



awas

TECHNOLOGIES FOR ENVIRONMENTAL PROTECTION



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History



The origins of the AWAS International Group date back to the 1970's. At present the Group comprises over a dozen independent companies, registered in different countries and adapting their business activities to the specific needs of a given market. Today the most buoyant markets for AWAS include Central (Poland) and Eastern Europe (Russia and, Ukraine), the Arabian Peninsula and, quite recently, selected African countries.

In Poland, the AWAS Group brings together three companies set up between 1995 and 1999. They are in full operation and thriving to this day.

German AWAS technology and products were introduced into the Polish market by Mr Jack Majcherczyk, the Group's current co-owner, in the early 90's. The company's commercial office was established in 1992 while the rapid growth of commercial activities resulted in incorporation of AWAS Poland and commencement of equipment manufacturing in 1995. The company's offer has been tailored to the needs of the market: The beginning of the 90's saw the construction of the first petrol stations by overseas companies along with car wash centres and the market entry of first global retail chains as well as the construction of the first sections of motorways in Poland.

As early as 1992 AWAS introduced into the market state-of-the-art oil separators. These appliances are devoid of any moving or wearable parts. Hence clients incur practically no running costs.. The company was the first one to receive approvals for this technology from the Institute of Environmental Protection. These modern separators were installed in all the above-mentioned facilities, which led to market domination: first, petrol stations, then car parks situated outside large retail chains. Back in 1998 the company signed its first contract for the supply, installation and operation of the first three sections of A-4 Motorway Wrocław-Gliwice. At the time, AWAS circular separators were positively approved as the only and most appropriate solution for large flows. Sophisticated waste treatment technology that forces discharged water to flow in a vortex motion allows for increased efficiency, treatment effectiveness, acceleration of phase separation and ensures complete safety for the environment and the user.

AWAS pioneered the creation and introduction of environmental legislation in Poland. At that time, the Polish legal system lacked such fundamental acts as the Waste Management Act, Environmental Protection Act and laws regulating building standards, testing and operation of environmental protection equipment as well as provisions relating to waste disposal. All this created an opportunity to benefit from the experience acquired by our sister companies in Germany and Switzerland. →

History



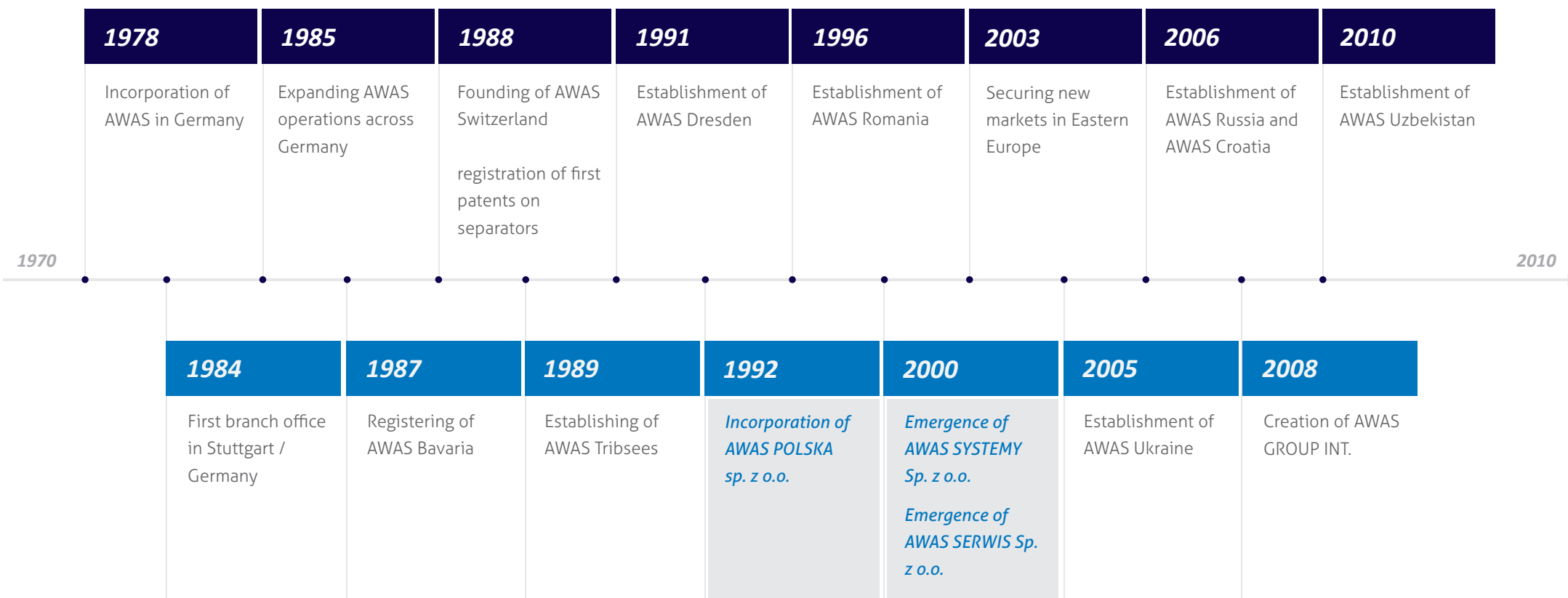
The company's rapid growth led to the spinning off of the service department from AWAS Poland and incorporating it as an independent company - AWAS SERWIS Sp. z o.o., at the same time transforming the commercial and technical departments into another independent company - AWAS SYSTEMY Sp. z o.o. As a consequence, AWAS Serwis could provide its services not only to AWAS but also to other customers, including our competitors. It obtained authorisations from the major producers of separators to carry out comprehensive servicing of their products.

