

modus

MATERIAL
INTELLIGENCE

DESIGN
UNDERSTANDING



At Modus, we take a **LIFE CYCLE THINKING** approach to product development, applying **MATERIAL INTELLIGENCE** and **DESIGN UNDERSTANDING** to all the pieces in our collection, helping us develop **LOW IMPACT** furniture for a better future.



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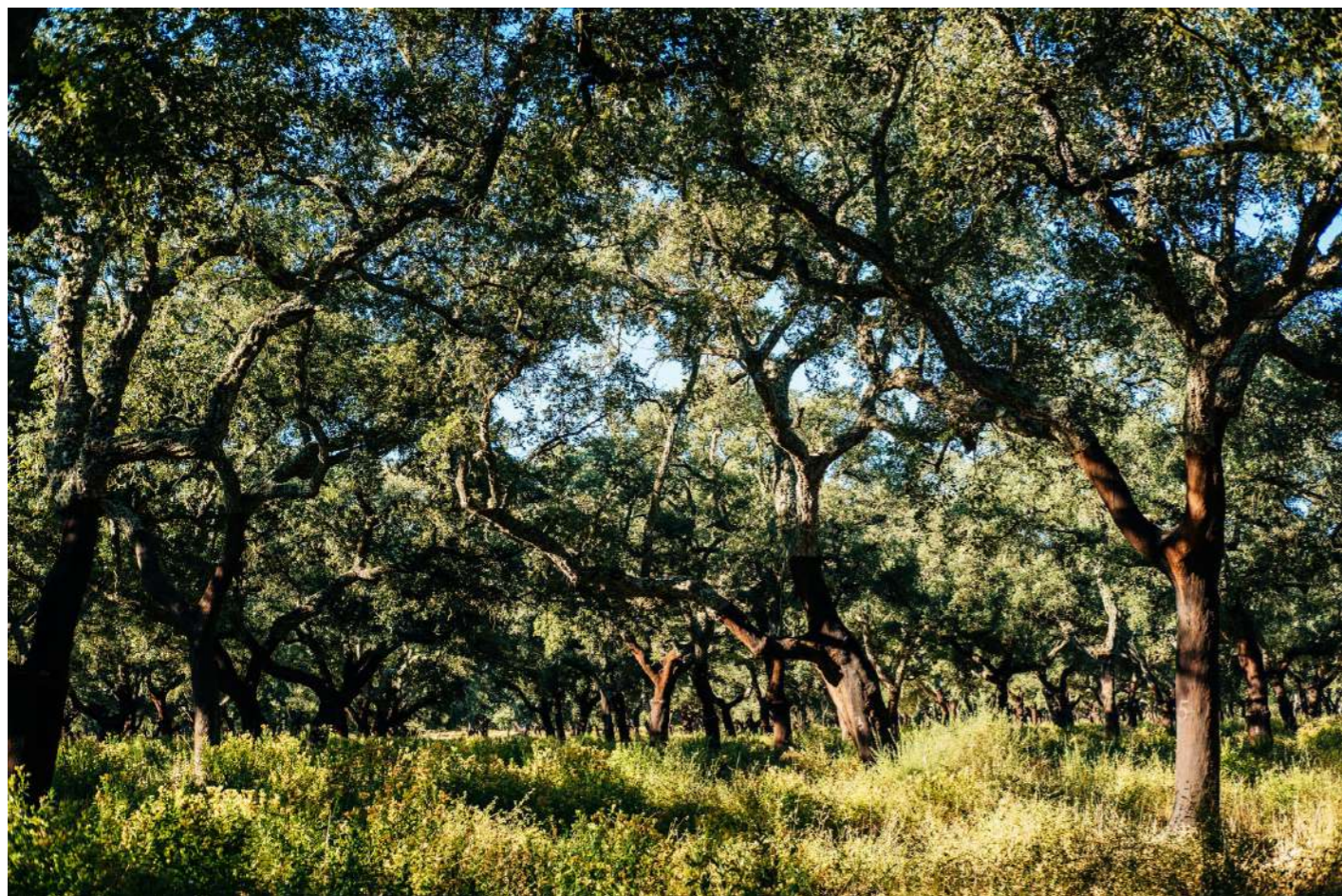
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MATERIAL INTELLIGENCE





Quercus suber, the cork oak, is native to Southwestern Europe and Northwestern Africa. Covering around 2.5 million hectares, cork oak forests provide vital income to over 100,000 people in the Mediterranean Basin. Unique in its ability to regenerate its outer bark, cork oaks reach maturity at around 25 years of age and can be stripped of their cork every 9 years without causing permanent damage to the tree - making cork a truly regenerative material.

Taking place during a narrow window in early summer, cork harvesting is a traditional livelihood and highly skilled job, requiring patience and dexterity. Using an axe with a curved blade, long, vertical cuts are carefully made in the outer bark without damaging the vital structures underneath. The bark is cut horizontally before being prised off in large pieces. Each tree is then marked with a number showing the year, to make sure the tree has the chance to fully regenerate before the next harvest. Rough, deeply fissured and grey, the outer bark hides a vibrant burnt Sienna cork cambium underneath. It is this cellular structure that will regenerate into cork.

Naturally regenerative, rapidly renewable and high in biogenic carbon - is cork the most sustainable material on the planet?

Cork oak forests play a key role in retaining water and preventing soil erosion in an arid environment that is increasingly prone to wildfires and desertification. These forests are also incredible carbon sinks, collectively storing up to 14 million tonnes of carbon a year. Harvesting is an integral part of carbon sequestration, increasing a tree's demand for carbon dioxide - compared to an unharvested tree, a harvested tree absorbs almost five times as much carbon.

The cork oak forests of the Mediterranean are biodiversity hotspots, as rich in life as Amazonia

What is perhaps most incredible about these forests, is how species rich they are. Supporting 135 species per square metre, the cork oak forests of the Mediterranean are biodiversity hotspots, teeming with life. Sheltering millions of wintering birds from Northern Europe, these forests are also home to endemic species that cannot survive in any other ecosystem as well as rare and globally endangered species such as the Barbary deer, Iberian imperial eagle and Iberian lynx.

Supporting cork harvesting helps to preserve this unique habitat. The survival of these forests is intrinsically linked to wine cork production. The WWF has urged the wine industry to support cork production and reverse the current trend for cheaper screw tops and plastic stoppers, predicting that up to 1.2 million hectares of forest could be lost in the coming years.

"THE WINE INDUSTRY PLAYS A VITAL ROLE IN MAINTAINING THE ECONOMIC VALUE OF CORK AND THE SURVIVAL OF CORK OAK FORESTS"

WWF

IN CELEBRATION OF CORK

Our cork collection is crafted from **100% RECYCLED CORK**, waste produced in the manufacture of wine corks.



Cork production is completely regenerative and eco-efficient with nothing going to waste. Recycling of post-industrial and post-consumer waste is common, every scrap of cork is used. The cork industry is a great example of a circular economy in which ecosystems are harvested within their limits and waste material is used as a resource.

The cork we use to make our cork table collection and Bob stool is made from waste produced in wine cork manufacture. Only the highest quality cork can be used to make corks for wine, leaving a large volume of waste. Corks are hand cut from the choicest pieces but what is left behind is used for corks of lesser quality. Waste cork is broken into small pieces and mixed with a polyurethane binder to form cork agglomerate, which is then pressed into large blocks. It is from these blocks that our furniture is milled.

