

THE ISO CELL LER

THE ISOCELL MAGAZINE
02|2017 ISSUE

FRUITFUL CELLULOSE

HOW OLD INSULATION
IS COMPLETING THE
"WOOD CYCLE"

SUSTAINABLE CREATION

WHY THE DIOCESE OF
INNSBRUCK IS
RELYING ON ECOLOGI-
CAL CONSTRUCTION

THE WOOD WHISPERER

RESEARCHER
JULIA BACHINGER
KNOWS JUST HOW
SENSITIVE WOOD IS



ISOCELL



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IMPRINT:

Publisher: Isocell GmbH
Gewerbestraße 9
5202 Neumarkt am Wallersee

Layout and graphics:

Kernkompetenzen GmbH and ad.hroß KG
Printing: Gutenberg-Werbering GmbH
Photography: Shutterstock, Kernkompetenzen,
Isocell GmbH, Peter Baier, Wolfgang Hubner,
Gutmann Holzbau, Honigmayr, Julia Bachinger,
Christina Krimbacher, David Schreyer, teamk2,
Schafferer, Fahrtraum, Konrad Steiner,
Mathis Wackernagel



WE ISOCELLERS NEVER STOP. WE ALWAYS WANT MORE.

More technology and progress, for example — and this applies not least to our favourite insulation material. Cellulose has already impressed many experts around the world and is popular as a contemporary, modern and innovative insulation material. However, our cellulose could soon find another use altogether.

A project with students from the HBLA Ursprung agricultural college under the direction of Prof. Dr. med. Konrad Steiner is researching the influence of cellulose on soil fertility. The first experiments have already produced overwhelming results.

Even Dr. Mathis Wackernagel, the “Sustainability Master” par excellence and inventor of the ecological footprint, has congratulated us on our fertiliser experiments. He views our endeavour as a flagship project because it will allow the cycle of the natural raw material, wood, to be completed. In this issue of THE ISOCELLER project leader Konrad Steiner explains why cellulose could soon provide greater yields in agriculture.

A similar degree of innovation can be found in the west of Austria. In Tirol, the Roman Catholic Diocese of Innsbruck is working on another flagship project — a construction project, to be precise. The so-called “Bildungshaus St. Michael” education centre is being built using ecological construction methods. For an organisation of this size, unfortunately, this is far from straightforward. At the foot of the Brenner Pass, we went in search of clues with the project’s protagonists and learned that the building has become a model for other institutions even before its completion. In our series about our locations

outside of Austria, we travel to Sweden, where a whole nation is choosing to rely on the natural material, wood. Given that Sweden contains more forested areas than any other European Union country, this is hardly surprising.

We also brought a recipe back from Sweden — what culinary delights do you associate with the country of Ikea? Meatballs, naturally.

Also in this issue: an interview with one of the “wood whisperers” from Holzforschung Austria, who tells us about new findings in the field of windproofing, as well as a detailed conversation with Wolfgang Hubner — the expert par excellence for the new and innovative field of monitoring for buildings.

All this, and even more besides, can be found on the following pages.

We hope you enjoy this issue of the ISOCELLER.

Gabriele Leibetseder

THE ISOCELLER
SENSOR TECHNOLOGY



THE “GENERAL MEDICINE” OF THE CONSTRUCTION INDUSTRY

Editing: **THE ISOCELLER**

Wolfgang Hubner is Managing Director of the institute for flat-roof construction and structural waterproofing (Institut für Flachdachbau und Bauwerksabdichtung). In an interview with the ISOCELLER, he discusses building monitoring, a major topic for the future of the construction industry.

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The aim of all measurements must be to ensure that, within defined limits, an assessment of the moisture content in the roof structure is possible.

Mr Hubner, you've been Managing Director of the institute for flat-roof construction and waterproofing since 2005. How did you establish the network?

Before us, there was no network that specifically dealt with the sealing of roofs or buildings on a technical basis. Due to the considerable damage that often occurs in these areas, we saw potential here and founded an organisation in which many responsible bodies work together, including construction associations within the chamber of commerce, the chamber of architects and engineers, building academies, colleges and technical universities. First and foremost, we try to use training and education to bring dynamism to the technical development of flat-roof construction and structural waterproofing.

As well as being the head of the institute and an expert in this field, you are also considered an expert in a relatively new field — monitoring. Why are you so interested in this innovation?

As with all things, our service also required a development phase. Three years ago, we came to the conclusion that we offer a

lot in terms of training. It is also the case that today's architects are provided with particularly precise calculation methods for building physics. Nevertheless, we have noticed that, despite all the training and planning tools, the damage has simply relocated.

Whereas we used to primarily see damage resulting from flawed execution, we are now increasingly seeing problems that are related to building physics. Until three years ago, we had a status quo in which a building in situ gave us no feedback. While we can prepare and build everything as well as possible, if we do not get feedback over the useful life of a property, a key link in the "potential damage chain" is missing. Monitoring should replace this missing link. I would compare monitoring with the work of a general practitioner. We first want to investigate the fundamentals — then we can call in the specialists, such as a roofer.

What kind of technology is this based on?

We have several different approaches. For example, Isocell has one product in its portfolio that measures the moisture conditions in the roof structure via contact lines that are inserted in the roof structure. But there are also other traditional sensors that represent electronic components and measure the relative humidity and temperature. The aim of all measurements must be to ensure that, within defined limits, an assessment of the moisture content in the roof structure is possible. In terms of figures, the end results should ideally be the same, regardless of the manufacturer. The data needs to be comparable as otherwise it cannot be scientifically evaluated.



Monitoring as a missing link for feedback during the building's useful life. After a fundamental analysis, we can then call in the specialists, such as a roofer.

Building Information Modelling (BIM), which makes building planning, construction and management more efficient, will certainly benefit.



Monitoring can benefit many different buildings:

Left: Thomson und Ludwig Architekturbüro GmbH – terrace buildings in Klingnau

Right: Neumann Architekten GmbH – Flight Training Centre

Expansion of the simulation building in Frankfurt am Main

What do you expect from the ÖNORM standard, which is just emerging?

A lot. The ÖNORM B3693 standard was created to ventilate and isolate the individual systems in the grey area between monitoring and leak detection, which are two entirely different technologies. Thanks to the collaboration

between the various manufacturers on the standardisation committee, it is possible to identify the areas in which overlaps and additions exist. Therefore, when the ÖNORM standard is ready, we will achieve a very good result and an interface via which anyone who wishes to contribute can share their data. The exciting aspect here is that we will get to understand the reality, because to date we have only known first the theory and then ultimately the actual problems.

For whom will the results be of particular relevance?

For many different users. Building Information Modelling (BIM), which makes building planning, construction and management more efficient, will certainly benefit. It's not yet clear how the findings will be translated into adjustments in all areas. In two years, we will certainly already possess a completely different level of knowledge than is the case today. Monitoring is a very young discipline, which was actually first

brought to the surrounding European countries in earnest from Austria. We can say this with confidence. If you look at trade magazines today, you will find numerous reports about it.

The industry has really been waiting for it.

Definitely. Many bright minds in the industry were thinking along these lines. In some cases, decades ago. But with the recent technological development of data transmission via GSM modules, paired with internet interfaces or mobile apps, data can be transmitted very easily and inexpensively. This has enabled every aspect necessary for the creation of this system. Now, the new developments will come thick and fast. And if you look at how many monitoring projects have already been completed and how many are still in the submission phase, you can see that something is definitely happening.

