# MOR

www.egger.com

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**MORE** FROM WOOD.

EGGER

EGGER Group Customer Magazine

14

# The power of **possibility**

When the world changes:

on the art of using a crisis as an opportunity.

**CLEVER CASCADE**

How efficient recycling helps to prevent impending resource scarcity

**NEW TRUST**

Blockchain builds transparent supply chains and revolutionises logistics

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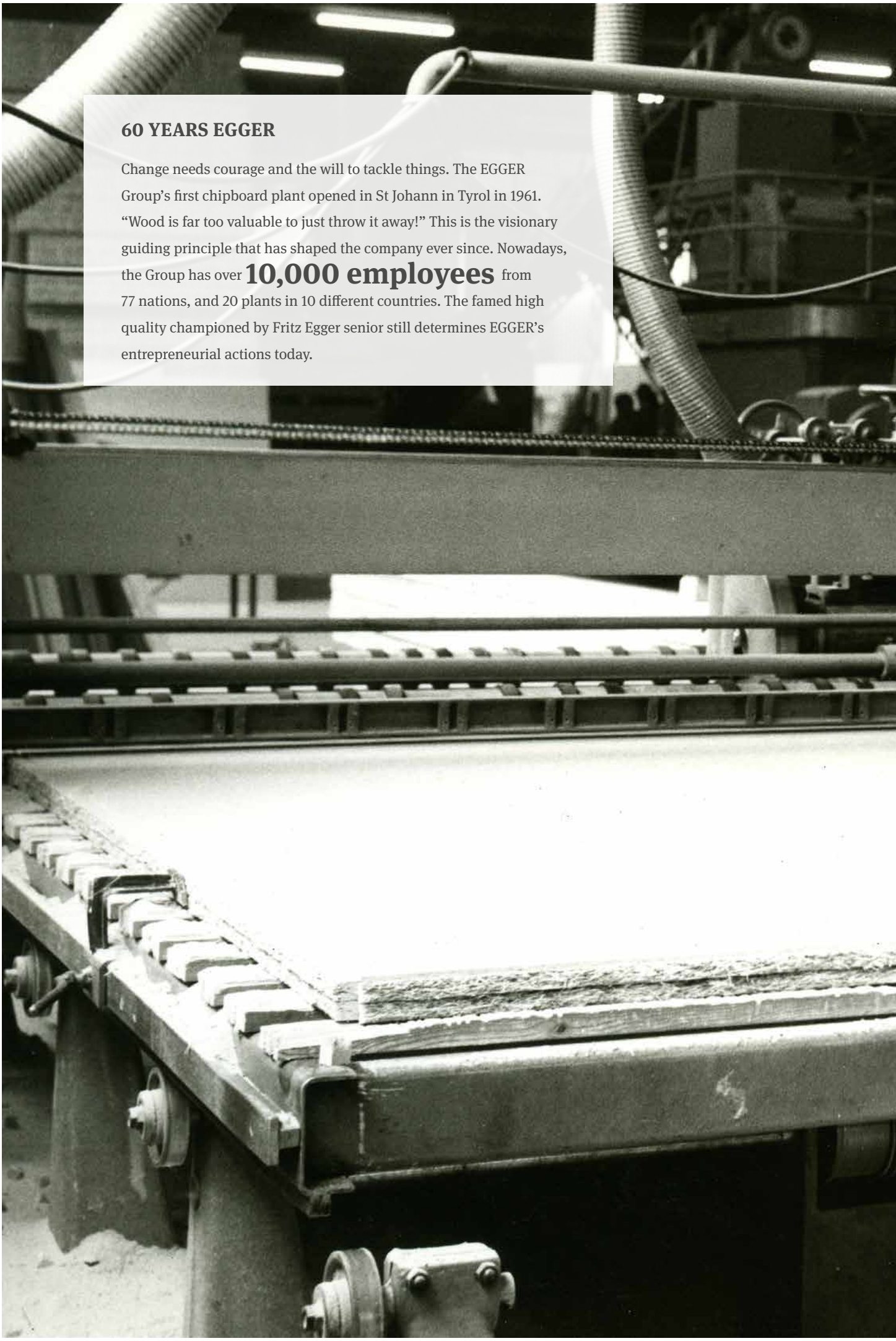


## 60 YEARS EGGER

Change needs courage and the will to tackle things. The EGGER Group's first chipboard plant opened in St Johann in Tyrol in 1961. "Wood is far too valuable to just throw it away!" This is the visionary guiding principle that has shaped the company ever since. Nowadays, the Group has over **10,000 employees** from 77 nations, and 20 plants in 10 different countries. The famed high quality championed by Fritz Egger senior still determines EGGER's entrepreneurial actions today.

# FOLLOWING THE CRISIS, WE NEED TO RECOGNISE NEW **OPPORTUNITIES** FOR THE **FUTURE.**

Even when facing the most severe crisis, there is still the prospect that it will end, and the chance of a better tomorrow. This freedom inspired conversations about crises and what follows. Will normal life return? And what counts as "normal" in future? Does this mean that everything will be the same as before? Hardly. But that's a good thing. After all, the future needs change.

The question is whether the pandemic has brought about changes that prove to be sustainable. As a result of the coronavirus, it's true that new work processes have emerged and new workplaces have become possible thanks to digital technologies. Video conferencing and working from home are taken for granted by many today. While the world held its breath, the planet drew new strength. According to calculations by the Global Carbon Project research network, carbon dioxide emissions due to burning coal, gas and oil fell by seven percent in 2020 compared with the previous year.

Figures fell by **2.4 billion tonnes** to 34 billion tonnes, but that figure is still far too high. But it may turn out that the coronavirus has given people that crucial jolt to finally tackle the climate crisis. After all, the way we live and interact with one another has changed. Solidarity, the value of social relationships and stable partnerships and, last but not least, mindfulness for natural resources are all a positive upshot. This is the best premise to stop global warming, together.

For EGGER, mindfulness and responsibility have always been part of everyday life, whether through recycling waste wood (p. 35) or a comprehensive safety culture (p. 32) that protects the well-being of our employees, after all, we need each other more than ever.

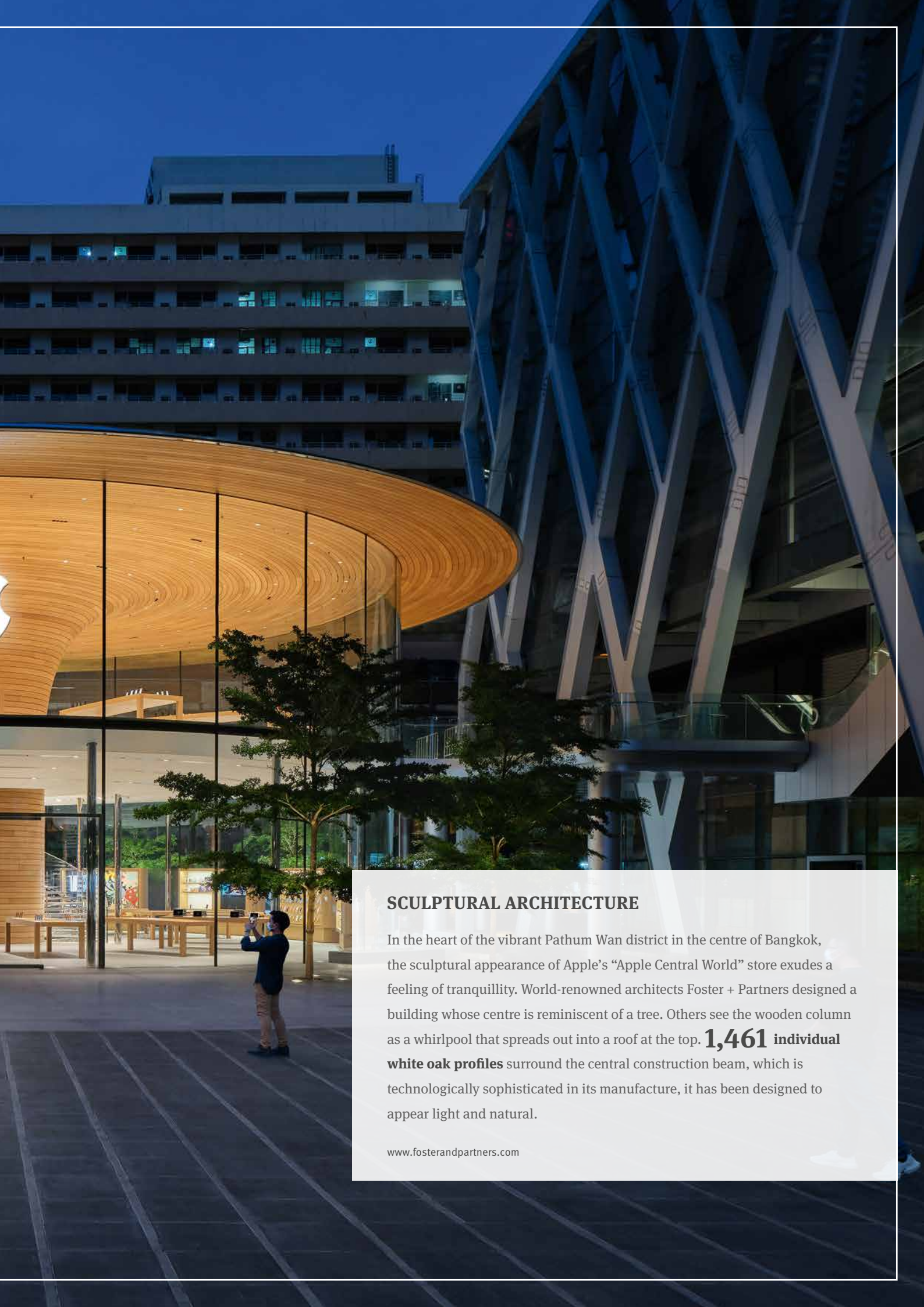
We hope you enjoy reading this edition!

EGGER Group Management

**Walter Schiegl**
(Production / Technology)

**Thomas Leissing**
(Finance / Administration / Logistics)

**Ulrich Bühler**
(Marketing / Sales)

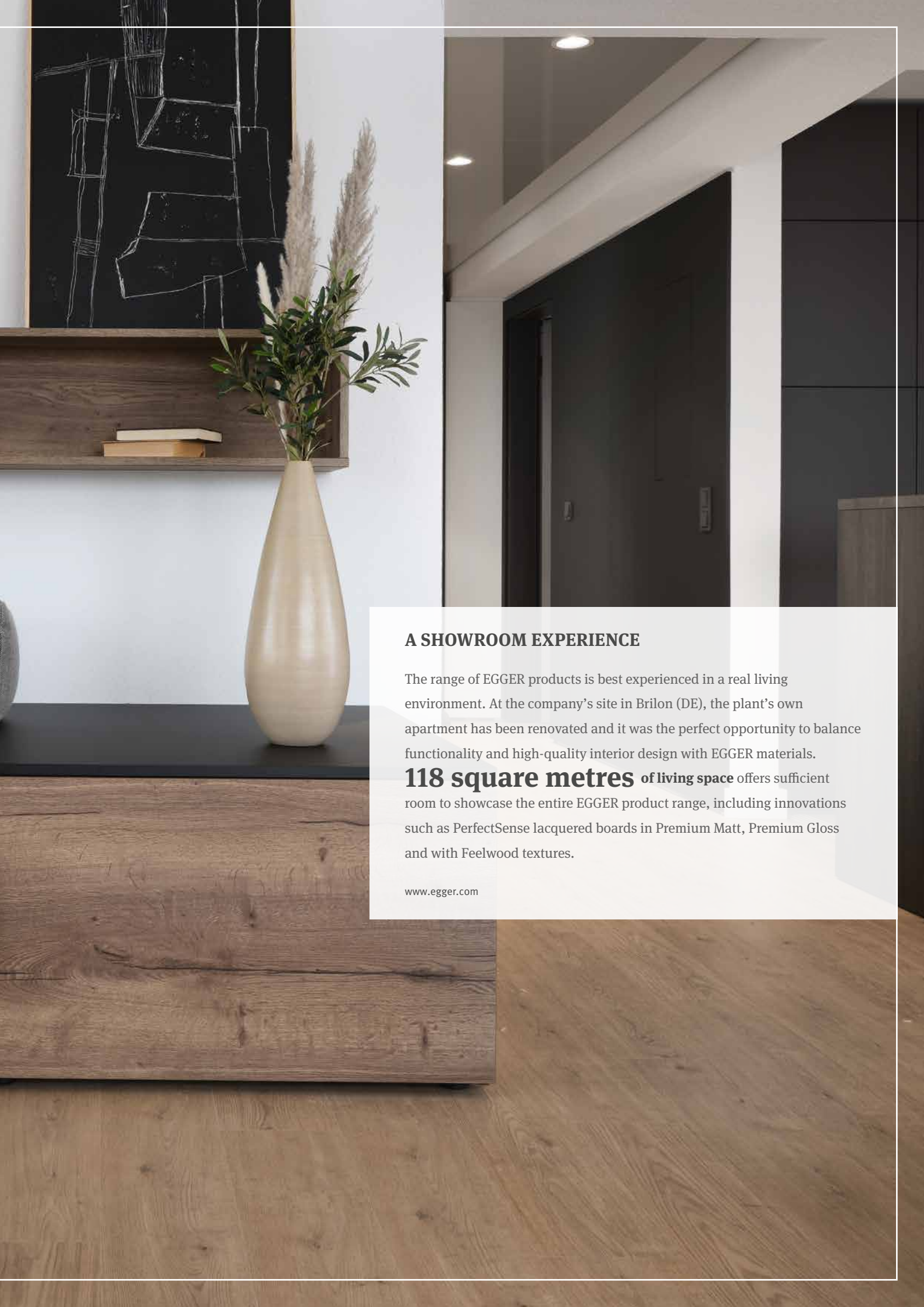


## SCULPTURAL ARCHITECTURE

In the heart of the vibrant Pathum Wan district in the centre of Bangkok, the sculptural appearance of Apple's "Apple Central World" store exudes a feeling of tranquillity. World-renowned architects Foster + Partners designed a building whose centre is reminiscent of a tree. Others see the wooden column as a whirlpool that spreads out into a roof at the top. **1,461 individual white oak profiles** surround the central construction beam, which is technologically sophisticated in its manufacture, it has been designed to appear light and natural.

www.fosterandpartners.com

All our shown and mentioned decors are reproductions.



