

LODZ CREATES INNOVATION

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THE FIFTH ANNIVERSARY OF ART_INKUBATOR OR IT'S BETTER TO WORK THAN CELEBRATE

LIVING WITH ARTIFICIAL INTELLIGENCE

PRINT OUT MY EAR

PHOTOCOACH

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OF MUSIC



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ANNA KRAWCZYK
EDITOR-IN-CHIEF

Creative industries are one of the smart specialisations of the Lodz voivodeship and therefore the city itself. You can see creativity in Lodz every day and the fifth birthday of Art_Inkubator in Fabryka Sztuki (Art Factory) is a testament to that. From time to time, it also serves as the venue for events of great importance for Lodz, such as the world-famous Łódź Design Festival or the new fashion initiative – Modopolis. When it's not used for events, it's the place that residents of the creative industries call home. They not only take advantage of the space offered by Fabryka Sztuki, but also avail themselves of the support of mentors. During a two-year residency a set of training courses is made available to them. This is not all though, as the hosts are open to the needs of residents and, as the latter report certain needs, organise additional training from outside the pre-prepared list. The integration of residents, creating a business community, is an important part of the institution's activities. After all, exchanging experiences is of paramount importance for young entrepreneurs.

Young residents of Lodz, those just wishing to try their hand at entrepreneurship, can take advantage of the opportunity offered by the "Youth in Lodz – I've Got a Start-Up Idea" competition. The next, eleventh edition has already begun. We talked with the winner of last year's edition about the fate of his project and how participation in the competition affected his business' development.

Analyses show that 85% of customer interactions with brands will be based on contact with artificial intelligence

by 2020. Chatbots are set to become a new member of society and the phenomenon is the subject of thorough studies at the University of Lodz.

Modernity doesn't rule out tradition. This year marks the 30th anniversary of Polfarmex, a manufacturer of generic drugs based in Lodz. The company believes that meeting challenges head on is the recipe for success.

Without any doubts, the construction of a USD 80 million biorefinery in the US, based on technology entirely designed by Biotechnica, a Lodz-based company, can be counted among such challenges. Although the company already has experience in building a similar system in Poland, the investment project in North Dakota is even more unique.

Meanwhile, the International Trainers and Facilitators Federation uses experience from California on the Polish market. Since 2009 the federation has not only acted as a training organiser, but also as a well-established body for those wishing to broaden their training knowledge.

Lastly, we wish to present a young and talented artist – Marcin Podolec. His comic, "Fugazi Music Club", has been very well received on western markets, while the animated short "Dokument" (Documentary) garnered the critics' favour and won several awards at film and animation festivals.

We encourage you to read this edition to the sounds of urban music festivals resounding in Lodz over the spring and summer period. ●

Photo: Paweł Lawreszuk



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Operating since 2016, Kreska Design regularly organises classical drawing workshops addressed both to children and adults and proves that drawing isn't just a game

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“First, you have to work very hard and, at times, pass up some social events. Second, when I look back, I see that I initiated a lot of projects,” says **Marcin Podolec**, a renowned comics creator and animator

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41 Lodz is celebrating on the waves of music

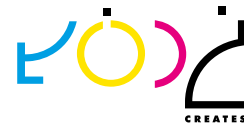
This year's summer in Lodz will be full of singing, dancing and red hot from musical emotions. Melomaniacs are in for a real celebration of music

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Panel from the comic book entitled
“A Fairy Tale at the End of the World”
author: Marcin Podolec

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The fifth anniversary of Art_Inkubator or it's better to work than celebrate

Art_Inkubator at the Art Factory is a place where creativity meets entrepreneurship. Through this project, the Art Factory, as a business environment institution, supports creative people in their market operations and, as a cultural institution, implements projects intended to promote art and professionalize human resources. Malwina Wadas discusses the past and the future, ideas and their implementation, with MACIEJ TRZEBEŃSKI, director of the Art Factory and head of Art_Inkubator.

The fact that this discussion is taking place now is not coincidental. Not only has the new resident recruitment started, but five years have passed since the institution began its operation. Are you celebrating?

We aren't celebrating the anniversary of Art_Inkubator with pomp. This is intentional. We didn't celebrate the anniversary of the Art Factory either. As an institution, we move a bit against the flow, we focus on things outside the mainstream. So this non-celebration is part and parcel of this place, its ideas and atmosphere. It's better to work than celebrate.

Art_Inkubator is an exceptional institution, the first and the largest of its kind in Poland,

offering incubation and business support for creative industries. The choice of its location – buildings at ul. Tymienieckiego 3 – was not coincidental?

When Art_Inkubator was founded, there was no similar entity in Poland. We had been looking for a solution that would help cultural institutions and their partners function well, as well as save dilapidated, historic spaces. Post-factory buildings at ul. Tymienieckiego 3, where this interview is taking place, were taken over by the city from the trustee in the bankruptcy of Unionteks. The city had various ideas but, as the place developed, it was the Art Factory that took over the buildings, previously provided by the city to the Lodz Art Centre, transforming them into the seat of an urban cultural institution.

Operating in post-factory buildings provided to us by the city can be referred to as the romantic period – it was creative but very difficult.

Thus the first impulse to act came from the need to pay for the renovation. But where did the idea to create a business environment institution come from?

Together with Krzysztof Candrowicz, who at the time was the president of the Lodz Art Centre foundation, we got into contact with Jacek Zieliński, who was responsible for implementing EU projects in the city. He suggested founding a business environment institution to us. At the time, this concept was quite foreign to me, but I quickly became acquainted with it, which gave us many ideas and solutions. There were no similar institutions in Poland at the time. There weren't many of them even in the West. Art residency programmes have been operating, but perceiving the creative sector as a branch of economy was a new thing in Poland.

Where did you look for inspiration when founding Art_Inkubator?

Abroad, on the internet, in discussions with friends... We primarily focused on listening. At the same time, works related to the construction, renovation, investments and programme creation were under way; this programme was supposed to be, on the one hand, compliant with our perception of demands and trends and, on the other hand, with formal requirements.

What sets the Art_Inkubator that existed five years ago apart from the one existing today?

When the first resident recruitment launched, we adopted the operational principles from technology incubators. Many rules (for example, who gets to receive support and what services should be provided to the residents) were determined by the project we were working on, but the execution of these projects depended solely on us. Many things have changed over these five years; in many respects, this is a different institution. For example, the recruitment process has changed – we use modern online tools and interview candidates, something which wasn't present in the beginning.

Many residents see this part of the recruitment as the most stressful but also as very valuable.

This part where you meet a living person, not just read what she wrote – it's very important for both parties. There were situations when a residency candidate beautifully described their idea for business; however, the interview revealed deficiencies in their



Integration of residents in the Art_Inkubator café

idea and its execution. Sometimes it was the other way around: a person had a difficult time with formulating her thoughts in writing while, during the interview, the idea turned out very solid, thought-out and refined. There were also times when the interview changed the position of the interviewee.

The resident recruitment schedule has changed as well, and its procedure along with it.

Yes, now the recruitment is open – there's no single specific recruitment date. It was replaced by a process which lasts from March to late November. Candidates can submit their documents at the best possible moment for them. This also changed the way we organise our work – the support process isn't developed for the entire group at the same time; it's a more individual approach, and more interesting as well. People from various residency stages get the opportunity to meet each other. Our existing residents can guide newcomers, which creates a community of people who support and teach each other. It's an added value.

Many things have changed, but it's still a very prestigious place with special properties. In your opinion, what's the reason for this?

The fact that Art_Inkubator is an open place hasn't changed. And I mean openness both in terms of a place available to residents 24/7, where they can always come and feel at home, as well as of the openness of thought and action. No one is forced to do anything here – people are free to take advantage of the development opportunities. Residents are also responsible for the operation of Art_Inkubator, i.e. whether it's



Art_Inkubator is an open place

interesting, atmospheric and stimulating in both creative and business senses. The community is a great advantage of Art_Inkubator, but a community is established only when the residents want it themselves. I'm sure that this place will be as good as the residents themselves are committed to it.

What type of support is offered at Art_Inkubator?

Comprehensive support for creative businesses. We offer location support: studios, offices and galleries, as well as substantive support: workshops, meetings, consultations, mentoring, legal and accounting support. In addition, we support our residents with respect to the promotion of their businesses. The diversity of our residents and their businesses means the existence of diverse needs. We try to meet them, often tailoring solutions to such needs.

Not all residents become successful entrepreneurs upon their two years of residency. Is this a failure on the part of Art_Inkubator?

We give all beginners an opportunity to make mistakes and learn from them in an environment that is more friendly than that of the market. Two years of residency is an optimal time to assess oneself. One of our residents from the first recruitment said that she's happy she was here because now she knows that she doesn't want to be an entrepreneur and she'll never become one. Such statements have a great value for me. Throughout the two years of residency, it turned out that business is not a path for her. Art_Inkubator is like a laboratory – it's time for analysing oneself and one's business. If someone leaves it with a certainty that they don't want to be an entrepreneur, it's not bad news. On the contrary – it's good that the residents

learned so much about themselves; on the one hand, about their predispositions; on the other, about the positive and negative aspects of running a company. We're here to help. It's not an issue when someone's business doesn't pan out; the issue is when someone receives support and doesn't take advantage of it, doesn't make attempts, lets it go, doesn't make use of opportunities. We can't force anyone to do that.

What does Art_Inkubator mean to you?

The first answer to this question is always the same to me: Art_Inkubator is people. Naturally, it's an institution, place, spaces, but first and foremost it's people and their actions. Furthermore, Art_Inkubator means great learning for each party, for residents, but also for my team and myself. It's also a laboratory – a great tool, testing many solutions on a living organism.

Do you wonder how Art_Inkubator is going to look in the coming years, on its tenth or fifteenth anniversary?

This is a question that's difficult to answer, bearing in mind that the implemented project has its "indicative longevity." The recruitment that will soon conclude will be the final recruitment under the current principles of the project. The way we operate will certainly be different in the future, and other changes await us as well. What's next? Time will tell. I know that there's a demand for the continued existence of Art_Inkubator, a place where creative businesses incubate.

Thank you for the conversation. ●

You can submit an application to the current Art_Inkubator Residency Competition by completing the online form available along with other competition-related documents at: www.artinkubator.com.

The questions listed in the form are formulated so as to help the candidates systematise and specify the scope of their skills, previous achievements and knowledge that could be useful in founding and running their own company.

Applications are reviewed on an ongoing basis. Meetings in the Open Studio, a workplace at ul. Tymienieckiego 3, take place on the first Monday of each month until November 2019, from 12:00 PM–2:00 PM. Here you'll meet the employees of Art_Inkubator, ready to answer your questions about the competition rules, procedure and form. You can also submit your questions by email to the following address: konkurs@fabrykasztuki.org.

Final form submission deadline: 30.11.2019, 10:00 AM.

Additional information about Art_Inkubator: www.artinkubator.com

BY AGATA DOMAŃSKA

Therapist on a leash

Every successful person should have a dog. It's not a mistake – a furry friend is the best therapist for a busy person.

Dogs are creatures that fully depend on us. They require attention and an appropriate amount of our time. Nevertheless, we should think about adopting a pet. Why?

First: a dog is the best cure for corporate stress. We often bring our company's problems home, whether we want to or not. A dog is perfect for removing our corporate dilemmas out of the spotlight. Contact with a four-legged friend, touch and a bit of fun help divert our attention from stressful situations; they allow us to be in the here and now. Petting and hugging a beloved pet can instantly soothe us and satisfies one of the most basic human needs: the need for physical touch. A dog, with its unconditional love and total acceptance, is a perfect antidote for stress, which is inextricably linked to work and achieving new professional heights. It's also a perfect "surge arrester" at work. If a company allows its employees to bring pets to work, they can pet their dog while it sleeps under their desk and thus relieve stress after a difficult discussion with a boss or client. The effect is instantaneous!

Second: having a dog – or rather, the privilege of canine friendship – is extremely healthy. Many studies have confirmed that dog owners are less affected with depression than people who have no pets. Contact with a dog decreases the risk of cardiovascular diseases and heart attack, lowers blood pressure and decreases the levels of cholesterol and triglycerides; on the other hand, playing with a dog increases the levels of serotonin and dopamine – hormones that improve mood, relaxation, calmness, increase self-esteem, reduce anxiety and make us feel more satisfied with life and less lonely.

Third: a dog helps us cope with professional failures. And they are inevitable in the professional world – there's always someone who can do something better than we do. We also make mistakes, because the only ones that can fully avoid making errors are those who don't do anything. Unfortunately, even if we understand this, our failures bring us down anyway. This is where the dog



comes in: a creature free of worries, anxieties and knowledge of complex human relationships. It loves us "just because" and is happy with our company. It gives us love and attention without asking for anything in return. We are perfect for our dog. It accepts us whole.

Fourth: a dog is a type of compass. It helps us remain in touch with that part of ourselves we need to leave at home when we set off for the corporate world to fight for our position. We leave "soft tummies" at home. Thanks to a dog, we can later return to them, remind ourselves that we are empathetic creatures that can get emotional and understand the emotions of someone who's different from us. A dog won't let our external armour stick to us.

Fifth: pet owners are better at maintaining human relationships. They are more socially sensitive, like other people more, establish relationships easier. The positive emotions we feel during our contact with an animal stoke the positive emotions we feel toward people. A dog helps us better connect with ourselves, which increases our capacity for kindness and cooperation. A dog at a company meeting is also a wonderful way of breaking the ice by introducing a friendly atmosphere. Most people automatically smile and put their shield down at the sight of a happy face and wagging tail. ●

BY MARZENA ZBIERSKA

Diagnosing functional disorders of the spine using virtual reality



Prof. Jolanta Kujawa, MD, PhD

The VRneck system created by Lodz scientists represents an innovative approach to diagnosing spinal diseases. Thanks to virtual reality and special software, it enables us to precisely determine functional disorders and how to adapt the rehabilitation to a given patient's needs. Its future may also lie well outside the field of medicine.

