MORE

www.egger.com

Simply Ingenious

Developing simple solutions is a fine art.
In a complex world, they can be critical for success.

CONTENTS

A PRODUCT AND THE SERVICE THAT GOES WITH IT MUST BE DESIGNED TO BE **EASY** FOR THE USER.

In a globally networked world with ever-increasing quantities of data to process, a common saying can become a recipe for success: KISS, or "Keep it safe and simple!" Simple systems are less likely to break down. And if they do break down, it's easier to find the source of the problem and fix it.

Yet creating simplicity can be a complex process. The wrong simplification can have devastating effects. To achieve simplicity, we must master the fine art of omission and concentrate on the essentials. In economic terms, keeping it simple saves money, while in ecological terms, it saves resources and is healthy for both humankind and nature.

But above all, we need to make sure that everyday things simply work. Therefore, a product and the service that goes with it must be designed to make it easy for the user.

EGGER places great value on this quality. The company has even gone so far as to make "simplicity" one of its core values. It applies to our products and services just as much as trust does in our dealings with customers and partners – where a handshake really means something. That is why we have made simplicity the central theme of this issue.

We were delighted with the positive response to our second issue, which focussed on trends. We are also grateful for constructive criticism. It simply helps us to make MORE even better. On behalf of the EGGER team, we wish you an entertaining and interesting read.

EGGER Group Management

Walter Schiegl
(Production/Technology)

Ulrich Bühler
(Marketing/Sales)

Thomas Leissing
(Finances/Administration/Logistics)

ROMANIAN VANGUARD

Just before Christmas 2007, EGGER pressed its first chipboard in Radauti. Since then, the company has been expanding the plant to make it a fully integrated site. Today, the cluster has its own resin plant, an administrative building certified as a sustainable construction by DGNB, complete with recreational garden, and an OSB facility. A biomass power plant is currently under construction, which will make the factory largely independent of fossil fuels.

2008
CHIPBOARD PRODUCTION
650,000 m³ p.a.

2011
ADMINISTRATIVE BUILDING WITH RECREATIONAL GARDEN

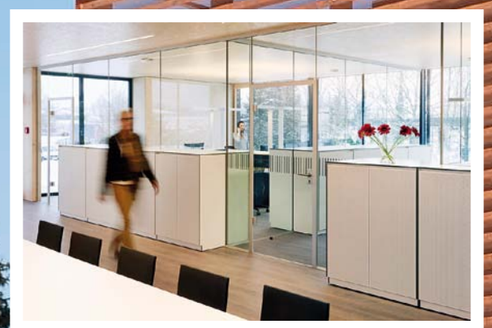
2011
RESIN PLANT
200,000 t p.a.

2012
OSB PRODUCTION
340,000 m³ p.a.

SUSTAINABILITY REACHES DIZZYING HEIGHTS

Its stainless steel skins glistens in the sun. The structure of the new alpine hut, Refuge du Goûter, on the French side of **Mont Blanc** is made of pine from the nearby Saint-Gervais-les-Bains. Instead of using solid wood, the offices of Décalaage Architectes and Groupe H went for laminates, thus reducing its weight by 30 per cent. It took three years to complete the building, which is located at an **altitude of 3,835 metres** and has to withstand temperatures as low as minus 40 degrees Celsius and winds of up to 300 kph. Thanks to insulation made of recycled wood fibres, the aerodynamic structure makes do with a minimum of heating. The architects equipped it with its own combined heat and power plant with solar panels. The ventilation system, borrowed from submarine technology, uses melted snow for cooling and recycles the waste water. Not only does the hut look like a space station, it is equally self-sufficient.

www.decalaage.com



NEW VISITORS' FORUM IN BRILON

After an eight-month construction period, EGGER opened the **new visitors' forum** in Brilon, on 18 February 2013. It has **3,100 m²** of exhibition, conference and office space. The architect, Bruno Moser, designed the modular structure and its size from the dimensions of formaldehyde-free EUROSTRAND® 4 Top boards. A high level of prefabrication accelerated the building process. Sustainability is at the core of the building, with its passive energy components. The 920 m³ of timber used in its construction grow back in German forests in just four minutes.

www.egger.com

PATIENCE IS THE KEY

“Baubotanik” is a term used by architects to describe an experimental method of construction that uses living plants as load-bearing systems. Designer Werner Aisslinger’s “Chairfarm” garden chairs grow out of living bamboo. In the light of these developments, the root bridges in the Indian state of Meghalaya are ahead of their time. They are up to five hundred years old and **100 metres long**. The oldest of them have become so stable that they have been paved and can bear up to 50 people at a time. They are a paragon of **sustainability**, since they secure the river banks and **do not deteriorate with age** – in fact, they grow stronger as they grow older. But the people who build them need patience: it takes up to 15 years before a 30-metre bridge is strong enough for people to walk on it. The key to this construction technique is deceleration and a way of thinking that spans the generations.

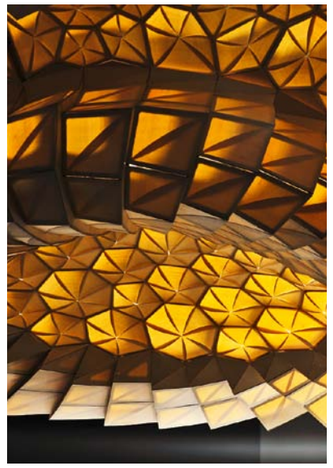
www.baubotanik.de

E_ INSPIRATION

“Wood teaches me to work precisely and seek simple solutions.”

Hermann Kaufmann, architect of the Life Cycle Tower in Dornbirn
Interview “I want to cultivate simplicity” (Pages 18–21)

Ideas for Tomorrow



LETTING WOOD LIVE

www.achimmenges.net

Wood is a living material. It creaks, bends and bows when the weather changes. Most architects try to minimize these effects as they are considered a disadvantage. That makes efforts to use this movement for architectural purposes all the more unusual. The architecture professor Achim Menges spent five years researching his concept of a “responsive architecture”. He sees wood as a sensor and motor that works without fuel or mechanics. The result was the “HygroScope”, whose material changes with the weather, in a controlled manner. And since it is beautiful, too, the construction has been part of the permanent exhibition at the renowned Centre Pompidou in Paris since 2012.

MAKE YOUR OWN MOBILE PHONEO

http://hlt.media.mit.edu

The time when a handy-man could fix his own alarm clock or repair his own car has now been replaced with the age of computer technology and modular construction. But due to this technological progress, people no longer understand simple, everyday devices. The research group High-Low Tech has decided to tackle this and develops deliberately simple technology, such as the “DIY Cellphone”, a construction kit for a wooden mobile phone. Ironically, the project is based at the Massachusetts Institute of Technology, the MIT. The American university enjoys a global high tech reputation.

LIFE’S A BEECH

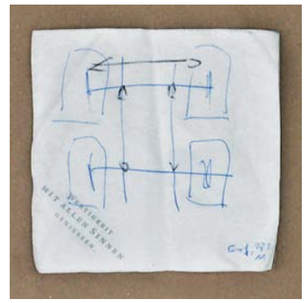
www.lenzing.com

In the 1930s, when cotton was scarce, the textile industry developed viscose, made of boiled wood shavings and chemicals. This turned out to be an innovation of lasting value. Beech fibres are especially soft and strong. According to its manufacturers, Lenzing AG, the technology behind Modal® is also extremely sustainable. It takes a mere twentieth of the water to make the wadding as it would with cotton and also yields by-products such as sodium sulphate for glass manufacturing and Xylose for making sweeteners.

To an engineer, they're an ingenious development. Hexagonal honeycombs are highly stable and maximise space while minimizing materials. That's why they've survived the millennia in nature. EGGER has taken the system on board to create added value: the cardboard honeycombs in our EUROLIGHT® boards are made of 100 per cent recycled paper. That means they save on valuable resources.

TOPIC OVERVIEW

Simply the Best



The revolutionary idea behind the modular transverse matrix is so simple that VW CEO Martin Winterkorn was able to draw it on a napkin.

In an increasingly complex world, the fine art of simplicity can determine success or failure. Simplicity is multi-facetted and versatile and globalisation has a key role to play.

BY Till Schröder

"Now, why didn't I think of that?". The wall plug that Artur Fischer carved out of nylon on a Saturday afternoon, the Tetra Pak® invented by the Swede Ruben Rausing while he watched his wife make sausages, the coffee filter dreamt up by the housewife Melitta Bentz, who was tired of having to chew on coffee grains after every sip. She punched holes in the bottom of a used tin and covered it with a leaf of her son's blotting paper and wowed her girlfriends with the beverage she brewed with this first coffee filter in history. It always seems so easy in hindsight.

"Every invention must serve humankind", said Artur Fischer, one of the greatest inventors of the modern product world. It must make work and everyday lifer easier. Especially in saturated western markets, every invention that makes it easier to manufacture or use a product is welcome. One recent example is the "Modularer Querbaukasten" (MQB), which translates from German as "modular transverse matrix" – a stroke of genius that hit the headlines with the new VW Golf in 2012. The company builds thirty of its production series with transverse motors made of the same components; like Lego building blocks, for all brands. These include VW, Audi, Seat and Škoda. Where there were once 300 different types of gearbox, now there are just 36 – and one transmission bell housing fits all. The synergy effects are enormous and cost savings are estimated at 30 per cent.

High quality alone does not guarantee success on growth markets. Simplicity is also needed.

But above all, simplification makes for flexibility. Thanks to the MQB, the carmaker can rapidly adjust production to sudden market fluctuations and can meet demand for whatever models are selling well. In an era when markets are becoming increasingly unpredictable, a company's ability to respond quickly can be essential to its survival. Experts →

Flexible but Resilient

For companies, it is becoming increasingly important to be able to respond rapidly without losing sight of their goals, according to futurologists like Matthias Horx. They call it resilience and say that soon, it will be valued just as highly as sustainability. Resilience is resistance to damage. It is a prime feature of rubber, which bends under pressure but returns to its old shape when the pressure is removed. This characteristic is becoming a model for more and more companies. Modular construction methods and the division of labour into projects are the forerunners of this development.

The reason being that with growing levels of interconnection, markets are becoming ever more complex. And that's a good thing, because no matter how handy simple solutions can be, the higher the complexity, the greater the possibilities. However, complex systems are prone to sudden and unpredictable fluctuations, like the weather in the mountains. Resilient suppliers can adapt immediately to changing conditions without losing sight of their corporate goals in the process. Their resilience today makes them perfectly equipped for sustainability tomorrow.