How important is training in the field of roof monitoring? After all, we are talking about craftsmen rather than electrical engineers.

You have to separate the two. If not, the roofer would find himself in a conflict with regard to his trade licence. I believe that future monitoring systems will have very clear interfaces. The roofer should then be able to install the system in the future, without needing the services of an electrical engineer, because coordinating both activities is often a challenge. As an alternative to the roofer, the installation could also be carried out by a monitoring specialist. And when it comes to installing a data logger, this could easily be done by the electrician or IT manager. In this context, we should also mention ASMME, the Association for



INFO

Wolfgang Hubner is a construction expert and also an expert in moisture sealing in structural engineering. As Managing Director of the institute for flat-roof construction and waterproofing, he is committed to the new trend of monitoring as well as other new developments in the flat-roof sector: www.ifb.co.at

Moisture Monitoring and Engineering. It is an institute that will in future train monitoring specialists at the technical university of Vienna (TU Wien). And just because it's a university doesn't mean that only graduate engineers will be admitted. Roofers will be able to take part in the training as well. In-depth education in construction engineering and physics will be offered as well as practical training. The practical element of the course can then be completed at companies such as Isocell.

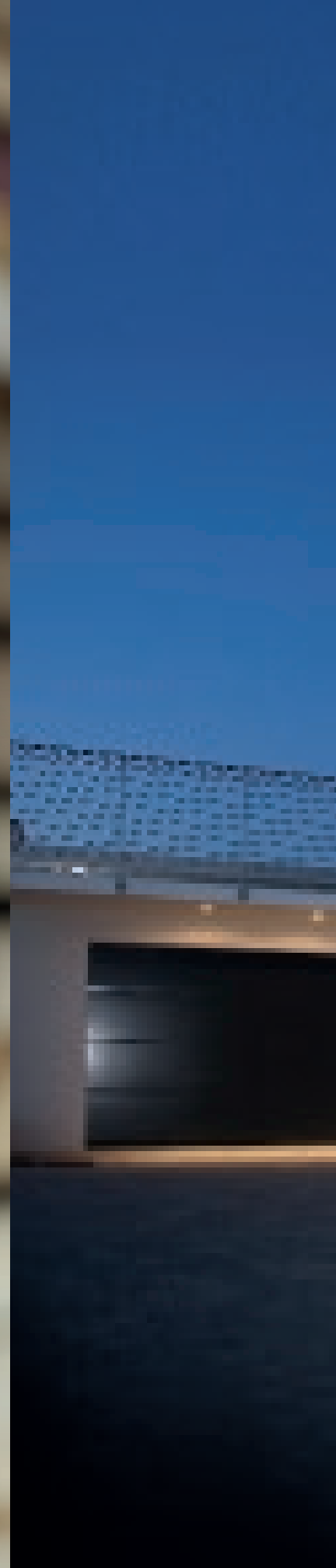


STRONG PARTNERS
GUTMANN HOLZBAU

ONCE UPON A TIME THERE WAS A PROTOTYPE...

Editing: **THE ISOCELLER**

Isocell's machine technology has developed significantly in recent years — thanks in no small part to a timber builder from Germany.





STRONG PARTNERS GUTMANN HOLZBAU

It was the second machine of its kind — and yet also the first. When Isocell developed the first bridge solution for blowing cellulose insulation into wooden frame elements in 2000, an initial prototype was produced. However, the machine's useful life was cut short when the Swiss factory that housed it burned down. It was a different story for the second machine, which was developed for a German company in 2006.

The ninth largest town in the German region of Hessen is home to 67,000 inhabitants and lies right in the heart of the country — Fulda. At the wood construction firm Holzbau Gutmann, which is based just a short distance from the town, the processing of timber is overseen by the fifth generation of the Gutmann family in the form of the current managing directors, Dirk and Rüdiger Gutmann. When the first prototype blowing machine from Isocell was produced in Switzerland in 2000, it was used to build wooden houses here, near Fulda. Thanks to an innovation in wall construction by Gutmann — a cable duct that was patented in 2016 — the wall elements could only be blown-in while lying down. “Isocell designed the right machine for this application and developed its original prototype from 2000.” A very special blowing machine was created. It was a pilot project that was being

promoted; it worked superbly for us and revolutionised blow-in technology,” recalls Dirk Gutmann. Indeed, the Isocell machine continued to produce outstanding results for years afterwards. Until this summer. Ultimately, just as the world continues to turn, Isocell's technological evolution has taken its course. “A lot has happened since 2006, so we decided to create a new machine. The new one lets us produce even more effectively and thus build more houses,” says Gutmann.

Isocell's latest blowing machine, which can also be operated via tablet, has been in operation at Holzbau Gutmann since May this year. Every day. “We work exclusively with cellulose. We don't have any customers who want to use glass wool. We stand for high-quality materials,” says Dirk Gutmann, explaining why the new blowing machine more than makes sense for his family business.

For three years, his company has also been producing prefabricated houses under the Gutmannhaus brand. About 25 are produced annually, a third of which are turnkey homes. That requires around 100,000 kilos of cellulose per year. In addition to this segment, normal carpentry and renovations remain on the agenda.

48 employees work for Holzbau Gutmann — and actually the whole family helps out. Their father, Reinhold, is still happy to work at the age of 69, and even their mother, Margarethe, refuses to stop working at the age of 65. And with Dirk Gutmann's wife Christine, his sister-in-law Sabine, his brother's wife, and managing director Rüdiger, the new generation is also fully committed. “That works well and suits us,” explains Dirk Gutmann. “And we don't want more than 50 employees. Otherwise it would be too big and hard to manage,” he smiles.

Incidentally, the new Isocell blowing machine will also help here. Not only can it be used more precisely and faster, thanks to its fully automatic blow-in capability the firm also needs fewer personnel.



THE ISOCELL BLOWING MACHINE IN USE



The concept of blowing-in while lying down was developed by ISOCELL. At Holzbau Gutmann, a prototype went into operation in 2006, which performed well for over a decade.



WOOD CONSTRUCTION PERFECTED



OVER A CENTURY OF EXPERIENCE

Based near Fulda in the German federal state of Hessen, the family-owned Gutmann company has been processing wood for over one hundred years. Despite being firmly rooted in the Rhön Mountains, an area in which timber-based construction forms the main pillar of the region's architecture, the activities of the company also extend to the whole of Germany. The fifth generation of the company is managed by brothers Dirk and Rüdiger Gutmann. Three years ago, the firm also began building prefabricated houses. Buildings of the Gutmannhaus brand can even be found in cities hundreds of miles away, such as Berlin or Rheinfelden. On request, the prefabricated houses can also be handed over as turnkey homes.



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Gutmann has been working with wood for five generations. Three years ago, the firm also began building prefabricated houses.



THE PERFECT CYCLE

Recovered paper is recycled six times before it becomes cellulose insulation. And cellulose insulation can be blown-in up to three times. Yet even then the cellulose is far from worthless. In fact, it may still be extremely useful — as a fertiliser for agriculture. Project leader Prof. Dr. med. Konrad Steiner on a pioneering recycling scheme that completes the cycle for the raw material, wood.