By using waste from the wine cork industry we are helping to support the economic viability of cork oak harvesting and contribute to the conservation of this incredible ecosystem. One conservation story that has been a huge success is that of the Iberian lynx, once the world's most endangered feline species, the Iberian lynx is making a comeback, increasing in number from 62 to over 2000 in the past 20 years, shifting from 'endangered' to 'vulnerable' in June 2024. In a world that is facing biodiversity loss at an unprecedented pace, using cork as a material is just one positive step we can take. So, the next time you are selecting a bottle of wine, or a piece of furniture - choose cork.

COUNTING THE CARBON IN OUR CORK COLLECTION

12.8 kg CO ₂ e	13.1 kg CO ₂ e	22.9 kg CO ₂ e	36.8 kg CO ₂ e
BOB	ART	ABE	ARNE





Designed by old friends **RICHARD HUTTEN** and **MICHAEL YOUNG**, the Richard chair and Michael stool are two seating ranges created from waste.



100 BOTTLES IN EVERY CHAIR



RICHARD HUTTEN

MICHAEL BY RICHARD

Made from the scrap produced in the manufacture of wine corks, Richard Hutten's Michael stool makes best use of waste materials and helps preserve biodiverse forests.

Named after his good friend and fellow designer Michael Young, Richard Hutten's Michael stool is made from 100% recycled cork. Regenerative, recyclable, tactile and naturally anti-microbial, cork is the perfect material for a more circular world in which one man's waste becomes another man's resource.

Every seat of the Michael stool contains biogenic carbon, trapped in the cork instead of creating havoc in our atmosphere and oceans. Softly concave, the seat sits on a tubular steel frame, forming a simple and playful profile finished in a textured powder coat in a range of earth colours.

Hand harvested using age-old techniques passed down through the generations, cork comes from the cork oak forests of the Mediterranean basin, biodiversity hotspots that support endangered species and endemic flora found nowhere else on the planet.

Highly specialised, cork harvesting is the highest paid agricultural work in the world, providing economic security to over 100,000 people, creating an ecological and economic symbiosis.

'Optimism and playfulness, that is the way to get the message through, that we have to change. I want a better world and I'm optimistic that we can get a better world, for me there is no other way than being optimistic.' – Richard Hutten



MICHAEL YOUNG

RICHARD BY MICHAEL

Made using over 100 recycled plastic bottles, Michael Young's Richard chair is nibbling away at the mountain of plastic waste we have to climb.

Taking a life cycle approach to design, the Richard chair avoids virgin plastic and instead opts for a shell made from only 100% recycled material. An ergonomically contoured seat fits neatly onto a tubular steel frame, forming a bold profile that remains physically light and compact. Practical simplicity and elegant curves come together to make Richard a chair that is refined, durable, 100% recyclable and fit for a better future.

It takes just over 100 bottles to make the seat of each Richard chair. Bottles are sorted, washed and flaked before being extruded into fine strands that are layered to create sheets of PET felt. Pressed in the mould to form the chair shell, the felt is then water jet cut to create a perfect edge. Making best use of innovative technology, the Richard chair reclaims value from a problematic waste stream, helping keep plastic pollution out of land and sea.

'I think the best word we can use for this is, 'harvest', we need to harvest the planet and clean up the damage that we have done. This is going to be a long process. I am guilty of using a lot of plastic without understanding its impact but now I am in a position to tidy up my patch with partners in design.' – Michael Young



EDGE FREE

BREAK FREE FROM FOAM





Edge Free sofa system



A LOW PLASTIC FUTURE



IN CONVERSATION WITH PEARSON LLOYD

EDGE FREE offers a low impact seating system for a **LOW PLASTIC FUTURE**. Containing significantly less embodied carbon than traditional polyurethane foam based upholstery, Edge Free is a **FOAM FREE SEATING** platform for the modern workspace.



“The interaction between people, product and place – and how a product or system can affect our behaviour – lies at the heart of our practice.” It is this mantra that sits as a core principle of Pearson Lloyd’s approach and one that was applied to the development of Pearson Lloyd Edge, a comprehensive and flexible workplace furniture system that we launched in 2015.

“It all started with a knuckle,” says Luke Pearson with a chuckle. “Or more precisely, a corner knuckle.” This knuckle is in fact the cast aluminium piece that forms the corner joints of the system – the meeting point for the extruded horizontal supports of each product and the sturdy legs. The design is underpinned by these carefully engineered structural components but is nevertheless imbued with a visual simplicity. The strength of the knuckle gives the system the potential for multiple products, always carried off with a coherent visual identity.

In 2023, the Pearson Lloyd Edge system expanded to include our first foam free seating, Edge Free. Luke Pearson and Tom Lloyd tell us what it takes to bring a low carbon, foam free product to life.

“The idea of shifting from traditional polyurethane (PU) foam to natural fibre alternatives came from our commitment to reducing the environmental impact of our products. PU foam is derived from petrochemicals. We wanted to explore materials that were renewable, biodegradable, and had a lower carbon footprint during production and disposal. Natural fibres, like coconut coir, offered a compelling alternative due to their availability as waste materials, their durability, and minimal environmental impact. This aligns with our broader sustainability goals, aiming to design with a circular economy in mind — prioritizing recyclable or biodegradable materials and reducing reliance on finite resources.

Unlike PU foam, which involves energy-intensive processes with significant greenhouse gas emissions, coconut coir is a natural waste material that would otherwise go unused. Coir is biodegradable, whereas PU foam usually ends up in landfills where it can persist for centuries. The environmental footprint of transporting coconut fibre is far outweighed by the reduced impact associated with its production and end-of-life disposal. Using coconut fibre also supports local economies in low-middle income countries.

As global awareness of the environmental and health impacts of plastic pollution grows, regulations aimed at reducing or eliminating the use of harmful plastics will become more stringent. The future role of plastic in furniture will shift towards more sustainable and circular applications. While the use of virgin plastic may decline due to environmental concerns and regulatory pressures, recycled and bio-based plastics will become more prevalent. Plastics may still be used where their properties (such as durability, flexibility, and lightweight nature) are essential, but with an emphasis on designs that facilitate recycling and reuse.

The furniture industry will need to adapt by finding alternatives to traditional plastic materials, increasing the use of recycled or bio-based content, and designing for easier disassembly and recycling.”

For all of us at Modus, Edge Free was a bold move into foam free territory – its success has encouraged us to revisit existing products with a view to expanding our collection of natural fibre upholstery...watch this space.



How is an LCA created?

First things first, we need to know what goes into a product, its materials, the energy used to transport materials to the factory gate, the energy required to create the product, the materials used for packaging, the waste created during production, the energy used to transport, use and recycle the product at end of life. Everything must be measured, weighed, calculated and inputted across every lifecycle stage to a high degree of accuracy. This is the LCA inventory.

A key part of any LCA is deciding what will be included and what will be left out. The scope is determined by selecting which LCA life stages are included. Once the LCA has been completed, the different stages of an LCA can be analysed to see where embodied impacts are building up.

What can we learn when modelling LCAs?

Our Edge Free and Maluma seating systems are two examples where we made material decisions that were informed by LCA modelling. In the case of Edge Free, we opted for waste coconut fibre and natural latex in place of traditional polyurethane foam upholstery. Coconut fibre is much lower in embodied carbon than polyurethane foam, while also being biodegradable.

With Maluma, we built the frame from spruce plywood instead of steel. Although easy to recycle, steel requires high energy inputs for both fabrication and recycling. Sustainably harvested bio-based materials like spruce have the added benefit of capturing carbon while they are growing.

How are the results of an LCA presented?

