GREENEVO
TECHNOLOGY ACCELERATOR

Trade mission of the Polish green tech companies to Lithuania 2026

Ministry of Climate and Environment of the Republic of Poland

greenevo.gov.pl/en
2026

Ministry of Climate and Environment
Republic of Poland

NATIONAL FUND
FOR ENVIRONMENTAL PROTECTION
AND WATER MANAGEMENT

Innovation is critical for a zero carbon sustainable future economy

GreenEvo

The Green Technology Accelerator is an innovative program run by Poland's Ministry of Climate and Environment designed to create friendly conditions to disseminate environmental technologies provided by Polish entrepreneurs. Its main purpose is to help Polish companies to enter into international contacts and also to provide them with necessary tools to enable their dynamic development. The actions taken under the program stimulate development in a comprehensive manner and strengthen the position of advanced green technologies in the process of building a circular economy.

Objectives

GreenEvo promotes the **sustainable development** of companies, green technologies and, in consequence, the economy itself. Proponents of only **proven, implemented and highly efficient technologies** join its Laureates, thus contributing to the building of Poland's positive image in the world. It can be said that **GreenEvo Laureates are credible business partners, willing to share their knowledge, experience and technologies** with countries which have to cope with the local environmental problems. GreenEvo Program not only consistently builds the environmental awareness of domestic technology buyers, but also educates potential foreign partners, in respect of technologies to reduce environmental impacts which are often quite simple to use. GreenEvo strengthens the business activity of companies at the international level. It changes the approach to a company and its management – from a traditional approach to a modern, effective one, focused on measures related to corporate social responsibility.

Benefits

The GreenEvo Program is one of the key tools used by the Polish Government to support the transition process towards a sustainable economy and to raise the awareness of companies as to how they can operate in a responsible manner. It is the best practice in the scope of cooperation between the central administration and business. From the very start it has been created and launched by the Government administration, which, in addition, has assumed the role of a guarantor of the quality of the technologies offered. Thanks to GreenEvo, the international transfer of green technologies is stimulated and the activities of Polish companies which provide environmental and energy efficient technologies are supported in real terms abroad. Furthermore, the Program demonstrates that Poland is able to become actively involved in international actions to **combat climate change, without a detriment to economic growth.**

GREENEVO
TECHNOLOGY ACCELERATOR

AGATA – CELLUGUARD

CELLUGUARD®

The celluguard® technology is dedicated for coal-fired power stations, heat and power plants, mines and facilities that struggle with a problem of secondary dust emissions of gasiform substances at landfills. The method consists in a hydrodynamic application of a flexible, reinforced and liquid coating to dust-emitting surfaces. In comparison to traditional methods, the company Agata offers a much cheaper, more durable and a fully environmentally sound solution.

The celluguard® technology constitutes an innovative solution to a problem of secondary dust emissions at landfills of different kinds of dust-emitting raw materials. The method provides a possibility to neutralize the following substances: combustion by-products (fly ashes and slag), mine dumps (aggregates and minerals), post-flotation ore waste, dust-generating railway wagons, furnace waste, sedimentary sludge, coal dumps, street dust. The method is decidedly cheaper than other technologies used on the market to date, both in terms of its purchase costs as well as it operational costs, as the security measures against secondary dust emissions need to be undertaken only once a year. Moreover, these measures guarantee a longer-lasting protection in comparison to traditional methods such as water sprays and a better protection of bituminous masses due to the eco-reinforced coating. As a result, the protective layer on the surface is durable, flexible and resistant to various weather conditions. In addition, it can also be applied on slanted surfaces such as escarpments or embankments.

ADVANTAGES OF THE SOLUTION

- the highest protection efficiency due to eco-reinforcement
- four degrees of protection durability: 1, 3, 6 and 12 months
- environment-friendly, biodegradable technology
- improvement of air quality in the vicinity of landfills
- elimination of unpleasant odours at landfills
- protection and monitoring of water and wind induced soil erosion
- simple and one-off application
- important water savings

CONTACT INFORMATION

PPHU AGATA Jacek Jagiełło
Kuczki Kolonia 11 St
26-634 Gózd
www.dustcontrol.expert
phone: +48 48 320 22 70
e-mail: info@dustcontrol.expert

Jacek Jagiełło
mob.: +48 721 219 659
e-mail: info@dustcontrol.expert

AGATA – Zefir 500

Zefir 500

A linear destratifier that balances temperature in large-volume indoor spaces, reducing heating energy use and CO_2 emissions by up to 30%. Unlike the competing solutions, the Zefir destratifier works on its entire length of 16,6 meters thanks to 34 holes that evenly distribute the air, increasing the effectiveness of the AC installation.

Thanks to the phenomenon of destratification (bundling up the warm air in the lower parts of the room) the device allow for an effective transfer of the airstream everywhere it's needed. Designed for warehouses, production halls, sports and public facilities.

ADVANTAGES OF THE SOLUTION

- Allows usage of one AC unit for multiple workers, thanks to that they won't have to stand directly next to a loud fan,
- Cost is low relative to the benefits of using the device since it is usefull year-round (cools down the area in summer while evenly distributes heat in winter),
- Considering current energy costs, fast return on the investment and improving working conditions are guaranteed – one destratifier can cover up to 340 m2.
- The system is easy to set up, takes up a couple of hours and is ready right away.

CONTACT INFORMATION

PPHU AGATA Jacek Jagiełło
Kuczki Kolonia 11 St
26-634 Gózd
www.dustcontrol.expert
phone: +48 48 320 22 70
e-mail: info@dustcontrol.expert

Jacek Jagiełło
mob.: +48 721 219 659
e-mail: info@dustcontrol.expert

BRAMY-SERWIS

SZYBKAROLKA.PL

EkoMaster – eco-friendly high-speed doors

These are the first high-speed doors in Europe based on professionally refurbished controllers and drives, covered by a 24-month warranty – twice as long as the market standard.

