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SUSTAINABLE LOGISTICS VIA RAIL

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ECOSYSTEM

PP.22-23

The Micheldorf quarry is embedded in a thriving ecosystem.



ANNIVERSARY

The managing director of Kámen a Písek celebrates 30 years at the company.

P.11

ADDED VALUE

Comprehensive consulting services promote hybrid construction.



02 2021

EDITORIAL

STRONG ROOTS, SOLID TRUNK

When I look back on my work for the Kirchdorfer Group over the past decades, I am always amazed at how much a flourishing company resembles a living organism. Like a tree of life – a symbol of growth, strength and longevity.

Starting from the deep roots of lime mining and cement production in the Krems Valley, a strong trunk has formed over the past century. I consider myself particularly fortunate that I have been able to follow and help shape the growth of so many branches, which represent our Group today – a process which started in the early nineties. And the fact that wonderful blossoms are gradually opening on our numerous branches makes me confident that this growth will continue.

It is therefore with great pleasure that with this current issue of Kirchdorfer News I again invite you to join me on an interesting and varied reading journey through the many branches of our flourishing group. And I wish you a wonderful, productive and inspiring time that fills you with strength, joie de vivre and, above all, health!

Yours sincerely Erich Frommwald







Andreas Hermann: The head of management systems and organisational development at the Kirchdorfer holding company coordinates the implementation of management standards. In this context, the topic of occupational safety is becoming increasingly important. In June 2021, the company was finally certified according to the new ISO 45001 Occupational health and safety management systems standard.



Wilhelm Budin: As Legal Compliance Officer at Kirchdorfer Concrete Solutions, Wilhelm Budin is primarily responsible for implementing legislation and legal framework conditions. His previous certification as a safety specialist turned out to be extremely helpful in implementing the ISO 45001 standard in the precast division.



FOCUS ON OCCUPA-TIONAL SAFETY

In 2018, a new ISO standard came into force that creates a global framework for occupational health and safety management. In the same period, occupational health and safety was also brought into focus in the Kirchdorfer Group. A series of measures have already started to bear fruit.

Even though the topic of occupational health safety (OHS) has always been an important concern for the Group's management, there have nevertheless been individual waves of improvements in the past, as well as some occasional problem phases. 2018 in particular was a year in which a wave of accidents occurred at an aboveaverage frequency, especially in the precast segment. The time and need for rapid and targeted implementation of OHS measures had come, and the managers of the individual companies faced up to this important challenge.

At the same time, a Group-wide campaign was launched and primarily aimed at the important issue of raising awareness. While implementation of the new ISO 45001 standard started at the same time, existing measured had already brought about to a more than 50% reduction in accident frequency within only two years!

Regulation vs. safety awareness

Compliance with safety regulations such as wearing a helmet and protective clothing is absolutely necessary for a functioning safety system. But the biggest barrier, in the words of Kirchdorfer Concrete Solutions' Legal Compliance Manager Wilhelm Budin, is "the transfer of awareness into the consciousness of the employees." Therefore, individual teams were taught in specific workshops not only **what** safety regulations must be observed, but above all **why**!

Because when it comes to occupational accidents and dangerous situations, the laws of physics are even more merciless than the judge enforcing human laws and regulations! So talking about and demonstrating all the dangers at the individual workplaces and building awareness among the managers are the company's best strategic tools for tackling the issue.

Developing internal safety competence

Although in the past it was often customary to rely on external safety experts, the Kirchdorfer Group is now increasingly pursuing the development of in-house competence as part of our ISO 45001 implementation. And with great success, as the drop in accident frequency and the decreasing number of sick days suggest. And these are excellent developments, because health is certainly our single most valuable asset!

KIRCHDORFER GROUP



Conservation of resources, clean air, energy efficiency and production of alternative energy: the ecological optimisation of our production processes has become insupressible. As a family business, the Kirchdorfer Group has long been aware of its social responsibility. In fact, ever since it was founded.

In the course of repositioning its infrastructure portfolio according to comprehensive sustainability goals in ecology, digitalisation and safety, the precast concrete division of the Kirchdorfer Group has conducted a comprehensive survey of the interests of its stakeholders. The question of how Kirchdorfer Concrete Solutions can best support the sustainability goals of its stakeholders was analysed. Future innovations and investments are prioritised and concrete objectives are being defined on this basis. Last but not least, the process set in motion is already an important step towards compliance with future legal requirements.

You can read more about the Kirchdorf Concrete Solutions initiative in a detailed article starting on page 16 of this issue. But before you turn the page – let us give you an overview of the state of affairs in the entire Group. And first, let's take a look back into history... The foundation of the Kirchdorf cement plant in 1888 is considered the birth of today's Kirchdorfer Group. But what led to the laying of this foundation stone at the heart of the company is – from today's perspective – incredibly relevant: Because the two founding fathers, Emil Dierzer and Adolf Hofmann, did not just invent the idea of setting up a cement plant. Rather, Emil Dierzer Ritter von Traunthal had previously built Austria's first local railway: the Kremstalbahn between Linz and Klaus. This new transport route laid the foundation for the prosperity of the entire region.

Only after considering how this investment could create additional benefits in the future, did they decide to build both a quarry and also a cement plant – exploiting the local lime deposits alongside the railway. In other words: here was a perfect synergy – created purely out of economic efficiency!

Cycles and synergies

Despite all the discussion about ecology and sustainability, we must not forget: The circular economy, as it used to be called, is still the real goal today. That's because the sustainable future we are talking about today can ultimately only be realised through the use of intelligent material cycles and energyefficient synergies.

And this is where the Kirchdorfer Group – with its interlocking ventures in the areas of cement, raw materials, recycling and concrete – is in a unique position: Because frictions generally arise at the intersections of these areas, which leads to energy loss in every cycle. The Group can already act significantly more sustainably through the ongoing integration of the individual undertakings. And with a common spirit based on explicit values and sensible investments, the company is irrevocably on the path to sustainability.

Sustainable investments

Hardly a year goes by at the Kirchdorf cement plant without a large crane operating on the bowels of the complex machinery from an airy height: After implementation of the world's first DeCONOx system, a new flash dryer was installed in 2020. This year, the core piece is being extended: a new calciner is being added to the rotary kiln. One objective underlies all these measures, which require considerable financial investments: Better energy yield and an even greater use of alternative fuels and raw materials. In this way, we can ensure the most environmentally friendly cement production possible under existing conditions, until future carbon capture or carbon-to-product technologies are ultimately ready for use on a large scale.

