

wallonia and brussels

autumn 2020

wab
magazine

Discover a region that combines
technical knowhow with quality of life



A CUT ABOVE

DESIGNERBOX DELIVERS LOCAL
TALENT TO YOUR DOORSTEP

- Walloon innovators look to the skies in the New Space economy
- Namur combines old and new to boost its international tourism drive



Editorial

While Michelin-star chef Arabelle Meirlaen (pictured above) is deeply rooted in her local region of Huy in the Mosan valley, she seeks inspiration from distant shores. With 21 years' experience as an award-winning chef, she confidently fuses exotic ingredients with her beloved home-grown vegetables and carefully sourced local produce.

This ability to be grounded locally and yet open to the world is essential to the future of Wallonia's economy. In our Focus on the region's expanding space sector, we hear from the companies that have succeeded in securing contracts in the Copernicus Earth observation programme. They are involved in every aspect of the space industry and are spread across different provinces. Fuelled by Belgium's commitment to the European Space Agency, the outlook is positive for this sector that boosts scientific progress, technology and employment.

It's a similar story at Liege Airport, where a strong sense of community among its workforce has been key to its ability to adapt in this volatile and most global of industries. Its specialism in freight is crucial in meeting the logistical challenges of distributing urgent medical supplies during the pandemic, as we report following a site visit.

From space and aviation, where connectivity is everything, to the innovative and creative talent that abounds in the region. In this issue we also bring you stories of local designers, a bean-to-bar chocolate maker, the inventor of a smart wine dispenser, and how one city is using its smarts to overhaul its image and increase tourism.

Wallonia and Brussels - Contact

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Cover: Belvedere by Belgian designer Pierre-Emmanuel Vandeputte. Photo © Delphine Mathy

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SILLY BEER SWEEPS ASIAN AWARDS CEREMONY

Family brewery Brasserie de Silly won seven awards at the Asia Beer Challenge 2020 (ABC) in Hong Kong at the end of August. The Hainaut business picked up three double gold medals for its beers Enghien d'Hiver, Silly Scotch and Silly Saison, three gold medals for Triple Swaf, Pink Killer and Silly Kriek, plus a silver for Silly Blanche. Asia is the world's leading beer market and the ABC jury is composed of the region's 100 top beer buyers. All beers entered in the competition were tasted blind by the jury. Situated in the village of Silly, near Enghien, the brewery has been making craft beers for six generations since 1850.



© Beiga/Benoît Doppagne

Rare giant corpse flowers in bloom

Visitors flocked to animal park Pairi Daiza in Brugelette to see the flowering of the gigantic Titan Arum. These very rare plants – that grow rapidly, sometimes up to six metres high – stand out for their 3m-high flower that smells of corpses. They bloom for only 72 hours every three to eight years. Their distinctive perfume is not a defence mechanism but for reproduction. It attracts flies and beetles which think they have found decomposing meat and pollinate the plant. A pair of the plants has also arrived at Liège's Plant Observatory, which are due to bloom in two years' time.



DOUBLE GOLD FOR GIN DE BINCHE IN NEW YORK

Hainaut distillers Jérôme Urbain and Céline Harvengt walked away from the International Sprints Competition in New York in August with a double gold medal for their flagship product Gin de Binche. They beat more than 30 other spirits to win the award, after a difficult few months that saw the Covid-19 lockdown close their sales outlets. It was the 10th award for the gin from Binche Distillery Plus Oultre. The distillery's Bitter Plus Oultre picked up a bronze medal in the aperitif category. The blood orange-based spritz mixer had only been launched six weeks before the event. The tribute to Binche's famous Gilles and and orange throwing ceremony is designed to be blended with another local award-winning tippel, Ruffus from Domaine-des-Agaises, though any quality sparkling wine or champagne would suit.



TOP AUDIOVISUAL AWARDS FOR DREAMWALL

Virtual reality and animation studio DreamWall from Charleroi has won a series of prizes at the Broadcast Production Awards in the US. In the company's flagship field, Augmented Reality & Virtual Reality Design, it won first and second prizes in the Sport category with the projects Téléfoot for French TV channel TF1 and L'Europe des Onze (BeTv). It also got a special mention in the News category for the augmented reality and environment design created for the European Parliament elections. It took first prize in the Entertainment category with the augmented reality designed for an Esport Counterstrike GO championship. Organised by leading trade publication NewsCast Studio, the annual ceremony was held online over the summer. It celebrates the best in creative production and technical achievement.



NEW CONTRACTS FOR PROTON THERAPY WORLD LEADER IBA UNLOCK CHINESE MARKET

Louvain-la-Neuve proton therapy cancer research company IBA saw a 30% jump in shares on the Brussels Stock Exchange at the beginning of September after concluding a €100 million strategic licence agreement with Chinese partner CGNNT. “Unlocking the potential of the Chinese market for proton therapy required the emergence of a Chinese producer,” said CEO Olivier Legrain. “For us, it was essential to find a credible partner that is likely to incorporate a lot of IBA technology content into its product. With CGNNT, it is now done.”

The company also signed a contract worth more than €50 million with Sichuan Cancer Hospital & Institute to install a Proteus Plus proton therapy system in Chengdu. IBA is the world leader in proton therapy technology, used in the treatment of cancer.



BRIEFS

Fans of Wallonia’s beers, wines and spirits can explore many of the 89 breweries and 46 vineyards and distilleries in the region thanks to **two new free maps** published by Wallonia-Belgium Tourism. With the arrival of autumn, the producers are opening for visits and tastings, while respecting safety measures. Reservations are necessary. The maps can be downloaded at visitwallonia.be/bieres and visitwallonia.be/vins

Charleroi start-up **Home Eos** has been awarded the Solar Impulse label for its sustainable sound insulation products. Since 2017, the Farciennes company has been making fire-resistant and insulating sound barriers only a few millimetres thick out of natural and recyclable products, called Stop Sound. The Solar Impulse foundation was created by explorer Bertrand Piccard to recognise environmentally friendly solutions, and has so far recognised 569 technologies.

A group of researchers at Gembloux **Agro-Bio Tech** (University of Liège) has developed organic herbicides using an essential oil base. The natural alternative to chemical products, including the controversial glyphosate, could be commercialised by 2023. The group has developed a biologic substance with a highly diluted oil to keep the cost competitive compared to glyphosate.