→ say resilience has a bright future (see info box).
Simplicity is also the order of the day in emerging economies, such as China or India. “Some hidden champions among European firms may appear to be well placed as world market leaders on western markets”, says Stephan Buse, of the Institute for Technology and Innovation Management at the Technical University of Hamburg-Harburg, “but they only have a small share of the emerging markets.” Not only can the price be too high, the products may be less than easy to use. The lucrative mass markets play by what’s called SMART rules. SMART stands for “simple”, “maintenance friendly”, “affordable”, “reliable” and “timely to market”. It is the requirements of upwardly mobile layers of society that determine demand. Roland Berger Strategy Consultants estimate that by the year 2030, 80 per cent of the global middle class will be in transition and emerging economies and forecasts a rise in their spending power from 14 to 22 trillion dollars. Experts predict a boom in simple, inexpensive products, especially in rural areas. And since necessity is the mother of all invention, that trend is leading to the development of what are known as frugal products. They range from portable ultrasound devices to the mini-refrigerator “chotu Kool” by Godrej & Boyce. Its makers developed it for those Indian households (approximately 80 per cent) that have had to get by without kitchen appliances until now and hence could not store things for later use. The award-winning “chotu Kool” is not simply a miniature version of the conventional fridge. It was developed from scratch, without a compressor, with the same cooling technique as the one used in computers. It can run off a car battery, is small, robust and costs just 75 dollars. It could quite conceivably be used at market stalls or on campsites in Europe.

> *“ Many world market leaders are well-placed in Europe. But their products are too complex for the emerging markets. ”*
>
> **Stephan Buse,** expert in innovation management

Simplified technology and an affordable price are not enough on their own. Simplification also includes service.

That would make it a “reverse innovation” – an ingenious invention born of necessity in the emerging economies which also has the potential to sell well in the industrialised world. “It’s a topic that is becoming increasingly important”, says Stephan Buse. Western multinationals play down this potential competition on their established markets, but, just to be on the safe side, are establishing subsidiaries in the emerging nations. Siemens, for example, produced a digital X-ray machine, which the company’s Chinese developers adapted to the budgets, diagnostic routines and staff qualifications of rural Chinese hospitals. The need to cut costs in western hospitals has led to global demand for the product.

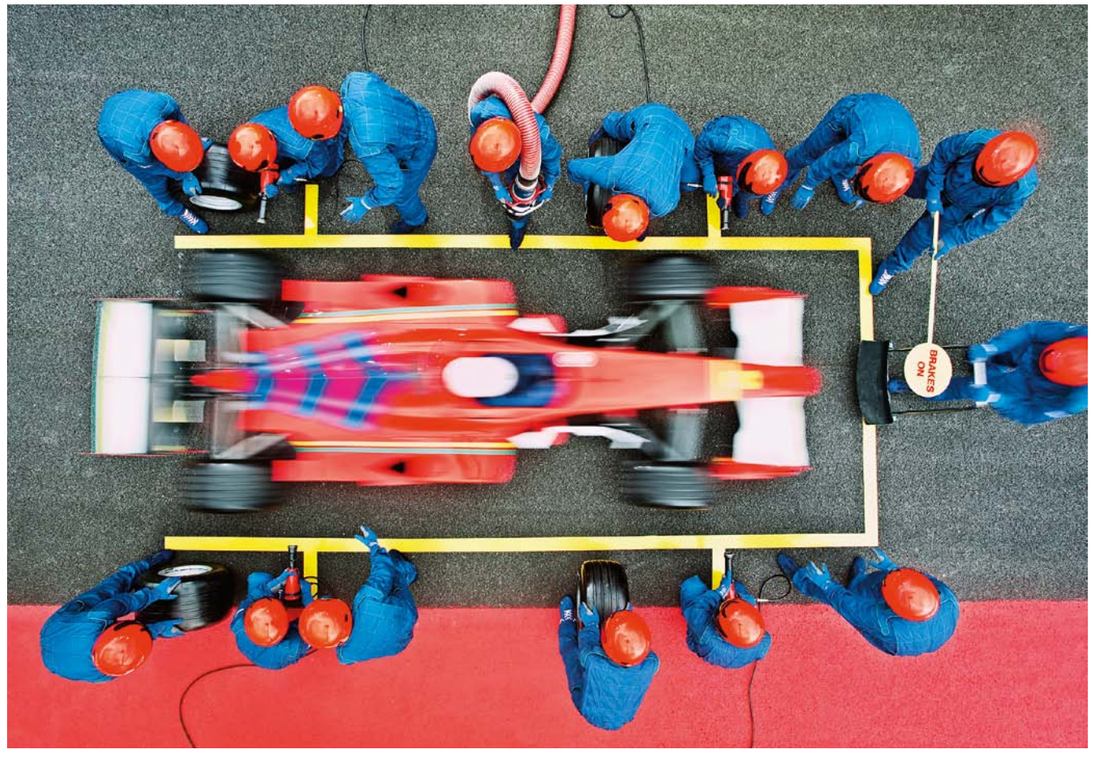
However, this principle cannot be applied universally. The world’s cheapest car, the Tata from India, would not meet the demand for quality on the market here. Another example from the wood-based materials industry also demonstrates the limits of technical simplification: Chinese engineering companies such as Donghua Machinery Works in Chengdu make inexpensive production lines for MDF or chipboard, which meets the growing demand for wood-based materials among China’s rapidly-growing middle class.

These production lines are based on the models of western market leaders such as Siempelkamp, but they save on complicated control systems and output capacities. That means they cost less than their European competitors. “In China, these facilities have to make a return on investment within four or five years”, says Volker Thole, Director of the Process Engineering Faculty at the Fraunhofer-Institut for Timber Research, Wilhelm-Klauditz-Institut (WKI). “The machines in central Europe, on the other hand, can take up to 25 years to pay back.” However, price is not the only decisive factor in the competition between Donghua and Siempelkamp. “Many Chinese suppliers simply install the facility and leave. With a western supplier, the technicians stay until the facility has reached the agreed capacity and is working faultlessly.” In the end, reliable delivery and service mean valuable simplicity for the customer.

The premier version of service is what’s known as “High Reliability Systems”, as honed to perfection in Formula 1 pit stops: reliable maintenance routines give the customer decisive competitive advantages. The aforementioned reliability of a service allows the customer to concentrate on its core business, like a driver in the race. →

A Century for Modern Chipboard

The thought behind the chipboard is simple: a wood-based material made of chippings and shavings, which were considered waste in saw mills until the 1930s, when the idea of pressing them together to form a wooden board took hold. Nevertheless, it took thirty years of development work – and the entrepreneurial courage to invest in this new timber technology – before it reached industrial maturity. Looking back, it seems almost ludicrous, given the countless millions of pieces of furniture that would be unthinkable without the chipboard. But what will the chipboard look like when it celebrates its hundredth anniversary?
The basic system has remained the same while finishing technology continues to be refined. From laminated layers to lightweight boards, the principle remains the same for a range of different applications. The ratio of binding agents continues to decline – and the use of waste and residual wood continues to grow, without making the manufacturing process any more complicated The main improvement to the production process came in the late 1980s, when manufacturers switched to continuously operating presses, which literally churn out the boards on an endless production line: the result is the same but the process far more simple.



Sometimes, service has to be guaranteed to work perfectly. That’s where high-reliability systems come in. The right routines, simplifications and division of labour are the quickest route to success. The wheels of a racing car can be changed within three seconds, as long as the team has the right number of mechanics: not one too few, and not one too many.

1

2

1 Siemens simplified digital X-ray technology with the “Multix Select DR” in China – but markets the device all over the world.
2 The compact, red “chotu Kool” functions better than a luxury refrigerator in many Indians’ real-life conditions.

→ **Is the control system too complex or are the operating personnel not qualified enough? That depends.**

A successful market launch also has to take into account the infrastructure on location. Experts speak of an organic service eco-system. For example, in the cosmos of micro-services in Indian society, people live off simple services such as delivering coffee, operating elevators or using simple tools and improvisation skills to get a production line back up and running as quickly as possible. For that to be possible, it must be built simply, too. Many professionals in Europe dream of fixing a CNC router in a jiffy, too. “Some carpentry shops simply don’t need all the functions of a computer-controlled CNC router”, says Bärbel Jäkel, who researches knowledge and innovation transfers at the University for Sustainable Development in Eberswalde. They would happily buy simpler machines if they were available. That’s not the only area where many companies struggle with complications: often, the software used to design a shape is not compatible with the software used in the router’s control system.

In this context, a good standard is synonymous with simplicity. And when all is said and done, simplicity is a natural desire; where you can still take someone at their word and count on their handshake. Because that makes complex things simple: it’s called trust and remains timeless, despite progress.

Simply for Customers

An innovation must make it easier to use something. That’s why your hands are all that is needed to assemble EGGER’s new clic connectors.

BY Till Schröder

Simple wins – easily. That’s a slightly exaggerated way of putting EGGER’s experiences with innovative products, For example, the manufacturer of wood-based timber materials put its faith in the clic connector for laminate floors at a time when it was being viewed that floors always had to be glued. Today, click systems are commonplace because they make it easier to lay floors. Now EGGER has developed a comparable system for furniture. It serves a market in which more and more customers are turning to ready-to-assemble furniture. With the clic system, jointly licensed by EGGER and Unilin, customers no longer even need tools to assemble the furniture. The stable connectors are put together by hand – and just as easy to dismantle.

But it’s hoped that clic technology will not just make life easier for the end customer. EGGER provides furniture manufacturers with materials and connectors that can easily be recycled. As a partner, EGGER also helps manufacturers to market their clic connector products simply and directly. They can manufacture the patented tongue-and-groove system under license themselves; EGGER has assembled a team of clic experts for advising companies. Or they can use furniture components manufactured by EGGER; for example, in the form of customised state-of-the-art lightweight EUROLIGHT® boards with clic connectors. That way, furniture manufacturers can avoid investing in machinery, and simply get down to business.

To demonstrate how easy it is to use the new clic connections, EGGER developed a cube made of brightly-coloured lightweight EUROLIGHT® boards.

“I want to cultivate simplicity.”

As Germany’s energy reform continues, wood is becoming an increasingly important material. But not just in residential buildings. Now, the architect Hermann Kaufmann has set new standards with an office block made of wood in the town of Dornbirn – and its sparing use of materials.

INTERVIEW BY Jan Ahrenberg

MORE: For many years, architects regarded modern construction methods as using steel, glass and concrete. Today, they are increasingly enthusiastic about wood – why is that?
Hermann Kaufmann: I think people have had enough of the smooth structures of the technological era. They miss the warmth of natural materials. At the same time, new attitudes to energy, materials and raw materials mean louder calls for sustainable products in architecture – and wood has proven to be highly suitable to modern demands.