At the beginning of 2000, AWAS entered into a partnership agreement, guaranteeing independent and secure operation:

- AWAS enters into an agreement with a precast concrete manufacturer providing it with the forms and tooling for the production of monolithic concrete tanks
- AWAS approach is based on mounting technology in monolithic tanks. Hence "own" production helps the company maintain independence from suppliers. This way, with steadily increasing demand for tanks, AWAS secures supply of tanks through "its own production".
- AWAS enters into agreements with design offices which, employing AWAS experience from various markets, make use of AWAS concept solutions. This leads to the creation of the network of affiliated design offices throughout the country and ensures that AWAS technology is widely used.
- AWAS actively cooperates with with academic and independent scientific and research institutes. As a member of one of these institutes (the Institute for Technology Safety), AWAS takes advantage of the latest scientific achievements of dozens of experts, specialising in various fields.
- AWAS offers 24-hour Environmental Emergency Response Service This service gives us access to fire departments and district environmental protection inspectorates. It combines experience, equipment and access to installations. We respond in cases of breakdowns, spills, and other environmental accidents. We facilitate public road maintenance services, rescue services and, above all, insurance companies with claim settlement procedures.

History






Key Dates in the History of the Group



References

A Few of Our Most Significant Projects



| Airports | Gas stations | Car wash centres | Military units | Seaports |
|--|---|---|--|--|
|  |  |  |  |  |
| over 25 | over 1080 | over 130 | over 115 | over 10 |
| <ul style="list-style-type: none"> Germany 14 Poland 3 Greece 2 Arab Emirates 2 Asia 2 Scandinavia 2 | <ul style="list-style-type: none"> Poland 650 Germany 430 Romania 31 Lithuania 18 Ukraine 13 Russia 2 | <ul style="list-style-type: none"> Germany 137 Poland 47 Saudi Arabia 2 | <ul style="list-style-type: none"> Germany 87 Poland 21 Arab Emirates 9 Kuwait 1 | <ul style="list-style-type: none"> Russia 3 Spain 3 Germany 3 Ukraine 2 Poland 1 Lithuania 1 |

The Group can boast a considerable number of prestigious and challenging projects across Europe. These include, among others, municipal wastewater treatment plants, landfill leachate treatment facilities,, rainwater pre-treatment from roads, highways and ring roads; reservoirs, sewage pumping stations equipped with monitoring as well as engineering facilities for civil and military airports; closed water circuits in car washes and a number of process water cycles in industrial installations. Using a wide range of proprietary solutions, equipment, technologies and systems, we have put into operation dozens of complex installations in power stations, petrol stations, fuel depots and seaports, etc.