Charleroi start-up **Texere Biotech**, which specialises in the handling of human tissue, has validated its Bonefide pathogen reduction process for enveloped viruses such as SARS-CoV-2. The process eliminates all risk of Covid-19 transmission for surgeons and patients receiving bone grafts, as well as all risk of cross-contamination, as it is entirely robotised. It also ensures the safety of those in the tissue handling chain.



WASABI LAUNCHES BIODIVERSE SOLUTIONS FOR URBAN GARDENING OF THE FUTURE

New research centre WASABI – offering biodiverse solutions for urban agriculture – was opened at the faculty of Gembloux Agro-Bio Tech (University of Liège) at the end of September. King Philippe inaugurated the five-hectare ecosystem. Roof gardens, vertical farms, container gardens and aquaponic systems for growing plants are among the innovative production methods that can help connect citizens with nature, especially those living in an urban environment. The new agricultural systems are seen as an urgent solution for growing food in the cities of the future. The WASABI project is unique in Europe and is aimed at students, citizens, academics and professionals. Led by the faculty’s Centre of Research into Urban Agriculture (C-RAU), it has benefitted from €2 million in Walloon and European subsidies.





IN THE SPOTLIGHT Arabelle Meirlaen

The Michelin-star chef cultivates her own produce at her restaurant near Huy. Lady Chef of the Year in 2008, she was also named best vegetable chef of 2019 by the We're Smart Green Guide



© Kris Jacobs pour Culinnaire Saisonnier

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I like to have my hands in the earth and see plants transform

Why do you call your cuisine intuitive?

After I opened my first restaurant, Li Cwerneu, journalists asked if my cuisine was French. I'd reply no, I adore Italian cooking and all other cuisines, but I cook with Belgian produce. The Michelin guide said my cooking was classic and I replied that it was Belgian. I like to call it cuisine from the soul; it's intuitive, personal and comes from deep within me. It's a cuisine for myself, and my customers come for that philosophy. My cuisine is like my life, or how I would like it to be: full of beauty, love and emotion. All these words need to be on the plate, in the decor and in the welcome.

How has your cooking evolved over the past 21 years?

My first kitchen was very small and I became very tired. I changed my diet and saw an immediate improvement. I studied herbalism and naturopathy and integrated this into my cuisine. I've continued to be interested in gluten- and lactose-free cooking as well as vegetarian and vegan food. I've had my own vegetable garden for 10 years and it's my passion, a sport, relaxation. I like to have my hands in the earth and see plants transform.

What are your other sources of inspiration?

Indian and Moroccan friends and a Chinese woman have taught me flavours and technique, such as cooking with spices. I like Ayurveda cuisine and the idea that food is also medication. It's something I'm

passionate about. I've brought seeds back from my travels to grow in the garden. I've some exceptional plants, cucumbers that taste of peanut and aubergines with a scent of Indian spices. I make my own chillies that are an explosion of flavour. We also keep egg-laying hens and have two beehives.

How do you create your menus?

I offer a vegan menu as it's easy with the garden. The menus change every six weeks more or less, depending on the produce available. Each season is completely different. In summer, the aim is to harvest and preserve as much as possible for autumn and winter, while in spring we use fermentation techniques. I probably love autumn most with its more pronounced flavours and warming broths.

Any future projects?

With my husband [sommelier Pierre Thirifays] we would like to offer accommodation. We're thinking about building rooms at the bottom of the garden for our dinner guests, with a simple breakfast basket in the morning. As for my cuisine, I've always wanted it to be without stress. After I received the Michelin star, I said that as long as I don't stress, if I maintain the quality, why would I lose it? I've had a loyal client base since the beginning. It would be nice to finish my career with a second star, but I'm letting things evolve naturally.

arabelle.be

Taste the future

This innovative dispenser aims to change the way we serve wine

By Tomáš Miklica

Innovation is everywhere. Even the tasks not usually associated with modern technologies can be done in a smarter way, better adapted to our connected world – such as wine serving and preservation. Invineo, a company based close to Namur in Andenne, has introduced a B2B wine-

by-the-glass service, promising increased revenue and profits to its clients with an enhanced customer experience.

The main part of the solution, unveiled this year at the Consumer Electronics Show in Las Vegas, is a smart wine dispenser. A busi-

ness can use it to keep several wines cooled down to the ideal temperature in special 2l tubes, protected for up to a month against oxidation without additional nitrogen that would alter the wine's quality.

The one-touch technology makes it easier for staff members, since all they have to do is push a button for the desired quantity. It also has a feature that's become even more valuable after the pandemic forced us to rethink health and safety measures – the dispenser hides the tubes behind plexiglass and it can be used directly by customers through contactless cards. However, Invineo is not just about dispensing wine. It takes care of clients before as well as after.

“Invineo is sold by subscription,” says Thierry Tacheny, CEO and one of the founders of the company five years ago. “We charge our clients a monthly fee that includes one or more dispensers, our selection of premium wines, maintenance, refills and access to a platform enabling remote control and monitoring of the device. You can use the platform to check on data and transactions.” Invineo provides business owners and managers with key performance indicators on wine consumption, revenue, wine preferences or stock management, allowing them to keep an eye on profits and customer behaviour.

There is definitely a market for such a device. Since 2019, when Invineo offered prototypes for beta testing, the idea has attracted clients from across Belgium and France including Sheraton Brussels Airport Hotel, Antwerp's Sportpaleis and





• Invineo smart wine dispensers



Parc Astérix in Paris. More importantly, it has also attracted investors and millions of euros. This year – during the lockdown, moreover – Invineo added €3.4 million to its funds during the third round of capital increase, raising the overall sum to roughly €6.7 million.

“Invineo has crossed an important new step towards the market,” says Tacheny. “We can now finance our first set of certified dispensers and establish the roots of our network. We expect to install 100 dispensers by the end of the year and add another

150 machines early next year – enough to prove that we are no longer a start-up but a strong newcomer to the market. After all, Wallonia is at the centre of one of the most attractive European markets when it comes to wine consumption. We have potential clients up to 500 kilometres around us.”

