

LODZ CREATES INNOVATION

NEWS MAGAZINE OF THE CITY OF LODZ

NO. 1 (27)/2020

SPACE FOR DEVELOPMENT

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AN IMPLANT

INTOXICATED WITH ART

PARTNERSHIP-BASED
APPROACH TO BUSINESS

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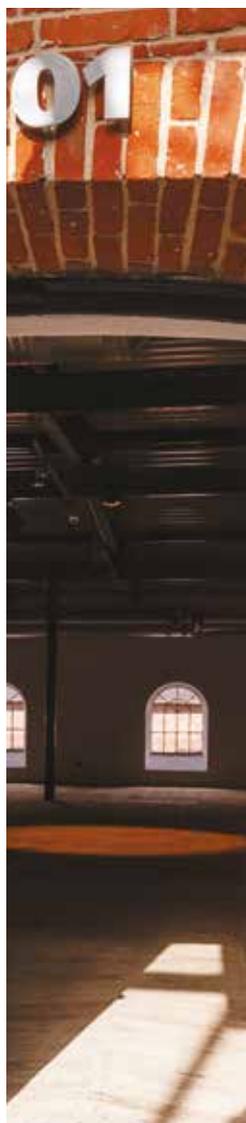
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ANNA KRAWCZYK
EDITOR-IN-CHIEF

The condition of regions mirrors the condition of the local entrepreneurship. Since start-ups came into the business arena, local governments have been focusing on creating ecosystems for their development. According to Michał Kramarz, Director of Google for Startups in Central and Eastern Europe and Head of the company's Warsaw Campus, a factor that positively influences the development of start-ups is a diverse team of people with different perspectives and experiences. This affects the universal nature of the final product or service. This rule is also applied at the Google for Startups Campus in Warsaw, where 35 percent of the members are women and 32 percent of the employees come from abroad. "However, if one's considering conquering global markets with our idea, it's worth developing one's company based on people who are not always like us. Different experiences, educations, cultural contexts, world views – such differences within a team can lead to our idea becoming something universal, with the potential to succeed in every corner of the Earth," explains Michał Kramarz in the interview that opens this issue.

The need for cooperation between start-ups and corporations, local governments and universities is also mentioned. It should be natural and harmonious.

The cooperation of Lodz scientists and businesses has led to the creation of a personalized orthopaedic implant for people who have undergone above-the-knee amputations. The project leader is the Lodz University of Technology, with the consortium including:

Bionanopark, Pabianicka Fabryka Narzędzi Pafana and the Medical University of Lodz. The new solution will not only improve patients' comfort, but will also allow them to return to work and avoid the onerous side effects of wearing a traditional prosthesis. Unfortunately, it remains uncertain whether it will be possible to implement personalized orthopaedic implants into common practice and obtain funding from the National Health Fund. Considering this topic as extremely important not only from an economic development perspective, (but) also (from) the point of view of social well-being, we decided to raise this issue here.

We also present the winners of last year's edition of the "Youth in Lodz – I've Got a Start-Up Idea" competition, together with the project's coordinator's statement. Meanwhile, its 12th edition will start in March, with a lot of fresh ideas. A project qualification stage has been introduced, which is aimed at not only getting to know team members, but, first and foremost, their needs in terms of support from the organiser.

Finally, we have two invitations. The Monopolis complex is opening in spring and is set to become a new cultural and entertainment space in Lodz. Meanwhile, near the city, in Rzgów, the Mandoria theme park is under construction. Soon all visitors, big and small, will find themselves in the Renaissance. So, plan your visit now and lose yourself, at least for a moment, in the tenement houses and port docks full of character, in a world of travellers, merchants and great Renaissance discoveries. ●

Photo: Magdalena Lawreszuk



6



10

22



INTERVIEW

- 6** **Space for development**
Michał Kramarz, the Director of Google for Startups for Central and Eastern Europe and Head of the company's Campus in Warsaw, talks about the recipe for a successful start-up and the role local governments play in creating ecosystems for them

COLUMN

- 9** **Too smart for your own good**
Minds of people with above-average intelligence are often overloaded

SCIENCE

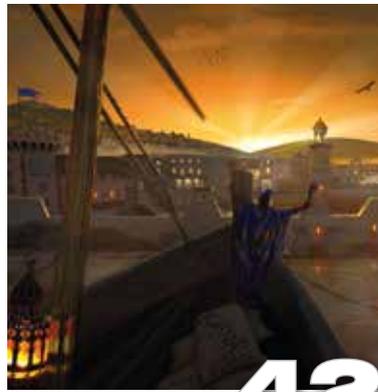
- 10** **New life with an implant**
A team of scientists from Lodz is working on a personalised orthopaedic implant for patients with above-the-knee amputations
- 14** **Marvel Motion Analysis: reaction time under control**
The Marvel Motion Analysis system created by scientists from Lodz will help athletes as well as other people
- 16** **Bird's eye view of smog**
Modern drones fitted with sensors to measure air pollution
- 18** **From a passion for learning**
The history of the WITKO company from Lodz is a perfect example that passion, knowledge, but also hard work and keeping to one's values can be the key to success

ECONOMY

- 20** **#MoreThanAWarehouse**
The Lodz-based company Transfer Multisort Elektronik, which specialises in the distribution of electronic components, has over 300 thousand products, 200 thousand customers in 140 countries and 10 subsidiaries, for example in Italy, Spain and China
- 22** **Intoxicated with art**
Life will soon flow back into the former Monopol Wódzany (Vodka Bottling Plant) building complex. The historic buildings of the old factory are going to become the Monopolis – a unique space with offices, commercial spaces, entertainment venues and culture
- 24** **To taste diversity**
ARTkombinat is a place of artistic meetings, inspiring us to travel and discover new tastes, and above all, to give joy
- 26** **Youth in Lodz – I've Got a Start-Up Idea 2020**
For many years, the "Youth in Lodz – I've Got a Start-Up Idea" competition has seen great interest from young entrepreneurs wishing to enter the market with an innovative product or service

CREATIVE INDUSTRIES

- 29** **Partnership-based approach to business**
"Bluerank's greatest and only asset is people. All our past and future achievements are thanks to our employees' intelligence", says **Maciej Gafiecki**, the founder of the Bluerank Agency
- 32** **Artistic Paradise**
Art Paradise, run by the Celeste Foundation, promotes the artistic activity of extremely talented people, including people with disabilities
- 34** **Loving trash art**
Anna Becherka's workshop in Art_Inkubator is where things intended for the trash bins, seemingly no longer needed by anyone, worn or damaged, are reborn



36 Dreaming of a Potato

“In business, I want to combine the usefulness of my productions for such purposes as promotion or advertising with artistic and visual value of the highest calibre”, explains **Paweł Klepacz**, Potato’s owner

38 Onions, milk and games – meet OnionMilk

OnionMilk is an independent team that creates PC games with low poly and retro graphic

40 MIOOU – design (not only) for cats

Inspired by the needs of her pets, architect and aesthetician **Katarzyna Galicka-Szer**, created a designer brand of furniture, including houses, tunnels, posts and scratchers that appeals to both cats and people

TOURISM

42 Full speed ahead! Mandoria on the horizon!

The Mandoria amusement park will take you back to the Renaissance and show you how wealthy trade cities operated. Historic tenement houses and harbour docks will be accompanied by thematic roller coasters, merry-go-rounds and many other attractions

44 CALENDAR



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Space for development

Michał Kramarz became the Director of Google for Startups for Central and Eastern Europe, as well as the Head of the company's Campus in Warsaw only a few months ago. However, his career with the company began in 2006 when he joined as one of its first employees. In 2015, he became the Head of the team supporting the global expansion of Polish start-ups. In this interview with Lodz Creates Innovation, he talks about the recipe for a successful start-up and the role local governments play in creating ecosystems for them.

What do you think is the recipe for a successful start-up? And is there one recipe?

Even though there is no one recipe for a successful start-up, there are several key elements that, in my opinion, should always be considered when building a company.

Of course, products or services are the cornerstone and should be designed from the very beginning with the recipient and their needs in mind. It's also good for the product to be "global", i.e. easily exported to various markets.

The team is the second element. It's a good idea to grow one's company with the help of a diverse team that combines different perspectives and experiences, as this makes our product much more universal. That's why we focus on diversity in creating our Google for Startups Campus community in Warsaw – 35 percent of the members are

women and 32 percent of the employees come from abroad.

Another important aspect is the choice of markets for the start-up's products or services. Choosing the closest or the best-known markets, such as EU member states or the United States, is not always the perfect solution. It's worth taking a broader perspective, e.g. considering the much more dynamically developing markets in Asia and South America.

What type of support does Google for Startups provide to entrepreneurs? Are you interested in projects that are still in their early stages or more in those that have already reached the research or production stage?

Google for Startups is a department that deals with supporting start-up development. It provides them with knowledge of Google technologies, runs acceleration

programmes and works with mentors, investors and entrepreneurial communities. Google for Startups initiatives can be found in over 125 countries and include activities run jointly with over 50 incubators, accelerators and co-working spaces. We've been in Poland for over four years. The Warsaw Campus is one of seven such centres in the world and it allows us to use our space to not only offer working space, but also provide start-ups with knowledge and learning at every stage of development.

For those taking the first steps on the road to starting their own business, we offer "Projektanci Innowacji PFR" (Innovation Designers PDF) training sessions. As part of our co-operation with the Polish Development Fund, we teach creative thinking in designing new solutions. The programme is available to anyone – regardless of whether they already have skills in business, engineering, humanities, arts or medicine and science. Through the programme, we're ready to teach any creative problem-solving approach and to pass on Google know-how in implementing innovations.

Start-ups that already have a working product and are seeing their first revenue can participate in numerous programmes organised at the Campus. We focus on aspects such as:

developing a business model, analyses and using internet marketing tools. Our attention is also focused on events connecting start-ups with potential investors, while our Founders Academy initiative helps in developing leadership skills among company founders.

Apart from gaming, what other industries demonstrate the greatest development potential?

All digital-oriented industries have the potential for development. This is not so much the future as the present of the economy.

At the same time, every company with a strategy that includes digital channels has greater growth potential. If one limits oneself to selling products based on the human factor and the entire distribution network depends on individual sellers, then scaling up will be a problem at some point, if the business develops quickly. In order to fully take advantage of a business' potential, the global distribution of products and services must eventually be based on sales through digital channels. It's best to implement this at the business' inception.

We see this very clearly in the case of many companies participating in the Google for Startups initiatives or the "Business Model Mastering" programme conducted at our



Campus. All companies that sell only through traditional channels are unable to scale: even with a great product that fulfils the needs of customers from around the world. Every industry's business model should have a digital part.

How do you see the co-operation of start-ups with corporations and what conditions must be met by both parties?

The primary aspect of fruitful co-operation between a corporation and a start-up is to clearly define the goal of such co-operation from the very beginning.

From the corporation's point of view, we need to consider what our business can gain by working with a start-up. These may be factors associated with supplementing our offer, optimising processes, monitoring the market situation or enriching the organisation's work culture. According to a report by Huge Thing, corporations in Poland tend to work with start-ups to improve internal company processes and expand their offer by launching a new service or product on the market, in effect, increasing competitiveness.

First and foremost, a start-up working with a corporation wants to achieve stable development and reduce the uncertainty in its future. To make this possible, it must have clearly defined expectations for such a partnership with a corporation. Working with a large, stable company is tantamount not only to access to financing, but also to experience and knowledge that can be invaluable in growing a company.

What's the optimal ecosystem for start-up development and how can local authorities in cities, municipalities, or entrepreneurs, get involved?

A well-developing start-up ecosystem is one in which co-operation is smooth and harmonious between all parts. Such an ecosystem has many participants: both entrepreneurs and investors, mentors, research centres, corporations, accelerators and the administration.

At the local level, an open approach to dialogue with all stakeholders is necessary – each member of this group will have a different outlook, but will complete the list of what is needed for a start-up's development. It's crucial to support the process of creating an ecosystem based on local potential. The proximity and specialisation

of universities, as well as the presence of international companies in the region are more than additional advantages. Primarily, they are potential competitive advantages.

At the national level, the key elements are starting entrepreneurship education already at school and making the process of establishing organising a company's activities easier.

You come from Lodz – the city whose City Hall is already organising the 12th edition of the “Youth in Lodz – I've Got a Start-Up Idea” competition. What's your opinion of such initiatives? What would your advice be to the organisers to ensure that the largest number of projects submitted can achieve success on the market?

It's good that we're trying to support young entrepreneurs and create innovations at the local level. Encouraging people to start their own companies and facilitating this process is extremely important for the development of individual regions – it gives me even more pleasure that entrepreneurs can count on such support also in my hometown of Lodz!

From our work at Google for Startups we know that team diversity built in a conscious and natural way is important for the success of a start-up. We're not talking about the start-up's founders being very diverse right from the get-go. This is not a prerequisite. However, if one's considering conquering global markets with an idea, it's worth developing one's company based on people who are not always like us. Different experiences, educations, cultural contexts, world views – such differences within a team can lead to our idea of becoming something universal, with the potential to succeed in every corner of the Earth.

From the perspective of an organiser of such initiatives, it's worth remembering two rules. First, you need to “invest” in the established start-ups after the competition ends. Check on their progress and support them in clearing obstacles lying on their path. How? By connecting them with potential customers, investors and providing a space for exchanging knowledge and experience. Secondly, you need to share academic knowledge: research, reports and technologies developed at universities. These are often resources that can't be found on the Internet, but which are a great asset for newly established companies.

Thank you for your time. ●

BY AGATA DOMAŃSKA

Too smart for your own good

Minds of people with above-average intelligence are often overloaded.

Intelligence is an unquestionable advantage. It makes it easier to acquire knowledge, cope with difficult situations or make a career. But an exceptionally vivid intelligence can also be a curse, making it more difficult for us in some respects than for others.

Ernest Hemingway once said that happiness in intelligent people is the rarest thing he knows. Intelligence is a kind of energy, and since energy is not a static phenomenon, it must remain in constant motion. Sometimes, this activity turns against us. Research conducted in 2012 by researchers from the Department of Psychology at the University of Nevada has shown that people with high intelligence tend to overthink, analyse everything and dwell on different phenomena. It's harder for them to enjoy the present and appreciate it because they know what the "shortcomings" of the situation in which they find themselves are, or how far it is from the ideal. Highly intelligent people find it harder just to be here and now because their minds are constantly active, busy remembering what was, thinking about what will be or analysing what is happening at the moment. Another study, conducted in 2015 by Canadian scholars from the Department of Psychology at Lakehead University, found that highly intelligent people tend to worry and ruminate. And that can be frustrating.

