

LODZ CREATES INNOVATION

NEWS MAGAZINE OF THE CITY OF LODZ

NO. 3 (19)/2018

**FIRST GREEN EXPO
IN POLAND**

FLY IN A TAXI...

**FILMS FROM THE BOTTOM
OF THE HEART**

REFLECTIONS ON DESIGN

LEARNING THOUGH PLAY





EXPO 2024
ŁÓDŹ POLSKA

EXPO IS A CHANCE FOR ŁÓDŹ. ŁÓDŹ IS A CHANCE FOR EXPO.

THE CITY OF ŁÓDŹ
(POLAND) WAS AWARDED
RIGHTS TO ORGANIZE
EXPO HORTICULTURAL
2024.

The Exhibition is a global event that presents cultural, scientific and technical heritage of states, nations and societies.

The organisation of the EXPO Horticultural 2024 is aimed at improving the quality of life in cities and introducing sustainable development with respect for nature and tradition, both on the global and local level.

The theme of the Exhibition "Nature of the City" means reawakening of the idea of a city as a place to live in a pleasant and more healthier environment; as a place to live and work, as well as a place for leisure, entertainment, and recreation.

Polish EXPO will be devoted to creating urban landscape and the use of the green areas potential within the cities. An opportunity to share international experience and solutions and to draw the world's attention to the problem of urban renewal and to present it at the heart of the largest regenerated area in Europe.

BENEFITS:

- More than 75 ha of the main Exhibition area
- Revival of the parks and increase of the green areas within the city
- International promotion of the city and the country
- Around 4 millions of visitors during 5 months of the Exhibition
- Boosting the development of Polish horticultural and agricultural industries
- Exchange of knowledge and smart solutions.





ANNA KRAWCZYK
EDITOR-IN-CHIEF

“Nature of the City” is the leading theme of Expo Horticultural that will take place in Lodz in 2024. “I am proud that Lodz became the organizer of the first such exposition in Poland,” said Hanna Zdanowska, President of Lodz.

The city is already getting ready. Actually, some projects, like the new Łódź Fabryczna station and developing local train connections (Łódzka Kolej Aglomeracyjna) have already been finished.

In the first quarter of 2019, the city hopes to have the feasibility study completed. The exhibition will spread over the total area of 70 hectares. It will be located near the city centre in 3 Maja and Baden Powell's parks and the green area near Centrum Kliniczno-Dydaktyczne (Clinical-Didactic Centre). Hosting the Expo is a recognition for Lodz. It will not only be the chance to bring more greenery to the centre but also a possibility to raise the city's profile. It is estimated that the number of visitors may well go above the 4 million initially predicted. The exhibition, which will last 5 months, can be a great opportunity to advertise Lodz as a city break destination. The aspect already attracting the tourists is the city's Art Nouveau and post-industrial architecture.

Who knows, maybe they'll find the possibility to fly a ... cab also attractive. Bartolini Air, a Lodz based group, started to offer such service in May 2018. They descended from the largest Central European

professional pilot training centre set up in Lodz in 2006. Whether you're on business or not, Bartolini offers air taxi services (or private air flights) to those who want to safely travel around Poland and Europe in comfortable conditions and on their own terms. Moreover, Bartolini Air also trains pilots. The trainees have 12 months to fly 36 thousand times. Presently, Bartolini Air is training over 200 pilots annually. Overseas customers comprise 95% of the students. The inhabitants of 56 countries have already completed the course.

Whirlpool, like Bartolini Air, also believes that Lodz is a great place to invest in. It has been a year now since they opened a new Financial Shared Services Centre for the whole EMEA region (Europe, the Middle East, Africa). It provides services to 44 different legal entities in 28 countries.