At the moment, Invineo’s clients come from other businesses only – such as food and beverage establishments and hotels. But this might eventually change with the smart wine dispenser (sometimes referred

to as a “Nespresso machine for wine”) becoming available more widely. “The cost of our technology and the existence of B2B opportunities convinced our board members and shareholders to start with a B2B model but the original idea was to develop a B2C concept,” says Tacheny. “A device with two tubes might appear quite soon in VIP hotel rooms. And why not at home? As a beta tester, I can assure you that even with just a glass per day it is a great user experience.”

invineo.com

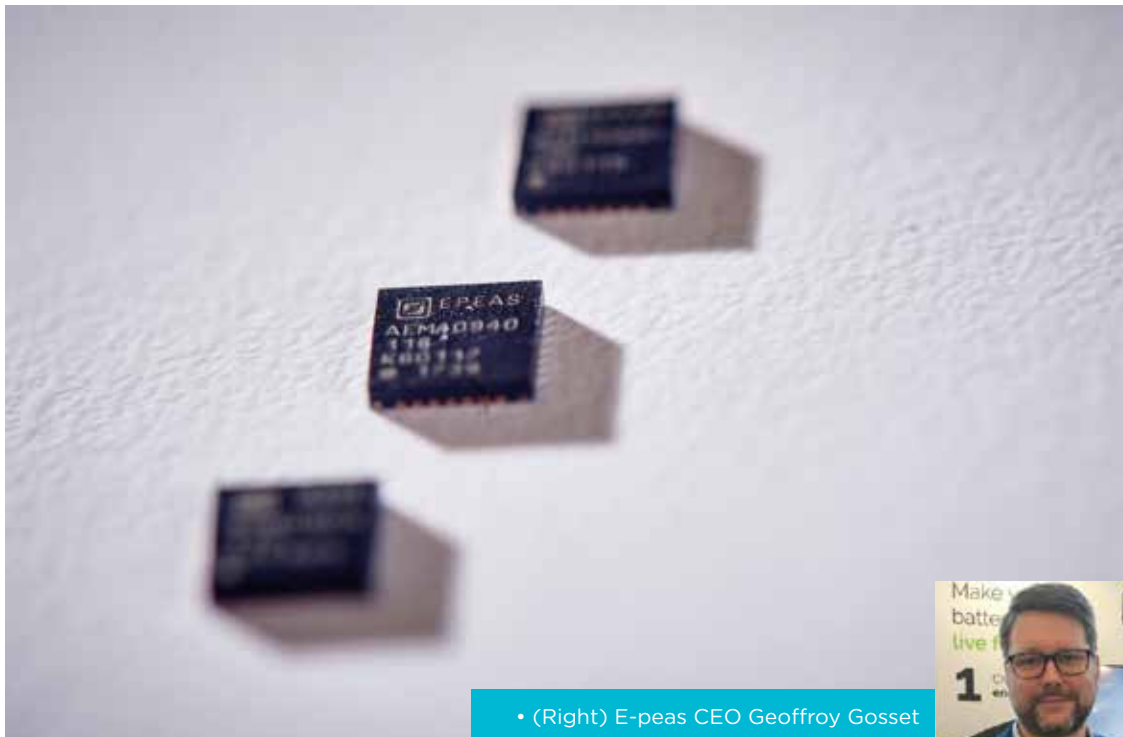


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Invineo has crossed an important new step towards the market

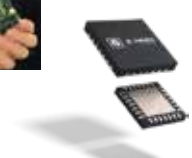
Lead the charge

E-peas raises €8 million to make devices that use batteries energy-autonomous

By Andy Furniere



• (Right) E-peas CEO Geoffroy Gosset



In its latest funding round, energy solutions provider e-peas has raised €8 million. It has already used the funds to open a new office in Silicon Valley in the United States. The young business, specialised in making battery-powered devices energy-autonomous, will also use the funding to conquer other markets, commercialise a new kind of technology and expand its portfolio of energy-harvesting solutions.

E-peas' ambition is far-reaching: to rid the world of non-rechargeable batteries. "They not only have high maintenance costs, they also cause huge damage to the

environment," says Geoffroy Gosset, CEO of e-peas, who founded the Mont-Saint-Guibert company with CTO Julien De Vos. To achieve its goal, e-peas develops energy-harvesting solutions. These semiconductor solutions enable batteries to recharge autonomously by extracting energy from their environment.

"Our technological developments can obtain this energy in many ways, such as solar, thermal and vibration energy," says Gosset. "They can increase the life expectancy of batteries from around a year to about fifteen years."

These solutions are proving their value in a wide range of sectors including logistics, industry, retail, agriculture and health monitoring. They can recharge the technology used to constantly determine the position of containers in logistics, for example, which reduces maintenance costs considerably.



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Our technological developments can obtain energy in many ways, such as solar, thermal and vibration energy



With its new funding, the company will continue to develop these kinds of products, but also aims to launch its new technology of micro-controllers on the market as soon as possible. The micro-controllers serve as low-power solutions, meaning they significantly reduce a device's energy consumption. E-peas thus not only helps batteries to keep recharging on their own, but also improves the energy efficiency of the powered devices and so further lowers the economic and ecological impact of all kinds of tasks based on technology.

Apart from its R&D activities, the Walloon company will also expand its commercial scope with its increased budget. It's still mostly active in Europe, with a major office in Switzerland, but recently also opened a commercial base in Palo Alto, California, to strengthen its position on

the North American market. "We plan to do the same at a location in Asia in the near future, to get more traction there as well," says Gosset. Apart from its offices, e-peas has representatives in several other countries, including Brazil.

The young enterprise is attracting interest all over the globe. All the contracts currently in the pipeline potentially add up to about half a billion dollars, according to Gosset. E-peas was only founded five years ago, based on 15 years of research carried out at UCLouvain university.

The successful last funding round was led by international investor Partech and venture capital firm Airbus Ventures. "We are incredibly impressed by how e-peas has been transformed from a small R&D company into a recognised leader in low-power Internet of Things, with

prestigious clients around the world," said Romain Lavault, general partner at Partech, in a press statement. Other private investors were the Belgian funds KBC Focus Fund and LeanSquare.

The company was also supported by the Digital Wallonia investment fund W.IN.G (Wallonia Innovation and Growth) and two other public funds: Noshag and Nivelinvest. "As an early public investor in e-peas, W.IN.G is happy to support the growth of the company," said Olivier Vanderijst, CEO of the Société Régionale d'Investissement de Wallonie (SRIW). "We are also pleased to welcome Noshag and Nivelinvest on board as public investors. This investment is exactly in line with our common strategy to develop Deep Tech scale-up in Wallonia."

e-peas.com

Flying high

Cargo-friendly Liege Airport steps up in response to Covid-19

By Sarah Crew



• Cargo operations at Liege Airport

When Belgium went into lockdown during the Covid-19 crisis, Liege Airport went into overdrive, stepping up its 24/7 operations to supply the country and the rest of Europe with urgent medical equipment.