The results of an LCA are formulated in a table (opposite) where each row represents an environmental impact indicator – from global warming potential to water use. Each column represents a different stage in the lifecycle of that product. Each cell is a quantifiable value of the environmental impact of the product during that stage of its lifecycle according to standardised units of measure. From this data we can see where the impacts are building up and what we need to avoid.

How can we use LCAs to improve our products?

An LCA forms the basis of an Environmental Product Declaration or EPD which is a third party verified document detailing the environmental impacts of a product. Modelling LCAs for our products enables us to test different scenarios – so we can ask – ‘what if we swap this material, or localise our supply chain, or dematerialise this product by reducing manufacturing waste?’ We can start to build a picture of which changes have the biggest impact.

As we develop a clearer picture of our collection through the lens of LCAs, we can use this to develop impact reduction or LCA Action Plans – pinpointing where we need to make changes to legacy products as well as applying this knowledge to all future product development.

Using data from life cycle assessments takes the guesswork out of choosing materials, helping us to build a product portfolio that has significantly lower environmental impacts.

LIFE CYCLE ASSESSMENTS – WHAT'S THE POINT?



A LIFE CYCLE ASSESSMENT, or LCA, looks at the environmental impacts of a product across its entire lifespan, from the extraction of raw materials to recycling or disposal at end of life. We use this data to **INFORM DESIGN CHOICES** very early in the product development stage as well as to **MAKE RETROSPECTIVE CHANGES** to designs already in production.

LIFE CYCLE ASSESSMENT OF MALUMA

	A1 - A3	A4	A5	C2	C3	C4	D
GWP — Total (kg CO ₂ e)	7,12E+01	2,29E-01	-1,30E+00	2,07E-01	-1,19E-01	-6,78E-02	-1,56E+00
GWP — Fossil (kg CO ₂ e)	1,03E+02	2,31E-01	1,64E+00	2,07E-01	8,27E-01	1,61E-01	-1,56E+00
GWP — Biogenic (kg CO ₂ e)	-3,40E+01	0,00E+00	-2,95E+00	0,00E+00	0,00E+00	-2,78E-17	-4,55E-03
GWP — LULUC (kg CO ₂ e)	2,34E+00	8,67E-05	1,18E-02	7,75E-05	3,52E-04	3,46E-06	-2,39E-03
Ozone Depletion Potential (kg CFC ₋₁₁ e)	1,44E-05	5,76E-08	1,99E-07	5,15E-08	1,54E-08	1,28E-09	-8,63E-08
Acidification Potential (mol H ⁺ e)	7,73E-01	7,36E-04	8,44E-03	6,58E-04	1,45E-03	9,40E-05	-7,05E-03
EP — Freshwater (kg Pe)	1,87E-02	1,65E-06	1,25E-04	1,48E-06	1,58E-05	1,56E-07	-1,12E-04
EP — Marine (kg Ne)	7,18E-01	1,62E-04	4,76E-03	1,45E-04	3,43E-04	4,12E-05	-2,21E-03
EP — Terrestrial (mol Ne)	2,30E+00	1,80E-03	2,64E-02	1,61E-03	3,72E-03	4,23E-04	-1,44E-02
POCP (kg NMVOCe)	4,78E-01	7,09E-04	5,38E-03	6,34E-04	9,83E-04	1,05E-04	-5,45E-03
ADP — Minerals & Metals (kg Sbe)	1,13E-03	5,66E-07	1,03E-05	5,06E-07	4,19E-06	3,87E-08	-5,42E-06
ADP — Fossil Resources (MJ)	1,75E+03	3,69E+00	2,39E+01	3,30E+00	3,56E+00	1,03E-01	-1,76E+01
Water Use (m ³ e depr.)	8,02E+02	1,70E-02	1,04E+00	1,52E-02	1,71E-01	2,16E-02	-1,20E+00

Notes on abbreviations: GWP = global warming potential, LULUC = land use and land change, EP = eutrophication potential, POCP = photochemical ozone creation potential, ADP = abiotic depletion potential.

QUIET

SHHH
NO
NEED
TO
SHOUT



MATERIAL selection has by far the biggest influence on the **CARBON FOOTPRINT** of a product.

The Quiet chair has an unobtrusive aesthetic and comfortingly familiar appeal, making it effortlessly multi-functional and equally at home in a range of settings.

This versatility is thanks to a host of different base options. While every chair shares the same, softly curved mono-shell, the Quiet chair takes on a completely different look with a gas lift base, compared to tube legs. It's not only the look and feel that changes, the embodied carbon changes too. Materials matter, and simple material swaps can make a world of difference. Understanding the embodied impacts in the materials we use is key to reducing global emissions.



UNDERSTANDING
EMBODIED CARBON
IN THE QUIET CHAIR



GAS LIFT BASE

Aluminium is pretty carbon intensive, even when it's recycled, it still takes a lot of energy to melt and cast – and it's heavy, which means transport related carbon can stack up.

43 kg CO₂e

GAS LIFT BASE



TUBE BASE

When we compare that to the tube base we see a big difference – 23% in fact. The steel tube is hollow for a start, so it's less carbon intensive in all its transport stages but more importantly, it uses less material – and this is key to reducing embodied carbon – as a general rule, the less material that is used, the lower the embodied carbon.

33 kg CO₂e

TUBE BASE



TIMBER BASE

Timber is different altogether. Unlike the non-renewables, aluminium and steel, that are incredibly energy hungry to extract and to fabricate (even when they are recycled rather than virgin materials), bio-based materials have comparatively low energy demands in both their harvesting and production stages and they have the added benefit of absorbing carbon dioxide from the atmosphere all the time they are growing. This CO₂ is stored as carbon in the cellular structure of plants and is known as biogenic carbon. While all biogenic carbon will eventually return to the atmosphere as part of the carbon cycle, it can be locked away for a very long time in furniture and architecture.

30 kg CO₂e

TIMBER BASE

To keep carbon down, choosing renewable materials is one very basic rule of thumb.

A range of 13 kg CO₂e between the highest and lowest carbon footprints for this chair might not seem like much on its own but when you think about the number of chairs specified on a project it makes a big difference en masse.

But it's not all about the carbon footprint of furniture at the first round of fit out, because of the way interior refits occur in cycles, the loose fit package can really add up over time. Which is why it is so important to choose products that

have been designed for multiple lifecycles. Like many of our chair collections, the Quiet chair has a cover that has not been glued so it can be replaced multiple times, saving around 75% of embodied carbon every time the cover is replaced instead of the whole chair, stretching the embodied carbon in the Quiet chair out over multiple lifecycles instead of just one.

When we focus too much on carbon footprints we are being short-sighted, it's not all about the upfront carbon at the time of installation, we need to look further down the road to end of life, what happens to the product when it is

no longer needed? It is the alignment of circular design and low carbon materials that really makes a difference, bringing down the embodied impacts of every replacement cycle – and that is something to shout about.



Quiet chair



Versatile, creative and an advocate for simple solutions, Michael Sodeau is an expert in designing products in cork. Designer of Art, Abe and Arne, as well as the iconic Bob stool, Michael guides us through his exploration of cork as a material and its immense potential for commercial products.

"My journey with cork began quite unexpectedly during a project in Sagres, Portugal. Initially, I was exploring options for another material in a resort project I was working on, but it quickly evolved into a fascinating exploration of this natural material. This eventually led to a collection of cork occasional tables for Modus, Art, Abe and Arne. The collection shared the same design language and aesthetic but were unique in their application. The exploration really highlighted cork's incredible potential, and it led me to design, what you could call a Modus mascot – the Bob stool.