People with above-average intelligence are able to better assess their knowledge, or rather the lack of it. This is because even the best-educated person is doomed to deep ignorance in many fields. In such a complex world that's full of information, there is no way to know everything. Intelligent people realize this all too well. And if they combine intelligence with ambition (which is a frequent combination) and know that they will never know everything, they are condemned to being dissatisfied with themselves and to an eternal feeling of craving related



to the knowledge that many possibilities and pieces of information are beyond their reach.

Very intelligent people achieve their goals with less effort. They learn faster, associate facts more easily, analyse data faster and more effectively. This means that they often do not develop a certain amount of endurance in their pursuit of the goal. No wonder – if they operate in an environment of less-intelligent people, they never really had to try. A study carried out in 2003 by researchers from the University College London confirmed that highly intelligent people are often not prepared to work hard and overcome the involved obstacles. Moreover, they tend to expect excellent results from life and themselves. This generates a lot of stress because they feel the need to compete and thus impose a lot of pressure on themselves. And when their results do not turn out to be as good as they expected, they start to panic.

Highly intelligent people tend, as psychologists say, to be "stuck inside their heads." It means that they can think, analyse and research very well but fail at managing their emotions. It's easier for them to talk about feelings than to actually show them. Less clever people will experience their feelings – they will throw them out, shout, yell, cry, dance. And exceptionally intelligent people will talk about emotions. They will explain them, give them wise names, but all these emotions will still be inside them, only properly labelled. Worse still, they often feel lonely because most of the people around them are unable to keep up with them intellectually, making it difficult for them to establish a real, deep relationship with someone.

What's the conclusion? We should remember that intelligence is a kind of tool that will serve us well if we learn to use it properly. This means that we should be aware that being extremely intelligent also has its dark sides. And if we understand these dark sides, we will know what else to work on. ●

BY MARZENA ZBIERSKA

New life with an implant

A team of scientists from Lodz is working on a personalised orthopaedic implant for patients with above-the-knee amputations. The new solution will improve patient comfort, allow them to return to professional activities and to avoid the ill effects associated with wearing a traditional prosthesis.

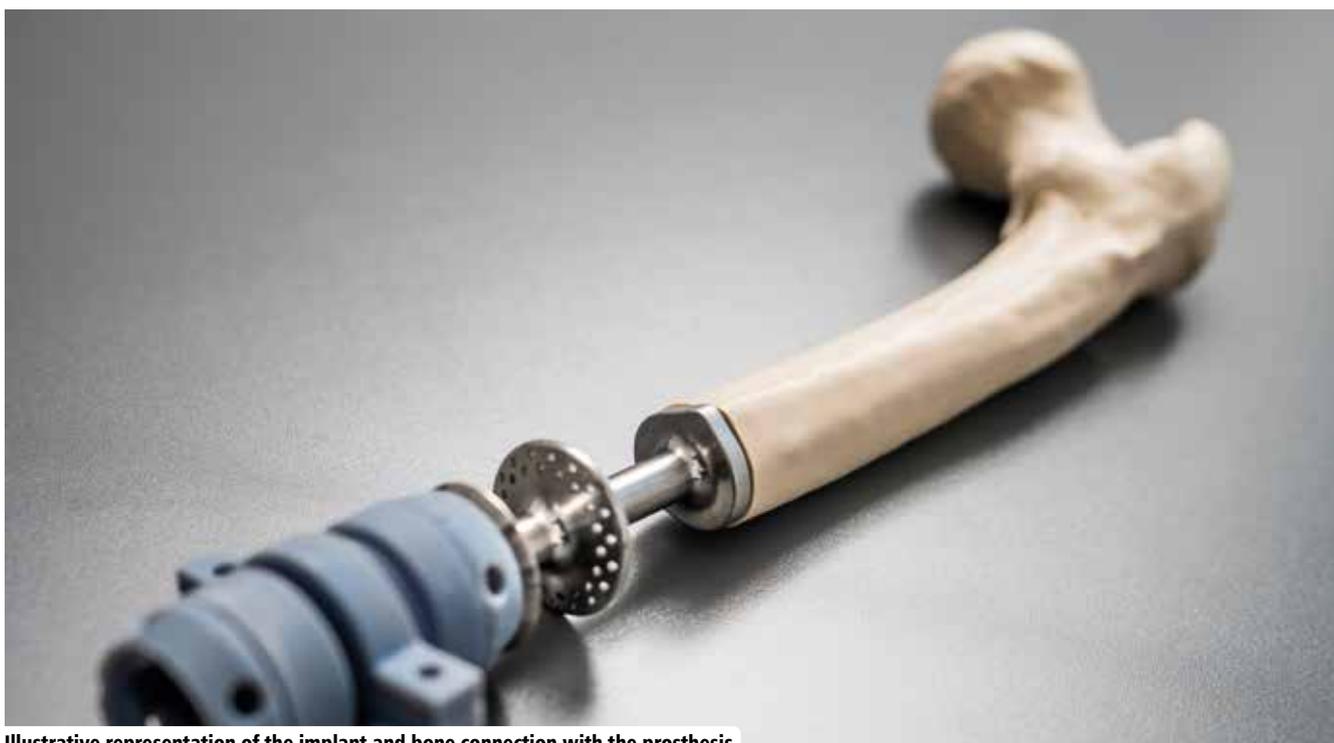
The project leader is the Lodz University of Technology, with work being carried out at the Institute of Materials Science Engineering, the Institute of Applied Radiation Technology and the Department of Strength of Materials and Structures. The consortium also includes Bionanopark, Pabianicka Fabryka Narzędzi Pafana and the Medical University of Lodz.

The need to create a prosthesis came from life itself, with the problems of post-amputation patients spurring on the research. The first experiments the scientists from Lodz did with orthopaedic implants were applied to a dog, which may come as a surprise, but it allowed an idea used in veterinary practice to be transferred to human health care. However, for an implant to be made in humans, significant technological modifications and compliance with the conditions of the Act on Medical

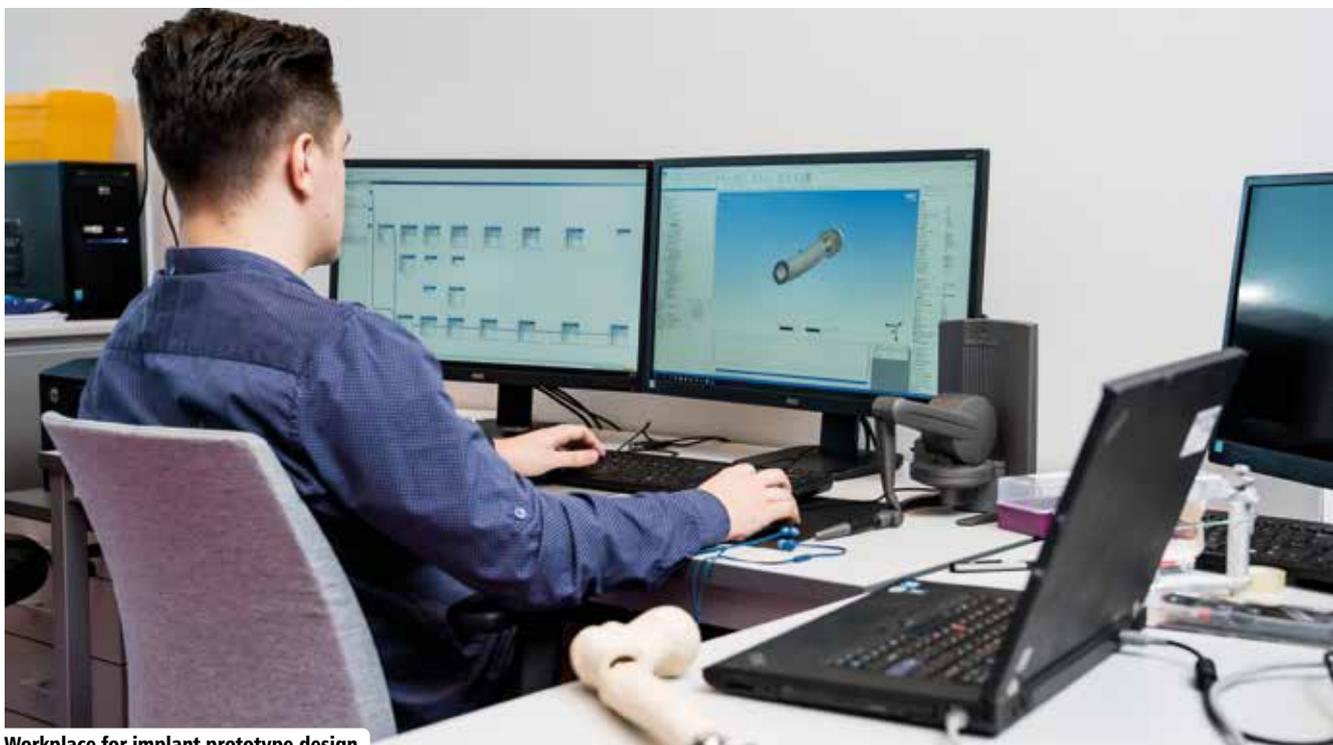
Devices are needed. Therefore, a research project under the Custom-ITAP acronym was launched, conducted by an interdisciplinary team of specialists. The project received co-financing from the Smart Growth Operational Programme 2014–2020. Its total value is over PLN 6 million, including co-financing in excess of PLN 5.2 million.

SUCCESS ON FOUR PAWS

“A veterinarian asked us for help. He was caring for a Great Dane, named Dozi, with cancer of its hind limb. Amputation of the leg was necessary, but the dog was too big to walk on three legs without problems. The veterinarian asked whether we could make an implant. Dozi got the implant and a prosthesis was added after healing. This was over 3 years ago,” says Prof. Bogdan Walkowiak, PhD, project manager.



Illustrative representation of the implant and bone connection with the prosthesis



Workplace for implant prototype design

The implant for Dozi was designed by a team led by Marcin Elgalal, PhD, from the Laboratory of Individual Medical Implants at Bionanopark and made by specialists from Pabianicka Fabryka Narzędzi Pařana.

“The next patient was a cat with crushed hind legs, which also received implants. Our specialists were gaining experience. After some time, a patient came to us who had his leg amputated and was experiencing great trouble walking and using his prosthesis...,” recalls Prof. Bogdan Walkowiak, PhD.

It became apparent that the time had come to develop a technology that would allow individual orthopaedic implants to be used in humans.

“Patients with leg prostheses suffer from various disagreeable afflictions. Pressure ulcers, inflammations and ulcers form in the prosthesis socket, which is all very painful. In addition, soft tissue and the skin of the stump carry the entire load, which means the prosthesis cannot be used throughout the day. In healthy people, the load is borne by the osteoarticular-muscular system. After limb amputation, the stump transfers the load from the skeletal system onto the orthopaedic socket and then to the prosthesis. We started thinking about this, analysing literature and decided to develop a technology for designing and manufacturing

individual implants that would eliminate problems and improve living comfort for patients,” explains Prof. Bogdan Walkowiak, PhD.

KEEPING ONE'S FEET ON THE GROUND

The scientists from Lodz are working on an orthopaedic implant combined with a prosthesis.

“Usually, following a lower limb amputation, patients are given a prosthesis, with a socket fitted and attached to the lower limb stump,” explains Marcin Elgalal, PhD. “We want to create an implant that would be surgically inserted into the femur bone's marrow, with a part protruding beyond the soft tissues. The prosthesis will be attached to this protruding part. The system is designed in such a manner that standard attachments allow any prosthesis available on the market to be used.”

As a result, the patient will not press on soft tissues at the end of the stump, which will, in turn, eliminate issues with pressure sores and skin inflammation. They will be able to wear the prosthesis all day long, have a better sense of the type of walking surface and gain greater control over the prosthesis.

The resilience of the material used for the implant is the key issue, because it must serve the patient for the rest of their life. The employees of the Lodz University of Technology and Bionanopark are working



Laser head machining at the Da Vinci center at Pabianicka Pafana Tool Factory

together to select the right material, while a team of specialists from Pabianicka Fabryka Narzędzi Pafana is dealing with its proper processing.

“We’re preparing and providing samples of materials that are analysed for biocompatibility, effectiveness of sterilisation methods and also subjected to strength tests,” explains Andrzej Styczyński, president of Pabianicka Fabryka Narzędzi Pafana. “Another issue is adapting the implant to the individual shape of the patient’s bone marrow and the parameters of the implant itself, meaning its length, diameter and the shape of the part interfacing with the bone.”

The difficulty lies in working out a method of fitting the implant to the individual’s anatomical bone structure, which would simultaneously be a production process method, which means one optimising the production technology and allowing the implant to be made relatively quickly and cheaply.

Fabryka Pafana has a technology that was developed during the implementation of another project (in which Bionanopark participated) that allows implants to be produced using a hybrid technology. A group of high-performance machining tools for working on medical alloys intended for implantation has been developed in the company. The hybrid method consists in combining the subtracting and the laser method.

“We give shape to the prosthesis using a subtracting machining,” explains Andrzej Styczyński. “The second method, which will be used in thigh bone implants, is a laser treatment of surfaces that come into contact with the bone. The surface interfacing with the bone should be laser-modified to achieve better biocompatibility and osteosynthesis. We’ve already found a modification that gives the implant’s surface the appropriate porosity, matched to the size of the bone’s cells,



PAFANA, Hermle CNC machining center

making them more likely to settle on this surface. The method is currently patent pending and will also be used in femoral implants under the Custom-ITAP project.

LAME REFUND?

The project goal is to prepare and give implants to five patients. Specialists from the Medical University of Lodz will perform the operations, which are planned for the end of 2020 and will be financed under the Custom-ITAP project. However, it currently isn't certain whether it will be possible for personalised orthopaedic implants to become common practice and to obtain funding from the National Health Fund (Polish: NFZ) for all amputated patients who require such treatment upon successful completion of the project. Why? The medical procedure applied is not on the list of treatments reimbursed by the National Health Fund. Meanwhile, financing such treatments from public funds is justified not only for health reasons.

“Personalised implants not only improve the quality of life, but also allow patients to return to normal levels of personal and professional activity. Someone able to return to work not only earns their living and doesn't receive benefits from the state, but does that while paying taxes and other financial contributions to the budget. These can amount to much greater savings, just from a public expenditure perspective, than the costs associated with inserting a personalised implant,” observes Prof. Bogdan Walkowiak, PhD.