The technology, developed by BRAMY-SERWIS, was designed in the spirit of the Circular Economy, combining longevity, reliability, and the ability to refurbish key components multiple times. The refurbishment process includes a complete replacement of all parts subject to degradation and mechanical wear, restoring the devices to their original performance and service life. Each controller is tested together with a refurbished drive, ensuring full compatibility, safety, and reliability.

EkoMaster doors were created as a result of over a decade of experience in servicing industrial doors.

Knowing the strengths and weaknesses of most market solutions, the company set out to design a product free of typical operational problems, maintaining proven structural advantages while introducing its own innovations – such as integrated LED light columns built into the guides, which signal door movement. This feature enhances workplace safety and significantly reduces the risk of accidents in industrial environments.

EkoMaster has documented environmental benefits, developed through a research project in cooperation with a scientific institution. The analysis confirmed a significant reduction in CO_2 emissions and electronic waste thanks to the reuse of components and the extension of product life cycles.

Additionally, the design and technical documentation of the doors have been optimized to allow users to diagnose and fix minor issues on their own, minimizing downtime and reducing thermal energy losses in facilities.

ADVANTAGES OF THE SOLUTION

- 2× longer warranty on the controller and drive than the market standard.
- Renowned automation after refurbishment – same quality, lower cost.
- Design engineered for years of trouble-free operation.
- Innovative integrated warning lights – available only in EkoMaster doors.

CONTACT INFORMATION

BRAMY - SERWIS Dariusz Kaszkowiak
Popowo 57 St.
64-510 Wronki
www.szybkarolka.pl
mob.: +48 517 494 063
e-mail: biuro@szybkarolka.pl

Krzysztof Marek
mob.: +48 733 752 915
e-mail: krzysztof.marek@bramy-serwis.pl

Filters International

Pocket Air Filters in Galvanized Steel Frames with Replaceable Media – Durability, Efficiency, Circularity

This technology consists of pocket air filters mounted in galvanized steel frames with replaceable filter media, offering a durable, energy-efficient and circular solution for HVAC systems. The robust steel frame replaces traditional plastic or thin aluminum housings, allowing multiple reuses during media replacement and significantly reducing waste generation. This extends the product lifecycle, lowers operating costs, and supports sustainable resource management.

The replaceable pocket media are easy to remove and install, shortening maintenance time and minimizing system downtime. The optimized pocket geometry ensures low pressure drop, improving energy efficiency and reducing the load on fans. At the same time, the filter maintains high efficiency in capturing dust and airborne contaminants, contributing to healthier and safer indoor environments.

The steel frame is fully recyclable, and the filter media can be easily separated during disposal, aligning the solution with circular-economy principles. The reduced consumption of single-use materials lowers environmental impact, carbon footprint, and waste streams associated with HVAC filtration.

The technology is suitable for commercial buildings, public facilities, paint shops, logistics centers, laboratories, hospitals, and any spaces requiring reliable air purification. It provides a practical, cost-effective innovation that combines durability, energy performance, and environmental responsibility without compromising filtration quality.

ADVANTAGES OF THE SOLUTION

- Reusable steel frame – reduced waste and lower lifecycle costs.
- Replaceable media – faster servicing and minimal downtime.
- Low pressure drop – improved energy efficiency in HVAC systems.
- High durability and full recyclability of core components.

CONTACT INFORMATION

Filters International Sp. z o.o.
Feliksa Perla 10 St.
41-300 Dąbrowa Górnicza
www.filters-international.com
phone.: +48 32 299 90 16
e-mail: office@filters-international.com

Magdalena Fik-Matyniak
mob.: +48 507 644 282
e-mail: mfik@filters-international.com

The Institute of Power Engineering - National Research Institute

Stack of solid oxide cells (SOC) designed to generate hydrogen or electricity

Depending on the end user's needs, the SOC stack can operate as an electricity and heat generator — in fuel cell mode (SOFC) — or as a hydrogen generator in electrolyzer mode (SOE). Moreover, the developed technology can function in a reversible mode, meaning it is possible to switch between SOFC and SOE operation (rSOC), which enables the use of the SOC stack system as an energy storage device.

SOC stacks operate at high temperatures in the range of 650–750 °C, which results in high efficiency, allows for thermal and process integration with various industrial facilities or production lines, and enables the use of not only hydrogen but also other fuels — such as methane or ammonia — during operation in SOFC mode.

One of the distinguishing features of this technology is its modular design — the stack consists of repeatable units that, when combined and multiplied, allow for higher power output (in SOFC mode) or increased hydrogen production (in SOE mode). The modularity of the solution provides virtually unlimited scalability of SOC-based systems, enabling adaptation to specific market applications and desired functionalities.

It should also be emphasized that the SOC stack developed by the Institute of Power Engineering is manufactured using innovative and zero-waste techniques for forming its components. The developed technology represents an attractive alternative to foreign solutions of this type, offering comparable performance parameters while featuring a more compact design and lower production costs — the latter achieved through the implementation of automated manufacturing processes. Competing solutions do not employ ceramic injection molding or 3D printing methods.

ADVANTAGES OF THE SOLUTION

- High efficiency compared to analogous low-temperature solutions
- Multifunctionality – ability to operate in fuel cell or electrolyzer mode
- Modular design (system power scalability – power increases with the number of stacks)
- Use of zero-waste methods in the preparation of SOC stack components

CONTACT INFORMATION

Intytut Energetyki – IEN-PIB
Mory 8 St.
01-330 Warszawa
www.ien.com.pl
phone: +48 22 34 51 200
e-mail: instytut.energetyki@ien.com.pl

Anna Niemczyk
mob.: +48 797 905 160
e-mail: anna.niemczyk@ien.com.pl

The Institute of New Technologies in Environmental Engineering – Climate Garden

Climate Garden

Climate Garden is an innovative nature-based engineering solution that combines the functions of a rain garden, pocket park, and biofilter within a single multifunctional system. It represents a model example of modern blue-green infrastructure (BGI) that supports local adaptation and mitigation strategies in response to climate change.

