





Important milestones In the first six months of 2019, CTP

achieved a number of key milestones on our way to achieve a portfolio of 10 million m². I am very proud of the different teams who helped to realise our goals. One of the most important highlights is that at the end of June, I took over full ownership of CTP. This will both smooth implementation of strategic decisions and improve our focus on our core business and our clients.

pect approximately 11% to come from new clients and the company's overall health. the remainder from acquisitions.

markets and from its diverse and stable client base. The expansion of e-commerce across CEE is leading to increasing demand for new logistics solutions, while the region continues to be in demand for a broad range of high-tech activities based on the skilled workforce and support from local governments. Many of our clients to BREEAM standards, as all our new buildings are are also starting to roll out automated processes at their already built to the highest energy efficiency, water facilities.

first own-built facility in Serbia in early August; the acquisition of new land in Poland; an acquisition for a completely new park in a brownfield in Brno, near CTPark Brno, where we have no more room for growth; In this issue of GRID we focus on the five main capithe acquisition of a park in Košice, Slovakia; continued growth in Hungary due to a significant bank of permitted land while our competitors are mired in bureaucracy; and continued take-up in Romania and growth of both CTPark Bucharest and Bucharest West. In addition, just prior to publication, we launched operations today, and for the future. in Bulgaria for the first time.

These strong half-year results allowed us to grow the busy autumn schedule where we will meet our business portfolio to over 5.2 million m², with 96,000 m² newly developed, and nearly 400,000 m² under construction with completion planned before the end of the year. In addition, we acquired over 100,000 m² of prime properties and an additional 120,000 m² of acquisitions is **ENJOY, AND FULL SPEED INTO 2020!!** planned by December 2019.

Our continued reduction in vacancy to a stable and moderate level combined with the continued growth and upward pressure on rents in our markets where demand remains strong lead us to predict EUR 277 million in gross rental income for the year.

second major milestone was the refi- Operationally, we continue to improve internal pronancing of our Czech portfolio in the cesses and can see the end of the tunnel in our implelargest real estate transaction in CEE mentation of new, company-wide IT systems that will history. The development financing will enable us to better handle growth, improve communisupport our growth, and we estimate that around 70% cations with our current clients so we can care for their of this growth will come from existing clients. We exissues in an increasingly timely manner, and monitor

We continue to lead in our environmental record. Our CTP benefits from the sustained GDP growth in its first two buildings at Vlněna—pre-leased before completion—were awarded BREEAM Excellent in July, with the third building expected to be certified in the coming months. CTP ranks no.1 in the Czech Republic in terms of BREEAM-certified buildings. By the end of this year, the entire portfolio will be certified according containment and working environment specifications. Additionally, we will be begin to certify our work en-Other key achievements were the completion of our vironments to the WELL specification, which demonstrates our commitment to building work environments where our clients and their employees can thrive.

> tals of central Europe where CTP is active. In place of the usual approach, we wanted to invite our readers to see the beauty and dynamism of these cultural capitals and give a local's perspective on why they are significant engines of their respective countries—both historically,

> Now that summer is over, we are looking forward to the partners and colleagues at various events and share memories of our summer travels and adventures, as I do with the photo essay at the end of this issue.

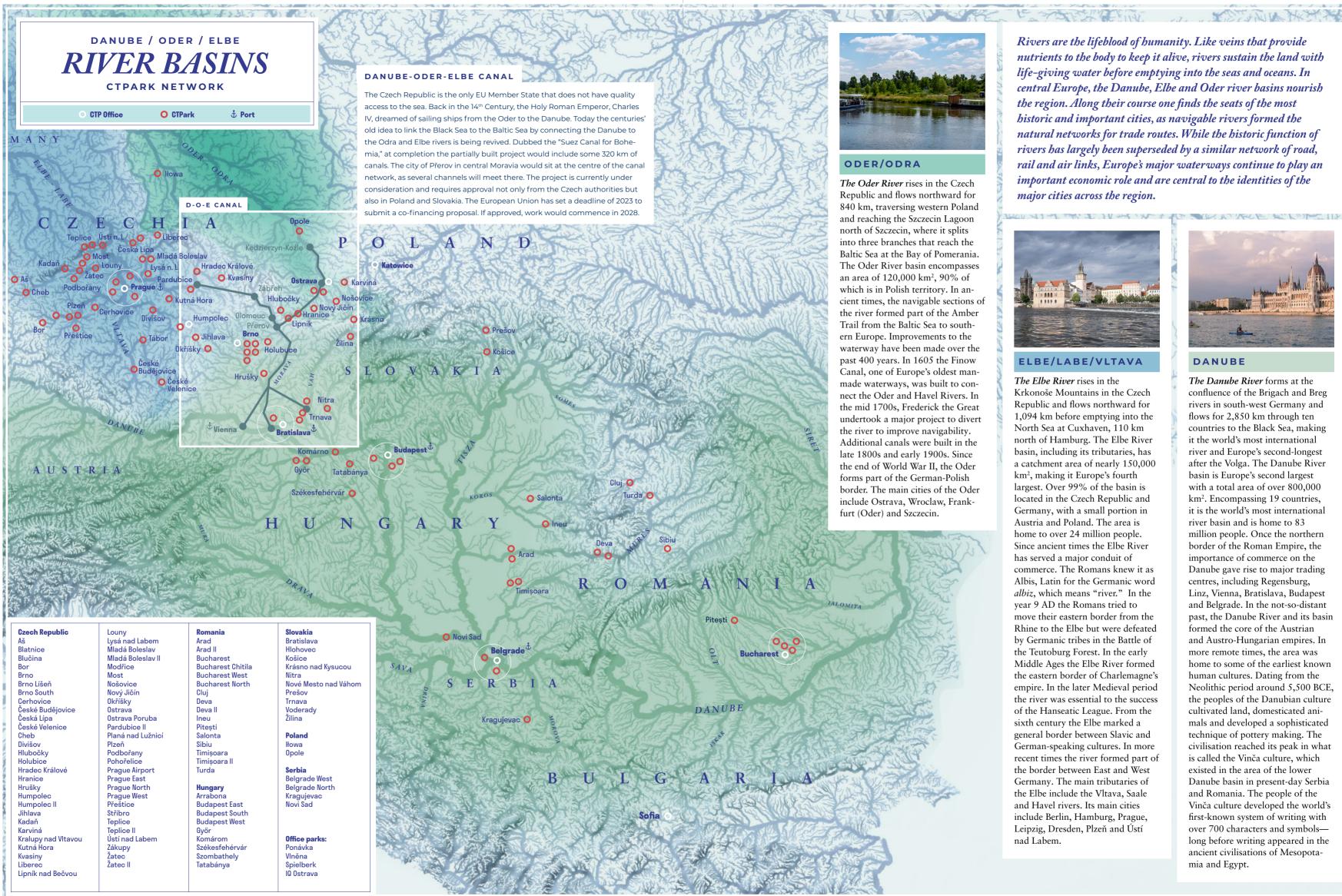
Remon L. Vos, FRICS



Big numbers ne numbers, as always, are looking up. After half of the year we are confidently predicting total rental income of EUR 277 million for 2019, which would represent an 8% annual increase—an excellent result given that we sold a significant portion of our Czech portfolio last year. Rental income was boosted in Q2 this year, during which we signed new leases, prolongations and acquired income-producing properties covering 327,000 m² resulting in annualised income of nearly EUR 18 million.

Financing: CTP recently closed on three major re-financing packages: one covering our Czech industrial portfolio, the second our Romanian, and the third for Hungary. In June, we agreed a EUR 1.9 billion syndicated loan package with a consortium of our major banking partners in what was CEE's largest-ever real estate finance deal, which secured EUR 1.6 billion in mid-term financing for existing assets and an additional EUR 269 million for further developments over the next 18 months. The transaction consolidated 40 existing loan agreements into one syndicated loan. The new loan structure

Ellel



Rivers are the lifeblood of humanity. Like veins that provide nutrients to the body to keep it alive, rivers sustain the land with life-giving water before emptying into the seas and oceans. In central Europe, the Danube, Elbe and Oder river basins nourish the region. Along their course one finds the seats of the most historic and important cities, as navigable rivers formed the natural networks for trade routes. While the historic function of rivers has largely been superseded by a similar network of road, rail and air links, Europe's major waterways continue to play an important economic role and are central to the identities of the major cities across the region.



ELBE/LABE/VLTAVA

The Elbe River rises in the Krkonoše Mountains in the Czech Republic and flows northward for 1,094 km before emptying into the North Sea at Cuxhaven, 110 km north of Hamburg. The Elbe River basin, including its tributaries, has a catchment area of nearly 150,000 km², making it Europe's fourth largest. Over 99% of the basin is located in the Czech Republic and Germany, with a small portion in Austria and Poland. The area is home to over 24 million people. Since ancient times the Elbe River has served a major conduit of commerce. The Romans knew it as Albis, Latin for the Germanic word albiz, which means "river." In the year 9 AD the Romans tried to move their eastern border from the Rhine to the Elbe but were defeated by Germanic tribes in the Battle of the Teutoburg Forest. In the early Middle Ages the Elbe River formed the eastern border of Charlemagne's empire. In the later Medieval period the river was essential to the success of the Hanseatic League. From the sixth century the Elbe marked a general border between Slavic and German-speaking cultures. In more recent times the river formed part of the border between East and West Germany. The main tributaries of the Elbe include the Vltava, Saale and Havel rivers. Its main cities include Berlin, Hamburg, Prague, Leipzig, Dresden, Plzeň and Ústí nad Labem.



DANUBE

The Danube River forms at the confluence of the Brigach and Breg rivers in south-west Germany and flows for 2,850 km through ten countries to the Black Sea, making it the world's most international river and Europe's second-longest after the Volga. The Danube River basin is Europe's second largest with a total area of over 800,000 km². Encompassing 19 countries, it is the world's most international river basin and is home to 83 million people. Once the northern border of the Roman Empire, the importance of commerce on the Danube gave rise to major trading centres, including Regensburg, Linz, Vienna, Bratislava, Budapest and Belgrade. In the not-so-distant past, the Danube River and its basin formed the core of the Austrian and Austro-Hungarian empires. In more remote times, the area was home to some of the earliest known human cultures. Dating from the Neolithic period around 5,500 BCE, the peoples of the Danubian culture cultivated land, domesticated animals and developed a sophisticated technique of pottery making. The civilisation reached its peak in what is called the Vinča culture, which existed in the area of the lower Danube basin in present-day Serbia and Romania. The people of the Vinča culture developed the world's first-known system of writing with over 700 characters and symbols long before writing appeared in the ancient civilisations of Mesopotamia and Egypt.