The problem is that the Polish legal system doesn't allow the patient to co-finance hospital therapy. The hospital, even a private facility, but one receiving funding from the National Health Fund, must cover all the patient's treatment costs within the procedures provided for by the National Health Fund. As Prof. Bogdan Walkowiak, PhD, notes, there are people waiting for such an implant and even if they'd like to pay for it themselves, the law makes it impossible.

The editorial team found that in 2013 attempts were made to introduce a personalised orbital implant to the set of services guaranteed by the National Health Fund. The procedure wasn't accepted. It's performed only thanks to the graciousness of hospital directors, who covered the costs of the orbital reconstruction implant in each of the several dozen cases.



Katarzyna Jagodzińska-Kalinowska, spokesperson for the Agency for Health Technology Assessment and Tariff System

Currently, Polish legislation does not provide for co-financing therapy, which means that the patient cannot pay extra for a different medical device, e.g. a better lens or implant. However, there is another option for financing innovative non-drug-based medical technologies that are not in the guaranteed benefits basket. This is described in the Act on Healthcare Services Financed from Public Funds. The Minister of Health can, by virtue of powers granted to him and most often at the request of the National Consultant or clinical experts, e.g. scientific societies, begin the qualification process of a new benefit. To do this, he sends an order to the Agency for Health Technology Assessment and Tariff System (pl. AOTMiT) for a recommendation whether the said procedure/drug should or shouldn't receive funding. When issuing recommendations, the agency considers the effectiveness, safety and cost-efficiency of the new therapy, which means looking not only at clinical effects, but also costs. Based on the available scientific evidence (clinical trials, case reports and other scientific evidence of the highest possible quality), expert opinions, including the opinion of the National Consultant and the President of the National Health Fund, the President of AOTMiT chooses whether to recommend a new technology or not. This recommendation goes to the Ministry of Health, which introduces a new benefit to its regulations and directs it for valuation. This is, in a nutshell, the procedure for qualifying a new benefit and it's thanks to this that the range of available benefits can systematically expand.

Depending on the size, level of complexity and shape, the price is between PLN 3.500 and 8.000.

Adding a new procedure to the National Health Fund set of benefits is not the easiest thing to do. Despite this, after the first treatments are completed, i.e. after the femoral implant is launched on the market, further attempts will be made to convince the National Health Fund. Patients are waiting for such a solution and they cannot be left disappointed. ●

BY MARZENA ZBIERSKA

Marvel Motion Analysis: reaction time under control



Three seconds to take a shot, seven to prepare and three to shoot again... A series of five shots at this speed is just the beginning. In practical shooting, you have to take thirty. Shooting training requires shooters to contain their emotions, be precise and extraordinarily concentrated. The Marvel Motion Analysis system created by scientists from Lodz will help athletes as well as other people.

The system was developed at the Medical University of Lodz's DynamoLab, Academic Laboratory of Movement and Human Physical Performance, as part of the project titled "Use of a proprietary accelerometric system to assess the reaction time of a soldier depending on the type of uniform and the presence of gear," financed by the Innovation Incubator+. The project is headed by Magdalena Fronczek, MD, PhD (Eng.), and the research team comprises: Adam Michalski, MSc (Eng.), Karolina Kopacz, MD, PhD, Aleksandra Czechowska, MSc and Gianluca Padula, MD, PhD.

READY. AIM. FIRE!

The Marvel Motion Analysis is an accelerometric system. An accelerometer is a device used to measure linear acceleration. It's often installed in mobile devices such as: smartphones, photo cameras or tablets, and it enables them to detect their spatial position and to control the device's functions by changing its orientation.

The Marvel Motion Analysis, however, measures motion parameters for something completely different. The innovative system uses microcontrollers (credit card-sized computers), accelerometer and gyroscope sensors (measuring

angular position). To what end? According to its initial assumptions, the system was intended to measure the reaction time of a soldier from noticing a light signal to taking a shot. The trainee takes a shot after receiving a light or acoustic signal. The system measures the acceleration of the shooter's hand, while the reaction time is calculated using the obtained acceleration results.

In subsequent stages of the research works, this was extended with the Marvel Move module to assess kinematics, or the geometry of motion, in athletic actions. How is this solution useful and innovative?

"At the moment, the system's critical functions include measuring parameters that enable us to perform a kinematic assessment of motion for sports purposes and the reaction time for shooting training in the army or shooting sports, e.g. the assessment of the height of a basketball player's jump, or a football player's acceleration while running and changing direction. The signal collection module is placed on the person being tested and we observe motion parameters using an app on a tablet," explains Magdalena Fronczek, MD, PhD (Eng.), senior motion analysis specialist and physical therapist at DynamoLab,

Medical University of Lodz. “Its innovativeness lies in the fact that the system can be used outside the laboratory because it can be controlled using a tablet. The main advantages of the Marvel Motion Analysis are high precision, low production cost and the ability to extend the system with new modules. Thanks to proprietary software, it’s also possible to adapt the sensitivity of sensors depending on the velocity of the studied motion.”

What are the benefits of the Marvel Motion Analysis? It helps us teach how to take a proper stance during shooting training and maintain correct ergonomics when creating uniforms and gun holsters. The system can also be used to train students of the Military Medical Faculty at the Medical University of Lodz.

MARVEL MOVE FOR ATHLETES

The Marvel Motion Analysis has many more uses in addition to shooting training. It can be used to assess biomechanics in physical therapy, ergonomics, sports or personal training. With it we can measure, among other things, kinematic parameters of athletes from various disciplines. The DynamoLab team has already conducted studies with a group of football and basketball players. The system has been used to assess the impact of Kinesio Taping, or elastic therapeutic taping used by sports physical therapists, on the parameters of vertical jump and shuttle run. It allows us to assess many parameters such as jump height or energy expenditure.

DEVELOPMENT AND COMMERCIALIZATION

The invention was presented at the International Congress of Physical Education, Sport, Recreation and Dance as part of a presentation on the impact of Kinesio Taping of the quadriceps femoris muscle on the kinematic parameters of football players, and at the Grand Prix Eiffel international and 2018 Off Stage Summit, an event for start-ups organised by the Medical University of Lodz.

During the Kaohsiung International Invention and Design Expo, it won a silver medal of the Expo (from the World Invention Intellectual Property Associations), the Leading Innovation Award (from the Macao Innovation and Invention Association) and the Award of Excellence (from the Toronto International Society of Innovation and Advanced Skills).

The system’s creators want to extend it with new modules, including the Marvel Balance,



The system was developed at the Medical University of Lodz’s DynamoLab, Academic Laboratory of Movement and Human Physical Performance

which assesses the balance and analyses the gait of older people in response to social needs. Problems with balance and the risk of falls are a concern of many seniors, and thanks to the new functions, the system could become useful to an even wider audience. The scientists want to create additional sensors for analysing motion outside a laboratory and stipulate that the system could turn out to be useful in telemedicine. Due to the growing popularity of remote health solutions, it is the most promising direction of the Marvel Motion Analysis’s further development. The scientists have already initiated their efforts to obtain a patent.

“Through the Innovation and Technology Transfer Centre, we have been holding talks with the university’s patent attorney in order to determine the final shape of the application,” clarifies Magdalena Fronczek, MD, PhD (Eng.) “Due to the low cost of prototype preparation, we hope that this will be an affordable solution. The initial structure of the system means that it can currently be used by physical therapists, locomotor trainers and physicians. The planned expansion with the Marvel Balance module should enable the device to also be used by older people and their carers at home.”

At present, the project is at the stage of searching for a business model that will lead to the commercialization of the invention.

“We are open to cooperation. The market launch path will be determined after patent-related issues take shape,” ensures Magdalena Fronczek, MD, PhD (Eng.)

The system’s creators are partial to the product licensing option, but the decision will depend on investor interest. ●

BY MARZENA ZBIERSKA

Bird's eye view of smog



Robert Cichowicz, PhD, Eng.

How should city development be planned to effectively fight smog? What time of the day is the best for various outdoor sports activities? What's the relationship between altitude and air quality? Scientists from the Lodz University of Technology are searching for answers to these and other similar questions, and are using modern drones fitted with sensors to measure air pollution.

The project dedicated to testing air quality, both inside and outside of buildings dates back to the year 2000. It was then that Robert Cichowicz, PhD, Eng., assistant professor at the Institute of Environmental Engineering and Building Installations under the Faculty of Civil Engineering, Architecture and Environmental Engineering of the Lodz University of Technology, was working on the issue of air pollution in the context of heat sources, thermal insulation upgrades for buildings and the use of renewable energy sources. After a few years, he also focused his research on the city's air quality, due to its impact on the quality of life of people in buildings, as well as the architectural and construction conditions. At first, the measurements were performed at a height of up to 2 m, i.e. approximately that of a person, but a decision was made to extend this range due to the increasing residential developments.

DRONES OVER THE CITY

"I became interested in how the quality of indoor and outdoor air changes with each subsequent building storey. As a result, I had to start testing the air outside buildings, at heights definitely exceeding 2 m," Robert Cichowicz, PhD, Eng. explains.

His interest led to the preparation of a project financed by the Lodz University of Technology, which allowed the purchase of measuring equipment, i.e. a sensor system fitted under a drone.

In May 2018 financing was secured for the purchase of air pollution measurement devices and research began, but the scientists' efforts didn't end there.

"In 2019, we obtained financing for another project, which allowed us to purchase a second drone with a sensor array, as well as a gas chromatograph," Robert Cichowicz, PhD, Eng. recalls "The latter is a ground-based instrument, connected to the drone, which allows many other compounds to be measured by the sensors placed in the measuring modules on the drone. The chromatograph offers a vast spectrum of operation. Measurements with two drones and the chromatograph started in January 2020."

The research is being carried out under the "Spatial analysis of air pollution changes in the Lodz agglomeration" project, with the work financed in approx. 80 percent by the Regional Fund for Environmental Protection and Water Management in Lodz and in approx. 20 percent by the Institute of Environmental Engineering and Building Installations at the Lodz University of Technology. The test results will be known in mid-2020 at the earliest.

VENTILATING THE CITY? IT'S POSSIBLE!

"Air quality analysis is a very complicated process, as it is affected by both meteorological conditions, including temperature, air pressure, wind speed and precipitation, as well as physicochemical changes and environmental factors, e.g. topography. There are countless variables and each drone 'pass' is an instantaneous measurement, performed at

a given moment and not continuously. Therefore, we need a lot of ‘passes’ and measurements,” Robert Cichowicz, PhD, Eng. explains.

At present, the most dangerous pollutants emitted into the atmosphere are: sulphur oxide, nitrogen oxides, carbon oxides, as well as PM10, PM2.5 and PM1 for particulate matter.

“Increased levels of these substances in the air are the result of, among others, low-stack emission, which mainly consists of road transport and the residential and municipal sector, including individual home heating. Simultaneously, a lot of air pollution in cities stems from complete or partial building over existing city aeration corridors, also called aeration wedges, e.g. spaces/green areas that enable air exchange. Consequently, compact and high-rise developments cause harmful substances to accumulate in central areas of the city,” the specialist further adds.

Therefore, the goal of pollution research is to answer where the city should develop and what type of buildings is appropriate for particular areas. This will help formulate guidelines for planners/urban planners, so as not to create developments that would disturb the existing air flows within the city and cause pollution to accumulate.

NEW CHALLENGES FOR ARCHITECTS

“Thanks to drone research, in addition to the measurements themselves and their analysis in terms of air pollution distribution in the Lodz agglomeration, we obtain information about changes in the concentration of these pollutants along with altitude data,” Robert Cichowicz, PhD, Eng. says. “This allows us to determine, for example, a correlation between the location of given buildings and human exposure to airborne matter detrimental to human health or well-being. We can also reinterpret the results provided by authorities, derived from certified ground-based measurement stations. It’s possible for us to assess whether the same air pollution is present on the ground floor, or the 10th or 20th floor of a building.”

The study conclusions will be useful for architects, as well as builders and installers dealing with ventilation and air conditioning of rooms. These conclusions are intended to answer the question of how to analyse the phenomena associated with the occurrence of air pollution to properly plan, locate and construct industrial, residential and public

buildings, e.g. depending on wind direction and terrain roughness.

“Pollution retention occurs in different ways. Natural barriers are used, e.g. parks and green belts, but also green façades,” the scientist notes. “There are also devices and systems, and even materials (e.g. plasters) that absorb pollution and can be used by building designers.”

TRAINING IN THE CITY? TIME MATTERS

Robert Cichowicz also sees the educational dimension of the project and argues that it will help residents choose the best time for physical activity, walking or airing their apartment.

“In the case of air pollution, one also needs to account for the time delay,” the expert explains. “Air pollution does not affect a particular area immediately. Physical and chemical phenomena cause substances present in the air to be felt only after some time following their emission and in a completely different area. The delays can be up to four hours.”

Due to the hours people work, most exercise outdoors after 6:00 pm and it’s between 6:00 pm and 10:00 pm that urban pollution, resulting from rush hours and emitted between 4:00 pm and 5:00 pm, begins its delayed impact on the area, including people.

Unfortunately, these periods are not universal and depend on many external factors that affect the urban environment in varying degrees and times. Research of specialists from the Lodz University of Technology requires a lot of data and in-depth analyses. These are being carried out over a 5 km² area in key locations and their completion is scheduled for the end of 2020. Until then, drone “passes” over Lodz will be carried out systematically, depending on the weather. ●



Photo: Paweł Lawreszko

BY PRZEMYSŁAW GRZYB

From a passion for learning



Management and employees of the WITKO company

In 1989, when Sławomir Witkowski was returning from West Germany after he managed to secure a contract for the distribution of chemical reagents following many hours of negotiations, he certainly didn't expect that 30 years later he would have... a million products on offer. The history of the WITKO company from Lodz is a perfect example that passion, knowledge, but also hard work and keeping to one's values can be the key to success.

The success was achieved despite many adversities, even crises that, quite literally, put WITKO on the brink of collapse. Ultimately, the company, which has been in the hands of Małgorzata and Sławomir Witkowski from its inception remains a family business.

HOPE AND HOPELESSNESS

The period of political change gave many people hope for a better tomorrow and an opportunity for development, on the one hand, while on the other hand, it clearly showed how much Poland was not a modern country in virtually every developmental category. Sławomir Witkowski – a passionate chemist – saw these two perspectives.

“He was deeply disappointed working in industrial research and development centre, but also very determined to ensure his family had the best possible living conditions,” explains his wife, Małgorzata Witkowska.

Only one decision remained: to start his own business. Sławomir Witkowski wasn't keen on completely abandoning his field. Instead of working in laboratories himself, he decided that he and his wife would begin to import chemical reagents and laboratory apparatus to Poland.