Editing: **KONRAD STEINER**





PROFILE

Prof. Dr. Konrad Steiner owns an engineering office for biology and earth sciences, is a teacher at the HBLA Ursprung college (higher federal educational institution for agriculture, environmental and resource management), as well as a small-scale farmer and a successful member of the "Spürnasenecke", an institution that gives kindergarten children a chance to do research and experimentation. www.ursprung.at www.spuernasenecke.com

The students at the HBLA Ursprung are evidently enjoying their research with cellulose.

It all started with a specialist magazine article about boric acid. Although boric acid is actually a "substance of very high concern", the old saying by Paracelsus definitely applies: "The dose makes the poison". With the correct dosage, boric acid is actually extremely useful — in organic farming, for example, because it is needed by many agricultural crops.

As it happens, boric acid is also used as a natural fire retardant — as part of Isocell's cellulose insulation. Our idea was perfectly logical. We wanted to experiment to see if something useful might arise from this coincidence. We performed our first experiment using an oven made from food tins that was based on a YouTube tutorial. We transformed old cellulose insulation into coal and sent it to Seibersdorf for

analysis. And lo and behold, the results really amazed us. We then started a project with the HBLA Ursprung college, where I work as a teacher.

We recycled old cellulose insulation by carbonising it in a pyrolysis furnace in a toxin-free process and using the waste heat. Incidentally, this took place at the company Sonnenerde in Burgenland because, at that time, they had the only approved profession-

al pyrolysis furnace in Austria.

The Austrian Agency for Health and Food Safety Ltd. (AGES) subsequently examined our product for all kinds of toxic substances, such as heavy metals, PAHs or dioxins.

RESEARCH & DEVELOPMENT THE PERFECT CYCLE

The results were significantly below all legal limits. Incidentally, we are deliberately referring to “products” here rather than fertilisers, because a product can only be called a fertiliser once it has actually been approved for use as such.

We have now been researching and experimenting for two years. Two field trials have been completed; four more are currently underway. Among other things, we have found that corn and rapeseed benefit from our product and it actually increases their protein and fat content. In addition, our first harvest of silage corn saw a seven-per-cent increase in the total yield. It remains unclear why the plants also contained more manganese, as the manganese does not come from the boron coal. However, perhaps boron stimulates the metabolic processes involving manganese, which is a really exciting substance. It has a direct influence on photosynthesis, is involved in the formation of chloroplasts and affects cell elongation. Another of our product's effects is even more exciting. Our processed cellulose acts like activated carbon and therefore absorbs the odour of manure — up to three quarters of the odour even, as was recognised in a pre-trial at the Wels Campus of the FH Upper Austria University of Applied Sciences (FH Wels).

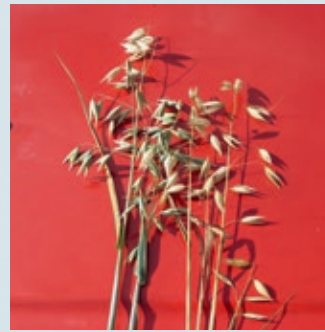
What we are missing now is the legal framework. Although the Ministry of Agriculture has granted us permission to conduct further field trials with comparatively few hurdles due to the

sustainable nature of our project, not officially fertiliser, it is actually classified as waste. And waste cannot be spread on a field!

This is why we need to be able to confirm our experiments and achieve significant repetitions as part of a major research project — and use this scientific basis to obtain approval for our product.

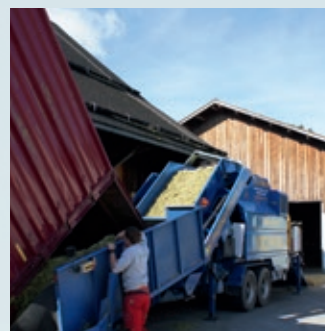
That would be truly groundbreaking. As an expert in resource management and sustainability, I have been involved in the recycling economy and cascade utilisation for some time. Recycling economy means that 100% of the raw material used in the production of a product is returned to the production process at the end of the product's life cycle. Cascade utilisation means that a raw material is used across multiple levels.

In any case, Isocell's cellulose insulation is already a very sustainable product. By the time conventional recovered paper is processed into cellulose insulation, it has already been used six times — and the resulting insulation material is then used up to three times. If we can then process the old insulation that is due for recycling into a fertiliser, this would represent the maximum cascade utilisation of the original raw material, wood. We would thus complete the cycle — and would even end up with a negative carbon footprint, which is de facto the most positive thing you can aim for.



The reuse of cellulose insulation has already been researched for more than two years.

The correct application of the fertiliser required careful consideration.

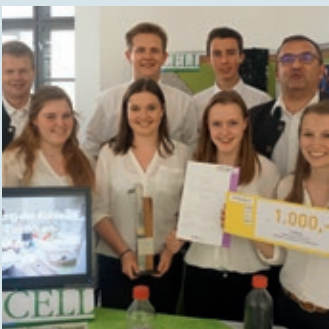




The students from the HBLA Ursprung college have been fully committed from the beginning.



This is how the cellulose looks after further processing via the pyrolysis process.



The first results are more than positive — further experiments are in progress.

A FLAGSHIP PROJECT



production of agricultural fertiliser from dismantled building materials is prohibited by law.

I regret this situation and hope that my letter might provide some support and motivation for a rethink of the statutes concerned. In the idea presented, I see a flagship project for resource efficiency and environmental protection. And that should be celebrated and not prevented.

I would like to warmly congratulate your pupil Peter Schnitzhofer, you and the higher federal education institute for agriculture (HBLA Ursprung) for this project. I am particularly pleased that this forward-looking initiative has been created and developed within the framework of training young people. I wish you and your team at the college and at Iso-cell every success with the further development and establishment of the "Coal-boron fertiliser from old insulation material". Please keep me informed about the project.

Warm regards
Dr. Dr. h.c. Mathis Wackernagel
President, Global Footprint Network

Dr Mathis Wackernagel is the inventor of the ecological footprint and president of the Global Footprint Network. In an official letter to Konrad Steiner, he expressed enthusiasm about the potential of the fertiliser produced from old insulation:

Dear Professor Steiner,

I was very interested in the documentation concerning the project "Coal-boron fertilizer from old insulation material" and am excited about the idea. This cascade utilisation of the resource wood with optimal CO₂ savings at the same time is fascinating. (...)

As you have told me, for legal reasons in Austria it is currently not possible to obtain approval for its use as a fertiliser. Although several official laboratory analyses have definitively ruled out any environmental hazards from coal-boron fertiliser produced from existing insulation, and have confirmed its benefits as a plant nutrient, the



PROFILE

Dr Julia Bachinger works for the faculty of building physics at the Holzforschung Austria research institute. Born in Upper Austria, she studied architecture in Vienna and has worked at architecture and building physics offices in Vorarlberg and Switzerland.



THE WOOD- WHISPERER

Editing: **THE ISOCELLER**

Julia Bachinger works in the building physics department at the Holzforschung Austria research institute. Her specialism is problems with moisture and heat. Most recently, the native Upper Austrian has been focusing on wind-proofing — with illuminating results.

RESEARCH & DEVELOPMENT HOLZFORSCHUNG AUSTRIA

Ms Bachinger, how did you arrive at wood-construction research?