Since the start of the pandemic, more than one billion face masks have passed through Belgium's largest cargo airport, after the World Food Programme designated Liège the European distribution hub for critical coronavirus medical

supplies. Personal protection equipment for frontline services became the number one cargo.

To get an insight into how the airport reacted, I'm on an airside visit of the site's continually expanding facilities. Spokesperson Christian Delcourt whisks me through security and we step into a canary-yellow airport car. He says the airport was already experienced in crisis situations, having operated humanitarian responses to global disasters. The airport's

Flexport service organises the emergency transport of people and aid for leading international NGOs.

As we drive past the facilities of the airport's biggest player, Fedex/TNT, Delcourt says this is the quiet time. The nature of the freight industry means it comes alive at night, when the Dutch company's long-range aircraft begin touching down from 23.00, along with other key companies such as ASL Airlines Belgium. Cargo is unloaded and redistributed in the massive

Biotech hotspot

UCB builds innovative plant at Braine-l'Alleud to produce new generation of medicine

By Andy Furniere

With the construction of a new plant, requiring an investment of more than €300 million, Belgian multinational pharmaceuticals company UCB is making its Braine-l'Alleud site a frontrunner in the development of a new generation of biotechnology medicine.

The construction of the plant started early this year and should be ready by 2024. The facilities will enable the commercial production of innovative biotech medicines, some of which are currently in the last phases of clinical development.

“We decided fifteen years ago to add the development of biological medicine to our know-how in chemical medicine, which has now led to a unique combination of expertise in large and small molecules,” says Didier Malherbe, managing director of UCB Belgium. “In the last decade we have proved that we are able to pull that off, and this plant is the next step in this plan.”

More than 10 years ago, UCB made major investments in the establishment of its Bio-Pilot plant at Braine-l'Alleud, which provided researchers with an ideal environment to develop new biotech medicine. With the Bio-Pilot plant, UCB created 150 direct jobs, and the new production facilities should lead to similar job creation in the region. The Braine-l'Alleud site provides employment to about 1,800 people in total.

According to Malherbe, UCB chose Wallonia as a hotspot for these innovative activities in part because of the beneficial legal and fiscal framework provided by the Walloon and fed-

eral governments. “There were also strong arguments to choose the United States or Switzerland, but the governments’ measures made Wallonia come up on top as the most attractive option,” he says. “We also feel we are part of a strong dynamic here, with a burgeoning biopharma sector, an extensive academic network and a large pool of talent.”

UCB also devoted much attention to the sustainability of the plant, which will include systems to limit pollutant emissions, waste production and water consumption. The Walloon government will support the company in this endeavour, including through grants.

[ucb.com](https://www.ucb.com)

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We are part of a strong dynamic here, with a burgeoning biopharma sector, extensive academic network and large pool of talent



• The UCB Bio-Pilot plant, Braine l'Alleud

MEET THE EXPAT



**Life coach
Domante Bell from
Lithuania lives in
Rixensart with her
husband and two
stepdaughters**

I lived in London between 2009 and 2016. Then I moved to Belgium, but I was still spending a lot of time in London, and I still do. It was only in 2019 that Belgium started feeling more like home. I travel a lot and consider myself a citizen of the world. However, most of my material possessions are in Belgium since 2016, so I guess that's where I live!

I've always been fascinated by human development, by what is truly possible, by psychology, spirituality, neuroscience, mind-body connection, nutrition and general wellbeing. I am a true believer that there is always a way. It led me to become a life coach, human capital developer and, eventually, a founder of Juicy Grape, my wellbeing platform. I love seeing a sparkle in people's eyes when I get them to realise that they are much more powerful than they thought. I love to see people reach that new level, a level they did not know existed. It is so rewarding!

From a professional perspective, Belgium helped me to put a label to what I was doing. I actually didn't know life coaching was a profession before I arrived here. It was an "aha" moment that led me to getting all the qualifications and changing my profession. My work is my biggest passion.

As someone who travels so much, at the beginning of the lockdown this spring it was quite exciting – not having to go to London, having my husband and his kids at home all the time, spending longer

evenings together as a family. We spent so much more quality time together: having longer dinners, cooking together, playing board games, watching great movies, sharing stories and learning about each other. It definitely brought us closer.

I love cooking, so having the time and headspace to do it felt amazing. I went out of my way trying new recipes, making sure we ate super healthily and boosted our immune systems. You could say I travelled through the pages of cookbooks! Of course, it was sad to cancel all the trips we had booked, but we were still exploring – going for walks and bike rides around the lake in Genval, exploring Chateau de La Hulpe etc. Sticking to a proper routine was impossible before the lockdown because of the extensive travelling, but lockdown made it happen!

I used Juicy Grape as a vehicle throughout lockdown to provide people with support. I covered multiple topics in my posts and newsletters such as thriving in adversity, using this time wisely, and staying strong and sane. From the feedback I received it was clear that people needed it, that it was and to some extent still is a very uncertain time for many. I also offered free coaching sessions. It was more of a giving back time rather than a commercial opportunity and I feel very privileged to have been able to offer support at this time.

juicygrape.com

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I feel very privileged to have been able to offer support at this time

The sky's the limit

Walloon innovators are making their presence felt in the New Space economy

By Ian Mundell



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Belgium is the biggest of the small countries in Europe's space sector



© Getty Images/honglouwawa

est contributor to ESA's budget, after France, Germany, Italy, the UK and Spain.

"Belgium is the biggest of the small countries in Europe's space sector," says Michel Stassart, deputy director responsible for the space sector at Skywin, the industrial cluster that supports the aerospace industry in Wallonia.

The region has four main centres of space activity. Liège has a historical concentration of companies such as AMOS, SpaceBel, Safran Aero Boosters and Deltatec, along with the university's Centre Spatial de Liège (CSL). A second group can be found around Charleroi, including large companies such as Thales Alenia Space Belgium and several aeronautical companies with an interest in space, such as Sabca and Sonaca.