Accomplishments



The first ten years on the Polish market have put AWAS in the uncontested leadership position

“ AWAS has won awards and prizes for all its products.

“ AWAS has gained the leading position on the Polish separator market.

“ AWAS has obtained approvals for all the equipment offered on the Polish market.

“ AWAS has implemented the quality management systems: ISO 9001, ISO 14 001, ISO 18 001.

“ AWAS, being a supplier to the army, has been assigned supplier Id No Nato code 055 H, runs a quality management system for the armed forces – AQAP [Allied Quality Assurance Publication], and also enjoys security clearance allowing it to handle classified military projects.

“ AWAS has developed a service market for maintenance, assembly as well as waste disposal services, based on its own waste treatment facilities, own fleet of special tankers and service vehicles as well as a highly professional team of specialists.

“ AWAS has consolidated its market position as a professional supplier of systems for handling problems of rainwater retention, pumping and treatment and re-use of rainwater.

“ AWAS enjoys the leadership position in highly efficient large flow separators deployed in hypermarkets, large surface car parks, on highways (1998 - the first Polish contract for construction of A-4 Motorway), in airports and seaports.

Certificates



The first ten years on the Polish market have securely established AWAS as the leader of environmental protection



**Polish Military Centre for
Standardisation,
Quality and Codification
(Nato code number 055H)**



AQAP 2120:2006

**Certified Quality
Management System
AQAP 2120**



TÜV Rheinland
We operate according
to the following
quality standards
ISO 9001:2000
ISO 14001:2005
ISO 18001:2004



**Institute of Power
Engineering**
Confirmation of
efficiency and
reliability of AWAS
systems in power
engineering



Elektropomiar
Certificate of suitability
of AWAS systems for
power engineering in
Poland



**Institute of
Environmental
Protection**
Technical approvals for
all our equipment

In addition, AWAS has obtained Russian and Ukrainian certificates and approvals for various types of separators, biological wastewater treatment plants for various purposes and a licence to use chemical and biological wastewater treatment. It also has licences issued by the Deutsches Institut für Bautechnik [the German Institute for Building Technology].

Development

Our rapid growth has led us to enter new market niches



AWAS has introduced into the Polish market new solutions for mechanical treatment of both rainwater and process waters. Pre-treatment of wastewater using hydraulics and fluid dynamics is an innovative approach. Retrograde motion that increases the flow path, accelerates phase separation and increases the cleaning effect is used for separators and closed water circuits. Such systems are also applied in roads, highways, large surface car parks and in industrial applications.

Along with mechanical treatment technology, AWAS develops its competence in biological treatment of domestic and industrial wastewater. The company offers small, household-level wastewater treatment solutions, operating on low-loaded activate sludge, sequential reactors and membrane purifiers for small and large flows. For very large wastewater treatment plants, flow systems are used. Sewage system based on wastewater pumping stations constitutes auxiliary infrastructure.

In Poland and countries that have recently joined the EU, the market for ecological solutions in the municipalities, followed by in the industry, is the most rapidly growing one.

EU funds bring about new applications - rapid development of infrastructure guides the activities of our company. Likewise investment projects aimed at finding solutions for closed water circuits in car washes for specialised vehicles (tracked vehicles, railroad tank cars, road tankers, sanitation and vacuum cars, locomotives, rail vehicles, etc.) are very popular. AWAS proposes solutions based on devices with no moving parts, minimising maintenance and operating costs, featuring durable and easy to use design, that utilise the forces of nature – vortex motion, pulsating movement, flow energy, forces of fragmented air bubbles, water and wastewater saturation.