In doing so, the Kirchdorf company leaves nothing to chance: Years ago, the Kirchdorf cement plant had already built up its own supply chain of alternative fuels and raw materials by founding and investing into Group-owned raw material and recycling companies. And investments are ongoing, as you will read in the report on the construction of an additional processing plant at the secondary raw materials production plant in Pöchlarn in the province of Lower Austria (see page 10).

Photovoltaics as a lighthouse project

Over the coming winter, the highly visible yet somewhat battered tower of the regional concrete plant in St. Martin im Mühlkreis will receive a chic, new and positively electrifying façade: Up to 150,000 kWh of green electricity will be produced annually in the future by a total of 1,200 square metres of photovoltaic panels on three sides of the 33-metre-high tower. The new, elegantly designed façade will therefore not only supply electricity for the company's own consumption, but also for neighbouring commercial enterprises. In addition, the tower at Martini Beton is a clear mark that is explicitly intended to entice imitators to implement similar measures.

In addition, the Kirchdorf raw materials division is already trying to include the installation of solar plants in the construction of concrete plants in the future. The quarries also are elements in these considerations. Division manager Armin Richter, who is also involved with sustainability issues on the board of the European Aggregates Association UEPG, is already working intensively on the further automation of the delivery systems in the quarry. The main focus here is the path of the rock from blasting to the processing plants: The use of fossil fuels should be increasingly replaced by electrical



Good, better, more efficient: A crane is almost part of the basic equipment at the Kirchdorf cement plant. New technological solutions are constantly being added, and further increase the already impressive use rate of alternative fuels and raw materials.



Photovoltaic lighthouse project in the Mühlkreis region (Upper Austria): the additional costs compared to a conventional plaster façade (minus the subsidies received) are amortised in just a few years. The substantial savings in energy costs over the planned useful life of 30 years almost cover the total investment in the façade renovation.

energy, some of which is generated on site itself with the highest possible efficiency and using gravity. He is also following with great interest the development steps of NASA's moon and Mars missions, which could well bring out some potentially ground-breaking innovations for the future of building materials production.

Industry policy groups

Michael Wardian, CEO of Kirchdorfer Concrete Solutions, is also active in European interest groups. At this level, he is also analysing how the entire industry will develop in coordination with the political processes, shaping the path towards a sustainable future for the building industry.

The Kirchdorfer Group has been at the forefront of economic sustainability ever since its founding days. And the Group will certainly do its part to ensure that we also succeed in achieving essential ecological sustainability in the future.

KIRCHDORFER CEMENT

ECOLOGICAL WONDERS AT THE MICHELDORF QUARRY



Sustainable quarry: Looking out over the central water reservoir. The conveyor belt leads from the current production area directly to the railway loading hall. The completely renaturalised areas dominate on the right and left.

Reconciling the interests of business, society and environmental protection is not always easy. Especially in the extraction of raw materials, the interests of operators and conservationists are often in direct opposition. At the Micheldorf quarry in the Kremstal valley in Upper Austria, however, things are very different: on the basis of decades of development work, a strong and productive partnership has developed with the Micheldorf conservationists. Cooperation based on mutual trust.

Conservationists versus extraction sites: unfortunately, this is all too often a tense relationship. After all, the extraction of mineral raw materials not only represents a considerable encroachment on the landscape, but also destroys habitats. For this reason, it has become standard practice in ecologically responsible open-cast quarries to minimise the temporary impact through appropriate recultivation measures.

Here, the Micheldorf quarry has not only come to a good mutual understanding with local nature conservationists over the years, but also built an exemplary partnership that has enabled completely new ways of recultivating the quarry. For example, a number of rare orchids flourish in the Micheldorf quarry that are hardly be found anywhere else in the wild, let alone in cultivated nature. And all this is no coincidence, but rather a stroke of luck combined with the right people at the right place.



Orchids in the quarry?

How do rare orchid meadows actually come to exist in a quarry? First of all, through nature. Because orchids love "lean" (nutrient-poor) soil, an abandoned quarry site on which a thin layer of humus slowly forms over years and decades offers exactly the right, nutrient poor conditions for the growth of the most wonderful orchids. This is exactly what happened spontaneously in the former Obermicheldorf Quarry, as Werner Bejvl, a former Micheldorf teacher and long-time editor of Botanical Station magazine in Linz, has described in detail in various scientific publications.

This quarrying area on the site of the former Humsenbauern estate was closed down in 1928 after 40 years of lime mining. As was unfortunately still common and taken for granted at that time, no renaturation measures were taken at that time. Instead, nature "reclaimed" the area all by itself over the following decades. Anyone visiting the site today has to look very closely to even recognise the interventions of our ancestors.

At a certain stage of self-renaturation, the curtain suddenly went up in the old quarry and the rarest orchids appeared on stage at this natural event. Specifically, in 1985 when the fly orchid (popularly known in the region as "Bergmandl" – mountain boy) was first identified. Over the following years, the population literally exploded, with magnificent specimens reaching up to 25 centimetres in height. Seven years later these orchids had disappeared again; they were displaced by the long-leaved helleborine (also a member of the orchid family): Nature takes its time, but never stands still. In truth, an ecosystem





On the meagre lime meadows around the quarries **the Bergma(n)dl Conservationists in Micheldorf** are not only responsible for flowering diversity, but also for good humour!

is nothing more than a constant struggle for the available resources, unless somebody devotes a great deal of care and attention to bringing one or the other species back to a fulminant revival.

Active nature conservation community

Named after the rare orchid, and composed of an illustrious group of young as well as still active and generally retired Micheldorf residents, the Bergma(n)dl, that is, mountain boys and girls, have been actively working to conserve nature in the beautiful Krems Valley for years, and with great joy and commitment.

Right in the valley between the old and the new quarry, and very close to the source of the Krems river, they have built the so-called Himmelreichbiotop ("kingdom of heaven" biotope) under the direction of chairman Werner Bejvl: it is a natural history attraction that draws many visitors from near and far. And if you follow the path up the mountain from there, you suddenly find yourself in the middle of the Himmelreichwiese, a broad meadow, where you not only get a wonderful panoramic view, but also look directly down on the lime mining site of the new Micheldorf quarry below.