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CTPARK NETWORK IN SMALL BULLET POINTS

• 0ver 110,000 m² newly signed and under construction in North Moravia

Nearly 250,000 m² build opportunities at 2 new parks in Ostrava Poruba and Brno

• 35,000 m² soon to launch construction plus 75,000 m² soon to be permitted in the Brno and Ostrava regions

• 7,000 m² leased to Hydratech at CTPark Žatec and 8,300 m² signed with NVH at CTPark Česká Lípa

• We plan handovers at CTPark Most and CTPark Kadaň covering 22,000 m² in August and completion of our first 8,000 facility at CTPark Cerhovice in early 0ctober

• We completed 24,000 m² at **Bucharest West and handed over** 12,000 m² to Quehenberger

· An additional 20,000 m² completed at CTPark Cluj and a 6,000 m² complex BTS facility in Pitesti

 Acquired an additional 80,000 m² at CTPark Bucharest, only 13 km from the city centre, where we plan on introducing smaller-size units unique on the Bucharest property market

• In H2 we plan to deliver 12,500 m² in Sibiu, an 8,300 m² extension for Faurecia in Pitești and our unique 3,600 m² cross-dock facility in Bucharest West, with chilled and frozen storage space for the largest meat producer in Romania

 At CTPark Bucharest we will finalise a 33,000 m² facility for our new Premium Business Unit offering, with unit sizes from 1,000-3,000 m² • Construction works will start at

• During H1 we delivered 47,000 m² in three projects at CTParks Győr, Komárom and Tatabánya, and reonvated an additional 6,600 m²

· We began construction of two projects totaling nearly 60,000 m² at CTPark Budapest East and CTPark Budapest South

• In total, we agreed deals covering 40,000 m² of space, and achieved 100% occupancy at CTPark **Budapest East**

• In H2 we expect to deliver over 40,000 m² of fully pre-leased space at CTPark Budapest West, as well as and additional 9,000 m² to the company Dana, who is expanding at CTPark Győr

· We plan on completing another 22,000 m² at CTPark Budapest

two locations, for buildings of 31,000 m² and 5,300 m²

• In August we launched the final phase of construction at CTPark Trnava of a 49,000 m² facility, with expected handover in Feb. 2020. The facility will provide nearly 60,000 m² of space due to construction of two floors

• In eastern Slovakia we plan to close on an acquisition near Košice, with nearly 55,000 m² of lettable area and adjacent land to build up to 21,000 m²

· In H1 we acquired an additional 14 ha of land at CTPark Ilowa. which will allow us to build up to 140,000 m² of production/warehouse facilities

GDP (ppp)/per capita (EUR)

· Completed first own developed 14,000 m² building in Belgrade West, handed over one-half to Emmezeta in early August

• Began construction of 25,000 m² at Kragujevac with 20,000 m² preleased. Completion planned for this year

 New deal for a 12,000 m² facility at CTPark Novi Sad, with a 5,000 m² extension; construction start planned in H2



CZ SK PL HU RO RS



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BUILDING A FUTURE-PROOF FUTURE

There's a lot of talk these days about climate change and what can be done about it. One big area often overlooked in the conversation is the built environment. According to the UN 2018 Global Status Report, the global buildings and construction sector (including the construction and usage of buildings) accounts for around 39% of all energy-related CO, emissions and 36% of final energy use.

By itself, the construction industry is responsible for more than 10% of the world's CO_2 emissions—five times more than global air travel. One of the biggest sources of this heavy carbon footprint is concrete and its main ingredient, cement. If the global cement sector were a separate country, it would be the world's third-largest CO_2 emitter after China and the United States. The good news is that a radical rethink of the built environment is already underway to drastically reduce its carbon footprint and move from the current model to a sustainable, closed-loop system.

The good news

Much progress is being made to develop and bring to market a wide range of new materials and approaches to the built environment to make it sustainable for today and tomorrow. This includes the next-generation of ecologically friendly cement and concrete that not only can radically reduce carbon emissions but,

over time, has the potential to make concrete a carbon-negative material. Teams around the world are also engaged in ground-breaking work to develop specialised alternative concretes that can do things like capture, store, and transmit solar energy as either electricity or light without operational costs or harmful emissions.

Natural materials like wood are also getting a rethink as part of the solution for the built environment. Advances in engineered wood make it not just structurally possible but also economically viable to build high-rise buildings with engineered wood beams rather than steel. Engineered wood has other benefits, including carbon capturing, passive cooling and the general well being that the natural material engenders.

Adding to the list, new developments in nano-technologies are enabling the roll-out of self-regulating building facades, while breakthroughs in HVAC systems are making it possible to reduce energy consumption significantly.

No one solution holds the key. This is a case where the more good ideas we have, the better.

Making the concrete jungle green

Concrete is everywhere. Each year, over 10 billion tonnes of it are consumed worldwide, making it the most-used manmade material on the planet—and the second-most used substance on Earth after water.

To meet the growing global demand for concrete, currently more than 4.5 billion tonnes of cement are produced each year. And cement production—at least in the way that most of the industry-standard Portland cements are made today—is an energy-intensive process that emits massive amounts of CO₂.

The main source of emissions is the production of clinker, which requires heating limestone to temperatures of up to 1,500 Celsius—around twice as hot as molten lava. While the energy used comes mostly from fossil fuels, as much as 60% of the carbon emissions come from the chemical reactions that take place during the production of clinker.

Eco-friendly cement

One solution for cement is to replace clinker with another, more benign material. Researchers at Princeton University have shown that it is possible to make cement-like materials using recycled by-products from industrial activities, including steel slag, fly ash from coal-fired power plants, and

certain clays. While still in the developmental phase, this technique—which has the added benefit of recycling industrial waste and capturing carbon—could reduce CO₂ emissions by as much as 80% compared to the production of traditional Portland cement.

Another possible solution in development at the Laboratory for the Chemistry of Construction Materials at UCLA is a unique cement-like material produced by upcycling C0, from industrial carbon emissions without the need for further processing. The material, which the UCLA team calls "CO₂N-CRETE", is produced by taking the captured CO, from flue gas and combing it with other elements to trigger a chemical reaction, which is then fabricated using 3D printers. The current pilot project is producing up to 10 metric tonnes a day and in phase two, output should reach 100 tonnes per day.

In the UK, researchers at the University of Aberdeen are working on something they call the Carbon Capture Machine. The device captures CO₂ and converts it to materials that can replace ground calcium carbonate another CO₂-intensive ingredient used to produce concrete. While still in the early stages of development, the technology could play an production of concrete.

Fixing the cracks

One big problem with modern concrete is that it doesn't last. Many modern concrete structures begin to degrade within 50 years. Repairs are costly and many structures are simply demolished without effective recvcling. But what if concrete could fix itself?

The idea is not farfetched—the ancient Romans developed self-healing concrete mixtures more than 2.000 years ago that have stood the test of time. Recent analysis reveals that the Romans made their concrete from a mix of volcanic ash and rocks, lime, and seawater. The process—which modern science has not fully been able to replicate—causes a rare hydrothermal mineral to grow, which strengthens the concrete over time.

Researchers today are working on solutions to develop self-healing cement to meet the needs of the modern world. A team from Delft University in the Netherlands has taken the lead in developing a concrete mixture infused with bacteria that enables the concrete to heal its own cracks and fissures. The bacteria naturally produce limestone when exposed to air and water. Thus not only does this new material eliminate the need for costly repairs, it actually strengthens concrete structures over time. The material can be park. used not only for new buildings but also for repairs to existing structures. Mixing the bacteria into specialised gels before it is added to the cement enables the self-healing process to go on for centuries.

Do you see the light?

Another eve-opening innovation in the world of cement and concrete—one with numerous potential applications—is the development of light-emitting or phosphorescent cement: cement that literally glows in the dark.

Researchers in Mexico have invented a cement mixture that can absorb and store sunlight during the day and then emit light (currently in hues of blue or green) for 12 hours during the night. The material can be used to illuminate things like highways, bike paths and buildings using only the energy absorbed from sunlight during the day. It has a lifespan of 100 years.

The team figured out an ingenious way to transform the crystalline micro-structure of regular cement (which makes it opaque) into a gel that can absorb and emit light. The material is also ecological, as it is made from sand, dust or clay and the only emission during the production process is steam. The project has garnered international attention and several companies are starting to roll out production.

Another futuristic innovation is cement that important role in eliminating CO, from the can conduct electricity. Conductive cement is already in use for things like electrical grounding, lightening protection, electromagnetic interference and thermoelectric power generation. Now, several teams of researchers around the world are working on various ways to enhance the conductivity of concrete to take its applications to the

> Researchers at Leeds University in the UK have developed a cement compound that uses potassium ions to conduct energy. This enables concrete structures to act as batteries to store and emit energy wirelessly. That means that our homes and offices could, in effect, power themselves.

> Another breakthrough in the works is a graphene-infused cement mixture that its developer, the Australian company Talga, claims acts like the heating element of an electric stove. The potential applications of this "energised" concrete are immense: from which would create a safe and environmentally friendly way to clear ice in winter.

> Perhaps the most exciting possibility is that conductive cement could enable electric vehicles to be charged wirelessly—either while they are being driven or when they are parked—using the solar energy absorbed by the concrete surface of the motorway or car

> This is the kind of game-changing technology that would make it possible in the not-so-distant future for electric vehicles to replace fossil-fuel-burning cars and trucks, eliminating a huge source of CO₂ emissions.



Ferrock to the rescue?

Ferrock—a revolutionary, rust-coloured concrete-like material developed accidentally a few years ago by an environmental chemist in the United States—is a simple yet amazing substance. Made mainly from iron dust and silica (crushed glass), both of which are readilv available from recycling, Ferrock actually absorbs rather than emits CO, during its production process, making it a carbon-negative building material.