## A SHOWROOM EXPERIENCE

The range of EGGER products is best experienced in a real living environment. At the company's site in Brilon (DE), the plant's own apartment has been renovated and it was the perfect opportunity to balance functionality and high-quality interior design with EGGER materials.

**118 square metres** **of living space** offers sufficient room to showcase the entire EGGER product range, including innovations such as PerfectSense lacquered boards in Premium Matt, Premium Gloss and with Feelwood textures.

www.egger.com

## CYCLING THROUGH TREETOPS

On the edge of the largest forest area in Belgian Flanders, this double-circular bridge designed by Belgian architects BuroLandschap blends into the surrounding pine forest perfectly. The route is **700 metres** long and leads cyclists up to the top of the trees (9 metres) at a gentle gradient of around four percent. When constructing the bridge, planners used a 37-metre high crane to avoid soil compaction and damage to the existing trees.

www.burolandschap.com/fddb

# E_INSPIRATION

“There are too many companies who talk about sustainability but do far too little. It’s not enough!”

Ingun Grimstad Klepp, consumer researcher at Oslo Metropolitan University

(pages 18 to 21)

# Ideas for tomorrow

## SHARP BEND

www.fourmotors.de

Plant-based plastics that get their strength from natural hemp or flax fabric fibres are being used to manufacture bioconcept cars. The vehicles' suitability for series production was successfully tested in racing with Porsche AG: the first series-produced racing car with components made of biofibre composites was launched on the market in early 2019. The Porsche 718 Cayman GT 4 Clubsport features doors, a rear wing, front lip and diffuser made from a natural fibre mix. As such, Porsche AG would like to contribute to the increased use of bio-body parts in large-scale production of everyday vehicles in future.

## FULLY CHARGED

www.cmblu.com

Saying goodbye to lithium, lead and vanadium in batteries: this is what CMBlu Energy AG and its partners from science and industry have set out to achieve. Lignin is the key to a battery alternative. It is produced on a multi-million tonne scale when pulping wood in paper and pulp mills. For wood-powered batteries, target molecules called quinones are separated from the lignin. Compared to metal ions, quinones are significantly larger and neither flammable nor explosive. CMBlu AG is currently developing large-scale redox flow batteries to supply energy as part of a large-scale stationary storage system.


## FLYING SEED

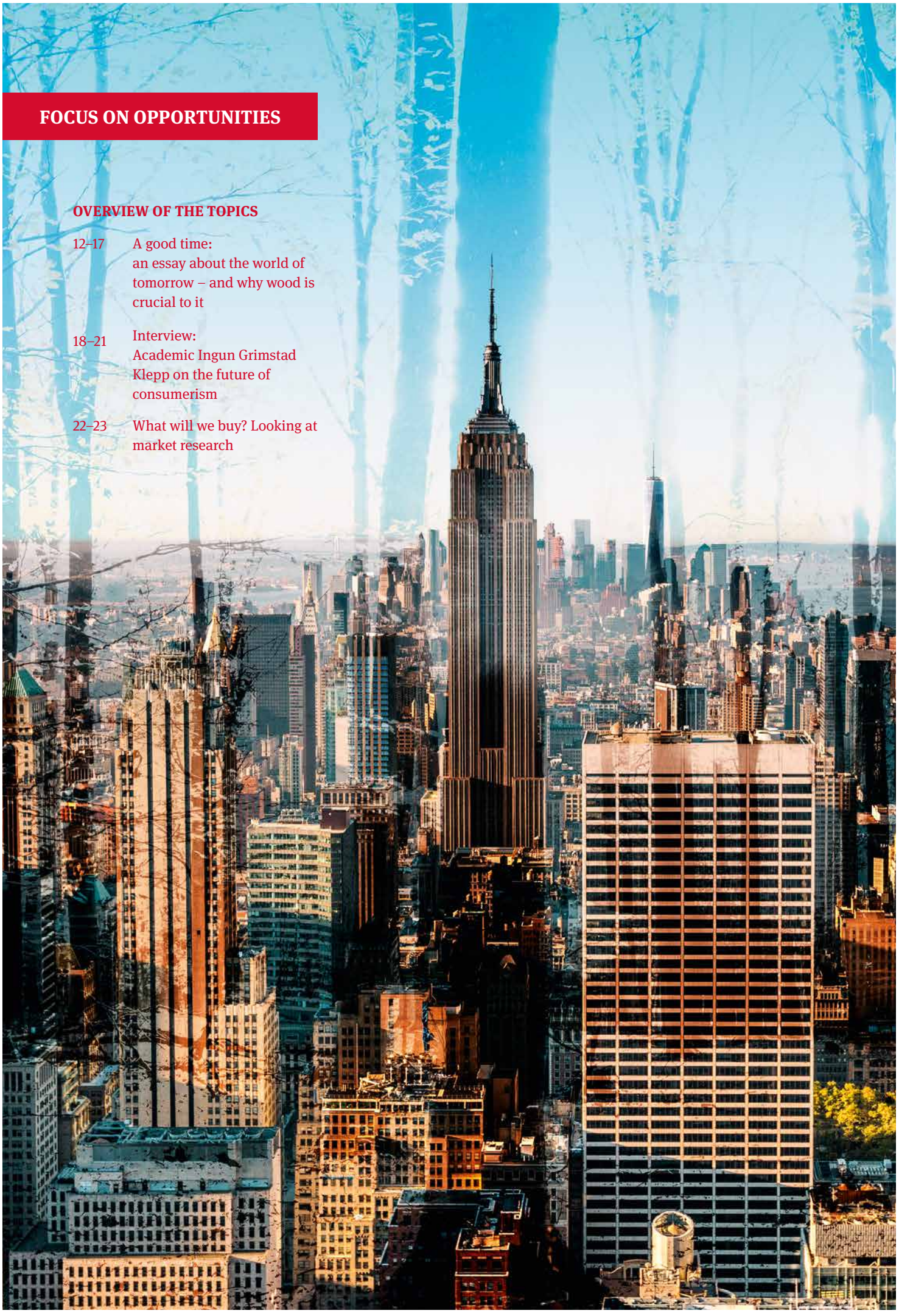
www.flashforest.ca

The Canadian start-up Flash Forest developed UAV technologies that shoot seeds into the ground from the air to reforest and regenerate ecosystems. The drones are planting rapidly: The aim is to plant over a billion trees by 2028. The drones hover over the land mass and plant seed pods for pines and spruces in the soil. Cooperating with representatives from agriculture and politics, the company is funded by Earth Tech, a Canadian initiative launched by the Centre for Innovation and the Future.

# FOCUS ON OPPORTUNITIES

## OVERVIEW OF THE TOPICS





# A good time

The pandemic has shaken our present. Now is the time to seize the opportunities and shape the future – in new places and with wood. After all, the planet is at stake.

**AUTHOR** Nils Bröer

During the pandemic, New York experienced an exodus of residents and workplaces stood empty. It is uncertain whether they will return since more and more people are moving to the suburbs.

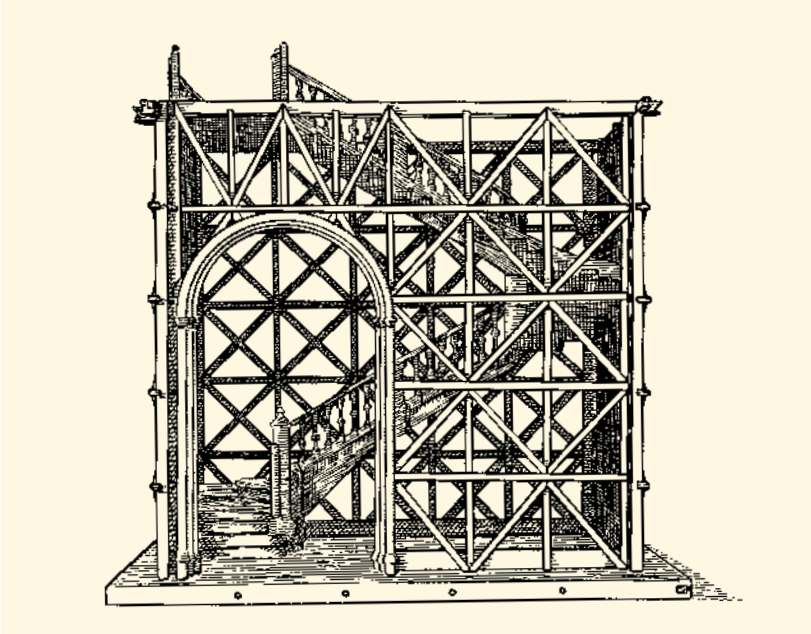
It was a magical evening: in a jazz club in Stockholm in the mid-1960s. The Miles Davis Quintet was playing the classic hit “So What”, the air vibrated, the audience could hardly stay on their seats while the bandleader’s solo raced towards the climax. And then, at the moment when Davis started the last blast of the horn, the pianist Herbie Hancock played a chord that was so wrong that he himself later no longer knew “where it even came from”. What followed has blazed a trail for modern jazz. Miles Davis reinvented it by thinking for a split second and then playing a few notes to try and fix what seemed hopeless.

It is one of those historic moments when the future, to use the words of trend researcher Matthias Horx, changes direction. For Davis had not broken the boundaries of harmony, but expanded its vocabulary and let the future emerge from it. He recognised the possibility of something better while in the midst of a crisis. Such moments are called “opportunities”. Great artists have mastered how to handle crises creatively. That’s what we can learn from them.

## Crises are moments of opportunity

Opportunities do not simply come about. Opportunities point to a future crying out to be shaped, and opportunities are often the result of hard work. The list of historic opportunities born at critical moments is extensive. For example, the Lisbon earthquake of 1755 not only destroyed the Portuguese capital and claimed up to 100,000 lives, but it also shook intellectual and architectural history. The reconstruction of the city not only heralded modern urban planning, but earthquake research, too. The Portuguese Prime Minister and subsequent Marquis of Pombal rejected the old town’s organic structure and planned a symmetrical street network with large squares. At the heart of the new buildings stood the Gaiola Pombalina: a timber-based load-bearing cage structure designed to absorb seismic vibrations. It still works to this day.

Almost 270 years later, humanity is once again confronted with the question of what to do next. The pandemic only pushed the issue of climate change out →



The Pombaline cage was created as a consequence of the Lisbon earthquake. This modular wooden core dissipates seismic vibrations. Some such buildings are still in use today.

→ of consciousness for a brief moment, yet it is now bursting forth again all the more powerfully. But in view of the pandemic, many people are now also asking themselves fundamental questions about quality of life, the value of social relationships and not least the question of how and where we want to live.

After all, the coronavirus has fundamentally changed our lives, both on a personal and economic level. Global trade proved to be crisis-prone because our highly sensitive supply chains were suddenly the weakest links in a worldwide commodity economy trimmed for efficiency and division of labour. And while export bans and lockdowns frustrated global production networks, many people, in the midst of great uncertainty, wondered what would happen next, to them, their families and their friends. Social psychology has proven time and again that, when faced with a crisis, people retreat to their immediate surroundings and the value of strong and stable social relationships takes centre stage. But during the crisis, this proved to be an opportunity: it brought people together, young people went shopping for older neighbours, local consumption and regional products experienced a renaissance, and there was a collective rediscovery of regional holiday destinations since global tourism was no longer an option. In Europe alone, $CO_2$ emissions resulting from aviation fell by 56.9 percent compared to the previous year. We cannot be certain whether these developments will last, but we can say that the crisis has brought about a new awareness of social commitment. Perhaps this is also the reason why the pandemic's negative impacts seem to be anything but a foregone conclusion. In a representative survey conducted by the market research institute Ipsos, 42 percent of respondents said that the pandemic has had a rather positive impact on their lives. Around half of those surveyed found that they could slow down and enjoy the littler things in life as a result; 47 percent cited being able to concentrate on the essentials as a positive consequence. Admittedly, such figures should be treated with caution.

The pandemic has hit many people with such force that it seems cynical to take anything positive from it. It is not that, quite the contrary. Herein lies an opportunity to finally tackle global warming. After all, a different consciousness is emerging that is closely linked to the question of how a good life will be possible in the future, which is not perpetually driven by consumption, but is instead oriented towards people and the environment. So what could be more obvious than to cultivate the practised strategies of our own crisis resistance in post-pandemic life? To act more mindfully, think more holistically and live more sustainably? The time has come and wood will play a central role.