At its core lies an advanced infiltration-retention system consisting of a carefully designed soil profile, filtration and drainage layers, and hydrophytic vegetation. This system enables effective stormwater retention, infiltration into the ground, and pollutant removal while reducing surface runoff and pressure on sewer systems.

Climate Garden also functions as an active microclimate regulator — it cools the surrounding area through evapotranspiration, improves air quality by capturing dust and gases, reduces noise, and enhances overall thermal comfort. The solution supports the circular economy by enabling on-site rainwater reuse for irrigation and converting biodegradable waste into compost that enriches the soil.

By integrating ecological and engineering processes, Climate Garden enhances biodiversity, provides habitats for pollinators, and creates attractive, educational, and recreational spaces. This Polish innovation demonstrates how sustainable design can simultaneously improve water management, environmental quality, and community resilience to the impacts of climate change.

ADVANTAGES OF THE SOLUTION

- Efficient stormwater management and local water retention.
- Improved air quality, microclimate, and urban comfort.
- Nature-Based Solution (NBS) integrating ecology and engineering.
- Closed organic matter cycle and reduced CO_2 emissions.

CONTACT INFORMATION

Instytut Nowych Technologii Inżynierii Środowiska
Jagiellońska 75b St.
03-215 Warszawa
www.int.edu.pl
mob.: +48 607 033 780
e-mail: dyrektor@int.edu.pl

Tomasz Warężak
mob.: +48 607 033 780
e-mail: dyrektor@int.edu.pl

The Institute of New Technologies in Environmental Engineering – Hydrophytic Bioreactor

Hydrophytic Bioreactor

The Hydrophytic Bioreactor is an innovative Polish environmental biotechnology designed for the treatment of wastewater and stormwater through natural bio- and phytoremediation processes. The system utilizes aquatic plants, microorganisms, and optimized filter media to form a self-sustaining ecosystem that effectively removes pollutants while maintaining low operational costs and minimal environmental impact.

Depending on configuration and local conditions, the bioreactor operates in low-energy or fully passive mode. Its modular design allows flexible adaptation to diverse scales, climates, and land-use conditions, supporting municipalities and industries in achieving sustainable water management.

The technology aligns with the principles of the circular economy, climate change adaptation, and biodiversity protection, making it a valuable component of long-term environmental strategies. When integrated into public or industrial areas, it serves as part of blue-green infrastructure, providing additional retention capacity, aesthetic enhancement, and educational opportunities.

Developed through years of scientific research and extensive field implementation, the Hydrophytic Bioreactor represents a proven synergy of nature and technology. Originating from Polish innovation, it demonstrates how biotechnology can effectively contribute to cleaner water, resilient ecosystems, and sustainable urban development.

ADVANTAGES OF THE SOLUTION

- High purification efficiency – removes over 95% of pollutants.
- Low construction and maintenance costs, fast implementation.
- Eco-innovation based on five patented solutions.
- Over 10 years of operation and nearly 7,000 installations.

CONTACT INFORMATION

Instytut Nowych Technologii Inżynierii Środowiska
Jagiellońska 75b St.
03-215 Warszawa
www.int.edu.pl
mob.: +48 607 033 780
e-mail: dyrektor@int.edu.pl

Tomasz Warężak
mob.: +48 607 033 780
e-mail: dyrektor@int.edu.pl

KSK Developments – Smart Dual-Sensor Parking Management System

Smart Dual-Sensor Parking Management System

A parking space management system based on magnetic sensors with radar confirmation is an advanced IoT solution designed to monitor parking spaces in indoor and outdoor parking lots. Each sensor integrates two independent detection modules: a magnetic field sensor, which responds to disturbances caused by the presence of a vehicle, and a miniature Doppler radar, which confirms space occupancy, eliminating false positives resulting from environmental interference. The dual measurement path significantly increases detection reliability and enables operation in diverse weather conditions.

The devices communicate wirelessly using LoRa technology, utilizing long-range modulation with minimal power consumption, allowing for years of battery-powered operation. Transmission occurs in an unlicensed band, enabling broad system scalability without the need for costly telecommunications infrastructure. Data from the sensors is sent to an IoT server, where it is aggregated and analyzed, and then made available to operators via APIs or dedicated applications. The technology enables real-time occupancy monitoring, dynamic traffic management, optimization of paid parking zones, and generation of precise statistical data supporting urban planning. The system can be integrated with Smart City platforms, information boards, mobile applications, and payment systems. Thanks to its modular architecture and high reliability, it is an effective tool for managing parking infrastructure in cities, airports, shopping malls, and other facilities with high vehicle turnover.

ADVANTAGES OF THE SOLUTION

- Highly accurate thanks to dual magnetic and radar detection.
- Long-lasting battery life thanks to long-range LoRa transmission.
- Quick installation without any infrastructure disruption or cabling.
- Precise, real-time data supports traffic management.