Research is still on-going into how the material does what it does, but in essence CO, reacts with rust to form iron carbonate, locking in the greenhouse gas from the atmosphere. Additionally, Ferrock is produced without the need for high temperatures and also strengthens when exposed to seawater. Ferrock is five times stronger than Portland cement and much more flexible, making it better suited than traditional concrete to withstand seismic activity and industrial processes. Still in development, commercial production is expected soon.

From Earth to Mars and back again

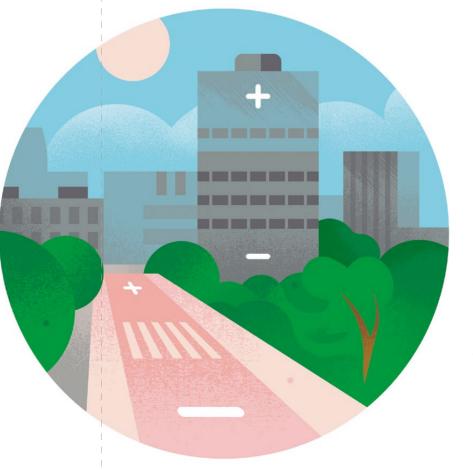
heated floors to heated roads and walkways, A team of architects and designers in the US working to develop a prototype habitat to support human life on Mars may have developed the ultimate sustainable building material for the future here on Earth.

> The design firm AI SpaceFactory won a half-million dollars from NASA for its Mars habitat prototype MARSHA. The spaceage design uses a bespoke construction material called biopolymer basalt composite, which is made from crops like corn and sugar cane and fabricated using 3D printing technology. The material has been certified by NASA to be 50% stronger and more durable than concrete.

Inspired by MARSHA, the team focused their attention back here at home and came up with TERA, an Earth-bound version of MARSHA using the same plant-based polymers. TERA is proof-of-concept for the buildings of the future. The construction material is 100% recyclable and compostable, while at the same stronger and more durable than traditional concrete.

What Roman ruin?

While we tend to think of concrete as a modern material, the truth is, it's old. Despite all the progress made to date, the world's most impressive concrete building is still the Pantheon in Rome. Built in the second century BCE, the building is made entirely of concrete and boasts the world's largest unsupported concrete dome (43.3 metres in both diameter and height)—a feat most experts today agree would be impossible to replicate.



Wood is the new concrete

Another traditional building material getting a re-think for the 21st century is wood, which is making a comeback as a construction material for all the right reasons. With proper forest management, wood is a sustainable building material that absorbs and locks in CO. from the atmosphere.

The big change in the world of wood is the on-going development of engineered timber—a super-wood that it is stronger, lighter and more fire-resistant than steel. Some architects now describe it as the concrete of the future.

One of the most important of these is cross-laminated timber (CLT). First developed in Austria in the 1990s, CLT is basically a super-plywood made by taking planks from different woods and binding them together at right angles. CLT constructions can be pre-fabricated offsite to a great deal of precision, allowing them to be put together almost like Lego blocks at the building site by construction saves both time and money.

Although not exactly new, the use of engineered wood for construction has acceler-CLT worldwide was only 2,000 cubic metres. In the day. 2018, over one million metric tonnes were used.

Castles made of CLT

Currently most CLT is used for the construction of low- and mid-rise residential and industrial buildings, including offices and warehouses. But as the use of engineered wood continues and building codes are revised to allow for are even higher. taller wooden structures, we are going to be seeing more of something we haven't seen much of before: wooden skyscrapers.

The newest contender for world's tallest wooden structure is the recently announced Canada Earth Tower in Vancouver. Plans for the 40-storey building include 200 apartments and outdoor vertical gardens. Canada—with its large supply of sustainable timber currently has over 500 mid-rise wooden building projects under construction.

Japan is another pioneer in timber skyscrapers. Last year Sumitomo Group announced plans to build the world's tallest wooden skyscraper in Tokyo. The 70-storey paign of prominent voices calling for them building, called W350, will be 350 metres tall to be banned. While the debate is underway. at completion and will be made from a hybrid new breakthroughs may offer the solution. of wood and steel

In addition to its ecological and cost benefits, there's another good thing about wood: people like it. While more research is needed, wood has long been known to make people feel better: it reduces stress, improves air quality and fosters overall well being.

Nano-wood is cool

"nano-wood" developed by researchers at the made of a special polymer material called University of Maryland. This new material dielectric elastomers coated with silver

has wide-reaching implications as a passive cooling agent for both new and existing

Although it sounds high-tech, nano-wood turns out to be relatively simple: the team developed a low-cost way to take ordinary recycled wood and remove the compounds that make it brown and hard. What remains is a woody material made only of cellulose nano-fibres and the natural spaces that transport water and nutrients inside a living tree. This material is then compressed to restore its strength, and a hydrophobic compound is added to make it water repellent.

The result is a bright white "wood" that is both extremely effective at reflecting and dissipating heat and extremely strong: ten times stronger than wood, and three times stronger than steel. These dual properties make nano-wood ideal as a building material, especially for roof tiling and facades. Tests show it to be 10% more effective at blocking a relatively small crew. The speed and ease of heat than Styrofoam or silica aerogel and up to 30 times more durable. The natural nano-structure of the material enables it to stay up to 4 degrees Celsius cooler than the ated in recent years. In 2003, consumption of air around it, even during the hottest part of

> Nano-wood is inexpensive to produce (currently around USD 7 per square metre) and is ideal for both new constructions and for renovating existing buildings. Studies have shown that for buildings built after 2004, it can reduce energy costs by more than 20%. For older buildings, the savings

Face of the future

All-glass facades have come to define much of the modern urban landscape. Such buildings may be stylish and sleek, but they are also, in effect, giant greenhouses heated up by the sun that require massive amounts of energy to cool.

According to the International Energy Agency, the amount of energy used for cooling buildings has doubled since 2000 and now accounts for around 14% of all energy usage. The high environmental cost of allglass facades has triggered a growing cam-

Homeostatic facades

Homeostatic (self-regulating) facades could be a game-changer when it comes to the buildings of the future.

Developed by an architectural team in the US, the system uses a high-tech ribbon woven inside the cavity of double-skin glass that contracts or expands depending on the Another fascinating innovation in wood is temperature outside. The flexible ribbon is that can be polarised with very little energy consumption. The ribbons react to changes in temperature and either contract to let warmth in or expand to block sunlight.

Vertical forests

Another twist on the façade of the future is to literally make it green. Vertical gardens are increasingly seen by architects and developers as an ideal way to reduce cooling costs while providing a significant contribution to CO₂ reduction and cleaning urban air.

A good example is Milan's award-winning Bosco Verticale (Vertical Forest) project designed by Stefano Boeri Architects. Completed in 2014, the twin residential towers rise to heights of 116 metres and 76 metres and contain more than 800 trees and 14,000 plants representing over 100 species.

The team also won the commission to design the Liuzhou Forest City in China—the world's most ambitious vertical forest project to date. Plans call for the creation of apartments for 30,000 people within a series of plant-covered skyscrapers involving 40,000 trees and one million plants.

Each year the trees at Liuzhou Forest City are expected to absorb 10,000 tonnes of CO₂ and 57 tonnes of air-borne pollutants while producing around 900 tonnes of oxygen. The project will decrease average air temperature in the area, create noise barriers, and boost biodiversity by creating a habitat for birds and insects.

Climate control

A less eye-catching but no less important development for the built environment is a new breakthrough that makes existing climate control systems for buildings exponentially more efficient.

Heating, ventilating and air conditioning (HVAC) systems using turbulent heat exchange is how the majority of the world's buildings regulate their internal climates. These systems are major contributors to the energy usage of the built environment worldwide.

A joint team of researchers from the US and China are making waves in the world of HVACs with a relatively small innovation with big potential. The team took an organic compound known as HFE, which is the sole fluid used in some heat exchange systems, and added it to a water-based heat exchange system to see what would happen.

After three years of tinkering, the results are impressive. The team determined that adding 1% HFE to a water-based heat exchange HVAC system can increase its efficiency by an astounding 500%, as the droplets of HFE in the water speed the process of heat exchange throughout the system.

One current limitation with this breakthrough is that it only works for vertical heat exchange. Adaptions are underway to modify the technique for horizontal heat exchange systems.

Green Industry

At CTP we take sustainability seriously. From the initial master plan to building design, construction and refurbishment, sustainability informs our decision making at each step.

CTP's office developments are market leaders in sustainability. Tower II at Spielberk was the first building outside the UK to be certified BREEAM Outstanding—the highest rating available—for overall sustainability. The first buildings at Vlněna have already been certified BREEAM Excellent. For Building I, we are aiming for BREAAM Outstanding. We are also in the process of having all buildings certified Gold under the international WELL standard, which ranks workplaces based on their positive impact on the well being of the people working there.

We have taken our best practices at our office developments and applied them to our industrial parks and buildings. In 2016 we began building all our industrial buildings to be certifiable according to BREEAM specifications. To date, CTP is the market leader in the Czech Republic with 18% of all BREEAM certified-buildings.

In 2017, we took the decision ourselves to certify our entire Czech portfolio according to BREAAM standards. By end 2019 we will have completed 17% of our Czech portfolio, with the remainder to be completed in 2020. We are also on plan to certify our Romanian, Hungarian and Slovak portfolios during 2020.

To achieve this, we work closely with the BRE organisation in London so that our White Book—the book of standards that defines all of the technology and processes used in the construction and refurbishment of our buildings—is aligned with current BREEAM standards, thus making the certification process faster and smoother.

As standards and technologies change over time, we continually seek ways to improve the technologies used in our White Book. For example, we are currently looking into a new variant of facade cladding called 'quad core' that meets our stringent fire code requirements. More interestingly, it's not a mineral wool product. Rather, it's a fire resistant, highly insulating, foam-filled product—not PIR or PUR—and safer on smoke emissions, too. The benefit of this is much higher U-values, which means much higher thermal insulation.

Another area of interest is IoT technology embedded into building management systems and lighting controls. We are moving towards a fully cloud-based solution that enables our service desk to monitor and control our industrial parks from Prague HO

We are also working on a progressive update plan to prepare our buildings for upcoming EU climate change legislation, which is expected to be strict. We do this by simulating a model building and adjusting the building fabric, MEP and glazing properties until we reach a performance level we are comfortable with, which we then set as the target for new design. This is an on-going process and represents a balance between investment cost, benefit and operational efficiency. We are currently in the process of a design update.