The VRneck was developed by a team of scientists at the Medical Rehabilitation Clinic of the Medical University of Lodz under the supervision of Prof. Jolanta Kujawa, MD, PhD. This is a prototype device that supports diagnostics, the therapy and prevention of functional disorders and injuries of the cervical spine.

The innovativeness of the VRneck relies on a precise and non-invasive assessment of the level of functional disorders of the spinal motion segment.

In turn, this enables us to perform personalized diagnostics of the impaired function and implement therapy aimed at a specific structure of a given locomotor organ. Individual therapy is significantly more effective for the patient. Rapid diagnosis and the commencement of physical therapy are also quite important, particularly in chronic pain.

PUT ON A VR HEADSET, MAKE A MOVE

The fundamental parts of the device include: a virtual reality headset, a system of special gyroscopes for body positioning, and software for recording and analysing errors made by the patient. What does a VRneck-based examination entail?

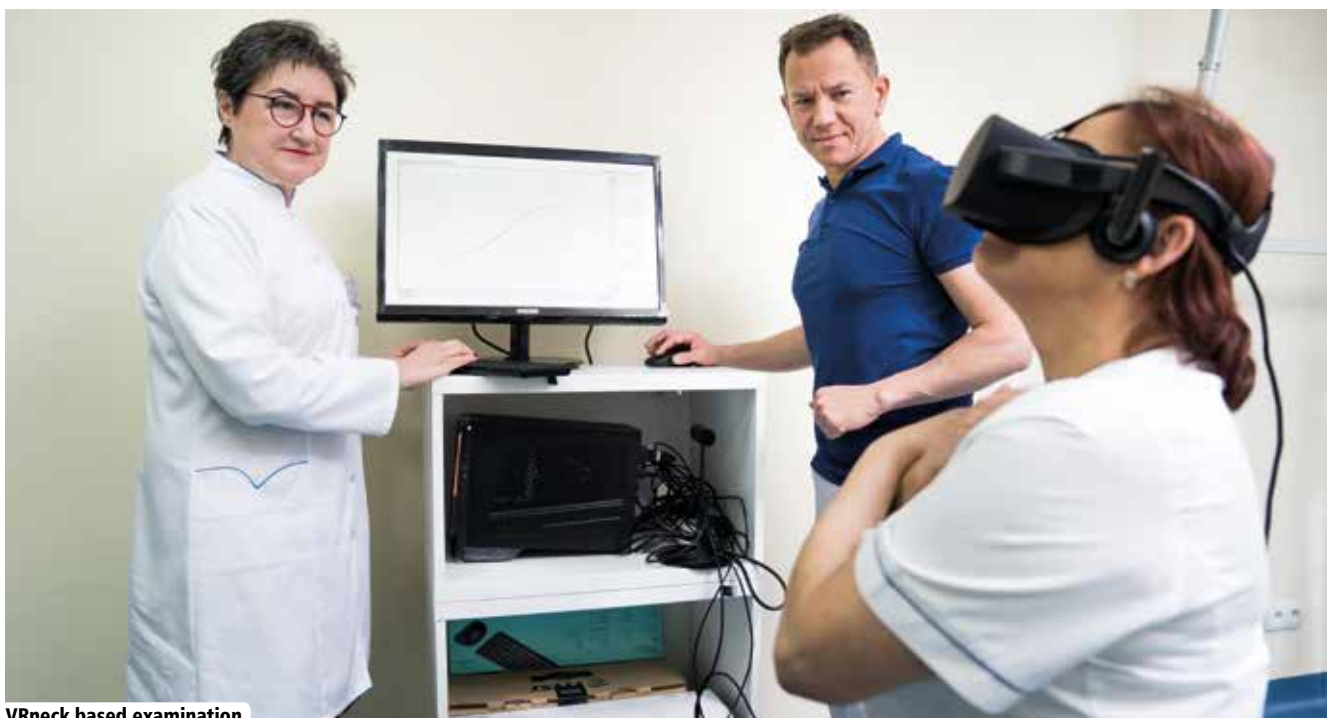
"The examination consists of making simple and complex motions according to a trajectory determined on the basis of pre-made curves shown on cards describing functional tasks. Motions should be performed as precisely as possible, and the recorded motion, as well as quantitative and qualitative analyses of errors, enable us to assess the fitness of the patient's musculoskeletal and nervous systems," explains

Jolanta Kujawa. In practice, the examination is safe and uncumbersome for the patient. The patient puts on a virtual reality headset and then moves their head, repeating the shapes shown in front of their eyes. Simultaneously, the examiner supervises the correctness of the motions and tracks the system log visible on the monitor. By interpreting the examination's results, we can create a kind of functional profile for the patient's cervical and cervicothoracic spine, and to plan their therapy, including manual therapy, kinesiotherapy and physical therapy treatments.

The first stage of the VRneck project has ended. The scientists from Lodz managed to prepare assumptions for the prototype. "We conducted pilot studies among patients with pain syndromes of the cervical and cervicothoracic spine, as well as people without such conditions," states Jolanta Kujawa. "We are currently analysing the obtained study results. Their preliminary estimation indicates that the device is useful in diagnostics, particularly for patients with cervical and cervicothoracic spine pain syndromes," adds the study director.

VRNECK PREMIUM

The research team is also preparing for the second stage of works, the aim of which is to create an entire system called the VRneck-Solution based on the VRneck. The extended invention will have additional functions: a therapy module, a training module, and a functional disorder prevention module. According to the specialists, the VRneck



VRneck based examination

system will be applicable primarily on the medical services market, mainly in physical therapy and other services that require monitoring the functional state of patients and assessing the effectiveness of therapy. “We intend for the VRneck-Solution to be used in the medical certification system and on the insurance market,” assumes Jolanta Kujawa. “At the moment VRneck provides neuromuscular coordination training for pain patients and people with muscle tension disorders and a limited range of motion in the spinal joints due to musculoskeletal system diseases and cervical spine injuries. In the future the VRneck may become a useful tool in the work of physicians, physical therapists and personal trainers,” lists Dr Kujawa. One strong suit of the invention, after more development works planned over the following three years, will be a confirmed high measurement accuracy and reliability, and the possibility to determine a patient’s diagnosis during case conferences. The VRneck will be also used in telerehabilitation. It will provide the physicians with the possibility of performing a comparative analysis among patients with the same clinical diagnosis.

Other important factors that could help popularize the invention include: low costs of patient diagnostics and therapy, creation of databases on functional disorders of the cervical spine, and the possibility of monitoring and assessing the effectiveness of therapy. The system will support the development of therapy and prevention programmes as well as

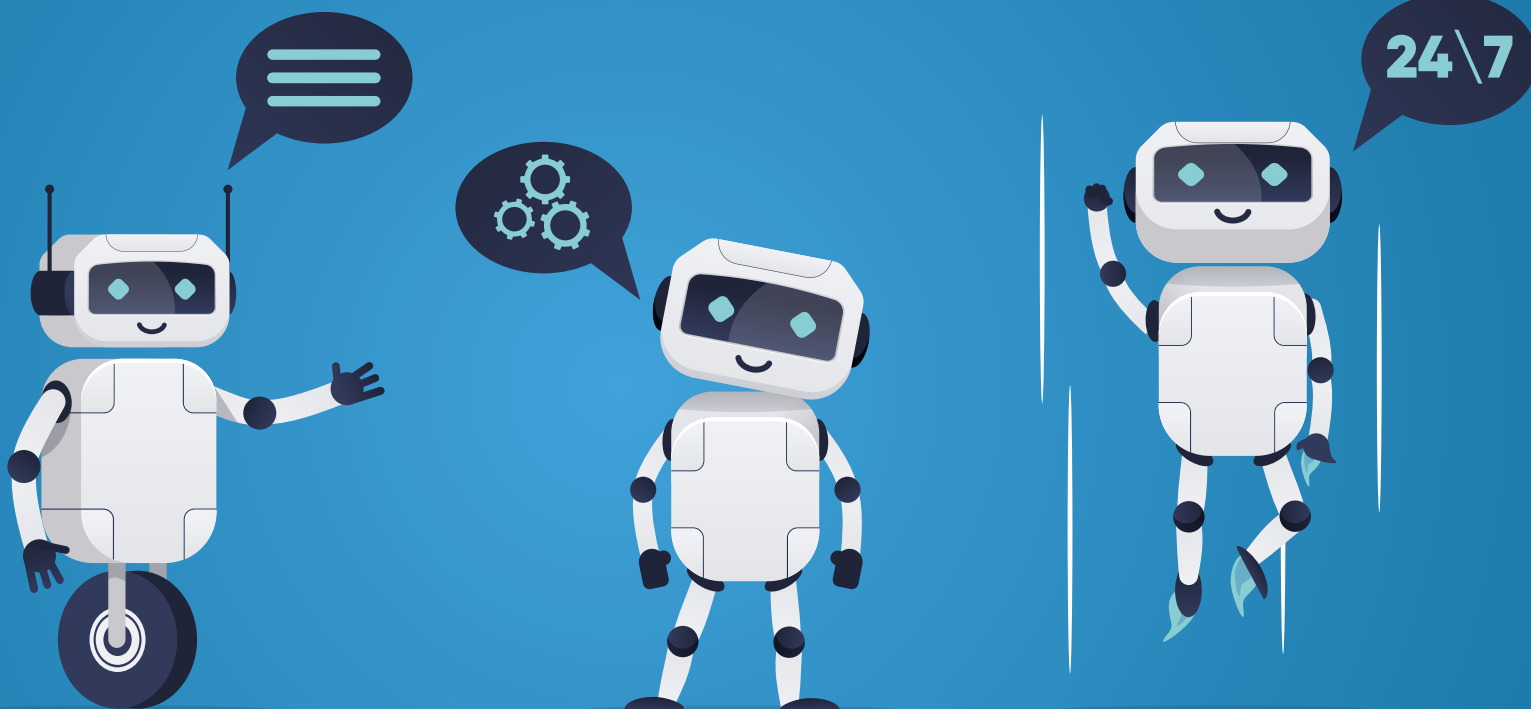
recommendations necessary to shape the health policy with respect to spinal diseases and injuries.

BRING BACK LIFE WITHOUT PAIN

The authors of the VRneck estimate that the finished product will commonly be available in three to four years. Even today it’s obvious that there will be no shortage of people interested in using it.

“The demand for a device that supports the diagnostics and therapy of people with functional disorders of the spine has been steadily increasing. Statistics show that cervical pain is the most common type of osteoarticular pain in highly developed countries, annually affecting 30–50 percent of the population,” states Jolanta Kujawa. Spinal disorders are often chronic and significantly impact various aspects of human life, such as work and relationships, and they impede daily activities. The effective elimination of these issues will have a positive impact on the quality of life of many people.

Currently, the team of scientists at the Medical Rehabilitation Clinic of the Medical University of Lodz has been making preparations to apply for funds to cover further works on the VRneck-Solution, in connection with calls of the National Centre for Research and Development under the Smart Growth Operational Programme. The invention has been noticed globally. The VRneck won two special prizes and the Gold Medal at the 2018 Kaohsiung International Invention and Design EXPO (KIDE) in Taiwan. It was also presented in December 2018 at the Paris International Inventions Exhibition and at 2019 Arab Health in Dubai. ●



BY DOMINIKA KACZOROWSKA-SPYCHALSKA,
MALWINA WADAS

Chatbot – a new member of society

By 2020, the average Messenger user will have more conversations with chatbots each day than with their partner, while 85 percent of customer interaction with brands will not consist of direct contact with a human being. This peculiar trend determines new communication frameworks and societal development paths. How do we fare in such a reality?

This phenomenon is being researched by Dominika Kaczorowska-Spychalska, PhD, while practitioners from the Bluerank interactive agency and Digital Workforce, a company specialising in robotization and process automation, have been professionally creating a new reality where chatbots talk to customers.

(UN)CONSCIOUSLY DIGITISED

Key technologies in 2019 primarily include the Internet of things, artificial intelligence, big data and augmented reality. According to the recent estimation of Ericsson's experts, the number of online smart devices is expected to reach nearly 28 billion by 2021.



Dr Dominika Kaczorowska-Spychalska

This will lead to an even larger intensification of business processes that enable systems (and cloud systems) integration, their sharing, and the development of business models largely based on subscription agreements for existing infrastructure. Smart factory floors, smart machinery, smart transport fleets, smart offices, and smart technologies used in marketing (martech), finances (fintech) or human capital management open new perspectives for both enterprises and brands, as well as for their customers. Digitisation is contributing to the increased productivity by optimising processes, expanding current sales markets, through innovative products, innovative market communication tools, and the increasingly efficient use of human capital. This is because technology supplements and supports human work, rapidly generating information that enables us to make correct decisions. This concerns not only managers, but also academics, physicians and lawyers.

THE DARK SIDE OF TECHNOLOGY

However, digital technologies also have a dark side related to the numerous concerns they bring to the table. This involves, among others, potential cybercrimes, including the loss of personal data of clients, or unauthorised

persons taking control over systems and devices based on new technologies. Such concerns are also raised by the risk of losing our privacy and limiting the freedom of our purchasing decisions. Filtering algorithms, the so-called filter bubbles, analysing our prior decisions and behaviours, will increasingly suggest specific choices to us, impacting the issues of ethics, including in the context of human-to-machine (H2M) interactions.

Constant anxiety is also generated by the fact that, in the case of routine works, within the next few years, digital-technology-based solutions, in particular artificial intelligence, can lead to the replacement of certain employees with their digital counterparts and to the disappearance of certain professions and jobs. The Gartner Institute anticipates that by 2020 about 1.8 million of current jobs will have been eliminated globally, simultaneously contributing to the creation of 2.3 million new jobs, whereas by 2025 one third of the traditional workforce will have been replaced by digital workers. This will undoubtedly lead to changes on the labour market, where new employee skills and competences related to the absorption and use of digital technologies in various areas of the market (business, consumer, social) will become key, as well as those related to the direct work in a digital environment (for example, hybrid employment models).