## Climate neutrality can only be achieved with wood

After all, timber construction is the key to ensuring our cities of the future are climate-neutral. As a tool for active climate protection, it is a powerful instrument. Studies have shown that one cubic metre of wood binds just under one tonne of $CO_2$. That is the equivalent of a mid-range petrol engine driving 4,900 km. If wood is used when constructing exterior walls, the $CO_2$ balance even becomes positive: according to calculations by the Austrian Timber Industry Working Group, proHolz Austria, the figure is minus 88 kg per square metre of solid wood, including manufacturing emissions. When concrete is used for construction, the same surface area has a $CO_2$ balance of plus 82 kg.

There is a good chance that our future cities will be made of wood. In Paris, 50 percent of all new public buildings are to be made of wood or alternative

> “The fight against climate change can only succeed through radical digitalisation and inevitably leads us to building with wood on an urban scale.”
>
> Philipp Bouteiller, CEO Tegel Projekt GmbH

renewable materials from 2022. From 2023, new buildings and work on public infrastructure in Amsterdam will have to be considered in a circular way. And in Berlin, the Schumacher Quarter is being built on the site of the disused Berlin-Tegel airport. It will be home to over 5,000 apartments and is therefore the largest timber construction quarter in the world. The project developers anticipate 25,000 m³ of timber will be required every year. This demand grows back within 1.6 days in the forests found in the neighbouring state of Brandenburg. This sounds like the perfect opportunity to create value regionally, but it is not that simple. Unfortunately, the Fraunhofer Institute’s potential analysis has shown what visionary, sustainable future projects fail to achieve time and again: a lack of standardised industrial processes and a lack of networks. The latter are yet to be explored. The paper states that “the timber construction industry is currently characterised by handicraft or production-like manufacture with individual standards and as yet unexploited economic effects.” To keep the “sustainable city made of wood” project on track, planners are relying on dialogue between urban development and forestry, and a networked circular economy. We need partners to shape the future.

The pandemic has also reignited discussions about achievable quality of life in cities. In 2020, French urban researcher Carlos Moreno developed the idea of the 15-minute city as a vision of sustainable cities that can also forge identities following the pandemic. His concept represents a paradigm shift for urban living, where all essential activities should be reached within 15 minutes: work, healthcare, education, housing, culture, shopping, and all →

The world’s largest timber construction neighbourhood is being built on the site of Berlin-Tegel’s former airport. In the left-hand side of the picture: the remains of the original runway.

Mayor of Paris Anne Hidalgo centred her election campaign around the concept of the 15-minute city, and she won.

To reorganise public spaces in Stockholm on a hyperlocal level, Street Moves is running workshops for residents.

→ without a car. At the heart of his plan, there is a desire to move away from a city separated by function and towards many neighbourhoods interwoven like a mosaic.

Together with the Centre for Architecture and Design (ArkDes), the Swedish state innovation agency Vinnova developed this idea further and came up with the "One-Minute City". They suggested city dwellers furnish their streets themselves. The Lundberg Design agency designed a modular system made of wood that can be used to build playgrounds, outdoor gyms, urban gardens, open-air meeting spaces, electric vehicle charging stations and parking spaces for e-scooters in no time at all. The "Street Moves" project is already being implemented in Stockholm.

When designing cities for the future, most suggestions have one thing in common. They replicate something that has long been a reality in the suburbs: short distances, close social relationships, neighbourly engagement. The decades-old border between the city and the countryside is being broken down. The pandemic has accelerated this trend, particularly since working from home has become the norm. This is driving many people to leave large cities and increasing rents, and move to the countryside instead. According to calculations by the Wall Street Journal, New York city saw 187,000 households leave in 2020, more than twice as many as in 2019 (85,000). At the same time, office occupancy rates fell by 84 percent during the pandemic, the metropolis is threatened by enormous losses since it is unclear whether companies and people will return.

**The suburbs are the future**

The trend towards living in the countryside is being driven further than the idyllic fantasy of simply walking in nature during your lunch break. More and more people are willing to take a chance on a new life with new commitments. Moving the centre of your life to the countryside also means putting down roots in another place, and taking on more responsibility to grow into new neighbourhoods on the one hand, and to use the opportunity to shape new places on the other. After all, this is what tackling the climate crisis will entail, or as the world-famous architect Rem Koolhaas writes in his book "Countryside, A Report": "To stay alive, it is essential we rediscover the countryside as a place to settle. Enthusiastic people need to revitalise the region with fresh imagination."

Our planet's future will not simply be decided by the question "City or country?", yet it is worth contemplating what Koolhaas asks: "Is there a link between our fixation on total urbanisation and the fact that vital ecosystems have been irretrievably destroyed since then?" Instead, let us contrast this with the success of regional circular economy and resilience.

The way we respond to the coronavirus gives us an opportunity to preserve the world for future generations. Companies can seize it by setting their sights on regional partners and commitment, and by focusing their innovations on local benefits, for people who think globally but are increasingly determined to act locally.

# Durability is key

Why we need to invest in good products. A conversation with consumer researcher Ingun Grimstad Klepp about the merits and dangers of sustainable consumption.

INTERVIEW Nils Bröer

Norwegian scientist Ingun Grimstad Klepp has been following the debate on sustainable consumption and its impact on society, the environment and democracy for over two decades. She says: “I don’t have time to deal with research that doesn’t bring positive change to people’s lives. We now need to focus on getting a grip on the planet’s big problems.” The 59-year-old knows that consumer research alone won’t be able to stop climate change. Nevertheless, as part of her current research project “LASTING”, she is investigating how high-quality and durable products help to pave the way for true sustainability.

**MORE: In your research, you focus on the longevity of products and ask how product quality can ensure future social prosperity. So what is the secret behind a good product?**
Ingun Grimstad Klepp: A good product is one that the owner likes to have, perhaps even loves. In return, the product must be such that it can also honour the positive emotions that are attributed to it. This means that if we definitely want to keep it and are prepared to invest in its preservation, then the material and product quality must also be worth it.

**Is durability the decisive factor?**
Durability always has both a technical and social dimension. The latter relates to emotions and aesthetic quality. The technical side is linked to the material, but also to the quality of its construction and, very important, its functionality. There is no point in owning a beautiful piece of furniture that doesn’t fit into your home or that we don’t use in everyday life. This is where flexibility comes in. Good products must be designed in such a way that they to adapt to us and our lives. Incidentally, this also applies when a product changes hands. Good products retain their function in new places and in new situations. Our lives are constantly in motion, things change. We need products that support us in this, not the other way around.

**Simply focusing on durability and quality seems almost conservative today. Instead, more and more companies are focusing on the sustainability aspect as a central element when staging their brand …**
The most important thing is to produce good products. This is what companies now have to do. There are too many companies who talk about sustainability →

“The public discourse on consumption needs to become more intense and smarter,” says Ingun Grimstad Klepp.

# IN CONVERSATION WITH INGUN GRIMSTAD KLEPP

ABOUT

Ingun Grimstad Klepp

The ethnologist has been working on the relationship between consumption, society and democracy for 25 years. Based at Oslo Metropolitan University, she works as a research professor at the Norwegian Consumption Research Institute (SIFO) on the interdisciplinary research project “LASTING”, which investigates the positive effects of long-lasting products.

Good products are characterised by functional and timeless design: Natural Soria Oak decor by EGGER.

→ but do far too little. It's not enough. And let's not mention the textile industry, which is continuously manufacturing disposable goods. I appreciate an entrepreneurial attitude of being among the best without making a fuss about it, and instead simply doing a good job.

**What could this look like in the furniture industry?**
The key consideration here is how long can a product be used? This makes a bigger difference than making slight improvements to the production chain. Whether we're making or buying something, we should always ask ourselves if the product is good enough to be passed on to the next generation.

**Can we also use this argument to settle the debate about products made from renewable raw materials that end up being thrown away faster than the material has grown back?**
Absolutely! It is never the material alone that makes a product sustainable, but rather the relationship between material and material benefit. We need to focus on not using products that are cheaply produced and easily broken. This also applies to plastics. If something is produced from plastic that has a purpose and can be used for a long time, that's fine too. For this reason alone, it is wrong to speak of sustainable materials per se.

**When talking about consumption, almost all domains of life are linked to it. How are you approaching your research project "LASTING"?**
We are focussing on production, consumer behaviour and regulation, i.e. the level of political involvement. We're not only interested in what framework conditions are necessary to make products more durable, but we're also asking why such discourses have become increasingly popular recently, examples include the circular economy and recycling. For example, we look at how political parties discuss product sustainability. The aim is to provide recommendations for action to policymakers, companies and consumers alike. As such, the field of political regulation is crucial here.

**Regulation often smacks of prohibition. What impetus could political stakeholders and companies provide instead?**
By extending the obligation to provide information, for example. While this obligation already exists, many sectors do not meet it adequately. What if

> *"It is never the material alone that makes a product sustainable."*
>
> **Ingun Grimstad Klepp,** consumer researcher

companies were encouraged to offer repairs for their products free of charge within the first ten years? I can imagine that this wouldn't be too difficult for manufacturers of high-quality products, at least production processes wouldn't have to be changed completely.
This would result in products being manufactured to be more long-lasting. And there is also the instrument of targeted promotion for local production cycles.

**Many companies offering low-cost products argue that consumption ought to be democratised.**
We need to become aware of the fact that we simply need less. If we spend less money on lower quality, we can in turn invest in higher quality and higher priced products.

**So less is more?**
Absolutely! Longevity is not a value in itself. Just think of the used face masks that have been lying around everywhere since the start of the pandemic. They are made of polyester and are very durable. The same needs to apply to our consumption of durable products. It must result in us actually buying less. It's no use investing in a high-quality sofa only to buy another one ten years later, even though the old one is still intact.

**Is digitalisation through streaming portals, virtual communication, etc., an opportunity for more sustainability?**
Just because things are virtual doesn't mean they don't consume resources (e.g. electricity). At the same time, manual work is experiencing a renaissance: baking bread, sewing, gardening. Both are emerging alongside each other.

**Will our world of things be the same after the pandemic?**
That's the big question. I think the pandemic will present us with great opportunities to change things. But these things won't automatically develop in the right direction, we have to make an effort.

**The question of how it will be possible to live a good life without destroying the planet is key right now. Everyone has an opinion…**
It's true, making small talk has now become a problem for me. (laughs)
The public discourse on consumption develops too slowly and often focuses on the little things, such as whether flea markets are a trend, for example. I'm interested in the possibilities of changing things, otherwise I wouldn't do my job.

Quality and tradition: The Resolute Desk was made from oak salvaged from the British polar research sailing ship HMS Resolute and was gifted to US President Rutherford B. Hayes by Queen Victoria in 1880. Jackie Kennedy discovered the table in the White House basement and had it moved to the Oval Office, where it has been in almost constant use ever since. Only three US presidents preferred a different desk.

# Prospects

The pandemic has changed consumer behaviour, and sustainably so. An overview of studies conducted by market researchers.

## SUSTAINABILITY IS BECOMING MORE AND MORE IMPORTANT

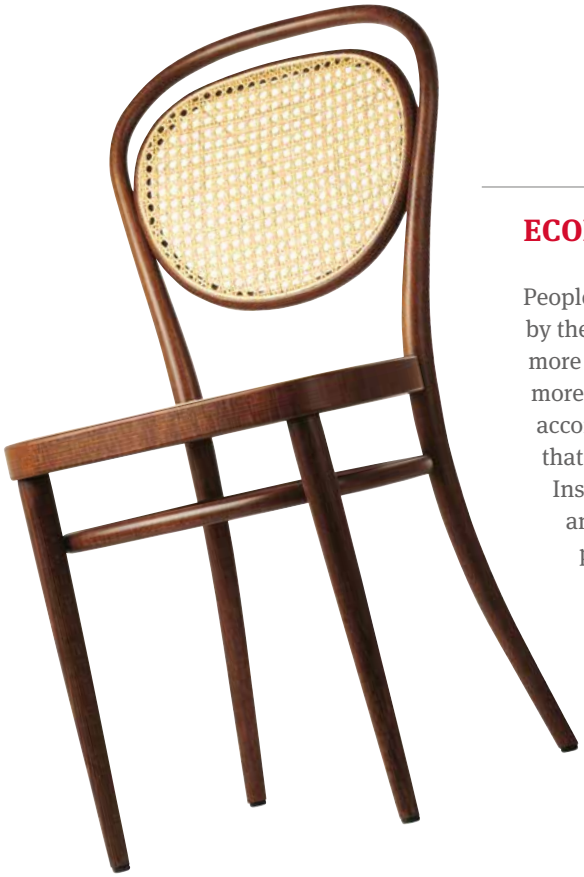
According to the latest furniture industry study carried out by management consultants PwC, more and more consumers are attaching importance to sustainability and fair production conditions when buying furniture. Energy-efficient living concepts and recycled or upcycled furniture are also in vogue, which marketing experts have dubbed “green awareness”. This awareness has increased worldwide as a result of the pandemic, notes the BCG Survey. Around 70 percent of respondents say they are more aware now than before coronavirus that humans negatively impact the environment and our climate. The German furniture industry associations (VDM / VHK) see that wood and other natural materials are gaining ground. This is also reflected in 2021’s colour trends that lean towards natural, “powdery” tones.