Other developments include rolling out PV panels as part of our standard for all buildings and the deployment of a next-generation BMS matrix which, when finished, will connect all technologies within the building through one system (including solar in the future).



Green leadership
Of the 109 buildings issued final BREEAM
certification in the Czech Republic,
CTP leads the market, holding 18% of all
certified buildings in the country.



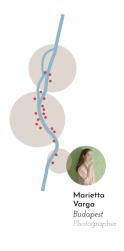






EVENINGHUES

Budapest at dusk glows pink along the Danube. What better place than the river to capture Budapest's vibe on a warm summer evening? Take a sunset cruise through the heart of the city to experience its magic and mystery. Perhaps you prefer a romantic walk along the riverfront? Or find your spot along the embankment, enjoying good company and views of the majestic river and Budapest skyline.









SPLENDOR

On the waterfront you can feel the power of the river and it's bigger than life. Walks along the rieverbank allows you to feel the city's never-ending battle with the rivers's force. The embankments, made of hand-laid stone are heavy and strong. The river itself is crossed by seven massive bridges, each with its own charm. They connect Buda and Pest, and sometimes one of the city's four islands.







TAKING LIBERTIES

Each summer since 2016 one of Budapest's most special events takes place on Liberty Bridge. Built between 1894 and 1896, Liberty Bridge is remarkably photogenic, with its criss-cross metalwork and symbolic Hungarian design features such as Turul birds and the bright red-and-white national coat of arms. The bridge was closed to traffic in 2016 because of reconstruction, allowing it to be taken over by locals for grill parties, yoga classes and communal relaxation. This led to the more formalised Liberty Bridge picnics, an annual series of casual get-togethers on specific weekends with informal performances and activities organised by the urban activist group Valyo.





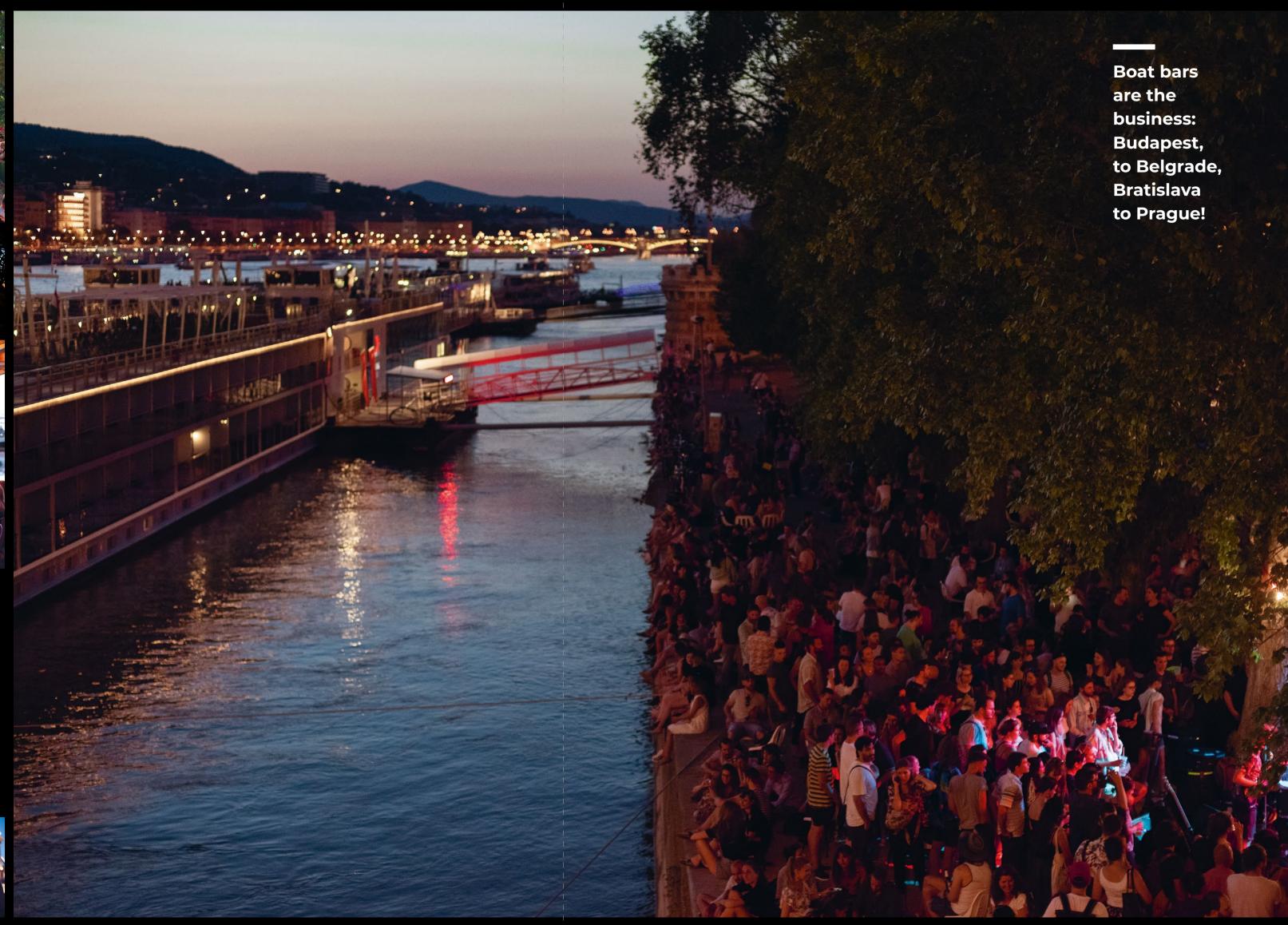




SWOLLEN RIVERBANKS

Summer in the city comes alive along the waterfront. If nightlife and good parties with great music after a long day is your thing, the most popular open-air bars are waiting for you along the river. PONTOON and Raqpart Bar are two iconic waterfront destinations on the Pest side of the river next to the Széchenyi Chain Bridge. Of course there are many other opportunities to hang out and have fun in extraordinary places along the river.







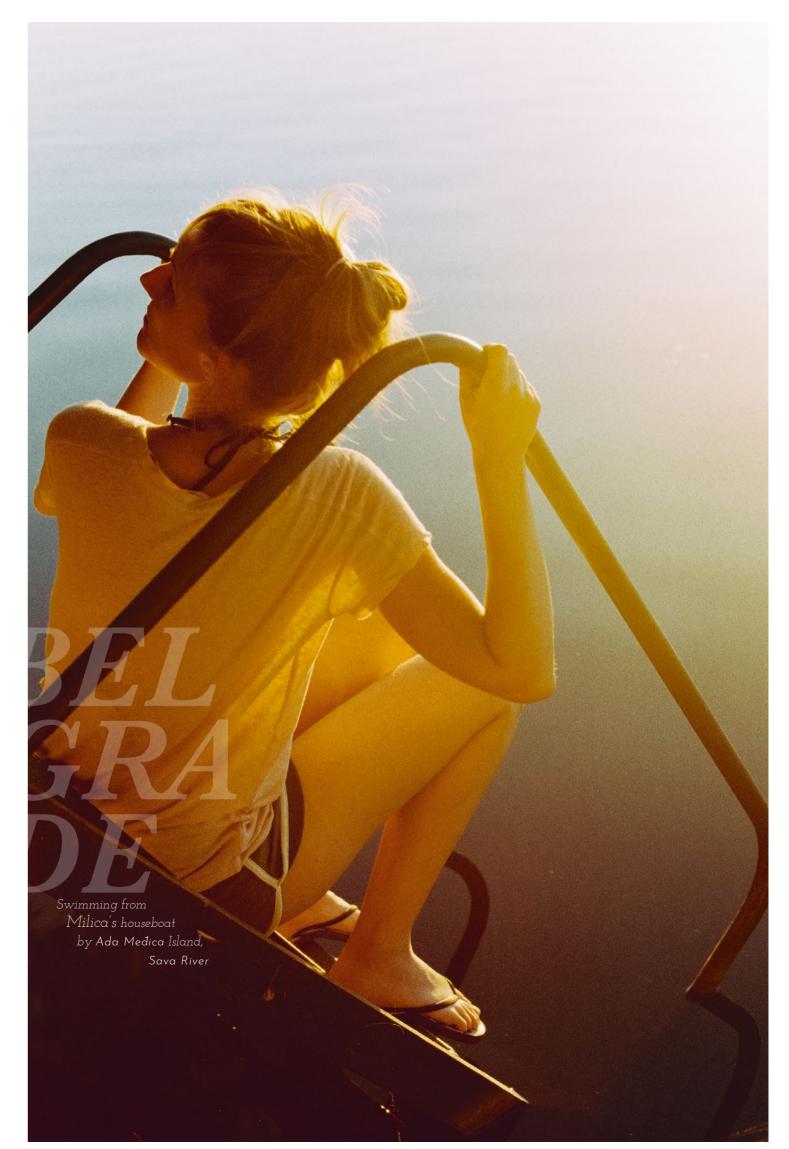


torgotten summers

At the confluence of the Sava and Danube sits Belgrade—the last great city to rise on the shore of the Danube before the river flows to its lower, flood-prone region. River life has been central to Belgrade's identity going back more than 7,000 years. "The rivers are our seaside," says one long-term resident. Today, young and old come to swim and relax during the hot days. Memories of the lazy summers of childhood—canoeing on the river, doing backflips off the dock, drinking grandma's cool homemade elderberry lemonade under the shade of a chestnut tree—return in the swelter. At night, when things cool off, Belgrade's famous party vibe lights up the riverside to the early hours, with hundreds of floating bars, restaurants and clubs lining the embankments.