The development of road, rail, sea and airport infrastructure necessitates the introduction of new, safe wastewater pre-treatment systems that comply with not only Polish standards, but also the EU ones.



Development

AWAS changes the market and the market changes the direction of AWAS activities



Export markets

UKRAINE - bridge construction projects in Kiev, airports, expressways in the Crimea, biological treatment plant in Odessa (ports).

RUSSIA - chemical and biological wastewater treatment plants in industrial facilities, pumping stations for difficult media in metallurgical plants.

BULGARIA - biological wastewater treatment projects in the coastal locations.

ROMANIA - road projects and container waste treatment in the mountainous areas.

SAUDI ARABIA – mobile oil separators mobile projects in car garages.

KUWAIT - closed water circuits in car wash centres on military bases.

CROATIA - landfill leachate treatment, recycling of iron bearing sludge.

SERBIA - ball bearing sludge recycling installations.

New topics

- specialty chemicals for the industry,
- processing of high-calorie food products into animal feed and feed additives,
- collection, distillation and re-introduction into the market of used solvents,
- technology of bioremediation of petroleum contaminated soil (ex situ),
- technology of merging hazardous waste,
- processing ball bearing sludge in furnace charge,
- collection and processing of oil contaminated waste from the drilling industry.

Products

Main product groups offered by AWAS



Separators



- gravitational
- coalescing
- circulation
- grease traps
- sedimentation tanks
- flow controllers

Pump stations



- rainwater
- process waters
- sanitary sewage
- difficult media
- reinforcement with fittings
- control systems

Wastewater treatment plants



- household
- sequential
- container
- membrane
- landfill leachate
- flow
- process control
- monitoring

Water circuits for car washes



- for car washes
- for trucks
- for tracked vehicles
- for tankers, wagons
- for equipment
- water treatment and recycling systems

Precast concrete elements



- tanks
- chambers
- reactors
- overflow wells
- sunk wells

Services

Our areas of expertise in hazardous waste management



Waste removal

- cleaning of sewer network and network pump stations
- cleaning of sanitary equipment
- collecting of waste from underground infrastructure
- clearing of sewage systems
- cleaning of sedimentation tanks, grease traps and separators
- cleaning of retention reservoirs, fire suppression ponds, evaporating reservoirs
- transportation of liquid wastes



Waste treatment

- disposal of hazardous waste groups 1-19
- remediation of petroleum contaminated soil
- disposal of oily debris and gravel
- disposal of toxic wastes
- containment and liquidation of ecological damages



Installation

- sanitary facilities
- monitoring, alarm and warning systems
- sewage treatment solutions
- process waters treatment
- control and automation systems



Maintenance

- logistics in transport and waste management
- sanitary equipment
- technological start-ups
- technological processes optimisation
- on-going maintenance and post-warranty inspections and servicing
- training and briefings
- operations outsourcing



Waste Management

- hazardous waste collection
- waste management through recovery, recycling and disposal
- industrial waste management
- treatment of cooling fluids
- collection of industrial and post-production wastes