CONTACT INFORMATION

KSK Developments Sp. z o.o.
Ks. Jerzego Badestinusa 39 St.
41-814 Zabrze
www.ksk-dev.com
mob.: +48 516 173 352
e-mail: ksk@ksk-dev.com

Katarzyna Kasperek
mob.: +48 504 076 287
e-mail: k.kasperek@ksk-dev.com

KSK Developments – IoT system for monitoring biochemical processes in compost heaps

IoT system for monitoring biochemical processes in compost heaps

An IoT system for monitoring exothermic biochemical processes in compost piles was designed to automate composting supervision at waste treatment plants. The technology is based on cableless environmental sensors that measure key process parameters: temperature, humidity, and oxygen content. The sensors are resistant to harsh operating conditions and can be installed directly in the piles, providing precise data from various depths and stages of composting.

The sensors communicate using LoRa technology, which enables data transmission over many kilometers with minimal power consumption. This solution eliminates the need for cabling, allowing for complete flexibility in sensor placement and long-term battery operation. Data is transmitted to an IoT platform, where it is analyzed, visualized, and archived. The system enables the creation of alarms for critical values, the detection of process deviations, and the generation of automatic reports compliant with environmental requirements.

The technology ensures continuous monitoring, increases the safety of the composting process, and supports the maintenance of stable thermal conditions essential for the proper functioning of biochemical reactions. It enables optimized pile management, faster response to irregularities, and reduced operating costs by reducing the need for manual measurements. The system is a modern tool supporting the ecological, efficient, and fully controlled processing of organic waste.

ADVANTAGES OF THE SOLUTION

- Continuous measurement of key composting process parameters.
- Stable LoRa connectivity enables long-range monitoring.
- Eliminates cabling and provides long-term battery operation for sensors.
- Early detection of irregularities and automatic alerts.

CONTACT INFORMATION

KSK Developments Sp. z o.o.
Ks. Jerzego Badestinusa 39 St.
41-814 Zabrze
www.ksk-dev.com
mob.: +48 516 173 352
e-mail: ksk@ksk-dev.com

Katarzyna Kasperek
mob.: +48 504 076 287
e-mail: k.kasperek@ksk-dev.com

MarbetWil

Sultech® - technology for the neutralization of solid industrial waste

Marbet Wil offers innovative technical solutions protected by patents that facilitate the recovery of hazardous industrial waste. This is achieved by stabilizing the waste with Sulstar® sulfur polymer and solidifying it into products suitable for railway, road, and hydraulic engineering.

Sultech® technology converts industrial waste such as: slag, dust, and ash, into valuable and safe products, aligning with the principles of a circular economy. The waste-based Sultech® composite is a thermoplastic material that boasts high mechanical strength and is fully resistant to corrosion in harsh environments, including concentrated acids, seawater, sewage, and brine. Its impressive performance parameters make it suitable for various applications in hydrotechnical construction and road and railway projects, such as counterweights, drainage systems, sea defenses, curbs, road barriers, and road slabs.

The Sultech® technology effectively addresses the issue of solid waste, including dust, ash, sand, and slag, thus eliminating the need for landfill disposal. The process of stabilizing and economically utilizing hazardous industrial waste within Sultech® polymer concrete is particularly valuable for managing waste that contains heavy metals, which are chemically transformed into water-insoluble sulfides. Other materials are integrated into the final matrix and encapsulated in a non-absorbent, airtight substance.

Benefits of this solution include:

- Eliminating the costs and technical challenges associated with storing hazardous waste
- Freeing up land designated for landfills
- Transforming waste into safe and useful products
- Achieving 100% product recycling
- Maintaining a low carbon footprint
- Ensuring a low water footprint.

ADVANTAGES OF THE SOLUTION

- The production process does not involve any water or cement,
- Features a low carbon footprint and low water footprint,
- Offers high mechanical strength, corrosion resistance, no water absorption, and excellent frost resistance.
- Offers 100% recyclability of the material.

CONTACT INFORMATION

Marbet Wil Sp. z o.o.
Towarowa 9 St.
44-100 Gliwice
www.marbetwil.com
phone: +48 32 338 19 40
e-mail: info@marbetwil.com
Marcin Hiltawski
mob.: +48 606 967 367
e-mail: marcin.hiltawski@marbetwil.com

Polska Synergia

Smol Power Iron LTO

Smol Power Iron LTO is a modular energy storage system using advanced lithium-titanate (LTO) batteries, known for exceptional durability and safety. Each module includes two 3.4 kWh battery packs and an automation control unit. LTO batteries offer up to 30,000 charge-discharge cycles, far exceeding traditional batteries. Thanks to the unique lithium titanate anode structure, the system operates reliably in extreme temperatures and supports high currents up to 10C, enabling fast charging and discharging. Our proprietary active cell balancing (2A per cell) ensures voltage stability and high efficiency. The robust 10 mm aluminum housing effectively dissipates heat, preventing overheating.

The system supports up to 10 units connected in parallel via an inverter, allowing scalable installations tailored to user needs. It can store energy for later use and provide network services such as frequency regulation (e.g., aFRR), helping maintain grid stability. Designed for prosumers, small businesses, and public institutions, Smol Power Iron LTO offers an eco-friendly, safe, and efficient solution for cost optimization and energy independence.

ADVANTAGES OF THE SOLUTION

- Durability up to 30,000 cycles,
- Resistance to extreme temperatures,
- Fast charging up to 10C,
- Active cell balancing at 2A per cell,
- The ability to connect up to 10 sets, allowing flexible system scaling,
- The product is eco-friendly and safe.

CONTACT INFORMATION

Polska Synergia Sp. z o.o.
Puławska 77/U5 St.
02-595 Warszawa
www.polska-synergia.pl
mob.: +48 221 100 118
e-mail: info@polska-synergia.pl

Margarita Kamenska
mob.: +48 668 276 278
e-mail: Info@polska-synergia.pl

PROTE – PROTE-MOS

PROTE
Technologie dla Środowiska Sp. z o.o.

