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As an „engineering consultant for process technology“ this specialized engineering company focuses mainly on the field of waste water treatment with water reclamation, solid (hazardous) waste handling and renewable energies such as biogas.

EnviCare® provides innovative solutions, e.g. membrane bioreactor technology, but also advises private companies or public authorities during basic and detail design, build, start-up and operation of production sites, landfills, waste management facilities, waste water treatment plants and biogas facilities based on renewable crops as well as organic waste streams.

Feasibility Studies

Basic Engineering

Detail Engineering

Authority Engineering

Procurement/Tendering

Construction Supervision

Start-Up Supervision

## Scope of activity

Safety Analysis

Energy Concepts

ATEX regulations

Waste Treatment

Biogas Technology

Anaerobic Digestion

Membrane Separation

Membrane Bioreactors

Waste Water Treatment

Research & Development

National & European Funds

..... take a look at [www.envicare.at](http://www.envicare.at)

## Company Profile

As process engineers we are used to design solutions based on an interdisciplinary approach. Utilizing the fields of chemistry, machinery and civil engineering we help our clients to realize tailor-made and efficient plants, mostly in Austria, Slovenia, Croatia, Rumania and Turkey.

Specific know-how in all relevant project phases of industrial installations is the foundation and we take care of relevant authority permits, funding and all other aspects concerning the environment – this is our mission:



Date of foundation:	1996
Form of business:	Private limited company
CEO and owner:	DI Dr. Bernhard Mayr
Licences:	Engineering and consultancy office in process engineering
Homepage:	<a href="http://www.envicare.at">www.envicare.at</a>

## Independence

Envicare® is absolutely independent from contractors, manufacturers and suppliers and is not associated with any interest which might interfere with its work as consultant.

## Professional Expertise

We are active since more than twenty years in environmental projects covering a wide range from waste water treatment and reuse, landfilling and biotechnological solid waste applications like mechanical-biological treatment and anaerobic digestion.

Participation in several European Research projects kept us close to the latest and most advanced developments in our fields of interest.

## Design and project management of **anaerobic digestion plants:**

Within the last 10 years EnviCare® was actively involved in the realization of more than 20 large biogas installations. Altogether approximately 96 GWh of electricity is produced by these anaerobic digestion plants each year.

In 2004 the Biogas plant St. Veit/Glan with an electrical power of 1 MW was brought to service. This innovative plant was equipped with a plug flow primary digester and a CSTR post-digester. Also an Ammonia stripping was installed in order to produce the valuable fertilizer Ammonsulfate.

Among these projects are the two largest sites in Austria in Retz and Ziersdorf for production of biogas from renewables. Each site has a processing capacity of appr. 45.000 t/a and produces appr. 12 GWh/a of electricity. These plants were successfully put to service in 2007.

A very recent project is in the state of realization for a Finnish company. In this case 45.000 Mg of organic fraction of municipal solid waste shall be brought to anaerobic digestion. Fermentation residue shall possess a quality suitable for agricultural reuse and Ammonia water shall be used in a power plant for flue gas cleaning.

## Design and project management of **aerobic MBR plants:**

Also an interesting aspect might be that we possess 20 years of experience in bioreactor design derived originally from biotechnological applications in pharmaceutical industry but then transformed to waste water and anaerobic digestion applications.

Practical know and expertise with MBR were achieved in the branches pharma, biodiesel, landfill leachate and communal waste water treatment.

## Design and project management of **plants making use of membrane technology:**

Additionally we were actively and significantly involved in several Membrane BioReactor and membrane technology implementations. These key technologies are essential for any treatment of digesting residues and therefore in many cases crucial for successful plant realization.

An actual R+D project is focused on adapting membrane distillation to the treatment of digesting residues.



## **Dr. Bernhard Mayr – CEO and owner**

### Key qualifications

- Master degree for process engineering (1990) and PhD in bioprocess engineering (1992)
- Works as an engineer in the field of environmental engineering since 1992
- Anaerobic Digestion projects, both for organic fraction from municipal solid waste, biowaste or renewables; covering all implementation steps from feasibility study to start-up and commissioning
- Engineering for landfills including gas collection and utilization as well as leachate treatment
- Membrane Bioreactor Systems for waste water treatment and re-use of municipal waste water, landfill leachate as well as for highly loaded organic waste water like from biodiesel or food production; covering all implementation steps from feasibility study to start-up and commissioning
- Membrane separation technologies for industrial processes
- Biological and mechanical treatment of municipal or industrial waste
- Establishing documents for authorization procedure according to industrial code, waste management act and environmental impact assessment act
- Preparation and managing of EU-wide calls for tender
- Evaluation of biological and mechanical biological waste technologies
- Engineering and construction supervision
- Registered engineer in the Austrian chamber of commerce
- Registered engineer in the Slovenian chamber of engineers IZS
- Generally sworn and court certified expert in Austria for
  - waste water treatment
  - waste management
  - waste disposal techniques including landfilling, leachate treatment and anaerobic digestion/biogas technology
  - chemistry – chemical process engineering

## **Membership of professional bodies**

- Member of the chamber of commerce Austria
- Member of the chamber of engineers in Slovenia IZS
- Member of Organisation for Austrian Expert Associations (Sachverständigenverband)
- Member of ÖWAV – Austrian Water and Waste Management Association
- Member of DWA – German Water and Waste Management Association
- Member of German Biogas Association
- Member of Austrian Biogas and Compost Association

## **Co-operation and Research + Development**

We are used to work in close co-operation with our customers, universities and other specialised engineers, lawyers and economists. By bringing the results of applied research to practice we find not only the best possible answer for our clients but create also sometimes an innovative solution.

Consequently a strong participation in research + development projects is very important to us.