Wallonia has companies involved in every aspect of the space industry. They design, build and test the instruments that travel on satellites; they help build the rockets that send the satellites into orbit; and they commercialise the data they send back to Earth. The challenge now is to integrate these activities, and find a place in the burgeoning New Space economy.

The space industry in Wallonia has deep roots, building on a long history of engineering in the region and its complementary strength in civil aviation. But it is also driven by the Belgian state's commitment to space at the European level.

The federal government this year confirmed that it would add €250 million to its €1.2 billion contribution to the European Space Agency (ESA) from 2020 to 2024. This secures Belgium's position as the sixth larg-



A third group, including Redu Space Services, Vitrociset and the Galaxia Space Innovation incubator, has developed ground-based skills around ESA's European Space Security and Education Centre at Redu, in the far south of Belgium.

Finally, a fourth centre is emerging in the New Space sector around UCLouvain university, with Aerospacelab and Lambda-X.

Skywin's role is to help these and other companies, universities and research centres to develop their space business, either through the federal government and ESA, or by striking out on their own. "They can come to us for money to develop new kinds of activities outside of ESA, or use experience from ESA projects to switch to more commercial projects," Stassart explains.

The money Belgium sends to ESA comes with a guarantee that an equivalent amount, at least, will return in the form of contracts. However, companies still face stiff international competition if they want to secure a particular contract, hence the celebrations in July when the next six missions in the Copernicus Earth observation programme were announced.

Eight Belgian companies were involved in successful bids to carry out this work, worth a total of €93.7 million. Among them were Thales Alenia Space Belgium, CSL, AMOS,

SpaceBel and EHP, a thermal control specialist in Nivelles.

"All of these companies have been selected by the Copernicus programme managers based solely on the competitiveness of their bids," said David Clarinval, the federal minister responsible for space policy.

One of the successful bidders was CSL, a centre belonging to the University of Liège that specialises in developing optical instruments for use in space. It also has extensive facilities to test satellite systems before they go into orbit. "We have performed space qualification on sub-systems, complete instruments and even complete spacecraft," explains Christophe Grodent, CSL's programme manager.

The centre has roles in two of the new Copernicus missions. For the Anthropogenic Carbon Dioxide Monitoring (CO2M) mission it will design, manufacture and validate the calibration unit for the instrument measuring the carbon dioxide density of the atmosphere. "In terms of budget, this is the biggest project CSL has ever won," Grodent says.

And for the Land Surface Temperature Monitoring (LSTM) mission, CSL will design and manufacture the instrument's diffusers, used to calibrate the instrument while it is in orbit. "We will also carry out the complete



calibration tests for the whole instrument in one of our large optical test chambers."

Another Copernicus success story is AMOS, a specialist in optical systems deployed in space and for ground-based telescopes. It will also be involved in the CO2M mission, building and assembling the telescope of the cloud imager, which will detect possible obstructions to the main instrument's carbon dioxide readings. "We will make the optics, and also the structure to mount it in a small telescope," explains Jean-Marc Defise, head of the space business line at the company.



A much more substantial contract involves the main instrument of the Copernicus Hyperspectral Imaging Mission for Environment (Chime). This mission will examine the surface of the Earth in a large number of narrowly defined optical and infrared wavelengths, providing information about the type and state of vegetation, soil characteristics, and so on.

“For the Chime spectrometer, we are really at the heart of the instrument,” Defise says. AMOS has contributed to its design, and will build its high-accuracy optics along with its optomechanical structure, and possibly the

diffraction grating that is crucial to its operation. “Participating in this project is a very high recommendation for what we can do.”

In particular, it endorses the company’s evolution from manufacturing optics to system integration. “Now we build optics and mechanics, and integrate everything to provide sub-systems or whole systems.” This in turn will help the company embark on new projects, either within ESA or for other clients.

The ultimate in integration is for one company to put together an entire space mission.

This is increasingly possible in the commercial sector, thanks to cheaper launch options and advances in satellite technology. Two Belgian companies making the leap into this New Space economy are Aerospacelab in Louvain-la-Neuve and SpaceBel in Liège, with the recent creation of its ScanWorld subsidiary.

Spacebel’s core business is in satellite software, operating both on board and from the ground. It also has expertise in simulators, used to test satellite systems before they go into orbit and troubleshoot once they are there. This in turn has evolved into a complete design service for Earth observation.

“We can advise the customer that to get a particular kind of data we can develop a particular kind of imager, place it at a certain altitude, and so on,” says Thierry du Pré-Werson, chief executive of SpaceBel.

Its own idea is a variation on the hyperspectral imaging of ESA’s Chime mission. Where Chime will be one satellite carrying a high-resolution hyperspectral imager, SpaceBel wants to deploy a constellation of eight or nine small satellites, each carrying a medium-resolution hyperspectral imager.

The images will be less detailed, but the satellites will pass overhead more often, allowing them to spot situations developing week by week rather than over months. “We will

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We need artificial intelligence dedicated to Earth observation, and this will lower costs considerably

be able to detect very quickly any changes in crops, in forestry, or a pollution event, for example. Then, if we need a high-resolution image, we can order it from Chime.”

To take the project forward, a new company, called ScanWorld, has been set up. “We don’t see this as just another SpaceBel project but a new business opportunity,” du Pré-Werson says. “ScanWorld will use its own infrastructure, developed by SpaceBel, but its main purpose is to develop applications and to sell services based on the data it collects.”

Its customers will be companies, governments or agencies involved in agriculture, forestry, environmental management, and so on.

Initial investment has come from SpaceBel and SRIW, the Regional Investment Company Wallonia. This will support further development of ScanWorld’s technical and business plans, after which it will seek venture capital support to launch of the first satellite in 2023-24.

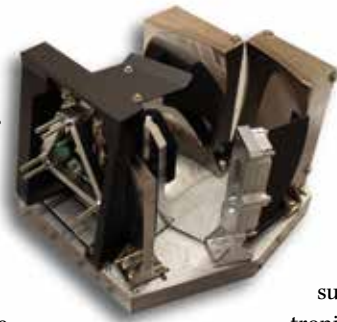
This will demonstrate the feasibility of the concept, the quality of the data and the value of ScanWorld’s applications. If that goes well, further investment will be sought to launch the full constellation. The whole system is expected to be operational in 2026.

While ScanWorld is a private, commercial initiative, du Pré-Werson is keen to acknowledge the debt it owes to government support: “It is only possible because of the expertise we developed through Belgium’s investment in space through ESA over the past twenty years.”