Sludge minimization PROTE-MOS

The proprietary PROTE-MOS technology is designed to control the wastewater treatment process at existing facilities. It creates optimal conditions for the plant's activated sludge, increasing microbiological diversity in its ecosystem and facilitating dominance of stronger organisms that adapt more easily to the conditions created with PROTE-MOS. The measurable effects are: reduction of the amount of excess sludge produced, improvement of the quality of treated wastewater (especially with regard to nutrient elements) using a purely biological stimulation, reduction of the consumption of chemical reagents, including the possible complete cessation of dosing coagulants, and increasing the stability of the treatment plant's operation – increasing the resistance of the facility to variable pollution loads. The PROTE-MOS technology can be easily implemented at existing facilities, bringing immediate economic and environmental benefits.

ADVANTAGES OF THE SOLUTION

- PROTE-MOS limits sludge formation by 20%-73%.
- It optimizes the process of wastewater treatment, which leads to measurable environmental and economic benefits.
- This technology improves the quality of effluent, reduces electricity consumption and carbon footprint, as well as chemical reagent use.

CONTACT INFORMATION

PROTE Technologie dla Środowiska Sp. z o.o.
Franciszka Firlika 26 St.
60-692 Poznań
www.prote.pl
mob.: +48 616 545 570
e-mail: prote@prote.pl

Hubert Białous
mob.: +48 604 250 548
e-mail: h.bialous@prote.pl

PROTE – PROTE-FOS

PROTE
Technologie dla Środowiska Sp. z o.o.

Lake research and reclamation PROTE-FOS

The patented PROTE-FOS technology has been designed to permanently solve the problem of algal blooms in water reservoirs. It is a comprehensive service dedicated to private and public entities that own or manage water reservoirs affected by progressive eutrophication. The reclamation process is carried out using the dedicated, innovative 2-module vessel PROTEUS, engineered by PROTE. The PROTE-FOS technology halts cyanobacteria-related phytoplankton blooms, improving water transparency. PROTE's proprietary solution stimulates natural processes occurring in the aquatic ecosystem, facilitating restoration of its previous biological balance, provided there is no inflow of nutrients from external sources. Technology involves phosphorus blockage in the reservoir's bottom sediment during its controlled resuspension, followed by its permanent consolidation. Inactivation of phosphorus in the sediment prevents the re-bloom of the water.

ADVANTAGES OF THE SOLUTION

- PROTE-FOS restores the natural balance of aquatic ecosystems.
- Its efficiency has been scientifically proven and field-verified.
- PROTE-FOS can be implemented over lakes and overseas areas.
- PROTE-FOS, unlike alternative invasive methods, does not affect ecological processes naturally occurring in the aquatic ecosystem.

CONTACT INFORMATION

PROTE Technologie dla Środowiska Sp. z o.o.
Franciszka Firlika 26 St.
60-692 Poznań
www.prote.pl
mob.: +48 616 545 570
e-mail: prote@prote.pl

Hubert Białous
mob.: +48 604 250 548
e-mail: h.bialous@prote.pl

PROTE – SYMBIO

PROTE
Technologie dla Środowiska Sp. z o.o.

Water biomonitoring SYMBIO

The SYMBIO biomonitoring system from PROTE is an early warning system for detecting contamination of drinking water. It combines a natural, reliable method of bioindication, based on the reaction of living organisms called bioindicators, with modern technology that enables automatic water monitoring and data recording. SYMBIO sets the current standards for water safety. The system works based on bioindication. Eight specimens of the species Unio tumidus, placed in the SYMBIO flow-through tank, are equipped with a measuring probe that records every movement of each mussel's shell. The natural biorhythm of a mussel is comparable to a human ECG. Any change in the mussels' behavior is recorded and visualized, and in the event of a water contamination hazard, the system automatically generates an alarm and sends it directly to the personnel operating the critical infrastructure, according to the facility's crisis management procedures.

ADVANTAGES OF THE SOLUTION

- SYMBIO protects critical infrastructure.
- It increases the sense of security of the potable water users.
- It is maintenance-free for its operators.

CONTACT INFORMATION

PROTE Technologie dla Środowiska Sp. z o.o.
Franciszka Firlika 26 St.
60-692 Poznań
www.prote.pl
mob.: +48 616 545 570
e-mail: prote@prote.pl

Hubert Białous
mob.: +48 604 250 548
e-mail: h.bialous@prote.pl

SYMBIONA – AnoxyMem

AnoxyMem©

AnoxyMem® is a proprietary system elaborated by the company SYMBIONA thanks to years of research. It provides the highest efficiency of anaerobic wastewater treatment or the efficiency of methane fermentation process maximizing biogas yield/production of green energy.

It is a high-efficient anaerobic membrane bioreactor (AnMBR), which combines features of a classic anaerobic CSTR reactor based on the idea of a fermenter with the benefits of a membrane separation. A semi-permeable barrier separates the permeate from the biomass, the latter goes to the methane fermentation reactor. It guarantees a very high efficiency of the fermentation system in a very short time without stopping the methane fermentation process and with a high load of the reactor (up to 15 kg of the COD/m3).

Depending on the configuration, it can treat wastewater containing from 60 000 to 200 000 mg/l with up to 99,7% of COD removal on a single anaerobic step or mixtures of sewage and organic/production waste containing grease or suspensions of up to 10% of dry matter, with high concentration of biomass in the reactor, reaching the highest reduction of dry organic matter on the market.

ADVANTAGES OF THE SOLUTION

- Wide range of the bioreactor operations – sewage, sludge, and sludge mixed with sewage, production waste – even up to 10% of dry matter.
- Very significant reduction in parameters – COD up to 99,7%, dry organic matter up to 86%.
- Maximum biogas yield – more self-produced green energy to cover the needs of the plant.
- Treatment of wastewater or a mixture of sewage and waste/sludge without a prior removal of suspension and grease.
- Facilities smaller than classic reactors, with higher treatment parameters and greater production of green energy.
- Low COD level in the effluent (does not require an intensive and expanded post-treatment) or in the clean water from the reactor if operating in the SFC functionality (a separated fermentation chamber).