HAULAGE Inland transport by waterway navigation has many advantages: lower cost, less air pollutants, less noise and fewer accidents than traditional train 104,000 or truck transport RIVER BARGE DE IIb LENGTH: 76.5m MAX BREADTH: 11m MAX CUBIC CAPACITY:

Working the Ropes

cca 1,942m³

180,327
VESSELS LOCKED

300

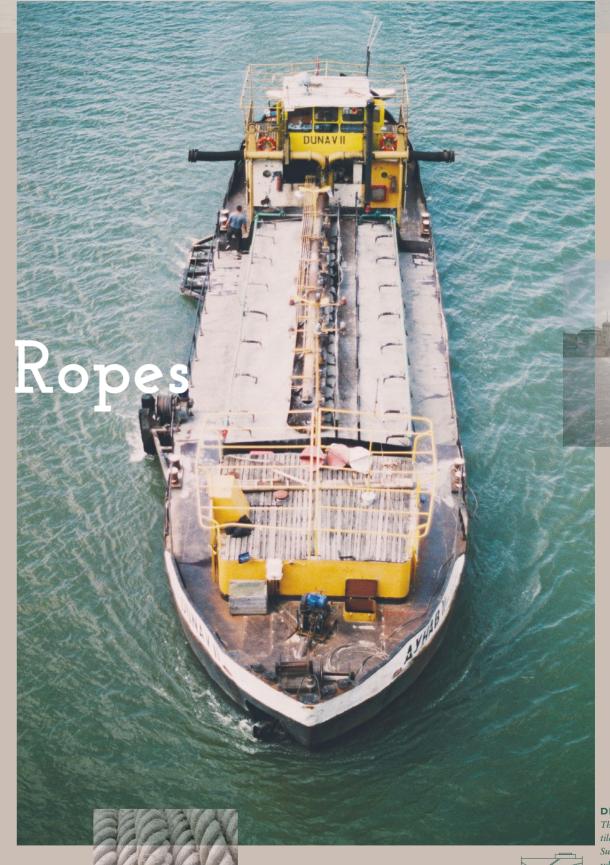


Barges moving sand along the Danube

RIVER **INDUSTRY**

used to be, Europe's rivers remain an tank vessels. Pushed convoys are integral part of the economy. In total, over 558 million tonnes were shipped tres (TKM). A significant portion of that flows up and down the Danube each year on a variety of vessels. metres wide and are capable of hauling of call. up to 3,500 tonnes—either

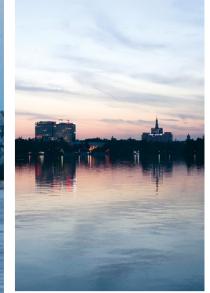
Although less vital to trade than they as bulk carriers, container ships or another common sight on the river and usually consist of two, four or even along European waterways in 2017, six barges operated by a push boat of representing 47 million tonne-kilome- appropriate power. Pushed barges can be used for bulk products, liquids, containers and general cargo. While more difficult to navigate, they are the most Self-propelled Motor Cargo Vessels are flexible option as it allows for multiple the largest of the Danube's river-craft. types of goods in one convoy and the They can be up to 135 metres long, 17 ability to change loads at different ports





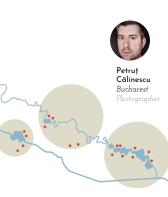
The most stable and versaile dredger is the Trailing Suction Hopper dredgers, which drag a suction pipe connected to a 'ripper head' on the river floor, and sucks the sand and detritus up into the dredge hopper. The material is later deposited either on land or deep out to sea.















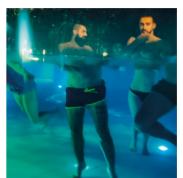


FOREST

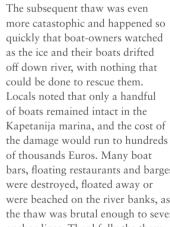
On the east shore of Lacul Morii one can find the neighbourhood of Crângași, which means "people living in a young forest." Once a small village outside Bucharest on the Dâmboviţa River, Crângași became part of Bucharest in the 1920s. In the 1960s, the area was developed with a series of housing estates. In 1986, to stop the frequent flooding of the area, the Dâmboviţa was dammed to create Lacul Morii.



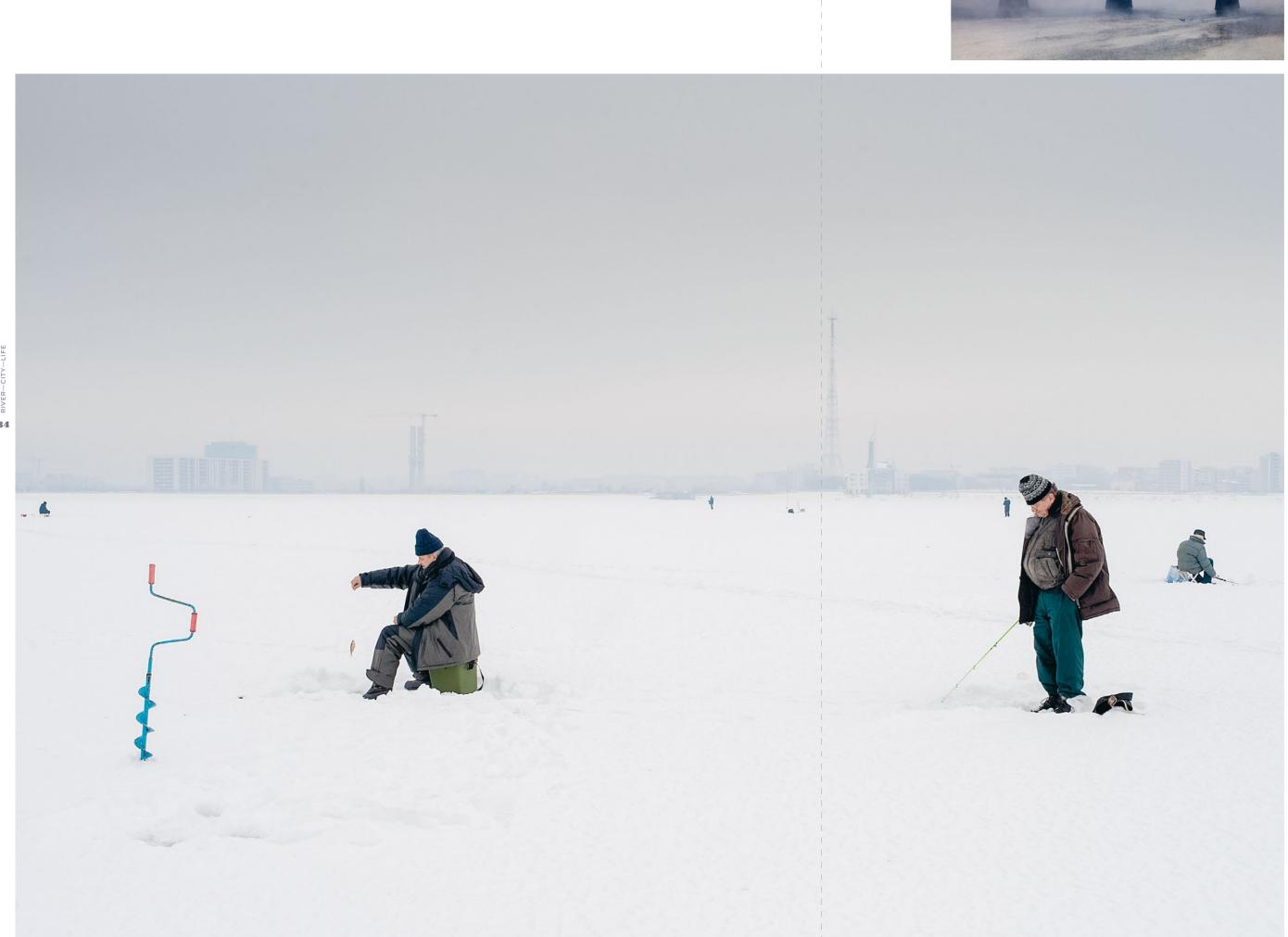














BELOW ZERO

Ice fishers try their luck on the frozen expanse of Lacul Morii. It's a more catastophic and happened so longstanding tradition that when the cold season comes and Bucharest's many lakes freeze over, undeterred locals head out to the water for wintertime recreation including ice fishing, ice-skating and treks across the frozen lakes.

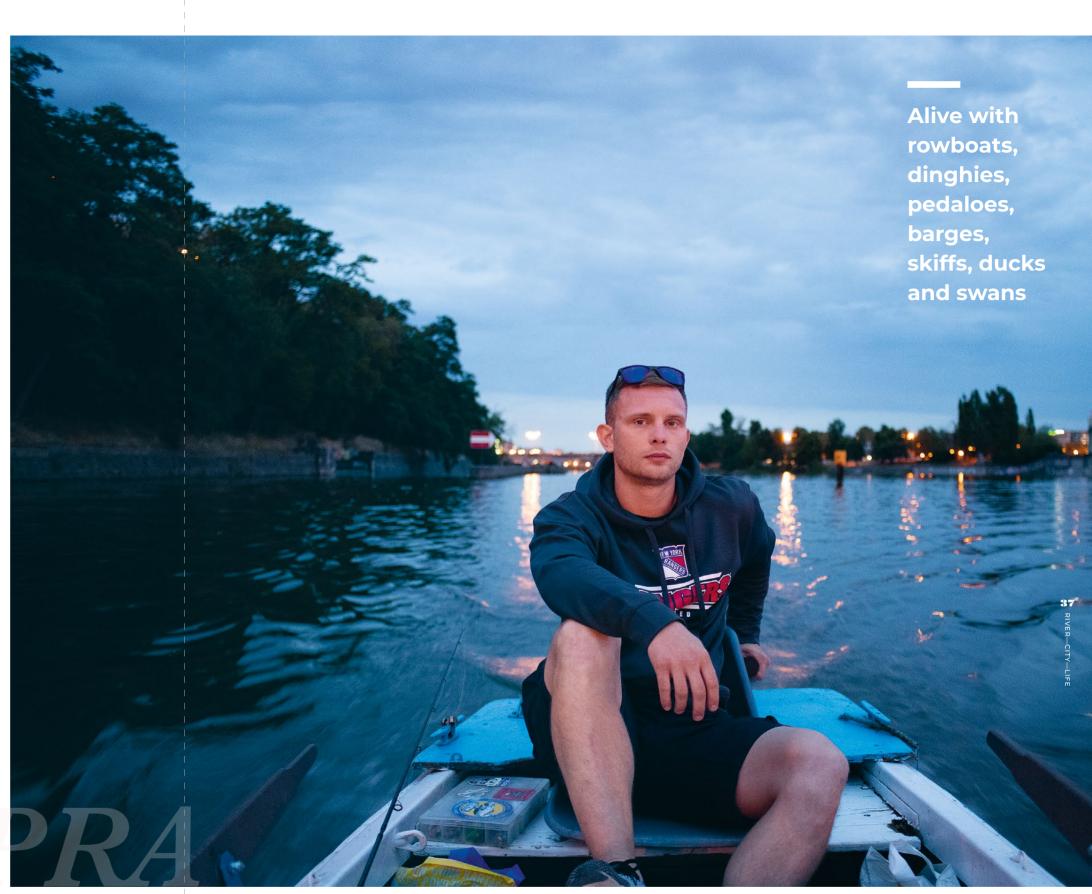
If the smaller lakes of the region annually freeze over, the major rivers bars, floating restaurants and barges of the region rarely do, or at least only partially. However recent winters have been more severe and the Danube last froze in 2017, and most anchor lines. Thankfully the thaw famously in 2012. A two-week spell did not result in any major flooding, of temperatures between -10 and -24°C wreaked havoc in Belgrade, with the ice in places 30cm thick.

quickly that boat-owners watched as the ice and their boats drifted off down river, with nothing that could be done to rescue them. Locals noted that only a handful of boats remained intact in the Kapetanija marina, and the cost of the damage would run to hundreds of thousands Euros. Many boat were destroyed, floated away or were beached on the river banks, as the thaw was brutal enough to sever which is somehting that residents along the Danube and Vltava have had to become too accusted to since the turn of the century.