I originally studied architecture, but was always fascinated by building physics. After working in a building physics office in Vorarlberg, I deepened my focus through my dissertation and came across wooden flat roofs, which were a hot topic ten or fifteen years ago. That type of roof design is insulated between the rafters and therefore susceptible to humidity. As a building physicist, wood is probably one of the more exciting materials because you have to know how to use it properly. Having said that, I think that wood is one of the more exciting building materials generally, and not just from the point of view of building physics.



Holzforschung Austria operates a site for field trials in Stetten in the north of Vienna.



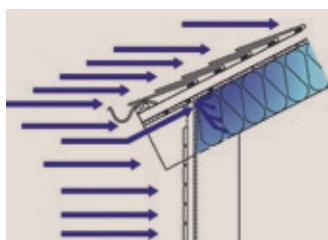
WINDPROOFING RESEARCH PROJECT



Julia Bachinger and her colleagues carried out research for more than two years...



...and showed why windproof construction is important.



Why?

I'm also convinced about the potential of wood from an architectural point of view, because it can do so much. Of course, there are always colleagues who think that concrete is better, because it allows us to create all shapes. But I can do this with wood too. You just need a better understanding of the material in order to use it properly. Facts such as these make working with wood more exciting.

“Understanding the material” — this is a good description of your work at Holzforschung Austria. Which properties of wood are you trying to get to know even better?

I work in the field of building physics and mainly deal with humidity and heat problems. Other colleagues in our field are involved in fire and sound insulation, for example. Specifically, a small part of our work is building physics consultancy and expertise, the majority takes the form of research projects focusing on problems related to building physics. The latter is my main area of occupation. As part of these projects, we work with partners from industry and business, such as Isocell. Our activities range from simulations to laboratory and field trials. Above all, our goal is to generate output that actually helps in practice, i.e. on the building site and not just on paper.

A major research project that you recently completed focused on a windproof connection to the eaves in timber construction. Why is this particular area of such importance?

This project was funded by the Austrian research promotion agency (FFG) and involved many project partners — including Isocell, but also the guild of roofers and plumbers, the Austrian association of prefabricated

housing (Fertighausverband) and many others. The point was that the eaves connection between the outside wall and the pitched roof is often neglected when it comes to windproofing and is difficult to manufacture because the rafters pass through this area and form a canopy. There are always connections around these rafters that are difficult to seal against the wind. You might say that it comes down to a small detail that is nevertheless difficult to get right. We looked at what happens if this area is not properly sealed, and also asked the question: how can we make it more windproof? One reason why the whole project got off the ground was the wording of the Ö-Norm B 4119 standard for the “Planning and execution of sub-roofs and trussed beams”, which states that “minor leaks are permissible” for windproof connections. Of course this raises the question of what is minor — everyone interprets it differently.

What insights could you draw from the research?

Too many to list quickly in one question (laughs). No, of course it was a long process that produced many different insights. After all, we did research for more than two years and carried out laboratory experiments as well as a field trial. In the laboratory experiments, we first looked at whether the roof pitch has a major impact. We quickly realized that there is little difference between sloping and flat roofs. We used three different insulation materials — light mineral wool, heavy mineral wool and cellulose. We recognised that cellulose has more wind resistance than light mineral wool. Heavy mineral wool was within a similar range to cellulose. A fundamental insight was therefore that it is not always necessary to use foil for sealing, as other suitable insulation materials also provide good

results. Also, different gap widths were an issue. The tests showed that it doesn't really matter how big the gap is — as long as there is one, the amount of heat loss is pretty much the same. Another topic was the subroof membrane. Can this simply be glued in place? What happens if it is glued to the wrong form board? We realised that incorrect masking results in significant heat losses.

Where did the field trial take place and what were the results?

At our location in Stetten in the north of Vienna, near Korneuburg, we built a small roof at the height of a single-family

house with a 30-degree pitch and west orientation, because the area mainly receives westerly winds. We introduced the three insulating materials in turn — light and heavy mineral wool and cellulose — and took repeated measurements with different gaps on the eaves joist throughout the winter. We again saw that the insulating material makes a difference, and that cellulose performed very well. In addition, we discovered that a sufficient canopy provides good protection. In any case, we were satisfied with the variety of the results.

Can projects like this create awareness for improved wood-proofing in construction?

Certainly. The difficulty is always that we do our research projects and create a report, which is read — being pessimistic — by no more than five people. This is understandable and we therefore publish additional leaflets about these projects in which the essential findings are summarised for the practitioners. In this way, we can have a real impact on the construction industry.

How much room for improvement still remains in this area?

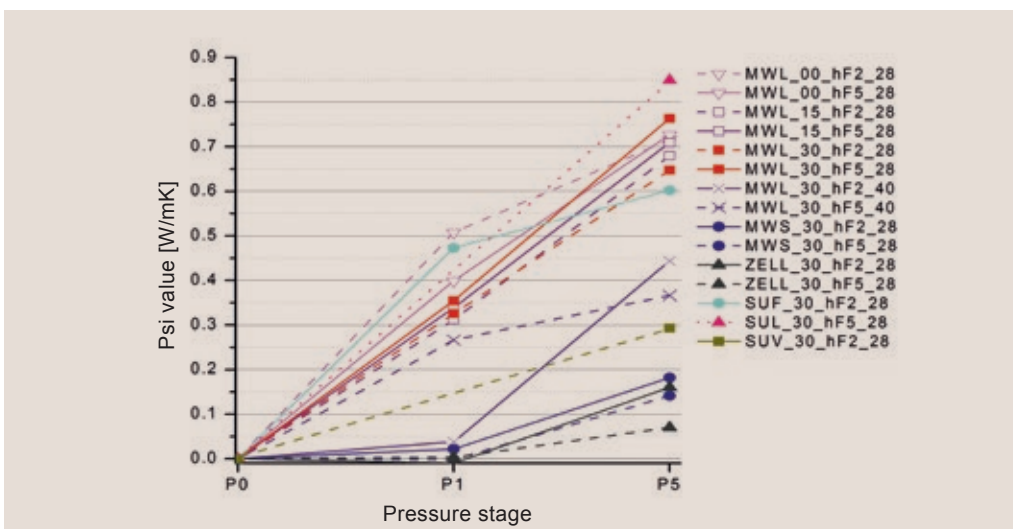
That's difficult to estimate. I believe there is still a lot to come. There is a willingness to adapt the standard on the basis of our research project. On the one hand, a lot will happen, but on the other, we have just found that buildings with a good canopy are relatively well protected. Since canopies are commonly built in Austria, you could say that our findings are really no great tragedy in some places. However, it is important to think about it and be aware of

these issues — precisely because we are talking about damage that you do not see. There is no build-up of mould that leads to the building becoming unusable. The heating requirement simply increases and nobody knows why. This leads to greater heating requirements and higher costs, which goes against the current trend.

This particular wood research project has ended — what else is coming up in the near future?

We are always being offered exciting projects. We also have ongoing projects with Isocell, who is a very valuable partner for us. Partly because cellulose is an insulating material that harmonises very well with wood construction and — just like the wood structure itself — it has to be used properly.

Our activities range from simulations to field trials. Above all, our goal is to generate output that actually helps in practice, i.e. on the building site and not just on paper.