After a few steps down you can actually enter the quarry, more precisely, the already renaturalised northern part of the quarry, which welcomes hikers with beautiful meadows, many native trees and a rich variety of flora and fauna.

A kingdom of heaven for nature

Unlike in earlier times, the new Micheldorf quarry is nowadays being renatured continuously. For example, the quarry edges are partly backfilled and levelled, and the formation of a humus layer is actively promoted. This is because the Bergma(n)dl conservationists are hard at work with bar mowers, scythes, rakes and lots of good humour. The already firmly established calcareous meadows are mown once a year. Grass is laid in layers on the new, still bare rock surfaces and paths. In this way, a humus layer forms after a very short time, from which the first plants quickly sprout.

This form of accelerated and supported renaturation compresses the time horizon of natural reclamation and creates a unique ecosystem within only a few years. This is why the Micheldorf quarry is home to a whole series of flowering orchid meadows surrounding the current quarrying areas and where several rare species of orchid can be found. The remaining meadows are managed by the neighbouring Nussbaumer estate, which uses the hay as food for their cattle. Before a new guarry edge is planned on one of the surrounding meadows, the Bergma(n)dl return and relocate many of those precious plants by hand! The cooperation between quarry operators, agriculture and







Joachim Haller, assistant in production management of the Kirchdorf cement plant, explains the different rock layers to us.

nature conservationists is certainly unique in this form, and we hope to be an example for many other quarrying areas.

Sustainable quarrying over generations

On the western side of the Micheldorf quarry, where miners have been following the limestone layers since the 1990s, about 350,000 tonnes of rock are currently extracted per year. The extraction is done under geologically difficult conditions because the dolomite content, which is quite high in some cases, cannot be used entirely for the current cement production and must therefore be temporarily stored on a separate spoil heap.

The raw material mixture, which is subsequently burned into clinker in the cement plant, is already adjusted very precisely in the quarry. The driver of the wheel loader that feeds the crusher, is informed of the chemical composition of the quarry stone mixture produced in real time on a display in the vehicle. The driver can use this online analysis to precisely adjust each bucket load to the requirements. Such technical refinements make it possible for a team of only seven miners to operate a quarry of this size. Substitute raw materials, such as grate ash, fly ash, aluminium hydroxide, foundry sand and calcium fluoride sludge, are also temporarily stored at the quarry site, processed and added directly to the quarry stone mixture in the crushing plant. This at least conserves the natural resources in the quarry, which has been operating for many generations.



The Conservationists' Chairman Werner Bejvl (right): with his young-at-heart troupe, he puts the mown hay on the rock of the renaturalised quarry areas. As a result, a humus layer forms after only a few years, allowing new meadows to flourish quickly.





Only recently, the Micheldorf quarry was granted permission to mine additional lime reserves until 2050; this confirms the quarry's sustainability by securing raw materials over the long term in harmony with nature and the needs of the environment. And both are of great importance to the two owner families. With reserves secured for decades and thanks to the excellent cooperation with local environmentalists, the Micheldorf Quarry Eco-System is quite an exemplary and sustainable model.



FURTHER INVESTMENT IN **ALTERNATIVE FUEL PRODUCTION**

An increase in the ownership stake in SRP GmbH in Pöchlarn and a major investment in a second processing line demonstrates that the Kirchdorf cement plant is intensifying its efforts to secure the raw material and fuel chain and to expand the Group-wide material cycles. Waste from the Melk region is processed in the SRP recycling plant. Approximately 75 % of the materials form a valuable alternative fuel that replaces fossil fuels such as coal in the Kirchdorf cement plant, and thus contributes significantly to the reduction of CO_2 emissions. For example, around 15,000 tonnes currently flow annually into

the Kirchdorf rotary kiln, where the main component of cement is produced in the form of Portland cement clinker. Around 40,000 tonnes of calciner fuel will be required annually from 2022 due to the construction of a new calciner at the rotary kiln, thereby bringing the rotary kiln up to the latest state of combustion technology.



Managing Director **Reinhard Kerschner** (left) and Operations Manager **Richard Walter** process around 100,000 tonnes of waste per year at the Melk Region Recycling Centre. 15,000 tonnes flow directly into the rotary kiln of the Kirchdorf cement plant. This quantity will double in future.

KIRCHDORFER CONSTRUCTION MINERALS

30 YEARS For the love Of rocks

KÁMEN A PÍSEK

Raised at the quarry and trained at the computer, KÁMEN A PÍSEK Managing Director Pavel Fučík is the reliable force that has been transforming the vision of the founders and shareholders of the South Bohemian showpiece company into reality for decades. We visited the experienced manager on the occasion of his 30th anniversary with the company.

The cornerstones of his life were laid in Pavel Fučík's cradle: Born and raised a stone's throw away, both his father and grandfather worked at the Ševětín quarry. But in Communist Czechoslovakia, we all were waiting for the transformative 1980s. Western rock, jazz and the first computers were all the rage! So this young rebel enrolled in computer and electrical engineering courses. And then got his first job: in a dark room with two old men in white coats and an antiquated mainframe computer. That can't be it, he thought to himself, and his father said: "Your brother is an architect. We're all in construction. Why don't you start in the quarry and retrain as a mining engineer!"

Otakar Veselý, the general director in charge at the time, agreed: "We'll try that!" Plus, the company had acquired its first computer, which soon spat out the results and wages at the end of each month. But the work in the quarry was much more interesting. Until he was promoted to be sales manager in the new headquarters in Krumlov: "Mr. General Director, I am very happy at the quarry!" But the answer came back as a clear "No, I need you here", and by the next day the shareholders and managing directors from Austria were at the door. The rest is history: New infrastructure, purchase of more quarries, and one award after another.

Career highlight currently in the works

We naturally asked the enthusiastic tennis player and mountain photographer what the highlight of his career at KÁMEN A PÍSEK was. What is he particularly proud of? The construction of the motorway with one production record after another? Or the organisation of the European tennis championship in the company's own tennis centre? The answer: a long, deep silence. Because the long-awaited dream of another quarry – and a very specific one at that – is in the pipeline as the crowning achievement of his career. Which we will of course report on in one of the upcoming issues of Kirchdorfer News!

