



Inwatech Ltd.

Noble purity

COMPANY

Innovation and creativity
in a rapidly changing market

Established in 2001 by a group of **environmentally dedicated** professionals, Inwatech Ltd. has become a leading technological company in the field of **tailor made water and biogas energy solutions**. With over **twenty years of experience** in environmental engineering and contracting, Zsolt Eszes and Viktor Lorx have lead the company in gaining special experience in the areas of **wastewater treatment** and **renewable energy**. Inwatech acts as both a general contractor and a technology supplier, delivering turnkey projects to Hungary as well as neighboring countries. Based on an outstanding portfolio of self developed technologies, Inwatech launched its know-how export to support its venturing partners worldwide.



ACTIVITY

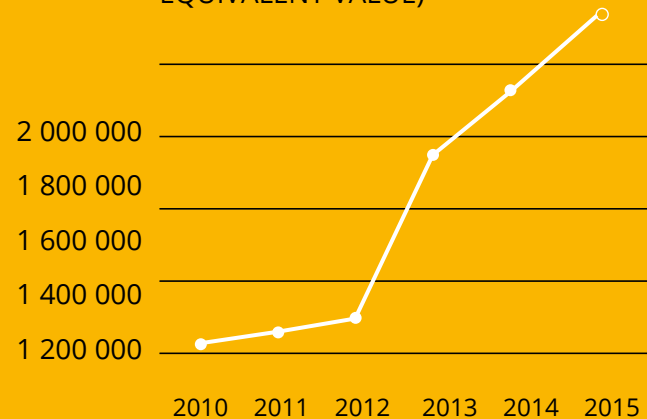
leading technologies and sustainable solutions

Inwatech means responsible thinking. Our facilities form an organic bond with their surrounding environment. As a prime contractor Inwatech is fully equipped and experienced to **meet any challenge** with better innovative solutions.

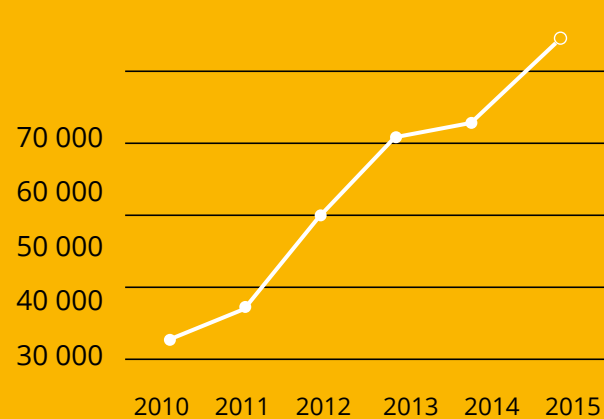
Inwatech provides **exceptional client support through every phase of the project:**

- State of the art technology
- Complete guarantees from one hand
- Outstanding experience
- Result oriented prime contracting
- Long-term service stretching the lifespan of a given project

CUMMULATIVE TREATED WASTEWATER (BY POPULATION EQUIVALENT VALUE)



CUMMULATIVE BIOGAS PRODUCED (NM3/DAY)





WASTEWATER

from design to operation
all in one hand

Inwatech brings wastewater treatment to both **municipalities** as well as **industrial clients**. Our **environmentally conscious** plants can be situated in **direct proximity** of the area they serve. **They** offer a broad range of cost reducing opportunities.

Inwatech's biotechnologies are **highly automated, flexible and can handle large capacities**, while requiring minimal manpower. Our plants are built to the very **specific requirements of each client**. **Low-sludge technologies** leave a very small environmental footprint. Upon request Inwatech overtakes **full responsibility for planning, execution and operation, from developers or local main contractors**.

BIOGAS

energy for a better cost optimisation

Environmentally conscious thinking has led to the utilization of a **vast range of organic materials**. Inwatech boasts the same level **of innovation, service, and professionalism** regarding their biogas generation facilities as their wastewater treatment plants.

State of the art equipment developed by experienced engineers has resulted in unprecedented energy yield and **optimum degradation**. In addition to the conventional use of biogas in biogas motors, the future offers a **wide range of applications, facilitating optimum way of energy conversion**.

WATER SUPPLY

purity and safety

The third area of Inwatech is potable water purification. In a recent start-up, proprietary technologies were launched specifically for this objective. Inwatech Ltd. offers unique, cost effective, and safe solutions, all while preserving sustainability as a fundamental priority.



INNOVATION

self-developed key technologies

CONTISEQ

A continuous feed, but sequential, aerobic, activated sludge process, which facilitates a unique low-energy demand at high treatment efficiency. The process is very flexible, highly automatized and easy-to-operate. Contiseq is an excellent choice for domestic wastewater treatment of any size, and as a final treatment stage for many types of industrial effluent.

INWAFERM

A unique self-developed digester technology suited for a wide range of feedstock concentration. It is characterized by high technological stability and biogas yield, while investment costs are kept at an attractively low level. Inwaferm is the best choice for the digestion of all types of agricultural and industrial waste, by-products, or sludge produced by wastewater treatment plants.