“HOUSES NEED TO BE MORE
THAN JUST BEAUTIFUL”

Editing: **THE ISOCELLER**



Christina Krimbacher wrote her diploma thesis on Passive Houses back when this construction approach was often the subject of ridicule. The architect and planner on her firm belief in sustainability and the threat posed by low-quality new buildings

Ms Krimbacher, you began your career at Energie Tirol, an independent advice centre for energy issues in the Austrian state of Tirol. As a trained architect, what was your role there?

I was responsible for looking after the energy consultants; there was a network of 30 consultants. But my main interest was Passive Houses and ecology.

How did you become involved in sustainable construction?

During my studies. It must be said that there was nothing in my field of study in this area. When I submitted my diploma thesis on the subject of the Passive House in Innsbruck in 2001, my work was the first of its kind at the institute for wood construction (Holzbauinstitut). At that time, it was still somewhat uncool, even rather abnormal, and not nearly as chic as it is today to be concerned with such buildings (laughs). As part of my diploma thesis, I established my first contacts at wood construction companies.

What was your motivation?

It's an issue that's close to my heart. Environmental and climate protection as well as health are very important topics that are very closely linked to building construction. Houses need to be more than just beautiful. It's important to me to build houses that actually work. That may sound banal, but it really isn't.

So you were actually the pioneer of a movement?

Yes, if you want to see it that way, you could say that. However, some former colleagues of mine who are now retired had already built Passive Houses. Back when I was at Energie Tirol I had a lot to do with them and I learned a lot from them.



Architect and planner
Christina Krimbacher

BILDUNGSHAUS ST. MICHAEL IN TIROL



Christina Krimbacher is responsible for obtaining "klima:aktiv" certification for the Roman Catholic Diocese of Innsbruck's current project.



“This project is no fig leaf, it is a serious undertaking. Serious money is being spent, but without being wasted.

You became self-employed in 2006, won prizes and your projects have been certified under the Austrian government’s “Klima:aktiv” environmental initiative. You are now operating in — as you rightly put it — a very chic field within the construction industry. But is it merely trendy, or something more?

When I think back to my early days, there is no question that a lot has happened since then. I also believe that Passive Houses will eventually become the standard, however there is still a long way to go. There are two strong tendencies here. Some builders opt for the cheapest possible designs with poor insulation and don’t think about airtightness. At the same time, there are also builders who

consider an ecological, passive design to be very important. This not only applies to single-family homes, but also to hotel construction, supermarkets and other buildings. Actually, the OIB guidelines and funding are already moving in the right direction, albeit very slowly.

For the private home builder, does it still come down to price at the end of the day?

I think you have to see it differently. A huge percentage of single-family home builders operate with a budget that is far too small, so quality simply falls by the wayside. In particular, this is a problem for us in western Austria, because the land prices alone are very high. It would often be better to take a communal approach.

A major project in which you are involved and is causing a stir is the Bildungshaus St. Michael education centre in Tirol, for which the Roman Catholic Diocese of Innsbruck has deliberately opted for sustainable construction. Even with all the hype around sustainable construction, such decisions are still rare for large public buildings. Why did the Diocese choose this approach?

I think they are using a special builder. You might say that the church has firmly anchored the preservation of creation in its “statutes”. And of course it also comes down to the people involved. This project is not a fig leaf. Serious money is being spent, but without being wasted.

You write on your website that you plan houses made of healthy and ecological materials. Do you view cellulose as such a material?

I’ve been using the product for a long time and install a lot of cellulose. Actually, on almost every construction project. I like to use it because it’s the most affordable ecological material and it can always be well accommodated in the construction costs. With very thick insulation such as wall elements with 36-centimetre cavities, it’s much easier to ensure that the entire space really is filled with insulation than when using clamping felt or the like. I see technical and financial benefits to using cellulose, as well as ecological ones.

PROFILE

Christina Krimbacher is an architect and specialist in ecology and energy efficiency in Innsbruck. She is responsible for obtaining “Klima:aktiv” building certification for the “Bildungshaus St. Michael” Passive House project commissioned by the Roman Catholic Diocese of Innsbruck.

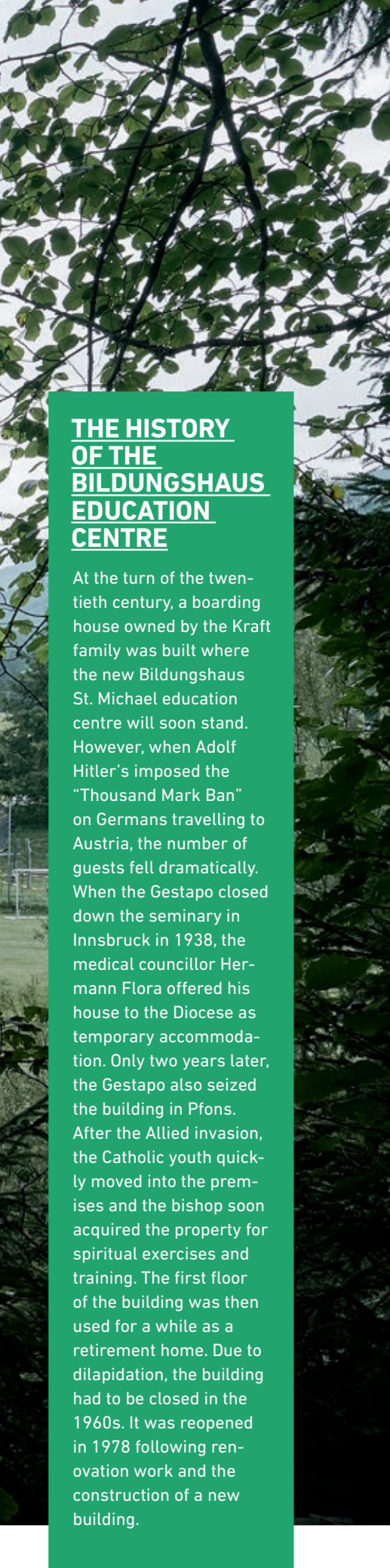
Krimbacher — energy-efficient projects

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SHOWCASE PROJECT
THE "BILDUNGSHAUS ST. MICHAEL" EDUCATION CENTRE

A SUSTAINABLE CREATION

Editing: **THE ISOCELLER**



THE HISTORY OF THE BILDUNGSHAUS EDUCATION CENTRE

At the turn of the twentieth century, a boarding house owned by the Kraft family was built where the new Bildungshaus St. Michael education centre will soon stand. However, when Adolf Hitler's imposed the "Thousand Mark Ban" on Germans travelling to Austria, the number of guests fell dramatically. When the Gestapo closed down the seminary in Innsbruck in 1938, the medical councillor Hermann Flora offered his house to the Diocese as temporary accommodation. Only two years later, the Gestapo also seized the building in Pfons. After the Allied invasion, the Catholic youth quickly moved into the premises and the bishop soon acquired the property for spiritual exercises and training. The first floor of the building was then used for a while as a retirement home. Due to dilapidation, the building had to be closed in the 1960s. It was reopened in 1978 following renovation work and the construction of a new building.

Near Matrei am Brenner, the Roman Catholic Diocese of Innsbruck will reopen the Bildungshaus St. Michael education centre in 2018. A moving place, in which the Christian creation story will be anchored in the building's design. The project has become a sustainable model for similar buildings.

In this case, the decree really did come from above. When Klaus Lechner speaks of his actual superior, he is referring to a man who lives in Rome and originally hails from Argentina. That's right, we are referring to Jorge Mario Bergoglio, who is generally better known by his other name: Pope Francis.