Skywin is currently working to help more companies take advantage of the New Space market, either by developing fully integrated projects or by looking for opportunities as suppliers. As Scanworld illustrates, the first opportunities will be in microsattellites for Earth observation.

“Microsatellites are a strength for Wallonia, mainly in the instruments on board, but

© Courtesy AMOS



also in different parts, such as electronics adapted to microsattellites and

their instruments,” says Stassart.

But it will also be important to think about how the data from space can be commercialised more effectively. “To do that we have to avoid having people behind screens interpreting data. We need artificial intelligence, dedicated to Earth observation, and this will lower costs considerably.”

This approach is being pursued by the start-up Aerospacelab, based in Mont-Saint-Guibert. Last year it raised €11 million from various investors, including SRIW, to develop a constellation of Earth observation satellites and the artificial intelligence systems to turn their data into commercial applications.

A more challenging goal is to foster a New Space approach for launchers, supplying companies such as SpaceX and Blue Origin that are dramatically lowering the costs of putting people and objects into orbit. “That is much more difficult, because you have to support large factories, with traditional approaches, to suit these New Space companies,” Stassart says.

Another opportunity for Wallonia is the region’s expertise in satellite testing. “We need to increase facilities and make them much more flexible, so that they can accept huge satellites for space agencies, for example, but in parallel to be able to approach the New Space market. That requires lower costs, different personnel, and a reinvention of the way they work.”





© 3XN - Bee architects - Duchêne - Degraeve - Nomet



Smart city

Namur is marrying the old with the new in its bid to shine on the international stage

By Sarah Crew

It's rare to see a city in Belgium without the blight of a building site. In Namur, road diversions, cranes on the horizon and disrupted traffic have all become a familiar view. So why is there such optimism in the air?

As successive major projects are unveiled, Namur is shedding its reputation as a genteel city with an equally sedate nightlife, revitalising its image and living up to its status as the capital of Wallonia. Having held the title since 1986, the city only recently tapped into European funds to help finance the current transformation of the urban landscape.

As Wallonia's top tourist city, Namur is looking to further shine on the national and international stage with this swathe of

projects. Not content with its outstanding heritage – an ancient citadel and two rivers – plus a rich cultural offer and a charming cobbled city centre, Namur is also leading the way as a city of the future.

As an increasingly smart city, it is adopting cutting-edge communication technologies to enhance public services and security. They include an intelligent transport system, launched in September, to reduce traffic congestion.

Showcasing its smart credentials, the city's flagship project, the Confluence, is due to be inaugurated in early 2021. Occupying the symbolic site of the Grognon – considered the cradle of the city – the new riverside esplanade and its underground car park is a futuristic public space with cafe, terrace

and pontoon among its leisure facilities, making the most of its proximity to the water.

The Confluence also links seamlessly with two other recently completed projects. An underground passage provides access to the Delta cultural centre and lower end of town. The centre reopened in 2019 after extensive refurbishment; its new spherical facade is echoed in the Confluence's soaring structure. Meanwhile, pedestrians and cyclists can criss-cross the Meuse via l'Enjambée, the new bridge that joins the Confluence with the municipality of Jambes across the river.

Dominating the area is the citadel, a grey stone fortress rising above the city on a strategic rocky spur. Not surprisingly, the



© WBT-J.L.Flemal

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We have a jewel of a city that we want people to discover

extensive site is the keystone of the city’s tourism, explains Anne Barzin, Namur’s city councillor responsible for tourism.

Over the past 10 years, the citadel has benefitted from a €28 million investment, she says, notably in the Terra Nova visitor centre, which presents its 2,000-year history. As well as being home to a tourist train, the former military barracks is the starting point for guided tours, including the site’s renovated underground passages. Bearing witness to successive periods in the citadel’s dramatic history, the tunnels have been fitted with light and sound effects. “The beautiful scenography is aimed at the young and old and is proving very successful,” Barzin says.

A carefully orchestrated programme of events draws a wide audience. “Although it’s

a major historic heritage asset, we have to be open to other interests,” says Barzin, citing Jan Fabre’s famed bronze sculpture The Turtle, which gleams from its position halfway up the citadel. As well as outdoor theatre, there are major sporting events such as the annual cyclo-cross fixture, broadcast live on TV.

While the panoramic views of the city and Mosan and Sambre valleys entice people to climb the citadel’s ancient cobbled paths, existing refreshment pit-stops at the Terra Nova and Brasserie Reine Blanche will eventually be joined again by the Café du Panorama. Closed since 2018, it will undergo a serious makeover by a local operator already running a popular city brasserie. “It’s a great project, from an architectural point of view as well as the quality of the restaurant and the service,” says Barzin.

The cafe and terrace occupy a site in the corner of the esplanade, the citadel’s principle public space for festivals and events. Now it houses a structure with a completely contrasting style: Belgium’s pavilion from the 2015 world fair is due to open to the public at the end of 2020, another symbol of Namur’s innovation.

The pavilion will show pop-up exhibitions under the auspices of Trakk, Namur’s digital and creative hub, and one of its founding partners, the non-profit Kikk. The latter is responsible for the annual international Kikk Festival, showcasing new technologies from Wallonia and abroad. Barzin is quick to pay tribute to the “great collaboration” between the town, Kikk, the University of Namur (UNamur) and the provincial economic bureau (BEP) for the private/public partnerships fuelling the



• Panoramic view of the Mosan valley from Namur's citadel

city's ability "to advance projects that have been well put together".

Making it easier for visitors to access all these assets, a new cable car for the citadel is being restored and is due to open at the end of the year. "There was a real desire to create a direct link with the centre's commercial streets to make them even more attractive," says Barzin.

Describing her city's transformation as "a puzzle that is gradually coming together", she adds that one project close to her heart is the transformation of the Grand Manège theatre into a concert hall complex. The future home of the CAV&MA (Centre d'Art Vocal & Musique Ancienne) will be devoted to one of the city's foremost talents, and one that enjoys a greater reputation abroad than at home.

"It's known the world over and is and is an important cultural actor," says Barzin of the chamber choir headed by charismatic Argentinian Leonardo Garcia Alarcon. A high-quality artistic programme under director Jean Marschal is eagerly awaited, says Barzin, a keen classical music fan.

