ID	Company Name	City	Website	Summary
1	**BIOCONTROL**	Gdynia	www.bio-control.pl	Services mainly for biomass and agricultural companies which wants to export biomass products as a renewable fuels to EU for energy and heating purposes. Our role is securing proper documentation for fulfilling sustainability criteria for biomass fuels and waste and residues according to EU requirements (eg. RED II Directive, SURE-EU). Biocontrol has a status of exclusive suppliers auditors for top 5 energy Groups in Poland: (ENERGA, PGE SA, TAURON GROUP, IKEA, PGNIG).
2	**EKOTOP**	Piła	www.ekotop.eu	Slutions for sludge management - hybrid sludge dryers. The drying process itself is based on the energy of the Sun and heating surface exploitation to evaporate water from sewage or municipal sludge. Hybrid sludge dryers are one of the cheapest solutions for water evaporation. The evaporation of 1 tonne of water requires only 20-30 kWh. The final product – dried sludge takes the form of a granulate. Granulated municipal sludge can be successfully used both agriculturally and energetically.
3	**FAR DATA**		www.fardata.pl	Advanced environmental monitoring and intelligent transport systems. Our flagship solutions include the Enviro Station, a modular platform for real-time monitoring of air quality, noise, meteorological conditions, and traffic intensity, as well as ViaZone, a mobile traffic management system designed to optimize flow and safety in roadwork zones. Our systems are widely applied in Smart City and ITS projects. All components are manufactured within the EU, ensuring precision, durability, and compliance with international standards.
4	**FORTIFRUITS**	Rzeszów	www.for@fruits.com	Elicitation equipment for Turkish farmers to improve quality and shelf life of fresh fruits and vegetables for export. Our equipment improves amount of polyphenols and antioxidants in fruits and vegetables. The technology allows the elimination of chemicals for food production and E additives. It is low-energy allowing 60% less energy consumption to achieve the same effect.
5	**INSTITUTE OF POWER ENGINEERING**	Warsaw	www.ien.com.pl	Deployment of green hydrogen production and utilization facilities, as well as for the development of hydrogen technologies. The portfolio of the Institute includes the design and construction of energy installations, including Power-to-X systems, numerical analyses and simulation of processes taking place in various types of energy and industrial installations, as well as consulting and expertise in the broadly understood energy sector. One of the research and expertise area are hydrogen technologies as Stack of solid oxide cells (SOC) designed to generate hydrogen or electricity - was developed. The proposed solution can be considered as one of the most promising hydrogen technologies. The developed SOC stack can work as a generator of electricity and heat - fuel cell mode, produce zero-emission hydrogen - electrolyser mode, and also work in a reversible mode (switching between the modes mentioned above), i.e. act as an energy storage. This technology is highly efficient, can be powered by various types of H2-based fuels and is environmentally friendly.
6	**AGATA**	Gozd	www.dustcontrol.expert	Celluguard technology is a dust control technology that guarantees higher efficiency while lowering maintenance costs of the dust control dedicated to the mining industry, smelters, energy industry, and processing industry.. This solution enhances dust control, and material protection, increases durability, and promotes environmental sustainability, dedicated for coal mines and lignite-fueled power plants that generate significant amounts of coal ash. This ash, often stored in dust-emitting stockpiles, contributes to air and soil pollution. Celluguard provides a sustainable approach by improving air quality, and ash management reducing its environmental impact.
7	**PROTE**	Poznań	www.prote.pl	6 proprietary technologies: SYMBIO - biomonitoring system used for online monitoring of water quality at water intakes. SeaQuest – effective removal of rust and lime scale from water distribution networks and improvement of the sanitary condition of water supply systems. PROTE-MOS - minimizing sewage sludge production at wastewater treatment plants. CAPEX=0 & lower OPEX. PROTE-POS – processing unwanted waste (sewage sludge) into certified, intelligent agricultural fertilizer. PROTE-fos –effective elimination of algal blooms in water reservoirs by rapid and permanent binding of phosphates in bottom sediments. TIB – Technology of Intensive Bioremediation used for site assessment and soil and water reclamation.
8	**SYMBIONA**	Warsaw	www.symbiona.com	Symbiona offers circular economy solutions: wastewater treatment and reuse, sludge processing and organic waste to biogas solutions. We are active mostly in industry, with food industry constituting the major part of our references. Other references cover household chemicals, automotive industry and aviation. Our competences are covering the whole process – from design (incl. 3D design), consulting and project management, through technology delivery to a turnkey project delivery.
9	**SYSTEM 3E**	Warsaw	www.system3e.com	SYSTEM 3E is Lego-like house, Ecological, Energy-efficient and Economical #construction technology that needs No glue, No water, No mortar, No artificial insulation and Unqualified labour. SYSTEM 3E is Lego-like #construction material that is already used in EU countries like Spain, Portugal, Sweden, Holland, Poland, UK but also in South Korea and Australia. The first home in the US will be build in Colorado THIS SUMMER. Turkey at the same time is one of the biggest perlite producers in Europe. Perlite is the main SYSTEM 3E ingredient.
10	**T-MASTER**	Warsaw	www.t-master.pl	T-Master provides intelligent containers for selective collection of municipal waste and creating IT solutions for infrastructure management, data aggregation and analysis. Our goal is to provide municipalities with a comprehensive and effective system for selective municipal waste collection and segregation in residential buildings and computerization of Selective Collection Points of Municipal Waste.