10 HOURS OF NEGOTIATIONS

At that time, there was no point in looking for manufacturers in Poland, so the newly founded company focused its attention on Western Europe, mainly Germany. Sławomir Witkowski wrote

letters to companies there proposing co-operation. Among those who responded, one company interested in cooperation invited WITKO's owner to its headquarters for talks.

“The negotiations lasted 10 hours, but after the meeting we managed to secure a contract for the exclusive distribution of chemical reagents of high purity and laboratory equipment for chromatography, i.e. an analytical method consisting in separating components of a compound mix, on the territory of Poland. Today, after 30 years, we're still that manufacturer's distributor. Their owners changed several times in the same period,” comments Małgorzata Witkowska.

FROM CONFERENCE TO CONFERENCE

When WITKO was in its infancy, finding customers was a Herculean task. On the one hand, Polish laboratories were very badly equipped and the vast majority required thorough upgrades. On the other hand, they weren't always aware of this, they didn't know the latest trends or how researchers in the West worked. This forced the couple to be more involved and to participate in industry events, where they discussed what they could offer Polish laboratories.

“We translated informational brochures by ourselves, travelled across the country and participated in up to 32 conferences per year. When we held direct talks, we discussed the latest solutions we offered as their distributor,” explains Małgorzata Witkowska. “Initially, however, sales

were very limited. The first order for reagents was worth only 100 German marks.”

EUROPEAN STANDARDS

Over time, however, WITKO gained momentum, mainly because the equipment and products offered by the company became a necessity in most laboratories. Polish companies from various industries were eyeing expansion abroad and had to examine their products more thoroughly, and to adjust their quality to European standards. Also, laboratories planning to expand their activities had to apply for certificates and accreditation. All this required equipment and reagents that were modern and of the highest quality, which WITKO that also had to undergo a transformation of its own, could provide.

“We had to adapt to the rising requirements of the market, offer increasingly more modern equipment and constantly train our staff. It's a never-ending process. At present, we're even introducing apparatus for preclinical drug and pharmaceutical testing,” says the company's co-owner.

SHOCK AT THE TURN OF THE CENTURY

The company saw dynamic growth throughout the 1990s, but the turn of the century brought about a great upset, which nearly caused WITKO to collapse. This was not due to a collapse on the laboratory equipment market, but to a very unfavourable and controversial tax issue resolution. A multi-year inspection carried out in the company ended with a judgement of the Supreme Administrative Court, which ordered Witko's owners to return VAT for transactions with all research institutions between 1999–2003. The judgement, which, according to the owners, resulted from a change in the interpretation of existing law and could have led to bankruptcy.

“The fees ate up all the savings from years of hard work and sacrifice,” explains Małgorzata Witkowska.

However, the company survived, it was not bought out and managed to get back on track.

UNUSUAL COMMERCIAL RELATIONSHIP

At present, WITKO is one of the largest and most important distributors of laboratory equipment in Poland. It offers over a million products from seven hundred producers from all over

Europe. The way it operates has been recognised not only in Poland. WITKO can boast working in compliance with the ISO 9001 quality certificate and also belongs to the prestigious Lab Logistics Group, to which the company was invited in 2004.

In addition to commercial operations, the company also offers services – it designs and equips laboratories from the ground up. It not only takes care to use components that are best adapted to the customer's requirements, but also helps in all formalities necessary for such an investment – from initial analyses, through obtaining necessary approvals, decisions and permits, ending with supervision over the work.

“Thanks to this approach, our customers know that they're using solutions perfectly suited to their requirements, economical and safe. For them this is a guarantee of the highest level of construction optimisation. This approach means a laboratory can be completed faster and start earning,” explains Małgorzata Witkowska.

The company has a great asset that the owners emphasise at every opportunity – highly qualified staff. WITKO employs nearly 60 people. According to company data, 98 percent of them have a university degree and 9 are PhDs.

“Selecting the right staff is crucial, because our customers are specialists in their respective fields and require the same from sales representatives. This is not a typical commercial relationship,” explains Małgorzata Witkowska.



In addition to commercial activities, the company also offers services – from the beginning it designs and equips laboratories

GRANDCHILDREN AT THE HELM

WITKO is constantly evolving. Now its products can be bought online. Also, to further improve service quality, plans to build another warehouse are being hatched. The Witkowski family want the company to remain under family ownership and are already thinking about what it will look like when their grandchildren take over. ●



Foyer of the office at ul. Rozalii 1 in Lodz

Over 300 thousand products, 200 thousand customers in 140 countries and 10 subsidiaries, for example in Italy, Spain and China. This is not a futuristic vision of a global corporation, but the Lodz-based company Transfer Multisort Elektronik (TME), which specialises in the distribution of electronic components.

The company, founded by brothers Zbigniew and Adam Kuczyński, is now celebrating its 30th anniversary and is consistently developing. July 2019 saw the start of the construction of Greenfield, a highly specialised logistics centre with the capacity to dispatch 10 thousand packages per day.

FROM COMPONENT RECYCLING...

The idea for the business came about by accident, when the brothers' mother was in a hurry and bought a book about electric toys for Zbigniew's birthday. Fascinated by the subject, he began to dismantle electronic components from old devices and sell them at the local market. Since the business took off rapidly, Adam, the second brother, committed to it as well.

At the beginning of the 1990s, the men registered their company and began to build their position of a global leader in electronic components'

distribution. It was one of the first Polish companies to introduce a mail order system. It began exporting its products in 1994 and at the beginning of the 21st century. At present, TME not only sends approx. 5 thousand packages a day to 140 countries, but it also has subsidiaries in Europe and Asia. It plans to further develop sales in the United States, Australia and the United Arab Emirates.

These are demanding, but very promising markets, on which we have been operating for years. However, we want to strengthen our presence. We're also seeing constant growth in our activities in Europe and Asia, says Andrzej Kuczyński, board member of TME in charge of operations.

... TO AN AUTOMATED LOGISTICS CENTRE

At the moment, the company is using a logistics centre located at ul. Ustronna in Lodz. Despite its high level of automation, its 19 thousand m² surface area is being outgrown by the company's operations.

● TME SUCCESS RECOGNISED

- Finalists of the 17th EY Entrepreneur of the Year competition
- 2nd place in the “Most valuable family businesses in the Lodz voivodeship”, Forbes
- Three-time winner of the TOP5 Employers in the City of Lodz



Greenfield, chill zone

Therefore, in mid-2019, construction started on a new, cutting-edge logistics centre named Greenfield. A hall with an area of 54 thousand m² is to be built on a 15-ha plot in the Rzgów municipality. Upon completion of its final stage up to 2 thousand people will find jobs there.

The first stage of the investment includes the construction of a warehouse hall, which together with offices will have over 21 thousand m², explains Andrzej Kuczyński. Construction is expected to last until the end of May 2020, with the logistics centre starting operations a year later.

And even though the design itself assumes a high level of warehouse robotisation, with plans to achieve a 60 percent level of automation, it will also require specialised staff to operate the machines. The employment of approx. 500 employees is already planned at the first stage. As the company's management emphasises, Greenfield is not only a warehouse space, but, above all, a modern logistics and office space acting as a platform for co-operation between people and robots.

TME plans to use cutting-edge and often proprietary technologies, and ultimately introduce over 30 robots to facilitate people's work. In addition

to modern work posts, the employees will also have access to, for example, a gym, canteen or relaxation zones. The design assumes full automation and a wide range of facilities for our employees, assures Andrzej Kuczyński. These are modern interiors and pioneering technological solutions in the electronic components' distribution industry, because Greenfield is #MoreThanAWarehouse.

LOCAL SOLIDARITY

The company's owners focus is currently on implementing the investment in Rzgów. However, treating business as their life challenge, management is also open to helping those who undertake similar challenges on a daily basis. TME regularly supports athletes from Lodz. In recent months, it sponsored the trip of karate fighters from the KS Olimp Łódź sport club in the Youth World Championships in Chile. In addition, the company is a strategic partner of Dorota Banaszczyk, the world Olympic karate champion, as well as a titular partner of the TME GROT SMS Lodz women's team. In the latter case, TME supports the women's football team together with GROT and the City of Lodz. The sponsors hope that their help will translate into the team's successes in the Women's Ekstraliga (Elite League) and allow them to advance from the fifth place they reached in the last three seasons. TME's contract with UKS SMS Łódź covers the 2019/2020 season with an option to extend.

The company's sponsorship activities show that people are still its primary focus. Those working in the company and those fighting sports rivals.

Supporting young, ambitious citizens of Lodz on their way to success in sport has two sides. On the one hand, it enables them to pursue their passions and develop talents, while on the other hand their actions in international arenas promote Poland and Lodz in the world, explains Andrzej Kuczyński. ●

● GREENFIELD IN NUMBERS

Warehouse hall surface area: over 18 thousand m²
Administrative-social building surface area: 2,5 thousand m²
Technical building area: 1 thousand m²
Plot surface area: 15 ha
Final number of employees: up to 500 people
Completion of construction: May 2020
Initial launch: 2020/2021
Investment value: PLN 150 million

Next stages

Built-up area: up to 54 thousand m²
Employment: 1-2 thousand people, depending on the technology



BY MARZENA ZBIERSKA

Intoxicated with art

Life will soon flow back into the former Monopol Wódczany (Vodka Bottling Plant) building complex. The historic buildings of the old factory are going to become the Monopolis – a unique space with offices, commercial spaces, entertainment venues and culture. It will be a modern and inspiring place, but not devoid of the old vodka bottling plant's spirit.

The Virako company is the investor and owner of the building, while the Monopolis architectural design has been developed by Grupa5 Architekci. In 2014, the complex was made available for cultural purposes, with exhibitions and performances, concerts and film screenings, photo sessions and fashion shows filling the Monopolis event calendar in previous years. It was at the complex that Ryszard Horowitz and Arkadiusz Branicki had a photoshoot for the Virako calendar. The world-famous artist Brian Griffin also exhibited his photographs in Monopolis. Jerzy Stuhr filmed “Obywatel” and Jan Komasa “Miasto 44”. In addition, the stage saw appearances by stars such as: Monika Brodka, Krzysztof Zalewski, Nikola Lipska, Anna Serafińska and Zuzanna Pietrzak, the youngest Polish finalist of the Chopin Competition, as well as artists participating in the Jazzopolis project and Letnia

Scena Monopolis (Summer Monopolis Stage). And these are only some of the events that have been synonymous with the space for a long time, long before the post-industrial complex was officially opened.

The redevelopment of the facility started in the second half of 2017 and is planned to end in spring 2020. Virako's key intention for the project is to revitalise the historic factory buildings of Wódczany Monopol from 1902. Not only did the investor remember about the area's unique history, but he also took care to commemorate the former factory's rich history.

REDISCOVERED HISTORY

Monopol Wódczany is definitely one of the symbols of the industry in Łódź. It was the third largest factory complex after the plants of Karol Scheibler and Izrael Poznański. It achieved its greatest results at the end

of the 1970s. At that time it housed Poland's most modern laboratories for producing flavoured vodkas and five production lines. However, on 27 April 2007 the last bottle of vodka left the production line and on 1 June 2008, the plant ceased operations.

With at the start of construction at the beginning of 2018, the post-factory spaces are coming alive again, also in the memory of those Lodz residents who were somehow connected with the plant. Virako initiated three research projects aimed at improving the understanding of the plant's history and collecting souvenirs from the times of its greatness.

The first is dedicated to recreating the original architecture and vodka production technology. Its author is Bartosz Walczak, Eng. Arch. from the Lodz University of Technology. Under the second project, ethnographic and archaeological research is being carried out, objects, photographs and documents related to the functioning of the plants are being collected, and memories of former employees of the Polmos (Spirit production company) in Lodz is being recorded. The project coordinators are: Grażyna Karpińska, Prof. PhD, Aleksandra Krupa-Ławrynowicz, PhD, from the Institute of Ethnology and Cultural Anthropology and Olgierd Ławrynowicz, PhD, from the Institute of Archaeology of the University of Lodz. The third research project consists of architectural and conservation works prepared by Szymon Herman, MsC, Arch., Wojciech Szygendowski, MsC, Arch. and Bartosz Walczak, PhD, Arch. Eng. from the Lodz University of Technology.

“Nurturing the history of the former Monopol Wódczany factories is extremely important, also for discovering the industrial identity of Lodz. Their fate reflects that of the city – a great boom, but also a collapse of the industrial complex,” explains Krzysztof Witowski, president of Virako. “The collection of souvenirs and the entire research process, as well, have undoubtedly restored the memory of a part of our heritage that had been undiscovered until now. After all, the unwritten past of the company, the atmosphere there and the surprising stories are best known to former employees.”

A SPACE OPEN TO PEOPLE

The historic buildings have practically been completely restored and turned into comfortable work and leisure spaces. Modern offices are being created in the main building of the former bottling plant and in two new high-rise buildings.

“Monopolis will connect various areas of activity in a completely unique way. Next to the office part, spaces are being created for important cultural events, leisure activities and relaxation. Inspiring and friendly spaces. Ones open to people, residents of Lodz and everyone visiting the city” assures Krzysztof Witowski.

Right next to the modern offices, Monopolis will feature restaurants, cafés, wine bars, a kindergarten, a children's club and playground, as well as an after-school club, mini-park, library and city gallery. The cultural and recreational offer will include music events, exhibitions and theatrical performances held on two stages: outdoor and in a former spirit warehouse. In the latter, a two-level lobby will lead to a multi-purpose hall over 15 m high and equipped with 240 seats. The backstage and wardrobes are planned to be housed in rooms created using the latest technologies and located directly under the building. The theatre will be a multifunctional space, which can be rearranged for concerts, film premières or fashion shows thanks to the latest technical solutions, such as folding stands and stage.

The former flavoured vodka laboratory will house a bistro, while a swimming pool with fitness rooms and a gym are planned in the former Morsownia, which is where flavoured vodkas used to be produced. An important part of Monopolis will be a museum dedicated to the employees of the former Polmos (alcohol production company) and to vodka production technology.

“We aim to create a place not only for meetings, activities and events, but also for leisure. That's why we took care to arrange greenery, so that it would exist in harmony with the unique, post-industrial architecture. We designed a green square, which will create a space free of noise, conducive to rest and relaxation,” explains Rafał Grzelewski, chief architect at Grupa5 Architekci.