The Vltava River—the longest in the Czech Republic—flows north through the heart of Prague. In the past the river was used to bring lumber, food and other goods to the city. While it's still common today to see solitary fisherman heading out in traditional small wooden skiffs, you're more likely to meet a happy mix of tourists and locals enjoying the romance of rowboats and picnics on the river. Views from the Vltava are splendid: the Castle, Charles Bridge, the National Theatre and other iconic landmarks loom large above. As the sun sets, the reflections of lights shimmer in the river, lending credence to the city's moniker of "Golden Prague."





























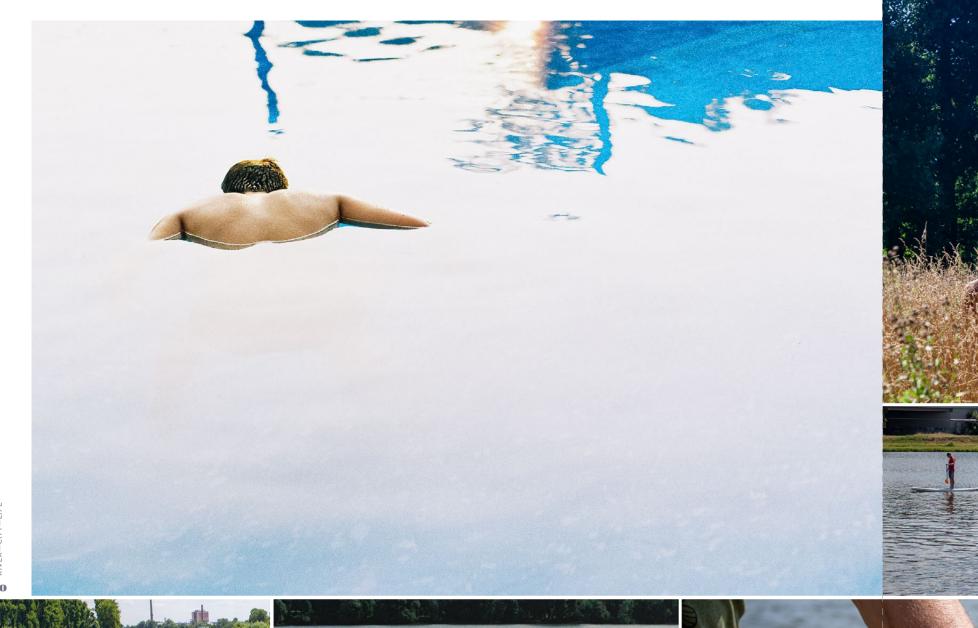
























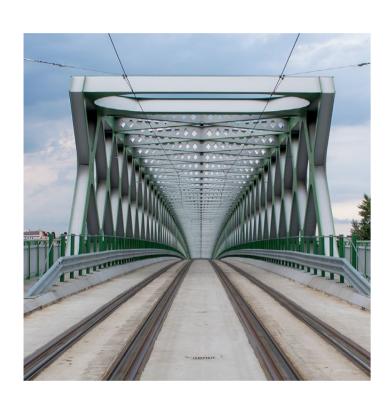


RIVERS

City life on the waterways of central Europe comes alive in the summertime offering something for everyone. City beaches for sunbathing, swimming and volleyball now line the shores of the region's capital cities. Discovering the city by paddle-board or canoe is increasingly popular. Along the water one can find bike paths, nature trails, golf courses, naturists beaches, sailing clubs, kayak runs and much more. River city life in the summer is like a holiday without leaving home.















MAKING WAVES

"During socialist times the authorities destroyed part of the old town under the castle called Vydrica to build what we affectionately called the UFO Bridge, because of its iconic space-age inspired restaurant and observation deck. One of my favourite places on the river is Devín Castle, at the outskirts of the city where the Morava River meets the Danube. It's one of the oldest castles in Slovakia and was an important fortress on the Amber Trail back in the Middle Ages. For me, it's a powerful place, with always something new to discover. Another good spot not far from Bratislava is at the Gabčíkovo Dam. People actually go their to surf."























RAM RACING

SPA 24 HRS

27/07/19

The Total 24 Hours of Spa is a storied pinnacle of endurance racing where the track, the car, the weather and the schedule test the drivers and their crew both physically and mentally. At 16:30, July 28, engines roared into action with a race record 72car grid. Our heroes, racing in the Pro-Am class, climbed into their Mercedes-AMG GT3 sporting Vos-commissoned livery never before seen on the track. Taking turns behind the wheel for 1-2 hours at a time, the drivers battled nerves, the 40° celsius heat, pouring rain and their competitors, ending up 358 laps later on the podium, finishing second-in-class and just 2 minutes behind their main rival-making it one of the closest mini-competitions in the overall race.



SHUFFLEBOTTO!

CEO Remon Vos is the 'AM' in the GT Series Pro-Am class

day—not bad for a third-year understudy.

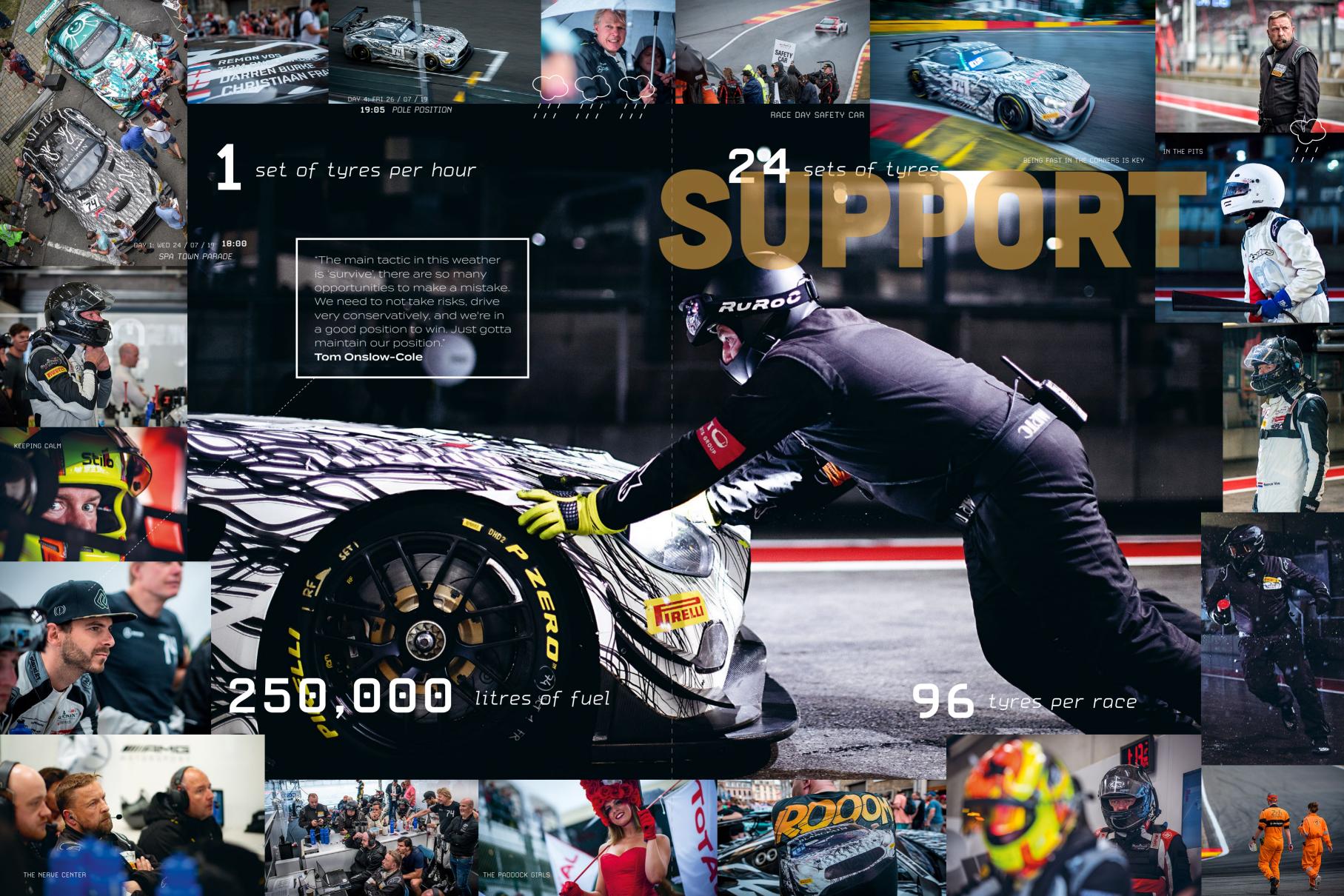
SPA





QUALIFYING: Pole position
Pro-Am Series

14 Apr 3 Hours of Monza 12 May 3 Hours of Silverstone 1 June | Circuit Paul Ricard 1000kms 27-28 July Total 24 Hours of Spa 29 Sep Hours of Barcelona