MORE: Please elaborate.
Hermann Kaufmann: Wood is not just CO_2 neutral and grows back, there is also plenty of it already. I once calculated that Germany could build all new construction projects out of wood using just a third of the annual timber harvest. That’s unbelievable, isn’t it? And yet half of the timber harvest is simply used for fuel. That’s a crazy waste but at the same time, it shows the potential that’s going untapped – in Central Europe, of all places, where we have a great store of experience in building with wood.

MORE: Modern low-energy houses are highly complex systems. Is there any room left for traditional skills in building them?
Hermann Kaufmann: Our trades don’t just focus on traditional knowledge, such as how to treat wood, but also on innovation. However, I must admit that I am quite unsentimental in that regard. For me, a good tradesman is someone who is always trying to keep his working practices up to date. In our part of the world, our understanding of woodworking trades is not stuck in the past, it involves meeting the challenges of the time and developing new techniques. In Finland, on the other hand, a country with a huge stock of trees, it’s almost impossible to find someone who can build a house of wood – because they concentrated completely on industry and neglected their trades. Now they’re paying the price.

MORE: What are the strengths of the trades in Central Europe?
Hermann Kaufmann: We kept alive the entire chain of work processes, from tree-felling in the forests, to saw-mill processing, from drying out to storage and supply. One good example is prefabrication. Our timber companies are in a position to mass-produce handmade façade elements. That means they can keep down costs but at the same time, provide customised solutions for individual projects.

MORE: What role did the principle of simplicity play when it came to building your eight-story office block, the Life Cycle Tower One (LCT)?
Hermann Kaufmann: A central role. For example, to meet the high demands in the field of fire protection, we consciously used a standardized process. We also wanted to use the LCT One project to develop a marketable wood construction system, with which we can also build high-rises. By standardising and series-producing construction elements, we hoped to make it possible to realise very large buildings in the space of a very short time – with extremely simple building principles.

MORE: Did you succeed?
Hermann Kaufmann: Yes. We built an office block with 10,000 m³ of →

The architect of the Life Cycle Tower (LCT): Hermann Kaufmann. The wood-hybrid building in Dornbirn (left) was completed in 2012.

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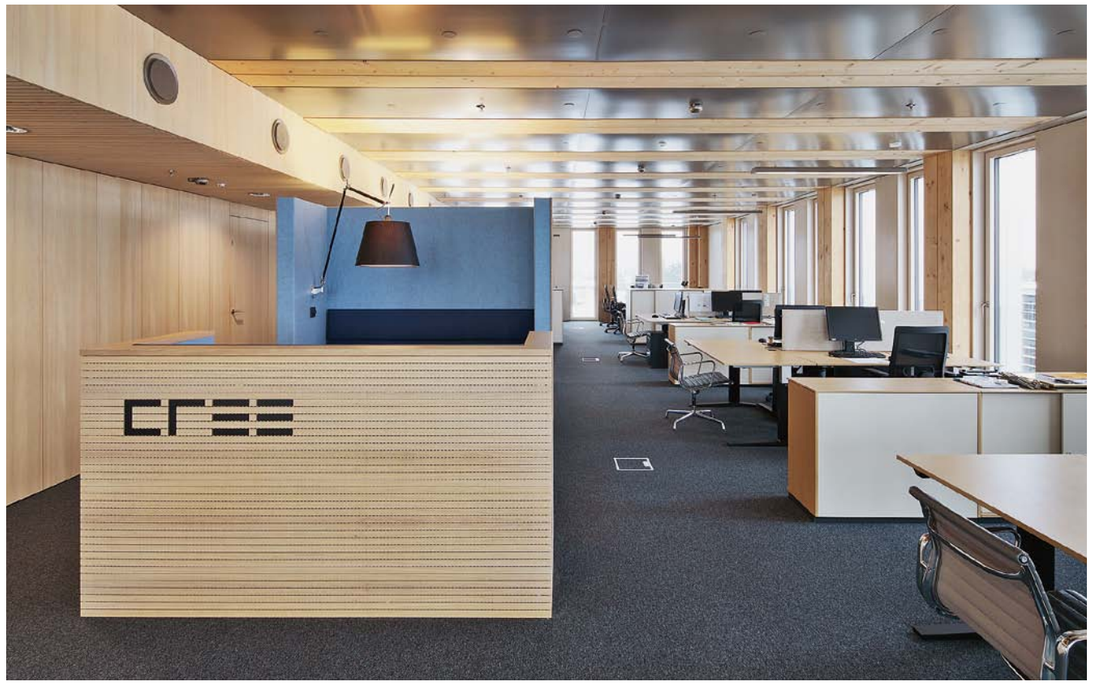

1 Wood and concrete dominate the interiors of the LCT One. They are designed to reflect the purist architectural approach. 2 A high level of pre-fabrication makes assembly quicker and reduces the margin of error. 3 The eight storeys went up in ten days: weatherproof. 4 Designed without extra walls, the system can easily be adapted to different uses. The construction method allows up to 30 storeys or a height of 100 metres.

→ commercial space – the entire construction, including the almost finished facades and the roof – in just two months. That shows what this system can do. Of course, there are other possible ways of doing it but this is ideal for planning and executing office buildings. We also got the approval of the fire safety authorities to use this construction method to go higher than the eight storeys we have here, so we really will be able to build genuine high-rises in the future.

MORE: How adaptable is your system to individual demands?
Hermann Kaufmann: Of course, you do have to follow certain rules. I can't just take some theoretical design and squeeze it into the system right at the end. So our designs are influenced at a very early stage by the construction method. When you build with wood, you have to bear in mind the possibilities and limitations of the material. The exciting challenge when it comes to the design is to be simple without being boring.

MORE: The tradesman in you, you once said, tries to make sure things don't get too complicated …
Hermann Kaufmann: That's the typical attitude of a carpenter. Wood is a material that requires a lot of discipline. If I don't have that discipline, I'm going to have a lot of difficulties. Building with wood is far more complex than with other materials. With concrete, for example, I can cover up static imprecision by adding extra reinforcing steel. I can't do that with wood. That teaches me to work precisely and to seek simple solutions. That is what my architecture is about.

MORE: The result is a simple, high-quality architecture whose "green conscience" is barely visible from the outside, at least. I would imagine this is easier to sell to industrial and commercial customers than the rough-and-ready look of eco-facades in the past.
Hermann Kaufmann: Indeed, ecological architecture was considered scruffy for a long time – but even back then, there was no need for facades to highlight an ecological approach to building. Fortunately, we are moving away from that today and more and more architects are taking an interest in sustainability and developing new ideas without having to make the façade the centrepiece.

MORE: So sustainable building and high-quality architecture do not necessarily contradict each other …
Hermann Kaufmann: On the contrary: good design is an essential aspect of sustainability. The service life of a building is a crucial factor in the question of whether the resources have been put to good use. Only by creating a building where people are happy to spend their time has it got a chance of surviving for any great length of time. Bad architecture disappears again quite quickly and that makes it a waste of resources from the start.

MORE: And what kind of record do wooden buildings have when it comes to using them for something other than originally planned?
Hermann Kaufmann: They're ideal for that. We can't make pipes and cables just disappear like we do with poured concrete, they have to remain on the outside. So it's easy to take out an entire wall – especially with the skeleton method, which we used in the LCT One. The ceilings rest on rhythmically arranged pillars to form the static frame of the building. There are no walls that cannot be changed later. Again, a very simple and very flexible principle.

MORE: What are the essential aspects to make a timber construction method suitable for series production?
Hermann Kaufmann: The parts have to be standardized. A few years ago, glued laminated timber was standardized, the next step would be to standardize transverse glued laminated timber.

" With concrete, I can cover up static imprecision by adding extra steel. Wood teaches me to work precisely and to seek simple solutions. "

Today, I have to know when I start planning what company I intend to contract. There is no "guiding" industry. Forestries, the material suppliers, aren't very interested in wood as a construction material. And the wood processing companies are all too small and specialised to agree on a common strategy. This is still a massive obstacle to a more widespread use of wood as a building material.

PORTRAIT

HERMANN KAUFMANN

Born in 1955 to a family of carpenters in Vorarlberg (AT), Hermann Kaufmann is one of the leading architects in wood construction today. He is owner of Hermann Kaufmann ZT GmbH and guest lecturer at the technical University in Munich. Together with the Rhomberg Group, he developed a wood-hybrid system for multi-storey buildings that can make do with a minimum of energy and resources for their entire service life.

FIVE THINGS ABOUT

Oak

The advantages of oak are well known. This species of timber is enjoying a boom in design and interior furnishing.

1 IN DESIGN

There is no getting away from oak when it comes to parquet floors and furniture design. Oak is all the rage. The trend-setters include the German firm E15, which adopted a clear alternative to glass and chrome in the late 1990s, with solid oak furniture. Their stool, named “Backenzahn” or “molar tooth” has already become a classic. With a total of 54 oak decors, EGGER offers a broad range of oak, from rustic and distinctive styles to timeless elegant looks. This dual trend is also reflected in EGGER’s latest decors, which it presented at the EGGERZUM 2013 fair under the motto “Timeless – Spirit of the Time”. Designs featuring many rustic elements such as Nautical, Santa Fe or Gladstone Oak reflect the spirit of the time while the uniform look of Orleans or Thermo Oak matches the timeless style.

2 IN WINE

A good red wine can get even better if it’s aged in oak casks. Oak makes it smooth and adds a final note of vanilla or nougat. A 225-litre barrique barrel offers an ideal ratio of wine to wood. But selecting the right kind of oak has become an art form in itself since the barrique boom in the 1980s.

3 AS A TREE

There are 600 species of oak around the world, including deciduous and evergreen trees and shrubs. Many species native to Germany have deeply ploughed barks and long tap-roots and stand alone. That attracts lightning, which is where the popular saying “beware the oak, it draws the stroke!” comes from. In nice weather though, a place beneath the leafy roof of an oak is always something special.

4 IN FLOORS

For many people, an oak floor is the epitome of quality and comfort. The sheer diversity that oak floorboards or parquet floors can have on the atmosphere in a room is reflected in EGGER’S collection of laminate floors, FLOORLINE®. The family shown here went for the Northland Oak blend (H2726). With 81 different oak decors, the species is well-represented in EGGER floors, too.