TÊTE-À-TÊTE WITH A CHATBOT

Chatbot is a computer program that uses natural language in conversations via text- or sound-based methods. Moreover, as a result of its subsequent

Dominika Kaczorowska-Spychalska is a Doctor of Economics working in the field of management science. She works at the Faculty of Management, University of Lodz. Her scientific interests cover digital technologies, in particular artificial intelligence, the Internet of things, and their business implications, including their impact on human behaviour (Homo Cyber Oeconomicus). She represented Poland at the V4 Conference on Artificial Intelligence (Workshop Session: Societal challenges and labour market impacts by AI), and she was a member of the external expert group of the Ministry of Digital Affairs involved in the preparation of the “Polish Strategy for Artificial Intelligence.”



Adam Dębski specialises in Messenger Marketing, focusing on chatbot building. He has been professionally working in marketing and sales for almost 10 years. He is a speaker and author of pieces demonstrating the possibilities of chatbots. Fan of interactive solutions and automation, always first in line to test and implement new mechanisms and outside-the-box communications options on social media.

interactions, it learns and expands its communication skills. This enables it to perfect its own reactions and behaviours. In effect, it can answer questions and solve problems while understanding users' intentions. According to the experts from K2 Digital Transformation, online bots are currently responsible for over 50 percent of all online traffic, including website browsing, content publishing, media playback and file downloads. According to Gartner, by 2020 the average Messenger user will have more conversations with bots each day than with their partner, while 85 percent of customer interaction with brands will not consist of direct contact with a human being. Moreover, at the same time, over 50 percent of medium and large global enterprises are going to implement solutions based on chatbots, in particular on conversational bots,

○ **Adam Dębski, Social Media Specialist, Bluerank:** For many years Bluerank has been tracking new trends and expanding the possibilities of digital marketing. The chatbot trend is as important to us as the wide support for business. By building bots that implement both communications and business targets, we reply to the potential provided by the widespread use of the human-machine interaction in marketing. We base our solutions primarily on the Messenger platform, but building voice-based assistants using natural language processing is an extremely important step for us. Two teams have been working on such solutions: Social Media Communication and R&D. Messenger Marketing is a very rapidly developing trend in social media that's worth our attention. 85 percent of Polish internet users use this messenger, which translates to a large potential for building customer relationships and their retention. Chatbots support not only service processes with benefits for the end recipient (24/7 availability, immediate response). They also help optimise the time consumption of repeatable actions, for example as part of customer service, based on FAQ, or by generating leads. Thanks to the integration with such platforms as Google Merchant Centre and Shopify, we automate shopping conversations, executing business targets in a measurable way. And all this while maintaining the intuitive manner of using the platform's functions.

which – according to the estimates of Grand View Research – will increase the value of the global chatbot market to USD 1.23 billion by 2025. According to TogetherData's analyses, the largest demand for chatbot-based solutions will be visible primarily in the e-commerce, insurance, financial consultancy, and telecommunications industries. A high level of social acceptance of chatbots has already been identified in these sectors.



Kinga Chelińska-Barańska – a professional with over ten years of experience in the financial sector and process efficiency management. She successfully runs the ever-growing team of certified RPA consultants, executes business projects related to the creation and implementation of new systems, process migration, and RPA/IPA. She is responsible for the Polish branch of Digital Workforce, with its registered office in Lodz.

A BIT MORE SOCIABLE CHATBOT

At present the market is dominated by so-called rule-based chatbots, which are limited to actions determined by specific and assigned closed databases. In the coming years, we should expect the development of the so-called social-model chatbot that can choose the most appropriate conversation scheme in relation to the detected level of social acceptance and market practice (accepted rituals, accepted behaviours, accepted customs). Experts also estimate that the coming years are going to see the development of chatbots able to autonomously generate answers in an untrained manner, which will significantly expand their functional scope. Some people think that by

Kinga Chelińska-Barańska, Country Manager, Digital Workforce: Digital Workforce implements chatbots for clients wishing to automate most of their customer dialogues, covering mostly routine questions such as: searching for frequently asked questions, taking simple actions or performing simple transactions. Chatbots working for our clients are primarily responsible for credit-card-related issues, such as address changes, increasing credit limits, card theft, renewal, PIN changes, as well as password reset or signing up for an account. The chatbot also provides information on item availability, delivery status and insurance. Some employers implement chatbots handling work absence requests. In addition to the provision of information and guidelines, our bots can recognise customers and their personalized needs, as well as directly handle the majority of actions in IT systems traditionally used by customer consultants. One of our clients asked for a chatbot that would support the company's internal communication and, as we all know, this component is often a problem for many global institutions. We want to continuously improve the "skills" of chatbots, therefore we have begun to implement chatbots that "understand" the correspondent's questions, as well as grammatical and linguistic errors. We also implement bot-to-bot conversations. We see that the role of chatbots is continuously increasing in importance. More and more companies around the world are choosing this simple solution.

2050 we will talk with chatbots that will be our peculiar digital doppelgängers – they will behave like us, know the history of our life, have our personality, replace us on social media. Naturally, these are visions from the realm of science fiction, but they carry an unsettling message of ways we can use these technologies that aren't always rational or ethical. ●

BY PRZEMYSŁAW GRZYB

Living with artificial intelligence



Dr Artur Modliński, Chief of the Centre

The issue of artificial intelligence has been an important topic for engineers, philosophers, ethicists, researchers from various fields, and writers. Each of these groups perceives it differently, asking different questions and seeking different answers. Obviously, however, no one questions whether AI is going to happen – because it has been happening practically in front of our eyes. More important questions right now concern the impact of artificial intelligence on: people, society, economy, or even interpersonal relationships.

Scientists from Lodz embarked on a journey to seek answers and raise a wide variety of questions related to artificial intelligence. The Centre for Artificial Intelligence and Cybercommunication Research was established at the Faculty of Management, University of Lodz. The unit has opened its doors to everyone who wishes to learn about various aspects of communication on the internet, the functioning of artificial intelligence and its impact on people.

AI, OR ASCERTAINING INTELLIGENCE

Issues related to artificial intelligence are relatively new. Alan Turing, a renowned British mathematician, can be considered the father of AI in the modern sense. He created a model of computation, the so-called Turing machine, which performed an algorithm, i.e. independently performed subsequent actions based on set guidelines. Oversimplifying, we can say that the machine “made” decisions. Despite the fact it was a very simple and limited action, it provided grounds for further research, i.e. developing increasingly complex algorithms, and expecting increasingly

complex results. In the 1950s, the first research institutions, including the US’s Massachusetts Institute of Technology, opened their first laboratories for the development of artificial intelligence. The first steps were difficult and the effects couldn’t be called spectacular. Finally, the growth of IT sciences and programming begot a true revolution.

WE’LL BE READY AS SOON AS IT GETS HERE

Nowadays artificial intelligence solutions are being developed by giants such as Google, Apple or Facebook. Governments and corporations also interested in machine learning and invest millions of dollars in it. However, the scientists from the Centre for Artificial Intelligence and Cybercommunication Research do not want to compete. “We are not making artificial intelligence. We study how it influences individuals and groups of people. We are an interdisciplinary team of researchers that is going to determine the opportunities and possibilities of artificial intelligence, as well as show the dangers and controversies,” explains

Dr Artur Modliński, Chief of the Centre. The unit will focus on searching for uses of artificial intelligence, cybersecurity, popularisation of knowledge, dissemination of studies, and on organising conferences and seminars. All this to be aware of changes and challenges brought on by artificial intelligence.

RARE TREAT FOR HACKERS

When the Deep Blue computer won a game of chess with grandmaster Garry Kasparov in 1996, many people were convinced that the creation of a machine with human cognitive abilities is just a question of time. The reality turned out to be different and Garry Kasparov won the match 4–2. So far artificial intelligence – in the true meaning of the word – did not appear, but its parts have been commonly used in fields that could surprise many people.

“Among other things, it provided tools for tax authorities. The algorithm can halt suspicious bank transactions. Every Polish entrepreneur must be aware of the fact that if artificial intelligence deems their transfers anomalous and generating the risk of VAT fraud, it can freeze their account for 72 hours. Without judicial control,” says Artur Tim, expert on the legal aspects of artificial intelligence. He adds, however, that an honest entrepreneur has nothing to fear from a well-formulated algorithm. Tim also emphasises one other important aspect of such a solution. “Algorithms themselves remain secret; maintaining their security is crucial because they would be a rare treat for hackers,” he comments. The issue of securing artificial intelligence against abuse will definitely form one of the most important issues studied at the Centre.

HOW TO PASS THE SUPER AI EXAM?

Alan Turing invented a way to verify whether artificial intelligence has reached human levels. He developed the Turing test, which analyses whether a machine can use natural language and think like a human. The test is very simple: if a person cannot tell if she’s talking to another person or a machine, the machine passes. We still haven’t managed to create such a machine that would convince all people, but it doesn’t mean that AI is worthless in human communication. Among other uses, it’s very popular in marketing and online customer relationships, for example as chatbots, i.e. computer programs that can find answers to users’ questions that have



been anticipated by the developer or that conform to a specific scheme. Another example would be artificial intelligence adapting advertising messages on the internet to the user based on their prior online behaviour. And that’s not all. “As an international think tank, we work on the development of an artificial neural network that will be able to independently classify advertising content on the internet, and even predict its efficiency,” says Dr Małgorzata Karpińska-Krakowiak from the University of Lodz. The use of artificial intelligence in advertising and promotional campaigns, in marketing and in PR, is one of the aspects of this issue that will be experienced by many people.

AI TAKES HELM

In the book *Our Final Invention*, the author James Barrat mentions data according to which 42% of experts anticipate that artificial intelligence will reach human level by 2030, 50% say that it will happen by 2040, while 67% believe that the correct year is 2050. There was no one who would say that such AI is never going to happen. Even today artificial intelligence runs cars, manages manufacturing processes and analyses data sets – the scope of its “responsibility” is only going to grow. The OECD estimates that from 50 to 70 percent of all jobs will be replaceable by intelligent machines in the future. This change is happening in front of our eyes, and all we can do is prepare and analyse its various aspects. The Centre for Artificial Intelligence and Cybercommunication Research will definitely help in this regard. •



Oxy-Cardio zone – healthy and aesthetic

An Oxy-Cardio zone was established at the Dr Władysław Biegański Regional Specialist Hospital in Lodz, where the healing properties of brine are combined with carefully selected plant species that enrich the air with oxygen. The zone supports patient convalescence, as treatment consists not only of specialised treatments for the body, but also rest and relaxation.

The Oxy-Cardio zone was opened on 11 October 2018. It is a futuristic structure that improves the decorative qualities of the square situated between the main hospital buildings, while creating a healthy micro-climate enriched with additional oxygen and brine spread from a graduation tower. The project entitled “An Innovative Product Created From Ecological Materials Based on Modern Technologies, the Oxy-Cardio Relaxation Zone Supporting the Health and Convalescence of Society” was developed by a team of scientists from the Faculty of Biology and Environmental Protection of the University of Lodz and PHU Dytrych from Lodz under the direction of Professor Zdzisława Romanowska-Duda, who has for years focused on scientific research related to the multi-vector use of plants, also as a phytoremediation agent. Work on the innovative structure lasted a year.

A THOROUGHLY CONSIDERED ECO-PROJECT

The use of graduation towers in the convalescence process is a known solution, but the Oxy-Cardio zone is something completely new. It consists of special structures in the form of vertical walls placed in an appropriate orientation around a centrally located graduation tower, forming a secluded space conducive to relaxation and improving the patients' respiratory systems. The walls and the graduation tower are made of diligently developed natural materials, which ensure that they have a decorative nature, are durable and have a healthy influence on the environment. “Blackthorn, usually used in the construction of graduation towers, was omitted in this case and replaced with a non-woven fabric,” underlines prof. Z. Romanowska-Duda. The location and varied solar exposure of the green walls necessitated the planting of

specially selected species, ones that are resistant to unfavourable hydrothermal and insolation conditions. They function as vertical carpets of high decorative value. “The wall structure features a controlled irrigation and nutrient dosing system, which provides the plants with a set dose of liquid fertilisers. The dispenser is connected directly to the water system and works without electricity, by only using water pressure,” explains Professor Romanowska-Duda.

THE CLEANSING POWER OF PLANTS

By increasing the assimilation area of plants in the square, we achieve an increased production of oxygen that is output to the surrounding atmosphere. Studies analysing the growth, vigour and condition of plants grown on the walls indicate that the tested plants convert CO₂ into oxygen in large quantities depending on their insolation. “This natural phenomenon results in increased air purity (decarbonisation) and improved health benefits of the surrounding environment. Oxygen is produced by plants every day, regardless of the weather, but it is most intense in strong sunlight, which confirms that constructing the Oxy-Cardio zone to accelerate the convalescence of patients with respiratory problems is a legitimate activity, one not interfering with specialist treatment,” explains Professor Romanowska-Duda, “The possibility to calm down and breathe in atomised brine spread from graduation towers positively affects both the physical and mental condition of the tower’s users.

The obtained results will serve as the basis for the overhaul, adaptation and construction of ‘Oxy-Cardio Relaxation Zones’ in health care facilities, health resorts, urban parks and housing estates, supporting the health and convalescence of society. The healthy micro-climate generated in the Oxy-Cardio zone may also be a tourist and rehabilitation attraction or an element of the urban space, parks and housing estates, all the more so as the graduation tower and its form are unprecedented in Poland,” explains Professor Romanowska-Duda.