Consulate General of the Republic of Poland in Istanbul

Embassy of the Republic of Poland in Ankara

PAIH PFR Group

DEiK DIŞ EKONOMİK İLİŞKİLER KURULU FOREIGN ECONOMIC RELATIONS BOARD

Ministry of Climate and Environment Republic of Poland

POLAND25.EU

IV Polish-Turkish Economic Forum with the EU perspective – Green Technologies and Energy Transition

PROFILE OF PARTICIPATING POLISH COMPANIES

www.bio-control.pl

Biocontrol is a TIC Company (Testing, Inspection and Certification) providing services mainly for biomass and agricultural companies that want to export biomass products as a renewable fuel to EU for energy and heating purposes.

The main services are focused on sustainability criteria for biomass, biofuels, waste and residues used for energy and heating purposes. The significant part of Biocontrol's services is auditing and supervising chain of custody of biomass fuels imported to EU. Biocontrol's role is securing proper documentation for fulfilling sustainability criteria for biomass fuels and waste and residues according to EU requirements (eg. RED II Directive, SURE-EU). Biocontrol has a status of exclusive suppliers' auditor for top 5 energy Groups in Poland: (ENERGA, PGE SA, TAURON GROUP, IKEA, PGNIG).

Currently over 2 million tones of biomass are used in EU energy sector under supervision of Biocontrol. Main waste and residue products from agricultural and industrial sector are palm kernel shell, palm kernel pulp/cakes, coconut shells, agave cakes, wood chips, bamboo chips, straw pellets, rice husk pellets. Biocontrol is focus on supporting companies wanting to export their products to EU mainly from biomass, biofuels, waste and residues, agricultural and forestry sectors.

Audits are performed with the aid of remote tools like SyENERGY Platform that provides the possibility to measure: a) the diameter of momentum at the height of the chest (at 1.30 m), b) plant height before harvest, c) density of plants on a plantation, also collection of information regarding: a) varieties and plant density per ha, b) a cycle of biomass collection and information of the last harvest. Biocontrol develops and validates the method of energy biomass source of origin authentication and monitors plantations with the Sentinel 2 satellite data, according to the requirements of local law and EU sustainability requirements (RED 2), uses the Sentinel 2 based classification of energy crops plantations performed by IGiK with available satellite and in-situ/ancillary data as well as data possessed by Biocontrol Company.