5 IN CULTURE

The name of the oak eggar moth demonstrates how important this species of tree is to Europe’s fauna. Oak’s many residents tell biologists that it is a very old species. The ancient Greeks and Germanic people worshipped them as the homes of their most powerful gods. And in Celtic languages, the word “druid” has the same root as their name for the sacred oak. Romance painters and poets also noted this aura and stylised the oak as a symbol of strength, durability and dignity.

E_SOLUTIONS

“Several companies are running pilot projects with RFID, all we need now is a unified approach.”

Silvia Fien, head of SAP CC Supply Chain Management at EGGER
On the Right Wavelength (Pages 38–41)

The EGGER Team

KAMIL SUMLU

Sales Manager Middle East /CIS, Istanbul (Turkey)

“The Middle East has never been a safe place”, says Kamil Sumlu. Nevertheless, the 44-year-old engineer from Istanbul loves the people and the culture of that part of the world. The CIS states are enjoying very dynamic growth at the moment. Therefore, Kamil visits each of the twenty countries for which he is sales manager at least once a year. They include emerging economies such as Azerbaijan, Georgia and Turkmenistan. “Doing business with these countries means being on the job seven days a week”, he says, because it is usual to work weekends there, too. But he avoids taking irresponsible risks and skipped business trips to Syria and Egypt this year.

CHRISTINE GENIN

Contact Centre Manager, Rambervillers (France)

15 years after she first joined EGGER, the manager of the project “Centre de Contact” is still fascinated by the chance to meet people and learn from them. Anyone who calls the hotline will find Christine or a member of her team at the other end of the line. The multi-lingual correspondence clerk is interested in all service areas, from sample orders to technical data to criticism: “It gives us important information that helps us improve our products.” And what is the most frequently asked question? “At the moment we get a lot of questions about sustainability, environmental norms and certification procedures.”

ROBERT PLETZENAUER

Production Manager, Rawboards, St. Johann (Austria)

In 1990, Robert Pletzenauer was actually on his way to see a different prospective employer when he spontaneously turned off at the EGGER plant, applied for a job – and stayed. The mechanical engineer had done many jobs and had experience in planning, filtration technology and plastics from a range of companies. It’s the special atmosphere that keeps him at EGGER. “Straight up, with a familial character” is how he describes it. “If, as an employee, you are not constantly reminded of the hierarchy, that has to be a good sign.”

Sustainable use of resources: the timber store on the grounds of the plant, nestling in the rolling hills of Northern England.

From the Beginning

A strong plant needs roots. At the Hexham factory in Northern England, the company subsidiary EGGER Forestry harvests some 400,000 cubic metres of timber per annum. Since its establishment twenty years ago, EGGER Forestry has been at the cutting edge of vertical integration.

BY Clemens Niedenthal

A play on words springs to mind as we drive into Hexham, Northumberland, on the border between England and Scotland; because you can't see the plant for the trees.

The extensive grounds of the production facilities are surrounded by young indigenous deciduous and evergreen trees.

Planting began in 2009 and has seen 13,200 trees establish themselves around the site. They are used to visually screen operations and are good for the climate. And they are also good for the iconography of a town for which wood and, naturally, trees have always played a central role. EGGER took over the plant in 1984 from the British company Weyroc: its first foray beyond Austrian borders.

That makes Hexham a symbol of change and expansion, too. It was in St. Johann, on the banks of the Ache in Tyrol, that EGGER's history of manufacturing wood-based materials began on December 18th 1961. And it was in Hexham, on the banks of the river Tyne, that EGGER became an international company.

The language was not the only crucial difference. There is a marked contrast between the landscapes, too. St. Johann boasts Alpine forests, a healthy, bracing climate and thriving tourism, along with a culture of construction that has always placed its faith in timber as a material. Centuries-old farmhouses and guest houses, panelled rooms; hospitality in Tyrol smells of wood.

But back to Hexham. The town looks like something out of "Harry Potter", with an abbey in its centre. The outskirts are criss-crossed by stone walls that surround not only splendid country estates, but also the fields and meadows – because at some point, there was not enough wood left to build fences.

The Kielder Forest was once one of the largest woodlands in Europe. Toward the end of the 19th century, following a process of industrialisation driven by steam engines, less than one per cent of the original forest remained. The island of Britain was almost devoid of trees.

The implications for a wood-processing company in the north of England are manifold. The need for an economical, sustainable approach to this scarce resource and the importance of developing wood-based materials that use as little timber as possible has always been a central issue for Hexham, a tangible necessity. Which is why Bob →

1 Aerial view of the extensive factory grounds, with Hexham town centre and the river Tyne in the background.
2 The laminating facility that went into operation last year was the most recent investment in the Hexham plant.
3 With a current total of 540 employees, EGGER is the largest manufacturing employer in Northumberland.

→ Livesey, joint managing director (commercial) for UK and Ireland is happy to admit: “Sure, we are in the middle of an ecological change as regarding our use of fossil fuels. But you can do more productive things with wood than just burn it, which is all the current British government seems interested in subsidising.”
The plant in Hexham, for its part, has covered most of its own energy needs for four years now: by means of its own biomass power plant with an integrated waste heat network. The thermal energy is pumped straight back into the plant, resulting in optimal use of all waste. It also represents a continuation of the EGGER philosophy: using wood as wood as intensively and productively as possible. Sometimes, all it takes is a simple idea – and some corporate courage – to turn waste itself into a resource.

“ Well-trained employees are vital – their expertise is something our customers have come to rely on. ”

Bob Livesey, director of distribution and marketing for UK and Ireland

The Hexham plant is also living proof that it takes investment to make them come true. In 2007, one of the latest additions to the plant was commissioned; a new Contiroll press line. The site has almost trebled in size since 1984 and a new resin plant is currently being built, to replace the existing one, and will be operational in 2014. Hexham is one of the most advanced and diversely equipped particleboard production plants in Europe and within the EGGER group.

Many of the employees have been working at the plant for many years and have grown with the company

It is a clear signal for the region of Northumberland, where EGGER is the largest manufacturing employer, with some 540 workers. A firm, reliable partner with global operations and local roots. This sense of responsibility for the people, for the workforce, is clear. “Through training and experience our employees are a key asset to the business”,says joint managing director Bob Livesey, “after all, their knowledge and professionalism are things that our customers have come to rely on.” That is something St. Johann and Hexham have in common: many employees have been working at the plant for many years.

It’s all about natural growth: a good image for a company whose value creation process literally begins at the roots, in the forest. Mike Yerbury,

THE HEXHAM STORY

Founded in the 1960s, the plant in Hexham was the first chipboard production facility in Britain. EGGER took it over in 1984, at the same time launching its international expansion.

In 2007, EGGER invested £110 million in extending and updating the factory, creating one of Europe’s most modern production facilities for wood-based materials.

The plant in Hexham employs over 540 people.

→

1 The wood harvest is dealt with by just two workers and their machines in finely-tuned teamwork. It can be a lonely job at times. 2 Mike Yerbury inspects one of the forest areas scheduled for felling. 3 The harvester, the multi-functional backbone of timber harvesting.

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2

3

“ Large scale forestry in Britain is driven by investors, who are keen to maximise their financial returns quickly. ”

Mike Yerbury, manager of EGGER Forestry

→ operations manager at EGGER Forestry drives us there for a visit.

The journey takes us deep into the Northern English countryside, past villages and eventually from sealed roads to dirt tracks. This drive through what is unknown territory to us also serves as a metaphor for the journey on which EGGER embarked twenty years ago, with the establishment of the subsidiary EGGER Forestry. Vertical integration was the key word back then. The chain of value creation was to start in the middle of the forest, at the roots, so to speak. But why Hexham? Why England? Looking out of his pick-up, Mike Yerbury, who studied forestry and now works as a manager at EGGER Forestry, does not need to say much. Wood is precious, all over the world. But here, up north, the forests had entered an almost unstoppable decline.

“In England, we have made it back to twelve per cent of the historic forested area. In Scotland, we have even made it to 16 per cent. They are good figures, considering the systematic reforesting programme only began 60 years ago.” But to stick with the image: this forest is still a tender sapling: “The establishment of EGGER Forestry was a logical step toward securing wood as a resource in the long term.”
So you could call Mike Yerbury and his six colleagues travelling sales representatives in matters involving wood. Which is why his workplace – in addition to his office in Hexham and the library of the University of Glasgow, where, with EGGER’s support, he is halfway through his doctorate – is also his dark-blue pick-up. You can tell by the pleasure Mike Yerbury takes in watching his two dogs, Shanskey and Chompers, cavorting in the undergrowth, that this man feels right at home here.

All forests harvested by EGGER Forestry are certified by the Forest Stewardship Council®

The most remote forests harvested by EGGER Forestry are up to 400 kilometres away from Hexham. Yerbury has just returned from an island off the coast of Scotland, where a landowner had put the timber-felling in his forests out for tender. Landed gentry in tweed jackets – is that how we should imagine the typical British forest owner? They still exist, but they are no longer the rule. Most forests here have long since been bought up by investment funds or private investment groups. And then there is also the British state, which owns almost half of the forests.

The patch of woodland where Yerbury brings his pick-up to a halt belongs to one of these funds. “Forests are becoming increasingly popular investments. Large scale forestry in Britain is driven by investors who are keen to maximise their financial return quickly”, he says. Yerbury starts taking stock. How old are the trees, how well have they grown? Do we need to worry about parasites or pests? How difficult will it be to transport the timber? Are there decent forest tracks or do they have to be built first? “The only aspect we don’t take care of yet is the reforesting.” It’s obvious from the way he emphasises the word “yet” that he would be up for the challenge. “That way we could create long-term prospects – for our company and for the forest.”

On this winter morning, about a third of the spruce trees are still waiting to be felled, planted all in a row, as is typical in England. Despite the obvious storm damage. “That’s why we use American spruce, rather than Norwegian,” says Mike Yerbury, “because they are better at standing up to the stormy winds that come in off the North Sea.” Here and there, you can see some deadwood or a stunted spruce in the clearance. They provide a habitat for rodents or a nesting place for birds. These forests, run by EGGER Forestry, are all FSC-certified.

The forest may bear the scars of a stormy winter but Anthony Carr and Paul McCleary go about their work as if nothing was amiss. They harvest the timber with the routine understanding of an old married couple. And their sense of humour is as well-oiled as the forest-green harvester, which grabs the tree stems every thirty seconds and heaves them across the grey winter sky. On the one hand, they lead the lonely life of the woodsman. Deep inside the forest, cut off from the outside world. On the other hand, they control state-of-the-art machines, complete with joysticks and computer displays. The harvester does not make a single cut that is not digitally stored. It is fascinating to watch this multi-functional backbone of timber harvesting at work. A giant machine that performs the intricate choreography of a prima ballerina. Poetic and yet incredibly productive.