Areas of expertise

Our main areas of activity



| Scope | | | Areas | | |
|---|---|--|--|--|---|
| <p>Waste management</p> <p>Sanitation Storage Emulsion recycling Waste treatment Sludge recycling Bioremediation of contaminated soil/oil spills Merging of wastes</p> | <p>Emergency Environmental Response Service</p> <p>Environmental hazards Waste collection Emergency supplies Costing of environmental damages Remediation of environmental damages</p> | <p>Precast concrete elements</p> <p>Monolithic tanks Bespoke elements Cold poured tanks Sunk wells Special purpose elements</p> | <p>Power engineering</p> <p>Power distribution companies Combined heat and power plants Drilling rigs Power plants Refineries</p> | <p>Infrastructure</p> <p>Roads → Ring roads → Motorways → MSAs (motorway service areas)</p> <p>Railways → Locomotives stands → Filling stations → Cars and locomotives washing facilities → Railway tracks protection</p> <p>Municipalities → Sewage systems → Landfills → Wastewater treatment plants → Pumping stations</p> <p>Airport → Hangars → Aprons and runways → De-icing</p> <p>Ports → Berths → Handling bases → Storage protection</p> | <p>Industry</p> <p>Metallurgy → Steel mills → Steelworks → Coking plants</p> <p>Glassworks → Sewage treatment plants in glass melting processes → Stabilisation of dumps → Merging of wastes</p> |
| <p>Water treatment technology</p> <p>Treatment of circulating and process water Treatment and re-use of washings from wash facilities</p> | <p>Chemicals for the industry</p> <p>Water conditioning → Boiler feed water → Cooling water → Circulating water</p> | <p>Wastewater treatment technology</p> <p>Treatment of drainage waters Hospital wastewater disinfection Sanitary wastewater treatment Industrial wastewater treatment</p> | | | |

Areas of activity

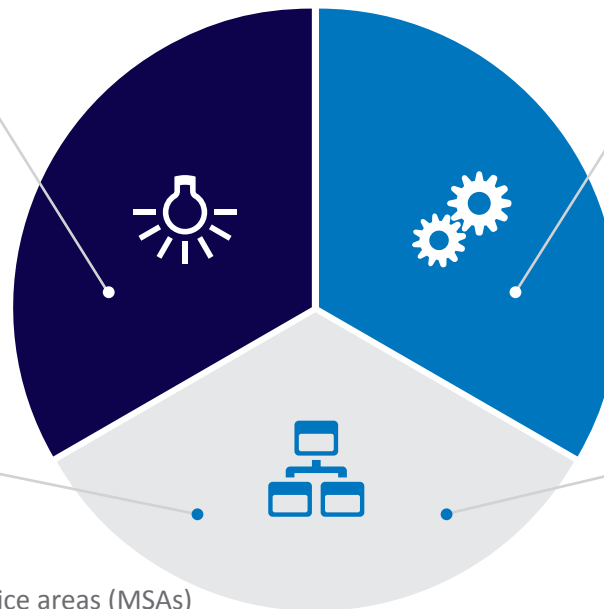
Our main specialisation areas



Our rich experience has made us the experts in the following areas:

Power engineering

- power distribution plants
- combined heat and power plants
- power stations
- drilling rigs
- refineries



Industry

- metallurgical plants ←
- rolling mills ←
- coking plants ←
- ferrous metals casting ←
- glassworks ←

Infrastructure

- Rails
- Roads
roads, ring roads, motorways, motorway service areas (MSAs)
- Airports
rain water treatment, hangars wastewater treatment, de-icing waste treatment
- Seaports
Berths wastewater treatment, unloading and transshipment sites

Infrastructure

- Municipality Infrastructure ←
 - Landfill leachate treatment
 - household waste treatment units
 - municipal wastewater treatment plants - central
 - network pumping stations and sewerage infrastructure

Areas of Activity

Infrastructure – Application

| <p>Airports</p>  | <p>Seaports</p>  | <p>Communication infrastructure</p>  | <p>Armed forces</p>  | <p>Roads</p>  | <p>Municipalities</p>  |
|--|---|---|---|---|--|
|  |  |  |  |  |  |
| <ul style="list-style-type: none"> → de-icing → rainwater from aprons and runways → effluent from hangars | <ul style="list-style-type: none"> → oil contamination → ballast water → bilge waters → melt water → rainwater | <ul style="list-style-type: none"> → car parks → car repair shops → petrol stations → railways → vehicle washes: <ul style="list-style-type: none"> - lorries - tanks - wagons - specialised vehicles | <ul style="list-style-type: none"> → equipment washes → ground forces support → air force - hangars and airports | <ul style="list-style-type: none"> → rain and snowmelt waters → drain protection, → Nature 2000 areas protection | <ul style="list-style-type: none"> → treatment plants → pumping stations → drainage water installations → spills clean-up and remediation → sewage treatment plants optimisation, → waste management |

Areas of Activity

Road Infrastructure



Road Construction - Roads, Ring Roads, Motorways, Expressways

The road construction sector means dealing with huge amounts of rain water. These waters carry large amounts of contaminants, such as oils, grease, brake fluids and heavy metals. The problem lies in retention, pre-treatment and pumping those contaminants. It is important for the system to work under all weather conditions – during the dry season and in times of rains and thaws.