## DIGITALISATION IS GAINING MOMENTUM

Digitalisation is the technical basis for future viability. However, the pandemic was almost like stamping on the accelerator. Work processes and business models had to change overnight. Three quarters of German managers had fewer reservations about new technologies as a result of this experience, according to surveys by the digital association Bitcom. The digital report issued by the German Credit Institution (Kreditanstalt für Wiederaufbau, KfW) states that 72 percent of SMEs are investing in new technologies. This drive towards innovation is also visible in the furniture industry: the “Innovation Trends” study concluded by Deloitte mentions omnichannel concepts, 3D printing using natural materials and augmented reality applications for visualising furniture pieces on smartphones and tablets.

## DISSOLVING BOUNDARIES

For many people, working from home offered the greatest protection against coronavirus. This development dissolved boundaries between certain parts of our lives that used to be more clearly separated spatially, our work and private lives. And kitchens truly became the heart of our homes more than ever before. Cooking is now part of a "social self-definition", according to the "Kitchen & Household after coronavirus" trend study conducted by the Zukunftsinstitut Hamburg. This is especially true for urban trendsetters. Every other city dweller now spends more on kitchen equipment. Another new finding is that one in four would like more support from innovative household appliances when cooking.



## ECONOMICAL AND QUALITY-CONSCIOUS

People have become frugal. According to the Consumer Index issued by the consultancy firm EY, almost half of Germans want to save more money than before the pandemic. US Americans also saved more than twice as much money in 2020 than the year before, according to McKinsey consultants. This doesn't necessarily mean that customers are delaying making high-priced purchases. Instead, they have higher and different demands, product quality and design are becoming more important. This forces high-priced suppliers to better emphasise their brand's core values. On the other hand, shoppers believe long lead times are particularly frustrating, explains Capgemini as part of the "Smart Digital Furniture Stores" study.

## REDEFINING SHOPPING

Shopping online was the only option for weeks during the pandemic. The IBM Retail Index says the evolution from bricks-and-mortar shops to online retailing has been accelerated by five years. Online furniture retailing also increased, and experts consider this trend to be sustainable. This creates a target group that is willing to buy furniture that they've only seen on screen. Nevertheless, it should not be overlooked that the overwhelming majority of furniture buyers prefer shopping in person, or a combination of the two: online stores are particularly successful if they offer convenient shopping, according to expertise shared by Enomyc consultants. In the case of larger purchases, this includes inspecting the physical goods before completing a purchase.

# E_SOLUTIONS

“Those who find they can incorporate fresh wood into the production process will look for reclaimed wood sooner or later. Competition will increase.”

Thorsten Herrmann, Head of Recycling Wood Purchasing for the EGGER Group

(pages 35 to 37)

# We Are EGGER

## MARCELO WILLIMAN

Chipboard Production Manager, Concordia, Argentina

Hardly anyone knows the factory in Concordia (AR) as well as Marcelo. After all, he helped build the plant when the site still belonged to the Masisa Group. He began as a sanding machine operator in 1994. Today, after 27 years at the plant, he is responsible for chipboard production. What has changed over time? “It’s the targets! When I started here, the focus was mainly on production and cost control. Since EGGER took over the plant from Masisa in 2017, we have also added specific goals and indicators on safety and protecting the environment.” For the 47-year-old and his team of 48 people, this is a challenge he gladly accepts since the city is also his home. Born in Concordia, he still knows many colleagues from school: “We used to be school friends and now we are work colleagues.”

## OVIDIU PETROSEL

Head of Resin Plant, Rădăuți, Romania

Ovidiu has been working at EGGER Technologia in Rădăuți (RO) for ten years. The graduate mechatronics engineer joined the company in 2011 as a construction planner when the plant was in its final stages of completion, and got stuck in: “For us, it was an opportunity to get to know our future workplace in depth.” Ovidiu has been in charge of glue and resin production since 2013. When there was a shortage of disinfectant at the beginning of the coronavirus pandemic, he researched the recipe on the WHO website so he could supply the site independently. Of the 4,000 litres made for the first batch, about 1,000 litres were given to local schools and establishments. But Ovidiu is modest: “I was just the first person to mention it. It’s only because we rely on long-lasting, robust partnerships at EGGER that were we supplied at all. That’s much more important.”

## SILVIA FIEN

Team Leader Expert SAP CC Supply Chain Management, Brilon, Germany

It was the desire to constantly optimise processes that motivated Silvia to switch to the IT department in 2004 after six years working for EGGER Logistics. “Many processes can be made even more efficient through digitalisation,” she says. In 2006, she introduced RFID technology in paper supply, which became a cross-industry standard in the paper industry. She is currently working on ways to use blockchain technology in the EGGER supply chain. And she is committed to establishing an efficient and constructive work culture, such as by implementing the Idea Lab, a creative space where workshops based on design thinking principles quickly yield productive results.

FOCUS ON LEXINGTON

# Taking responsibility with new partners

The first US-American EGGER plant began operating in Lexington, North Carolina, in September 2020. After a successful construction phase, the current task is to establish the new plant in the USA, and to master new challenges every day.

AUTHOR Moritz Tripp

When the early shift begins at the EGGER plant in Lexington and the first trucks start to roll in, the air is already warm and humid. As is the case here in summer, by lunchtime it is very hot, and still humid. These aren't the ideal weather conditions for working with wood, but ultimately just another challenge to master. When raw materials are delivered, observers are initially presented with an extraordinary vision: trucks loaded with hackchips or sawdust do not have their own tipping


1

2

1 After pressing, the chipboard cools down in the star cooler. Its format is tailored to the local market.

2 Only through utter precision and constant checks can employees guarantee the EGGER quality we expect.

system for unloading or a walking floor, a push floor that empties the load using movable slats. Instead, they drive onto huge ramps, which are then raised together with the whole vehicle and tipped for unloading. This is another indication that the new plant has special features. After only two years of construction, the time finally came in September 2020: production started in the new plant at the site in Lexington, North Carolina (USA). And it represents a double milestone: it is both the 20th EGGER plant worldwide and the first in North America.

## Logistical challenge

By taking a big leap from St. Johann in Tyrol (AT) to the USA, EGGER is setting foot in a new world full of untapped potential. But the well-calculated expansion did not come without obstacles. The logistical effort involved in building the new plant alone was immense: huge machines such as the ContiRoll, two short-cycle presses and two dryers, all of which are now permanently installed on site, had to find their way to North Carolina from eleven different European countries in separate bits. 1,500 containers were needed to transport all the elements. At the site itself, extreme weather conditions, tropical storms and heavy rainfall hampered the construction process. And let's not forget the coronavirus pandemic, which significantly restricted travel between Europe and America.

It's therefore all the more impressive that the work was completed on schedule and on budget, despite all the hurdles. "The construction process ran very smoothly under the given conditions, even during the pandemic," says Bernhard Vorreiter. The →

**WELL PREPARED FOR THE FUTURE**

- EGGER has invested almost 500 million US dollars in the new location.
- The highly modern production lines manufacture 650,000 cubic metres of chipboard per year.
- The roof area measures 100,000 square metres. That is huge, even by American standards.

→ Production / Technical Project Manager in Lexington coordinated the plant set-up. The project demonstrates that teamwork, many years of experience and solid partnerships pay off.

The new location in the middle of the state on the American east coast was chosen carefully. Since the plant is directly located beside the Interstate Highway (the American equivalent of a European motorway) and also has a rail connection, this means customers in a very large catchment area can be reached from here. The latter is already determined by the sheer size of the USA, the state of North Carolina alone is 1.6 times bigger than Austria. A large part of it is covered with forest, another strategic advantage for EGGER: "About 90 percent of our raw materials come from within a radius of just 90 miles," explains Vorreiter.

Thanks to such conditions, it is not surprising that the timber industry is so traditional in North Carolina. In particular, the area around Davidson County, where the Lexington factory is located, was once considered a stronghold of furniture production. However, the market collapsed after the financial market crisis hit in 2008, not least because it was flooded with cheap imports. Many US companies were no longer competitive. Nowadays, the local timber industry is on the rise again thanks to steadily increasing interest in wood as a material, a trend that will undoubtedly be further boosted by EGGER's arrival. Bernhard Vorreiter knows how important it is to present yourself well right from the start: "It's about creating trust in the industry and

***"We want to be a role model here and also promote the idea of a circular economy."***

**Bernhard Vorreiter,** Production / Technical Project Manager, Lexington

Raw materials being delivered in Lexington. The entire truck is tilted on hydraulic ramps when it comes to unloading.

Despite all the hurdles: after just two years of construction, the first chipboard rolled off the production line in September 2020.

among people," he says. "We want to show that EGGER won't just be here for a few years."

**Modern production technology**

The fact that EGGER is here to stay becomes clear when visiting the site at the very latest. The plant, which boasts state-of-the-art technologies, extends over an area of around 80 hectares. What's more, many parts of the production process are fully automated. EGGER has invested almost 500 million US dollars in the construction. What's particularly remarkable is that with a roof area of around 100,000 square metres, the plant is enormous even by American standards.

The ContiRoll which produces chipboard is at the heart of the plant. It is the largest continuous press used in an EGGER plant to date. At 43 metres long, it is capable of producing chipboard up to 10 feet (3,048 mm) wide, perfectly adapted to the format requirements of the American market. After pressing, the rawboards are cooled and sanded. They are then sent to the fully automated crane warehouse, another special feature at the Lexington plant. After all, it is from this point that the boards reach the panel saw, where they are cut into formats that are ready for sale. They are then transported to the dispatch warehouse.

Alternatively, the rawboards are sent to the high-bay racking, where impregnates are also stored alongside the boards. The plant's two short-cycle lines are operated from here. Just like the ContiRoll, they have also been specially designed to suit the formats required in the USA. One of the two presses can also meet the needs of the European standard format at the same time. After melamine-resin coating, the laminated boards are also transported to the dispatch warehouse. By precisely planning the plant and using state-of-the-art technology, EGGER can produce up to 650,000 cubic metres of chipboard every year in Lexington. As part of two planned expansion stages, a recycling plant will later be added in addition to further short-cycle presses. "Our goal is to build a sustainable value chain," explains Vorreiter. "Through our practices, which have been common in Europe for a long time, we want to be a role model here and also promote the idea of a circular economy."

Around 400 people are now employed at the plant. Of these, about 60 are employees from Europe who are here to support production ramping up, primarily in the technical area, but in →


"Made in USA", and for the USA: chipboard is manufactured to meet American format requirements perfectly at the Lexington plant.

→ many other departments, too. They are known as "expats" in the USA. They are tasked with introducing their new American colleagues to the world of EGGER, ensuring that production runs smoothly, building up teams and thus ensuring processes meet Group-wide standards. In addition to their expertise, they are also bringing the family business' spirit to Lexington. After all, America is a true melting pot where not just two cultures come together, but many. This holds great potential, when colleagues with different backgrounds and ways of working learn from each other, new paths of reaching a goal may emerge. Even today, a close bond is already developing between our new colleagues. The fact that our European employees feel comfortable here is not least thanks to EGGER itself. Each employee is personally supported to find accommodation: "no one arrives here with nowhere to live," says Bernhard Vorreiter. "There are both external and internal employees who are tasked with making colleagues' initial time away from home as pleasant as possible." For employees who are only on site for a short time, EGGER houses are also available in Lexington.

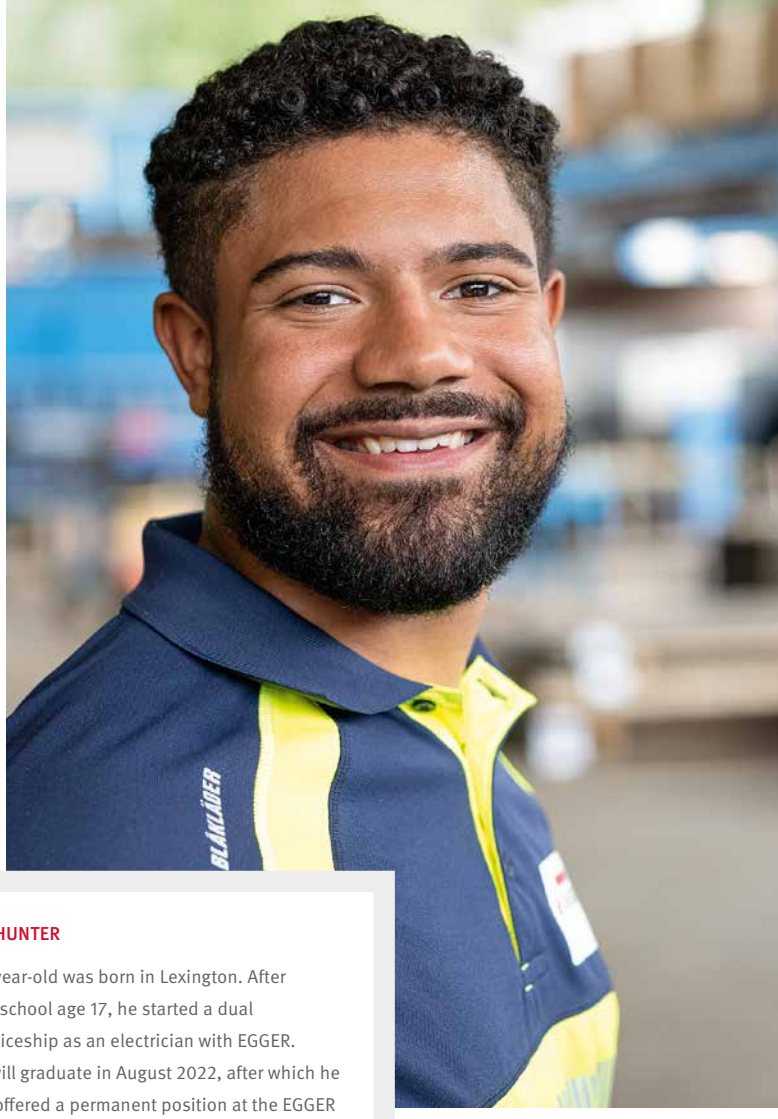
**Dual training programme**

As production at the plant increases and our American colleagues gain more experience, the number of European expats on site also decreases. But new personnel are already in place. In 2018, even before construction of the plant began, EGGER launched a dual training programme for electricians and mechanics in Lexington. In conjunction with the local community college, experts created a customised course programme tailored to EGGER processes at the plant. For this purpose, those responsible visited vocational schools in Austria to get to know the education system there. This resulted in a concept that combines theory and practice: apprentices spend one day a week on campus and the rest of their time at the site to reinforce the theory through practical application. The programme is already bearing fruit since 31 apprentices are currently employed in Lexington, twelve of whom have just been hired. The first cohort will graduate in 2022, after which they are guaranteed a permanent position. For EGGER, the training programme is not only an investment in the plant's future, but is also a clear commitment to taking responsibility and helping to shape the region's future.