The commission, which was by no means compulsory, was to switch to sustainable construction. "The path of sustainable construction is now a management issue for us because the Pope has clearly positioned himself behind it," explains Klaus Lechner, who has in turn taken the position of the Holy See seriously. Lechner is the head of department at the episcopal construction office of the Roman Catholic Diocese of Innsbruck.

In this capacity, he is also responsible for the construction of the Bildungshaus St. Michael education centre, which is located south of Innsbruck near Matrei am Brenner in the municipality of Pfons. As the oldest educational centre in the Diocese, it had devoted itself to youth, family and spirituality since the late 1970s — but had begun showing its age. It is now being rebuilt using mainly wood construction, including photovoltaic systems and heat pumps in compliance with Austria's "klima:aktiv" ecological standard. As Lechner explains, this is unfortunately an unusual step where buildings of this scale that belong to public bodies and institutions are concerned: "On the one hand, we cannot develop spiritual concepts, form working groups and bear responsibility for creation, while on the other making compromises in the practical implementation of a building."

Klaus Lechner previously spent 17 years working in a municipal building department and therefore knows what it means to deal with public procurement regulations on a daily basis. "As a rule, here in the Diocese we aren't bound by these regulations, which

SHOWCASE PROJECT
THE "BILDUNGSHAUS ST. MICHAEL" EDUCATION CENTRE



Renowned architectural photographer David Schreyer is documenting the construction of the education centre.

DETAILED DOCUMENTATION OF THE CONSTRUCTION PHASES



A photo exhibition will be created using the numerous images of the building, which is due for completion in 2018.

The exhibition will be the first one held in the designated area of the new building.

“We weren’t looking for the cheapest option, but rather the best. We want the people in the area to identify with the building.”

was certainly an advantage for the Bildungshaus St. Michael.” The new building was designed to impress by virtue of its quality — the same applies to the project’s implementation partners and tradespeople. “It is not always beneficial if you have to choose the lowest bidder. We weren’t looking for the cheapest option, but rather the best.”

The architects opted for teamk2, a duo based in Innsbruck that has been heavily involved in energy-efficient construction and planning for many years, including wood construction. “It’s far from being our first timber-framed house,” says Martin Gamper, who runs the architectural firm together with Dietmar Ewerz. “We’ve been heavily involved in wood construction for a long time. Both of our fathers are carpenters, and furniture making was our basic subject at technical college (HTL)”. Gamper and Ewerz have known each other since their school days and have become a very well-rehearsed team over the decades. They also share the same convictions: “In addition to building culture and architecture, we have a major responsibility with regard to sustainability and the future.”

As well as ensuring sustainability and the compatibility of different functions for the Bildungshaus St. Michael education centre, which needs to fulfil residential requirements and host events, the project was faced with an additional challenge — preservation of the old, listed chapel and the Canisius house, which was built in 1994 and has been thermally renovated. “More than 90 per cent of the education centre was to be created as a new building. It was important to us that Josef Lackner’s chapel should be the focal point of the new building. In the future, it will form the internal fulcrum for the structures and functions.” And because the main building structures are being removed, the church spire will also be visible.

Anyone who has ever visited Pfons will understand the architects’ next claim: “The views from the rooms’ windows meant we really couldn’t go wrong.” The education centre is situated amid idyllic, natural surroundings, including a small lake and a forest with a mountain backdrop.

Regional identity is also important to Klaus Lechner. “We want the people in the area to identify with the building.” Holzbau Schafferer, a local company with a great deal of experience with large, sustainable buildings, was therefore awarded the contract for the building’s realisation. “The local identity of our project partners is noticeable. We are really happy about this.”



The architectural duo teamk2 from Innsbruck
Martin Gamper and Dietmar Ewerz

In February 2018, the new Bildungshaus St. Michael education centre will be handed over. The Roman Catholic Diocese of Innsbruck is fully aware that it is playing a pioneering role in terms of the building’s construction. “It took courage, but we are glad that, with the backing of the Diocese, we were brave enough to do it. And we have already received the first enquiries from local authorities who want to build in a similar way.”

Lechner believes that sustainable construction is likely to increase in the public sector. “In Vorarlberg, they are already one step further ahead. The official “klima:aktiv” certification already has a long tradition in public construction projects there.”

One thing is still important to Lechner. He believes that the people who are involved in such construction projects are all too soon forgotten. For this reason, he has commissioned an art project under the supervision of renowned architectural photographer David Schreyer. His work will be the first to be displayed in the education centre’s newly created event foyer, which provides space for temporary exhibitions.

A SWEET TALE OF SUCCESS

Editing: **THE ISOCELLER**

For almost a century, a family-owned company in Salzburg has been supplying Austria with honey. What started out as a small beekeeping business is today an international company that now also supplies medical honey.





When Halmut Gratschmaier retired this summer, two of his long-term employees, Andreas Laber and Andreas Braun, took over management of the company.

It all began with a small beekeeping business in the small village of Werfen in Salzburg's Pongau region. The year was 1920 when company founder Sepp Mayr bottled the first jars of honey from his self-bred bees, thereby laying the foundation for a new line of business with an appropriate name: "Honigmayr" was born (translator's note: "Honig" is German for honey).

Almost four decades later, Josef Gruber, the founder's nephew, took over management of the company and turned his uncle's legacy into a honey-bottling specialist. Its customer base mainly included regional grocers in Salzburg and Tirol, however a milestone was soon reached when the company organised its first direct imports from abroad. At the time this caused rather a sensation.

In 1979, Halmut Gratschmaier took the reigns at Honigsmayr. Under his leadership, the company became an internationally recognised brand in the grocery trade, the food industry, as well as the catering and hotel industry. In addition, the firm's headquarters were relocated to the neighbouring village of Tenneck in the north of the Werfen district.



Gratschmaier retired as managing director this summer, leaving the company's destiny in the hands of Andreas Laber and Andreas Braun, both of whom have worked at Honigsmayr for many years. And, just like their predecessor, their first premise is the quality of the product. "Whether it's traditional floral honey from Austria, aromatic organic forest honey, acacia honey, organic honey or cream honey — every honey jar is checked by hand and tested for quality at the honey factory in Tenneck," explains Andreas Laber.

Processing around 3,000 tons of honey a year, Honigsmayr is Austria's largest bottler of honey. In 2016, the company generated sales of around EUR 13 million. In addition to local honey, the best quality honeys are purchased from all over the world. From Chile via Mexico to Eastern

Europe and New Zealand. "We want to be able to offer the best honeys, so we're on the move all over the world," says Laber.

Yes, even in New Zealand, where the manuka tree is a native species. It is also known as "South Sea myrtle" and grows in the country's mountainous regions. The dark honey, which has a strong flavour, is not simply a delicacy — its high sugar content removes water from bacteria, thus impairing their growth.

At Honigsmayr, everything grew from a small beekeeping business. And even as a big company, every small beekeeper is still very important today. "Personal contact with international beekeepers continues to be an essential part of our corporate philosophy," says Laber. This is certainly one of the secrets to the company's nearly century-long success story.

THE HISTORY OF HONEY

It is thought that bees have populated the earth for around 50 to 60 million years. Bees and honey have been mentioned since the beginning of recorded history. For centuries, honey was the only sweetener available to humans. The oldest depiction of people collecting honey was discovered in Spain and dates back to around 7,000 BC.