The question remains, what is Pavel Fučík particularly grateful for: "For the work of the entire team! Only when the work on the crushers, excavators and other vehicles progressing at full speed are we successful as a company! And without the work of the entire staff, none of this would be possible: from sales to the technical and business management, the quarry managers, the central workshops and supply, to the blasting foremen and the colleagues in the tennis centre. And every day when I receive the message: 'No injuries, no technical failures', I thank Saint Barbara," says Fučík.



Pavel Fučík, Managing Director of KÁMEN A PÍSEK, spol. s.r.o. in Krumlov, Czech Republic. The 57 year old manager joined today's KAP in 1991 as manager of the Ševětín quarry. After taking over as sales manager in 1998, he was ultimately entrusted with the management of the company in 2004.

By the way, the celebrant likes to spend his summer holidays with his family at opera performances in the St. Margarethen quarry in Burgenland, and of course at good old rock concerts.

"Rock" – what else?! And he is certainly as steady as the rock in the surf. Congratulations on his 30th anniversary!

11





Founded 38 years ago in the municipality of Rems, REMS Beton has been located at its current site in Mauthausen since the turn of the millennium. The WIBAU Group's ready-mixed concrete plant with a dozen-strong team of employees north of the Danube supplies the greater Enns-Perg area and the entire lower Mühlviertel region up to Freistadt.

The nine concrete mixing vehicles of REMS Beton GmbH clearly stand out within the larger WIBAU fleet: painted in rich green instead of bright yellow, the vehicles remind us that the regional supplier was originally founded in 1983 at the same time as a group of other competitors. After agreeing on a neutral colour and after some changes in the shareholding structure, the plant is now operated by the majority owner WIBAU in cooperation with the Bernegger company.

In the process, each parent company not

only supplies the entire gravel requirement, but also occasionally supplements the REMS fleet with their own special vehicles as needed.

Since the end of 2019, the site has been managed very successfully by Richard Weiguny, who had to deal with the first lockdowns in the wake of the COVID-19 pandemic shortly after taking over responsibility:

"In challenging times and under difficult conditions, you learn the fastest!" And with

a committed and sworn-in team as well as decades of trust from customers in the region, a smooth operation is more or less guaranteed.

WIBAU boss and REMS Beton managing director Gerhard Kraus is proud of the work of his colleagues in Mauthausen, after all, he had already worked for many years as managing director on site in Rems and Mauthausen before beginning his career at the WIBAU holding company in 2002.



REMS BETON: During the past 38 years since its founding, this regional supplier has already delivered a total of 2.5 million cubic metres of concrete.





Operations and sales manager **Richard Weiguny** and his 13-strong team supply the entire lower Mühlviertel region of Upper Austria province with high-quality ready-mixed concrete.

WILD ANIMALS LOVE THE SEINI QUARRY

Being close to nature has always been an integral part of these miners' ethos. No wonder, since they spend more or less their entire working lives outdoors in nature. Whether rain or snow, heat or storm – a real miner loves the elements. And they are not alone in this: because the animal world also feels at home in the quarry. Especially in Seini, where the many wild animals bear witness to an intact ecosystem.

As early as 1762, Empress Maria Theresa founded the Mining Academy in Banská Štiavnica (Schemnitz) – the first technical university in the world. As in many parts of the former Austro-Hungarian Empire, mining in Romania has been practised with a great deal of tradition and a great love of nature: Geology, mining technology, geomechanics, anomalies, natural phenomena and patterns in working with the elements and processes of nature can only be understood and successfully carried out with appropriate knowledge. The miners' motivation to work in harmony with nature is also correspondingly high in the Seini quarry of SC Piatra Si Nisip. In recent years, for example, the entire quarry drainage system has been redesigned in accordance with the terrain and its historical springs. The spring water obtained from this system is collected in a reservoir and used for production. Furthermore, in cooperation with the local partner school, about 300 trees were planted on recultivated slopes, which help reduce noise and dust pollution.

Each year, the red fox gratefully brings her three to four kits to play right by the storage area. Wild boar, martens, badgers and roe deer also feel particularly at home in the quarry. Adders, hares and domestic sheep can also be observed. And the miners are happy about this intact nature.



Snakes, lizards, beetles and mammals: the quarry site is full of activity – by day and by night.

KIRCHDORFER CONCRETE SOLUTIONS



HOW TO BUILD WITH EASE AND SPEED

"Everything from a single source" – under this motto, the Styrian KAMMEL Ges.m.b.H., in cooperation with the residential project developer ALW, was recently able to set a shining example of competence, efficiency and speed on the Viennese residential construction market. The clients were truly amazed.

With the erection of the 5-storey shell for a large multi-apartment building on the upper Old Danube in Vienna, the KCS subsidiary KAMMEL demonstrated how rapid construction progress is achieved under optimal conditions: by ensuring competent performance from a single source – from planning to production to execution at the construction site, from the foundation slab to the completed attic.

In the end, KAMMEL managed to stay well ahead of the planned construction time. And the experienced Viennese client had never seen anything like this before.

As industrious as bees

KAMMEL managing director Franz Strobl and his team are not only fast and thorough on the construction site, but also appreciate the work of the industrious buzzers. Therefore, the Styrian company was recently allowed to take over a "vibee" bee sponsorship.

Start of construction on the factory site

Finally, the Styrians are also as busy as bees on their own premises: Following the installation of a large photovoltaic system, the starting signal was given for a large office conversion and extension.



KIRCHDORFER CONCRETE SOLUTIONS

KCS PRECAST PARTS: ECOLOGICAL, SAFE, DIGITALISED

Climate protection, sustainable production and social responsibility are not just buzzwords for Kirchdorfer Concrete Solutions: With ambitious targets and a series of product innovations, KCS is aligning its infrastructure portfolio sustainably on the basis several concrete focal points.

A positive and aware attitude towards sustainability is a basic prerequisite in business life today: because anyone who does not operate sustainably – ecologically, economically and socially – will simply not be in business in the future. Sustainability goals are already of crucial importance for KCS clients – especially in large infrastructure projects such as the expansion of road and rail infrastructure. And Corporate Social Responsibility (CSR) is also a top priority for KCS itself.

