

## ▶ Membrane Technology

Membrane technology is a strictly physical method for the separation of substance mixtures, in which the membranes function like a filter. Membrane processes are subdivided into microfiltration, ultrafiltration, nanofiltration and reverse osmosis according to size or molecular mass of the separable substances.

Membrane Technology has come to represent a key technology when closing water loop systems and recycling materials employed in manufacturing processes. Thus membrane technology has established itself and proven effective as a cost-effective and ecological alternative to other separation methods such as evaporation, adsorption and absorption, chemical separation or rectification (distillation).

Its high purification efficiency makes it possible to meet the requirements applicable to advanced wastewater treatment for protection of water and groundwater resources.

Read more:

▶ [Membrane Technology: Better separation. Better business.](#)

The brochure of the EFA – Effizienzagentur North Rhine-Westphalia gives an overview of the technology and presents successful practical examples.

## ▶ Practical Examples

Use of membrane technology can reduce both supply and disposal costs as well as production costs. Its advantages are shown by the examples below, provided either individually or via hit lists from project databases.

▶ [Membrane technology in \[www.cleaner-production.de\]\(http://www.cleaner-production.de\)](#)

80 practical examples supported by promotion programmes of the Federal Republic of Germany.

▶ [Examples of implementing Membrane technology](#)

List of links with other selected projects

▶ [Largest membrane-hybrid plant for drinking water treatment in Germany](#)

The drinking water treatment plant at the waterworks in Roetgen is one of the largest two-stage membrane-hybrid plants worldwide (capacity 6,600 m<sup>3</sup>/h drinking water inclusive water treatment).

▶ [Wastewater treatment and water recycling with low cost MBR technology in the textile industry](#)

The existing percolating filter plant was refitted as a membrane sewage treatment plant.

▶ [Mobile container wastewater treatment system for 100 - 1,500 inhabitants](#)

A decentralised system for wastewater treatment in individual localities. Reclamation of water for further use, designed to achieve retention of pathogens and bacteria.

## ▶ Content

### Main Topic

**Membrane Technology** with practical examples and contact links

### Main Topic

**Water management** in Germany

### Masthead

**Partners**

## ▶ Surf tip

Development of an interactive platform for German technology and innovation in the area of integrated water management for Latin America considering Brazil and Chile as examples

▶ [www.aqua-latina.info](http://www.aqua-latina.info)

▶ [Information on the development of the project](#)

## ▶ Event tip

### [Achema 2006](#)

[World Forum for the Process Industries](#)

28th International Exhibition-Congress on Chemical Engineering, Environmental Protection and Biotechnology



▶ Frankfurt am Main

▶ 15 - 19 May 2006

▶ [Optimisation of water abstraction and treatment](#)

Concepts for raw water treatment for generation of drinking water.

▶ [Process water recycling in the metal processing industry](#)

Integration of a membrane filtration system into the existing electroplating process.

▶ [Membrane technology for decentralised wastewater treatment](#)

Retrofitting with a membrane module will make it possible for treated water from small wastewater treatment plants to meet the quality requirements of the EU Bathing Water Directive.

▶ [EU Research Project: AMEDEUS](#)

Accelerating the development of competitive European MBR filtration technologies, as well as increasing acceptance of the MBR process through lower investment and operating costs.

▶ [The largest industrial membrane bioreactor plant in Belgium](#)

Due to the limited floor space at a brewery the only practical solution that was possible for the treatment of the wastewater was compact membrane bioreactor technology. The plant is the largest membrane wastewater treatment plant in Belgium, with a total membrane surface area of 8,000 m<sup>3</sup>

▶ [Strategies for fouling control in membrane bioreactors in municipal wastewater treatment](#)

The major objective of the project is to develop process and operation strategies for controlling filterability in membrane bioreactors.

## ▶ Contacts

Links to Membrane Technology players

▶ [German Society for Membrane Technology](#)

provides links to suppliers and a calendar of events

▶ [German Association for Water, Wastewater and Waste, DWA,](#)

is the German representative of specialists working in the fields of water resources management, wastewater and waste.

▶ [Membrane Research Group of the Technical University of Berlin](#)

is a cooperation of Ph.D. students and post-doctoral researchers working in the field of membrane technology.

▶ [Hermsdorfer Institut für technische Keramik e.V.](#)

develops advanced ceramic materials, processes and products. The website shows possible applications of ceramic membranes by presenting several practical projects.

▶ [Fraunhofer Institut für Grenzflächen und Bioverfahrenstechnik \(IGB\)](#)

is developing innovative membranes for new applications.



Bild: Erftverband

## ▶ Service

- ▶ Looked for information and found nothing?

Please send us your question:

- ▶ [E-Mail](#)



Bild: DBU

## ▶ Water management in Germany

### ▶ Water resources management in Germany

Data, facts and legislation governing water resources management in Germany have been compiled in three volumes. Part 1 follows the structure of the water chapters of Agenda 21, adopted in 1992 in Rio de Janeiro. It thus became a national report on the implementation of the water management objectives adopted in Rio de Janeiro in Germany. The two other volumes provide detailed information on water quality and pollutant emissions to water. (A new edition will be republished this year.)

- ▶ [Part 1 – Fundamentals](#) (1,15 MB)
- ▶ [Part 2 – Quality of Inland Surface Waters](#) (2,86 MB)
- ▶ [Part 3 – Emissions into Surface Waters and the Sea](#) (20,23 MB)

### ▶ The Water Sector in Germany

How does water management “work” in Germany? How do the various players interact? The documentary report offers comprehensive information and depicts water management procedures by means of concrete case studies. It shows the successes of German water policy, but also points out the unresolved problems and challenges.

[Link to the website](#) (report is also available as a pdf file for downloading)



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### ▶ The Documentary Report is also available in:

- ▶ [English](#)
- ▶ [Spanish](#)
- ▶ [Russian](#)

## ▶ Masthead

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