Additionally Biocontrol provides services in the area of wood pellet technology consulting, certification for agricultural and forestry sector as well as ENPlus Certification scheme for wood pellet producers

www.ekotop.eu

Ekotop provides green and renewable sewage sludge management technologies. Ekotop specializes in designing and constructing solar and hybrid sewage sludge dryers that utilize renewable energy sources such as solar energy, wastewater, geothermal heat, and biogas.

The main solution offered by our company are hybrid sludge dryers. They consist of drying halls similar to greenhouses covered with polycarbonate or glass plates. The drying process itself is based on the energy of the Sun and heating surface exploitation to evaporate water from sewage or municipal sludge. Inside the drying hall sludge is transported, aerated, granulated and moved to the other end of the hall by a robot - a turner. The automatic ventilation system ensures and improves water evaporation and humidity removal from the drying hall. Whenever possible all available alternative energy sources such as wastewater heat, the warmth of the earth, solar collectors etc. are utilized.

Hybrid sludge dryers are one of the cheapest solutions for water evaporation. The evaporation of 1 tone of water requires only 20-30 kWh. The final product – dried sludge takes the form of a granulate. Granulated municipal sludge can be successfully used both agriculturally and energetically. This approach not only reduces operational costs and allows to make profit from waste but also minimizes environmental impact and is therefore addressed mainly to operators and owners of municipal wastewater treatment plants, wastewater authorities.

Ekotop provides end-to-end services encompassing consultancy, design, execution, and supervision of environmental protection projects. Their expertise covers the entire project lifecycle, ensuring seamless integration and efficiency.

Additionally Ekotop offers extensive support in certifying and introducing fertilizers to the market, including documentation preparation, research organization, and certification process oversight. This comprehensive assistance streamlines market entry for clients and is an excellent follow-up for their other technologies such as Hybrid Sludge Dryers.

www.fardata.pl

Far Data is a Polish technology company specializing in advanced environmental monitoring and intelligent transport systems. Our flagship solutions include the Enviro Station, a modular platform for real-time monitoring of air quality, noise, meteorological conditions, and traffic intensity, as well as ViaZone, a mobile traffic management system designed to optimize flow and safety in roadwork zones. Our systems are widely applied in Smart City and ITS projects. All components are manufactured within the EU, ensuring precision, durability, and compliance with international standards. We support data-driven environmental and infrastructure management tailored to local needs.

Far Data delivers high-precision environmental and traffic monitoring systems tailored to local environmental, urban challenges and infrastructure needs. Our key technologies—Enviro Station and ViaZone—enable cities to manage air quality, noise, and road traffic effectively. What sets us apart is our modular, EU-manufactured hardware ensuring high quality, durability and measurement accuracy, designed for reliability and flexibility in both fixed and mobile applications with documented results from European deployments. Our solutions are low-power, long-life designed, ideal for continuous, maintenance-free operation.

Enviro Station is widely used in Smart City and ITS projects. Enviro Station is a modular environmental monitoring platform designed for continuous measurement of air quality (PM, gases, VOCs), noise levels, traffic intensity, and meteorological conditions (temperature, humidity, wind, pressure, precipitation). It is available in both stationary and mobile versions, allowing flexible deployment in urban and remote, hard-to-reach locations. Data is transmitted in real time and supports planning, environmental assessment, and policy-making.

ViaZone is a mobile traffic management system designed to optimize vehicle flow and safety in roadwork and reconstruction zones. It identifies factors causing delays—such as speeding or improper merging—and provides real-time driver guidance through variable message signs (VMS). The system has proven to reduce travel delays by up to 37%, increase road capacity, and enhance safety. It is fully portable, energy-efficient, and easy to deploy.

We seek partnerships where data-driven solutions support sustainable urban development.

www.fortifruits.com

FortiFruits provides solutions for the improvement of quality and shelf life of fresh fruits and vegetables.