EGGER Forestry harvests forest blocks throughout north England and the south and west of Scotland. With a small team and a great deal of expertise. About a quarter of the timber harvested ends up in EGGER’s own production, at one of two British locations, Hexham or Barony.

And the reverse integration project continues to go forward. EGGER joined the lumberjacks in Brilon in western Germany in 2008, where it also operates production facilities and a saw mill. That means it has got secure supplies, a sustainable solution in itself. One that is good for both the plant and the forest.

Very British: a typical phone booth near the 11th-century cathedral.

EGGER FORESTRY

Established in 1993 at the EGGER plant in Hexham.

The goal is tightly networked collaboration between forest owners and wood-processing companies.

EGGER Forestry harvests about 400,000 cubic metres of timber per annum in North England and Scotland. That is the equivalent of about a million trees.

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Easy Comparison

Sustainable construction is becoming the standard. In 2013, new guidelines and norms have been introduced to make this standardization easier. But do they really work? An overview.

BY Till Schröder

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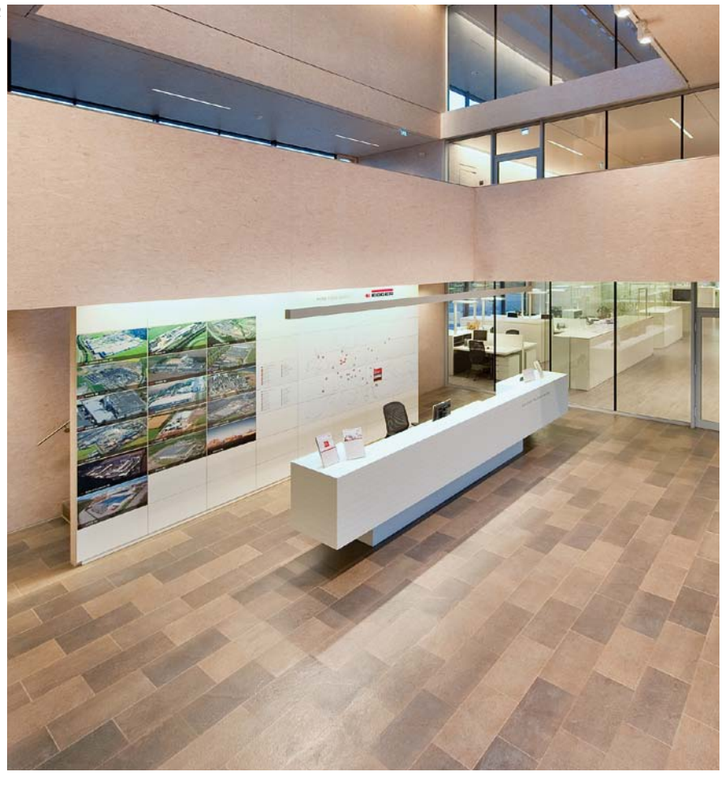


1 Future generations will thank us for environmentally-friendly construction methods.
2 The forum at EGGER's plant in Radauti (RO) was awarded the DGNB's gold certificate.

Sustainably built – it's easily said. But it takes specialist knowledge to certify that a building was constructed according to predetermined sustainability criteria. It starts with the international specialist jargon, with terms such as "Life Cycle Assessments" and "Environmental Product Declarations", which can easily scare off some suppliers. But demand for sustainability is constantly growing. At the same time, from 2013, certain sustainable construction methods are obligatory. The new "Construction Product Regulation" (CPR) officially took effect in April 2011 – and became legally binding on 1 July 2013 after a transition period. The good news is: it also makes it easier to get buildings certified with new, international standards.

The new "Construction Product Regulation" (CPR) is only slightly different in name from its predecessor, the "Construction Product Directive" (CPD). It also places new environmentally-friendly demands on any product that is to be launched with a CE certificate. For the first time, it takes into account the entire life cycle of a building: "the basic requirement for construction works on sustainable use of natural resources should notably take into account the recyclability of construction works, their materials and parts after demolition, the durability of construction works and the use of environmentally compatible raw and secondary materials in construction works."

For those already familiar with the topic of EPD, the simplifications are enormous

To prove that a building fulfils the "basic requirements", for example, in terms of "hygiene, health and the

GLOSSARY

CPR stands for "Construction Product Regulation". As of 1 July 2013, the European Construction Product Regulation replaces the old Construction Product Directive.

EN 15804 A norm enacted in 2012 that lays down the basic rules for construction product EPDs. In general, the new EPDs can easily be identified by their green covers.

EPD stands for "Environmental Product Declaration", a document that details all environmentally-relevant core values of a product. EN 15804 requires the listing of a construction material's greenhouse gas potential based on an ecological balance sheet.

→

The use of recycled wood improves wood-based materials' ecological balance sheet. The new EPDs document this characteristic.

→ environment" – according to the new wording of the regulation, the CPR recommends using "Environmental Product Declarations", or "EPDs". However, the international designation does not mean that all EPDs are immediately comparable internationally. That's why the Technical Committee (TC) 350 of the European Committee for Standardization, or CEN, introduced a new norm: since April 2012, EN 15 804 stipulates pan-European basic rules and uniform indicators for the EPDs of construction products and construction works. It was defined more precisely and more extensively in October 2012 by a further norm, EN 15 978. They are both aimed at making it easier to communicate the environmental characteristics of construction products and construction works.

> ***" Today, we can offer manufacturers more cost-effective responses to the demands on different markets. "***
>
> **Anna Braune,** sustainability expert with PE International.

The new EN 15 804 EPDs with their distinctive green covers require the documentation of a product's environmentally-relevant characteristics on the basis of an ecological balance sheet. The analysis of the entire life cycle includes a product's ecological footprint. The internationally recognised term is Life Cycle Assessment, LCA.

2013 will show whether the regulation and standards actually do simplify matters. One thing is already clear: "Anyone with no experience of certifying products with EPDs will not find the topic any less complicated now", says Anna Braune of the consultancy firm PE International, in reference to manufacturers and processors who have so far tried to dodge the issue of sustainability. "The new Construction Product Regulation increases the pressure to pay attention to these issues. At first, it appears to make matters even more difficult." But only when you are studying the material for the first time.

"For suppliers who already have experience with EPDs, and for us, it is already an enormous simplification", says Braune. For example, a life cycle assessment used to be a single process for Germany and France but could not be transferred to Britain. "Now we can offer manufacturers more cost-effective ways of responding to the demands on different markets", says Braune. "Now, the indicators in the EPDs are the same."

The CEN TC 350 is currently working on the standardization of individual wood-based materials. Anna Braune expects most to have been completed by the end of the year. But the committee, which also includes representatives of the industry, is not to be confused with the ECO Platform, founded in 2011. This network comprises 25 organisations from 17 countries and is also committed to standardizing European EPDs. They include a number of programme owners, including the Institut für Bauen und Umwelt (IBU), which is responsible for the EPDs issued to EGGER products.

The ECO Platform takes the EN 15 804 as a basis when calculating grey areas to adapt a product to existing EPDs. The IBU and a Swedish programme owner mutually recognised each other's EPDs in a memorandum of understanding published at the world's leading construction trade fair, BAU 2013. Examples like this are celebrated as successes and yet they illustrate how many more steps must be taken on the long road to simplified standardization, for which the construction industry has been yearning for years.

However, when it comes to standardizing products for interior construction, a pan-European norm is the subject of some debate. France wants the amount of formaldehyde in wood-based materials reduced. The Committee for Risk Assessment (RAC), which belongs to the European Chemicals Agency (ECHA), recommended reclassifying the material from the current assessment level (presumed to have carcinogenic properties) to the risk category 1B (known carcinogen). A decision is to be announced in September 2013.

What the RAC is proposing was already a topic of discussion at the IARC, a committee of the World Health Organization, WHO, in 2004. However, the WHO saw no reason to change the safe level of 0.1 mg/m³. Indeed, it confirmed it in 2010. Nor did the German Agency for Risk Assessment (BfR) lower the safe level of 0.1 parts per million (ppm).

> ***" EGGER recognises the safe level. All chipboards produced in Europe either fulfil the norm or improve on it. "***
>
> **Manfred Riepertinger,** Head of Product Management for Raw Materials and the Environment.

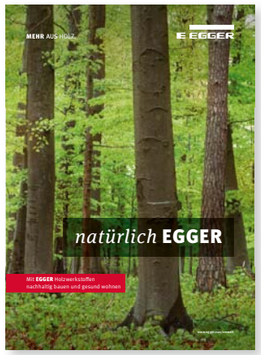
"EGGER recognises the safe level, says Manfred Riepertinger, head of product management for raw materials and the environment. All chipboards produced in Europe, faced or unfaced, either fulfil the norm or improve on it." That may sound easy but it is the result of constant efforts to remain one step ahead of contemporary norms.

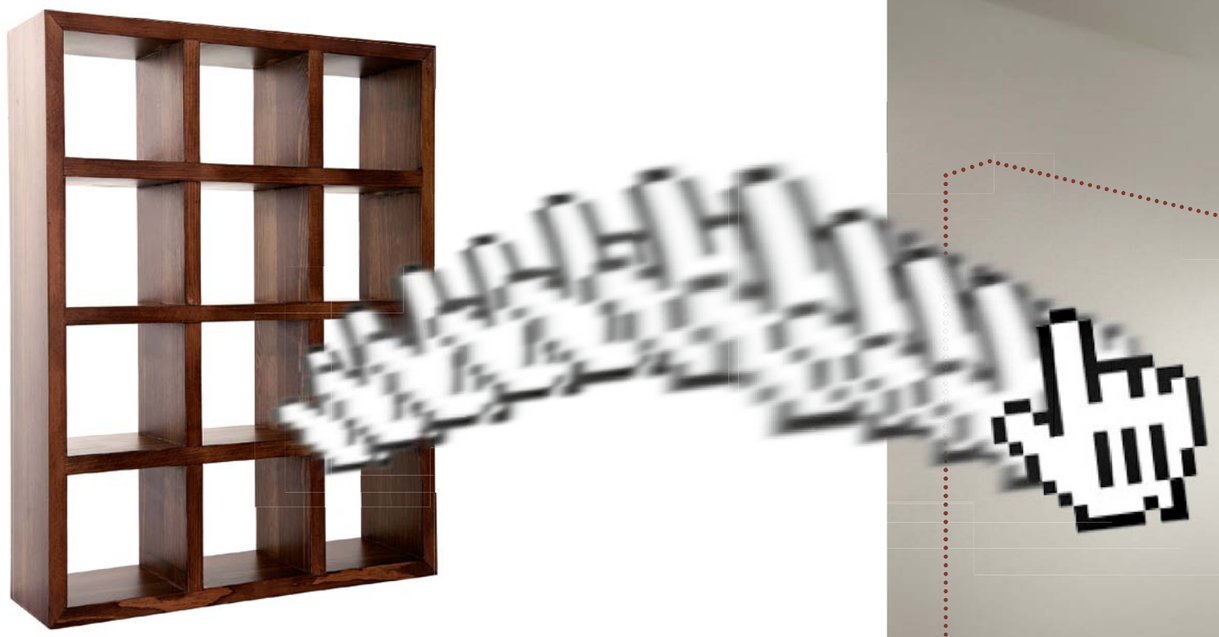
ENVIRONMENTAL BROCHURE

NATURALLY EGGER

EGGER is at the vanguard of sustainability and in the process, actively seeks to exchange views with the public and with scientists. This commitment to a clean environment is documented by the comprehensive new environmental brochure "Naturally EGGER", which the wood processor presented for the first time at BAU 2013.