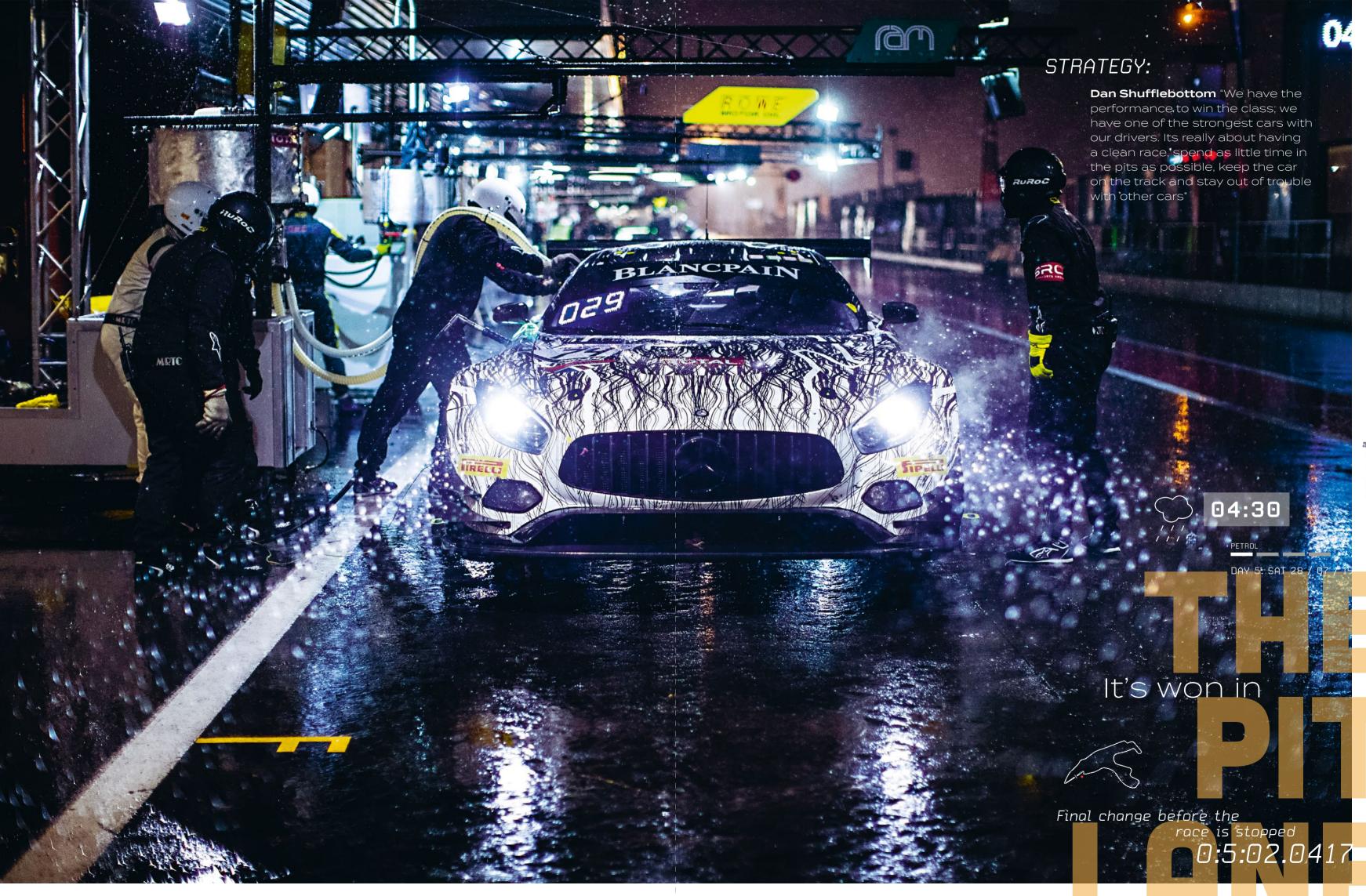


22 turns

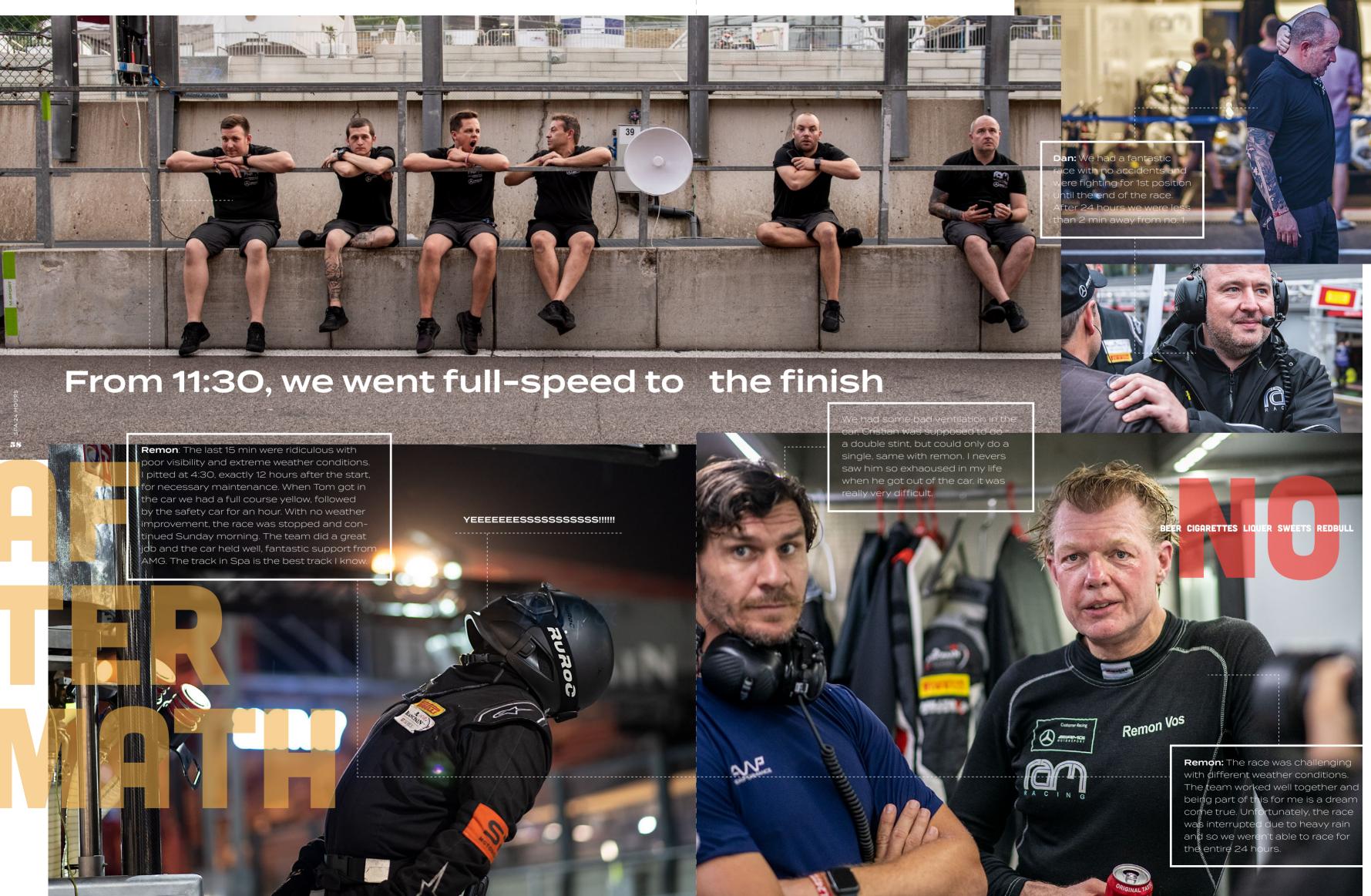
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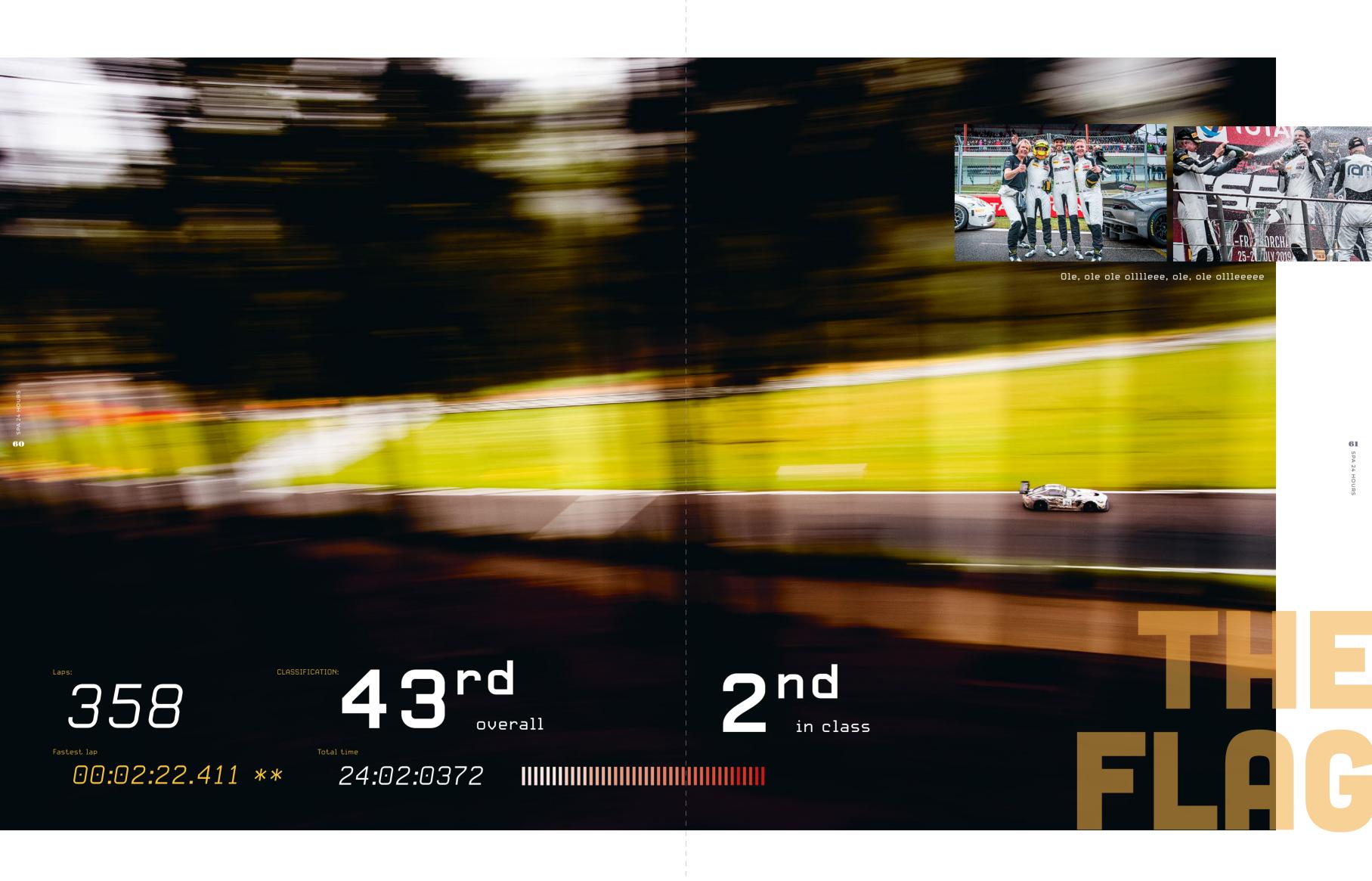