FortiFruits offers elicitation equipment dedicated for farmers and fruit juice producers. Our technology improves color of fruit for the production of organic and conventional juices. The fruit pomace from elicitiated fruits is also used as a semi product for mousses, fruit fillings. Our solution provides post harvested disinfection of fresh fruit extending its shelf life, improving storage and transport capabilities of fresh fruit dedicated for export for up to 3 months. Our equipment improves amount of polyphenols and antioxidants in fruits and vegetables.

Fruit elicitation as a natural method that allows better use of local fruit and is based on natural resources. Our technology increases the natural durability of the fruit, which supports the protection of biodiversity. In addition, our technology allows the elimination of chemicals and E additives in food production. The technology allows reduction of greenhouse gas emissions from rotten fruit by increasing the shelf life of fresh fruit. The solution is low-energy allowing for 60% less energy consumption while achieving the same effects.

Institute of Power Engineering - National Research Institute (IPE-NRI)
www.ien.com.pl

Institute of Power Engineering - National Research Institute is a state owned R&D Centre one of the largest institutes in Poland and Central Europe providing research in the field of energy technologies. One of the research and expertise areas are hydrogen technologies within which Stack of solid oxide cells (SOC) designed to generate hydrogen or electricity - was developed.

The proposed solution can be considered as one of the most promising hydrogen technologies. The developed SOC stack can work as a generator of electricity and heat - fuel cell mode, produce zero-emission hydrogen - electrolyser mode, and also work in a reversible mode (switching between the modes mentioned above), i.e. act as an energy storage. This technology is highly efficient, can be powered by various types of H2-based fuels and is environmentally friendly.

The stack of SOC developed at the IPE-NRI stands as one of the key components of the value chain of hydrogen technologies. Depending on the specific application and the requirements of the end user, SOC stack can be operated in a fuel cell mode (SOFC) generating electricity and by-product heat or in electrolysis mode (SOE) generating hydrogen and by-product oxygen. The possibility of switching between the SOFC and SOE modes during the reversible operation (rSOC) can be employed as a key component of modern energy storage system. The developed SOC stacks offer exceptionally high efficiency and ability to utilize numerous fuels including methane and ammonia. Possibility of the thermal integration with various industrial processes and facilities enabling increase the overall performance of the system is an additional advantage. One of the key features of presented solution is its modular design, which allows easy adjustment of installation power by connection of the additional SOC modules.

Main advantages of the developed solution are higher efficiency compared to analogous low-temperature solutions, multi-functionality - the ability to work in the fuel cell mode (energy generation) or electrolyser mode (hydrogen production – consumption of surplus energy), modular construction enabling easy scalability of the system power (power increases with the number of stacks), fuel flexibility (hydrogen, ammonia, SNG et. might be used for SOFC mode), and production of the technology with the use of non-waste methods.

The portfolio of the Institute of Power Engineering includes also the design and construction of energy installations, including Power-to-X systems, numerical analyses and simulation of processes taking place in various types of energy and industrial installations, as well as consulting and expertise in the broadly understood energy sector.

www.dustcontrol.expert

AGATA, a Polish company offering the new generation of environmental solutions, among which is Celluguard : dust control technology that guarantees higher efficiency while lowering maintenance costs of the dust control dedicated to the mining industry, smelters, energy industry, and processing industry.

Cellguard technology is an advanced solution designed to keep surfaces dust-free for up to 12 months with only one application. Cellguard significantly reduces expense and hassle of daily water sprinkling resulting in cleaner and more efficient operation.

Celluguard, is based on advanced micro-composite materials that deliver superior protection and performance. It utilizes a cutting-edge formulation that enhances material strength, durability, and protection. Our technology is designed with sustainability in mind, reducing environmental impact without compromising effectiveness. Celluguard is adaptable to various industries, offering customized solutions. Our technology has achieved outstanding results in multiple European markets, earning praise for their reliability and innovative design.