In total, Monopolis will offer over 24 thousand m² of modern office space, and 5.4 thousand m² of attractions for residents. The complex has already been commercialised. The first tenant is Clariant, a Swiss chemical company, which is consolidating its offices in Lodz and has chosen Monopolis as its new headquarters. Aleksandra Sowa will open Piekarnia Łódź (Lodz Bakery), combined with a restaurant and café, while Anna Rubaj and Artur Schutter will launch an original concept – a combination of a multi-purpose stage, restaurant, art gallery and store. ●



Visualization of cultural and recreational space



BY MARZENA ZBIERSKA

To taste diversity

A unique combination of the multifunctional Stage, ARTeria restaurant, the ARTgrafka art gallery and a shop with delicious food products imported from all over the world. This is meant to be a place of artistic meetings, inspiring us to travel and discover new tastes, and above all, to give joy. We're talking about ARTkombinat. It will provide its guests with unforgettable artistic and culinary experiences. In a word: a feast for the senses.

ARTkombinat is a joint concept of restaurateur Anna Rubaj and Artur Schutter, president of Lim8, a company responsible for the organisation and technical support of events.

"At first, we thought that we were both looking at the world from different perspectives, but it quickly turned out that these views complement each other and create a very interesting mixture. One day, we decided to combine our passions. Mine for gastronomy and Arthur's for creating great events," recalls Anna Rubaj.

The joint project will be executed at the premises of the former plants of Monopol Wódzany, where a multifunctional Monopolis complex is being built.

"We were looking for a place with good energy, here everything can be harmonized. The first thing thought of was Monopolis. From the very beginning, we knew that it was the best space to create a kind of hybrid: a restaurant, a stage, a gallery and a shop. We want ARTkombinat to be the heart of Monopolis and we appreciate the fact that we are free to do what we want here," admits Artur Schutter.

ARTkombinat will be a combination of a theatre called Monopolis Stage and a restaurant, which will be built in place of the former boiler room and will become the largest restaurant in the complex. It will be one of many culinary spaces planned in the Monopolis area, and it will be unique due to the diversity of flavours and sensations. ARTkombinat will welcome its



Visualization of the entertainment hall

guests with the completion of the first stage of Monopolis in the spring of 2020.

A SERVING OF SIMPLICITY AND GOOD TASTE

The ARTeria restaurant will not be limited to a single type of cuisine, although it will be dominated by South European specialities with elements of Portuguese cuisine.

ARTkombinat is a new quality in the culinary world. A combination of great passion for cooking and respect for art. It is a space where guests will be able to eat well, meet interesting people, listen to live music or watch an interesting exhibition. However, it is the taste that will be crucial to the success of the entire project. The dishes served by the ARTeria restaurant are to be characterized by simplicity but understood as an expression of originality. Here, you will find dishes inspired by travels and tastes from all over the world. As Anna Rubaj argues, the cuisine should be true, honest and not oversophisticated, and the dishes should be made from the highest-quality ingredients.

“There’s no place for compromises in this matter,” adds the coowner. “The chef, with whom we will cooperate, understands this philosophy perfectly and shares our approach not only to the culinary art. We want to inspire our guests to search and travel and make sure they always leave us with a large dose of joy. Create a place where one can constantly see this energy and variability. Our restaurant is supposed to be authentic, like bread and tomato. Evoke joy and inspire people to search for new flavours on their own.”

Anna Rubaj does not want to limit her menu to just one type of cuisine and she’s going to look for inspiration in different cultures.

“Of course, we do not shy away from Polish dishes. We value the fact that we are here because of our conscious choice. We live in Lodz, but we are also citizens of the world, so we want to give our guests a taste of diversity” she explains.

CULTURE LIKE AN EXQUISITE DESSERT

“Our inspiration is travel. We want to reflect the world both in the cuisine and in the art that will be present at the restaurant and at the gallery. We will take our guests to the places we ourselves visited. They will see images related to a given culture on the walls and they will be able to listen to music from different countries in the background. Our restaurant will be a window on the world, a mixture of cuisines and cultures,” concludes Arthur Schutter.

The idea of cooperation between a restaurant, a gallery and an auditorium is simple: people who come to a theatre, to see a concert or a film, will be able to visit a restaurant and spend time in a gallery. The creators of ARTkombinat will offer their guests thematic cultural and gastronomic trips, such as a Portuguese film in the cinema, Portuguese dishes in the restaurant, and late in the evening, a concert of Portuguese music. We also encourage external companies to organise concerts, performances, company and family meetings, trainings or exhibitions on our stage.

“We are creating a place where people can meet, see an exhibition or play on the Monopolis Stage, or read a book. Art will also be present in the restaurant because it will host exhibitions and live music,” says Artur Schutter.

“We work in many ways and cooperate with many artists. At ARTkombinat, we will organize performances, concerts, exhibitions and create independent cinema. Our repertoire already includes several great events, such as the performance of the Polish Dance Theatre “Żniwa” the concert of Mary Komasa featuring songs from her latest album “Disarm” and the band Happysad. The audience will see performances by Kamil Maćkowiak on the Monopolis Stage. This place will be teeming with life,” adds Anna Rubaj.

MENU FULL OF POSSIBILITIES

ARTkombinat is also a commercial space that can be rented for trainings, corporate events or workshops.

“There are many possibilities,” says Artur Schutter. “We plan to organize events, concerts, performances, lectures, and we don’t forget about our youngest visitors. Children will visit us during workshops and performances dedicated to them.

ARTkombinat is intended to be an open place for all those who are looking for new, interesting spaces to spend their free time with friends and family. Additionally, the Monopolis complex will offer a wide range of possibilities. Inside, we’ll find restaurants, a bakery, a café, a gallery and a museum. ●



BY KATARZYNA JÓŻWIK

Youth in Lodz – I've Got a Start-Up Idea 2020

The final gala of the “Youth in Lodz – I've Got a Start-Up Idea” competition took place on 11 October 2019. This year's edition was won by Akrimtech, a manufacturer of modern bioreactors for multiplying stem cells. Many other projects also received honourable mentions, including Runvido or FindAir One. The competition is organised by the Office of Economic Development and International Co-operation of the City of Lodz, which is already planning subsequent editions, full of exciting changes!

PROFESSIONAL BUSINESS SUPPORT

For many years, the “Youth in Lodz – I've Got a Start-Up Idea” competition has seen great interest from young entrepreneurs wishing to enter the market with an innovative product or service. The main reason for this is the unique competition formula, as the idea behind it is not only focused on competing for financial grants, but mostly on professional business co-operation. The primary goal is to provide innovative projects with a solid business base necessary for them to develop ideas.

“Over the past eleven editions we've gained vast experience within the scope of business support,” explains Renata Biadała, competition co-ordinator. “We work with over 60 entities interested in supporting start-up projects. The opportunity to co-operate with mentors with diverse

experience and qualifications allows us to help projects at a very early stage of development, as well as much more advanced ones.

What clearly sets apart the business support offered to participants is the selflessness of the helpers. The authors of innovative projects are in no way obligated to give shares in their company to potential investors or sponsors.

TECHNOLOGICAL PROJECTS...

A significant number of participants present innovative technological projects. One of them is FindAir One, the creator of the smart asthma inhaler, which is one of this year's winners. The start-ups team has created a special sensor that is installed in a pressure inhaler and collects data on device use circumstances. When the user feels worse and reaches for their as-needed

medication, the sensor collects information not only regarding the use of the drug itself, but also the situation that resulted in the patient's health deteriorating, e.g. the presence of an allergen, atmospheric conditions, air pollution.

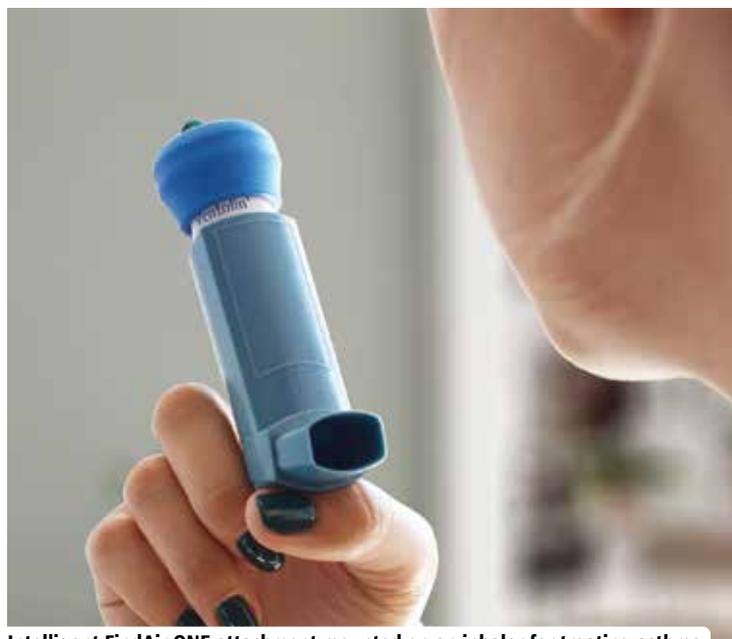
“When you have information about the conditions in which a sick person uses the as-needed medication, after some time it's possible to create a patient profile, which, in turn, helps to identify the factors that cause symptoms,” explains Tomasz Mikosz, co-founder of FindAir One.

The prepared profile is available in digital form in an application provided to the patient. The team-developed system is unique in the whole of Europe, which is why it was included in this year's edition of “Youth in Lodz – I've Got a Start-Up Idea”. Participation in the competition alone will not only promote the system, but also increase public awareness of asthma, which is crucial for the developed solution. The opportunity given to the team – to benefit from mentoring and numerous workshops – gave them valuable insights into possible further product development. All this translated into increased brand recognition on the domestic and foreign market.

...AND CREATIVE IDEAS

However, “Youth in Lodz – I've Got a Start-Up Idea” is a competition addressed to a wide range of beginner businesses whose added value is creativity. The best proof of this lies in the fact that another winner of this year's edition was Runvido, created by Natalia and Grzegorz Ciosek, which allows one to scan any photo and starts an associated video. The idea came about thanks to the many years of experience its creators have in marketing and printing, and responds to the requirements of the modern advertising market.

“As has been shown by interactive research, a video engages the user 16 times more and he or she is likely to devote twice as much time to this medium when compared to traditional marketing communication,” explains Natalia Ciosek. “A consumer with the Runvido application can watch a film on the product itself, e.g. on a cereal box or one containing furniture to assemble. Using the solution



Intelligent FindAir ONE attachment mounted on an inhaler for treating asthma

is also simple from the client's point of view. They just have to use a dedicated panel to upload the photos and videos that are to be launched during scanning.”

“The whole operation takes several seconds. From that point on, our system will play the same video every time it automatically finds the same reference marks in the graphics,” says Grzegorz Ciosek, President of the Board.

An extended version also allows geolocation to be used and the language version adapted to the user's needs. The application's creators decided to participate in the competition due to their links with the Lodz voivodeship. They especially appreciate the option to take advantage of individual mentoring, as well as the series of workshops and business meetings. Participation in the competition led to increased interest in the application on the local market.

TAILORED COMPETITION

The winners agree that “Youth in Lodz – I've Got a Start-Up Idea” is a great opportunity for fledgling companies to grow. They appreciate the chance to confront their ideas with market realities.

One of the changes made to the formula of next year's edition is the introduction of the project qualification stage. A personal meeting with creators will allow the real needs for support to be ascertained, allowing the organiser to better adapt the offer to a particular company.



Natalia & Grzegorz Ciosek, Runvido

“The competition is conducted with the projects and the greatest possible support for them in mind. That's why, in terms of training, we don't want to decide for the participants, but to meet their expectations head on,” explains Renata Biadała.

Since many ideas submitted to the competition aren't considered from a business perspective, the organiser has decided to introduce additional training in business model creation. The participant will decide whether to take part.

REAL BUSINESS DIMENSION

The main advantage of the competition is its practical approach to emerging business ideas.

“It's an ideal project for beginner start-ups, hungry for knowledge about how to run a business, search for customers and talk to them, as well as how to present a product or service to potential investors,” Natalia Ciosek enumerates. “During mentoring sessions, a business idea has the chance to confront the opinion of someone from the outside. Such a view often gives rise to new ideas, tips and opportunities

for using a product or service that the founders would never have considered.

The fact that over its 11 editions, 250 projects have become prosperous companies, leaders in their respective industries, is an additional incentive to participate in the competition. What's more, participants from just a few years ago, today act as mentors and business partners.

“I encourage everyone to participate, mainly due to the very large number of contacts that can be made over its course. Many projects in the competition have attracted investors because, as its organiser, we make great efforts to further promote them both nationally and internationally. Only this year, start-ups participating in the competition went on two economic missions to Israel and Finland, where they had the opportunity to conduct direct talks with potential business partners,” adds Renata Biadała.

The deadline for submissions for the next edition of “Youth in Lodz – I've Got a Start-Up Idea” 2020 is 17 March 2020. The winner will be announced during the final gala held on 16 October. More information about the competition is available on the website: www.startupy.lodz.pl. ●



Partnership- -based approach to business

The turning point in the career of Maciej Gałeccki, the founder of the Bluerank Agency, came when a part of the responsibility for the company was transferred to his colleagues. Today, he knows it was something good and intends to continue managing the agency in a flexible manner, meeting the needs of the market, while ensuring the company's growth and, most importantly, that of the employees. He talks with Anna Krawczyk about changes in the company.

Maciek, let's start in an unusual manner...

Ok. (smile)

If you could define yourself as a leader by reference to an animal – which one would you choose?

And why?

Hmm... an elephant. First of all, because of their wisdom, although this may not come off as overly modest. This wisdom, or rather intelligence, manifests itself in taking prudent actions and a lack of spontaneity, but in a positive sense. I'm more of a researcher myself and analysing is closer to my heart, which favours rational decisions.

And the team?

Two months ago, we conducted an organisational culture study. Out of the 16 dimensions, most of the team favoured a risk averse approach. This showed two things, thought-out decision-making and open communication with employees, translate

into their opinion of the company. This makes me happy, because the traits and behaviours most in line with mine determine the company's organisation and culture.

During discussions you often emphasise the importance of employees in your organisation...

Bluerank's greatest and only asset is people. All our past and future achievements are thanks to our employees' intelligence. We're fully aware of this, which is why at the recruitment stage we try to not only find out about the candidate's skills and competences, but also their potential, interests or preferences.

Sometimes, when we meet a candidate, we offer them a job in a different department, with a different set of tasks and responsibilities for the future. Such a long-term perspective on employee development brings them the most value and satisfaction, and also benefits the company.

The open communication you mentioned also applies to remuneration...