To meet the demand when staging international events, Namur needs to increase its accommodation offer. One private developer is converting the old post office depot into a hotel next to the railway station and Barzin highlights the excellent choice of up-market hotels and growing number of guest rooms – some luxurious and quirky – in the town and surrounding region.

The city also tempts visitors because of its reputation as a culinary destination. From gastronomic restaurants – many in rural

spots around the city – to wine bars and convivial eateries, food culture is taken seriously. "We have everything for a fantastic day out or for a longer stay," says Barzin, pointing to the parade of shops in the pedestrianised quarter and the wealth of sporting and outdoor activities in the Mosan valley and elsewhere.

Barzin understands the need to increase tourism to boost Namur's economic activity without losing view of the needs of its own citizens: "We're developing these projects while preserving our heritage and the quality of life of the city's inhabitants and that's the balance that we need to keep," she says. "We have a jewel of a city that we want people to discover."

namurtourisme.be
citadelle.namur.be



© Christian Delvaux

Choc factor

A bean-to-bar chocolatier is looking for new markets to conquer around the world

By Tomáš Miklica

Belgium is by any measure a land of chocolate. But even though the country's chocolate making tradition goes all the way back to the 17th century, there are still things new to the market. In the past few years, Belgium has seen a rise of "bean-to-bar" chocolate making – producing chocolate from raw cocoa beans instead of using a pre-prepared cocoa mass.

"The increase in the production of bean-to-bar chocolate can be explained by the desire of certain chocolate makers to go back

to basics," says Endri Qehaja, sales manager of Liège's Millésime Chocolat, one of the few bean-to-bar chocolatiers in Belgium. "We offer a product with a story, traceability and transparency. It's something the major manufacturers generally cannot provide, as sometimes they don't even know where their cocoa comes from."

A bean-to-bar process starts with the selection of beans on a cocoa plantation, which might be in Guatemala, India or Uganda. The harvested beans are then fermented

and dried. As soon as they arrive in Belgium, they are roasted and then ground, conched and moulded until the transformation is complete and the final product is ready.

"The advantage of bean-to-bar chocolate making is mainly in the ability to create the chocolate you want, since the whole process is under your control," says Qehaja, mentioning the percentage of cocoa, the type of sugar and the quantity of milk as controllable variables. "Moreover, the abil-



ity to provide the consumer with aromas and flavours according to the origin of the cocoa is a very important aspect. The main disadvantage is of course the production time, which is longer since all the production stages happen in our workshops.”

Millésime Chocolat was founded in 2017 by Jean-Christophe Hubert, a craft chocolate expert trained at the Agricultural Research Centre for International Development in Montpellier and at the Fine Cacao and Chocolate Institute in New York. The company of 15 employees is based in Seraing, Liège province.

“At the marketing level, ‘made in Belgium’ brings a lot of credibility to a chocolate

maker and sometimes facilitates commercial relations,” says Qehaja. “However, we can see that countries such as Japan and the US produce very high-quality chocolate and we will therefore have to take these new competitors into account.

“Belgium is the country of chocolate, but more precisely of quality chocolate. We must not forget that we might not be the only ones in the future and we will have to be very creative in order to stay ahead of our competitors.”

For Millésime, a multiple International Chocolate Awards winner, it’s important to develop internationally. It already sells its chocolates and spreads in Japan, Taiwan,

Spain and Italy and – from this year – its products are available in the US.

“Our American importer was immediately seduced when he discovered our range of products and saw a lot of potential in it,” says Qehaja. He says AWEX’s Explort internship programme contributed greatly: “The person who initiated this project was an Explort trainee whose objective was to prospect the American market in order to find a distributor for us; a mission that she accomplished in only one week on the spot.” And it doesn’t end there. According to Qehaja, the UK, Canada and Korea might all be next to taste Millésime’s chocolate.

millesime-chocolat.be

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Our American importer was immediately seduced when he discovered our products

Out of the box

French company Designerbox shines a light on Belgian design

By Sarah Schug



© MikoMikoStudio

• Cork Helmet

Food, beauty, wine, plants – in recent years, subscription boxes delivering monthly surprises to your doorstep have emerged for just about everything. Why not apply this distribution model to design? That’s what Tomas Erel, co-founder of French company Designerbox, was already wondering back in 2012. Since then, Designerbox has been shipping out carefully curated designer objects of transportable dimensions every month, from cups and pencil holders to wall hooks and flower pots. The latest delivery is all about Belgian design.

“The idea was to boost artistic creation and know-how while creating a link between the object and the person who receives it,” Erel says, adding: “Often, people remember the store where they purchased something, but they don’t know who designed the item or how it was produced.” By including a magazine in each box illustrating the story and person behind each creation, this connection between consumer and creator is restored.

The latest package is dedicated to Belgium, with a publication about Belgian



© MikoMikoStudio



• Belvedere



• Scissors Sisters

© MikoMikoStudio

design and two elegant, minimalist glass carafes by up-and-coming Brussels designer Pierre-Emmanuel Vandeputte, which he developed in close cooperation with artisan glassblowers during a residency in France.

“I observed their work for a few days, and then we developed drawings together. It was a real collaboration. I like to be close with the craftsmen throughout the working process,” he says of his hands-on approach. “I always work closely with a craftsman or experiment myself and build my own prototypes. I was just cutting metal this morning. I love to work with my hands and I need to touch an object to be able to really understand it.”

It was exactly this curiosity about materials and handiwork that set Vandeputte on the path to design. Visiting his older sister at architecture school, while still in high school himself, Vandeputte was instantly drawn to the metal and wood workshops. This fascination still drives his practice today, and the glass carafes are a testament to this approach.

While they seem rather simple at first glance, they stand out through one distinctive detail: the spout. Through watching the glassblowers at work, Vandeputte had the idea of disrupting the blowing process to introduce a completely new way of creating this seemingly banal element: the spouts of his carafes are added through an unusual cut at the edge of the glass. Hence their name: Scissors Sisters. The hand-made, original detail retains the memory of the movement carried out by the blower, making each carafe a unique piece.

This added sense of poetry and esteem for craftsmanship is what convinced Erel to pick the designer for the Belgium-themed box, after they met at a series of meetings between Belgian designers and international companies organised in 2019 by Belgium is Design. “The Scissors Sisters embody the perfect balance between the gesture of the artisan glass blower and the creative intelligence of the designer,” he says. “One can almost guess that the object is the result of this encounter. Pierre-Emmanuel reminds us that know-how can be a major source of inspiration.”