Simplicity without oversimplification – that's the maxim according to which the company answers all questions concerning the sustainability of its wood-based material production. In clear, simple statements, the brochure creates maximum transparency with regard to climate protection, forestry and residential health. EGGER also explains where its raw materials come from, how its material cycle is structured, the details of its recycling processes and how VOCs and formaldehyde emissions are controlled. The brochure compares scientific findings and emission standards in Europe, Japan and the US with the readings from EGGER products. This useful reference work explains how to use EPDs and how to select the right certification system for a construction project. It also features a glossary of specialist terms regarding sustainability and an alphabetic index of the most common environmental certificates. The brochure can be downloaded in PDF form free of charge, along with comprehensive tables of the criteria for all globally applicable environmental certificates, from the EGGER Internet page: www.egger.com/environmental





Customers can simulate their furniture on the Internet and order it with just a few clicks of the mouse.

Furniture by Click

Online demand for furniture is growing. That opens up new possibilities for start-up companies and established suppliers alike.

BY Patrick Fink

People have long been buying books and CDs over the Internet. They also order their shoes or their weekly shopping online. Now, they are also increasingly buying their furniture via mouse click. In 2011, sales of shelves, sofas and other accessories rose to over a billion euros in Germany alone. Compared to the industry's total sales of 30.7 billion euros, that may not seem much. But the EHI Retail Institute, which compiled the figures, says it's a trend that's likely to spread.

One indicator is the growing number of online stores. According to the industry magazine "Möbelkultur", there are already 180 suppliers online. And if the plans by the Internet giant Amazon are anything to go by, furniture shopping on the net is set to grow in the future: at this year's "Ambiente" fair in Frankfurt, the world's largest mail order company announced that it was going to start selling large pieces of furniture in Germany.

Since an online store has lower overheads than a conventional shop, manufacturers and traders can expect better margins of profit – while still offering their customers lower prices. That's crucial: online shoppers say the lower price is the decisive factor when they decide to buy on the Internet.

In the German-speaking world, the Samwer brothers were among the first to start selling furniture over the Internet. Last year, they increased their level of investment in the two stores Home24 and Fashion For Home, which are also active in other countries, such as Austria, France, Turkey and Russia. Thanks to a solid financial base, expensive returns are not a problem for the Samwers' shops. That's a problem that other companies, especially small or new start-ups, struggle to cope with.

But the competition never sleeps. One of the leading online stores is Avandeo. The start-up, with locations in Munich and Shanghai, bases its business model on a mixture of high-quality furniture and home accessories by established designers and products by up-and-coming designers. Users can decide for themselves which ones by voting online.

Established furniture dealers are also beefing up their presence on the Internet and using new ways of attracting new customers. They include tapping into advantages of the World Wide Web. Because, while a conventional store may only be able to display one sample of a certain product, the Internet allows suppliers to display all the various colours and materials on offer. Useful tools include virtual furniture planners, by which users can easily test how well a piece of furniture will fit into a room. That does not necessarily mean they also have to order it online.
"Customers are attracted by the Web and then their loyalty is cemented by personal advice and support in the stores", says Dennis Mittelmann, founder of the online marketing agency TrendView. He says established furniture dealers should develop a special online portfolio. That doesn't have to include the whole product range, just a selection, while the majority of the products on offer can still only be found in the trader's outlet.

But you can do things the other way around, too: successful online dealers have also been known to rent shop space. The furniture displayed there serves as an advertisement for the online shop, where the selection is considerably larger. The coming years will reveal which model appeals most to consumers. Either way, the Internet will play a decisive role.

On the Right Wavelength

By using RFID technology, EGGER and its partners in paper roll manufacturing, paper production and printing are setting new standards in timber industry logistics – and simplifying processes considerably.

BY Patrick Fink

RFID transponders are so small that they can be built into paper rolls.

The loading dock can be a logistical bottleneck: if it takes too long to unload one truck, a queue builds up and the yard fills up with trucks. But how can the whole process of unloading, logging, tagging and storing the goods be made simpler and hence quicker?

One technological answer is Radio Frequency Identification (RFID). It allows goods to be tallied automatically by radio – a forklift drives through a reading gate and the goods are immediately registered and tallied. With this information, the unloaded goods can be brought to the right place in the yard or warehouse. This can cut the time it takes to unload a truck by more than fifty per cent.

Companies in various sectors are using the technology in their logistics. But EGGER was not just looking for a solution for its own factories and warehouses. It set itself the ambitious goal of developing an open system that would include all decor paper suppliers, too. “We sat down together early on to explore the needs of our partners and where incorporating RFID would bring added value”, says Silvia Fien, head of SAP CC Supply Chain Management at EGGER. The talks began back in 2006. The biggest challenge was to find a standard everyone could agree on. EGGER worked closely with the Felix Schoeller Group, whose subsidiary Technocell also produces decor paper.

Schoeller already had several years of experience with RFID technology and used it to track pallets of photo paper. The transponders on which the data are stored could simply be attached to the pallets – not an option for décor paper, because the rolls are not transported on pallets. Simply attaching the chips to the paper rolls did not work either. “Finally, we got the idea of incorporating the transponder chip into the core during production”, says Frank Meyer-Niehoff, managing director of Felix Schoeller Supply Chain Technologies. The advantage: on the one hand, the wafer-thin transponder is well protected in the multi-layer hard paper core; on the other hand, the data transmission still works in a full roll of paper. “Furthermore, the transponder remains functional until the last sheet of paper is used”, according to Silvia Fien. That means it is easy to reliably calculate how much paper is left on a roll.

“ Finally, we got the idea of incorporating the transponder chip into the core during production. ”

Frank Meyer-Niehoff, Felix Schoeller Supply Chain Technologies

The risk of the wrong decor paper being sent to a customer is reduced considerably.

Automatic tallying, shorter unloading times and up-to-the-minute information on the weight of the roll are not the only advantages offered by RFID technology. It also helps to avoid mistakes in the packing process, because the packaging machine selects the correct core on the basis of the data contained in the transponder, which measures just five centimetres. The radio frequency identification is also used at the outgoing goods port: the reader checks the outgoing paper rolls against the loading documents and tallies the inventory in real time. RFID also reduces errors in the print shop and the EGGER factory, because the printer or impregnating machine checks whether the correct paper roll has been inserted. That makes the technology useful for all the companies in the supply chain and gives them a share of the advantages.

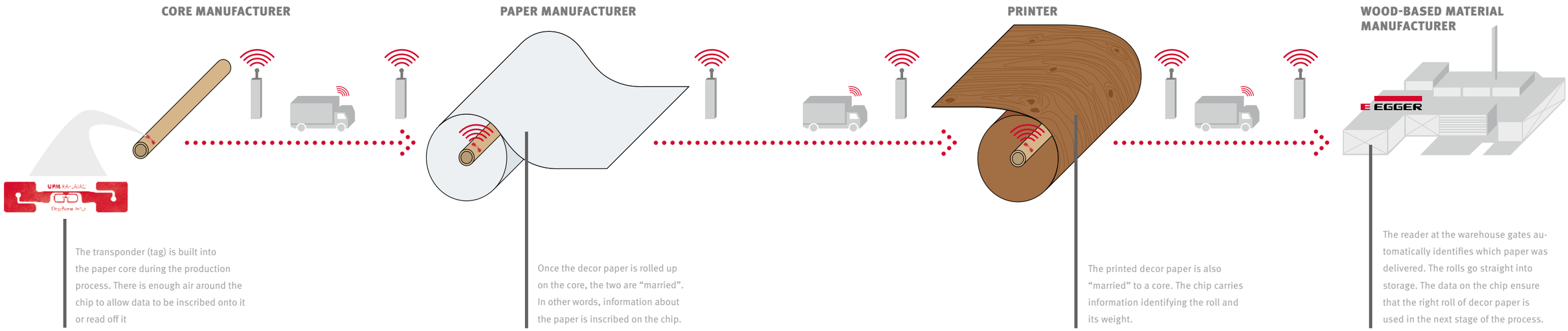
TECHNOLOGY

RFID Radio Frequency Identification allows data to be transmitted between goods and warehouse systems via radio.

TRANSPONDER Also known as the “tag”, is a chip that functions as a transmitter on the decor paper roll. In contrast to a barcode, an RFID chip can both be read and used to store extensive date.

READER Automatically tallies the goods when it makes connects with the transponder.

MIDDLEWARE A kind of software that supports data transmission between two different software systems.



→ But first, they have to make the investment: in the special hard paper cores, which are five to seven per cent more expensive; adapt the system to the existing software; and in hardware such as antennas and readers at outgoing and incoming goods ports and in production machines. To make things simpler, the various partners agreed to place the antenna on the left hand side of a gate. That way, all paper rolls are stacked with the RFID tags on the same side. This agreement significantly reduced the investment costs.

On the supply side, the RFID standard has become so widely accepted that 98 per cent of the decor paper delivered to EGGER arrives at the factory gates on tagged rolls. In the course of the value added chain, more than 300,000 intelligent cores were used. The use of RFID technology is moving forward in EGGER’s production processes, too: by the end of the year, all impregnating plants will be equipped with RFID technology.

EGGER hopes to transfer the knowledge gained in the paper goods cycle onto its entire chain of goods. The company is already using RFID technology for an automated tallying system for wood-based materials between its locations at Brilon, Bevern and Marienmünster. Here, the solution goes so far as to identify and tally the goods when an assigned truck passes the gates. “At the moment, we are working on realising the first multi-stage production process with RFID”, says Silvia Fien. EGGER would also like to agree on the conditions with customers and competitors, to help further automate the logistics between manufacturer and end customer. “There is great interest in the sector”, according to Fien. “Several companies are running pilot projects with RFID, all we need now is a unified approach.” But as the paper project showed, that can be done together.