THE POWER OF CO-OPERATION

Funds for the structure’s implementation were obtained under the measure “Support for management of scientific research and the commercialisation of R&D work results in scientific units and enterprises”. Twenty percent of the construction was co-financed by the University of Lodz. The total cost of the project

did not exceed PLN 100,000. Fast implementation was made possible thanks to the close co-operation of the University with the Hospital’s Management and Dytrych sp. z o.o. The management of the Dr Władysław Biegański Regional Specialist Hospital has also shown strong approval for the project, by making a plot available for construction and actively supporting the scientists’ activities. In addition, the day the Oxy-Cardio zone opened coincided with the launch of a new operating theatre at the Cardiac Surgery Ward. This allows the hospital to offer comprehensive therapeutic solutions, including not only specialised treatment, but also climate conditions conducive to convalescence and relaxation. ●



Prof. Zdzisława Romanowska-Duda

Elżbieta Szklarek, Director of the Dr Władysław Biegański Regional Specialist Hospital in Lodz

“The Oxy-Cardio zone is the first garden installation built in our facility. It’s a space that makes the hospital’s park more attractive, while also generating a healthy micro-climate. Its aesthetic value and unique structure make it very popular with people there, who mostly confirm the zone’s relaxing influence and its positive effect on their convalescence. In addition, people staying within the Oxy-Cardio zone are interested in the biology of the plant species, their biodiversity, flowering pattern and growth, thanks to which spending time in hospital becomes more pleasant. Our observations so far indicate the usefulness of building such zones in health care facilities for decorative, relaxation and therapeutic purposes, which is why we will actively participate in making them more widely available. At the same time, we would like to thank the creators and implementers of this project for doing this in our area”.

BY PRZEMYSŁAW GRZYB, MALWINA WADAS

Print out my ear



Magdalena Przychodniak and Paweł Ślusarczyk

3D printing amazes with its capabilities. It can create simple solid figures as well as complex objects engineered with surgical precision. However, it's still a new technology that's quite mysterious to many people. In this context, bioprinting sounds practically like science fiction. Real world surprises us once again – the Open 3D Bioprinting Cluster was established by CD3D at the Bionanopark in Lodz. This is the first cluster of its kind in Poland and the largest in Europe.

Bioprinting is an innovative technology that's available to all biotechnology, medicine and pharmacy companies. The Open 3D Bioprinting Cluster offers technological support and access to state-of-the-art hardware.

BIOPRINTING'S OLDER BROTHER

To explain what 3D bioprinting is, we need to talk about traditional 3D printing. In using 3D printers, we can print objects made of plastics (and sometimes other materials – like metals, resins, or even chocolate) with various properties. First we create a virtual three-dimensional object; then the device takes the design and creates subsequent layers of raw material, which creates the desired shape as it sets.

Many people associate 3D printing with simple solid figures and small objects. In reality, this technology allows us, on the one hand, to create immensely precise and exquisitely made objects; on the other hand, it produces large and complex structures like houses or even cars. 3D printing is used to prepare prototypes and concept products, as well as finished parts of larger machines, or independent objects. This technology is becoming increasingly common and 3D printers are already available for individual users.

NICHE WITHIN A NICHE

Bioprinting basically does the same thing – the only thing that's different is the raw material. Instead of plastics or metals it uses bioinks (e.g. alginate gel) or biological materials, e.g. a specific cell type. Such use of 3D printing is a solution that cannot be described without saying that it's absolutely novel. "The oldest news about bioprinting I managed to find is from 2007. Maybe there are earlier ones, but I can't say," said Paweł

Ślusarczyk, co-founder of the Open 3D Bioprinting Cluster project, in one of his interviews. A breakthrough date for bioprinting was 2015 when the first "low-cost" 3D bioprinter appeared on the market for USD 5 thousand. 21 bioprinters made in Poland operate at the Cluster in Lodz. This is the only place of its kind in Poland and the largest in Europe. Its owners are aware that they have to remain patient for the time being. "At the moment bioprinting is a niche within a niche," says Paweł Ślusarczyk. Nonetheless, he knows that the use of this solution may become commonplace very soon, and this is, indeed, due to the existence of places like the Open 3D Bioprinting Cluster.

"SPARE PARTS" FOR A HUMAN BEING

3D bioprinting will be used in medicine, pharmacy, clinical studies, and in many other fields. Regenerative medicine has high hopes for this technology. This is because bioprinting could enable us to print, among others, entire organs. This sounds improbable, but even now there operate companies in the world, like the USA's Organovo, that can create parts of the liver, blood vessels or skin from an appropriate raw material. So far it's difficult to talk about a finished set of "spare parts" for a human being, but we can certainly use such organ fragments in studies, e.g. pharmacological ones. They exhibit properties that are nearly identical to those of natural organs. Today we can even print a desired shape using bioink (a so-called bioscaffold) that can be used to grow all kinds of cells. This way we can create, for example, an ear-shaped object that can be used as a prosthesis (it will not have full functionality, but it will be natural and neutral to the body). At many research hospitals around the world, using replacement cartilage or small bones printed using a bioprinter is almost a routine procedure.

SUCCESS WILL BE DECIDED BY USERS

The Open 3D Bioprinting Cluster will not run any R&D operation by itself; it has no plans to distribute and sell the printers either. It does, however, open its doors to all interested entities – primarily to universities, laboratories and research hospitals. The Cluster offers access to the technology and full support for its use, including with respect to preparing materials and studying results.

“The market for our services isn’t really there yet,” says Ślusarczyk half-jokingly. Nevertheless, Magdalena Przychodniak – co-founder of the Cluster – doesn’t have any doubts that it’s just a matter of time. “We see news about bioprinting practically every day. Perspectives for development, particularly in the field of materials, are huge,” she comments. “The ultimate shape and results of this technology will be decided by its users. We give them a tool that will help them achieve the desired results,” adds Magdalena Przychodniak.

MORE QUESTIONS THAN ANSWERS

Paweł Ślusarczyk is certain that their work with bioprinting will turn out to be groundbreaking, but it will have to be very systematic as well.

“First, we work with bioinks and test various solutions. Then, we bioprint parts using biological materials, i.e. living cells. However, before we achieve measurable results, we will have to verify how these living cells behave, how many survive, does the shape and geometry of the printed object influence it, can we modify it, what about external factors such as temperature or humidity? It’s just one issue with bioprinting and there are many more questions,” he comments. Much will also depend on the demand of institutions and entities that will want to take advantage of the possibilities offered by the Open 3D Bioprinting Cluster. Nevertheless, when deciding to run such an innovative operation, we have to be ready for the fact that there will always be more questions than answers.

IMPORTANT NEIGHBOURHOOD

“3D bioprints made of gel materials are relatively small, and their longevity in natural conditions is very short. For 3D bioprinting work to be efficient, we need an appropriately equipped laboratory that gives meaning to the entire process,” emphasises CD3D’s Magdalena Przychodniak. 3D bioprinting by itself is a part of a greater process – the accompanying research is crucial. Its efficiency is also hugely influenced by the fact that the 3D Bioprinting Cluster is a part of the Molecular and Nanostructural Biophysics Laboratory at the Bionanopark in Lodz. It’s one



Bioprinting process – building three-dimensional structure from biocompatible hydrogel material

of the best equipped laboratories in Poland, and it makes it possible to conduct a wide variety of studies in such fields as biomedical engineering, materials engineering, nanotechnology, molecular biology, biochemistry and cell biology. The laboratories also study: pharmaceuticals, cosmetics and food. The 3D Bioprinting Cluster allows us not only to bioprint threedimensional gel structures, but also to comprehensively study them at each stage of research. Thanks to the great number of available devices, research can be conducted on a large scale.

LODZ’S PIECE OF THE GLOBAL PIE

By founding the Open 3D Bioprinting Cluster at the Bionanopark in Lodz, CD3D didn’t just present a pioneering technology. It also provided it in a novel manner to entities that perhaps wouldn’t ever imagine working with bioprinting without such an opportunity, or they would ignore such a partnership until the solution becomes common. The Cluster and the opportunities it offers can drive the development of companies and research centres not only seated in Lodz and its region, but also – due to the scale of the Cluster’s operations – throughout Poland. We also need to remember the business aspect of bioprinting. It’s estimated that by 2027 the global market of this technology will be worth nearly USD 2 billion. Thanks to the Cluster, a slice of this respectable pie will surely remain in Lodz. ●

BY MARZENA ZBIERSKA

Biotechnika crosses the ocean



Tomasz Kapela (Company President) and Sebastian Mroczek (Plumbing Engineer)

A biorefinery worth USD 80 million, based on technology designed entirely by the Lodz-based Biotechnika, is being built in the US by an American investor. A similar installation was already constructed in Poland several years ago, however the project underway in North Dakota is even more unique and it might be just the first step in this company's global expansion.

The name biorefinery stems from the classic meaning of refining technologies. As explained by the owner of Biotechnika, Tomasz Kapela, “refining” means transforming a complex primary raw material into individual fractions. Such is the case of oil refining, where petrol, kerosene, aviation fuel, diesel, etc. are produced. Valuable components can be separated from biomass through refining and are further processed into products of even greater complexity and value. A biorefinery is a place where biomass is refined.

A RECORD BIO-TRANSFER TO THE US

The value of the contract being implemented by Biotechnika in the USA is a record in the history of Polish biotechnology companies. How did a company from Lodz establish contacts that resulted in co-operation with a business partner from across the ocean? “This is a combination of serendipity and many years of hard work,” explains Tomasz Kapela, “We built an installation very similar to the one implemented in Grand Forks, ND, but in Poland. The combination of the process lines in Grand Forks is quite unique, so the investor, BioMass Solution, had a serious headache finding a company that could demonstrate creating something similar and operational on a large industrial scale. It turned out that we have already completed similar projects. The raw material itself, as well as the scale of the investment, are unique to such an extent that there are relatively few companies with the know-how to take on such an

undertaking. This is further evidenced by the fact that we are currently in talks with many potential clients around the world related to similar projects,” adds Tomasz Kapela.

BIOETHANOL FROM WASTE

The American investor is implementing a biorefinery construction project to be based on waste from sugar beet and potato processing (at least at the start of operations). “The final product will be advanced bioethanol, i.e. a renewable fuel additive, as well as thermal and electric energy, as well as a high-protein feed component,” Tomasz Kapela explains. The parts of the beets to be used as the raw material are classified as waste in the US and ethanol produced from waste has a significantly higher market value there, in a large part thanks to the system of incentives and subsidies available under the American Renewable Fuel Standard programme.

“We are halfway through the investment. In a general sense, all earthworks are already completed, as well as the reinforced concrete structures. We're currently at the stage of supplying machinery and equipment, as well as constructing the steel structure,” reports the owner of Biotechnika.

A VISION TURNED INTO A SYSTEM

Biotechnika is an engineering and design services company that provides comprehensive services

for industrial projects. It operates in the field of broadly defined industrial biotechnology, primarily bio-refining primary and waste raw materials, biofuels, bioenergy and the biological management of waste and sewage. Its three primary areas of activity are: consulting, multi-industry design and the implementation of own technologies, combined with the supply of machinery and equipment, i.e. assembly, commissioning and optimisation.

“We have a team of engineers and designers in all industries needed to support the complete investment cycle: from obtaining preliminary environmental decisions, through all the design stages and finally obtaining administrative decisions on construction. This means, more or less, that we transform our clients' vision into a ready and efficiently operating facility: from a green field to a working industrial plant,” Tomasz Kapela explains.

How does this work in practice? Customers define limit values – for the process and construction – while Biotechnika fills them in with process and design content, supported by the knowledge and experience of machine and device suppliers. Biotechnika's permanent partners in this area include global and well-recognised companies with enormous experience in their relevant areas.

TECHNOLOGY PARK NEXT DOOR

Biotechnika also conducts research, co-operates with local research centres, both academic and commercial. “Our main partner is Bionanopark, with which we have been co-operating for many years on commercial projects, but also R&D projects financed from European Union funds, among other sources. Lodz has some really great specialists and the laboratory facilities at the Lodz technology park are not inconsequential on a global scale. In addition, we have started co-operation with the Lodz University of Technology, currently with the International Faculty of Engineering (IFE). We would like to have true influence on the education model in biotechnology, which will allow future graduates to work in companies with a global reach, hopefully also Biotechnika.”

FUTURE LINKED WITH LODZ

Biotechnika has been on the market for 12 years and currently employs over 20 people. The team is consistently growing and the greatest potential



Set of chemical reactors – Bionanopark

lies in the expansion of the process and R&D departments. When asked about possible factors affecting the company's future development, Tomasz Kapela answers: “The success of the project implemented in the US will certainly reinforce our market position as that of a reliable partner on a global scale. In implementing this project, we're working with companies from: India, Germany, the Czech Republic, Slovakia, Brazil, Austria, France and the US. In addition, ever stronger global trends related to biorefining and the search for clean energy and fuels will certainly provide us with growth opportunities in these areas not only on the Polish, but also on the global market.” Biotechnika's owner doesn't hide his strong ties with Lodz and isn't considering moving the company's headquarters anywhere else. “Lodz is the perfect location for a company like ours,” he assures. “Convenient communication, now pretty much in all directions, facilitates business contacts, while the positive image the city has been gaining in recent years works only to our advantage. This is where we live and none of us are thinking of moving. It should be noted that almost all of the company's employees come from Lodz and are mostly graduates of the Lodz University of Technology,” he adds. The presence of Bionanopark, a world-class Research and Development Centre, is an extremely strong asset of the city, with another advantage being the possibility to obtain financing from regional funds for research and development projects. According to Tomasz Kapela, Lodz and the Lodz region offer, in essence, a full set of tools necessary for business development. ●



From the left: Katarzyna Przybył, Marcin Szczęśniak, Aleksandra Jaworska, Andrzej Przybył

BY KATARZYNA JÓZWIK

Fight to succeed in business

A pocket router that provides unlimited internet access everywhere in the world; a breathable orthosis that can replace plaster casts; or a pig farm monitoring system. These are only some of the innovative business ideas prepared as part of last year's edition of the "Youth in Lodz – I've Got a Start-Up Idea" competition.

Everyone who ever attempted to run their own business knows that it's not an easy task. Especially if one's a young entrepreneur and the idea is novel. Then it's not just the money that counts, but also a thought-out business model and valuable contacts. Such support is available for participants of the "Youth in Lodz – I've Got a Start-Up Idea" competition.