Lodz has once again become the household name in the international film industry thanks to Opus Film. This Lodz based studio has already produced “Ida”, which won an Oscar in 2015 for the best foreign language film. This year, however, at the 71st Cannes Film Festival, Paweł Pawlikowski won an award for directing “Zimna wojna” (Cold War). The film, obviously, is also Opus Film's production. Ewa Puszczyńska, the producer, made every effort to shoot in Lodz as many scenes as possible. This is one more reason to watch this excellent, in many ways, masterpiece. ●

Photo: Paweł Lawreszuk

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First green EXPO in Poland

"Organizing the Expo is not simply prestigious and a promotion for the city. During the five-month exposition, Lodz could be visited by at least 4 million people," says **Hanna Zdanowska**, the President of Lodz

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Ecohydrologists from Lodz University won the "Best of the Best" award, a distinction granted by the European Commission, for their project of rehabilitating water reservoirs in Arturówek, Lodz

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Recreational diving is practiced by a few million people in the world. No wonder that this area drew the attention of students from Lodz University of Technology and Warsaw University of Technology

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Everyone wants to develop, but... hardly anyone wants to change

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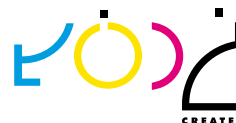
"The CMT simply seems like the best place in Poland to display important fashion collection," says **Marta Kowalewska**, curator of Dior's exhibition

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BY BOŻENA WIELGO

Ecohydrology in Arturówek

Ecohydrologists from Lodz University won the “Best of the Best” award, a distinction granted by the European Commission, for their project of rehabilitating water reservoirs in Arturówek, Lodz. The awards ceremony was held on 23 May 2018 during EU Green Week in Bluepoint Conference Centre in Brussels.

More than 60 research teams from around the Europe took part in the competition.

Before they were admitted to a select club of the best European projects for 2016–2017, they had received another prestigious award, the Best LIFE Project.

A STEP BY STEP REHABILITATION

Arturówek is one of the most attractive recreational areas for Lodz inhabitants. The area with three water reservoirs is located in the northern regions of the city.

It borders Las Łagiewnicki, one of the largest woods within the limits of a city in Europe covering more than 1200 hectares. Unfortunately, the usefulness of reservoirs situated in urban areas is limited because they are particularly prone to the effects of human activity. They collect rain and meltwater washing down contaminants along the way such as phosphorous and nitrogen compounds which cause toxic cyanobacteria blooms. Previous attempts at improving water quality didn't bring lasting results. In order to open the reservoirs for recreational purposes, it was indispensable to radically limit the influx of pollutants.

A group of scientists from the Department of Applied Ecology at the Faculty of Biology and Environmental Protection at Lodz University took up the challenge to implement innovative solutions to improve water quality of the Bzura river and eliminate cyanobacteria from Arturówek reservoirs, which are this river's reception basins. The team led by Prof. Maciej Zalewski included also: Tomasz Jurczak, PhD, Zbigniew Kaczkowski, PhD, Iwona Wagner, PhD and Małgorzata Łapińska, PhD. In collaboration with Łódzka Spółka Infrastrukturalna (Lodz Infrastructural Company) and Miejski Ośrodek Sportu i Rekreacji in Lodz (Municipal Leisure Centre in Lodz) (representing the city), they started the project titled “EH-REK:



Project manager—Tomasz Jurczak, PhD with the “Best of the best” award for EH-REK project

Ecohydrologic rehabilitation of recreational reservoirs 'Arturówek' (Łódź) as a model approach to rehabilitation of urban reservoirs”.

Why was this project awarded by the European Commission? One of the key reasons was that the idea of rehabilitating water in lowland impoundments, which 20 years ago was dismissed as impossible by the most respected authorities in hydrobiology, proved viable. The implementation of ecohydrological theories developed at

Lodz University and the European Regional Centre for Ecohydrology of the Polish Academy of Sciences helped to achieve a good ecological state of the reservoirs.

“The project consisted of five stages. First came an in-depth analysis of threats and opportunities and then the preparation of the overall idea and technical projects. Next was the implementation of the innovative biotechnological solutions we had designed and later, post-implementation optimization of their performance. And finally, we held the pre-planned trainings,” says Tomasz Jurczak, PhD.

In the initial stage of the project, between 2010 and 2011 the scientists identified the sources of contamination and compared the contamination between the incoming and outflowing water in Arturówek reservoirs. The data served as the basis for a mathematical model used in 2012 to work out the blueprint for the improvement of the ecosystem of the reservoirs. This, in turn, served to create technical projects and to implement innovative solutions developed at Lodz University. Between January and June 2013, they created buffer zones and floating vegetation mats in the upper Bzura and on nearby reservoirs. The aim was to limit the amount of nitrogen and phosphorous compounds flowing in because they increase the fertility which, ultimately, transforms reservoirs

into peat bogs because the basins gradually become shallower and increasingly overgrown.