Vandeputte is a designer who is more interested in stories, unconventional ideas and appealing to the imagination than just fulfilling the demands of the market.

“I refuse to believe that eating, working and sleeping are our only needs,” he says. For instance, he developed a giant cork helmet hanging from a rope which one can step under to experience a moment of complete silence. And then there is Belvedere, a beautiful wooden ladder with a seat on top, inviting us to see the world from a different perspective.

This kind of storytelling that gives objects additional meaning is also what motivates Erel and his Designerbox project. “The simple fact that at a dinner, our subscribers will be able to explain the origins of the carafes, that they’re made from blown glass and designed by Pierre-Emmanuel Vandeputte instead of saying in which shop they were bought – this means I have done my job,” he says.

designerbox.com
pierreemmanuelvandeputte.com

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I need to touch an object to be able to really understand it



A WORLD OF SMURFS

A giant attraction dedicated to the Smurfs has opened in China. The opening of the Smurfs Theme Park in Shanghai took place in May, after a delay caused by the Covid-19 pandemic. The little blue creatures, some of Belgium's most famous exports, were invented in the 1950s by Brussels artist Peyo while he was working for newspaper Le Soir. Visitors to the park, created by Belgian company KCC Entertainment Design, enter through a maze to discover four zones – the forest, Smurfs village, Gargamel's house and the outdoors – and more than 20 themed experiences including roller coasters, augmented reality, climbing walls and crazy golf. It integrates the UN and Unicef's Sustainable Developmental Goals, and is a cooperation between Chinese developer Shimao Property Holdings and Genval-based IMPS, holder of the rights to the Smurfs brand. Stéphan Smars, AWEX Trade and Investment Counselor, attended the opening ceremony in China, highlighting ongoing business and cultural ties between the two countries.



© Jo Struyven



© Emotion Artists



© Tempora

EXHIBITION 1

WARHOL: THE AMERICAN DREAM FACTORY

Andy Warhol not only embodied Pop Art, he gave birth to an entire movement that would define New York's social scene in the 1960s. Coupled with the sexual revolution, it all came together to create the perfect pop culture storm. An attempted murder and an untimely death have only added to his legend. This exhibition in Liège brings it all together in a comprehensive timeline that includes more than 100 original Warhols from museums all over the world. There are also prints and a veritable archive of books, record sleeves and posters illustrated by Warhol.

UNTIL 28 FEBRUARY
expo-factory.be



PHOTOGRAPHY 2 **JO STRUYVEN: ENFER**

Photographer Jo Struyven climbed most of the slag heaps around Liège and Charleroi to create enFer, a play on words combining “iron” and “hell”. The title offers endless connections: conditions in the steel and mining industries could be sweltering; it was an economic nightmare when the bottom fell out of these industries; and the abandoned infrastructure leaves behind cityscapes that seem merciless. Struyven captures these sites and the neighbourhoods that grew up around them with a neutral eye, offering simple architectural panoramas. The show, at a 19th-century mine turned cultural centre, is part of the discussion about whether the HF4 – the former iron smelting plant and one of Wallonia’s last blast furnaces – should be demolished or preserved as industrial heritage.

UNTIL 6 DECEMBER
leboisducazrier.be

MUSIC 3 **ARS MUSICA**

Belgian composer Walter Hus once described contemporary music – a term he detests – as “music from the last thirty or forty years written in the alignment and artistic tradition of classical music”. It is, then, at once old and new. Brussels’ Ars Musica festival is a celebration of the genre and a source of creation, providing the means for new compositions. A highlight of the programme is Trio O3, whose flute, cello and piano take the stage with duo NO&RD’s electric guitar and drumsets. Another is Maarja Nuut and Maja Ratkje, whose vocal poetry inspired by electronic sounds combine to create an otherworldly experience.

6-27 NOVEMBER
arsmusica.be

FAMILY 4 **HANLOWEEN**

The school holiday coincides with Halloween, and Wallonia gets into the spirit of things with haunted tours, citadels and amusement parks. One of the best experiences is at the Grottes de Han caves and wildlife park in Han-sur-Lesse. Hanloween sees a horde of trolls taking to the caves and fantastic creatures in the forests. There are also night walks in the Boine forest featuring witches, vampires and werewolves.

31 OCTOBER-3 NOVEMBER
grotte-de-han.be

MAJESTIC INDUSTRIAL LANDSCAPES

Brussels photographer Jo Struyven, 59, is best known for his digital photos stitched together to create 60m panoramas that represent entire coastlines. He has now done the same with Wallonia’s former coke and steel plants, a major industry that is gone but far from forgotten

I got my first camera when I was twelve. At that time, I was developing everything myself in black and white. I like that I could create an atmosphere. I’ve done a lot of work over the years, but the best known is Land Ahoy, a 60m photographic panorama of the Belgian coast in dialogue with the opposite coast in the UK.

I had my own mould-making company in Liège and was constantly confronted with these majestic factory sites. Like the old blast furnace in Ougrée; it’s a cathedral of a plant. It’s so huge, it’s impossible to photograph in one shot, so I did the same thing that I did at the Belgian coast: took hundreds of photographs and stitched them together.

And then I photographed Charleroi. That’s the land of the blast furnace, where steel is made. The exhibition enFER is at Bois du Cazier, a former coal mine, which is now a series of museums. There are also shots of Charleroi neighbourhoods where the workers lived. This kind of housing is very typical of the city. They didn’t care about the workers, so it wasn’t well structured in terms of urban planning. I climbed up the slagheaps in the area and took a lot of landscape photographs as well as of people’s homes.

Everybody has a preconceived notion of what these factories look like. I wanted to attain a very neutral view, so I eliminated anything that could detract from the plant itself. I removed the graffiti, for instance, and the sky is always a neutral colour. I want the focus on the plants, so everyone can judge for themselves how they really look.

There is a big discussion in Charleroi as to whether they should preserve the blast furnace known as HF4. I think it is crucial to find a cultural use for it. The slagheaps in Charleroi very strongly determine the image of the city. There are about twenty in and around Charleroi, and you cannot explain what they are without keeping one of the blast furnaces; they are brother and sister.

leboisducazrier.be



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Everybody has a preconceived notion of what these factories look like

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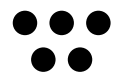
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