What struck me most about cork was its sustainability. It's a completely recycled material, a byproduct of another process. Unlike other materials that require extensive collection and processing, cork is readily available. When I visited the cork factory in Portugal, I was amazed by the various grades and processes involved in transforming cork into a versatile material. Despite its limitations, cork's natural tactile charm and unique properties are difficult to ignore.

Cork isn't commonly used in contract office furniture, which presents its own set of design challenges. As a designer, I work to its strengths. For instance, cork's durability and construction can be an issue if layers are used. However, for our designs at Modus, we embraced its bulkier, robust nature by creating products that celebrate roundness and catch people's eye.

One of the most exciting aspects of cork is its flexibility. Unlike hardwood timbers, which can only be machined, cork can be compressed into various shapes. This gives it a dynamic quality, almost as if it has a life force of its own. The products I've designed for Modus showcase this beautifully as they use machinery to create cut outs in the cork, showing off its natural properties and texture.

Cork's softness, both aesthetically and in terms of sound absorption, adds a unique touch to furniture. It's a material that reveals its true character, with visible imperfections which gives you a one-of-a-kind piece.

Cork's versatility extends beyond furniture; it can be used for table surfaces, worktops, soundproofing, and even wall cladding.

The future of waste materials like cork are promising, especially as we move away from plastics. While I'm not currently working with plastic, the potential for recycled plastics is immense. Just as aluminium has transitioned to being predominantly recycled, plastics could follow a similar path. The advancements in processing recycled plastics mean they no longer carry the stigma of being inferior materials. Instead, they offer incredible possibilities for sustainable design.

With its unique properties and sustainable nature, cork is poised to play a significant role in the future of design. It's a material that not only meets functional needs but also tells a story of sustainability and innovation. As we continue to explore its potential, cork will undoubtedly become a staple in sustainable design, offering endless possibilities for creative and eco-friendly solutions."



IN CONVERSATION WITH MICHAEL SODEAU



The Lily Compact chair by **MICHAEL SODEAU** has a **REMOVABLE COVER** to keep resource use to a minimum.

"WHAT STRUCK ME MOST ABOUT CORK WAS ITS SUSTAINABILITY. IT'S A COMPLETELY RECYCLED MATERIAL, A BYPRODUCT OF ANOTHER PROCESS."

Michael Sodeau

DESIGN UNDERSTANDING



DESIGNING FOR A CIRCULAR ECONOMY

NATURE keeps materials in CONSTANT CIRCULATION

- it's time we did too.

When we think about the circular economy, the first thing that usually comes to mind is a product's ability to be recycled, or its recycled content. While using waste as a resource is key to moving away from a 'take, make, waste' linear economy, the circular economy offers so much more than simply reducing resource use by recycling.

The vision of a circular economy is to balance renewable resource extraction and consumption rates with the rate at which the Earth is able to regenerate. Alongside this, finite resources like metals, plastics and rare earth elements are kept in use indefinitely by creating a cycle of use and reuse in which both inputs, in terms of materials or energy, and outputs, like waste and emissions, are kept to a minimum.

There are three key pillars on which a circular economy is built:

- Eliminate waste and pollution
- Circulate products and materials
- Regenerate natural systems

A circular economy is regenerative by design, running on renewable energy and operating within ecosystem boundaries. The 'circular' part

refers especially to the circulation of products, retaining maximum value and inputting minimum energy over each lifecycle — repair before you refurbish, refurbish before you remanufacture, remanufacture before you recycle.

Our collection contains a host of products designed with the circular economy in mind, from products made from waste, to products that have been designed for disassembly and, most importantly, products designed for re-use, offering replacement components to keep them in circulation with the minimum use of resources. At end of life, our products can be returned to us for refurbishment, remanufacture or recycling, so it makes perfect sense for us to design with disassembly in mind, after all, we want to make it easy for the planet as well as for our team.

By shifting to an economic model that designs out waste and pollution, we can start to slow the tide of waste that flows to landfill and incinerators and stem the pollution of our ecosystems. The key, is to focus on the design stage, preventing waste before it can occur. By designing products that retain their value through a process of maintenance, repair, and refurbishment, we can keep materials in circulation, keeping finite materials, like plastic, in the economy and out of

the environment. A shift from doing less harm to the environment, to actively regenerating nature has the potential to slow the pace of both climate breakdown and biodiversity loss and help heal our damaged planet.





ON BALANCE



The Balance family, by Jonathan Prestwich, is a suite of chairs that shares a cohesive design language and dovetails into a diverse breadth of workplace zones.

Growing from a collection of ergonomically crafted work and meeting chairs, the collection has expanded to include a family of lounge chairs for lively break out zones and more contemplative areas, as well as understated project chairs and elegant high back meeting chairs. Every chair has been skilfully designed to empower individuals to excel at the task in hand.

Together with a shared design vocabulary, each member of the family is united by meticulously tailored upholstery, which, on closer inspection, reveals a removable cover that traces the curves of the seat shell using invisible clips instead of glue. This small shift in the way each chair is constructed enables replacement covers to be applied time after time, keeping the main body of materials in use and minimising the need for new materials.

This resourcefulness is key to combatting the overconsumption arising from the accelerating pace of refit cycles. Over time, the impacts of repeated refit cycles can seriously add up, outweighing the impacts associated with a building's initial construction. As refit cycles become shorter and shorter and the volume of materials being wasted and replaced keeps growing, we need to find simple solutions to avoid overconsumption.

As we seek to decarbonise the built environment, re-use of every element in a building will become more and more important. Offering replacement upholstery covers gives the Balance family serious added value because every chair is already poised for a second, third and subsequent life. Covers can be refreshed if the interiors team create a new scheme, if anyone's clumsy with a coffee, or if the chairs change hands and need to match the brand colours of their new owners.

With all eyes on carbon, it's easy to forget the value of plain and simple resourcefulness. Yet using the fewest resources goes hand in hand with carbon reduction. In the case of the Balance family, replacing just the cover can save up to 75% of the embodied carbon, compared to replacing the whole chair.

In a time of global overconsumption, the thrifty design of the Balance family is one small step towards reducing resource use so that we can stay within planetary limits and help return to a point of balance.



FINDING THE BALANCE

IN CONVERSATION WITH
JONATHAN PRESTWICH



MF **Jonathan, can you tell us about the development of The Balance Chair and how the project started?**

JP It's funny, the project didn't start with a formal brief. It began about ten years ago when Ed and I were discussing opportunities for Modus. Back then, Modus was more focused on a collection that blended both domestic and light contract furniture. We were exploring how Modus could expand further into the workplace market. It was a lot of brainstorming about what the market needed and how Modus could fit in. We started with simple ideas and then moved to more complex and technical concepts. Eventually, we realized the market needed a chair that worked like an office chair but had the cosiness of an armchair. That's how The Balance Chair concept was born.

MF **Each chair in the Balance family has a removable cover. How has this influenced your design approach?**

JP The idea of removable covers was an evolution of the design. We decided that we wanted a fabric cover that could be pulled over and zipped on – this was for both commercial viability and faster production. This approach also ensured consistency in production and quality. And, it's also a sustainable choice, allowing for easy replacement and extending the chair's life throughout interior refits. Seeing chairs in skips around London, still usable but discarded because of damaged upholstery, is disheartening. Removable covers mean the chair can be refreshed and reused, which is crucial for sustainability.

