and Portugal is an important protagonist.

What is interesting is to discover all the different pieces of the puzzle

One thing is certain, the suppliers are making sure we are not lacking tools to play with and Portugal is an important protagonist

Handmade embroidery made with Roll up the Sheep recycled yarns over raw linen from José Campos by Paulo Miranda

João Baptista _ MUD

With the little money that he had left in his pocket, bought a board of wood to build the bicycle of his dreams. Without any professional means, this was quite the task. The process was slow and complicated, but he never gave up since he had the ability to envision the full potential of his creation.
He was right to stand by his dreams, MUD evolved not only as a brand, but as a lifestyle. A sustainable one.
MUD is now a family business and nothing makes us more proud than seeing our creations scattered around the world. All our products are handmade in Portugal by ourselves and ourselves only. We carefully select the materials from sustainable sources, and we make sure that our suppliers are as committed to the environment as we are.
In order to continue our sustainable growth, we'll keep working on new designs but also on improving older ones. A lot of these improvements come from our customers feedback, so feel free to drop a message. We actually read and take all the suggestions into consideration.

This is our story and we keep writing it chapter by chapter, always by hand.

Iva Viana _ Sculpture Atelier

Iva Viana was born in Viana do Castelo, in 1980. She graduated in Fine Arts – sculpture, from the Faculty of Fine Arts, in Porto.
Between 2003 and 2004 she also spent some time in Akademia Sztuk Pieknych (Academy of Fine Arts), in Cracow, Poland, where she attended ceramics, stone and multimedia technology classes. In 2007, she initiated her activity as a sculpture technician at an international company, specialized in ornamental plasterwork, and, in 2009, made a traineeship with the sculptor Pierre Merlin, in Nimes, France.
She has also been to Mozambique and Brazil, as a part of an artistic exchange programme. Her portfolio includes, among others, plasterwork panels, created for the hotels Four Seasons, in London, and Shangri-La, in Paris.
Since the beginning of 2013, she manages to continue working on her previous works, alongside personal projects, which are developed in her own atelier.
Iva Viana – Sculpture Atelier is born in 2013, in Viana do Castelo, as a personal creative space, and as a result of the will to explore, with absolute freedom and autonomy, the experience gained, namely related to the traditional technique of ornamental sculpture in plaster, creating signed works and pieces.

The passion for handmade and the continuous experimentation on the interconnection of manual proceedings of stucco moulding and modern processes of casting different materials.

Rui Tomás _ Burel Factory

Burel Factory's irreverence in paving the way in the segment of interior architecture and acoustic insulation was accompanied by the designer Rui Tomás, who became Burel Architecture Creative Director.
Rui Tomás graduated in Design from the University of Architecture of Lisbon. Creative and enthusiast of Design in all its scales, materials and transformation technologies. He seeks to give longevity to simple and functional solutions, and durability to the responsible use of different materials. With a remarkable portfolio that includes the Red Dot Design award and works scattered across Portugal, with many exhibited in Paris, London, Berlin, Shanghai, New York and Tokyo.

Where the quality of life
goes down for the environment,
the quality of life goes
down for humans.
George Holland

Burel Aro & Burel Onda _ Top marks in acoustic performance and sustainability _ Inspired by the extraordinary sound absorption performance of Burel curtains — 95% in 100% sound — the high-performance room divider is also a true nomadic ecological. It is fully collapsible for transport and storage, and has designed according to the principles of design for disassembly.
Burel Gomo _ Lamp Concept _ Our wool waste is no longer waste.
A new composite material with translucent properties allows us to think of a new way of using wool. Now we can thermoform modules and turn them into luminaires.