We disclosed our salary ranges, so a person interested in working in our company knows what to expect, not only on the day of employment, but also in the coming years. Believe me, this means less frustration and dissatisfaction. Meanwhile, less

○ **Bluerank's greatest and only asset is people. All our past and future achievements are thanks to our employees' intelligence**



Team work, from the left: Maciej (CEO), Alicja, Wiktor, Jan, Alicja

of those means less employee turnover and time-consuming repeat recruitment. This way everyone benefits, because employee satisfaction translates into work quality.

Bluerank is a business partner of the largest companies in Poland and in the world, creating and implementing Internet marketing strategies. It has over 100 employees and specialises in online campaigns (SEO/SEM, Google Marketing Platform, social media, social ads and using web analytics for business development).

It has received the greatest number of honours among Polish agencies at the prestigious European Search Awards. In 2016, Google awarded the company the title of the best agency in the EMEA region.

In October 2019, the company received another four awards in the “Performance Marketing Diamonds” competition. The Agency of the Year title, the Grand Prix for the SEO campaign for DOZ, main awards for paid social media campaigns for Promedica24 and SEO Emergency Quest for DOZ. The competition is organised by the Chamber of Digital Economy and aims to show appreciation to people, brands and companies with extremely effective marketing activities on the Internet.

The intellectual value of employees is our asset. Here, nuances matter, as they're increasingly important in providing higher quality, on which we're building our competitive advantage, after all. I'm talking about chemistry between people, team relations, openness to conflict resolution, without creating unnecessary barriers. Communication is the foundation for a properly functioning company. A good atmosphere in the team means that people focus on work and are more creative, which translates into quality.

Such creativity has recently led to the laudable “Give up plastic” initiative. Who was responsible for this campaign?

“Give up plastic” is a grassroots initiative spearheaded by Marta Bukowicz, who’s in charge of social media. Other employees also joined. As the management board, we're aware that not everything in the organisation can, nor should, be in our hands. We realised this long ago. Every bottom-up initiative, as long as it's rational and logical, gets our support. We want actions to follow an idea. Effects and successes drive further action, provide courage to

Marta Bukowicz, social media specialist, originator of the “Give up plastic” campaign

The idea for the “Give up plastic” campaign came about one day, while I was eating a meal with other employees. We usually meet, several dozen of us, at lunchtime (over a hundred people work in the company and even more in the entire office building). I realised that catering suppliers often add plastic cutlery to meals and we don't need these. So, we began work to persuade suppliers not to add them to orders. We wanted to reach out with our idea, so we came up with a humorous spot in which our boss Maciek Gałeczki plays the role of a sheriff. Armed to the teeth with metal cutlery, he declares war on Disposable Damien, whose weapon is plastic knives and forks.

The western-like scene is played out in the Open-air Museum of Wooden Architecture in Lodz and aims to encourage other Polish and European agencies to participate. Bluerank is the initiator of the CEE DA, i.e. an association of 15 leading premier partner agencies from Central and Eastern Europe. The partnership includes agencies from Bulgaria, Croatia, the Czech Republic, Greece, Germany, Romania, Slovakia, Slovenia and Hungary, and they can promote the campaign in their countries.

Data from the European Commission shows that plastic production in Europe has increased more than 200-fold in the past 60 years! Every European produces approx. 30 kg of plastic waste annually and 8 million tonnes of this material end up in the seas and oceans every year, where they take one hundred to a thousand years to decompose.

According to PizzaPortal.pl, the online food delivery market is growing at a rate of up to 50 percent year on year, and its value in Poland reached PLN 1 billion. This shouldn't be surprising, since as much as 86 percent of Internet users declare they order food, at home or work, for example.

Just imagine that every month, thousands of pieces of plastic cutlery “pass” through a medium-sized company, while they could be omitted.

If plastic cutlery is attached to orders, our employees put it in special boxes. Later, we'll then hand it over to the St. Brother Albert Aid Society in Lodz, which runs shelters for the homeless. Over one thousand people take part in the Christmas Eve organised by the Society. In addition, a special bus will be running from 15 December to the middle of March, in which those in need will be able to eat a warm meal. The disposables cutlery will be used during these and other events.

grow and help build self-esteem. All this translates into projects, communication with customers and colleagues. Luckily, even though perhaps not quite consciously, the assembled managers are persons without authoritarian tendencies, so they don't feel like they have to decide about everything. So we have no qualms about handing over power, agency and decision-making to others. We work with people who are good people and employees, and their decisions are right and appropriate.

Does this mean that you'll be moving towards what's called a teal organisation?

I'm not convinced of this type of management. At present, holacracy is closer to our hearts. This entails changes that have already begun and will be finalised in February, when we move to the new headquarters.

What will these changes consist of?

Bluerank is consistently growing. Since the start of the company 15 years ago, each subsequent year has been better than the one before. We don't have any problems, but I felt that what we were doing will run out in a few years. So, two years ago we decided to reorganise the company. Instead of suddenly hitting a wall, we decided to look for new spaces now.

Literally and figuratively...

The reorganisation will be completed on 1 February, once we move to the new office. We're handing over a lot of autonomy to groups of specialists, which we refer to as partner teams. We currently have 10 departments, each of which performs its services for individual customers. Several departments often work with one company. Customer-side communication varies, but it can usually be significantly improved and facilitated. That's why we chose one person from each department and formed a highly autonomous team. It works with the customer as one entity.

What does the customer gain? What about the employees?

Customers gain service of a complementary nature, because decisions are made between the team and the customer. We want fewer and fewer matters to depend on our managers. Therefore, team members, with the support of the HR, marketing, accounting and IT departments, will be in charge of cost estimates and business terms. We want as many decisions as possible to be made by partner teams, because they have direct contact with customers and know what they need, what service they want to buy, and in which direction the market is heading.

Our goal is for employees to feel like they are a company within the company. Each team works its own profit and loss account.

We'll observe how the new approach works and then think about scaling.

Thank you for your time. ●



Aleksandra Grzelczyk and Magdalena Kalinowska

BY KATARZYNA JÓZWIK

Artistic paradise

Their furniture is a combination of unique design, craftsmanship and creative expression. Art Paradise, run by the Celeste Foundation, promotes the artistic activity of extremely talented people, including people with disabilities.

The following people oversee the project: Michał Woldan – President of the Foundation, Magdalena Kalinowska – Head of the “Good Start” Vocational Development Centre of the Society of Friends of the Disabled and Aleksandra Grzelczyk – store manager.

ORIGINAL FURNITURE AND ACCESSORIES

Art Paradise offers a wide range of artistic craftsmanship products. The studio’s portfolio not only includes furniture that harkens to Louis Philippe and Provence styles, but also original ceramics, paintings and accessories. These objects combine an unusual style and unique workmanship, which is an expression of artistic passion.

“We are a group of professionals and enthusiasts who are boundlessly committed to what they

believe in. We strive tirelessly to achieve our goals,” admits Aleksandra Grzelczyk, “we make up an interdisciplinary, harmonious team of people who share a passion and love for art.”

The studio specializes primarily in the renovation and styling of furniture. Although the restoration of such objects requires a lot of work and precision, the end result compensates for all the effort. In addition to the satisfaction resulting from the creation of unique items, the added value is the creation of a new practical purpose of old and sometimes forgotten furniture.

“Thanks to renovation and styling, the furniture receives a second life, regains its former beauty and functionality. We are currently providing several such services and more orders are waiting in the queue,” admits the store manager.

SECOND DIMENSION: ASSISTANCE FOR THE DISABLED

Art Paradise's activity stands out because the company works with people with disabilities. The studio cooperates on a permanent basis with the "Good Start" Vocational Development Centre in Lodz, which employs about 40 people with disabilities, primarily struggling with mental illnesses, mainly schizophrenia. Art Paradise offers support for people of all abilities. Patients work not only in painting, handicraft or woodworking studios, but are also responsible for the organization of the studio's operation (e.g. cleaning staff). The Foundation aims not only to stimulate the vocational activity of socially excluded people, but also to increase social awareness and sensitivity with respect to people with disabilities.

"Such people are often marginalized or even excluded from society. Ill people who do not have the support and motivation to fight for a better life feel worse, unwanted and rejected by the community," emphasizes Aleksandra Grzelczyk. "We believe that by saving old furniture, we also save the lives of people with disabilities who are very much in need of our helping hand. The work that develops their talent and enables them to gain new experience, integrates them into society."

The patients themselves often learn about job opportunities in the institutions and hospitals in which they are treated.

The studio does not limit its social activities to the vocational activation of employees of the "Good Start" VDC, but also participates in other projects, such as the Gala of Socially Involved Entrepreneurs.



The studio's offer includes furniture referring to the Louis and Provencal style



Magdalena Kalinowska, Head of the "Good Start" Vocational Development Centre of the Society of Friends of the Disabled:

Working at Art Paradise is very important for extremely talented artists, including people with disabilities and mental illnesses. Unfortunately, people struggling with schizophrenia are often stigmatized by society, resulting in their isolation and exclusion. Vocational activation in an art studio not only gives them a job, but above all an opportunity to return to normal life. Despite their illness, we do not treat our employees in a special way. They also often do not want us to treat them preferentially. They want to work and live a normal life. Art Paradise gives them that opportunity. Patients not only gain experience, but in many cases they can also develop their talents. The more so because there are particularly talented people or graduates of art schools among them. Thanks to our studio, they can fulfil themselves, promote their work and earn their own living. This results in them beginning to live normally.

ARTISTIC SPACE CREATORS

Art Paradise also aims to promote artists and art. Their sophisticated furniture can be admired in restaurants such as Powidoki or Filharmonia Smaku. The studio has also established permanent cooperation with the Grand Theatre in Lodz, the Kamil Maćkowiak Foundation, the seat of the Society of Friends of the Disabled and the Double Tree by Hilton and Ambassador Premium Hotels.

"Art Paradise is a unique place where craftsmanship meets artistic beauty. We want to present the talent and creativity of extremely talented people. Thus, we want to reach the widest possible audience, promoting culture and art at the same time," stresses the store manager.

The studio wants to continue its development. It is looking for artists and craftspeople who would like to promote their works, as well as employees willing to work in positions such as carpenter and hall coordinator. The studio also plans to expand the store's portfolio and develop its social activities.

"Our goal is to promote artistic craftsmanship, engage in continuous development, improve our skills and create activities to help people with disabilities," admits Aleksandra Grzelczyk. ●

BY MALWINA WADAS

Loving trash art

Anna Becherka's workshop in Art_Inkubator is where things intended for the trash bins, seemingly no longer needed by anyone, worn or damaged, are reborn. They become works of art and everyday objects. Bechann is a company that even places its own logo on a recycled cable.

At what stage was the Bechann brand when you came to Art_Inkubator to participate in the resident recruitment?

I had previously worked in managerial positions in large corporations for twenty-some odd years and taught management at the University of Lodz. In addition, I have always been interested in interior design or changing the function of various objects, mainly furniture and clothing, but I never saw this as a viable profession. Later, as an adult and with a strong professional position, I started postgraduate studies in interior design at the Academy of Fine Arts. It's there that I came across classes on creative material processing and discovered that what had been my passion for years could be more than a hobby. Encouraged by the university, I submitted my works to the "Eco Made Festival 2016" competition and, to my surprise, I won. This came as a total shock! I worked in a corporation for a while longer, but I was developing my passion at home and finally started thinking about establishing my own business. I remembered about the Art_Inkubator and waited for new resident recruitment.

You're known for using cables in your work. Where did this idea come from?

From the very beginning, discarded cables were my material. I've been fascinated by them for several years. I gradually discovered their structure, plasticity, variety of colours and details.

I also noticed that they are a great means of expressing my emotions and thoughts. The works I create art reliefs and each has its own story, which I want to share. However, what's most amazing about them is that they stimulate my customers' imagination and sometimes they see something completely different in them.

At first, the forms were not overly complex and the images were small, also due to the amount of material I received, mostly from my friends. Later, it

turned out that one large picture, 60 x 60 cm, requires several dozen metres of wire. So, I decided to look for a place where I could get old cables and went to recycling centres. The gentlemen working there didn't really understand what I wanted to do and why I might need such raw material. When I explained what my intentions were, they took me to a 100 m² warehouse... On the one hand, my heart rose with joy when I saw the great amount of cables that I could use for work, but on the other, I was terrified by the huge amount of waste that we produce. I wanted to give them a second life.

You didn't stop at reliefs, as accessories and jewellery came later...

When I was making my images, I had cable ends left over, which I wanted to use. It turned out you can



make jewellery from them. After I make my reliefs, a whole bag of trash transforms into just a handful. I repurpose it all the way. What remains from one job, I use for something else, in line with the Zero Waste initiative. In addition to jewellery, I have also made lampshades and recently used cable ties to build a prototype bag, with even the logo engraved on an old, recovered cable...

What are your plans for the future of the Bechann brand?

I plan to enter the market, recognise various possibilities and take advantage of the enormous potential of Art_Inkubator. My idea for additional brand development is to organise workshops for adults that will remind them what handicraft is. We have forgotten that we can do things ourselves, that it's a form of relaxation, as well as an opportunity to talk to other people and to make contact with the material. Workshops for young people are currently ongoing and during them I show and teach the participants how unnecessary and used items can be repurposed, giving them new functions. We're working with a group of high school students on re-using cellular phone cameras.

My dream is to create a repurposing academy, i.e. a company, certainly not a one-person operation, that would create new things from old ones. One day I'd like to start a large company that would sell Polish recycled items around the world, giving them a completely new value. I believe that processing and transforming old objects into new ones is our national asset. From generation to generation, we've been told that we can and we know how to sew ourselves, knit beautiful sweaters or paint walls in our homes. This was due to the 1960s or the 1980s, when sought after products were inaccessible. The ability of Poles to transform in many creative areas is so obvious that we hardly even notice it. I would like to put this asset to good use in creating my Bechann brand.

Where can we see and buy your work?

I launched a website, which shows some of it, but this is not an online store. Since I create short series and each item is unique, I encourage you to see them live. You can meet me at fairs, but most importantly, just come to my studio at ul. Tymienieckiego 3. I'm there every day, sometimes also on weekends. I invite everyone to come and visit!

Thank you for your time ●



Maciej Trzebeński, Director of Art Factory, Head of Art_Inkubator

Art_Inkubator has changed a bit during the five years of its existence. Formalities related to the recruitment of residents are one thing that has evolved. The open recruitment system is a new idea. During the last registration, it was necessary to apply not on one specific date, but at any time between March and November 2019. This meant that the candidate for a resident could submit documents at a time that suited them best. There were also differences in the way the application documents were submitted – via Google Docs and not in paper form. The interview with the future resident was a very important step. We acquired the most information during these meetings, not from the form.