MF **The Balance Chair has been recognised for its design qualities. What do you think makes its design stand out?**

JP The design's merit lies in its strategy. We started with a feeling of what the product should be in a room. We wanted it to feel natural and familiar. The Balance Chair strikes a balance between functionality, comfort, and aesthetics. It has a weight-adjusting mechanism that adapts to the user's weight, providing the right backrest resistance. The design is non-polarizing, meant to be familiar and appealing to everyone. Achieving the natural, smooth aesthetic of the chairs profile was challenging, but it gives the chair its unique character.



MF **How does the past influence your designs, and how do you see the future shaping them?**

JP Both the past and the future influence my designs. Familiarity is important; people connect with designs that remind them of something from their past. At the same time, we need to look to the future to understand cultural and political shifts that affect design preferences. For instance, there's a growing trend towards sustainability and natural materials. We try to stay ahead of these trends while ensuring our designs remain relevant and appealing.

MF **How can we continue striving towards a circular economy in furniture design?**

JP It's a collective effort. Designers, suppliers, and manufacturers all play a role. We need to use materials that are recyclable and ensure there's an infrastructure to support recycling. It's about making sustainable choices at every stage, from design to production to end-of-life. For example, using fast-growing woods, which are more sustainable, influences the design because they might need to be used in larger sections. It's about finding the right balance and guiding people's expectations towards more sustainable products.





Maluma is a joyful, sectional seating system designed for the modern workplace. Consisting of a circular seat with rounded backrest, each seat can be connected to its neighbour to create free form, bead like strings of seating.

Embracing the shift from a linear model of 'take, make, waste', Maluma's circular approach keeps product, components and materials in use over multiple life cycles. Designed for disassembly, every Maluma module can be deconstructed into mono materials, using simple hand tools.

Maluma looks like a very simple seating system, but it hides an inner structure that involved extensive product development. We painstakingly designed the Maluma to be resource efficient, and resource responsible — only taking what is needed, from the right places.

The materials we chose were selected for their reduced impact compared to typical materials, or are used in a way that minimises waste.

Maluma has a wooden frame cut from sustainably sourced spruce plywood, a faster growing species than the more commonly used beech plywood. Spruce is also 30% lighter, making Maluma less carbon hungry in all its transportation phases. The plywood used contains 50% bio-binder, resulting in less than half the embodied carbon of typical hardwood ply, further reducing embodied impacts.



Meticulous nesting of frame components means each seat can be cut from just half a board, with cut pieces fitting together like a jigsaw puzzle and wooden dowels holding everything in place.

Typically, all moulded foam seats have a steel frame over which the foam is moulded, however, Maluma is designed with a separate plywood frame over which the foam components of the seat and back fit. Each piece can be pulled off the frame, enabling easy refurbishment and separation into mono materials at end of life. To further support this, fabric covers can be replaced at each interior refresh, extending the product's life. The steel tube legs are the final components in the construction of Maluma and secure everything in place.

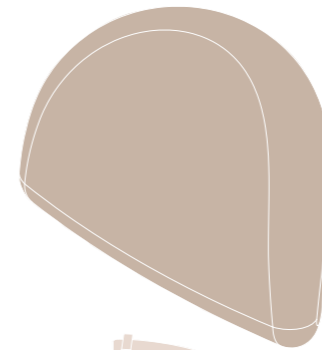
In its design and construction Maluma becomes a material bank for the future, helping to protect resources and minimise embodied impacts. The innovative approach applied to the development of this seating system means every piece can be kept in use making Maluma the perfect design for a circular economy.

“PLACE, REPOSITION – AND EVEN RECOMPOSE! IT’S CHILD’S PLAY WITH MALUMA”

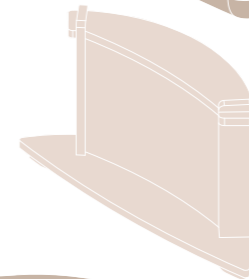
Mårten Claesson

CIRCULAR SEATING FOR A CIRCULAR ECONOMY

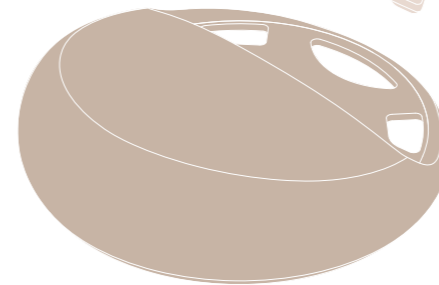
DESIGN FOR DISASSEMBLY



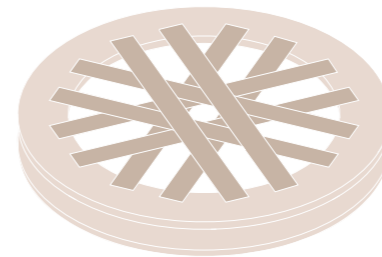
MOULDED
FOAM



PLYWOOD
FRAME



MOULDED
FOAM



PLYWOOD
+ WEBBING



STEEL LEGS

IN CONVERSATION WITH MÅRTEN CLAESSON



MF The starting point for the design of Maluma came from a bespoke sofa you designed for boutique hotel K5 Tokyo. You once said, "Japanese crafts, design and architecture have been the single largest source of inspiration in our work." What is it about Japanese design that resonates so much with your studio?

MC I am one of three co-founders at Claesson Koivisto Rune and our relationship with Japan goes a long way back to the beginning of our partnership. We've been travelling to Japan at least once a year for three decades now (excluding the Covid years, of course). For us, Japan provides an instant source of inspiration. Especially coming from Scandinavia, I think there's a similarity between the design languages of Japanese and Scandinavian design.

MF Maluma differs from the original design for K5 Hotel in that it can be configured into a repositionable sofa using multiple single pieces, making it completely flexible. How do you see Maluma shaping the behaviour of its users?

MC Maluma is a serious piece of design, but still very playful. It is joyous, cute and positive. As Maluma is also configurable, it allows users to create different kinds of structures and shapes as they please.

MF Nick, it was your responsibility to translate the design elements into a commercially viable product. What challenges did your team face in staying true to the design and what have you done that is unusual with the development of this seating system?

NS Mårten and the team bring a sense of expectation and challenge to the whole design process. The very starting point is almost like the relationship between the teams: we have a common goal, but we are coming from different perspectives. With this product, we certainly wanted to start moving forward with a new approach to construction.

MF Could you give an example?

NS We work as a single group and from that come the ideas of how we can construct something. We've been experimenting a lot with screws and plywood, which is much lighter and sustainable. It has its own challenges, but actually, we could explore those challenges when working on Maluma. For instance, we don't use any glue, we don't use any staples; that's how you traditionally do this sort of thing. The webbing would normally be stapled on, but then you're creating contaminants in the material. So, we started to think about how we could produce the frame differently. There's actually quite a lot of engineering analysis behind what we do, which we find really exciting.

MF Maluma's design language makes it particularly suitable for spaces where inclusive design is key. In what type of settings do you see Maluma being used?

MC I see Maluma in semi-public spaces; maybe rooms where students gather to study or somewhere people might come together for an event. It's not an office chair, but I think Maluma would look very nice in the corner of an office or in other semi-public areas, such as a waiting room or library.

MF If good design is able to improve lives, shape the way that we use space and how we interact with one another, what positive role do you think Maluma can fulfil?

MC I think it could provide a clever solution for any awkward architectural spaces.

NS I agree. Whenever you have a perfectly square room, you can't use perfectly square furniture, because it will always be misplaced. But Maluma can never be misplaced in any kind of setting.

MF What separates good from great design?