SUPPORT FOR INNOVATION

According to the organiser, the main idea of the competition is to create a space for cooperation between young innovative creators, business experts and potential investors. The form itself is surprising: not only do meticulously selected business ideas have an opportunity to win the main prize, but also to receive professional business support. A series of training courses, supervision of

an experienced mentor, and a network of contacts are like a business fishing rod for a beginning entrepreneur. Participants of previous editions unanimously state that their participation in the "Youth in Lodz – I've Got a Start-Up Idea" competition opened their eyes to many issues they hadn't considered at all in relation to the development of their business. A perfect example of this is the career of last year's winner, XOXO WiFi, maker of a mobile router that provides inexpensive internet when travelling. "Over the last half a year we've become a completely different company. Did our participation in the competition influence this? Certainly. Discussions we'd had and the participation in training courses changed our way of thinking, showed us a direction of development," admits Katarzyna Przybył, co-founder of XOXO WiFi. "Personally, I've never

seen a more complex training and mentoring component in any competition or acceleration,” she emphasizes.

BILATERAL COOPERATION

Business expert support was introduced to the competition’s programme only a year ago. Despite this, it fits the entire idea of supporting new businesses perfectly. Especially since both sides reap the benefits of such cooperation. “Participants of the competition are young entrepreneurs who are full of ideas and determination. Working with them is a fantastic and very inspiring journey. On the one hand, a mentor functions as a guide in the realm of business players. On the other hand, the mentees provide not only interesting ideas but often a fresh business perspective as well,” admits Marta Starek-Piasty, business expert and mentor in the competition. “When these two worlds begin to merge, the result often includes many interesting concepts that are beneficial for all parties,” she emphasises. Despite the great chasm in business experience, participants of the competition and experts who give them advice find a common ground. Even more so, both parties gain valuable experience thanks to their cooperation. Furthermore, the established contacts can result in measurable benefits in the future as well. In this year’s edition, new entrepreneurs can take advantage of the support of 42 business advisers.

BUSINESS COMPREHENSIVENESS

Individual stages of the competition were prepared with utmost diligence. A new entrepreneur is practically led by the hand in the direction of business success. The aforementioned mentoring, training courses conducted by practitioners, and a diverse network of contacts constitute a solid foundation for every new company. This is complemented by an opportunity to raise capital (cash prizes totalling PLN 89 thousand; the value of all prizes in the competition is estimated at PLN 200 thousand) and receive professional consultancy services (e.g. accountant support, business incubator support). “A large dose of knowledge and experience is the most important thing a young entrepreneur can receive,” admits Katarzyna Przybył from XOXO WiFi. “If you add financial support, nothing can go wrong anymore!” she assures. “Youth in Lodz – I’ve Got a Start-Up Idea” is a competition whose programme is a response to the most important needs of

a young person beginning her business adventure. “A large group of experts provides participants with advice not just on finances but also on building operational and business models, obtaining funding for development, legal regulations, or even business psychology,” emphasises Marta Starek-Piasty. Young entrepreneurs receive comprehensive support which, step by step, explains the reality of running one’s own business to them. All of this is beneficial later on. For XOXO WiFi, the participation in the competition was a trigger for their tremendous growth. Not only is their pocket router available in over 130 countries, the product has recently been provided to customers of one of the largest banks in Poland. Furthermore, a subscription service is planned to go live within the next month. “We are also working on a mobile app that will let us manage our account, top it up, change the country,” states Katarzyna Przybył.

OPPORTUNITY FOR EVERYONE

Innovative business ideas can be submitted by both individuals and beginner companies. Although the event is organised by the City of Lodz Office, the competition itself is aimed at imaginative young businesspeople around the country. “Competition submissions include enterprises that impact the entire world, as well as novel initiatives with positive influence on the local market. Importantly, the “Youth in Lodz – I’ve Got a Start-Up Idea” competition is aimed not just at young entrepreneurs from Lodz but also at innovators around the country,” emphasises Renata Biadała from Business Development and International Relations Bureau Mayor's Department City of Lodz. “Nowadays, it’s difficult to find a city with better office spaces and a better location than Lodz. We want Lodz to attract young people who approach the world with enthusiasm; people who invest their energy in the development of their own company,” she adds.

The 11th edition of the “Youth in Lodz – I’ve Got a Start-Up Idea” competition is currently under way with the participation of 35 teams from Poland. Just like last year, the participants are accompanied by experienced trainers, mentors and business practitioners who support the development of their businesses. The competition will be concluded on 11 October during the celebratory final gala involving the presentation of and an award ceremony for the best projects this year. Detailed competition terms & conditions are available at www.startupy.lodz.pl •

BY MARZENA ZBIERSKA

Emerson: how we created the world



From the left: Szymon Wesolowski – Assembly Manager and Piotr Rutkowski – Senior Talent Acquisition Specialist

They operate in a train braking system, regulate the flow of coffee in a coffee machine, or the flow of air in a respirator. Solenoid valves. The ones manufactured by Emerson, a global corporation, end up in various branches of industry in many places worldwide. They are tested in tropical conditions or extremely negative temperatures. Since 1996, they have been manufactured by Emerson's plant in Lodz.

Chances are that practically everything in the world is made with Emerson's products. This statement demonstrates the reach and significance of this global corporation and constitutes its motto at the same time. It's difficult to believe, but products made by the Lodz manufacturing plant are present in many daily use devices: in houses, hospitals, in public places, as well as in factories around the world. Emerson contributes to practically everything that is made.

IN A COFFEE MACHINE, RESPIRATOR, AT A PETROL STATION

Piotr Rutkowski, responsible for coordinating the recruitment processes, explains this phenomenon:

"Our goods are not sold as final products, for example as a coffee machine; however, they constitute components of many devices or are used to automate production lines that manufacture equipment used by all of us every day. We service nearly all industry branches, beginning with the process industry, through the chemical and petrochemical industries, sewage treatment facilities, and ending with car factories and factories manufacturing parts for the automotive industry," lists Piotr Rutkowski. What other devices are made using Emerson's components? The examples are

numerous. Solenoid valves can be found in train braking systems (their task is to remove moisture from the entire pneumatic system, so as to prevent water that collects in cables from freezing in low temperatures), they are used for emergency door opening in a bus, or to regulate the position of beds in Lodz hospitals. Additionally, they are present in respirators and insulin pumps. "We meet very rigorous requirements of the medical industry concerning the manufacture process, because there can be no impurities inside a respirator, and thus valves must be sterile," explains Piotr Rutkowski. But that's not all. Valves manufactured in Lodz are also used in fuel dispensers at petrol stations (they cut off the flow of fuel after fuelling), as well as in coffee machines, where they control the flow of water.

IRKUTSK'S KILLER FROST VS HEAT WAVE

In addition to solenoid valves, Emerson's manufacturing facility in Lodz also makes pneumatic cylinders and solutions tailored to individual client needs. "Our products are characterised by the highest quality, unparalleled precision of manufacture, as well as operating safety," lists Łukasz Kwiatkowski, Regional Marketing Communication Generalist Central & Eastern Europe at Emerson. "Thanks to the use of our valves in the automation of production lines, it's possible to significantly reduce design complexity, operating costs, and thus electricity expenditures," he adds. According

to Kwiatkowski, the innovativeness of Emerson's valves lies in the method of their manufacture and assembly, and in exceptional reliability and durability. "Industrial automation components produced by Emerson are very durable. All stages of production, beginning with the design, through studies, tests, production, and ending with the delivery of our products, are subject to regular quality control," states Kwiatkowski. "This is very important because we receive orders from clients around the world and, thanks to such solutions, we are prepared for extreme challenges. If a client from Russia intends to build devices or a process control system, for example, in Irkutsk, we will perform durability tests to be absolutely sure that the valve is going to last in such extreme weather conditions," he adds.

WE FEEL BEST HERE

The manufacture of valves in Lodz has been continuously under way since 1996. In the recent years, the company has seen a dynamic organic growth of 15 percent. The facility in Lodz has increased its number of jobs from about 260 people to nearly 570 employees. Emerson recently launched a Central and Eastern Europe distribution centre in Lodz. "The location of Lodz turned out to be crucial for us," says Szymon Wesołowski, Assembly Manager at Emerson. "The good road infrastructure also had a colossal impact, enabling us to reach other countries in Europe and around the world. This is very important for global business operations," adds Wesołowski.

However, the decision to locate the production facility in Lodz was made not just because it's in the centre of Europe, but also because there's access to qualified staff and cooperation with local universities. For many years the company has been developing the land left by a former industrial plant and launched numerous production lines. At present, Emerson's production facilities span an area of 14 thousand square metres in total, and further expansion is planned. According to Piotr Rutkowski, continuous improvement is key for Emerson. "We are continuously improving existing processes and compressing our internal operations to take up less space and to make it possible to launch new production lines," he explains. Such a situation is largely influenced by an appropriately motivated and competent



We have been developing our production in Lodz since 1996

team, which is why the company focuses on supporting the development of young people and commits itself to projects that can facilitate just that. Emerson works closely with, among others, the Lodz University of Technology. "We take advantage of the knowledge of the scientists with whom we work on various projects, and we are open to young people, students of the university," continues Piotr Rutkowski. "Each year we commit ourselves to internship projects, we finance scholarships for the best students, participate in competitions, for example: for the best employer, and we organise summer internships for students."

NO (BAD) IMPACT ON THE ENVIRONMENT

Emerson is a company that boasts a thoughtful and consistent environmental protection policy. "We largely focus on ecology, on running the production in such a manner, so as not to endanger the environment in which we operate," emphasises Łukasz Kwiatkowski. "Every year we organise a tree planting campaign for our employees, combined with a family picnic and collection of electronic waste. Everyone who brings old used electronic equipment receives a plant in return. We promote commuting by bike and organise annual bike inspections. In June, the World Environment Day is loudly celebrated by the entire Emerson corporation. Its care for the environment is also global in nature. Many process solutions provided by Emerson support power efficiency in factories and the sustainability of companies. Everything to make the global industry work even more efficiently, but – first and foremost – safely." •



BY MALWINA WADAS

30 years! Cheers!

Mieczysław Wośko, President of the Management Board of Polfarmex S.A.

100 percent of Polish capital, 130 products present in Poland and on 17 foreign markets, 700 employees. These current figures describe Polfarmex. The generic drug manufacturer celebrated its 30th anniversary in May this year.

The company specialises in the manufacture of generic prescription drugs used in pulmonology, allergology, cardiology, gastroenterology, diabetology, neurology, gynaecology, as well as antibiotics, over-the-counter drugs and dietary supplements. It is also the manufacturer of the world's first generic preparation containing fluticasone and salmeterol, used to treat asthma and chronic obstructive pulmonary disease (COPD). The company's products are available on markets in Central and Eastern Europe, the Baltic states, and in the Far East.

HEALTHY PATH TO BUSINESS

At present, Polfarmex is a large manufacturer. However, its first steps consisted of just several employees and a lot of zeal. Mieczysław Wośko is the initiator, founder and president of the Management Board of Polfarmex S.A. Just after his studies, the graduate of the Faculty of Food Chemistry at the Lodz University of Technology began working at the "Polfa" Pharmaceutical

Plants in Kutno. He climbed all the steps of the corporate ladder in order to become the plant director after 20 years of work. 1989 was the groundbreaking year; an opportunity appeared to use his experience to found his own company. On 10 May of that year, Mieczysław Wośko founded PolfaFarmex. Until 1994, PolfaFarmex operated primarily as a trading business, acting as an intermediary in the sale of imported proprietary medicinal products and active substances used in the manufacture of pharmaceuticals. Two years later, the company placed its first original product on the market – the popular Calcium. Calcium-based products were indeed its trademark. After six years of operation, alongside the switch to manufacturing, the company changed its name as well. Polfarmex bought a capital construction plot in Skłęczki, an industrial district in Kutno, where the construction of the new plant began over 84 thousand square metres of land. This plant operates to this day. In 1999, the enterprise was transformed into a joint-stock company, whereas commercial and marketing departments were expanded,



Drug manufacturing at Polfarmex S.A. takes place according to the Good Manufacturing Practice (GMP)

which opened up new opportunities for working with pharmaceutical distributors and the company's presence on international markets.

PARTNERSHIP OF BUSINESS AND SCIENCE

The company has been continuously investing money into its research & development works. Since its inception, it has also been closely working with the Lodz scientific community. The company's partners include the Lodz University of Technology and the Medical University of Lodz, where the Synthesis Laboratory has been operating at the Faculty of Pharmacy, constituting a part of the research & development department of Polfarmex S.A. Its operation involves searching for and synthesizing new molecules with potential allergy and asthma treatment properties.

"Only by investing in research & development can we discover substances that can help us address new and very difficult challenges in the realms of both medicine and pharmacy. The positive impact of pharmaceutical innovations has far-reaching effects for both the patients' quality of life and the entire economy. Key challenges standing before us include searching for effective and inexpensive methods of treating diseases of civilization, diseases related to

ageing societies, and lifestyle diseases," says Mieczysław Wośko. The company grew closer to Lodz in 2017, when a biotechnological laboratory was founded at the Bionanopark Technology Park, focusing its research works on biosimilars. The purpose of this project is to, among others, invent an efficient production technology for making biosimilar human insulin. On the other hand, at the Kutno plant, the company conducts works on variants of drugs with immediate-release and modified-release dosages of their active substances, which could find use in therapies of diseases of civilization.

"Drugs that immediately release their active substance are characterised by a short time after administration to achieve the correct concentration of the therapeutic substance in the blood, according to the parameters of a given therapy. By using modified-release dosage forms, we eliminate the need to take a specific drug dose often, and we can limit the risk of it being skipped by the patient, thus improving the effectiveness of treatment," explains Mieczysław Wośko.

RECIPE FOR SUCCESS: MEET THE CHALLENGES

When analysing Polfarmex's business success and products that save human health and life, we can't help but appreciate them. The company's



The objective of Polfarmex S.A. is to create an efficient technology for obtaining biosimilar human insulin

potential can be also seen in numerous awards and prestigious distinctions collected by Polfarmex over the years. They include, among other things, the “Teraz Polska” Promotional Emblem, “Business Gazelles,” “Golden Consumer Laurel,” “Golden Otis,” distinction in Forbes’ Diamonds competition, and other awards. “The trust in medicines produced by Polfarmex has a solid basis in our procedures and the pro-quality approach of every employee who, with their daily, reliably and carefully performed work, contributes to the fact that products created at the factory in Kutno reflect the standards of the Good Manufacturing Practice, requirements of therapeutic efficacy and safe use,” replies Mieczysław Wośko when asked about sources of the company’s business success. The key values at Polfarmex are respect (for clients and employees), responsibility for the manufactured products with all consequences resulting from this obligation, and the pursuit of knowledge.