The next step was to adapt the ecohydrology of the Arturówek Górny reservoir in order to intensify the sedimentation of pollutants in a specially designed part of the reservoir and enable the self-purification of water by planting certain water plants. Additionally, the threat of cyanobacteria bloom was limited by creating nitrogen and phosphorous absorbing zones and by biomanipulation. The latter meant that the number of plankton eating fish was limited by the introduction of predators such as pike and zander and thus increasing the level of biofiltration by zooplankton. Next came the construction of hybrid systems responsible for collecting and pre-purification of rainwater from the streets around Arturówek. In mid-2013, this stage was completed and the reservoirs were once again opened for the inhabitants. The following years were devoted to monitoring the effectiveness of the solutions and optimizing the performance of the biofiltrating systems accordingly so that they could purify the rainwater from surrounding urban areas better.

"The solutions implemented in EH-REK are innovative because they combine the knowledge straddling the fields of biology, hydrology and engineering," adds Tomasz Jurczak. "We put into practice theoretical concepts postulated by ecohydrology which advocates increasing the effectiveness of aquatic environment management by making use of the interrelation between hydrological and biological processes and the technical infrastructure. Such approach is not widely used in urban areas where engineered solutions are preferred. However, this attitude downgrades the role of plants and animals in water quality protection and thus has a limited potential to control biological cycles. Whereas if you integrate engineered solutions with biological ones, the efforts to curb the influx of pollutants to reservoirs and the toxic cyanobacteria bloom are more effective," he says.

SCIENTISTS FROM LODZ AND THEIR PATENTS

The solutions implemented in the project have patents pending. For instance, the sedimentation-biofiltration sequential system situated in a place where the river or channel flow in and where storm water flows out. "The key factor here is that these installations don't require new land because they are limited to the waterline of the reservoir," says Tomasz Jurczak. This system can be additionally equipped with underground separators and sedimentation tanks responsible



The floating island increasing self-purification processes and biodiversity in the Arturówek reservoir

for the initial purification of water contaminated with particularly troublesome pollutants (e.g. lubricants and fuel from vehicles). Such filtrating arrangement becomes a hybrid system combining biotechnology and engineering. Besides, the technical elements are placed underground and therefore don't spoil the landscape. Also, the system boasts a very high effectiveness (from 60% to 90%) in purifying rainwater from contaminants washed down from urban areas and flowing in to reservoirs.

"The advantage of these systems is that they are highly adaptable and can be adjusted to varying sizes, kinds of contaminated water inflow and the characteristics of a reservoir," explains Tomasz Jurczak.

The knowledge and experience gained during the implementation of the project were used to create blueprints for rehabilitating other urban recreational reservoirs which are a part of the Blue-Green Network in Lodz, a strategy to integrate rivers, river valleys and the surrounding green areas. For instance Stawy Jana and Stawy Stefańskiego are waiting now for the implementation of the ecohydrological rehabilitation project.

It must be emphasised, at the same time, that the state administration's role in the proper conservation of the systems and the education of society is crucial. The effect of the solutions was (and to a certain extent still is) inhibited by anglers intensively feeding the fish and attracting, in this way, ducks which are then also fed by people. The chain leads to overfertilization of the reservoirs.

This innovative project of scientists from Lodz was met with a considerable interest from other Polish cities. A similar approach to thinking about environment can be seen, e.g. in a project titled "Adaptation to climate change through sustainable management of water of the urban area in Radom City". The idea for the project was conceived by researchers from Lodz University and it was the only Polish project chosen in 2015 to take part in "LIFE Climate Change Adaptation" competition. ●

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OF THE 19th LODZ PHILHARMONIC TOURING
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31 AUGUST

LODZ PHILHARMONIC

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PL-PL.FACEBOOK.COM/

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12 OCTOBER

FORMAT CLUB, TYMIENIECKIEGO 3

WWW.FACEBOOK.COM/FORMATLODZ

ØRGANEK—CONCERT

13 OCTOBER AT 8:00 PM

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WWW.WYTWORNIA.PL

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