The precast division of the Kirchdorf Group therefore manages these issues at the highest level. Division Manager **Michael Wardian** installed a separate project team within his managers last year. **Gerald Lanz**, who as head of product management has been entrusted with the coordination of the activities, explains: "We want to support our large infrastructure partners in the implementation of their sustainability goals more strongly and even more focused than before. We have therefore analysed the objectives among the stakeholders – above all by including customers such as ÖBB, ASFINAG and others – in great detail and aligned our sustainability activities accordingly. We are very confident that we can make a significant contribution to the implementation of a sustainable transport infrastructure in Austria, in particular with our product development in the areas of ecology, safety and digitalisation."

KCS is thus meeting the expectations of its stakeholders, which include not only its customers but also its suppliers, employees and, last but not least, the wider public. At the same time, the company is gearing up for the enormous challenges that will arise from new legislation at the EU level.

Sustainable positioning of product development

The gradual roll-out of sustainability goals to the individual KCS subsidiaries will also define the positioning of the entire product portfolio in future. On this basis, Kirchdorfer Concrete Solutions has set three specific goals for the coming years that will influence further investments, research and development efforts and product development. This essentially concerns the following three areas:

1. ECOLOGY: concrete 30 to the power of 3!

The orientation of value creation according to ecological criteria is based on the determination of a detailed CO_2 footprint for defined product groups. On this basis, KCS products will in future, in accordance with the sustainability target "Concrete 30 to the power of 3", have a higher recycled proportion, be produced with a lower CO_2 footprint from the concrete, and also achieve CO_2 reductions throughout all logistics. In addition, multifunctional products are being developed – such as the Power Plant Noise Barrier (see below).

2. SAFETY: Safe concrete - concrete(ly) safe!

The Kirchdorfer Group has a strong market position in road safety – especially through the development and establishment of DELT-ABLOC® vehicle restraint systems. Countless lives have been and are being saved with these systems on motorways all around the world. However, there is still enormous potential for improvement in Austria's lower-ranking road network: KCS will therefore intensify its focus in this area and further improve passive road safety throughout the road network.

3. DIGITALISATION: Added value through added benefits!

KCS will equip a number of products with additional digital functions, which will in particular help to minimise maintenance and operating costs and generate additional information benefits. Among other things, this concerns the cartographic location of installed precast elements such as concrete safety barriers and shafts.

Sustainability is safeguarding the future

The improvement of internal production processes from the point of view of ecology, resource consumption and energy use, and an ecologically optimised process chain from the delivery of raw materials to the delivery of finished products is a core focus of the sustainability strategy throughout the Group. In this context, the focus on durable precast concrete elements with added value and additional benefits, which has been pursued for decades, will be further intensified. In principle, the complete product life cycle from cradle to grave – from product creation to disposal – is the focus of the sustainability strategy.

But the measures that have now been defined as part of KCS infrastructure positioning go a significant step further, as Gerald Lanz explains: "In the coordination and harmonisation of the considerable internal knowledge pool, we also want to integrate all other corporate activities from purchasing to quality assurance to human resources in future." With this comprehensive strategy, KCS demonstrates the enormous potential of precast concrete elements for the construction of sustainable infrastructure in Austria.



The prototype of a KCS Power Plant Noise Barrier, which was submitted as part of the successful participation in the **ASFINAG CHALLENGE**, has already been installed by the Austrian motorway operator on a test field on the S1 motorway in Vienna in September 2021. The photovoltaic panels installed on the noise barrier not only provide ecologically produced electricity, but also ensure that the entire energy requirement that went into its manufacture, delivery and installation will be offset after only two years of operation. Challenge accepted!



With **MOVEBLOC**[®], the e-bike charging station consisting of a monolithically manufactured precast concrete element, Kirchdorfer Concrete Solutions contributes to the further expansion of a sustainable and future-oriented transport infrastructure. Its classic design not only provides a secure parking space with a barrier for bicycles of all brands and sizes, the integrated charging systems for all common battery systems offer a valuable additional benefit. MOVEBLOC[®] is also a perfect advertising medium.



With **KUDIS** – the Cartographically Supported Documentation Information System developed by KCS, precast elements can be displayed on a digital map with the precise GPS data recorded at the installation site. It stores all characteristics including the history of the respective precast element. This enables customers such as ASFINAG, for example, to automatically transmit customised queries about installed concrete safety barriers via a digital interface.





"WE ARE ALL WORKING TOGETHER ON COMPREHENSIVE SUSTAINABILITY!"

KN: Kirchdorfer Concrete Solutions is working mightily towards sustainability. How do you personally understand the term sustainability?

Wardian: For me, the topic of sustainability is multi-layered. It is quite clear that society demands ecological sustainability. And rightly so! And of course that is an area we are already working on intensively. But for me there is also "economic sustainability", which is just as important. Just take the many countries of the Third World – the Global South as we call it today. Without economic development, sustaina-

ble – that is, self-sustaining – economic development, ecological sustainability is simply not possible there.

And last but not least, "social sustainability" is also enormously important to me personally. And this has many facets: It starts with the fact that we as a company have obligations towards our employees. Not only do we provide livelihoods, but we also have to take care of their security and well-being at the workplace. We have to bind them to us – through our actions, through the vision we pursue. Our technicians and researchers in product development are constantly hard at work because they want to advance our society – and its entire infrastructure – with good ideas and reliable products. And prefabricated construction in particular provides a much more sustainable solution for the future by creating pleasant, controlled working conditions as well as by reducing inefficient work at many construction sites.

KN: That means that your idea of social sustainability also applies specifically to the products that are manufactured at KCS.

Wardian: Absolutely! That is an important aspect, and for us it must be axiomatic: The railway sleeper we produce must last a long time! And it must also require as little maintenance as is technically possible. Or the tunnel linings that we produce for ÖBB – they have to last 150 years according to the requirements. If you ask me, we probably built them to last 300 years. Because without being exposed to the elements, such structures are more or less designed to last forever. And that is actually our mission in this civilisation: we help shape the development of the country with our work. And for me, this is clearly the challenge of achieving social and economic sustainability; we are well aware of it!

KN: So how does the KCS sustainability roadmap specifically affect the processes in your company?

The sustainability goals defined in our roadmap are "smart" – in the sense of the German language acronym for specific, measurable, accepted, activating, realistic and scheduled. This means that they

not only guide all our investment decisions, but guide all areas or the company from product development to logistics.