The most important directions of the company’s development include: further research & development works on biotechnology drugs; making preparations that are currently unavailable on the Polish market and developing existing ones; expanding the contractual manufacture and licensed sales branches.

“We want to develop our product offer more, in order to better meet the needs of patients. They change depending on demographic changes, diseases of civilization and societal lifestyles. To do this, we not only have to perfect our product, but primarily reach into the future, which is why we have been focusing on research & development since the company’s inception,” says Mieczysław Wośko with respect to Polfarmex’s thirtieth anniversary. ●

● PROJECTS IMPLEMENTED BY POLFARMEX, COFINANCED BY EUROPEAN UNION FUNDS

● “Development of the R&D infrastructure of Polfarmex S.A.”

Project co-financed by the Regional Operational Programme for the Lodzkie Voivodeship 2014–2020 as part of measure 1.2 “Promoting investments of enterprises in research and innovation.” The aim of the project is to improve the potential of Polfarmex S.A. to run research & development activities consisting in the expansion of its existing R&D department by purchasing scientific and research equipment for R&D operations in the field of red biotechnology. This will enable the company to begin research on innovative groups of biological medicines, including biosimilars. Project value: PLN 1,959,183.25

● “Creating a technology for obtaining biosimilar human insulin”

The project co-financed by the Regional Operational Programme for the Lodzkie Voivodeship 2014–2020, priority axis I. Research, development, commercialisation of knowledge, measure I.2: Investments of enterprises in research and innovation, sub measure I.2.2: R&D projects of enterprises.

The purpose of this project is to invent an efficient production technology for biosimilar human insulin over the period from 01.2019 to 12.2023. Project value: PLN 19,288,562.41

● “Increase in the potential of Polfarmex S.A. to run R&D activities”

Project co-financed by the Regional Operational Programme for Lodzkie Voivodeship 2014–2020, priority axis I. Research, development and commercialisation of knowledge, as part of measure I.2: Investments of enterprises in research and innovation, sub-measure I.2.1: R&D infrastructure of enterprises.

The purpose of this project is to increase the potential of Polfarmex S.A. to run R&D activities thanks to the financial support of the European Union, intended for the company’s investment in the R&D infrastructure, enabling the development of modern forms of modified- and immediate-release dosage drugs, at the pilot scale. Project value: PLN 4,967,685.21

● “Increase in the potential of Polfarmex S.A. to run R&D activities: Stage 2”

The target will be achieved by executing the task consisting in the purchase of 10 devices for the laboratory for formulation works at the pilot scale in Kutno. The conclusion of the task will enable the company to begin works on innovative groups of medicines and, in a long-term view, commence their industrial manufacture. Project value: PLN 3,374,475.06



BY MARZENA ZBIERSKA

Trainers for special missions

Mateusz Stasiak & Karolina Mikołajczak

The International Trainers and Facilitators Federation based in Lodz was established 10 years ago and brings together about 1000 trainers and facilitators. Local governments, corporations and small businesses have availed themselves of their support for years. Now the federation is focusing on international expansion – the goal is to work with trainers from around the world and transfer proven solutions to Polish soil.

Members of the International Trainers and Facilitators Federation are not only a professional group, but also a community that supports each other and works together on joint projects. Trainers help entrepreneurs overcome difficulties in management, improve communication within a team and open up to new opportunities. They teach others how to teach, but also educate each other, and in doing so constantly improve their qualifications.

WE DON'T HAVE A CATALOGUE OF READY-MADE TRAINING OPTIONS

“Our organisation was established in 2009,” Mateusz Stasiak, Managing Director of ITFF, recalls. “At the time we were already involved in many projects: conducting research in

California and working at the European Parliament in Strasbourg. We learned modern work methods there. However, now the time has come to seek inspiration elsewhere in the world. We'll soon be starting a series of meetings with trainers working in different countries. We went to Malta and we're going to Denmark, Switzerland, France and even Japan to get to know other cultures, the needs of trainers and to understand the way they work, their tools and then to disseminate them. In a few months we are going to launch an innovative platform and embark on an international adventure with: www.trainers.org,” he adds. The www.trainers.org website is meant to be a place for sharing knowledge, experience, networking with trainers from around the world, allowing trainers to present themselves and form

an international training community. It's also intended to encourage membership in the ITFF and promote the federation's activities. The website will be launched in the second half of 2019 and will eventually be available in several language versions: Polish, English, German, French, Spanish and Japanese. Karolina Mikołajczak is a trainer and supervisor, and has been working with the ITFF since its inception. When asked what distinguishes trainers and the federation itself in the training services market, she answers:

“The organisation's value lies in its very high work standards and readiness to act and share. All the training and education processes we prepare are tailor-made. We're not simply another organisation that offers services as a routine and has a catalogue of ready-made training. We respond to our clients' actual needs and this allows us to get very good results,” the trainer adds. ITFF trainers begin their work by researching the needs and identifying areas that need development. The next step is defining objectives and the education process, and finally monitoring, which allows for an assessment as to whether the assumed goals have been achieved.

A TRAINING OFFER FOR DEMANDING CUSTOMERS

The ITFF's activities are focused on conducting training for trainers who want to improve their competences and solve problems in organisations. “Another area is testing and developing tools for training work in enterprises,” Mateusz Stasiak adds. “To do this, we conduct research and development activities, which lead us to discover and disseminate various tools. This way we can create an offer for almost any range of training and solve any problem,” the ITFF director enumerates. These might be problems with strategic, process or team communication management. Sometimes a trainer aids in improving task completion and perfecting processes. Trainers and facilitators also work on the development of start-ups and SMEs, as well as training for people in non-governmental organisations. “In small companies we jointly implement projects that are meant to strengthen promotional activities and brand building,” Mateusz Stasiak elaborates. Karolina Fijolek from Instytut Spraw Obywatelskich (The Civil Affairs Institute) participated in an ITFF first-level trainer course. “Thanks to the training, we raised our



ITFF trains start-ups and trainers

competences as advisers and trainers, we learned how to work with a group, as well as how to design training and educational processes.”

COMMON LAND FOR FREELANCERS

Members of the federation agree that working together brings other benefits in addition to raising qualifications. “We have real comfort in that there's a person in the federation's headquarters who responds to calls from clients, prepares certificates and checks training materials. This is very important, because usually a freelance trainer is left to fend alone in this matter,” explains Karolina Mikołajczak. In addition, the organisation's reputation helps in obtaining business and thus one can submit bids where an individual application might not have a chance.

“We have a network of contacts, we know how to develop the non-formal education market. We create it and set standards. We also know the trends and practical needs of this market. The Federation creates a huge amount of knowledge for us to share,” adds Karolina Mikołajczak. Graduates of courses for trainers organised by the federation also become members of the ITFF. Thanks to this, they are connected with the organisation from the very beginning, already at the stage of their education. When asked about the benefits of membership in the organisation, Paweł Makowski, trainer and member of the ITFF, answers:

“At this stage of my professional development, it's primarily institutional support in obtaining EU funds for my clients. As an independent trainer, I don't have the required certification. However, co-operation with the ITFF means that we perform these projects together. I offer my experience and work in the training

room, while the ITFF handles the entire administrative aspect.”

SUCCESSION WITH A GUIDE

ITFF trainers are good at observing changes and trends in management, in particular human resources management. Problems with succession are one of the most evident phenomena in Polish companies. “In family businesses there's often a need to transfer control”, says Mateusz Stasiak, “It turns out that the successors are unable to introduce their vision for the company's operations and change the management strategies adopted by the parents.

This leads to conflicts and sometimes can even cause the company's collapse. After a few meetings, the trainer, together with all key people in the company, can outline a strategy that will allow those transferring leadership to see that their management model is no longer aligned with market reality. An outsider often acts as a necessary catalyst for change, which allows a new strategy to be implemented and the company's potential to be better used,” explains Mateusz Stasiak. In small companies the problems are different, often related to building a brand, promotion and using modern technologies.

“People who started a company 20-30 years ago have a big problem with switching to company promotion based on modern marketing tools, such as social media. The trainer then takes small-scale actions to demonstrate the results. He also presents other companies in the industry that have achieved benefits by using specific tools. This allows the entrepreneurs to see and appreciate the potential of new solutions.”

GOAL: AGILE MANAGEMENT

Today we live in the information age and data is an extremely important decision-making criterion. “Essential learning, which entails learning the key, most important issues is a very visible trend,” explains Mateusz Stasiak.

“A two-hour meeting with a trainer should provide the team with enough information for the team to analyse, for example, its communication. The training should include numerous factual and specific cases, as well as an analysis of the activities of competing companies. This makes knowledge acquisition very productive.”

Agile management is another strong trend. Mateusz Stasiak believes that



Karolina Fijolek, The Civil Affairs Institute

over the next 7-8 years this management model will be gaining in popularity. “It consists of making horizontal plans and setting concrete goals only for key activities, while the actual management occurs within the perspective of 1-2 weeks, i.e. the short term, as close as possible to the present. Such a perspective allows for quick and flexible planning and the implementation of effective activities.”

START-UP CULTURE – AN UNKNOWN LAND

The biggest challenge facing Polish companies is to launch a start-up culture and understand the global system of connections.

“A start-up culture shows that the company is meant to make a profit for the owners, but also achieve specific customer goals, social goals and create reality,” Mateusz Stasiak explains. “This approach creates company value.” Meanwhile, the greatest success is a situation in which every person can establish a unique entity that benefits others. ITFF mainly works with technological start-ups, which have huge potential, and – as Mateusz Stasiak emphasises – it is Polish developers who work on solutions used around the world in new technologies and IT.

“Start-ups are managed by a generation of 30-35-year-olds, very broad-minded individuals, who travel and implement projects for companies from around the world,” adds Mateusz Stasiak, “Polish programmers have a great reputation and are appreciated for their high level of skill. Interestingly, ITFF is also a technology organisation and a start-up, which gives a unique, hybrid connection, maybe even a chance for a Polish unicorn (a start-up worth more than a billion dollars). “I believe Lodz deserves a unicorn and such a company will surely be born here,” says Mateusz Stasiak. ●



Photocoach

He argues that being photogenic is a state of mind. He teaches how to stop fearing a camera and like yourself. He believes a playful look or a subtle smile are worth more than a white collar or a perfect hairstyle. **ROBERT SZYMCZAK**, a photocoach, explains how good portrait photos are made in an interview with Marzena Zbierska.

You've been taking portraits for a long time, but you added one more profession – you're also a coach and you manage to combine both. How did it all start?

I became a full-on coach a year ago, but it started much sooner. During photo and film shoots, weddings in particular, I wondered why not all people come out equally well in photos. I've observed that they meet with a photographer, for a wedding for example, but they often have completely different attitudes. Some, the brides usually, are very excited and happy to pose for photos. Not so in the case of the grooms – they're often very impatient and ask when the shoot will be over at the very beginning. Having a lot of experience with people whom I photographed or filmed, I found that attitude and mood during the shoot are equally, actually even more important than appearance itself.

And as a photographer-coach you decided to change people's attitudes?

Sort of. I completed a course run by the International Trainer and Facilitator Federation in Lodz and I learned a set of rules that allowed me to better take advantage of all the knowledge that I had previously gained while working with my photo and video cameras. I knew that many people have a problem accepting their body, they don't like themselves and that's why they say that they don't look good in photos. They say: "I'm not photogenic." I've been hearing such opinions and meeting people saying this more and more often, so I began to wonder what being photogenic means.

I have the impression that it's very much in the eye of the beholder. The same applies to an assessment of someone's attractiveness, where interpersonal relations, emotions and self-esteem play a great part. Can you learn to be photogenic though?

Yes. Looking good in pictures is subjective, even though it's based on a certain average reception. There are studies in appearance psychology and on the relationship between appearance and emotions, which show that photogenicity is also, more or less, a habitual reaction. Paul Ekman demonstrates this particularly well in his book "Emotions revealed". In my opinion, though, looking good in photos is largely a skill. Just like charisma or public speaking. For many years, we've been convinced that this is a talent. Today these skills are taught. Various factors belie the belief that being photogenic is a gift and not a skill. In observing the changing photo-video services market, I've noticed that the emotions one feels before a camera affect one's appearance. Obtaining a satisfactory result comes easy, if the model is content, happy. If impatience is involved, the photo won't be good.

Nowadays, practically everybody needs a good photo, not only to document important life events, but mainly to present themselves on the Internet. I am here, of course, referring to social networking sites, professional networks and even dating sites. It's the photo that the recipient sees before there's an opportunity to meet in person.

Exactly. The first impression is mostly a product of the profile picture. Several areas of the human brain determine how we perceive certain images and our assessment depends on the part of the brain that prevails.



The photogenicity session

This takes a fraction of a second. Such a short time doesn't allow us to observe many details, but we can judge: nice or not nice. This isn't enough to get to know a person, but suffices to assess and adopt a certain attitude. This mechanism is embedded deep within us, in what's referred to as our reptile brain, which governs our fight or flight response, or makes us feel safe at the sight of another person.

I understand that the idea is to elicit positive emotions and a feeling that will allow us to convince as many people as possible by means of a photo. So, if it's something that can be learned, how do you coach someone to be photogenic?

I've been working on photocoaching since 2011 and my coaching is based on eliminating barriers that prevent people from accepting their own photo. The coaching consists in recognising the features and elements that underlie one's belief of not being attractive in photographs. External appearance has a great influence on this belief and working with me is based on identifying these attributes and recognising whether they are true or false. Sometimes it's flattery. That's why when I listen to people talking about themselves, I pay more attention to the way they speak, not to what they say, and I gently challenge their beliefs.

So, for example, people assessing themselves say “my nose is too big”, but they might be thinking something completely different, for example: “I don't like my nose” or “My friend has a nicer nose...”