CONTACT INFORMATION

SYMBIONA S.A.
Agatowa 12 St.
03-680 Warszawa
www.symbiona.com
phone: +48 22 535 30 75, fax: +48 22 535 30 76
e-mail: box@symbiona.com

Justyna Dziewota-Jabłońska
mob.: +48 515 922 559
e-mail: jdj@symbiona.com

SYMBIONA – AnoxyBed

AnoxyBed™

For bioethanol, wine, dairy cheese, milk and juice producers who need a stable and economical effluent treatment solution, we offer the AnoxyBed technology – a high-rate tower anaerobic reactor. It ensures a sustainable and stable biogas source, balanced treatment results and low investment costs. The main element enabling the development of methane-producing bacteria is a floating bed with biomass. The reactor reduces pollutants and, at the same time, converts them into biogas, providing a sustainable and safe energy source. Moreover, the treated effluent requires only slight additional treatment before it is discharged into the sewage system or river. AnoxyBed can efficiently operate at higher suspension rates at the input and lower temperatures than those of classical anaerobic reactors (26-37°C). The problem of an unexpected biomass escape from the reactor is also absent. The technology enables an effective operation of the system. Its capacity allows treating wastewater ranging from 2,000 mg/l of COD (chemical oxygen demand) to very high concentrations, even 20,000 mg/l of COD.

The first application of the technology in Poland, works at a large plant producing apple juice concentrate. After the AnoxyBed reactor, the effluent is additionally treated in the MBBR reactor. Such treatment removes all contaminants so that the effluent may be discharged directly into a watercourse. The wastewater treatment plant occupies only about 500 m2 of built up space, allowing the production plant to expand further. Due to its special design, it has no impact on the environment - as it does not emit odours or cause noise pollution.

ADVANTAGES OF THE SOLUTION

- Effective COD reduction to 92%, the BOD reduction to 95%
- Allows for methane production at a level of 0.45m 3 of biogas from 1 kg of COD
- Efficient operation – for a small surface area of the wastewater treatment plant, e.g. 350m 2 , and the pollution load of 7,000 kg/day of COD
- The technology structure prevents the biomass medium from escaping from the reactor
- It can utilize the existing infrastructure, reducing the cost and time of its implementation

CONTACT INFORMATION

SYMBIONA S.A.
Agatowa 12 St.
03-680 Warszawa
www.symbiona.com
phone: +48 22 535 30 75, fax: +48 22 535 30 76
e-mail: box@symbiona.com

Justyna Dziewota-Jabłońska
mob.: +48 515 922 559
e-mail: jdj@symbiona.com

SYMBIONA – ROVAPO

ROVAPO™

ROVAPO™ is a closed water circulation technology from "zero liquid discharge" family that minimizes energy consumption and waste generation, while also enabling a high level of water recycling for repeated use—up to 95%. ROVAPO™ is a technology designed for waste products from galvanizing processes and high-tech industries, enabling—depending on the sector—the recovery of demineralized water with conductivity <10 μS (e.g. for galvanizing production), ultra-pure deionized water (e.g. in photovoltaics or pharmaceuticals), or water with parameters suitable for reuse in production processes. In the newly developed ROVAPO-HF configuration, it is possible to fully clean wastes from the extraction of shale gas.

The first investment using ROVAPO™ technology was designed and installed in 2006 at the aviation facilities of Augusta Westland PZL – Świdnik. It was Poland's first modern waste treatment plant with a fully closed water circulation from the new galvanizing plant. Instead of galvanization waste products in a classic treatment process being led to the municipal sewer system, high-quality demineralized water is produced from sewage with strictly defined and guaranteed parameters. It is returned to production processes in a modern galvanization plant servicing the production of aviation parts. In 2010-2019 a new ROVAPO™ installations were activated, in particular in aviation and automotive industries.

ADVANTAGES OF THE SOLUTION

- It enables the recovery of water from waste products with an efficiency level above 98% (including recovery of high-quality water from waste subjected to biological filtering)
- It is based on original programming that steers the automated functioning of the installation, independently of varying quantities and compositions of waste from production, as well as ensuring a constant output level from the unit
- It reduces to a minimal level the amount of waste output – the one waste product is a concentrated deposit from the chemical element and concentrated salt from an evaporator containing approx. 50% dry mass

CONTACT INFORMATION

SYMBIONA S.A.
Agatowa 12 St.
03-680 Warszawa
www.symbiona.com
phone: +48 22 535 30 75, fax: +48 22 535 30 76
e-mail: box@symbiona.com

Justyna Dziewota-Jabłońska
mob.: +48 515 922 559
e-mail: jdj@symbiona.com

SYMBIONA – EVAPO

EVAPO low-temperature evaporators

EVAPO® is a series of low-temperature vacuum evaporators with a submerged heat exchanger and an electric heat pump. Unlike traditional evaporators, which use a horizontal external heat exchanger or a vertical internal heat exchanger, the evaporator eliminates the need for circulating the liquid being evaporated. The evaporation process is conducted under a vacuum of approximately 30-60 mbar and a temperature of approximately 35°C. The vacuum is generated by a vacuum pump. The necessary heat and cooling are supplied by an integrated compressor heat pump. The compressor compresses the refrigerant gas to a temperature of approximately 70°C. This is pumped to a coil located in the evaporator section, where the liquid boils. The concentrate concentration level is determined by time or by measuring the liquid's density. After the concentration process is complete, the concentrate is automatically discharged by a pump. Wastewater is collected automatically without the use of pumps. The evaporator has no circulation pumps or tubular heat exchangers that could clog. Systems using EVAPO "learn"—maintaining optimal desalination levels or other preset permeate parameters by automatically responding to changing input and output conditions. This maximizes water recovery and ensures the highest efficiency and operational stability of the entire process.