Cabanas do Rio _ Comporta

The story of Cabanas no Rio began with a family outing, a couple of chairs and a few books to read. We sat beside two old fishermen's huts facing the sado river when the sun set, all we wanted was to preserve that unforgettable day.
Free from excess and superfluous objects, Cabanas no Rio feels as though you are a part of something larger. The challenges and stimulants of everyday life dissolve.
Two small huts face the sado river. With expansive views, the walls appear to melt away and you are left living in the elements. Your rhythms become attuned to the river the wind, the sun and stars.
We invited our friend and architect, Manuel Aires Mateus to help us renovate the two fishing huts. Combining his expertise of design and craftsmanship with our desire to preserve the spirit of the place, Cabanas no Rio was thoughtfully crafted. Every element of the rebuild respected the memory and simplicity of the original structures. Whenever we return we feel that same stillness and beauty as if for the first time.

In the first cabin, you can find the living area, with a modest kitchen equipped to prepare simple meals. This cabin is strategically positioned to frame the views of the surrounding landscape.
The second cabin has a cozy bedroom and ensuite bathroom. The shower has the possibility of being used both indoors and outdoors. by simply folding open the wooden doors. Though open to the elements, the cabin has been designed to feel intimate and protective.

Your rhythms become
attuned to the river,
the wind, the sun and stars.

TerraMay

Thomas Sterchi and the De Brito family, are bonded by both friendship and a longstanding business partnership. They share a vision: creating a unique place to welcome friends and like--minded travellers.

A self-sustainable farm with a regenerative retreat to create an extraordinarily hospitable experience, reconnecting people with nature and long-lost traditions.

After many trips to the south of Portugal, Thomas Sterchi and the De Brito Family acquired a property in The Alentejo. On October 15th, 2018 the deed was signed and the founders moved to the property, naming it Terramay (Terra Mãe – Mother Earth).

Terramay is an estate with 562 hectares located close to Rosário, municipality of Alandroal. We are an ever-growing family whose mission is to create a balanced ecosystem that produces healthy food, treating the environment and animals with the respect and love they deserve. The residents of our farm are Mertolenga cattle, Pata Negra pigs, goats, sheep, chickens, ducks, horses and our dogs Malhadinha and Rambo. Rural areas include montados, biological gardens, pastures and arable land. We practice regenerative agriculture that allows us, and our community, to be self-sufficient.

Everything in excess
is opposed to nature.
Hippocrates

If we are what we eat,
we need to know what we eat.

Sem

We aim to combat food waste in two stages of the supply chain: before it reaches us (pre-consumer) and once it reaches us (production).
Pre-consumer waste encompasses any waste that happens before it even reaches the consumer. Fostered by our consumption patterns, producers will discard perfectly edible product simply because it does not meet aesthetic standards or market demand. This goes beyond ugly fruit and vegetables: by-products such as eggs, whey, buttermilk, molasses, bagasse, brans, peels, seeds, to name a few; seafood that is the wrong size; newborns animals that are the wrong sex, and countless more instances. This is food that is deemed to have no value, and we utilise as much of this as possible.
Once products arrive at SEM, we utilise it in its integrity. Skins, stems, shells, seeds, peels, bones. All serve a purpose in our cooking. We rely on traditional and modern food preservation techniques - the salt, sugar, smoke cycle – to transform what is usually discarded into flavour. At SEM, our shelves are filled with ferments and preserves, and these become a part of our arsenal when it comes to creating dishes. A peel that would have been considered worthless, may become the seasoning that elevates a dish and transforms its intrinsic worth.
Only once a this food that has given all that it can give that it is composted.

Fighting food waste

This is not a static model, it keeps mutating, learning as it errs, constantly keeping us on our toes.

Yoni Ecosurfboards

A truly green brand

Coupling modern surfboard design and technology with the roots of the sport, José Antunes handcrafts gorgeous wooden hollow surfboards in Amoreira, a village close to Peniche.

Yoni ecosurfboards not only produces boards with ecofriendly materials, they also work towards replenishing nature and funding education.The wood used for the boards is locally sourced and for each board sold, 20 trees are planted. They also offer the possibility to shape your own board.

Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has.

Margaret Mead

JGDesigns

Hello, my name is João.

I bring in me the passion of the art of working with wood. I make spectacles by hand, exclusive, using recycled wood from broken or unusable skateboards.