Cellguard effectively prevents secondary dust emissions by binding immediately with substrates like soil, ash, slag, and other materials upon application, maintaining this bond for a predetermined period. The composition can be tailored based on the type of dusting substrate, such as fresh ash, stabilized ash, mine dust, or post-flotation waste. Celluguard offers various protection classes: Class A: Long-term protection lasting 12 months Class B: Medium-term protection lasting 6 months. Class C: Short-term protection lasting up to 3 months. Class D: Transport protection for up to 30 days. Unique features of Celluguard include: significant water conservation., safety for both skin and the environment., biodegradability, anti-smog properties, odorlessness., resistance to UV radiation, chemical and thermal stability, freedom from polyolefins and bitumen, long-lasting effectiveness as well as compliance with EU standards. Celluguard has been successfully applied in various areas, including slag and ash landfills, aggregate mines and storage yards, mineral deposits, coal mines and storage sites, factory waste landfills, municipal waste landfills, wooden loose material heaps, sedimentary ponds, railway wagons, sea transshipment ports, military polygons and airstrips, roads and shoulders as well as solar farms. The effectiveness of Celluguard is evidenced by its implementation in protecting furnace waste from 52% of the electricity generated in Poland against secondary dusting.

www.prote.pl

PROTE has been operating in the field of environmental protection for 30 years. Our proprietary solutions improve safety of drinking water (SYMBIO), reduce secondary contamination of water in piping systems (PROTE-QUEST), reduce OPEX of wastewater treatment plants (MOS) minimizing its impact on environment (including significant sludge reduction without CAPEX).

PORTE has successfully completed hundreds of projects implementing 6 proprietary technologies:
SYMBIO - biomonitoring system used for online monitoring of water quality at water intakes.

SeaQuest – effective removal of rust and lime scale from water distribution networks and improvement of the sanitary condition of water supply systems.

PROTE-MOS - minimizing sewage sludge production at wastewater treatment plants. CAPEX=0 & lower OPEX.

PROTE-POS – processing unwanted waste (sewage sludge) into certified, intelligent agricultural fertilizer.

PROTE-fos –effective elimination of algal blooms in water reservoirs by rapid and permanent binding of phosphates in bottom sediments.

TIB – Technology of Intensive Bioremediation used for site assessment and soil and water reclamation. It eliminates contamination of soil and surface and ground waters with petroleum derivatives.

www.symbiona.com

SYMBIONA is recognized as a flexible, fast and innovative provider of wastewater treatment technology, water recycling technology and organic waste(water) fermentation (to biogas and bioenergy). We provide best-in-class solutions that generate profit, provide security and help our clients quickly transition to the netzero economy.

We operate in industry, with food industry constituting the major part of our references. Other references cover household chemicals, automotive industry and aviation. Our competences are covering the whole process – from design (incl. 3D design), consulting and project management, through technology delivery to a turnkey project delivery.

We are experts in:

Membrane technologies; over 25 years of experience in membrane processes including:

- wide expertise in MBR (membrane bioreactors) form industry and municipalities
- own anaerobic membrane bioreactor technology
- direct filtration (UF/NF) and product recovery
- water reuse and desalination wth awarded ROVAPO™ technology

Primary wastewater treatment; large particles separation: screens

- Fine particles and fats removal – flotation units (DAF)
- Fats recovery by DAF systems
- Coagullation and flocullation
- Gravity separators – patented Effisep for high solids and MBBR sludge

Secondary wastewater treatment; technologies that makes produce during wastewater treatment as well as post-treatment:

- High-rate granular sludge **EGSB / ER** reactors
- Game-changing **DIGEFLO® anaerobic flotation** technology
- AnoxyMem® **anaerobic MBR** technology for highest COD reduction and biogas yield
- Aerobic membrane bioreactors
- Aerobic moving bed technologies (MBBR/IFAS)