MC Well, first – it's human character. Most successful products are those that have character and I'm glad to say that Maluma has bundles of it. But then it also has this humorous side to it as well. I think the answer to this question also comes back to the point that you made around inclusive design and creating something everyone can use and enjoy.

MF Mårten, what piece of advice would you give the designers of the future who are hoping to follow in your footsteps?

MC I think that it is a wonderful life being an architect or a designer. So, I'd say that if you want to follow this career path, you have to be dedicated and committed to this profession.

MF Can you both tell us, what's next for this partnership? Mårten, do you have a product you would like to work with Modus on? And Nick, does Modus have a brief for Claesson Koivisto Rune up its sleeve?

NS When we give Mårten and the team a brief, they come up with something completely different. So, who knows what will be next for us, and actually, that's absolutely fine. We're always analysing our portfolio and thinking about the future of work and the workplace, looking at what products we need to develop. This brief for Maluma was a little bit different than what we've ended up with, but that's part of the beauty. It's so interesting for us to work with different design partners because they look at products in a different way – not from the product, but from the point of view of space and environment, and we love that.



WE^(MF) sat down with our development director **NICK SAVAGE**^(NS) and **MÅRTEN CLAESSON**^(MC), co-founder of Swedish firm **CLAESSON KOIVISTO RUNE**, to discuss their latest collaboration, a **FLEXIBLE SEATING SYSTEM** called **MALUMA**.

BELT STOOL EVOLUTION

REDESIGNING FURNITURE FOR A CHANGING WORLD

One of our most popular products, launched in 2017, the Belt stool was designed for an inclusive and flexible workspace. The strap-like handle lends the stool its portability and encourages everyone to pull a seat up to the table. Often spotted upholstered in customer brand colours, Belt has been specified in a broad range of projects all over the world.

Why then, would we go to the trouble of redesigning a product that has grown in popularity over the years and become even more relevant? The drivers for this are threefold. Firstly, we have been targeting a full house when it comes to FSC certification. As things stood, 99% of our collection with timber components could be certified - we wanted 100%.

The Belt stool proved to be a sticking point, the wooden insert that gives the stool its stability and structure was inserted into the mould in a factory that doesn't have FSC chain of custody. As anyone who has dealt with FSC certification knows, if the chain of custody is broken, the product cannot be certified. While it's best practice to encourage your supply chain to become FSC certified, this isn't always fruitful, and in this instance, it was quicker to redesign the

stool with a timber piece we could manufacture in-house and insert into the moulded foam seat ourselves.

There was a second reason for this structural redevelopment - the circular economy. In the original design, the wooden insert was an integral part of the moulded foam seat, the fabric cover was fixed to the foam with glue and stapled at the base. Every component was permanently fixed with no option to re-cover and separation into individual materials was impossible.

The redevelopment of the stool now allows for replacement covers. Since the fabric is the first part of any piece of upholstery to show wear and tear, a new cover is the most effective way of extending a product's life and keeping it in use. Replacing just a cover also offers significant carbon savings compared to replacing a whole stool. In the case of Belt - around 20%.

For a product to be truly circular, it needs to be designed for disassembly, with easy separation into mono materials, keeping components at their highest value and allowing each material to be reclaimed or recycled at end of life. The redesign of Belt follows the same principles that we applied



to the Maluma seating, launched in 2023, which followed a design for disassembly approach - minimal fixings or push fit construction, fixings that can be removed with simple hand tools and easy separation into mono materials with no contamination of material streams. Just like Maluma, Belt is now all set for the circular economy.

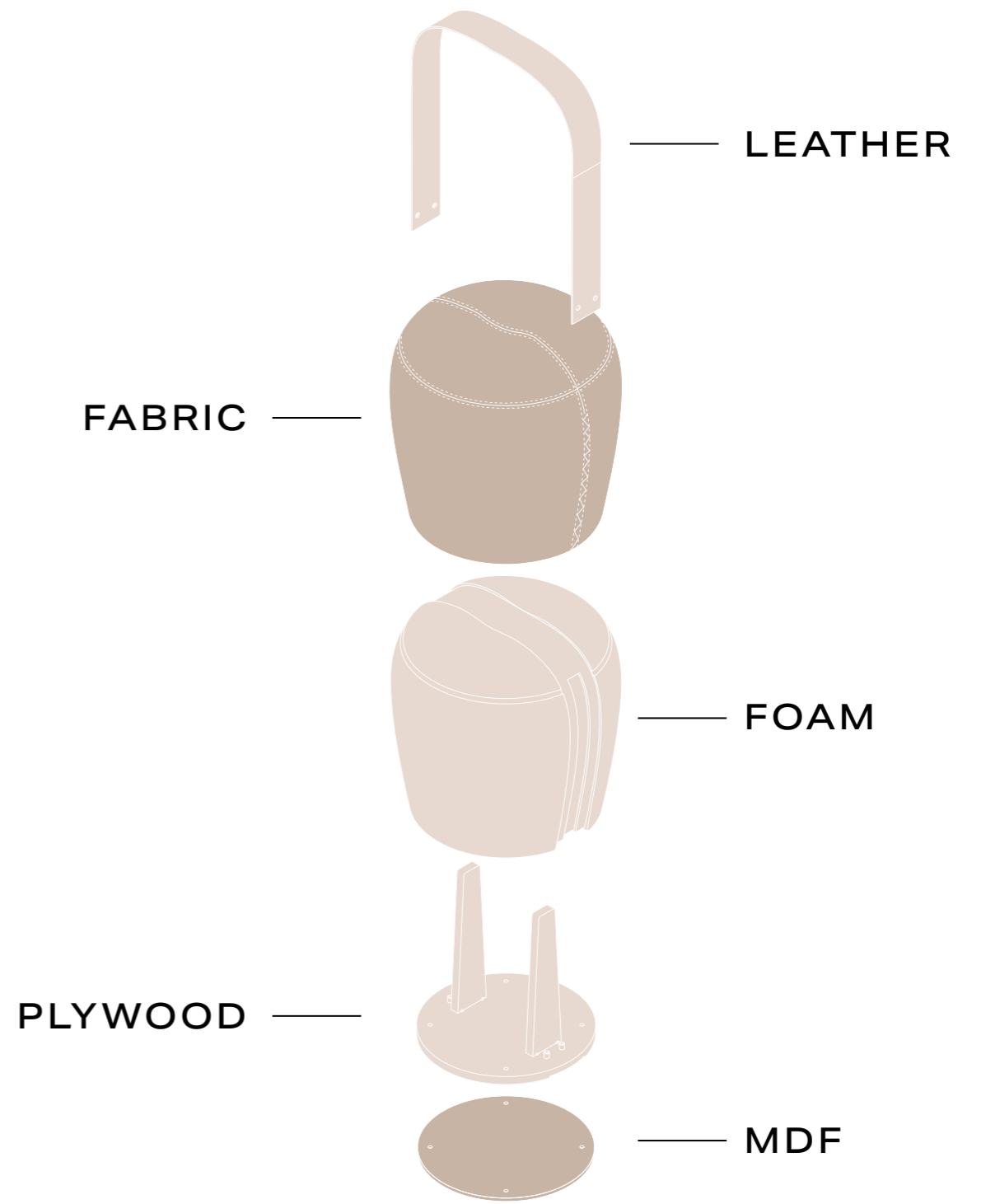
The third change we made, was to opt for foam made using bio-based materials. By switching a proportion of petro-based materials to bio-based materials, we have been able to reduce fossil fuel inputs and embodied carbon.