It is essential that discharge into the reservoir (sewage, river, ditches, sea, bay) be safe for the environment and meet environmental norms. Road infrastructure (ring roads, highways, expressways) requires the use of secure devices, since road accidents can bring about oil spills of large proportions (leaking from the tank up to 30 cbm).

Systems for pre-treatment of rainwater from roads, bridges and highways



Areas of Activity

Seaport Infrastructure



Present day ports are great logistics undertakings: places of transshipment, production, processing and manufacturing. Raw material processing plants, refineries, crude and refined oil as well as bulk materials and chemicals storage facilities are often located in sea ports. These areas must be protected against spills, spread of wastes (contamination) and discharge of heavily contaminated wastewater. Rainwater flowing from berths could contain substances that must not be released into the sea. The need to deal with different types of wastewater constitutes a unique feature of this industry.

Bilge and Ballast Water

The idea of safe ports consists in that that ballast water may not be released into the sea without first being disinfecting, as it may contain bacteria and viruses from different climatic zones, which could cause spread of diseases. The wastewater produced within ports in processing plants is very difficult to handle. Sanitary and human wastes from ships contain large quantities of chemicals, so biological treatment methods are not suitable. AWAS is your partner of choice in handling these problems.

Wastewater Treatment Systems in Seaports



Areas of Activity

Airport Infrastructure



Airports, just like seaports, have huge areas of paved surface (runways, taxi ways, aprons), that, during rains, discharge rainwater carrying amounts of suspended contaminants, oils and de-icing chemicals. In climates zones with heavy rainfalls, for example, monsoons, sewage treatment and disposal must be very efficient - unobstructed run-off and retention of rainwater to be cleaned combined with gradual discharge. Other drainage problems occur

during periods of sub-zero temperatures. Wastewater treatment at airports is a considerable challenge: Wastewater from repair hangars, toilets, sanitary wastewater from aircraft as well as quite a daunting problem associated aircraft de-icing. The complexity of these problems means that only a small elite group of companies is capable of dealing with them - AWAS is one of them.

Wastewater treatment systems at airports



Areas of Activity

Biological Wastewater Treatment Plants and Pumping Stations



Design and construction of biological wastewater treatment plants has been one of the most dynamic markets ever since 2008 - both in case of small household waste treatment units as well as municipal treatment plants.

AWAS has accomplished more than 30 projects and carried out over 15 large municipal wastewater treatment plants employing flow technology as well as sequential batch reactors (SBR). AWAS has become an expert in the selection of appropriate technology, control and automation of processes.

The largest market is the one for small household sewage treatment units and pumping stations - our annual sales, along with assembly and commissioning, exceed 1 200 units and the market trend is upward.

Construction of containerised wastewater treatment plants is also unique to this market. Such solutions afford mobility and ease of installation.. The advantage of this system is that the entire treatment plant can be built in a different place than the intended installation site. The assembly itself is swift and easy.

Biological wastewater treatment facilities



Areas of Activity

Power Engineering



Power Plants



- protection of transformer trays
- oil spills monitoring
- waste collection

Refineries



- technological wastewater treatment systems
- systems for pre-treatment of rainwater and process water in refineries

Power Stations



- leaks protection
- process and cooling water treatment
- spills monitoring

Platforms



- rig wastewater treatment prior to its release to water bodies and oceans
- drilling process waste disposal

Areas of Activity

Industry

Steel rolling mills



- cooling water treatment
- impurities mechanical separation
- emulsions purifying

Coking Plants



- cooling process water treatment
- process water treatment
- waste dumps stabilisation
- coal dust binding.