Water reuse; technologies that reduce discharge cost and are useful for reuse water for production

- Efficient membrane solutions
- Highly effective ROVAPO® water recovery process
- UF/NF/RO systems
- EVAPO™ low temperature vaacum evaporators

Organic waste to biogas and resource recovery; innovatiive biogas plants:

- AnoxyMem® anaerobic MBR technology for highest COD reduction and highest biogas yield
- Mesophilic & Thermophilic anerobic digestion of sludge and substrates
- Digestate tratment
- N / P /K recovery plants

Municipal wastewater & sludge; decentralised and centralised wastewater treatment plants including

- **Membrane Bioreactors** and classical activted sludge
- **MBBR/IFAS** and **nutrients recovery**
- **Sludge handling** with AnoxyMem® anaerobic memrbane bioreacotor technology.
- **Seawater desalination**.

SYSTEM3E®

www.system3e.com

SYSTEM 3E is solving housing and climate challenges through innovation. We help solve the housing and climate crises by transforming the way the world builds homes. Using innovative material science, robotics, and automation, we are working to make carbon-neutral housing a reality for everyone. By leveraging cutting-edge material science and the remarkable properties of perlite, we create the only sustainable, self-insulating, jointless construction system in the world.

SYSTEM 3E is Ecological, Energy-efficient and Economical latest development in the #construction technology since 1924 when aerated concrete was introduced. SYSTEM 3E is Lego-like house #construction technology that needs No glue, No water, No mortar, No artificial insulation and Unqualified labour.

We have the capability to create homes that are fire-resistant and provide warmth during cold weather, while maintaining a comfortable coolness during hot periods. Our homes are designed to ensure the well-being of their occupants, without causing any adverse reactions. Utilizing the Morse cone technology, the structural integrity of buildings constructed with 3E elements exhibits exceptional resistance to tectonic movements.

Traditional construction is hurting causing 27% of CO2 emissions, and being responsible for 40% of drinking water pollution and generating 50% of waste. Technology developed by SYSTEM 3E allows for 99% Reduction of waste, 54% Reduction of CO2, 3 x Reduction of water footprint, 6,6 m2 Gain space with a built-up area od 150 m2. Already used in EU countries like Spain, Portugal, Sweden, Holland, Poland, UK but also in South Korea and Australia.

www.t-master.pl

T-MASTER is a Polish technology company focused on designing and manufacturing intelligent containers for selective collection of municipal waste and creating IT solutions for infrastructure management, data aggregation and analysis.

The company was established in 2017 and its core is a team having experience in creating large IT and electronic systems and designing and mass production of devices. Many years of cooperation with local government representatives allows us to provide our client with expert support and consultations in the field of diagnosis of the current state of waste management and implementation of system solutions for effective selective collection in municipalities. Our goal is to provide municipalities with a comprehensive and effective system for selective municipal waste collection and segregation in residential buildings and computerization of Selective Collection Points of Municipal Waste. The system designed by our company is based on integrated and modern technological solutions that make fulfilling the segregation obligation simple and pleasant for residents. In the future, the Individual Waste Segregation System will allow to personalize the settlement of waste collection costs for residents based on their specific weight and type.

Our system introduces supervision and control over every kilogram of waste produced by residents. Terrestrial modules are the main product in our range for modern housing and cities developing in the direction of Eco and Smart solutions. First and foremost it is the only one device on the global market that allows to assign to a household, the correct quantity and quality of selectively collected waste. We offer a complete solution to Pay As You Throw & Save As You Sort method.

Our system is dedicated for different users: residents, municipal authorities, housing estates, waste collection and management companies. Each of this entities has dedicated access to the system. For example, the weight of waste and the fill level in each module, and the type of waste is registered in the system. By collecting selective waste correctly at the beginning of the process, the costs of waste management can be reduced in real terms. Waste sorting facilities can have precise information about the weight and type of waste they receive for recycling.