The Belt stool redesign has lost none of the charm of the original design but is now available with FSC™ certification, a circular design approach and less embodied carbon.

Not as simple as designing from scratch, the Belt stool is our first product redesign that shows we aren't afraid of scrutinising our collection and making changes to how we do things. It's easy to move forward with new ideas and understanding, but it's much tougher to look back at what you have already made and say, 'we can do better'.

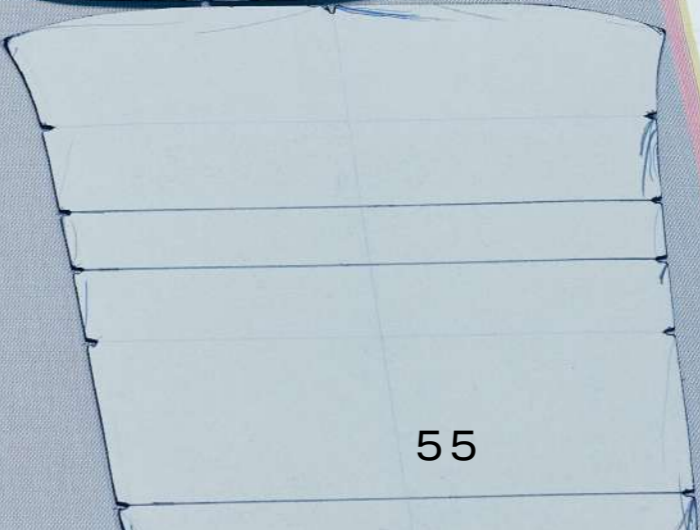
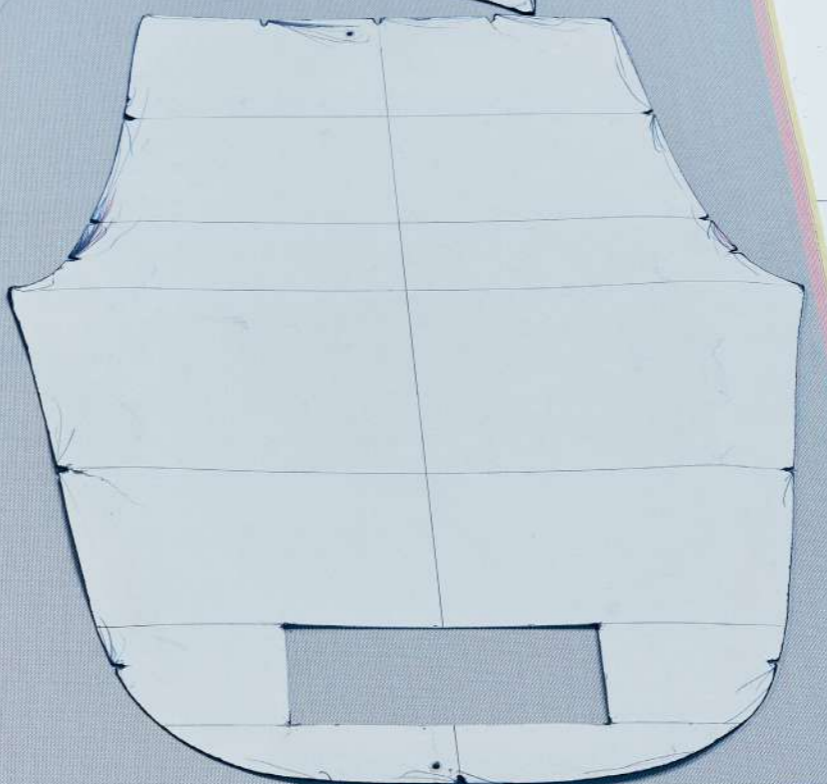
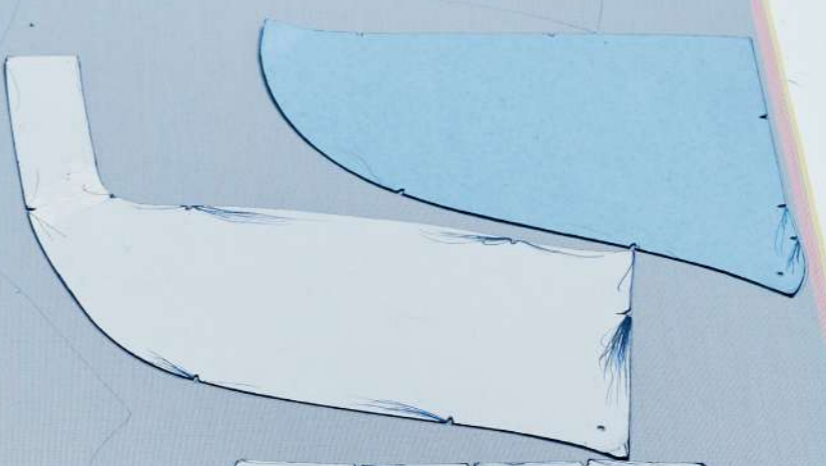
**“REDEVELOPING THE BELT STOOL SHOWS
OUR WILLINGNESS TO LOOK BACK AND MAKE
IMPROVEMENTS TO LEGACY PRODUCTS.”**

Nick Savage, Modus Development Director





MEET THE
MAKERS



Meet three of our **EXCEPTIONAL** makers from Production – **MARGARETA, JAMES, and LIZZIE**. They are a small but significant part of what makes up Modus, and their skills, knowledge and input are the **DRIVING FORCE** behind our brand.



MARGARETA

Sewing and Cutting Supervisor and part time forklift driver, Margaretta came to the UK from Romania where she had gained invaluable sewing and cutting experience. Margaretta took on the role 9 years ago after she learned of the company from a friend and started as a sewer within the upholstery department.

Now a supervisor, Margaretta runs a team of sewers and machine operators, making sure the fabric covers are finished to perfection.

"I love collaborating with our team of people, and the way Modus looks after us. I feel encouraged to learn new skills and to continue developing my career."

A grandmother, Margaretta and her husband live within the local vicinity of the factory, however that does not stop her love of travel, discovering new places and learning about new cultures.

Favourite Product:

"Too hard to choose, as they all look amazing when they are finished!"

Within our South Somerset production facilities, a team of talented and dedicated individuals keep our cogs turning day in and day out. Experts in their craft, unique in their approach to work, our employees are the cornerstone of Modus, and we wholeheartedly celebrate their individuality and creativity.

Made up of upholsterers, engineers, sewers, joiners, developers and many more, our production teams are employed from our local area, ensuring we are investing back into our community for the present and the future.

We put our money where our mouth is, and have been an accredited Living Wage Employer since 2018. We pride ourselves on offering employment that is engaging, purposeful and makes a positive impact.

As employees, they value the progress and creativity we offer them, and how no two days are the same at our production. We want them to think freely, and if they discover opportunities within the business to gain new skills, we actively encourage them to seek these out.



JAMES

Returning to the local area after some time away, James brings accuracy and precision to his role as a CNC Cutting Supervisor. Managing Modus' advanced CNC cutting machine, James is a long-standing employee, achieving 10 years of service in 2024.

Having to juggle between practical application of product development, and his knowledge of computer-based programming and running of the CNC machine, James works within the main production facility in joinery.

A keen cyclist, James commutes into the factory on his two wheels every day, regardless of the weather. His other passion lies with music – citing Bob Dylan as one of his favourite artists who he has seen numerous times, with a highlight being the front row at London's Palladium in 2022.

Favourite Product:

"The complex five axis machine cutting to create the solid oak under structure of the VWork is always satisfying to see come together."