# Growing together

EGGER launched a dual training programme in Lexington in 2018. Lance Hunter will be among the first to complete it. We chatted with him about his professional future and the opportunities afforded by his local area, Davidson County.

INTERVIEW Moritz Tripp



ABOUT

**LANCE HUNTER**

The 21-year-old was born in Lexington. After leaving school age 17, he started a dual apprenticeship as an electrician with EGGER. Lance will graduate in August 2022, after which he will be offered a permanent position at the EGGER plant in Lexington.

**MORE: Unlike in Europe, dual apprenticeships are really rather novel in the USA. What made you apply for the programme?**
Lance Hunter: This concept is largely unknown, especially around here. Most start working after school or go to college for four years. But with EGGER, I felt I was getting the best of both worlds instead. And that's exactly how it is, by combining theory and practice, I feel like I'm prepared for my day-to-day working life.

**What do you think of EGGER as a European employer in the USA?**
From the very beginning, I was impressed by how the people at EGGER looked after me, even during the application phase. Personal contact is very important here. As such, I have a very close relationship with my trainers, they are interested in me as a person and work to my strengths and weaknesses. Unfortunately, such cooperation is rather unusual in American companies.

**Your training started in 2018, when the Lexington plant didn't even exist yet. How did you gain practical experience back then?**
Good question! Since we trainees initially lacked a practical environment in the classical sense, we were involved in constructing the plant. I helped install some of the machines and construct buildings in my first year. Looking back, I am very grateful for this experience. As I was involved in establishing the plant from the very beginning, I was able to develop a deeper understanding of on-site work processes right away.

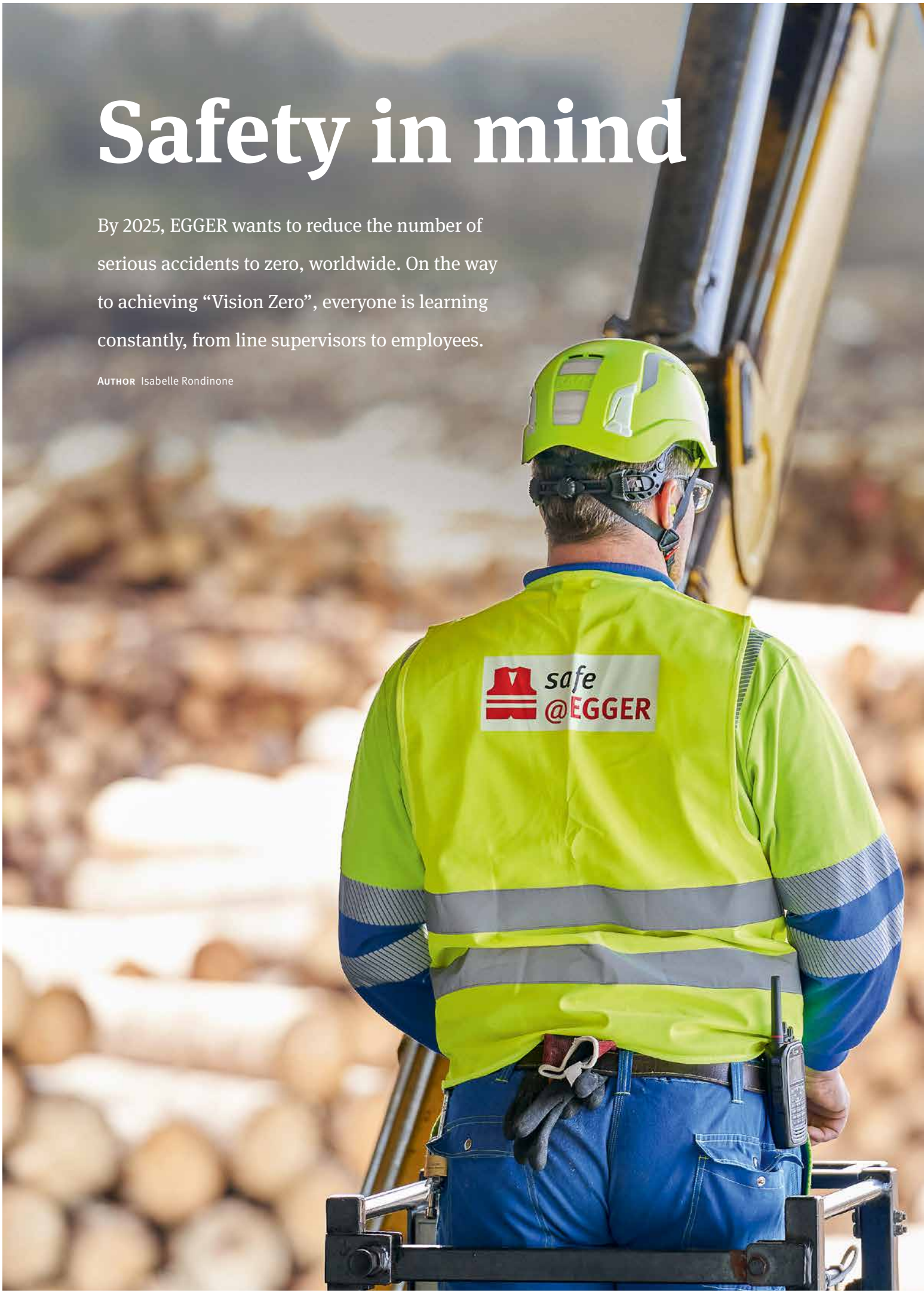
**What do you particularly like about your work as an apprentice electrician?**
I'm a very practical person. I get very excited when we are called because there is some disruption at the plant. For example, if a machine has broken down, we have to find and fix the problem in the shortest possible time. We are prepared for these stressful moments as part of our training. It makes me proud when I can get a machine back up and running again, and then look at my colleagues' relieved faces.

**You're from Lexington yourself. What does a large employer like EGGER mean for your local area?**
Davidson County used to be one of the world's most significant addresses in furniture manufacturing. After the financial crisis in 2008, many companies sought cheaper production locations abroad and migrated. The timber industry slowly but surely went to its knees. Even my mother lost her job at the time. Nowadays, things are finally looking up again. I hope that the location will return to its former glory under the influence of innovative companies such as EGGER.

# Safety in mind

By 2025, EGGER wants to reduce the number of serious accidents to zero, worldwide. On the way to achieving “Vision Zero”, everyone is learning constantly, from line supervisors to employees.

**Author** Isabelle Rondinone



Working with huge machines brings a high accident risk for employees. Those who are aware of the risks work more safely.

At the plant in Poland, an employee stumbles over a cable. A colleague falls from an operating platform at a loading site in Russia. In France, a forklift truck driver hits a post and injures his head. No matter where they happen, Markus Schmitzberger learns about any accidents within the EGGER Group that result in an injury in the space of just one working day.

The Work Safety Manager has been responsible for work safety across the company since 2016 and has worked with colleagues to establish a reliable reporting system in that time. Whether or not someone is injured in an incident is irrelevant. "We also have to report near-accidents," explains the graduate engineer. "After all, it's only when we also take a good look at those 'lucky' moments when no one gets hurt that we turn that luck into the certainty that no one will get hurt in the future."

**At EGGER, work safety is a question of humanity**

As part of an internationally operating group of companies, it's challenging to ensure work safety is guaranteed right down to the tiniest of corners. According to the accident statistics published by the German Social Accident Insurance (DGUV), around 104,000 work accidents occur in the German construction industry alone, and around 126,000 in the wood and metal processing industry. Unfortunately, as many as 30 of these accidents are fatal in the construction industry, while that figure climbs to 100 in wood and metal processing. EGGER is therefore committed to establishing a mandatory safety culture at all sites that protects all employees.

EGGER's corporate philosophy is shaped by a commitment to protecting employees' and partners' health and work safety. On the one hand, humanity is one of the company's core values. On the other hand, it sees itself as a living, international extended family: "A family looks out for each other, that's totally natural. In terms of work safety, this means that we as a company work to ensure that every employee returns home healthy after work," says Schmitzberger. It is therefore only logical that EGGER has been aiming to achieve a further milestone on the road to greater work safety by launching "Vision Zero" last year: by 2025, there should be no more accidents resulting in serious injury. EGGER takes all accidents equally seriously, from significant machine accidents to supposedly minor injuries. Schmitzberger explains: "If I am able to reduce any kind of accident, I can be sure that serious injuries will also be a thing of the past. At EGGER, we are convinced that we can work without accidents. In practice, this means that we are further extending the periods between accidents."

On the way to greater safety, EGGER is supported by an experienced partner: the Institute Bruno Schmaeling Consulting Group (IBS Schmaeling), an agency that has been advising companies on work safety for almost 40 years. Carmen von Hänisch, counsellor at IBS Schmaeling, has been involved ever since the two firms started working together: "As psychological counsellors, →

*"When it comes to implementing a culture of safety, management's attitude makes all the difference."*

**Markus Schmitzberger,** Work Safety Manager at EGGER

→ we primarily work in a behaviour-oriented way. By running leadership programmes and employee workshops, we want to trigger behavioural changes." In doing so, EGGER benefits from an objective perspective from the outside thanks to the agency.

"Work safety starts at management level," says Schmitzberger, adding: "The role model function assumed by managers is often underestimated, yet it is central to a culture of safety. Supervisors need to model safe working practices to employees. If supervisors walk through the plant wearing a helmet and a high-visibility jacket, employees will pay attention and model their behaviour." At EGGER, even top-level management are aware of work safety, Schmitzberger is certain of that. "Last year, the owners and Group management released a shared video on work safety with the message: 'We want you to work safely'. When this attitude is shared by management, it makes all the difference." You also have to include employees at grassroots' level. "Everyone is responsible for work safety and must get involved. We summarise this using our slogan 'Safety starts with me'," explains Schmitzberger.

**Number of accidents already reduced by around 30 percent**

The coronavirus pandemic brought about unexpected challenges for work safety. Even though the situation was new to everyone, EGGER was able to fall back on familiar tools, namely a systematic approach shaped by an open climate of discussion and tried-and-tested crisis management. To protect employees from infection, EGGER rolled out a hygiene concept worldwide and exceeded nationally applicable requirements from the very beginning. "We were more restrictive and opted for free FFP2 masks and rapid testing long before it was mandatory in various countries." Due to the coronavirus pandemic, scheduled work safety training also had to be held online. Advisor von Hänisch takes stock: "many of our training sessions actually take place on site and face to face. Instead, we had to switch to digital workshops but these were highly successful. It is great to see how line supervisors implement what they have learned straight away." The training sessions are about recognising unconscious behavioural mistakes and learning how to make us more conscious of the risk of accidents associated with our day-to-day work so we can better control our own behaviour. Leadership workshops focus on the role model function assumed by line supervisors and what role they play in work safety.

Early statistics show great progress: "our goal was to reduce the number of accidents by 15 percent by 2021. We have far exceeded that," says Schmitzberger. But the work is far from over. "The path to achieving greater work safety has obstacles. We're learning more every day."

GLOBAL CAMPAIGN

**VISION ZERO**

A world without work accidents and work-related illness, this is what the Vision Zero prevention strategy aims to achieve. This belief is based on a conviction that work accidents are by no means unavoidable, but have avoidable causes. Preventing fatal and serious work accidents is the biggest priority. More and more companies around the world are adopting this philosophy. Alongside physical and psychological integrity in the workplace, companies are also able to improve their business success by implementing Vision Zero. Studies by the International Social Security Association (ISSA) have shown that a strong safety culture in companies positively influences product quality and meeting deadlines, among other things.


# Wood remains as wood

Wood is becoming scarcer, yet demand is growing at the same time. EGGER has therefore been relying on wood recycling for years. Other industries are also increasingly recognising that cascade use is the best way to avoid looming resource scarcity.