242Km/h









At CTP, we have a culture of movers and shakers — people with a drive to get things done, who can work hard and play hard. Winners! We asked a few of our business development team to share with us what they do in their spare time — and their motivations for getting involved.

OK. WHATEVER

Vojtěch Peřka logged in

Vojtěch Peřka: Floorball. I have been playing floorball for 18 years. I used to play at quite a high level but 2 years ago I had a serious knee injury so I couldn'd continue at that level. I now play on our "B" team with my former team-mates from "A" team.

GRID: hmmm... boooring

Vojtěch Peřka: Ok, ok, man. I'm also a hot-shot skier—have been since my early childhood. I go every year to the Alps.



GRID: Yah, but everybody skis....

Vojtěch Peřka: I bet not many people play hockey or in-line hockey. I'm not a pro, but unlike most people who only watch, I play (and also watch).

GRID: Ok, better, but...

Vojtěch Peřka: That's not all dude: I'm into fitness—I go to the gym to keep myself fit. I used to go more often, but (because I work so much) I now only go

My other hobbies are fast cars—I'm addicted to watching videos, reading and driving them, and all things motosport.

I like walking with my dog. Plus, I sometimes go to the dog shelter to walk some of the dogs there, take them out

U still there?....

Vojtěch Peřka logged out

Mia Šťastná logged in

X

Mia Šťastná: Hi GRID, U know what my hobby is: I'm an "old witch"

GRID: We know Mia, we know...

Mia Šťastná: I love herbs. I prepare elixirs from herbs, drying them our for my secret tea recipes. I also make different kinds of honey and syrup with healing effects and so on... So, if you only want to talk about sports, I'll cast a spell on you...

GRID: NO NO NO. I LOVE STRANGE BREWS, go on

Mia Šťastná: I can show you my 'how to' video. I'll send it.

Mia Šťastná is sending you a video (click to download)

GRID: Not bad, we took liberties with photoshop :-)



Mia Šťastná: I´ve never been

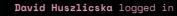
Mia Šťastná: I've never been been big on classic 'religions' but do believe in the powers of the universe and Mother Nature! So naturally, I believe in its healing ability. Whatever problem I have, the herbs have always helped me, I don't need doctors (much) and don't think stuffing yourself with medicaments from the pharmacy is always safe. I feel really myself when I collect herbs, prepare elixirs and so on... maybe it sounds crazy to some people but I found out—in meditation—that I was burned as a witch in a previous life, so that probably explains everything. It's not bad in my eyes— we're learning now that "witches" were just people who simply were not understood, who were different and were open, and also very close to nature. I can live with that. I can live with that.

GRID: cool! Can I come over for a cup of tea tonight?

Mia Šťastná promptly disappeared into some kind of weird supernatural cloud

GRID: Mia? Mia! MIA !!!!!!!





David Huszlicska: I've done just about a billion things from archery ...

GRID: Like this...



David Huszlicska: ...to curling, scuba diving to Japanese sword-fighting, etc. The problem is, at the moment I'm slowly but surely inflating into a big gelatinous blob...

GRID: So what, you do nothing now ?
I can't put that in GRID :-)

David Huszlicska: Nah, I started running again 2 weeks ago. I haven't run in a while, but a REALLY long time ago I was a competitive runner.

GRID: Cool, I never make it far from the keyboard.

David Huszlicska: I started running while in elementary school—because my gym teachers pushed me to. It turned out that I have a pretty good build for it, and without too much effort I was running 100-800m races in Budapest, then later, in national races. It relaxes me better than Netfix, plus I like the feeling of achievement from going the distances I plan.

GRID: Impressive.

David Huszlicska: I haven't done much sport for awhile as I was building a new house and getting another diploma at night. When I finished, I had no more excuses. So I got up off my butt 2 weeks ago and ran 6km. Then I did it again, a bit longer. Then again. Etc.

GRID: Then why does your boss say you're so lazy...?

David Huszlicska: Dunno. Ask him. Because I used to engage in any sport I could get my hands/feet/anything on, and didn't stop until I reached some level of competence. Since I haven't done anything in ages, and running doesn't need planning-just the decision to walk out the front door Forrest Gump style and go for it. To be very lah dee dah: it's my gateway to return to sports after a period of

GRID: So I can write an inspiring tale of the rise, fall, low-res ASCII art we can use?

David Huszlicska logged out...ptwaaaang





Bert Hesselink logged in

GRID: Hey Bert. You said you were boring. Prove me

Bert Hesselink: Ok, I do something called "bodyweight crossfit". I started somewhere in the summer of 2016. They say it's the most time efficient way to stay fit, and you can do it anywhere at any time: at home, in a

hotel room, outside, etc.
I like it because it keeps me physically fit and healthy + mentally sharp and productive.

GRID: How often do you do that?

Bert Hesselink: 4 x 40 minutes a week. For me, its a great start of the day: at 5.30 a.m. and then I can focus the rest of the day on work and/or family.

GRID: How'd u start?

Bert Hesselink: After ending up in hospital from food poisoning in combination with too much work and stress, in the summer of 2016. I came to realise that my body has its limits and that I carefully need to look after it. So I decided to set up a regular workout that I could easily combine with spending enough time with my family. I found this app that gives you everyday exercises for roughly 40 minutes for which you don't need anything except your body.

GRID: How does it help you physically / mentally?

Bert Hesselink: I always do it first thing in the morning and it gives me loads of energy and refreshes

GRID: Why is being healthy & staying in shape

Bert Hesselink: The most important reason why I do it is because it helps me be more balanced mentally and confident that I am taking good care of myself.

Bert Hesselink has not stressed out

Press any key to continue

chatroom: hobbies

The gr nar ac i

C|3C|3C|

David Chládek logged in

GRID: Hey David, i heard you do a lot

David Chládek: Yah, like gardening,

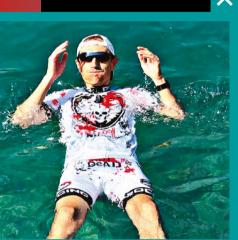
GRID: C'mon, i said sports?

David Chládek: Ok: marathon running,

GRID: Pretty philosophical..

David Chládek: Nah. Im practical. The real reason is that when I'm out running, my wife can't force me to wash the dishes, and I can listen to loud rock music without anybody turning the volume down :-)







GRID: Why & when did you start running?

David Chládek: 5 years ago I signed motivated me to make some changes in my lifestyle. (Official version: I paid the entry fee already and i felt i HAD to

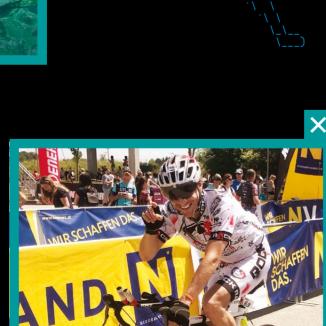
GRID: What is your achilles heel?

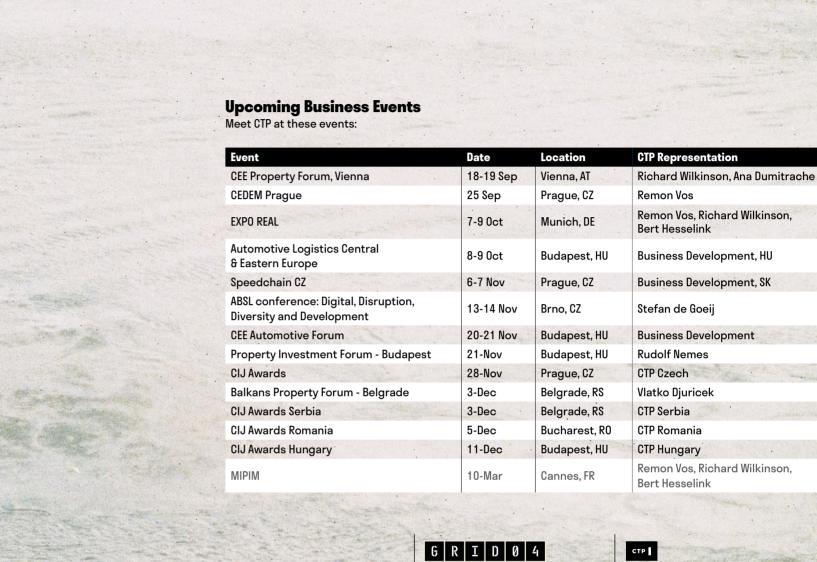
David Chládek: My achilees heel is my achilees tendan,...really. It kills me. but I keep on running
GRID: That sounds nuts?

David Chládek: I like to overcome my

GRID: What's your plan this year? David Chladek: I did the Tokyo marathon in March, ran the Prague Marathon May 5th, a personal Best of 3:51; I did the Stockholm marathon in early June, the Olomouc half marathon June 15th. I just finished the Challenge Prague Triathlon on July 27th, and did a Personal Best

David Chládek ran away





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