LIZZIE

A university graduate of furniture design, Lizzie discovered Modus in 2010, coming on board as an intern and making her way through marketing and design, and now as our Development Manager. An integral part of the team with deep knowledge of the business, Lizzie has grown within Modus as it has done within the industry.

"Every day is different. Working from concept to completion on the development of products, I am hands on at every stage of the process, ensuring that we produce the highest quality in design and sustainability."

Working in the beautiful Somerset countryside is a bonus, as her love for the outdoors is seen through her success by winning gold at the British Masters Championships in rowing.

Favourite Product:

"Bob thanks to his charming personality."

BEING A B CORP means we are part of a global movement using business as a force for good - **WE ARE PROUD TO BE GOING BEYOND** 'business as usual'.

With a purpose greater than simply making a profit, every B Corporation must align its business activities with positive actions for a better world.

The 'B' in B Corp stands for 'benefit for all'. B Corps, have been verified by the B Lab (an independent, not for profit organisation) to benefit all stakeholders. Every B Corp has made a commitment to prioritise not just its shareholders, but everyone with a stake in its performance. Workers, customers, suppliers, local communities, wider society and the environment are all on an equal footing with profit. This means business decisions need to factor in impacts on People and Planet as well as Profit and always question whether these decisions align with the fourth 'P' - Purpose.

B Corps are driven by the desire to create an inclusive, equitable, and regenerative economy that benefits all.

This purpose informs every aspect of our business, from our daily operations to the highest level of governance.

Like every B Corp journey, our first steps began with the B Impact Assessment, (BIA), an in-depth assessment individually tailored to our sector. The BIA covers five main areas - Governance, Environment, Community, Workers and Customers. We performed well in some areas, and in others, not so well. This is one of the benefits of completing a BIA - it shines a light on any gaps that need to be filled between the way

you do things and best practice, and enables you to create an action plan to bridge these gaps.

There are now over 2,000 B Corps in the UK, in 2023 we became part of this movement. It was a time consuming and, at times, arduous journey that made us take a long, hard look at what we were doing and made us stop and think about how we might improve.

To qualify for B Corp certification, you need a score of 80, the median score for ordinary businesses is 50.9 so we are really proud of our score of 90. This is the benchmark against which we will measure our performance each year, looking for ways to improve. Being a B Corp means we have a responsibility to improve our score at every re-certification.

As social conscience and eco-consciousness become key drivers in consumer decision making, the B Corp logo is a simple stamp of approval that lets customers know that our business plays a positive role in shaping the kind of world we want to live in.

The journey to becoming a B Corp can be a weighty challenge, taking around 18-24 months to complete and creating a considerable workload. It is going to force you to improve in areas you didn't even know you were lacking.

Any business embarking on this journey needs to brace themselves for a bit of a shake-up. Would we recommend it? 100%.



Certified



®

Corporation

THE (UN)DIRTY DOZEN

12 product ranges that each have their individual **SUSTAINABILITY STORY** to tell.

Our collection meets the strict VOC emission limits of Indoor Advantage™ Gold and can be sold with FSC™ certification on request.

Our products can contribute towards satisfying credits in LEED, BREEAM and WELL certified projects.



CLARA
TERRI PECORA

CIRCULAR DESIGN
REMOVABLE COVER AND EASY DISASSEMBLY



EDGE FREE
PEARSON LLOYD

FOAM FREE
ALL NATURAL FILLINGS



BALANCE LOUNGE COLLECTION
JONATHAN PRESTWICH

CIRCULAR DESIGN
REMOVABLE COVER



BALANCE COLLECTION
JONATHAN PRESTWICH

CIRCULAR DESIGN
REMOVABLE COVER



MALUMA
CLAESSON KOIVISTO RUNE

CIRCULAR DESIGN
REMOVABLE COVER AND EASY DISASSEMBLY



QUIET
MICHAEL SODEAU

CIRCULAR DESIGN
REMOVABLE COVER



BOB
MICHAEL SODEAU

RECYCLED MATERIALS
100% RECYCLED CORK



BELT
CLAESSON KOIVISTO RUNE

CIRCULAR DESIGN
REMOVABLE COVER AND EASY DISASSEMBLY

THOUGHTFULLY
made furniture for a
BETTER FUTURE.



PLC COLLECTION
PEARSON LLOYD

LOW CARBON
HIGH RENEWABLE CONTENT



RICHARD
MICHAEL YOUNG

RECYCLED MATERIALS
100% RECYCLED PET



ART, ABE & ARNE
MICHAEL SODEAU

RECYCLED MATERIALS
100% RECYCLED CORK



MICHAEL
RICHARD HUTTEN

RECYCLED MATERIALS
100% RECYCLED CORK



SUSTAINABILITY MILESTONES

Shining a light on some of the highlights along our **SUSTAINABILITY JOURNEY.**

2015

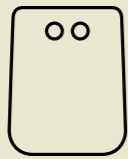


Moved to purpose built premises and planted our wildflower bank



Created our policy on plastics

2016



Launched our first 100% recycled cork product

2017



Joined the Furniture Industry Sustainability Programme

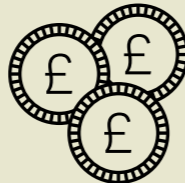


Developed our first chair with replaceable cover

2018

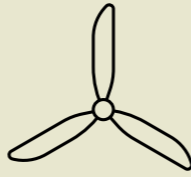


Set up our scrap donation scheme to local schools

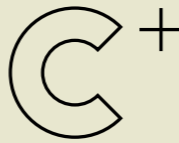


Became an Accredited Living Wage Employer

2019



Transferred to 100% renewable electricity supplier



Became a Carbon Neutral Plus Organisation



Switched to water-based Lacquers



Attained FSC™ Chain of Custody

2020

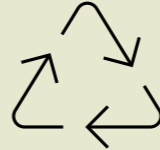


Launched our first chair made from 100 recycled bottles



Created ReWork — our furniture take back scheme

2021

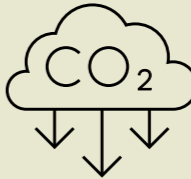


Calculated recycled and recyclable content of our ranges

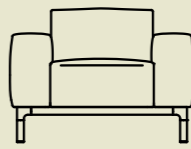


Extended our warranty to 10 years

2022



Started measuring embodied carbon in our collection



Launched Edge Free — our first foam free seating system

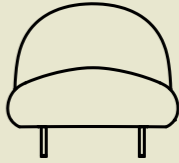
2023



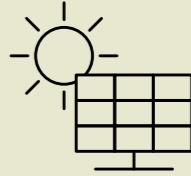
Became a certified B Corporation



Achieved Indoor Advantage™ Gold certification for the entire collection

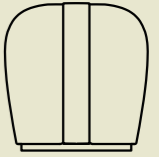


Developed Maluma — our first seating system designed for disassembly



Installed solar panels on our factory roof

2024



Redeveloped our Belt stool to become a circular product

100%

100% of our wood based products are available with FSC™ certification on request



FOR ENQUIRIES

ASIA PACIFIC

enquiry.asia@teknion.com

INDIA

enquiry.india@teknion.com

MIDDLE EAST

enquiry.me@teknion.com

UK & EUROPE

info.eur@teknion.com

Distributed by Teknion

teknion.com

modusfurniture.co.uk

PHOTOGRAPHY

JAKE CURTIS

STYLING

HANNAH BORT

DESPINA CURTIS

LAURA FULMINE

ART DIRECTION & DESIGN

A COMMON PURPOSE

MM015V1



teknion

modus