AUTHOR Jana Illhardt

The word “wood” might make you think of trees, forests and nature. Or you might see it as a way to increase your assets. After all, this renewable raw material is now being listed as a trading opportunity. Some are already suggesting it might be the “new gold”. That’s not completely absurd. Competition for wood is currently fierce, meaning its price is also rising. There are several reasons for this, such as the international increase in demand. China and the USA are particularly fuelling the global timber shortage as a result of their enormous imports. What’s more, the raw material is increasingly serving as a substitute for fossil fuels. However, the climate-induced drought is accelerating this development above all.

To continue operating within this global area of tension, companies like EGGER are increasingly relying on recycled wood. Even 60 years ago, Fritz Egger Sr. already knew that wood is “far too valuable to just throw it away”. →

→ Since 1995, the wood-based material manufacturer has therefore been using waste wood for chipboard production. At that time, this was only common practice at the Brilon (DE) site, but today this has become standard across almost all of the Groups' chipboard plants worldwide. Currently, up to 30 percent of the wood used in EGGER chipboard comes from recycled material.

This closed material cycle is known as cascading use; it also encompasses wood recycling and thus the repeated use of the raw material to manufacture products, before being ultimately used to generate heat. This is as sustainable as it is efficient: "Almost 100 percent of solid wood, pallets, chipboard, old beams or even squared timber can be recycled since highly modern and complex treatment processes produce only a small amount of fine material and dust," explains Thorsten Herrmann, Head of Recycling Wood Purchasing at the EGGER Group. The lower the quality of the waste wood, the more of the raw material is lost in the process.

To tap into the potential afforded by waste wood, the EGGER Group has established its own collection sites in the United Kingdom, France, Germany, Romania and Poland. At these sites, the usable waste wood is collected from various sources, cleaned, screened and processed into hackchips over the course of several steps so that it can be reused in production in the company's own plants. Only waste wood that can no longer be used for material recycling and the resulting dust are incinerated in the company's own biomass power plants. EGGER converts these residues into heat and electricity.

**Creating awareness of the value of wood**

Can the problem of an increasing shortage of fresh wood be solved in this way? Maybe. However, waste wood is also a valuable resource that needs to be painstakingly tapped. "A culture of recycling is far from established everywhere," says Florian Tretzmüller, Wood Purchasing EGGER Decorative Products East. He and his colleagues have undertaken pioneering work for EGGER in Romania to establish an understanding of the value of wood. In the north-east of the country, the company operates the Rădăuți site, where chipboard production started in 2008. A state-of-the-art recycling plant was then opened there in 2014. In Bucharest, some 500 kilometres away, the first waste wood collection point was established. But before that, investments worth millions and years of persuasion were necessary. "In rural areas, it was common to burn wood in private homes for both heating and cooking, rather than recycling it. And in urban areas, it was simply carted out of the city and dumped in wild landfills. We were starting from scratch back then," Tretzmüller explains. Sometimes painstakingly, discussions were sought with official and municipal institutions, retailers, industry and the construction sector, as well as the general public, in order to explain EGGER's philosophy. A lot has happened since then: a second waste wood collection point was opened

Usable waste wood is cleaned, screened and sorted at the company's own collection points.

Using recycling wood in EGGER products binds **2.31** million tonnes of $CO_2$ annually. That corresponds to around **13** billion kilometres of driving, that's the equivalent of driving **342,121** times around the world.

in Bucharest followed by a third, but this time in Cluj. The volumes of waste wood recycled by EGGER in Romania in 2019 alone replace the utilisation potential equivalent to around 65,900 hectares of forest. "We're about halfway there," says Thorsten Herrmann. "I am confident that in three years we will have achieved our goal of being able to produce chipboard from at least 30 percent waste wood in Romania as well." Group-wide, EGGER wants to significantly increase the use of recycled wood in all wood-based material production in the medium term.

**Competition for waste wood will also continue to increase**

We've already made a start, the infrastructure is in place, we've started to rethink. The realisation that recycling will become a necessity in the future to counter the impending resource scarcity is increasingly influencing actions in other sectors as well. At the beginning of the year, the Volkswagen Group commissioned the first pilot plant for recycling spent electric vehicle batteries in Salzgitter. "Our goal is to create our own closed loop by recycling over 90 percent of our batteries," says Thomas Tiedje, Head of Technical Planning for the Volkswagen component. Since making the change in the spring, international cosmetics company cosnova has been the first company in the sector to use post-consumer recycled plastic from used packaging to produce new packaging. The 2020 Circularity Gap Report, published to coincide with the World Economic Forum, suggests how enormous the potentials are. According to the study, global greenhouse gas emissions could be reduced by almost 40 percent and raw material consumption by 28 percent if there were a timely switch from linear raw material use to a circular economy.

Herrmann is certain that competition for waste wood will also intensify; after all, a new trend is establishing itself: wood is increasingly replacing other climate-damaging raw materials. T-shirts made of wood fibres instead of cotton, high-rise buildings made of cross-laminated timber instead of concrete, coffee capsules made of wood shavings instead of aluminium, fuel made of wood instead of diesel are only four of many examples. "Those who find they can incorporate fresh wood into the production process will look for reclaimed wood sooner or later." EGGER can build on over 25 years of experience in this respect. A decision has already been made on the next goals to target, expanding existing collection sites and recycling facilities at the plants and opening up new ones.

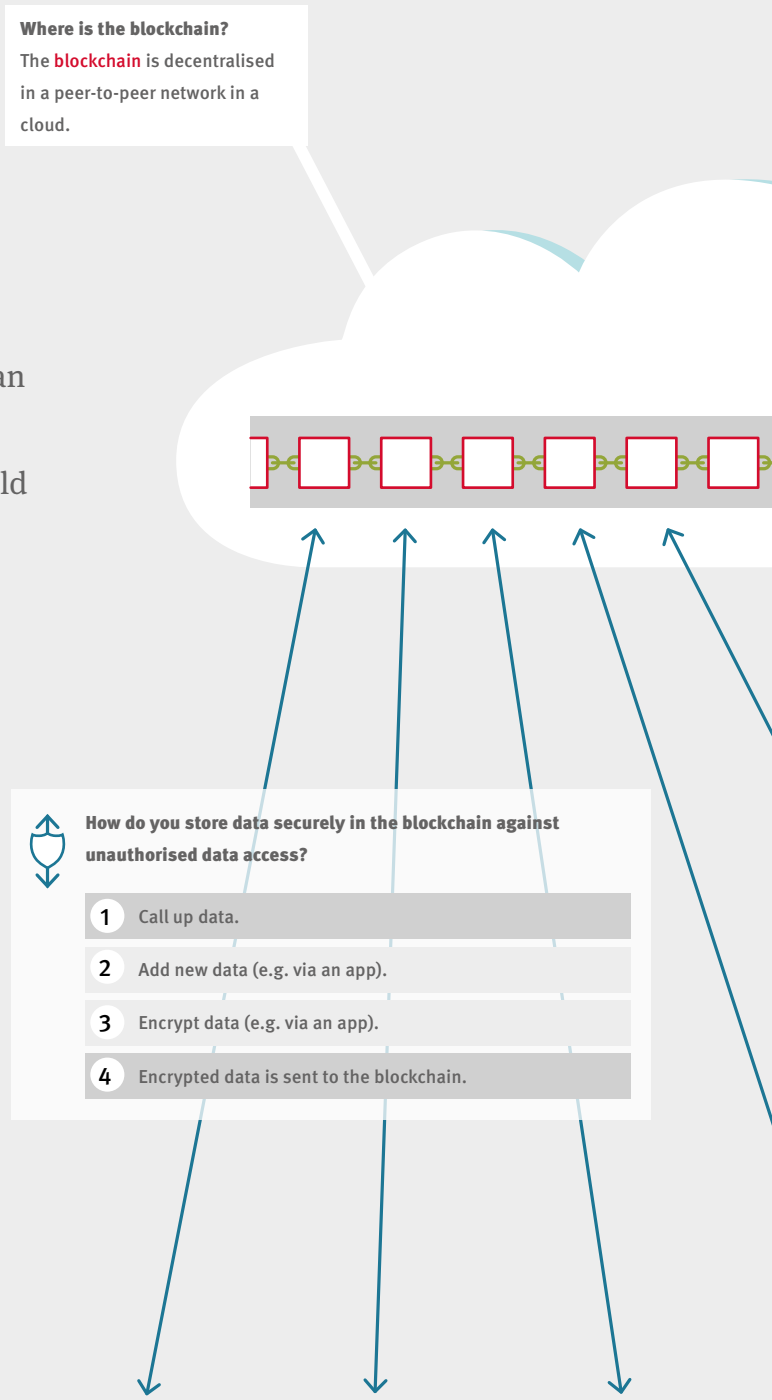
# The new trust

What does blockchain have to do with me? More than you might think. It is time to get to grips with the technology and its benefits. It could change the world for good.

"If you trust a person, there's no need for a contract. If you can't trust them, a contract is useless," oil tycoon Jean Paul Getty once said. Blockchain could solve this dilemma. Has the wood for a kitchen only been sourced legally according to the papers? Or is it truly legal? If the certificate is stored in the blockchain from the original source, all recipients up to the end customer can be sure that it has not been manipulated. This is because data in the blockchain can no longer be changed subsequently. It functions similarly to the shared accounting principles along the supply chain. Computer programmes assume the role of contracts. A breach of trust is technically impossible. At least, that's still the theory in many industries.

The University of Applied Sciences South Westphalia and the EGGER plant in Brilon (DE) are exploring the practice using a typical supply chain. This research project promises valuable insights into the benefits afforded by this technology for the wood-based materials industry in future. Data relating to the wood used is uploaded to the blockchain along the supply chain via simple interfaces. While they are encrypted, a signature makes them clearly identifiable.

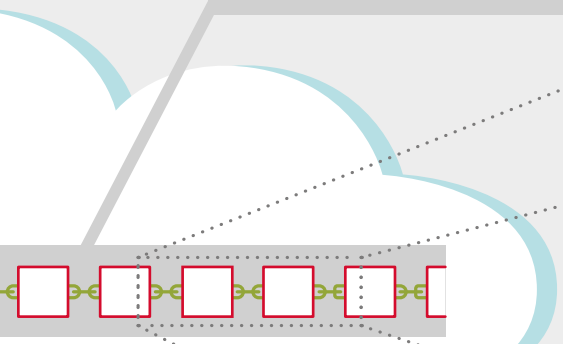
The data blocks are offset against each other using mathematical functions. If one block's data changes, all the others change, too. This change would be registered since every one must be validated by all network computers. This is what makes the blockchain so tamper-proof. It has already been successfully implemented in logistics. For example, almost half of the world's maritime container transports are organised through the blockchain-based platform TradeLens. It minimises the administrative burden, and also promotes trust.




**Stakeholders** in the "Blockchain for the Supply Chain" research project

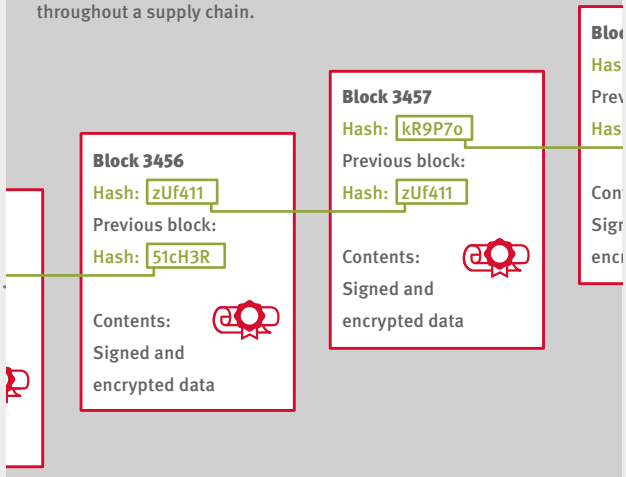

Each stakeholder adds transaction-relevant data to the blockchain. For example, details of the origin, species, quantity, certificates and contractual information about the wood supplied are stored in a forgery-proof manner.

**What does “blockchain” mean?**
Blockchain is the name given to a digital register of transactions, duplicated and distributed across all connected computers in a network. The individual register entries are called blocks.



**How are the blocks linked together (“chained”)?**
The blocks are linked by mathematical functions (“hash functions”) and cryptographically signed.

**What is the benefit of the chain?**
It is impossible to change the blocks subsequently. The blockchain is thus forgery-proof and ensures a high level of transparency throughout a supply chain.




**How do you access the blockchain?**
Various stakeholders access the blockchain via standardised network interfaces using an app. They can **store** data in the blockchain or simply **retrieve** it there.

Haulier

EGGER plant

Furniture industry / distributors

End customer

Customers receive data about the origin of the wood via their smartphone and can be certain that the certificate is forgery-proof thanks to the blockchain.

# E_NATURE

“If we replace reinforced concrete with organic materials such as wood or bamboo, we can avoid significant amounts of climate-damaging emissions.”