Foundries



- technological process wastewater treatment

Glassworks



- technological process wastewater treatment
- water and waste recycling

Approvals

Decisions and Permits

Any waste producer, contracting out waste management, should pay special heed to compliance of services provided by the contractor with legal requirements in force. In this regard, we guarantee full compliance of rendered services with environmental regulations in force. The decisions and permits at our disposal provide our clients with confidence that the collected waste will be disposed of in compliance with the law.



**Decision issued by the Governor of
Wielkopolska [Greater Poland]**

Sign. SR.IV-6.6600-33/07

Integrated permit for waste disposal in
installations in Główniew



**Decision issued by the Marshal of
Mazovia Province**

**Decision No 31/09/PŚ.Z;
Sign PŚ.V/KS/7600-95/08**

Integrated permit for waste disposal on
installations in Żyrardów



**Decision issued by the Marshal of
Mazovia Province**

**Decision Nr 62/10/PŚ.O
Sign PŚ.IV/EK/7670-42.1/10**

Decision approving waste management
program. With this decision,
AWAS-Serwis may generate waste at
customers' site throughout the country



**Decision issued by the Regional
Director of Environmental Protection
in Warsaw**

Sign. RDOŚ-14-WSI-DC- 6620-28/

Decision approving waste management
program. With this decision, AWAS-Serwis
may generate waste in enclosed sites
throughout the country

Approvals



**Decision issued by the Mayor of
the Capital City of Warsaw**

**Permit No 245/OŚ/2012
Sign. OS-II.6233.15.2012.GBW**

Permit for collection and transportation of
waste across the country



**Decision issued by the District
Governor of Turek**

Sign. OŚ. 6233.8.2012

Permit for waste collection



**Decision issued by the Mayor of
the Capital City of Warsaw**

**Permit No 113/OŚ/2012
Sign. OS-II-GBW-6233-234-4-11**

Permit for waste recovery



**Decision issued by the Marshal of
Wielkopolska [Greater Poland] Province**

Sign. DSR-VI.7244.35.2011

Permit for waste recovery

AWAS Service

Within the Awas Group



Waste Management

We operate as a group of companies possessing permits and decisions enabling us to carry out waste management. This allows us to offer a wide range of services:

- **waste generation** - AWAS holds permits allowing to generate waste and also have well trained professional staff responsible for waste collection and transportation of waste, including mainly hazardous waste – for each of our clients we can provide comprehensive waste management solutions,
- **waste collection** - waste removal and preparation for transport. AWAS operates a fleet of specialist vehicles, tanks and containers for collection of a wide range of solid and liquid wastes,
- **waste transportation** - AWAS runs a specialised transportation fleet and holds all necessary waste transportation permits,
- **waste treatment and recycling** - AWAS collects waste on the basis of the waste transfer note (WTN),
- **waste recovery** - thanks to our knowledge, experience and technological solutions at our disposal, we are capable of professional disposal of both liquid and solid wastes.

AWAS Serwis within the AWAS Group structure

The tasks of AWAS Serwis include provision of the appropriate level of customer service and care. The sale and delivery of appropriate technical solutions to our clients is not the end of our relationship with them; it is merely the beginning. In order to meet these expectations, amongst others, our service offer includes:

- professional assembly and installation of equipment supplied,
- mechanical and technological commissioning,
- warranty and post-warranty service,
- assistance in the selection of spare parts and components,
- existing equipment overhaul,,
- supervision over technological commissioning and start-ups,,
- equipment classification inspections and assessment of its worthiness,
- cleaning and disposal of collected waste.

Unlike most of our competitors, we are entirely independent - we have our own operators, tanks, facilities and installations.

Our most valuable asset is the possession of necessary decisions for waste:

- collection,
- treatment,
- recovery,
- storage,
- disposal.