Yes, exactly. Conviction of one's unattractive appearance may be rooted in different issues – for example, we don't like ourselves, we want something else than what we have and it's difficult for us to accept ourselves from an unconditional love perspective.

There's a lot of psychology in this and the work of a photocoach is a bit like therapy. What's the expected outcome? What does it mean to be photogenic, if we were to consider it from a personality trait perspective?

Being photogenic is a combination of several traits: self-confidence, self-esteem and self-awareness in accepting one's image. We often look bad in a picture because we expect it to be so. This belief has to go. Three things are necessary to do this: the right attitude to photography, to the shoot and to yourself. The second is the internal dialogue that results from this, which is the emotions that we hold inside and which affect our appearance. The third part is self-awareness, which is the belief that you can be what you want and that your own mental state will be visible in the photo. Self-awareness is also the ability to strike a beneficial pose. Contrary to appearances, this isn't difficult.

Digital photography and photo editing software have given us many opportunities to improve a photo's quality: exposure, sharpness, saturation, but also the impression that the image gives, all this by retouching, for example. What should the authenticity of portraits refer to today?

I'm not a fan of over-processing photos. A natural smile and look are paramount, the rest is less important for the recipient. In portrait photography the person in front of the lens and their emotional state at a particular moment are the key, not the photographer, or having good gear and software. Of course, the photographer's know-how is important, but not crucial. It's worth recalling a thought of Leonardo da Vinci: “You do not paint external features, you paint what is in your mind.” Portrait photography is the same. A photo that shows emotions is authentic.

Thank you for your time! •



Anna Ochał

BY KATARZYNA JÓZWIK

We don't cross out anyone

It has been operating for only three years, yet it already has legions of devoted learners. Thanks to the recent workshop in drawing characters from the animated film “The Secret Life of Pets”, it acquired a new group of young fans.

The Kreska Studio, situated at post-industrial Scheibler Lofts, proves that drawing isn't just a game. Operating since 2016, Kreska Design regularly organises classical drawing workshops addressed both to children and adults.

BEAUTIFULLY DRAWN JIGSAW PUZZLE

The founder of the Kreska Studio is Anna Ochał, a graduate of architecture at the Lodz University of Technology. She invented her business idea during her studies. Although the first steps were difficult (unexamined market, low budget), the final effect exceeded the boldest expectations. This was in part due to an unplanned relocation. “Thanks to a lucky turn of events, we found a beautiful place for the studio at Scheibler Lofts. Our current studio is the only place in the entire complex

offering exactly what we needed: two separate spaces, including one room with skylights that provide ideal illumination, and very good rest and refreshment facilities,” says Anna Ochał. “The beautiful surroundings of the Lofts are an additional advantage; working outdoors is truly pleasurable in our case,” she adds.

According to the owner of Kreska, people offering support and often selfless help have also played a significant role in the development of her business. “This is another advantage of Lodz – a city where people want to cooperate and help each other run businesses,” admits Anna Ochał. Each of these elements has made the Kreska Studio into a very active company teaching over 100 learners and conducting a range of thematic courses.

FIND TALENT, POLISH IT, ENCOURAGE IT TO GROW

One of the recently conducted thematic courses was “The Secret Life of Pets” project. The event was aimed at the youngest fans of animated film; those who wanted to learn how to draw their cartoon heroes. “Children often draw characters from cartoons. Why not teach them to draw so that they’re much better at it?” explains the founder of the Kreska Studio. “The variety of animal characters in the film gives children a practically infinite number of inspirations. With active help from their parents, they can explore this idea later at home,” adds Anna Ochał.

The project was met with significant interest not only because of its topic, but also because of the teacher. Anastazja Paskevaska is an experienced illustrator from Lviv permanently working with the Kreska Studio on diverse projects. In addition, such workshops are a perfect opportunity to divert children’s attention from the ever-present electronic devices and a great way to engage children in manual tasks. Even more so, since drawing is not just a game but also an important component of the development of children’s skills. “We have this mission: find a talent to polish, encourage it to grow, develop a sense of aesthetics,” admits Anna Ochał. “Furthermore, kids are little creators with their problems and dilemmas that we can’t ignore. Nonetheless, everything takes place in the form of a game,” she adds.

HARD WORK PLUS CONSTRUCTIVE CRITICISM

The Kreska Studio also conducts other workshops. The majority of learners are young people preparing for entrance exams for art schools. The second group includes adults for whom learning how to draw is often a way to improve their professional qualifications. Since classical drawing is an absolute foundation in the profession of graphic designers and architects, participants of such classes are fully aware of what they want to learn.

“It doesn’t matter whether a learner comes to us to draw for fun, or to improve her professional qualifications, or to study her dreamed-of architecture. On our side, we always guarantee a professional approach and ideal conditions for work,” emphasizes Anna Ochał. Naturally, the method of running a workshop is compliant with the expectations of learners. If it’s about exam preparations or using drawing in professional work, workshop participants can count not just on interesting experiences but primarily on... hard work and constructive criticism by experienced instructors. “The foundation of our work



during the workshops is direct contact with the learner, knowledge, good techniques and didactic skills,” admits the founder of the Kreska Studio. One innovative approach to drawing workshops is aiming the offer at employers. According to Kreska’s founders, learning drawing can be an interesting alternative for orientation or additional profits for employees, especially since drawing counts as a relaxation technique.

EVERYONE CAN DRAW

The company’s name (“line”) refers to the basic shape-forming element of a drawing. Just like a line is made up of many dots, the Kreska Studio has been gaining momentum in its operation. The second branch of the company is being developed. Works on expanding the offer of short thematic courses are also under way. The studio is open to working with graduates and final-year students in art majors. It also aims to be fully flexible with respect to the requirements of the modern market.

“Digital design using computer-based techniques is definitely the future; however, it also requires the knowledge of classical drawing,” emphasises Anna Ochał. The studio encourages everyone who’s interested in drawing even a little to participate in its workshops. “We can attempt to teach anyone how to draw. Existing artistic talent or manual skills are a very individual matter, but we can always try!” states Kreska’s founder. ●

Kreska Design sp. z o.o. wishes to thank in particular all people who helped create it. The favourite Lodz team of functional graphic designers: Fajne Chłopaki. Loyal and dedicated co-worker Agnieszka Natasza Splewińska, of whom the studio’s owner has been always proud. Michał Śmiałkowski from Smartis for the cooperation in the creation of such a beautiful space; and, finally, Marcin Jaros, on whom we can always count.



Addicted to drawing

MARCIN PODOLEC (born 1991) is a renowned comics creator and animator, graduate of the Lodz Film School. His “Fugazi Music Club” comic book received a very warm reception on western markets, and his animated short “Document” was praised by critics and won several awards at film and animation festivals. In his interview with Przemysław Grzyb, he talks about whether comics and animation are serious art, and can one make a living making them, and why a large bar of chocolate is a sign of the highest praise for his work.

Comics is an art form that isn't treated quite seriously in Poland. It is perceived as an art form intended for children. Does it look the same from the perspective of a creator?

There's something to it, some people do say it, but the creator community has faced this head on. They fought with this stereotype by... publishing original children's comic book series. Thanks to this campaign, the slogan “Comics are for children!” transformed into “There are comics for children!” Polish creators stopped being ashamed of the fact that there is such a variant of comic art and stopped making comics only for adults. It's quite the reverse way of doing it, but these allegations were a burden

that forced comic books to serve the function of frivolous art, a poor brother of film or literature.

Is this changing now?

Absolutely. Comic books are being nominated for important cultural awards. They are more visible on the internet, in book stores; large comic book events are being organised. From the point of view of an author, I can also say that the number of copies has increased as well during the last few years. I don't know whether this is due to the general development of the comic culture, or maybe this grassroots work of authors and publishers, who have created and delivered new projects for many years, has finally borne fruit.

When you made your first steps as an author, the comic book stereotype was still strong. Why did this type of art fascinate you?

Because I needed to imitate what I've seen during my childhood in films and TV series, to tell my own stories, invent my own characters. It's obvious that it's less expensive and easier to create a comic book than a film, so it was a natural choice for me. I think that many authors had similar beginnings. Later I began to learn more about comics, I analysed authors from Western Europe, mainly from France, where the comic culture is much more developed and appreciated. I had a helper, Wojciech Birek, a connoisseur of French comics and co-founder of the comic book festival in Lodz. In high school, I visited him twice a week to have a consultation, which is when I began to seriously think about making comics.

You mentioned that France has a very conscious and mature comic book market. It's difficult to make it big there because it's very saturated. However, you managed to attract the attention of French publishers with a comic book about the Fugazi music club in Warsaw that had a very short but intense history in the early 1990s. What intrigued them about this work? After all, this comic book is all about Polish culture.

There are two aspects that attracted their attention. The first was the universal message of the story about people who were passionate enough to create something that became famous. The other aspect is the setting of this story. The early 1990s, just after the collapse of communism, is a very interesting period for French readers. There was one comic book series about this topic before, and it was well received in France too. "Fugazi Music Club" opened many possibilities for me; I began working with a comic book agent, with whom I work to this day, and my comic books have been published not just in France, but in other countries in Western Europe as well.

You applied to the Lodz Film School. Did you also consider the Academy of Fine Arts?

I didn't consider the Academy at all. I don't mesh well with the style that's required at their exams. The Lodz Film School was my first and, in fact, only choice. This school allowed me to have a more original vision. I had made many comics even before the entrance exams, and I think they were what attracted their attention. A comic book is generally quite similar to a film. You need to plan the shot, maintain narrative continuity, build characters, perform logical storytelling. I think that the lecturers saw in my comics that I would be a good match for film and animation as well.



Frame from the movie "Colaholic"

You became famous in the world of animation thanks to your animated short with a telling title: Document. It was successfully presented at numerous festivals. On the one hand, it's a very intimate and personal story; on the other hand, it's extremely universal.

The film is very personal because it draws upon the story of my father and I. It raises the issue of desolation in small cities and towns. The film talks about a person who remained in a small town and cannot find peace in a large, empty house. What delighted me the most was the fact that, after watching the film, many people contacted me and said that the picture struck a chord with them. They even said that they called their family homes immediately after watching the film. This shows that this topic and issue are indeed universal.

● **"Fugazi Music Club" opened many possibilities for me; I began working with a comic book agent, with whom I work to this day, and my comic books have been published not just in France but in other countries in Western Europe as well**

How did your parents react to the film?

My mother was touched but dad, at first, didn't recognize himself in this film. Afterwards, during the second viewing, he understood what I had in mind and the idea began to break in. He internalized what the film really means, but he didn't really know how to react. He didn't make a comment. Afterwards, however, he bought me a large bar of chocolate, which told me that he accepts the film. This film was intended as a form of therapy for my parents and for myself. Even now my parents, and my dad in particular, often call



A frame from the comic book "Sea to the knee", Marcin Kołodziejczyk (writer), Marcin Podolec (drawings)

me and ask when I'm going to come back from Lodz to my hometown of Jarosław.

Documentaries are often associated with hard facts, a reflection of reality. Animated films, on the other hand, create worlds that are completely imaginary. Does this not collide in your production?

I thought so too, but when I learned more about this topic it turned out that animated documentaries are a very old form of art with over a hundred years of history. Nonetheless, when I worked on "Document", I gave it such a name so as to additionally emphasise the intended genre. Despite this, many people asked me whether the story is really true and whether my dad is really the protagonist. Besides, the comic book we talked about before, "Fugazi Music Club", can be viewed as a documentary as well. It tells a true story, shows real people; it's only enriched with dialogues and performance. Such a form gives the opportunity to "go crazy" visually while guaranteeing safety as far as the script goes. The events are not imaginary, it just happened that way.

You are a successful comics creator and animator. Despite this, you wrote on your website that you wanted to

"abandon this whole drawing thing" multiple times. What made you change your mind every time?

One of the reasons for this mindset was certainly my unfulfilled ambition—I couldn't draw as well as I wanted, I didn't make the progress I anticipated. And there was this anxiety related to being an adult, a professional. I wondered what I'm going to do when I sacrifice five years of my life on studying. The comic book market is specific. Making a living by creating original animations doesn't seem realistic either. But I'm addicted to drawing—I always wanted more, so I always came back.

I think the dilemmas you mention are quite frequent with graduates of art schools. After many years of interesting and creative studies, they have to face the hard reality.

I don't know if I have any advice for such people. I do have, however, several items that I've ticked off myself. First, you have to work very hard and, at times, pass up some social events. Second, when I look back, I see that I initiated a lot of projects. I established contacts, looked for people interested in cooperation. I called someone, offering to make them a poster, cover, make a comic book out of some short story. I acquired contacts who later returned to me. Someone recommended me; someone saw my works and wanted something for themselves in this style. I practically don't have any commercial commissions that would be sent to me randomly. The majority of people who want me to do something for them know who I am, know my body of work, and they expect me to do something in my own style, "my own hand."

This passion for drawing has transformed into a business. You run an animation studio called Yellow Tapir, which often produces commercial projects. How do you maintain the balance between this work and your own original work and drawing comics?

I split my time roughly in half. One half is spent exclusively on making comics—I do what I feel like doing and make original projects. The other half is spent by working at Yellow Tapir. Other animators work at the studio as well; we work with people from other cities. I accepted various projects but, as I mentioned before, they typically come from the knowledge of what we've done before, our style and interests. So it's not like our commercial enterprise goes contrary to our principles or style. We are lucky with clients, but we also have this piece of mind that there is a lot of work on the animation market, and if we don't agree with someone's expectations or vision, we can reject them. But it happens very rarely.

Thank you for the interview! ●



BY MALWINA WADAS

Lodz is celebrating on the waves of music

This year's summer in Lodz will be full of singing, dancing and red-hot from musical emotions. Melomaniacs are in for a real celebration of music.

Rob Moir during Songwriter Festival 2018

Jazz fans are welcome to join the Summer Jazz Academy. Under the clock near ul. Piotrkowska the club atmosphere will be generated by the Songwriter Festival, while melomaniacs who want to combine listening to the best performances of music with visiting historic landmarks of the Lodz region will be enraptured by the Colours of Poland festival.