Prof. Hans Joachim “John” Schellnhuber, climate researcher

(pages 42 to 45)

# Outlasting tomorrow


## WOODEN SOUND

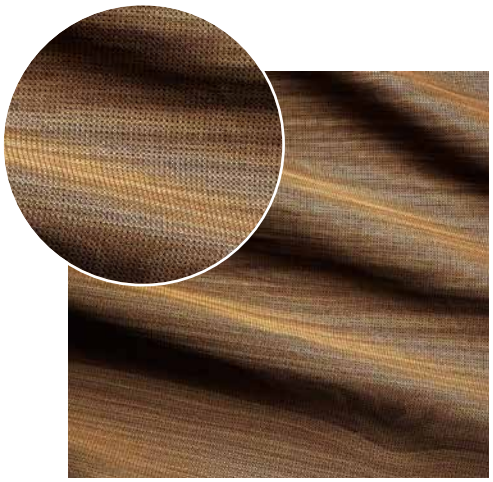
www.gradolabs.com

Sound comes first, this has been the motto shared by the Brooklyn-based Grado family for three generations. The family business produces headphones and record player pick-ups using special woods. The first headphones in the Heritage Series were made from a maple tree felled just a few blocks from the Grado headquarters. For the second edition, the manufacturer turned to Central America. To produce the headphones, the manufacturers used cocobolo wood from the region; it makes a particularly special sound thanks to its density.

## ALPINE SCENT

www.zirb.at

Swiss stone pine is considered the finest wood in the Alps. It only grows at altitudes exceeding 1,600 metres, lives up to 800 years and is very robust. This is helped by oils in their wood, whose scents are considered both pleasant and calming. Swiss stone pine has therefore long been popular in alpine furniture construction and can now act as an air freshener in your home: the Austrian start-up zirb produces it using regional wood. It is designed to filter dust particles and dirt from the air and “neutralise unpleasant odours”. According to the manufacturer, the “Luft” model also acts as an air humidifier to improve the indoor climate.

## SOFT MATTER

www.nuo-design.com

Wood that simply melts in your hands, NUO is supposed to feel as supple as fabric yet as soft as leather. To use this new wood material for manufacturing purposes, logs are processed into thin veneer sheets with a thickness of 0.5 mm. A textile fabric is then glued to the back of the veneer sheets and lasered onto the wood surface. This technique allows the flexible material to be engraved. NUO can be used as an alternative to leather in the fashion industry and is already being used in the furniture and furnishing world.

# “A powerful weapon against global warming”

The pandemic is testing humanity’s resistance to global crises, says climate researcher Hans Joachim Schellnhuber. A conversation.

**INTERVIEW** Nils Bröer

ABOUT

**HANS JOACHIM SCHELLNHUBER**

is one of the world's most famous climate experts. His main areas of expertise include climate impact research and earth system analysis. For many years he headed the prestigious Potsdam Institute for Climate Impact Research (PIK), which he also founded. As a long-standing member of the Intergovernmental Panel on Climate Change, he is shaping international discussions on measures to combat climate change.

**MORE: The pandemic has caused many to think about the future of the world. You reference a civilisational masterpiece that lies ahead of us. What has to be done?**
Hans Joachim Schellnhuber: The coronavirus crisis actually marks the beginning of a new era. We are witnessing a particularly special initial attempt on humanity, by humanity. It is an attempt to shape a pandemic. The time factor is playing a central role here. The essential characteristics of the coronavirus crisis can be transferred to the global climate crisis, such as the unrelenting validity of the laws of nature, the critical importance of acting in a timely manner and a willingness to put life ahead of money. To avoid climate collapse, we now need to put our fundamental trust in science, imagine beyond direct experience, stand in solidarity with future generations, and persevere. So we don't exceed the 2-degree limit agreed in Paris, we basically need to transform all areas of life, we need to feed ourselves differently, travel differently, manage our economies differently and build differently.

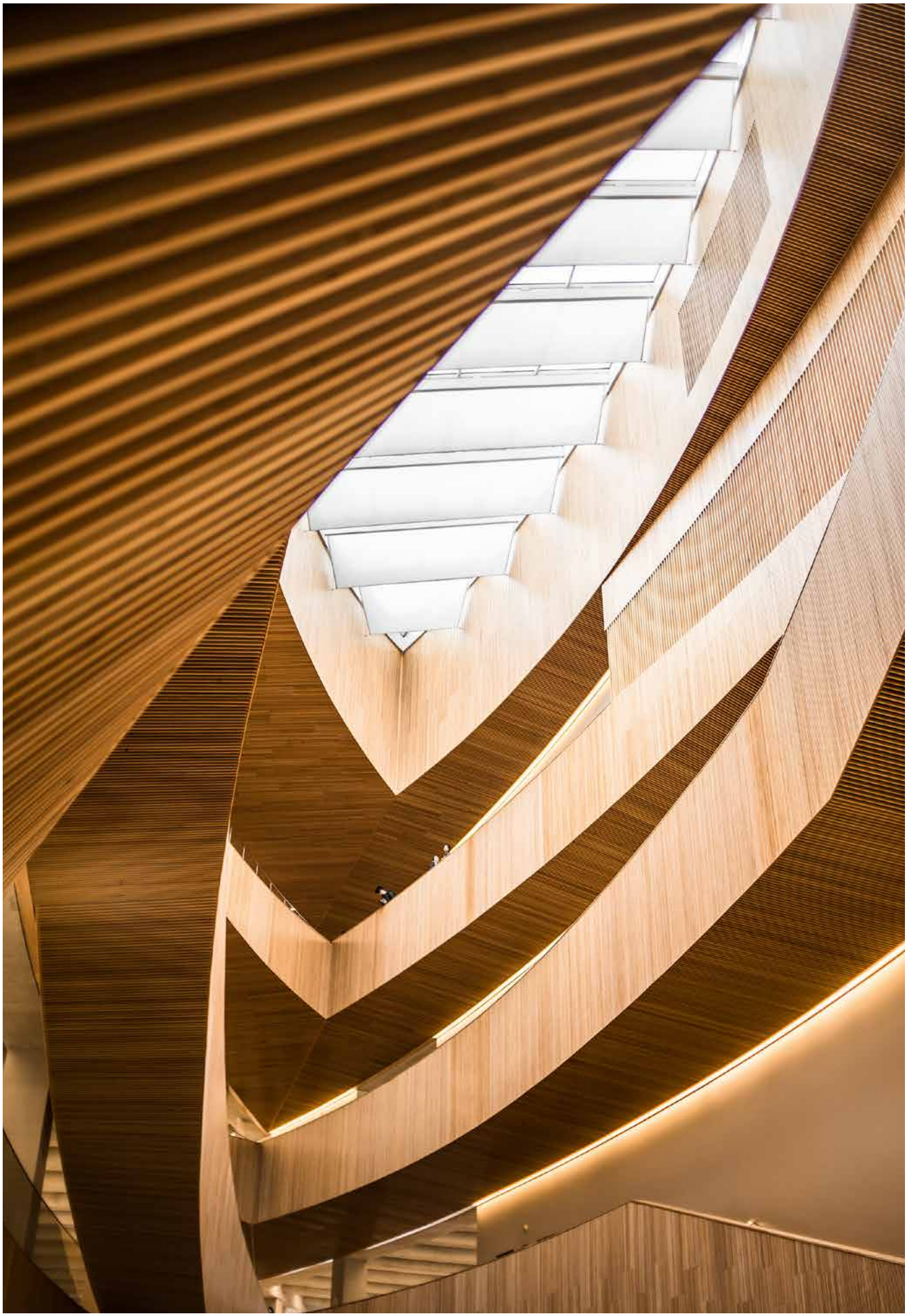
**You are calling for a radical turnaround in construction and advocate organic building materials. As such, you coined the phrase the "elephant in the climate room". What do you mean by this?**
I am referring to the fact that the construction sector is responsible for around 40 percent of global greenhouse gas emissions as a result of the construction, use, deconstruction and demolition of buildings and infrastructure. About 11 percent are directly attributable to concrete production. This is equivalent to just under five times the impact caused by the aviation industry. With reference to the famous metaphor of the "elephant in the room", I am therefore highlighting an issue that obviously exists but is hardly ever addressed. Even after 30 years of climate research, I still find myself asking today: How could I have been so blind? How could we as experts have so stubbornly overlooked this giant elephant in the climate room? If we want to prevent a hot age, we need to adequately consider the built environment as a factor in the climate equation.

**So can we build our way out of the climate crisis?**
Yes, at least to some extent. If we replace reinforced concrete with organic materials such as wood or bamboo, we can avoid significant amounts of climate-damaging emissions. Moreover, we would create a significant $CO_2$ sink that could even make up for some of the historical emissions. Just one single family home made of solid wood offsets the $CO_2$ emissions of almost 100 return flights between Berlin and New York. So we can score a double climate win thanks to regenerative architecture: positive $CO_2$ emissions are avoided and negative $CO_2$ emissions are generated (by replanting trees and climate-friendly forestry). The key is photosynthesis, which naturally binds $CO_2$. Even in more deliberate transformation scenarios for the built environment, the two effects combine to form a powerful weapon against global warming.

**This could revolutionise urban planning, and change the way we live forever …**
That's right. When establishing any building culture, the aim should be for people to enjoy a good life in harmony with nature. While "modern" architecture after the Second World War was increasingly oriented towards the mechanical, the future built environment has to be oriented more towards an organic model. After all, it took evolution around 500 million years to invent and optimise the tree. Its "flesh" (the wood) therefore offers phenomenal material properties, while its "skeleton" (root system, trunk and crown) benefits from unique system properties. The properties afforded by living entities must be discovered for the building industry and used sustainably.

**You champion the European idea of the "New European Bauhaus" and founded Bauhaus der Erde gGmbH. As such, you are building on ideas developed at Bauhaus, the art school founded in 1919 by Walter Gropius, an institution of avant-garde and classical modernism. Why are you fascinated by this reference?**
Thanks to its holistic approach bringing together all trades from carpenters to

→



1

1 The “Bauhaus of the Earth” initiative advocates for more wooden buildings like the Calgary Central Library (CA).

2 Prof. Hans Joachim Schellnhuber sees construction as the “elephant in the climate room”.

2

> ***“As a climate researcher, I can see us hurtling towards a wall. We must now hit the brake as quickly as possible.”***
>
> **Hans Joachim “John” Schellnhuber,** climate researcher

painters, Bauhaus was absolutely of its time. It investigated the possibilities of its technical epoch, used them enthusiastically and, in doing so, saw itself as a social progress project that finally wanted to create decent housing for the masses “underneath” the elite. This desire to strive for a holistic building culture while being conscious of social responsibility fascinates me. If Gropius and his comrades-in-arms suddenly found themselves in today’s world, they would definitely be focusing their work on tackling our planet’s ecological crisis.

**You have been shaping the international climate discussion for several decades and have also directly addressed many important decision-makers. Does science need to get more involved?**

We can now say with extreme accuracy what the world would look like if climate change were no longer under control. As a climate researcher, I can see us hurtling towards a wall, and the wall is now very close, as demonstrated by the terrible flooding in Germany and Belgium recently. We must now hit the brake as quickly as possible. But we can only do this based on the best scientific evidence. The probability that we will not exceed the 2-degree limit set in Paris is perhaps 20 to 25 percent. While that figure isn’t great, it still represents a damn good opportunity to prevent conditions on our planet that we can no longer control.

**If humanity misses this opportunity, the consequences will hit different parts of the world differently. Do we need a new narrative to reach all people?**

Yes, we do. Of course, there are now many important approaches and innovative solutions geared towards sustainable building. From the point of view of the new Bauhaus movement, apart from a collaborative and comprehensive strategy, we are still lacking an integral and convincing narrative. In other words, a sympathetic narrative that inspires politicians, entrepreneurs, architects, designers, artists and citizens alike to take action. In this regard, the “Bauhaus of the Earth” aims to initiate a social discourse that considers the built environment as a “total work of art” under 21st century conditions, taking into account demographic developments, environmental changes, social upheavals, cultural dynamics, as well as digital and other disruptive innovations. I’d say it’s going to be a pretty good one.

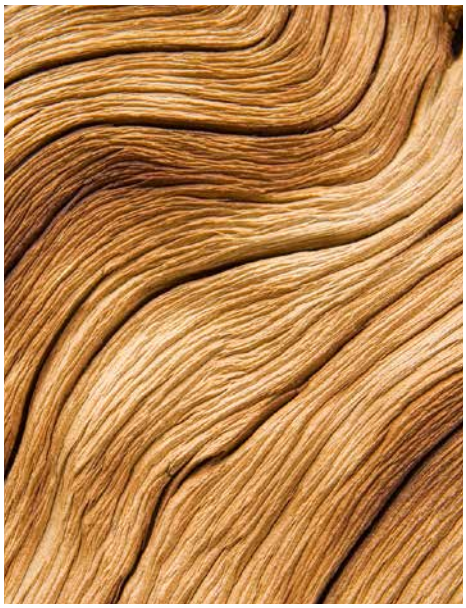
5 THINGS ABOUT

# Climate and wood

Wood will be a key material in the future, whether in urban development, as a $CO_2$ reservoir or as a way out of the building materials crisis. Five facts about why we cannot forego wood as a material if we want to shape the future of the planet.

## 1 REGENERATION

Wood as a construction material grows back, if you let it grow. But how much land is available for reforestation worldwide? Researchers at the Swiss Federal Institute of Technology in Zurich have determined there's 0.9 billion hectares available. 151 million hectares are located in Russia alone. The most extensive reforestation project is currently being implemented in the Amazon rainforest: by 2024, Conservation International wants to reforest 300 square kilometres there, which corresponds to the size of 42,000 football fields.