I would also like to mention that economically fair and reliable partnerships are highly important for our development. Take, for example, the partnership with the Mayr-Melnhof Group, the largest timber producer in the country. The jointly developed hybrid construction method means that we are all winners. Including the customers! Or our cooperation with Elektro Hein: how else would we deliver a fully equipped monolithically manufactured transformer station to a new construction site? In my opinion, the future of construction lies in increasing the role of prefabrication to the maximum!



Michael Wardian is CEO of Kirchdorfer Concrete Solutions.

MABA PRECAST INDUSTRIES

TECHNOLOGICAL GUANTUM LEAP N WÖLLERSDORF

With a new, energy-efficient **concrete mixing plant** and a flexible central shifting plant that is directly integrated with a fully automated mat welding plant, the Wöllersdort site produces flat precast elements with the latest cutting-edge technology.

EN





Site manager **Jürgen Strohschneider** is extremely satisfied with the innovative layout of the new central shifting system at the MABA plant in Wöllersdorf.



Up to 200 square metres of **reinforcement mesh** per hour can be welded in variable sizes.



Left: The demoulding and shuttering robot identifies the shutterings with a camera and a laser scanner. Right: Post-processing station and curing chamber.



Despite the high degree of automation, there is enough space for manual finishing. Without robots, but with good old-fashioned wheel barrows.



Karlheinz Strutzmann Business Unit Manager Building & Industrial Construction

Born in Carinthia, he has been supporting the ranks of Kichdorfer Concrete Solutions since September 2021. As the new head of the Building & Industrial Construction business field, he will be devoting himself to continuing to systematise the company's portfolio and drive forward the vertical expansion of the entire value chain. And in this way he will take further steps towards the vision of truly "serial production". Building construction is traditionally largely one-off production, whereas the future clearly lies in the modular standardisation of prefabricated parts; this has already been realised to a large extent by TIBA in civil engineering.

His broad and international wealth of experience in the construction industry – including 17 years at PORR – will certainly be a benefit. Most recently, he built up the Systems Division for the German Zech Group. Karlheinz Strutzmann was born in Klagenfurt in 1975 and studied civil engineering at Graz University of Technology.

"Dad, please find something in Vienna".

After working in Germany for a long time, his family wanted to finally settle down in the Vienna area. The Kirchdorfer Group would therefore like to express its sincere thanks to the Strutzmann family for the unique opportunity for cooperation that has arisen from this decision.





KATZENBERGER PRECAST INDUSTRIES

SUSTAINAB ONTRACK

With the Kerenzerberg Tunnel project, the Tyrolean precast plant KATZENBERGER is implementing the optimal logistics chain: 50 tunnel lining segment rings on one train. And 100 trains to Switzerland. This means in total: 5,000 fewer road trips by heavy trucks!







Photo on the left: Track work for the railway siding at Katzenberger Fertigteilindustrie. Right: Arrival of the loaded train in Switzerland.

The call for CO_2 -saving solutions is louder and louder. Especially in the so-called DACH region (Germany, Austria, Switzerland), institutional framework conditions are being created that mean we can expect a shift of transports away from road to rail. And for this reason, transport by rail is the obvious choice for heavy and highly specialised precast concrete parts. But the optimal logistics solution begins when the concrete parts leave the production hall.

Rail siding at the storage yard

At the Wiesing site in the Tyrolean Inn Valley, Katzenberger company has now implemented a prime example of exemplary logistics under the leadership of Managing Director Stefan Kizlink: A gantry crane-operated siding is the centrepiece of the logistics investment. The crane capacity of 40 tonnes allows heavy precast concrete parts, in particular, to be quickly loaded onto wagons in future. This will give the Tyrolean company a significant competitive advantage in the surrounding export markets – especially in the "railway country Switzerland", where a supplier's own railway siding has already become one of the decisive bidding criteria. Now that the last logistics gap in the ongoing tunnel project at the Swiss Wallersee has been closed at the factory side, there is nothing standing in the way of further Swiss contracts. In the Austrian home market, too, the chances of winning major contracts are good. Especially the Brenner tunnel construction lot H53, which includes the obligatory delivery of the lining segments by rail.

However, the potential for sustainable logistics is not yet exhausted with the rail connection from the storage yard: the delivery of essential raw materials is also to be transferred to rail in the future. This would achieve exactly what the wise founders of the Kirchdorf cement plant had implemented over 130 years ago: First the railway, then the plant!

HYBRID BUILDING Consulting

The timber-concrete hybrid construction method combines the advantages of the individual materials into an impressive overall system. Especially because it involves a high degree of prefabrication through industrial production of the essential components. We have asked the experts from MMK Holz-Beton-Fertigteile GmbH to talk about the future of building.

When MMK launched its revolutionary concept of industrially prefabricated wood-concrete composite floors a few years ago, the biggest challenge seemed to lie in developing a product that was both technically efficient and economically viable. As it has since turned out, the product development process was the easiest part of the exercise. After all, the real challenge is the persuasion needed to turn a new building system from an interesting niche product into a successful series product.

As it turns out, it takes a long time before the market is ready for a technological quantum



leap: property developers, planners and architects have decades of experience as well as a network of proven construction companies and trades. You don't part with this experience overnight, even if the friction losses are becoming more and more obvious.

With the industrially prefabricated hybrid construction method, the Kirchdorfer Group can significantly reduce up to one third of time and effort at the construction site. Quite apart from the outstanding structural-physical properties of the end product, this fact alone should reassure every project developer and planner, especially as all the advantages and efficiency gains are well documented in a dozen successfully completed reference projects.

Accompanying advice from a single source

However, the most important factor in the ongoing persuasive efforts is not so much the product and its advantages, but the fact that the MMK experts are available to provide comprehensive consulting services over the entire life cycle of a building project. This gives every client the assurance that the relevant experience and expertise is available at all times from the initial planning to implementation, certification and subsequently even maintenance of the building project.

It also ensures that the maximum advantages of the new type of construction system are optimally realised. After all, during the execution and detailed planning of a building project is when many important decisions are made that not only have a major impact on the final results, but also on the implementation process at the construction site.

Thinking ahead and prefabricating

Ideally, the building site of the future will essentially be nothing more than an "assembly site", as Dieter Uhrig explains to us. The experienced engineer has been working for decades on the "systematisation" of various Kirchdorfer products – first and foremost the popular and proven MABA residential construction system. Efficient construction progress with intelligent components is the motto.