The ancient Egyptians used honey as a symbol of honour for their Pharaohs, the Greeks placed it in the grave with the deceased — and the English word "honeymoon" harks back to the old European custom that a newly-wed couple should drink mead (an alcoholic drink made from fermented honey) daily during the first four weeks after their wedding.

Honey remains popular today. Every year around 1.5 million tons of honey are consumed worldwide. The per-capita consumption in Austria and Germany is over one kilogram per year.

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STRONG PARTNERS
SCHAFFERER

CONSTANT C



REACTION

Editing: **THE ISOCELLER**

Schafferer Holzbau has been working with wood for almost 60 years. More recently, the company decided to specialise in prefabrication — in part, thanks to inspiration from abroad.

“Schaffa, schaffa, Hüsle bauh” is a saying that is predominantly heard in the area of Austria to the west of the Brenner Pass. It also applies to Schafferer Holzbau.



Southern Germany, German-speaking Switzerland and the west of Austria — these regions share much in common. Especially linguistically. And in these areas, instead of using the German word “Arbeit” for work, people often use the verb “schaffen”, which also means “to create”. A saying that is predominantly heard in the area of Austria to the west of the Brenner Pass is “Schaffa, schaffa, Hüsle bauh” (“work, work, build houses”).

Left page:
For years, the company Schafferer has been successfully building single-family homes. And more are completed every year.

Right page:
However, larger buildings are also an integral part of the company’s portfolio. For example, these images show a residential complex in Oberndorf.



It also applies to the Schafferer. Although the Tyrolean dialect is largely spoken here (rather than the west Austrian Vorarlberg dialect from which the saying originates), the themes of work and building houses have been cornerstones of the Schafferer family business since 1958 — at their base in Navis they have been working with wood for almost 60 years. Originally founded as carpentry firm, their company has



INFO

Schafferer has been working with wood since 1958. The family business is a member of the ht15 alliance and the IG Passivhaus Tirol network.

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“The term ‘sustainability’ is used too often in my view. Many people should look it up in the dictionary before labelling something as sustainable. At any rate, true sustainability is very important to us — indeed, the term originally comes from the forestry sector.”

recently ventured into prefabrication for single-family homes as well as large projects.

In part, this is due to Karl Schafferer, who took over the management of the company, which today has around 50 employees, in 1988. He also found his way towards wood construction while travelling. “Over the years, I’ve had the opportunity to see a lot of the world. Particularly in North America, I’ve often thought that wood is processed using rather primitive tools,” he recalls. He came to the conclusion that wood construction should be further accelerated in Austria. And with higher quality standards. From the beginning, he always worked with architects, which led to the company receiving large orders from the local area, including kindergartens, event centres, single-family homes, residential complexes and even wooden bridges. Indeed, when it comes to “schaffen”, the Schafferers are doing rather well.

A special project for the family business is the construction of the Bildungshaus St. Michael education centre just a short distance from the company’s headquarters in Pfons. “My grandfather was a janitor in the facility and had an apartment there. I also lived there and spent a lot of time there as a child. The project is therefore very close to my heart.” However, the building is also of interest from a structural perspective. “The scale and the mix of accommodation and event space make the project exciting.”

In the course of running his business, Schafferer has noticed that an increasing demand for wood construction as a direct result of the growing interest in Passive House standards. “Wood construction is ideally suited to Passive Houses and is certainly better than any masonry construction, in particular because there is greater expertise in wood construction.”

Whereby the issue of sustainability is, for Schafferer, very much a double-edged sword. “The term is used too often in my view. Many people should look it up in the dictionary before labelling something as sustainable. At any rate, true sustainability is very important to us — indeed, the term originally comes from the forestry sector.”

The company Schafferer works on a large number of sustainable building projects each year. All-in-one solutions are also offered, including turnkey single-family houses on request. And there is no shortage of orders. “We are seeing more and more people relying on wood construction.” So there will still be a lot of work to do here in Navis. “Schaffa, schaffa, Hüsle baa” indeed (only translated into Tyrolean)!



PORTRAIT
DRIVING DREAM



Ferdinand Porsche with his family (top left, small), an Austro-Daimler in the race (below, small), the Austro-Daimler takes a trip with Prince Heinrich (top right) and the legendary Lohner-Porsche (below)



PIONEER SPIRIT YOU CAN TOUCH

Ferdinand Porsche was one of the most important pioneers of the modern car. A theme park in Mattsee showcases his work — in a more dynamic way than you might expect.

Editing: **THE ISOCELLER**



20 kilometres from Salzburg you can learn all about the life and work of the automotive pioneer, Ferdinand Porsche. However “Fahr(t)raum” is more than just a museum or vintage car exhibition — it's a theme park in its own right.

FAHR(T) RAUM

is open daily from 10.00 to 17.00. On request, groups of 10 or more can enter from 08.00 onwards. Adults pay EUR 13 for admission, discounts are available.

Fahr(t)raum, Passauerstraße 30, 5163 Mattsee
www.fahrtraum.at



On 15 June 2013, the day had finally arrived. Exactly 65 years after the first Porsche was registered by Ferdinand Porsche, Ernst Piëch fulfilled a lifelong dream. In Mattsee, one of Piëch's places of residence (though he actually lives in London), he opened "Fahr(t)raum", a classic car museum in honour of Ferdinand Porsche.

Ernst Piëch's desire to build this place was no mere coincidence. The 88-year-old has a very special relationship with the car designer and creator of one of the most popular sports cars in the world — Ferdinand Porsche was his grandfather.

Porsche, who was aged eleven when he installed the first doorbell in his parents' house when electricity came to his home town of Maffersdorf in Bohemia, went on to build the world's first hybrid and four-wheel vehicle in 1899 — the Lohner-Porsche. Soon afterwards he moved to Wiener Neustadt, where he built the world's first sports cars at the Austro-Daimler plant, which achieved a host of motor racing victories. After holding positions at Daimler-Benz and Steyr, Ferdinand Porsche finally founded his own development company in Stuttgart on 25 April 1931 under the name "Dr. Ing. H. c. F. Porsche GmbH". Only a short time later, he began to create the legendary sports cars that are coveted all over the world. But here's something

only a few people know: The KdF car, which later became known as the VW Beetle, was also created in Porsche's office.



Elisabeth and Ernst Piëch



“All vehicles are registered and thus ready to drive,” says Ernst Piëch. “Personally, I’m particularly interested in the Austro-Daimler brand, under which my grandfather did remarkable work in his early creative period.”



THE FAHR(T)RAUM THEME PARK offers technology and innovations you can touch.



A kind of pirated copy from the 1950s: the DDR-Porsche

Alexander Fritz had what is probably the last remaining example worldwide restored...

...and subsequently exhibited at Fahr(t)raum.



20 kilometres from Salzburg you can learn all about this story, as well as other details from the life and work of the automotive pioneer, Ferdinand Porsche. However “Fahr(t)raum” is more than just a museum or vintage car exhibition — it’s a theme park in its own right. Piëch has created a 2,000-square-metre location where automotive history and technological progress can be experienced — from the so-called “Austromobility” exhibits of the early 20th century to the Lohner-Porsche and the VW Beetle. There are also special events to enjoy, such as current “2nd Motorcycle Classic Special Show”.