ADVANTAGES OF THE SOLUTION

- A simplified process without pumps and heat exchangers, minimizing the risk of clogging.
- Increased heat exchange efficiency.
- Evaporation at low temperatures (approx. 35°C) reduces energy consumption.
- Provides both heat and cooling, increasing the system's energy efficiency.
- Concentrate is automatically discharged, and the concentration level is determined by time or density measurement.
- The system "learns" and automatically adjusts parameters (e.g., desalination, permeate quality) to changing conditions.
- Maximizes the amount of water recovered while maintaining process stability.

CONTACT INFORMATION

SYMBIONA S.A.
Agatowa 12 St.
03-680 Warszawa
www.symbiona.com
phone: +48 22 535 30 75, fax: +48 22 535 30 76
e-mail: box@symbiona.com

Justyna Dziewota-Jabłońska
mob.: +48 515 922 559
e-mail: jdj@symbiona.com

T-Master

Individual Waste Segregation System

The Individual Waste Segregation System (SISO) by T-Master is an innovative solution for residential developments that eliminates collective responsibility for improper waste segregation. The system enables individual and fair billing of residents based on the quantity and type of waste they generate, ensuring full transparency and encouraging proper segregation. SISO operates in conjunction with Drop&Go and Drop&Go Waste House devices, equipped with automatic lids that open after scanning a QR code placed on the waste bag. Each bag is weighed and assigned to the respective household account, with all data accessible through the LessWaste app. The system is fully prepared for the implementation of the Pay-As-You-Throw model -charging residents according to the actual amount of waste they dispose of. T-Master devices are energy-efficient (approx. 0.19 kWh/day), made of recyclable materials, highly durable, and covered by a long-term warranty. Automatic lids make operation simple and ensure accessibility for seniors and people with disabilities. The modular design allows the installation of containers both indoors and outdoors, using standard 1100 L and 2×360 L bins. Data from LessWaste show that within just three months of using SISO, the percentage of households segregating waste increases from 10% to 90%. The collected data allow property managers and residents to analyze the amount of waste generated, assess segregation performance, and compare results with other households in the community - supporting environmental education and positive behavioral change. The SISO system increases recycling rates, reduces CO_2 emissions, supports cities in effective waste management, and contributes to building a responsible society.

ADVANTAGES OF THE SOLUTION

- Individual and fair waste billing, up to 90% segregation efficiency, and eco-friendly digital devices that reduce CO_2 emissions.
- Precise data supports cities in waste management.
- The system also enables high-quality clothing collection, giving garments a second life.

CONTACT INFORMATION

T-Master S.A.
al. Stanów Zjednoczonych 32/U15 St.
04-036 Warszawa
www.t-master.com
phone: +48 23 674 23 83
e-mail: biuro@t-master.com

Igor Petryczko
mob.: + 48 887 466 957
e-mail: igor.petryczko@t-master.com

VERSATILEX

A system for counting micromobility users and their impact on urban traffic jams based on AI and working offgrid

Mobile, hybrid system for detecting hazardous events in road traffic zones is an advanced solution combining video analytics, infrared technology, and modern energy management. Specially trained algorithms analyze road lanes, sidewalks, and bike paths, identifying potential threats such as pedestrian intrusions, collisions, or other safety-critical situations.

The system operates using Edge Computing, enabling local image processing and significantly reducing energy consumption. As a result, the device can be battery-powered or operate off-grid, e.g., using solar panels. Its energy efficiency allows installation in diverse locations—from lighting poles and traffic signals to bus shelters and mobile units such as police cars or municipal vehicles. The system can send statistical data at defined intervals or immediately trigger alerts when a dangerous event is detected.

The uniqueness of our solution lies in the fact that the technology was designed and trained from the ground up to operate in low-emission conditions. Existing market systems typically require constant 230V power supply, limiting deployment options. We focused on minimizing energy use while accounting for varied lighting and power conditions. Local image analysis and the elimination of large data transfers to the cloud further reduce energy demand. As a result, our system provides high detection accuracy, flexible installation, and reliable performance at exceptionally low energy consumption—its key competitive advantage.

ADVANTAGES OF THE SOLUTION

- Local detection with Edge technology – fast and energy-efficient.
- Off-grid operation enabled by ultra-low power consumption.
- Effective day-and-night analysis using an IR camera.
- Flexible installation: poles, shelters, traffic signals, mobile vehicles.

CONTACT INFORMATION

Versatilex Sp. z o.o.
Podole 60 St.
30-394 Kraków
www.versatilex.pl
e-mail: biuro@versatilex.pl

Piotr Hołubowicz
mob.: +48 664 915 947
e-mail: holubowiczp@gmail.com

Waste24

Waste24 eMarkets Technology

Waste24 eMarket technology is a digital ecosystem enabling online ordering of waste management services such as container rental, portable toilets, temporary fencing and construction waste removal. Smieci.eu works as a marketplace integrated with a dedicated SaaS software for waste companies, automating order handling, logistics, invoicing and communication. Partner companies can also install the embedded widget on their websites to sell services online without building their own IT systems. The solution integrates with IoT sensors (fill-level, geo-tracking) and blockchain technology, increasing data transparency and operational efficiency. The eMarket is fully scalable across Poland, enabling remote and fast delivery of municipal services — without calls, paperwork or manual bookings.