## 2 CONSTRUCTION SPEED

Prefabricating entire wall, ceiling and floor elements significantly reduces the construction time required for timber buildings. The first floor can be erected in just one week. When using a reinforced concrete construction method, it can take over a year to erect a shell, a timber building of the same size would be ready for occupation in the same period of time. The world's largest wooden skyscraper is currently being built in Tokyo: the "Plyscraper W350" will stretch 350 metres into the sky, and is made of 90 percent wood and 10 percent steel.

## 3 GREEN RESERVOIRS

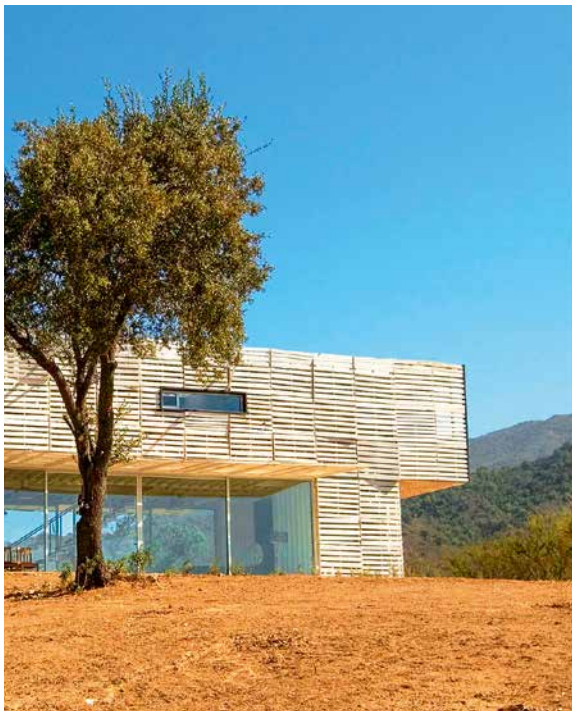
Forests serve as reservoirs for carbon dioxide, it is estimated that 250 billion tonnes of carbon are stored worldwide in tropical rainforest trees. A tree alone consists of 47 percent carbon, whereby the amount of $CO_2$ stored depends on diameter, height and wood density. The University of Zurich has drawn up a ranking of $CO_2$ storage capacity, in which beech, cherry, lime and chestnut come out on top. Conifers such as pines, spruces, firs and stone pines are in last place. Consequently, converting conifer-dominated forests to mixed forests increases the $CO_2$ storage capacity and biodiversity of forests.

## 4 WELL-BEING

Conifers are not only known for their durability and resin-like scent, but they are also believed to have a positive effect on well-being. As a result, timber from Finnish polar spruce and Canadian hemlock is preferred when building sauna huts such as Russian banya. The interior of the banya, including the benches, is made of fast-growing abachi wood, which hardly stores any heat at high temperatures. Finally, birch is used as part of a traditional “questen” treatment: a bundle of soaked birch twigs is used to vigorously hit the whole body, supposedly to stimulate circulation and relieve tension.

## 5 THE WAY OUT OF THE BUILDING MATERIALS CRISIS

A single-family home made of wood saves up to 56 percent more greenhouse gases than a concrete building. The issue of building materials also plays a role when seeking a way out of the raw materials crisis. Sand and gravel, both of which are needed for concrete, are in short supply. Fine desert sand, which seems to be inexhaustible as a raw material, is not suitable for concrete production due to round sand grains. To counteract impending bottlenecks, wood as a renewable raw material is therefore being used in house construction. In Chile, architects Jaime Gaztelu and Mauricio Galeano used regional recycled pinewood and wooden pallets to build the “Manifest House”. It is built from shipping containers clad with a double-skin wooden façade. One layer consists of horizontally fixed boards, while the other made of wooden pallets is used as an adjustable air chamber.

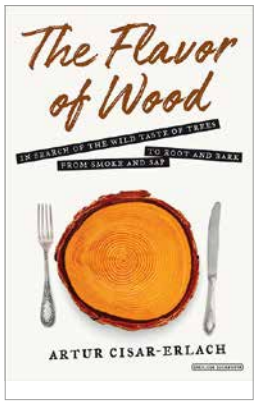


# A taste of the forest

Wood can taste sweet or bitter, of raspberry, marshmallows or vanilla, Artur Cisar-Erlach explains the wild aroma of trees.

Author Kirsten Niemann

Tree picnic: pine wood tea, pasta with larch needle pesto and chocolate pudding smoked in larch wood.




Artur Cisar-Erlach: "The flavor of wood. In search of the wild taste of trees."

Where are we meant to put our organic fir tree once Christmas is over? Most people just throw it away. But not Artur Cisar-Erlach. He eats it instead. First, he plucks a bunch of needles from the branch and brews a cup of aromatic tea. But they can also be blended into a delicate pesto with walnuts, Parmesan, olive oil, salt and water. The bark falls off the trunk almost by itself. After drying it in the oven, it is ground into flour, which Cisar-Erlach uses to bake biscuits. "They taste as good as gingerbread," says the wood lover. He uses a knife to peel the soft cambium from the trunk. When chewed raw, the layer between the bark and the trunk is almost like chewing gum. It becomes a true culinary sensation if you deep-fry the chips in oil. "Delicious," he says, "even better than crisps."

As a forest ecologist, expert in food communication and trained carpenter, Artur Cisar-Erlach knows a lot about wood. Growing up between the forests of Austria and Canada, he always had a soft spot for trees. So it'll come as no surprise that he researched how wood influences food while studying food communication.

## A culinary voyage of discovery around the world

While on his journey, he learned what wood does to wine and whiskey while it matures in oak barrels. He also discovered what makes a bratwurst roasted on a charcoal grill so special. And what beer tastes like when flavoured with unusual ingredients such as spruce needles. We all know that wood changes how our food tastes. However, the Austrian wants to understand these changes exactly and travels around the world to explore the aroma of trees, roots, leaves, sap and bark.

He tells of a trip to Darjeeling, where he was confronted with different tea flavours for the first time since it is made directly from tree leaves. When searching for the famous Alba truffle, he is told that this mushroom becomes lighter and more delicate when it grows on the roots of poplars, lime trees and

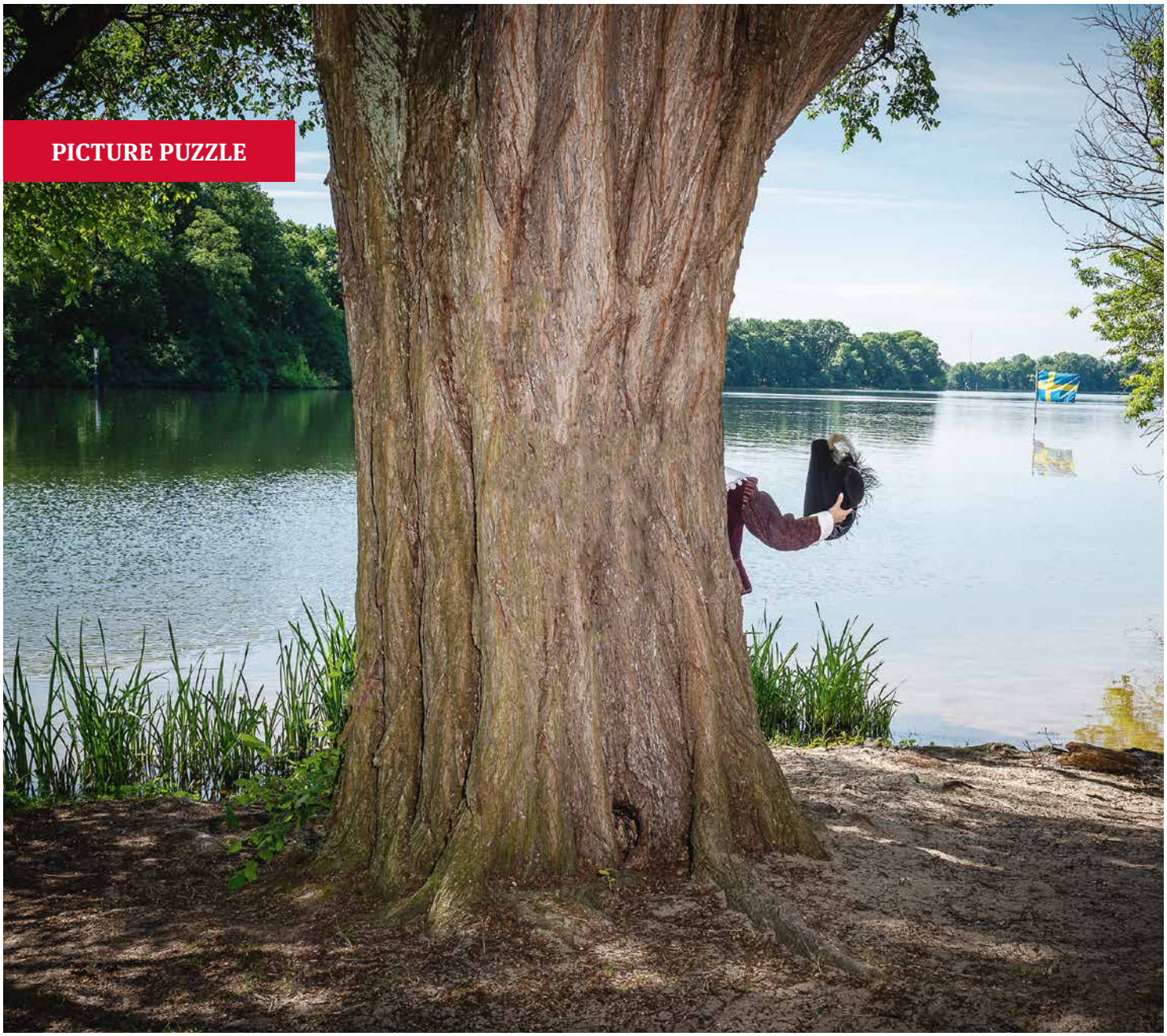
Artur Cisar-Erlach, born in Vienna in 1988, is a food communication expert and forest ecologist. The trained carpenter and author splits his time between Vienna and Nova Scotia, Canada.

willows. In Naples, the home of pizza, we hear from the world's best pizza makers that they only heat their wood-burning stoves with beech wood. In the Swiss canton of St. Gallen, the forest ecologist meets a cheese producer who wraps his red mould cheese in a belt made of spruce cambium to lend it a special flavour.

> ***"There isn't a single wood taste. Every tree, every wood, and often even every layer tastes different."***
>
> **Artur Cisar-Erlach,** forest ecologist

**How good does wood taste? That's a question for the beavers**

But how did Cisar-Erlach come across the idea of eating wood? From a single observation: "beavers love to chew on trees all day long," he thought, and flew to his second home, Canada, to study the eating habits of these construction-loving rodents. They are particularly fond of maples, poplars, willows and birches, especially the cambium. Cisar-Erlach followed their example and was surprised how different the trees taste: while poplar bark tastes like rhubarb, birch reminds him more of lettuce. "There isn't a single wood taste. Instead, every tree, every wood, and often even every layer tastes different. Wood is interesting as a flavour carrier, it's almost like a spice." The forest lover has tasted bark, leaves, needles, cambium and extracts from a variety of trees. But the actual wood is inedible. Or is it? While conducting his research, Cisar-Erlach came across "hunger bread", which was baked from sawdust and bark. Sawdust not only refines the taste of bread, but it also keeps it moist for longer. Isn't the forest already threatened enough? Should we really be eating trees? "But of course!" says the forest gourmet. You are particularly appreciative of the things you want to eat.



PICTURE PUZZLE

# Tree huggers wanted

We all know that quarrels occur, even in the best of families. Nevertheless, it seems somewhat excessive that our Tree hugger immediately had the Vasa, the largest warship of its time, built simply to get at his cousin, the then King of Poland. Couldn't the dispute have been settled over a cinnamon bun, so popular in Tree-hugger-ruled Sweden? Who can say? But at any rate, 1,000 Swedish oaks were felled. And our Tree hugger insisted on even more cannons, kings and their toys. But this did nothing to keep the galleon stable. After covering only 1,300 metres on its maiden voyage, the Vasa listed to one side and sank. Until 1961, it rested in the brackish water of Stockholm's harbour, which preserved the maritime monster perfectly. Nowadays, you can visit this renowned symbol of blue-blooded megalomania.

**What is the name of our tree hugger?**

Write to **MORE@egger.com** with the name of the king. One lucky winner who submits the correct answer will receive a zirb.mini scent system (p. 41). The deadline is 31 March 2022. The judges' decision is final.

By entering the competition, you agree to be named in our next issue if you win. The solution to MORE 13's picture puzzle was "Harrison Ford". Thank you for your many answers. The lucky winners received a Sono Ambra speaker.

_Publisher

FRITZ EGGER GmbH & Co. OG
Holzwerkstoffe
Weiberndorf 20
6380 St. Johann in Tirol
Austria
T +43 50 600-0
F +43 50 600-10111
info-sjo@egger.com

Project Manager

Katharina Wieser (responsible according to the press law)

_Editing / Layout / Production

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www.raufeld.de

Editorial board

Nils Bröer, Till Schröder

Art Director

Daniel Krüger

_Images

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