“ The sector has a great interest in automating the logistics from producer to end customer. ”

Silvia Fien, head of SAP CC Supply Chain Management at EGGER

Once the reader at the warehouse gate identifies the roll, it can immediately be brought to the right place – no need to scan the barcode by hand.

E_NATURE

“The number of health-relevant substances is about 60 million, with some 12,000 new ones added every day. It’s practically impossible to keep track.”

Karl-Heinz Weinisch, Interior Hygiene Expert
Interview (Pages 44–47)

Living Sustainably

THREE AT ONE STROKE

www.ufz.de

Mongolia is the least densely-populated country in the world and goes through bitterly cold winters. It is rich in raw materials but struggles with water scarcity, inadequate waste water treatment facilities and deforestation for firewood. A short rotation forestry plantation with integrated waste water purifier could solve all three problems at one stroke. Since 2012, scientists have been testing a facility near the town of Darkhan, as part of the international research project “Mo Mo” (Model Region Mongolia), to see if fast-growing willows and poplars can survive winter temperatures as low as minus 40 degrees Celsius in frozen, pre-treated waste water.

BACKGROUND CHECKS

www.ti.bund.de

The EU timber trade regulation enacted in March aims to prevent the trade in timber from illegal sources. In cases in which the source of timber cannot be identified, scientists at the Hamburg-based Thünen Expertise Centre for Wood Origins can find the answer. They compare timber and timber products with their collection of wood, which encompasses some 35,000 samples.

THE TASTE OF SUSTAINABILITY

www.stevita.at

Sugar melts in your mouth within seconds, but it can add weight for ever. The calorie-free sweetening agent in the Stevia plant, on the other hand, is up to 300 times sweeter than cane sugar. Correspondingly, it takes much less water and farmland to cultivate it. That makes Stevia a sustainable sweetener, not just for the environment, but for the waistline, too.

A CONVERSATION WITH KARL-HEINZ WEINISCH

Clearing the Air

The effect of ambient air on human health is a complex subject. A conversation with the interior hygiene expert Karl-Heinz Weinisch about measuring techniques and humankind's most important life-giving ingredient.

INTERVIEW BY Till Schröder

Karl-Heinz Weinisch has been living in a wooden house since the 1990s. His study is equipped with measuring devices that regularly test the quality of the air. He is a man of practice rather than theory, a much-sought-after consultant and a mediator between the different specialists who research the complex subject of interior climatology. MORE began by going for a walk outside with him.

MORE: The air is fresh and pure in the forest – or should we be worried about that as well?
Karl-Heinz Weinisch: No, thanks be to God, despite all its smells, mould fungi and pollen allergens, the forest is a place of recreation with excellent air quality. And there are new studies that also back up the theory that typical emissions from wood do not have a negative effect on the average citizen's health indoors, either.

MORE: You once said in a lecture that there are more than fifty million environmental substances known to humankind. How can even an expert like you keep track?
Karl-Heinz Weinisch: Those numbers are out of date already. In 1992, we had just 26 million substances registered around the world. In the meantime, that figure has risen to about 60 million, and about 12,000 new substances are added to the list every day. It is no longer possible to measure everything exactly or to perform a completely comprehensive analysis of an interior climate.

MORE: And are all these substances toxic?
Karl-Heinz Weinisch: The law on hazardous substances distinguishes between toxic and highly toxic materials. They are marked with a skull. But nowadays, we are less worried about toxic substances than about the many health-relevant substances. They are not acutely toxic but due to the great number of them and the diversity of their effects, they pose a certain health risk. However, modern medicine still knows very little about their effects, what happens when they accumulate for a long time; whether they are harmful to people with health problems or to small children or whether they cause allergies or immunity disorders.

MORE: What is the best way of assessing ambient air?
Karl-Heinz Weinisch: Monitoring the quality of interior ambient air is a broad field. Today, we use an internationally recognised quality management system, whereby we draw up inventory lists of substances for interior spaces, based on the raw material used to manufacture the construction materials. That way we can estimate emissions in advance. However, the interplay between various factors such as air and material humidity, aggressive peroxides, nitrogen oxides or ozone makes the subject even more complex. So specialists have developed a standardized measuring procedure based on the latest technology. For example, it analyses the actual emissions from wood-based materials and thus yields more practically applicable measurements.

MORE: What role do these measurements play in legal disputes?
Karl-Heinz Weinisch: The analysis of ambient air in interior spaces is often over-simplified and that can also lead to problems. For example, the German →

Karl-Heinz Weinisch has been living in a wooden house in Weikersheim for almost twenty years.

→ Federal Office for the Environment recommends a limit of 1,000 µg per m³ of TVOC – for a certain number of volatile, organic substances. This limit says very little about their effects on human health. But lawyers like to cite this limit when their clients complain of allergies and other symptoms. Tomorrow, for example, I must mediate at a school construction project and suggest solutions.

> *“ In future, manufacturers and interior hygiene experts should work together on innovations that reduce the amount of hazardous substances in products. ”*

MORE: Are the allegations without foundation?
Karl-Heinz Weinisch: I don’t know yet. Most people find the smell of wood pleasant. However, wood emissions, to which people with allergies or other health problems react sensitively, can accumulate in poorly ventilated interior spaces. In well-ventilated rooms with adequate amounts of oxygen, timber emissions do not last long. If we don’t ventilate, even the smell of wood can become unpleasant, because nitrogen oxides, peroxides and CO_2 build up. There are a range of studies proving the effects of emissions from wood and other construction materials on the human organism.

In contrast to emissions from wood, however, hazardous chemicals have a longer half-life; they accumulate in household dust and hence also in the human body.

MORE: What assessment criteria do you recommend?
Karl-Heinz Weinisch: In Europe, there are guidelines for standardized analysis of interior ambient air such as the DIN ISO 16000ff TVOC measurement. Unfortunately, often the ambient air is measured on a worst-case basis in rooms that have not been ventilated for eight hours, without an expert assessment of the building. Over a period of eight hours, the emissions from timber increase because they cannot be dissolved by excess oxygen. A measurement result like that offers lawyers and experts a great deal of room for speculation. We have long been calling for legally binding comparative and hygiene-orientated measurement strategies and legally binding limits and guidelines with standardized ventilation.

MORE: What kind of status has formaldehyde among consumer advocates?
Karl-Heinz Weinisch: Soft wood naturally emits formaldehyde, just like humans and other animals, by the way. A completely formaldehyde-free interior ambient air is almost impossible. Nowadays, urea formaldehyde (UF) resins are being used less and less in timber-based construction materials. Instead, formaldehyde-free isocyanate resins or melamine formaldehyde resins are increasingly being used. So construction materials are emitting less and less formaldehyde or even none whatsoever. Chipboards are completely faced for furniture manufacture, and that effectively seals in the formaldehyde. One new development is that more and more cheap furniture or floors from abroad are contributing to formaldehyde emissions. To protect the consumer, manufacturers and interior hygiene experts should work together in future on innovations that reduce the amount of hazardous substances in products.

MORE: Is there such a thing as an emissions-free building?
Karl-Heinz Weinisch: No. We put a lot of thought into building our wooden house, for example. You will be hard-pressed to find toxins and other hazardous substances in the interior rooms. We used only tested and completely declared products. All the same, we regularly test our interior ambient climate for formaldehyde and other dangerous substances, using hand-held devices. Of course, people with allergies could react negatively in my house. But in the five years during which the house served as a show house for our construction firm at the time, that hardly ever happened. Since we’ve been living here, my asthma and my allergy to pollen have gone away. My experiences with timber as a construction material have been positive.

MORE: How can we avoid nanoparticles, chemicals and volatile organic compounds (VOC)?
Karl-Heinz Weinisch: It’s important to collect information about the origins of and substances in the product before purchasing. There are different rules governing hazardous materials outside the EU – consumers should be conscious of this. Emissions also arise when construction materials are used incorrectly, when they are applied too thickly, not dried out correctly or when chemical processes take place in paints and floor coverings. Cleaning agents and detergents also contribute to the ambient air. Substances like that can accumulate in wallpaper, wood or wood-based boards, so that sometimes the wrong conclusions are reached after material analyses. In future, it will not only be up to manufacturers, tradesmen and architects to worry about interior climate in sealed rooms. Consumers must also learn to ventilate regularly and correctly.

MORE: And what if the house is built on the side of a busy road?
Karl-Heinz Weinisch: You could install a ventilation system with filters, change your household detergent, put in plenty of leafy plants or – like we’re doing now, get out and enjoy some sunshine and fresh air. Healthy air, our most important life-giving ingredient, is free when we take a walk or go jogging in the woods and the great outdoors.

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1 From an early age, the woods and wood have played a leading role in the life of Karl-Heinz Weinisch.
2 He is also a consultant to this timber house project near Heilbronn. His Institute for Quality Management and Ambient Hygiene is to move into the top storey.

1 Forests are not just a source of timber. They offer a habitat for flora and fauna and a place of recreation for people.
2 From hearth to heating system: people are increasingly using woodlands to meet their own heating energy needs.
3 More and more forest owners and do-it-yourself lumberjacks are reaching for the chainsaw themselves. 4 Companies who buy large quantities of wood are building trust among forest owners by offering services and a high level of transparency.

A Knotty Question

Europe’s forests and its timber reserves are growing. Yet only a fraction of the wood makes it onto the market. Forest owners and wood processors are working together on more modern structures to improve communication and build up trust. MORE takes stock.

BY Till Schröder

Owning your own forest has many advantages. If it’s not too far away from where you live, you can simply take a walk in the woods whenever the need takes you. It’s a piece of nature that the owner can turn into an ecological oasis just by leaving it untouched. Assuming there are no nature preservation laws to the contrary, the forest owner can take his axe or chainsaw to the trees for firewood: as long as he knows which are his. In smaller woodlands, this is by no means a foregone conclusion. For example, there are people who inherit forests yet lead city lifestyles that are far removed from forestry. Or they invest in woodlands, which are currently considered a safe haven in uncertain economic times. In specialist literature, they used to be described as “urban forest-owners”. However, experts have moved away from this designation because it does not do justice to the complexity of the subject. “We prefer to speak of novel forest-owners”, says Bernhard Wolfslehner, a scientist at the Institute for Forestry at the University for Natural Resources and Applied Life Sciences in Vienna. “They represent a growing share of the sector.”