Since the inception of Art_Inkubator, 71 companies have incubated in it. They included graphic designers, fashion creators as well as architects, craftspeople, photographers and film producers... One could say that Art_Inkubator is multifunctional and multiindustrial. It's not a monocultural form of activity that currently brings 27 residents and companies together.

The diversity of the residents and their businesses entails the existence of different objectives. We try to respond to them, often creating solutions tailored to these needs. Art_Inkubator offers comprehensive support for businesses in the creative sector. We provide location-related support by providing studios, offices and galleries; and we provide substantive support by organizing workshops, meetings, consultations and by offering mentoring and legal and accounting support. Furthermore, we are involved in the promotion of our residents' activities.

To be a resident means to run a business in the creative industry, the scope of which is included in Art_Inkubator's Rules. At the same time, being a resident means operating in Art_Inkubator – participating in training courses, lectures, forming a part of the community at ul. Tymienieckiego 3, cooperating with other residents... It's also a prestigious distinction that one can operate as part of Art_Inkubator, take advantage of the opportunities it offers, while co-creating it at the same time. The residence is an attempt to face the challenge of entrepreneurship and running a company in a particularly friendly laboratory. Later on, the resident has to transform themselves into a 100% entrepreneur and start operating under normal market conditions.

BY PRZEMYSŁAW GRZYB

Dreaming of a potato

What do you need to make a film? Many will probably say gear, a large crew and adequate space. This is all true, but ideas and talent are also somewhere at the start of this journey. They allow the boldest and most original projects to be born, regardless of whether we're talking about a Hollywood production or a brand promotional film. If you add some charisma and business skills to these two qualities, you can try to turn your passion into a way of life.

Paweł Klepacz, a student at the Lodz Film School and founder of Potato, a company that creates custom-made films chose this very path.

USEFUL AND NICE

Paweł Klepacz has been combining Film Editing studies at the Film and TV Direction Department of the Leon Schiller Lodz Film School with the work of a freelancer on many commercial film productions since 2014. However, even then he was thinking of working on his own, independently.

"I began to implement my dream of many years, which was to open a small studio producing short films," explains Potato's owner. "In business, I want to combine the usefulness of my productions for such purposes as promotion or advertising with artistic and visual value of the highest calibre."

TIRELESS WANDERER

It is in these circumstances that Mr Potato – the brand's face, synonymous with the company and personifying the way Paweł Klepacz wants to run his business – was born.

Mr Potato needs a bit more attention because he makes it easier to understand the philosophy Potato's owner wishes to follow. In a short note on Facebook, Mr Potato is described as a tireless wanderer who "(...) wanders along his own paths in search of amazing



Paweł Klepacz, Potato

products and their creators. Regardless of what fairy tale or world someone comes from, Mr Potato cares how much heart they put into their endeavours." It's easy to deduce from this that Paweł Klepacz sees creating commercial films as something more than just a trade – it can come close to art or even be an art in and of itself. As long as the two co-operating parties manage to reach an understanding and are aware of the needs and expectations.

UNDERSTANDING THE RECIPIENT

Fortunately, more and more contemporary marketing and promotional campaigns are based on something more than just a crude advertising message. Brands and companies are increasingly more aware that more is needed to attract the attention of potential customers. There are many ways to do this. Some concentrate on telling and showing touching stories, and others seek to bring a huge smile to their faces – there's complete freedom in this respect. However, there's no doubt that aside from careful market analyses and the understanding of a spreadsheet, contemporary marketing also requires a keen eye and artistic craft. And this is precisely where Potato's founder sees his chance for success.

"Advertising drives trade and film is one of its most effective forms. It's important to know how to present



Still from the Shinto movie trailer: Kami No Michi, produced by Potato, Japan 2019

yourself and using film allows one to intrigue and show oneself from the best side,” he explains.

500 HOURS PER MINUTE

Small-scale film production is currently undergoing a great revival and the potential that Paweł Klepacz wants to exploit with his Potato brand is simply difficult to imagine. All this because of the Internet and the opportunities it offers. Now everyone can produce their own film and show it to the world. According to Google data, more than 500 hours of new video appear on YouTube... every minute. On the one hand, this shows how popular all visual materials are, but on the other hand, it raises legitimate concerns that it's easy to get lost somewhere in the crowd. Not only do you always have to stand out, work on your craft, train and educate yourself, but the films presented, even spots a few or several dozen seconds long, must be refined down to the smallest details. Paweł Klepacz is aware of this.

“I have over 100 completed projects, but none of them meet my current standards, which is why I'm creating a completely new portfolio,” he explains.

RED BRICK SCENERY

At present, Potato uses the Art_Inkubator in Lodz as its headquarters. It's primarily a place for work, but the support on offer in the Art_Inkubator extends far beyond that. For example, the institution offers its “pupils” training in business models, law, promotion of their own business or new technologies.

“I think that such initiatives are absolutely necessary in artistic industries, which find it decidedly more difficult to operate on the market. Even if someone is a good specialist in their field,

it doesn't mean that they know how to acquire customers and do business,” says Potato's founder.

Paweł Klepacz sees great value in the fact that there are networking opportunities with representatives of various industries, potentially leading to business projects in the future. He also doesn't forget about the unique interiors of Art_Inkubator.

“These are renovated red brick factories with modern styling and glass-covered walls. Conference rooms, halls with pillars and lots of visually attractive spaces, which are certainly interesting as scenography for movies or music videos,” he explains.

THIS IS JUST THE BEGINNING!

Potato is just setting off on its great journey. Its founder himself thinks that a lot of work is still needed for it to operate at full speed. He managed to obtain an EU subsidy allowing him to purchase the necessary equipment. A website where everyone will be able to see his offer and completed projects is another of his projects. He's also very active on social media, with posts with Mr Potato being recognised on Facebook and Instagram. Expanding his team in the future is also on his mind. Paweł Klepacz doesn't try to hide that starting his own business caused him great anxiety and uncertainty. He hopes, however, to achieve success thanks to the strong demand in this market and appropriate support.

“Art_Inkubator will allow me to experiment, use free spaces, gain experience and consult with people more knowledgeable on the business side of things,” he sums up.

More information about Potato's projects is available at www.potatofilm.art. ●

BY MALWINA WADAS

Onions, milk and games – meet OnionMilk

It's hard not to notice them. Rafał Romanowicz and Maciej Nabałczyk dress in white from head to toe for all their official trips. Sometimes you can't see their faces because they're wearing pigeon masks. The unusual name of their company, OnionMilk, also leaves no doubt as to its founders' imagination. Add the passion they transform into business, creating engaging virtual computer game worlds day after day to this, and you will want to get to know them better...

To better introduce their work, you need to enter the virtual world, as OnionMilk is an independent team that creates PC games with low poly and retro graphics. They have been working on the Dunrog project, which they intend to release in about six months, for two years now. They have been residents of Art_Inkubator for several weeks.

DÉBUT WITH A GREAT WOW!

The brand's co-founders met in the IT class at the KEN Polytechnic School Complex No. 9 in Lodz. It was then that they began to attend Grakademie ("Gamedemias") – events during which games were studied as a cultural phenomenon. They also got hooked on programming and the technical aspects of what makes a game, so they began to visit the game jams and got to know the programmer and player communities. When mandatory work experience internships were announced in their third year at the school, they contacted Michał Staniszewski, the creator of Plastic, who they had met a bit earlier and who was then coding the game Bound for the PlayStation platform. Their learning and passion were not in vain – they entered the "Team Creation of Computer Games" competition organised by the Lodz University of Technology already in the fourth grade of their technical school. They obtained permission from the competition board to participate despite not yet being students and, therefore, also not from the University of Technology itself, and they placed... first! Yes, one has to admit that the OnionMilk team started their adventure with the world of games with a definite WOW.

PROJECT: DUNROG

"The world is falling apart. The Evil Mage Generator wants to destroy everything and you have to stop him. Travel through mysterious portals to dangerous locations, face the Generator's monsters, find his hideout and stop him from completing his dastardly plan. The gameplay in Dunrog mainly consists of traversing subsequent levels, collecting items and fighting monsters. You can find one-of-a-kind swords, clubs, bows, crossbows, magic runes and much, much more, and then use them to cut your way to the next location". This is how OnionMilk describes the story and basic premise of Dunrog in official materials. However, before you can play it, work on it must end.



OnionMilk, from the left: Dominika Kmieć, Maciej Nabałczyk, Eliza Małecka, Rafał Romanowicz, Karolina Witek, Paweł Kabziński

“The project currently includes all the basic gameplay mechanics, as well as several generated environments, such as a dungeon, maze, cave, sewers... The multiplayer is under development. We've just started working on creating the game's story mode. We're actively working with our testers to find and fix errors,” OnionMilk's founders describe their progress.

What will make this game different from all the others is: a graphic design based on “marching cubes”, which has never been seen in games before; unusual mechanics and procedurally generated worlds (the creators ensure that there will be over 18 trillion combinations!).

A GAME TEAM

Rafał Romanowicz is the main programmer at OnionMilk. He's responsible for the production's programming core, including the multiplayer mode, mechanics and tools. Maciej Nabałczyk is a programmer and animator, and he's responsible for user interfaces, the website, artificial intelligence of opponents, mechanics and level design. These are two very important people, but not all involved in the project. At present, OnionMilk consists of four more people: Paweł Kabziński, Dominika Kmiecik, Eliza Małecka and Karolina Witek. In addition, all projects involve testers (subsequent projects are checked by 23 people), as well as translators into German, French, Spanish and English. On the one hand, such a large team is proof of the multi-stage nature of projects that OnionMilk is attempting and, on the other hand, the level of professionalism of the work. The company's founders emphasise, however, that while they take the projects very seriously, a relaxed atmosphere improves productivity.

“We usually quickly discuss key matters and tasks, only to later complete them with the music turned on, joking, watching memes and talking... We're not really one of those teams that work in silence and seriously. We like to mess about, tease each other, as it relaxes the atmosphere and means that we're not only working in a pleasant environment, but also more efficiently,” the OnionMilk team explains.

REAL PLANS FOR VIRTUAL WORLDS

“We try to make it so that our productions can be completed within a maximum of 2 years. Once one project finishes, another one comes along, and then another one,” Rafał Romanowicz explains.



Welcome screen in form of menu and players avatar in the game Dunroq

The team completed Pigeon Fight, their previous large project, in mid-2017. In the second quarter of 2020 OnionMilk plans to release the PC version of the game on the Steam digital distribution platform.

“We're currently conducting talks with several investors interested in our achievements and co-operation. We plan to obtain publisher support for our project. Our plans are not only related to completing and providing further support for Dunroq. We also have some ideas for subsequent productions,” says Maciej Nabałczyk.

Both residents admit that they see Art_Inkubator's support as a significant step towards achieving these goals.

RESIDENTS IN THE GAME

The fact that the OnionMilk team now resides at ul. Tymienieckiego 3 is, of course, not a coincidence. They convinced the committee to them and their idea, and then successfully completed their recruitment interview. However, it's difficult to deny that this story is proof of the existence of an invisible network (not only a virtual one) of similar people. People who are attracted to a place like this, one that cares and draws creative businesses. Indeed, OnionMilk's founders learned of Art_Inkubator not from posters or the Internet, but from friends-residents participating in the previous recruitment – Łukasz and Kamil Spierewki from Afterburn.

“The decision to apply to be Art_Inkubator residents was closely related to our belief that games can also be an art form. They combine a narrative, a story, something we all know well, with images, animation and direct interaction with the work. We believe that games will permanently become part of history as a form of artistic expression,” says Rafał Romanowicz, sitting in the building at ul. Tymienieckiego 3. It's here that the OnionMilk team meets and works, not online. This is where colleagues look at each other without screens and speak without using instant messaging. ●



Architect Katarzyna Galicka-Szer, creator and designer of the MIOOU brand and Tula model and tester

BY MALWINA WADAS

MIOOU – design (not only) for cats

The MIOOU brand creates furniture for cats. No, you read that correctly, this is furniture primarily for animals – after all, everyone knows that it’s not a human who has a cat, but it’s the cat that has a human!

Inspired by the needs of her pets, architect and aesthetician Katarzyna Galicka-Szer, created a designer brand of furniture, including houses, tunnels, posts and scratchers that appeals to both cats and people. This recognition is evident in industry awards as well as in the transformation of design experiments into a thriving business.

LOVE FOR DESIGN, LOVE FOR CATS

The pets of the brand’s owner were the inspiration for designing furniture for animals:

“Tito, Tula and Lila are my three great adopted cats. However, as it happens with cats, they are occasionally mischievous, and their mischief can be troublesome for our furniture at home. I didn’t want to fight feline instincts, so I decided to satisfy their need to scratch while protecting my home appliances.”

Katarzyna Galicka-Szer appreciates modern design and likes to combine aesthetics with functionality. She hasn’t found anything in pet shop product ranges that would meet her requirements. So she decided to design her own scratching furniture that would be beautiful, ecofriendly and, above all, made for cats. The MIOOU project was created out of momentary need, a love for cats and beautiful objects, and care for home furniture.

“I thought that since my three cats were so enthusiastic about what I did for them, why not share my work with other cat owners?” she summarizes.

SUPPORT IN BUSINESS

MIOOU has been a resident of Art_Inkubator for several months now, which the brand’s owner had been watching closely before.

“I knew Art_Inkubator and I knew that it’s a very interesting place in Lodz where many artistic and cultural events take place. I often participated in meetings organised at ul. Tymienieckiego 3, so as soon as the new recruitment was announced, I didn’t prolong my decision. I applied, passed the interview and found myself in the honourable group of residents. It’s a perfect place for artistic activities which offers support in the form of prestigious space and interesting training courses and workshops. However, what matters most to me in Art_Inkubator are the wonderful people. They can’t be replaced by anything,” says the owner of MIOOU.

Tula provides invaluable support to the artist, being a quiet (or rather purring with appreciation) tester of all projects:

“The adopted Chartreux takes an active part in my work, ‘checking’ every single item I make. With her presence and commitment, she gives me great satisfaction from what I do because I can see how much she likes MIOOU furniture, even when it’s unfinished. To put it simply, she goes inside a given piece and can’t wait until it’s ready. And she has to sit, at least for a moment, on every package that’s packed and ready to ship.”

A CAT’S PERSPECTIVE

How do you design for cats? The answer is simple: by first and foremost considering their preferences and needs (not human ones)!

“Cat owners know perfectly well that these animals love cardboard, especially empty boxes, which they enter with great pleasure. They also love felt since it’s similar to furniture upholstery materials. Knowing the behaviour of my cats, I combined the materials that attract them and designed a cardboard cube covered with felt. And that’s how the multifunctional scratching furniture piece was created. My work was immediately appreciated by my cats. They quickly learned that this piece of furniture is only for them and they will not be chased away if they scratch it,” says the project’s initiator.