Ernst Piëch attaches particular importance to the technical condition of his exhibits: “All the vehicles are registered and thus ready to drive,” he says — and this surprising statement really makes one want to visit. “Personally, I’m particularly interested in the Austro-Daimler brand, under which my grandfather did remarkable work in his early creative period.”

But there is even more on offer here, near the Mattsee lake. This theme park on the site of a former shoe factory lets you get your hands on technology with numerous interactive possibilities. For example, you can test your driving skills in driving simulators and on one of Austria’s largest Carrera tracks.

And you can even experience the driving performance of the cars themselves — by appointment, some vehicles are available with a chauffeur to take you for a drive in the surrounding area.

INFO

The “2nd Motorcycle Classic Special Show”, which tells the success story of Austrian motorcycle brands such as KTM and Puch, can be enjoyed as a special exhibition until February 28.

ISOCELL INSIDE
SWEDEN



THE LAND OF WOOD

Editing: **THE ISOCELLER**

This time, our series about IsoCELL locations takes us to Sweden. Cellulose has a long tradition in the land of moose and meatballs — even King Gustav is an admirer.

There are certain things that one associates with Sweden. Ikea is one, as are colourful wooden block houses standing by a lake or in a lonely forest — and already we find ourselves telling of the story of a country in which one particular material plays a very special role: wood

One statistic states that more round timber is felled in this parliamentary monarchy in northern Europe than anywhere else in the European Union. And another tells us that, with over 30,000 hectares of forest, no EU country has more forested areas, either. Sweden is simply vast; the majority of its almost ten million inhabitants live in the southern part of the country. While the south contains many forests, the deserted north is home to even more. It therefore stands to reason that cellulose is also a popular product in the land of moose and meatballs.

Andreas Östlund is managing director of the Swedish branch of IsoCELL and a true cellulose expert. At the age of 13, he first came into contact with this insulating material for family reasons. "In 1995, my father Anders co-founded a company specialising in cellulose. Through him, this special insulating material has been all around me for 18 years, actually the greater part of my life," says Östlund. The importance of cellulose in Sweden is also illustrated by an anecdote about King Gustav. The head of state personally visited a cellulose production site and

asked the IsoCELL partner Cremab to explain the material's properties. The king appeared to be very interested in what he heard. Whether he has since had his properties insulated with cellulose remains unknown.

Cellulose is certainly a perfect fit for this Scandinavian country due to its long tradition of wood construction and vast forested areas. But also because Swedes are — much like Austrians and Germans — very environmentally aware people. "Swedes want

high quality, sustainable products. Our products are based on sound arguments and quality, and therefore impress many people." What's more, the people in Scandinavia naturally place a high value on insulating their homes. Indeed, it is basically a must.

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Austrian expertise in airtight but vapour-permeable design is increasingly in demand.

Below: "FH Forte" vapour barrier
Bottom right: "Airstop DIVA" vapour barrier



Royal interest in cellulose and blown-in insulation
Robin Seger of Cremab with
King Gustav of Sweden.



ISOCELL INSIDE
SWEDEN



“We live in the north, where the winters can be very unpleasant,” says Östlund, smiling. This has resulted in a high degree of standardisation, from which providers such as Isocell benefit.

Walter Jettel can also confirm this. He works at Isocell headquarters in Austria and, as a controller, he knows the figures for the Scandinavian location. About 6 million tonnes of cellulose insulation are sold through the Swedish business each year. Together with sealing systems and machine technology, its total sales amounted to EUR 5 million in 2016.

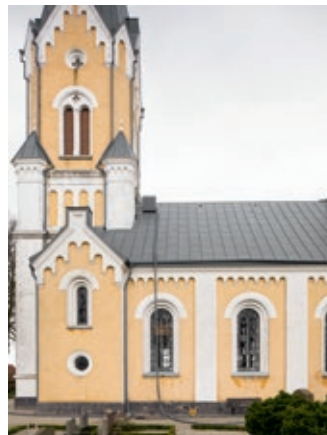
And the location continues to grow. “Our current production rate is the highest for 30 years,” says Andreas Östlund. Neighbouring countries such as Norway and Denmark are also supplied from Sweden. The next step is to expand into Finland. “It’s a big market for cellulose, the largest sales market in the world per capita,” says Östlund. With a correspondingly large tradition — maybe even bigger than in Sweden, as Östlund explains in reference to Finnish shopping centres. “In Finland you can buy cellulose at the DIY store.”

Many people strongly associate Finland with saunas — in which wood is more than omnipresent. Indeed, there is even a wood statistic in which Sweden is only number two. When calculating

the forested proportion of the country, Sweden comes in at an incredible 76 per cent. And Finland? 77 per cent. It would therefore hardly be surprising if another chapter of Isocell’s Scandinavian success story were soon to be written a bit further to the north-east.



HEAVENLY INSULATION



The dome of Beddinge Kyrka was well-packed to keep in the warmth. Right: the church from the outside

The organisers of the Swedish Passive House information community rely on Isocell products for their private construction products.



Successful insulation technicians in Sweden: Tony Bejedal from Telge Miljöisolering AB.

Smiles from three countries at Scandinavian Cellulose Production SCP — Henrik Clausen from CBI Danmark, Anton Spitaler and Philipp Hurtig Andersen from Cremab Sweden.





The factory in Sweden is proud of the high-quality products that are produced here for IsoCELL.



Since 2014, Thornaldehus has been using state-of-the-art blow-in technology in prefabricated wood-frame constructions.

Left: Swedish newspapers provide the raw material for the best insulating material in Scandinavia

In the land of the moose, moose meat is eaten from time to time. But not always — as shown by the recipe for original Swedish Köttbullar (meatballs).



GOD



APTIT!



FOOD SPECIAL
KÖTTBULLAR

ORIGINAL SWEDISH KÖTTBULLAR

RECIPE AND INSTRUCTIONS

Serves 4

Time: 80 minutes

Ingredients for Köttbullar

400 g minced beef
or alternatively
mixed minced meat
incl. moose (for example)
1 half a yellow onion
1.5 ds milk or cream
1 egg
5 tbsp breadcrumbs (ströbröd)
1-2 tsp salt
1-2 pinches mixed spices*,
alternatively Dijon mustard
Butter and/or cooking oil for
the pan

* If you prefer not to buy mixed spices, mix them yourself (preferably a larger amount, the combination goes well with many meat dishes):
100 g salt, 5 tsp celery salt,
3 tbsp chilli flakes, 3 tbsp sweet paprika powder, 5 tbsp onion powder, 2 tsp white pepper,
1 tsp coriander seeds, 1 tsp cardamom powder, 1 tsp grated nutmeg, 1/2 tsp clove powder

1. Mix the milk (or cream) with the breadcrumbs and spices and leave it to soak in for at least ten minutes.
2. Add the butter/cooking oil to the pan.
3. Peel the onion and chop it into small pieces.
4. Cook over a low heat in the pan until the onion becomes brownish.
5. Mix all the ingredients in a bowl.
6. Roll the mixture into small balls — preferably moisten your hands with water to prevent the mixture from sticking too much.
7. Fry the raw Köttbullar in the pan. Sauté until brown, then lower the heat and continue cooking.
8. Köttbullar are best served with: cranberry jam and potatoes (boiled, fried or as French fries)