In general, private owners account for a growing share of Europe’s forests, in contrast to states. That’s according to the latest report on the state of Europe’s forests issued in 2011. The report was published to mark a ministerial conference in Oslo held by Forest Europe, an intergovernmental negotiating committee.

The report says the main reasons for this development are privatisation and the return of lands confiscated by Communist regimes. With the prominent exception of Russia, where all forests are state-owned, private owners possess half of Europe’s forests. Other sources, such as the report by the latest Austrian Forest Inventory, speak of 70 per cent private ownership; with a clear majority accounted for by owners of small and very small woods – areas of 20 hectares or less.

These are only rough guidelines, since the amount of data available, the time they were gathered, laws and property types vary greatly from country to country. The forested areas are fragmented; in many places, there is little incentive for owners of small and very small forests to try to market their timber. “Why should they fell their trees and sell the wood?”, asks Hans Baur, the restless but affable manager of the Bavarian →

→ Association of Forest Owners. It's a rhetorical question. "With current interest rates, the money in the bank grows slower than the trees." This is not good news for saw-mills and the wood-processing industry. Resources are scarce. In his latest report in the availability of timber as a raw material for Germany, issued in October 2012, Udo Mantau estimates the size of the country's reserves: "The only area in which there are potential reserves worthy of mention is in woodlands and this can only apply if society accepts more intensive use of timber." Mantau, a scientist at the Forestry Centre of the University of Hamburg played the lead role in compiling the 2010 EuWood study, which was the first to calculate just how scarce Europe's wood has become: the study found that there would be a shortfall of 69 million cubic metres by the year 2020 if we keep going the way we are.

Timber from small forests must be bundled for the market.

There are also structural problems in the way. Small forest owners who wish to market their timber need infrastructural support. If they go it alone, the revenue does not justify the cost. At the same time, there aren't enough professional agents to bundle volumes and mediate between the wood owners and the wood-processing and paper industries. On the German market, at least, new privately owned or partly state-owned marketing societies in which small forestries pool their resources, are pointing the way. The German organisations "Waldmärker" in Uelzen, "Waldholz Sauerland GmbH" or the public-private partnership "Wald-wird-mobil.de gemeinnützige GmbH" have developed promising approaches for marketing the Thüringer Wald (Forest of Thuringia). Buying round wood from small, privately owned forests is expensive and seldom economically viable for a manufacturer of wood-based materials like EGGER. That's why the company welcomes efforts by small forest owners to mobilise. "There is a limit to what we can do", says Bertram Cramer, who is responsible for timber purchasing at EGGER. However, the company is building up a go-between service. "In the beginning, forestry associations and other private and public marketing organisations had their doubts but in the meantime, we have built up a lot of trust. That involves not just reliable partnerships but also our own forestry companies, such as EGGER Forestry in England, HolzLogistikHandel (HLH) in Austria and, since 2012, EGGER Forst GmbH in Germany, which act as service partners between forest owners and the industry." That way, EGGER also buys standing timber, especially within a radius of 150 km around a factory, harvests and transports the lumber to the processing plants, weighs and measures it immediately and makes the accounting data available to the forest owners on a daily basis via the Internet portal CoSeDat. "Word has got around about our high level of data transparency and our quick and easy accounting system", says Bertram Cramer. "We are leaders when it comes to transparency."

Nevertheless, there is room for improvement when it comes to cooperation between owners and customers. EGGER is expanding its network of purchasing agents and is actively seeking an exchange of expertise and points of view. Because many owners and processors have very different perspectives on the situation: while saw mill operators and manufacturers are increasingly worried about rising prices and an increasing scarcity of timber, forest owners are less concerned. "There won't be a scarcity of timber" says Wendelin von Gravenreuth, policy advisor to the Confederation of European Forest Owners (CEPF). "The market will regulate supplies via pricing." Assuming the price is right, that does not answer the question of how a small forest owner's timber will make its way onto the market. Furthermore, the forest owners' associations are demanding state support in the form of improved infrastructure, marketing campaigns and business consultancy services. One thing is sure: more information and communication are good for all involved: those who need the raw material that is wood and those who wish to take timber to market – and those who just want to know where their trees are, whether it is to preserve them as an ecological niche or to fulfil the perfectly legitimate desire to take regular walks in their woods.

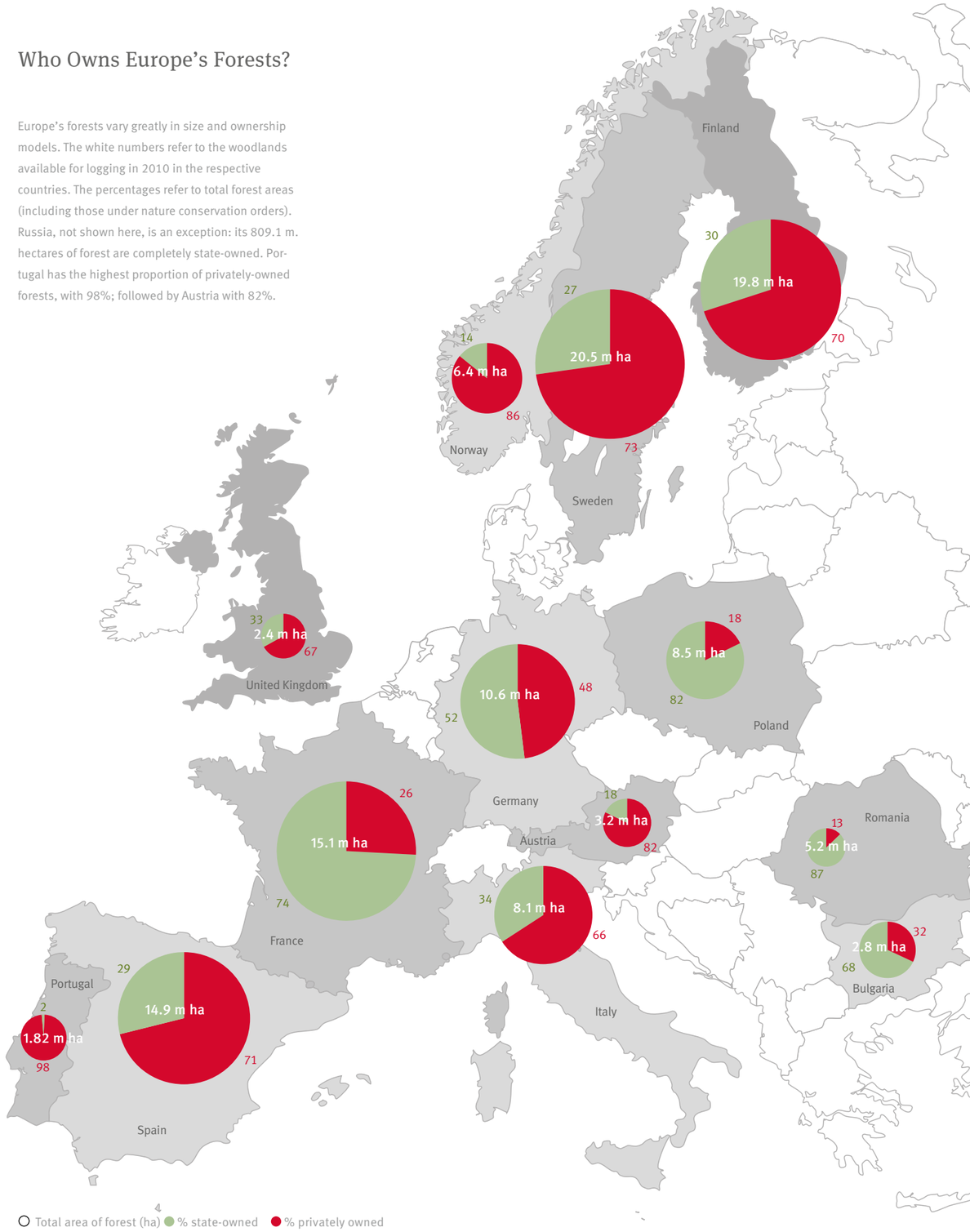
RAW MATERIALS

WHERE DOES EGGER'S WOOD COME FROM?

EGGER is sparing with wood at various stages of its manufacturing material cycle. The principle is called cascading use: the company's own biomass power plants burn only wood that can no longer be used in the production process. Furthermore, EGGER is constantly increasing its recycling rates and the share of used wood in its manufacturing. The group is building up recycling companies in England, Germany and Romania. EGGER buys fresh timber from sustainable forestries only. Through its own forestry companies, EGGER Forestry in England, EGGER Forst GmbH Deutschland and Holz-LogistikHandel (HLH) in Austria, the manufacturer offers to buy standing timber from forest owners. EGGER is banking on long-term partnerships and makes sure forests are used sustainably.

Who Owns Europe's Forests?

Europe's forests vary greatly in size and ownership models. The white numbers refer to the woodlands available for logging in 2010 in the respective countries. The percentages refer to total forest areas (including those under nature conservation orders). Russia, not shown here, is an exception: its 809.1 m. hectares of forest are completely state-owned. Portugal has the highest proportion of privately-owned forests, with 98%; followed by Austria with 82%.



Sources: Austria: Austrian Forestry Inventory Report, April 2012 (Surveys from 2007 to 2009). All other countries: Eurostat Statistical Book "Forestry in the EU and the world", 2011; "State of Europe's Forests 2011" (SoEF 2011), to mark the FOREST EUROPE ministerial conference on protecting European Forests in Oslo.

PICTURE PUZZLE

Tree-Hugger’s Corner

The name of the tree-hugger we are looking for this time was synonymous with banditry in mediaeval England. Nowadays, the legendary archer is a popular hero, who stole from the rich to give to the poor – if the books and films are to be believed. Experts are divided over whether he really existed. His stage was a famous forest whose huge, ancient, oaks still stand. They are to be found in a nature reserve surrounding the village of Edwinstowe in the English county of Nottinghamshire. The enormous, sprawling crown of the most important oak, the “Major Oak”, is said to have been the headquarters of our tree-hugger and his “Merry Men”. The tree is estimated to be 800 – 1,000 years old. Who is this mythical mediaeval figure?

Send the solution to **MORE@egger.com**. Correct answers will go into a draw for a clic stool (p. 17). The closing date for entries is 15 September 2013. There is no right to redress through the courts.

The picture puzzle in MORE 02 featured a water-skier and, behind the tree, a sports boat captain clad in white. The personality in question was Carlo Riva, builder of the legendary Riva leisure boats. Many thanks to all those who took part. The winner received a “SCRW” stool by the designer Manuel Welsky.

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