After traveling the world, working in various crafts, I decided to find the one that made me happy.

That's how I discovered the art of working with wood and the magic of transforming this natural element into unique and personal art objects.

When I work, time stops. Its just me, the tools and the wood. In the end, and without feeling the passage of time, another model emerges, different from all the others, but as special as the previous ones.

The "João Spectacles" result from a totally manual process, from the design to the cut, ending with the final finish. Several hours of focus, dedication and love result in the maximum perfection in each detail. They are all numbered, also offering the possibility of being customized to the taste of each client, making the piece even more private and personalized.

My goal is to do different, unique and special things like you.

Fabricaal

António Carreteiro, Luís Peixe and Margarida Adónis are the new generation of fábrica alentejana de lanificios and make part of wool d'Love Industria e Serviços, Lda. They have changed their life's and moved definitely to Reguengos de Monsaraz because they want to embrace and continue the tradition passed on to them by Mizette Nielsen: to consolidate the production and cultural heritage of the mills, sharing the comfort and durability of pure wool fabrics, while sharing our traditional weaves with the world, while preserving the quality, principles, patterns, techniques and the essence of the factory: hand-crafted products in merino wool designed by skilled artisans and their looms.

Be a part
of the solution

Create the change
you seek in the world.
Be an ecopreneur.
Launch your dream
green business.
John Ivanko

Laurentino yarn

Amiguri made with Piricota yarn

Rool Up The Sheep

We are two brothers with a family legacy of entrepreneurship and innovation, with a desire to value Portuguese products.
We quickly reached the world of wool and the discovery of recycled yarn. The recycling process is 100% mechanical, through the reuse of textile waste. This waste is "crushed", carded and spun again. No type of dye or chemical is used, the yarn has the colors of the patchwork that gave rise to it. With this thread (later named Piricotas, the name of our great-grandmother), we made the first partnerships and social projects. Believing and sharing knowledge was the motto for making our first thread from scratch. Laurentino is a yarn produced in Portugal, with organic wool from the sheep of our friend Tiago, from Quinta da Egitânia. In addition to yarn, we also grew with other finished products, handmade socks and slippers, blankets, collars and some seasonal products.

Marias Papperdolls

Marias Paperdolls are made of recycled newspapers and magazines, fibers and natural fabrics, in order to materialize and power up creativity.
MARIAS PAPERDOLLS, are born in 2011 from the passion and dream to give life to a raw material that turns out into a unique doll, with soul and its own language.
Each MARIA in unique and exclusive. Each one tells a story and a state of mind. The family is already big, combining the simplicity of using materials such as paper, glue, water, balloons with the illustration technique – Acrylic painting

We cannot hope to create
a sustainable culture
with any but
sustainable souls.
Derrick Jensen

MARIA made with recycled paper and Burel (wool)

DOWNLOAD ALL PROJECT CONTENTS HERE

SUSTAINABLE FASHION
FROM PORTUGAL

It is with great pride and satisfaction that we issue this magazine as part of the Sustainable Fashion From Portugal project which aims to promote the sustainability of the Portuguese textile and clothing industry.
Portugal is at the forefront in terms of sustainability practices in the textile industry, and this is one of its strategic axes of development and differentiation.
We have witnessed a real revolution in recent years in terms of materials, processes and technologies, aimed at efficiency, in reducing environmental impact, in reinforcing a more circular economy, always taking into account the attributes that are valued and recognized by customers and consumers.
This magazine aims to show some of these developments in the field of new materials, being certain that in this world and in this industry, so diversified and complex, this will always be the tip of the iceberg. There would be much more to say on how much has been done in Portugal towards the sustainability of the textile and clothing sector.
I finish this message with an invitation to follow our work, ATP´s work, and that of the Portuguese textile and clothing industry in this and other areas.

Mario Jorge Machado _ ATP President

FINALY WE WANT TO THANK ALL
THE PORTUGUESE TEXTILE COMPANIES
THAT PARTICIPATED IN THIS MAGAZINE