ADVANTAGES OF THE SOLUTION

- Fully online ordering
- Automated processes & operations
- Scalable nationwide service
- SaaS + IoT + widget integration

CONTACT INFORMATION

Waste24 Sp. z o.o.
Dworcowa 51-53/27 St.
86-300 Grudziądz
www.smieci.eu
mob.: +48 515 174 514
e-mail: l.kaminski@waste24.net

Łukasz Kamiński
mob.: +48 515 174 514
e-mail: l.kaminski@waste24.net

WOFIL

Ozone Water & Sewage Treatment Systems

WOFIL offers technologically advanced water treatment systems using ozone technology and free radicals, without the need to apply artificial chemical substances such as chlorine, coagulants or potassium permanganate. The technology is completely safe, environmentally friendly and based fully on processes occurring in nature. The only difference is that ozonation processes take place much faster and can be fully controlled.

The universality of the technological solutions allows the technology to be used in many branches of industry, such as in drinking water production for municipal water systems or for bottled water and beverages. The ozone technology is also used in washing and disinfection of bottles and packaging, as well as in the washing and disinfection of fruits, vegetables and meat, and also in pools and spas.

By dividing the installation into modules of technological sequences, the manufacturer guarantees a high reliability of the installation as well as uninterrupted operation during service inspections and repairs. Multi-block ozone generators used in the solution enable the alternating functioning of individual blocks, as well as the possibility of their expansion.

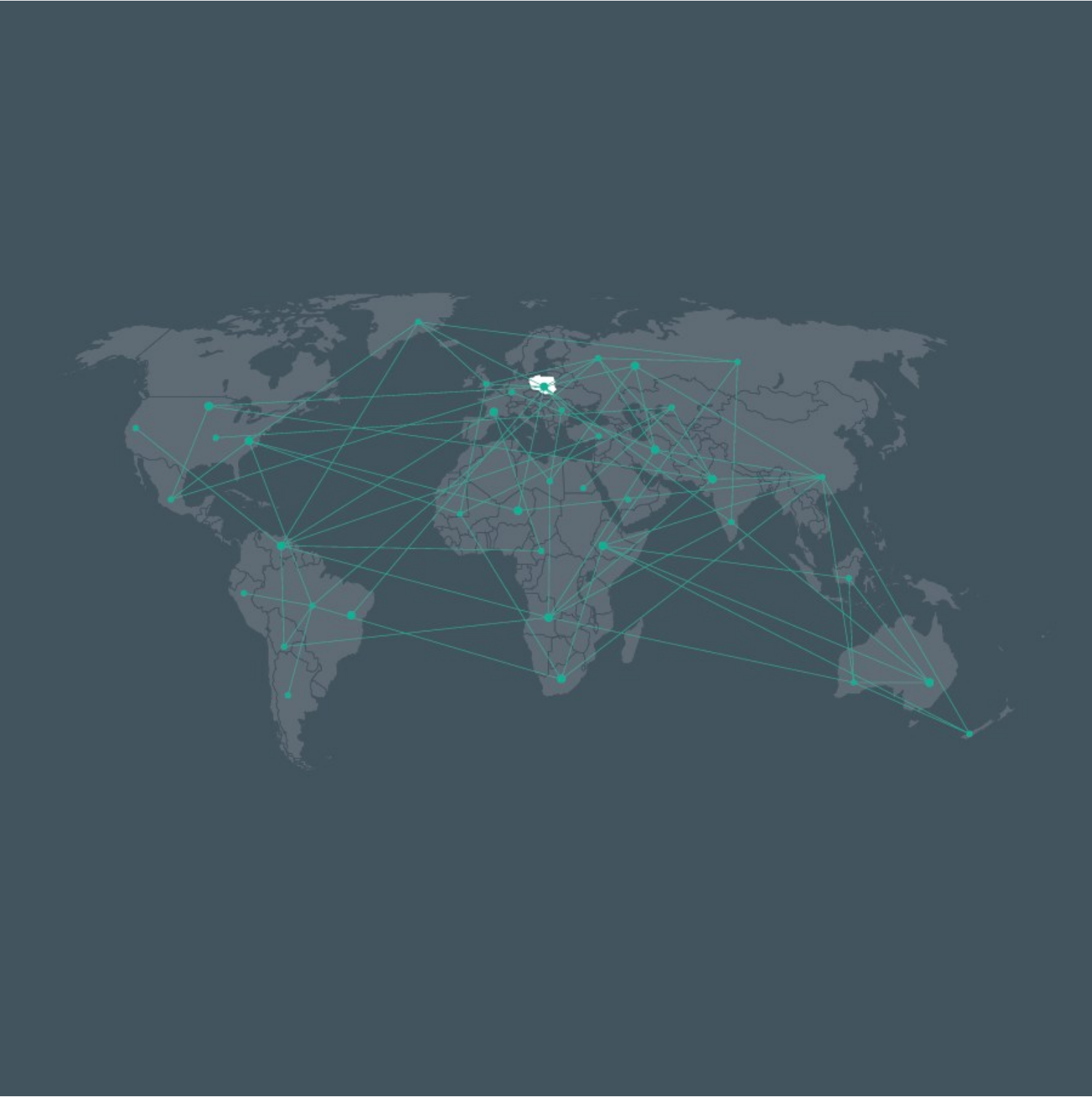
ADVANTAGES OF THE SOLUTION

- Eco-friendly, containerized systems for water and wastewater disinfection
- Highly effective and versatile solutions
- Compact dimensions, simple design, and easy expansion
- Dual-use systems

CONTACT INFORMATION

WOFIL Robert Muszański
Rzeźniana 10/1 St.
33-380 Krynica-Zdrój
www.wofil.pl
phone: +48 18 414 00 60
e-mail: wofil@wofil.pl

Michał Kosiniak
mob.: +48 602 463 445
e-mail: m.kosiniak@wofil.pl



More information