In the future, this will also involve taking more and more finishing services into account in the pre-produced parts from the

From design to construction: as a commercial builder, MMK offers **unique support** to make the entry into hybrid construction as easy as possible for our customers.



Karin SCHÖLLER Product Management, Building & Industrial Construction





We have had our first hybrid building projects evaluated under scientific supervision. The **significant efficiency gains** of the MMK building system are real and clearly documented.

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Alexander Barnaš Managing Director MMK Holz-Beton-Fertigteile GmbH

CONSULTING FROM A SINGLE SOURCE - SUPPORT AND ADVICE ON:

Design planning and variant study | Optimisation of material selection | Calculation and cost optimisation | 3D planning | Preliminary structural design including fire protection and vibration verification | Submission, execution and detail planning | Construction time and construction sequence planning | Coordination with the trades | Building certification (life cycle)

outset. After all, the shell alone usually accounts for about After third of the overall construction expenses. The greatest potential efficiency gains only begin afterwards!

Modular construction and lean production

The MABA residential construction system has always been at the forefront of developments here, because of its largely automated, customised wall and ceiling elements. But there is still a long way to go before we reach the optimal building system of the future. Recesses for windows and empty piping for various installations is only one thing – the goal, of course, would be to have the windows and the cables already installed ex works.

Until then, however, the building sector has to take a few big steps in the direction of modular construction: Because if every building project requires a new prototype over and over again, then the vision of "lean production" is infeasible. For example, the construction of an "individual" home, compared to a car with customised options, are still worlds apart. And the construction industry, of course, could learn a lot from other industries.

Hybrid construction connects

While the mineral construction industry and traditional timber builders operate more or less in separate worlds, MMK already brings the two trades together on the factory floor, as MMK Co-Managing Director Sebastian Knoflach of MMK joint venture partner Mayr-Melnhof Holz explains:

"With tested connections for the most important junctions as well as with modular products that harmonise perfectly with other Kirchorf prefabricated elements, and with the timber construction portfolio of the Mayr-Melnhof Group, we bring timber and concrete together perfectly".

In combination with the comprehensive consulting services of the hybrid construction specialists, the new building system can already unfold a good part of its potential – even if there is still no end in sight in the continuous expansion of the vertical manufacturing range.



"

In building construction, we need to think more in terms of processes and less in terms of materials. When the construction site becomes a simple **assembly site**, we will have achieved our goal of building efficiently.





PRODUCTION DATA ACQUISITION AT THE GERASDORF SITE

The implementation of a comprehensive production data acquisition system allows us to determine the actual cost of each individual precast part. The system, which was successfully installed in a pilot project of the precast division at the Gerasdorf site, not only keeps an eye on product costs, but also on the equipment.

In a precast plant with a high degree of automation, the recording of production data of the machines as well as the recording of the performance hours of the employees is valuable. This is because, in line with the efforts to optimise the use of resources on the production side, customer orders on the sales side should be produced on time in a quality that meets the requirements and profitably. To achieve this sustainably, it is essential to have accurate information about the production process and its cost structure: How many working hours are involved in each product depending on its complexity? How much time is lost through preparation, maintenance and repairs? Where are there



bottlenecks? The answers to these questions enable us to identify improvements that will bring long-term benefits.

In the first phase of the project, we designed and tested the IT basis for collecting the data. Despite additional challenges, the project team was able to train more than 60 production employees in 3-shift operation and complete the system implementation.

In a further project phase, we set up a comprehensive business intelligence reporting system that not only reduces administrative costs by automating reporting, but also makes live data from production available at all times.

The management as well as the production and sales departments are obviously pleased with the new information and insights!

Inputs from the production workers (left) make it possible to monitor the production progress during their shift. They can also monitor any technical problems that might come up. Photo on the right: Project manager **Simone Stricker**.



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HIGHNOON IN THE LOW COUNTRIES

In 2008, when Kees Hanegraaf started to sell DELTABLOC[®] concrete safety barriers in the Netherlands – a country with a long and important tradition in steel – no one took him seriously at first. By 2018, he had amazed everyone. And in 2021 he is a man in great demand ...

Preparing a new market from scratch as an independent "one man show" is no small challenge. But persistence, patience and a couple of ingenious design & construct projects have ensured that DELTABLOC[®] has finally landed for good in the Netherlands. At Amsterdam Schiphol Airport for example – one of the largest traffic hubs in Europe. Hardly any motorway construction site around Schiphol can do without our compact safety barriers.

Good advice, good reputation, good business

The 58-year-old Dutchman from Hengelo has earned his good reputation in the industry primarily as a sought-after consultant in the design and planning phases of various DELTABLOC[®] implementations. Even though this was definitely a new task for the former salesman of civil engineering

products – the fact that he is always available to architects and traffic planners with an elegant solution for almost any design or construction problem ultimately opened up the market. And of course the worldwide DELTABLOC[®] community as well as the many special solutions and experts at the headquarters in Austria were a great help. Kees Hanegraaf still spends much of his time planning special solutions, as he is currently doing for a project on the 500-metre-long Maas Bridge in Wessem. This intensive work gives him pleasure and is also appreciated in his professional world, as shown by a long list of awards: Three national prizes (2014, 2015 and 2020) as well as winning the Thuringian State Prize for Engineering Services are great recognition of excellent project design. And a good basis for further success!



Nijmegen City Bridge (2012): a major milestone for DELTABLOC Nederland.





DELTABLOC Nederland CEO Kees Hanegraaf and his colleague Margreet Nijman are busy with many projects.



DELTABLOC International's intensive growth trajectory made it necessary to move to a larger office. The new, and of course "representative" company headquarters for the globally active Kirchdorf Road & Traffic division dispenses with pomp, pageantry (and paper), instead focusing on simple functionality and intelligent design. Thus it precisely represents the DELTABLOC® Group's recipe for success. We took a look around the new Home of Road Safety.

A simple cube, a slim portal, surrounded by a well-tended meadow: Peter Rossegg, Head of Marketing at DELTABLOC International GmbH, welcomes us in the car park and can't wait to show us around the newly occupied headquarters: "Welcome to our new Home of Road Safety! Would you like to take a tour with Thomas Edl right now? I'm sure he can tell you an interesting story about every single detail and the whole background!"