SELECTED REFERENCES

for wastewater treatment

INDUSTRIAL PLANTS

DUNAPACK (Recycled paper, 5 000 m³/d, 3 600 m³/d, 14 000 PE, 133 000 PE)

HAMBURGER HUNGARIA (Recycled paper, 5000 m³/d, 180 000 PE)

HUNGRANA Kft. (Destillery, bioethanol, 3 000 m³/d, 7800 m³/d, 150 000 PE, 336 000 PE)

TOLNATEJ Rt. (Dairy, 1 400 m³/d, 61 000 PE)

FRIESLAND Rt. (Dairy, 600 m³/d, 1 200 m³/d, 35 000 PE, 16 000 PE)

HEINEKEN (Brewery, 2 700 m³/d, 110 000 PE)

DANONE (Dairy, 1 390 m³/d, 37 500 PE)

RAUCH (Fruit juice, 1 200 m³/d, 40 000 PE)

MOL (Oil refinery, 25.000 m³/d)

PANNONBAROMFI (Poultry, 1400 m³/d, 55 000 PE)

TÖRLEY, HENKEL (Sparkling wine 600 m³/d, ~20 833 PE)

MUNICIPAL PLANTS

ÉRD (15 000/25 000 m³/d, ~140 000 PE, 35 000 PE)

BÉKÉCSABA (20 000/35 000 m³/d, ~133 000 PE)

SIKLÓS (2 500 m³/d, ~11 300 PE)

MOSONMAGYARÓVÁR (8 600 m³/d, ~98 330 PE)

TÁPIÓSZELE (2 226 m³/d, ~16 666 PE)

SÜLYSÁP (3 000 m³/d, ~26 250 PE)

SÁNDORFALVA (2 250 m³/d, ~12 550 PE)

SZÉCSÉNY (2 300 m³/d, ~24 000 PE)



SELECTED REFERENCES

for biogas

BIOGAS PLANTS

CSENGER (536 kW, 5 100 Nm³/d)

GYULA KÖRÖS-MAROS BIOFARM (499 kW, 4 800 Nm³/d)

ÉRD (250 kW, 2 700 Nm³/d)

BÉKÉSCSABA (250 kW, 2 600 Nm³/d)

MOSONMAGYARÓVÁR (250 kW, 2 050 Nm³/d)

SZEGED DÉMÁSZ (1MW, 10 000 Nm³/d)





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innovation } water } energy



CONTISEQ ADVANCED WASTEWATER TREATMENT

General

ContiSeq is the latest evolution of well-known SBR and cyclic aerobic activated sludge wastewater treatment processes. The treatment technology is state-of-the-art. It uses proven equipment components and comes with an innovative process control system.

ContiSeq is an ideal technology well suited for domestic and industrial wastewater treatment applications, as main-, or post treatment.

Technological features

ContiSeq is a generic SBR technology with some unique features:

- a constant water level plug flow-contactor tank at the inlet
- a variable level captor zone
- SPAC© Substrate-Proportional Aeration Control, as part of the overall process control system



Advantages over other systems

ContiSeq deploys the all latest technological developments on SBR's:

- very robust and flexible process resistant to fluctuating flows and loads
- continuous influent, allows a well-functioning CONTACTOR zone, for outstanding biomass selection and better sludge sedimentation
- the CAPTOR zone captures the flow entered during sedimentation and clear water decanting. Only well-conditioned MLSS reaches the main REACTOR zone
- the water level variation of the main REACTOR zone is reduced, therefore saving volume and energy
- unique smart process control, with automatic reactions in emergency, including the SPAC system which automatically adjusts the aeration time to variations of the inlet loading
- ContiSeq can also be designed as a single tank system; no equalisation basins needed
- simple rectangular, or other shaped tanks of less volume
- better N removal and unique high biological P removal due to improved filling/aeration regime
- very simple mechanical units, low rate of wear and tear
- extreme low energy demand

Application

ContiSeq is available from small, pre-manufactured containerised layouts for camps, and small villages, to large scale wastewater treatment plants in cities. It is tailor-designed for each individual application which considers; climate, wastewater characteristics, and level of operational safety. ContiSeq is the most economic choice for highest level biological treatment of domestic wastewater and industrial effluents.

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INWAFERM INNOVATIVE DIGESTION

Concept

INWAFERM is an innovative digester type of attractively low investment and operational costs, yet allowing the application of the most versatile feedstock. Inwatech constructs flat type digesters facilitating the digestion of feedstock with very high thickness and organic content. Important parts of INWAFERM concept are:

- Cost-effective, low energy demand tank mixing and heating system
- Integrated biological biogas treatment for H₂S removal with polishing step BIOGINWA
- Integrated variable volume biogas buffer at top of the reactor

We apply proven, self-developed components including Inwatech's state of the art control equipment which is easy to integrate into existing systems. Our past experience also covers all necessary equipment to treat and convert biogas into energy, in whatever form it is required (electricity, heat, bio methane, steam). Inwatech's digesters are also well suited for fermentation of sewage sludge.



Flexibility

Inwatech's customers are all over from various agricultural sectors as well as from industries and municipalities that require the utilisation of the widest variety of biosolids and sludge. INWAFERM's clever design layout and the applied equipment provides excellent robustness, technological safety and flexibility.

Sustainability

Inwatech offers its extensive experience in optimising energy consumption and biosolid/sludge based renewable energy production. Our digesters bring ecological and economical viable solutions. Solutions for reducing energy costs and CO2 emissions. Inwatech delivers substantially more than just technology. Inwatech offers integrated approach from project preparation, through implementation to operation.

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