So far, the architect has designed three pieces of furniture for cats: a house, a tunnel and a post. They are all made of the same materials – cardboard, felt and jute cord – but differ in the number of possible applications.

“The house is for those who love to hide, the tunnel for those who prefer to have more open space around them, and the post for those who aren’t likely to enter a closed space. As a result, cats receive furniture tailored to their nature,” adds the owner of the MIOOU brand.

FURNITURE TAILORED TO FELINE AFFAIRS

Cats don’t need a MIOOU furniture user manual because they know how to use it right away. The house also serves as a playground: the jute cord – which is a carrying handle – is a chew toy as well. The openings at the back encourage cats to stick their paws inside and grab their toys. They can scratch the piece from any side and in any position. They can also rest by lying on the piece or hide inside it. The transparent side walls make it possible for the animal sitting inside to observe what is happening outside while remaining hidden. In addition to design and functionality, quality is very



A wide range of ecological MIOOU furniture will satisfy different tastes

important to the designer – all the furniture is firm and very durable.

“Of course, I cannot guarantee that the item will not deteriorate over time, especially since it’s designed for our cats to satisfy their scratching instincts. I think, however, that the durability of my furniture is evident in the fact that my first prototype of the house has been used by three cats for almost three years. It has been used extensively every day and not only does it look good, it still makes my cats happy from head to tail,” explains Katarzyna Galicka-Szer.

(NOT ONLY) CATS LIKE MIOOU

All furniture with the MIOOU logo is handmade, with full attention placed on the aesthetics of workmanship. Also its colours – grey felt, natural light beige cardboard and jute rope, contrasting red – are selected so as to easily match every interior of a modern room. The designer wants her furniture for cats to be used by people as well: as a table, footstool or storage space for small items or newspapers. She tries to make them give character to interiors. This was appreciated not only by her residency at Art_Inkubator, but also during this year’s Elle Decoration Polska “Youth, On Your Mark” competition as part of the Gdynia Design Days, where MIOOU was one of the winners.

“Awards and positive customer feedback on MIOOU furniture give me the energy to act and encourage me to create new projects. I love videos of animals trying my products for the first time” adds the designer.

Among her plans for the future, the brand owner lists the further development of the MIOOU portfolio and entering foreign markets. She has already had her first successes in this field – her furniture for cats (and people) has sparked interest not only in Poland, but also in Sweden and France, where handmade, ecofriendly and designer objects are particularly valued. ●

BY MARZENA ZBIERSKA

Full speed ahead! Mandoria on the horizon!

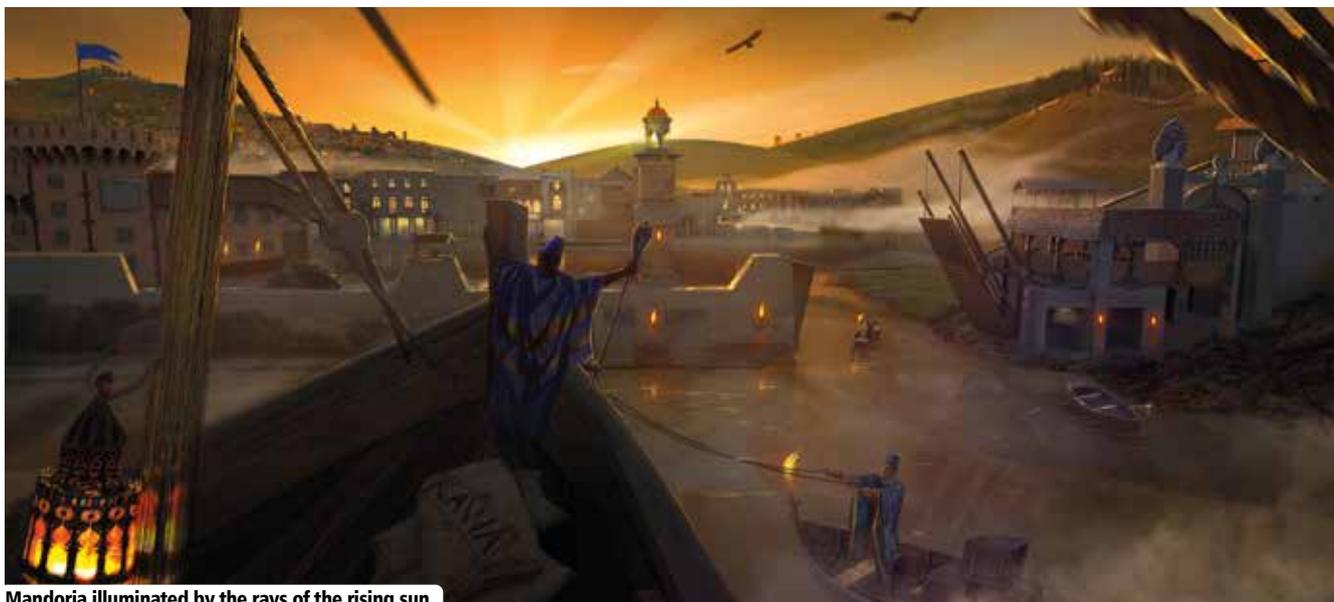
A city with sixteenth-century music, inns that tempt visitors with the aroma of spices from all over the world and a delicious drink, and artists who paint landscapes on the boulevard... A dream? No! It's Mandoria. The thematic Mandoria City of Adventures amusement park is being built in Rzgów near Lodz.

Mandorians are friendly to their guests and will soon reveal their city to the world. A desire to have fun and a handful of Mandorian ducats are all it takes to meet the locals and enjoy the local attractions. Who will you meet in Mandoria? The harbour's guard commander is Tadeusz, Captain Hiermo Azulejos owns the Three Bells bar, and the city council is headed by Lady Estelle. Even at first glance, they are dignified and respectable. They have the most impeccable manners and are dressed very respectably. Each of them has a predilection for travel and often hides a secret... The commander is an artist who replaces his sabre with a brush and paints landscapes in his free time. Captain Azulejos sailed the world, but the unfavourable winds threw him into the rough sea where he lost his ship and treasure, and finally settled in Mandoria. And Lady Estelle? She is an equally interesting person, especially since she has travelled many trade

routes and learned the cultures of distant countries. Lili and Rascal, a pair of ferrets, are the official mascots of Mandoria. They look sweet and innocent, although they are said to be mischievous, and they love jokes and playing with children. According to the Mandorians, salt poured into a sugar bowl, tangled ropes in the harbour and the moustache painted on Lady Estelle's likeness on the harbour notice board was their doing. The ferrets will surely be a treat for the little ones!

DIRECTION: UNKNOWN LAND

The Mandoria amusement park will take you back to the Renaissance and show you how wealthy trade cities operated. Historic tenement houses and harbour docks will be accompanied by thematic roller coasters, merry-go-rounds and many other attractions. Thanks to the commitment of an international team of artists who pay attention to the smallest details, guests crossing the gates



Mandoria illuminated by the rays of the rising sun



Commandant Tadeusz during the inspection of the wreck

of the Mandoria City of Adventures will take a journey through time and reach a world of travellers, merchants and great discoveries. The Renaissance is the time in which new products and spices from faraway journeys made the dishes taste better. New fabrics and original trinkets offered by traders have made the clothes of the town's inhabitants more colourful than ever before. Everything will be tasty and colourful in Mandoria. The city will offer its visitors delicious food, exotic drinks and many charming places to sit down and recharge. At every step of the way, the guests will meet friendly locals who will invite them to discover the charming surroundings every step of the way.

AHOY, CAPTAIN!

Mandoria will be open all year round, whatever the weather. The construction of the park is still underway, and it is expected to be one of the most interesting tourist attractions in Europe.

“We have been building the City of Adventures with guests of all ages in mind, which means that all attractions available in our theme park will be places for both adults and children to enjoy,” says Joanna Jędrzejczyk, park manager.

HOW TO BECOME A CITIZEN OF MANDORIA?

Mandorians do not need to be of noble birth or receive special nominations. It's all about recruitment. In the coming months, 120 people can count on Mandorian citizenship. The city is looking for operators of attractions, animators, salespersons, gastronomy, technical and administrative staff. Detailed information about the recruitment process can be found at ww.mandoria.com.

What attractions await the visitors? The streets of Mandoria will resound with a joyful bustle. From the harbour and bars, sailors will tell tales of their maritime adventures, and from the bazaar, merchants will praise their goods. Guests of Mandoria will be able to board a ship to sail on a rough sea. Those who dare will jump into spinning barrels, train their eagle eyes at the shooting range and activate all their senses to find their way out of a unique maze. Adventure seekers will gain practical knowledge of maritime sailing and embark on a wild journey around the world.

TOURIST ATTRACTION OF THE OLD CONTINENT

The exceptional Renaissance city of Mandoria is being built in Rzgów, right next to Łódź, where two modern communication routes intersect: the A1 motorway and the S8 expressway. The city is being built in an area of 50 ha, but not all of it will be accessible immediately. In the summer of 2020, the Mandorians will invite visitors into their world – to the first part of the 15 thousand m² indoor family amusement park. Its investor is Ptak S.A., and the budget of this stage amounts to PLN 108 million.

“Before the construction of Mandoria City of Adventures began, we took a close look at the Polish and European markets, analysing what forms of leisure activities they offer to families with children. We have decided to create a place that is not yet present in Poland,” explains Daniel Heinst, project director. “We have set the bar very high; we want our visitors to be enchanted by Mandoria. We want it to become a tourist attraction the visited by guests from all over Poland and neighbouring countries. We are convinced that we are building an amusement park which adults and children will leave with unique memories and a desire to return in the future.” ●

GRZEGORZ TURNAU – BEDFORD SCHOOL

24 JANUARY, AT 8:00 PM

WYTWÓRNA CLUB, UL. ŁĄKOWA 29
WWW.WYTWORNIA.PL

GRAND CLASSICAL BALLET WITH SYMPHONY ORCHESTRA!

27 JANUARY, AT 7:00 PM

TEATR WIELKI, PL. DĄBROWSKIEGO 1
WWW.OPERALODZ.COM

RAY WILSON – GENESIS CLASSIC

7 FEBRUARY, AT 7:00 PM

WYTWÓRNA CLUB, UL. ŁĄKOWA 29
WWW.WYTWORNIA.PL

INTERNATIONAL FESTIVAL OF PLAYS PLEASANT AND UNPLEASANT

7 FEBRUARY – 21 MARCH

TEATR POWSZECHNY, UL. LEGIONÓW 21
WWW.POWSZECHNY.PL

JULIA PIETRUCHA – FOLK IT! TOUR

9 FEBRUARY, AT 7:00 PM

WYTWÓRNA CLUB, UL. ŁĄKOWA 29
WWW.WYTWORNIA.PL

XVII LODZ WEDDING FAIR

9 FEBRUARY, AT 10:00 AM

HALA EXPO-LODZ, AL. POLITECHNIKI 4
WWW.TARGISLUBNE.PL/LODZ

SIESTA EN ROUTE: MARIA EMILIA – FADO EVENING

15 FEBRUARY, AT 8:00 PM

WYTWÓRNA CLUB, UL. ŁĄKOWA 29
WWW.WYTWORNIA.PL

OPERA FIREWORKS IN THE GREAT THEATER, CARNIVAL CONCERT

16 FEBRUARY, AT 6:00 PM

TEATR WIELKI, PL. DĄBROWSKIEGO 1
WWW.OPERALODZ.COM

NOT ONLY OPERA – THE CELLOS. INTIMATELY ABOUT LOVE

17 FEBRUARY, AT 6:30 PM

TEATR WIELKI, PL. DĄBROWSKIEGO 1
WWW.OPERALODZ.COM

ANGRY BIRDS ON ICE

22 FEBRUARY, AT 1:30 PM, 5:00 PM

ATLAS ARENA, AL. BANDURSKIEGO 7
WWW.MAKIS.PL

RUSSIAN NATIONAL BALLET OF SIBERIA – KRASNOYARSK

23 FEBRUARY, AT 4:00 PM

TEATR WIELKI, PL. DĄBROWSKIEGO 1
WWW.OPERALODZ.COM

MUSICAL EVENING LAST CARNIVAL DAY WITH JAZZ

24 FEBRUARY, AT 6:15 PM

CHAMBER MUSIC HALL OF THE ACADEMY OF MUSIC IN LODZ, AL. 1 MAJA 4
WWW.AMUZ.LODZ.PL

KOBRANOCKA, SZTYWNY PAL AZJI, RÓŻE EUROPY, PROLETARYAT

29 FEBRUARY, AT 6:00 PM

WYTWÓRNA CLUB, UL. ŁĄKOWA 29
WWW.WYTWORNIA.PL

CHOCOLATE FESTIVAL IN LODZ

29 FEBRUARY – 1 MARCH

HALA ODLEWNI, UL. PIOTRKOWSKA 217
WWW.PIKLODZ.PL

URBAN HIP HOP FESTIVAL

1 MARCH, AT 7:30 PM

WYTWÓRNA CLUB, UL. ŁĄKOWA 29
WWW.WYTWORNIA.PL

AGNIESZKA CHYLIŃSKA. WORTH IT TO GO MENTAL! – 25 YEARS ON STAGE

8 MARCH, AT 6:30 PM

ATLAS ARENA, AL. BANDURSKIEGO 7
WWW.MAKIS.PL

PASION DE BUENA VISTA

10 MARCH, AT 7:00 PM

TEATR WIELKI, PL. DĄBROWSKIEGO 1
WWW.OPERALODZ.COM

XXIII LODZ EDUCATIONAL FAIR

11–12 MARCH

ATLAS ARENA, AL. BANDURSKIEGO 7
WWW.MAKIS.PL

SUPERENDURO WORLD CHAMPIONSHIP FINAL 2019/2020

14 MARCH, AT 6:00 PM

ATLAS ARENA, AL. BANDURSKIEGO 7
WWW.MAKIS.PL

TOURIST FAIR AT THE FRONTIER OF CULTURES 2020

20–22 MARCH

HALA EXPO-LODZ, AL. POLITECHNIKI 4
WWW.TARGI.LODZ.PL

FILM VIDEO FOTO 2020 FAIR

2–4 APRIL

ATLAS ARENA, AL. BANDURSKIEGO 7
WWW.MAKIS.PL

15TH EDITION OF THE ACADEMIC JOB FAIR

28 APRIL

HALA EXPO-LODZ, AL. POLITECHNIKI 4
WWW.ATP.LODZ.PL