Of course we know that Thomas Edl, the host of the new Kirchdorf Road & Traffic headquarters, is always up for a good story. But we don't need the "landlord tour" because the building speaks for itself, we reflect. So we walk through the well-proportioned but simple portal, symbolically greet the plants that have not yet been moved into place, and climb the elegant staircase to the first floor. But wait: Why does everything seem so dignified and inviting, although neither exquisite materials nor high-flying architectural ideas are to be found here? DELTABLOC® CEO Thomas Edl explains: "We asked our employees how they imagine the ideal working environment. What we learned was that environmental concerns top the list! Basically, our employees would prefer kind of a tree house, including perfect waste separation. So we concluded that we wanted a very subtle colour concept of warm earthy tones to create a very pleasant and homely atmosphere".

The result: an open, transparent and light-flooded building that invites people to get together: The individual departments are arranged exactly in ways that reflect how they communicate most often; there are also open, spacious meeting islands at the interfaces and intersections that promote communication. Each work group has a compact open-plan office, and each employee works at an ergonomic workstation with a height-adjustable desk. Everything looks very clean and tidy, and there is a simple reason for this: no shelves, no folders, no paper! The much-discussed paperless office is a reality here. How come, you wonder?





Official **opening of the new headquarters** on 22/09/2021: (from left) Thomas Edl (Head of Kirchdorfer Road & Traffic), majority owner Eva Hofmann, Erich Frommwald (CEO Kirchdorfer Group).



Pleasant working atmosphere, elegant design: Thomas Edl left nothing to chance in planning, design, construction and cost control. The results are evident.



The young **DELTABLOC® team** also feels completely at ease in their new working environment: height-adjustable desks, paperless office, numerous meeting islands and a permanent supply of fresh air increase productivity and boost motivation.

"We simply gave our staff two small moving boxes and then placed sufficient paper waste bins in the old office. In the new office, they now have only a simple mobile container and a tiny little cabinet at their disposal. This all worked out perfectly! The move was like a detox wellness cure. We all moved in with a completely new feeling of relief," Edl comments, as he describes the implementation of the paperless office according to the DELTABLOC[®] method.

Central location, productive synergies

The move from Sollenau to the site of the administrative group headquarters in Wöllersdorf naturally also promotes cooperation within the group. The new building offers space for up to 100 employees on almost 2,000 square metres. While the individual workplaces are compactly designed, meeting zones and common rooms are more spacious. After all, many visitors as well as the important training and education programme for licensing, production and project partners from all over the world are essential elements of the business. To ensure that the training lessons really stick, the component-activated building even has a permanent, filtered fresh air supply. And the first plants will begin growing in the spaces between the slats on the building façade next spring. Welcome to the new Home of Road Safety: Not a tree house, but smart and down to earth office architecture!



SOUTH AFRICA USES **LABOUR-INTENSE** PRODUCTION

The production of 13,334 DB 80 elements (concrete safety barriers) for South African state road operator SANRAL, the Johannisburg-based DELTABLOC[®] subsidiary is the largest single order in the company's 14-year history. And not for the first time, the contract was awarded on the basis of their unique production method, which is not only tailor-made for local conditions but also ensures added value and jobs for the region.

After four years of preparation and negotiations, DELTABLOC South Africa (Pty) Ltd. has recently been awarded a contract for the production of a total of 80 (!) km of DB 80 concrete safety barriers for the South African National Roads Agency (SANRAL). Initially deployed mainly on the M3 between Durban and Pietermaritzburg, the barriers will serve as a temporary protection of oncoming traffic during road renewal operations in the north-eastern KwaZulu-Natal province.

The elements will be produced by three independent contractors who, in collaboration with DELTABLOC South Africa, will set up a giant open air production site for the next two years, at the premises of a former chicken farm in Canto Ridge. They will employ a production method developed by Garth Strong and his son Craig.

Family business with a mission

DELTABLOC South Africa founder Garth Strong (74) started selling the Austrian-designed safety barriers on the African continent back in 2007. First, he had to convince the national authorities to rely on international standards and free competition instead of homemade solutions. Starting in 2012, he and his son Craig developed a labour-intensive production method that is perfectly adapted to local conditions. Thus, local partner companies can set up production literally in the middle of the bush. DELTABLOC South Africa supervises the production and placement of reinforcement and provides formwork and vehicles. In this way, local contractors in South Africa, Mozambique and the Kingdom of Eswatini (formerly Swaziland) produce DELTABLOC[®] elements according to proven and tested standards.







Labour-intensive production in South Africa:

The mesh reinforcement is bent by hand and inserted into the formwork. Concrete is poured from the mixing truck. The South African branch has its own crane for turning and demoulding the DELTABLOC[®] elements.



Major order with local added value: The first two prototypes for SANRAL are ready – including name embossing at the client's request. Only 13,332 DB 80s to go...



UEFA EURO 2020 BETTING GAME WINNERS

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OUR FOOTBALL EXPERTS

In the regular biennial rhythm of major international footbal events, the Kirchdorf Group is home to our already traditional and equally legendary "betting game": Last summer, the EURO 2020 was on the agenda – albeit with a one-year delay due to COVID-19. But the many football fans in the individual offices, factory halls and mining sites of the Group waited patiently, and once again backed up their concentrated football know-how with many correct match predictions. For the first time, the local experts had to compete with their colleagues from our companies in Germany, the Czech Republic, Romania, Bulgaria and Hungary. In total, 222 individual tipsters and 26 teams took part!

Of course, some were more successful than others – that is the nature of sporting competitions. Therefore, not only the ten best individual tipsters but also the winning teams were awarded great prizes: First place in the team ranking went to **Team Schwelle – Sollenau** with colleagues David Levente, Markus Walter and Johann Zeiss from our railway sleeper production facility in Sollenau. **David Levente** also won the coveted individual prize: with 162 points, he beat **Philipp Ostermayer** (144 points) and **Mario Hössl** (142 points, both MABA Wöllersdorf) into second place. Unfortunately, KCS football expert Thomas Forejtek missed the podium this time by just a few points. He forgot to enter a tip! In any case, there is still enough time to work on stamina and concentration before the next major football event.

Kirchdorfer Group CFO and referee **Thomas Pommerening** (centre) presented the prizes to the lucky winners of this year's Kirchdorf online betting game on the occasion of the European Football Championship.



WE LOOK FORWARD TO **RECEIVING YOUR FEEDBACK** ON THIS ISSUE OF KN: KirchdorferNews@kirchdorfer.eu



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