SONGWRITER FESTIVAL

This year's Songwriter Lodz Festival has launched in May and will last until the first week of September. 23 artists will perform 19 concerts. In accordance with the festival's philosophy, performers include both newcomers and the most important artists dealing with broadly defined songwriting. Three artists performed during the opening concert in May: Król (i.e. Błażej Król, one of the most awarded musicians and lyricists of the young generation) and musicians from Lodz: Empati with Eliza A. Tkacz. Musicians who are still preparing (or even planning) their debut albums but have already won the favour of fans, like Dobre Bo Dobre, Blauka, Majlo and others, are going to perform under the clock at the intersection of ul. Piotrkowska and 6 Sierpnia. They will perform next to music superstars whose concert tickets sell like hot cakes.

Thanks to the Songwriter Lodz Festival, they will perform free-of-charge under Lodz's blue skies. And so, the closing concert of this year's edition of the Songwriter Lodz Festival will feature Olaf Deriglasoff and his project named Cyrk Deriglasoff, following Gabriel Fleszar, Michał Kowalonek and Pola Rise. The festival will also feature three foreign guests: Andras Upor (Hungary), Damien Mcfly (Italy) and Lucas Laufen (Australia). This year is the fifth

anniversary of the Songwriter Lodz Festival. Since 2015, the festival has featured artists from around the world, including: Australia, the US, the UK, the Netherlands, Denmark, Ukraine, Estonia and Poland. 138 concerts were performed, with artists presenting diverse music genres. The nature of a cosy concert from club spaces transferred into a public space gives bystanders a chance to discover new sounds and encourages people to listen to music.

● SONGWRITER FESTIVAL

4 May, at 8:00 PM	KRÓL, EMPATI / ELIZA A. TKACZ
11 May, at 8:00 PM	STREY DOGG (SERBIA)
18 May, at 8:00 PM	MOMO, PART OF THE KITCHEN
25 May, at 8:00 PM	DOBRE BO DOBRE, BAJZEL
1 June, at 8:00 PM	RYCERZYKI
8 June, at 8:00 PM	BRODACZE LIVE ACT
15 June, at 8:00 PM	KAMIL JUSZCZYK, ANDRAS UPOR (HUNGARY)
22 June, at 8:00 PM	MICHAŁ KOWALONEK
29 June, at 8:00 PM	POLA RISE
6 July, at 8:00 PM	DAMIEN MCFLY (ITALY)
13 July, at 8:00 PM	LUCAS LAUFEN (AUSTRALIA), GABRIEL FLESZAR
20 July, at 8:00 PM	MACIEK WASIO
27 July, at 8:00 PM	SANTABARBARA
3 August, at 8:00 PM	VYSPA
10 August, at 8:00 PM	MARCELINA
17 August, at 8:00 PM	BLAUKA
24 August, at 8:00 PM	MAJLO
31 August, at 8:00 PM	ENDY YDEN
7 September, at 8:00 PM	OLAF DERIGLASOFF

The Songwriter Lodz Festival focuses primarily on promoting young talented musicians who have yet to make a name for themselves. The festival featured such artists as: Daniel Spaleniak, Kortez, Krzysztof Zalewski, Kwiat Jabłoni and Rosalie, at the beginning of their careers. Although the Songwriter Lodz Festival focuses primarily on what's new in music and undiscovered by many listeners, previous editions also featured concerts of well-known artists such as: Piotr Rogucki, Tymon Tymański, Iza Lach, John Porter, Mary Komasa, Bownik, Mikromusic, Dominika Barabas, Leski, Smolik / Kev Fox, Skubas.

Weekly meetings under the clock, in the very heart of the city, make for an exceptional atmosphere that cannot be found elsewhere in the world. It is appreciated not just by residents of Lodz; the event grabs the attention of music fans from the entire country, and the woonerf at ul. 6 Sierpnia fills to the brim with fans of songs.

The Songwriter Festival is now a permanent fixture in the image of Lodz, constantly evolving, and the organised events attract more and more interested guests. This year's edition will no doubt also be successful. Programme details are available at: centrumwydarzen.lodz.pl and: www.facebook.com/songwriterlodzfestival.

● SUMMER JAZZ ACADEMY

11 July, at 7:00 PM	MICHELLE DAVID & THE GOSPEL SESSIONS
18 July, at 7:00 PM	SZYMON MIKA TRIO / BILL FRISELL TRIO
22 July, at 9:00 PM	ENEMY – INTL JAZZ PLATFORM CONCERT
23 July, at 8:00 PM	BACKSPACE / MONA: ELODIE PASQUIER – INTL JAZZ PLATFORM CONCERTS
24 July, at 8:00 PM	KAJA DRAKSLER SOLO / MASTER CADRE CONCERT – INTL JAZZ PLATFORM CONCERTS
25 July, at 7:00 PM	INTL JAZZ PLATFORM FINALE / PIOTR DAMASIEWICZ POWER OF THE HORNS
1 August, at 7:00 PM	YUMI ITO / MADISON MCFERRIN
8 August, at 7:00 PM	CLEMENT JANINET - O.U.R.S. / JERZY MAŁEK INTL QUINTET
15 August, at 7:00 PM	JACHNA, MAZURKIEWICZ, BUHL / JOE MCPHEE & MIKOŁAJ TRZASKA TRIO
22 August, at 7:00 PM	RACZKOWSKI & KOSTKA DUO / MARCIN WASILEWSKI TRIO
29 August, at 7:00 PM	12th SJA FINALE: JAREK WIST & KRZYSZTOF HERDZIN BIG BAND “SWINGING WITH SINATRA”



Summer Jazz Academy 2018: JazzBand Młynarski-Masecki

SUMMER JAZZ ACADEMY

The new, twelfth edition of the Summer Jazz Academy will take place during the second week of July, organized by Fundacja Wytwórnia, a non-profit organisation founded at the Wytwórnia Club. This year's edition of this event will reveal to the audience the entire palette of the colours of jazz. There will be no shortage of jazz standards and improvisations; it will be hot as well, thanks to soul, African sounds and gospel music.

The event will feature artists from the French, American, and even Japanese jazz scenes. The stage of the Wytwórnia Club at ul. Łąkowa 29 will feature French violinist Clement Janinet with his O.U.R.S. project, Yumi Ito – a Japanese pianist with Polish roots, as well as legends of the American jazz and the avantgarde scene: virtuoso Bill Frisell and one of the most notable jazzmen of our times, saxophonist Joe McPhee, as a special guest of the Mikołaj Trzaska Trio. The audience will be enchanted by ladies as well: Madison McFerrin, American jazz & soul vocalist, daughter of Bobby McFerrin, as well as gospel vocalist Michelle David with The Gospel Sessions project. Polish stars will include: the Mikołaj Trzaska Trio, Jerzy Małek with an international quintet, Wojciech Jachna with the project Jachna/Mazurkiewicz/Buhl, Piotr Damasiewicz and his Power of the Horns band, with the participation of Maciej Obara and Dominik Wania, and the Marcin Wasilewski Trio. There will be no shortage of newcomers: Raczkowski & Kostka Duo and Szymon Mika Trio. The twelfth edition of the Summer Jazz Academy will end with a grand finale: Krzysztof Herdzin and Jarek Wist will present the best hits of Frank Sinatra in swing arrangements.

The INTL Jazz Platform creative jazz workshops will form an inseparable part of the festival. Here, under the supervision of notable European jazzpeople, young musicians will exchange their experiences and create music together. This year's edition of the workshops will be exceptional: the INTL Jazz Platform became a part of the European Jazz Connective project, aimed at strengthening the competences of young artists on

European markets. Young musicians will be able to participate in seminars and meetings with representatives of Polish and international festivals. The workshops will end with the joint performance of all participants on the grand stage. Furthermore, there will be no shortage of jam sessions and joint star concerts. Concerts will feature, among others, the French band MONA with the charismatic Elodie Pasquier on bass clarinet, Slovenian pianist Kaja Drakslar with her solo project, the Polish duo BACKSPACE made up of Zbyszek Chojnacki and Łukasz Czekala, as well as the ENEMY piano trio headed by Kit Downes. The Summer Jazz Academy takes place in the Wytwórnia Club at ul. Łąkowa 29. The concerts of the INTL Jazz Platform between 22 and 24 July are free-of-charge and the remaining concerts require tickets. To reserve and buy tickets please visit the website of the Summer Jazz Academy at www.letniaakademijazzu.pl.

COLOURS OF POLAND

This year's twentieth anniversary edition of the Lodz Philharmonic Wandering Festival Colours of Poland (traditionally preceded by the festival prelude at the Nowa Gdynia Station in Zgierz) will be inaugurated on 29 June with the concert of the Lodz Philharmonic Chorus in Łowicz. After visiting 20 cities and towns (Boguszyce, Krzemienica and Bełdów for the first time; for many years the festival host cities have included: Łowicz, Brzeźnio, Dobroń, Lutomiersk, Sieradz, Inowłódz, Warta, Tum, Rogów and Nieborów), the event will conclude its vacation trek with a festive finale on 31 August at the Lodz Philharmonic. The twentieth Colours of Poland will end with the festive performance of the symphonic poem using the poems of Bronisława Wajs entitled "Harfy Papuszy", with music by Jan Kanty Pawluśkiewicz. The event will feature soloists as well as the Lodz Philharmonic Symphony Orchestra and Chorus. Performers at this year's Colours will include such renowned musician as: jazzy pianist Aleksander Dębicz, Jan Emil Młynarski and Marcin Masecki, Renata Przemyk, artists of the Warsaw Sentimental Orchestra, and the Lodz Philharmonic Orchestra and Chorus, conducted by its artistic director Paweł Przytocki. Many music projects are created especially for the Colours of Poland, and this year will be no different. Rarely seen instruments, folk artists on the stage along with professionals, bold improvisations – this is a proposal for people who are not afraid to leave the beaten track of music experience.

The festival's tradition involves numerous accompanying events, including melomaniacs' travels to various corners of the region, learning its traditions and daily lives of its residents.



Colors of Poland 2016, Krośniewice

This time the travels organised in concert with the Regional Tourist Organisation of the Lodz Voivodeship and State Archives will have the task of showing the diverse and precious cultural heritage of the voivodeship. In many places, before the concerts of the Colours or afterwards, accompanying events will take place, organised by partners of the Lodz Philharmonic in the region: entertainment for children, competitions, exhibitions, culinary fairs, and performances of local music ensembles. The Colours of Poland festival is the result of the joint effort and material contribution of many people and institutions, including authorities from communes and cities of the voivodeship, the Marshal's Office, and private sponsors. For 20 years the Lodz Philharmonic has been preparing the event programme focusing on melomaniacs who wish to experience music in summer no less than during other seasons of the year, who want to have artistic impressions of the highest order in combination with visits to historic landmarks of the Lodz region. Each concert takes place in a different location: in old churches and monasteries, mysterious castles and museums, rich in precious exhibits, although sometimes unappreciated, and often outdoors, near court parks, or in a forest glade. The music that is performed there is more relaxed and diverse than that proposed by the Philharmonic from autumn to spring. The programme is dominated by original projects inspired by folklore and old art, and by unique interpretations of classical and popular music. The events feature both famous, renowned artists and young musicians who are just beginning their careers. The Colours of Poland attract melomaniacs from Lodz and the region, residents of places where the concerts are organised, as well as people for whom the festival constitutes an opportunity to discover the area. All concerts of the Colours, excluding the finale, are free-of-charge. Tours have an admission charge and require a reservation. ●

25th LODZ BALLET MEETINGS

11 MAY–23 JUNE

GRAND THEATRE, PL. DĄBROWSKIEGO 1
WWW.OPERALODZ.COM

MASQUEMASK INSTALLATION BY JAIME HAYON

18 MAY–28 JULY

CENTRAL MUSEUM OF TEXTILES,
UL. PIOTRKOWSKA 282
WWW.CMWL.PL

16th GOOD TASTE FESTIVAL

6–17 JUNE

WWW.FESTIWALDOBREGOSMAKU.EU

“FOTOFESTIWAL”, 18th INTERNATIONAL FESTIVAL OF PHOTOGRAPHY IN LODZ

13–30 JUNE

WWW.FOTOFESTIWAL.COM

5th SONGWRITER LODZ FESTIVAL

4 MAY–7 SEPTEMBER, EVERY SATURDAY

INTERSECTION OF UL. PIOTRKOWSKA
AND UL. 6 SIERPANIA
WWW.FACEBOOK.COM/
SONGWRITERLODZFESTIWAL

“POLÓWKA” SUMMER FILM FESTIVAL

1 JULY–15 SEPTEMBER

WWW.POLOWKA.COM

TRANSATLANTYK FESTIVAL

12–19 JULY

WWW.TRANSATLANTYK.ORG/PL

SUMMER JAZZ ACADEMY

20 JULY–29 AUGUST

WWW.LETANIAKADEMIAJAZZU.PL

596th ANNIVERSARY OF LODZ

26–28 JULY

PLAC WOLNOŚCI
THE MANUFATURA SQUARE
WWW.CENTRUMWYDARZEN.LODZ.PL

LODZ OF FOUR CULTURES FESTIVAL

4–16 SEPTEMBER

WWW.4KULTURY.PL

17th INTERNATIONAL PET FAIR

13–15 SEPTEMBER

LODZ INTERNATIONAL FAIR, UL. KS. SKORUPKI 21
WWW.TARGI.LODZ.PL

MICHAEL BUBLÉ CONCERT

19 SEPTEMBER, AT 8.00 PM

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

9th LIGHT MOVE FESTIVAL

KINETIC ART OF LIGHT FESTIVAL

27–29 SEPTEMBER

LUX PRO MONUMENTIS FOUNDATION
WWW.LIGHTMOVEFESTIVAL.PL

30th INTERNATIONAL FESTIVAL OF COMICS AND GAMES

27–28 SEPTEMBER

EXPOLODZ, AL. POLITECHNIKI 4
WWW.TARGI.LODZ.PL
WWW.KOMIKSFESTIWAL.COM

DAVID GARRETT CONCERT

5 OCTOBER, AT 8.00 PM

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