



# Hohtaelli 10781 ft. above sea level Europe's highest sewage treatment plant

terraLink gmbh  
Umweltechnik Konzepte Werkstoffe

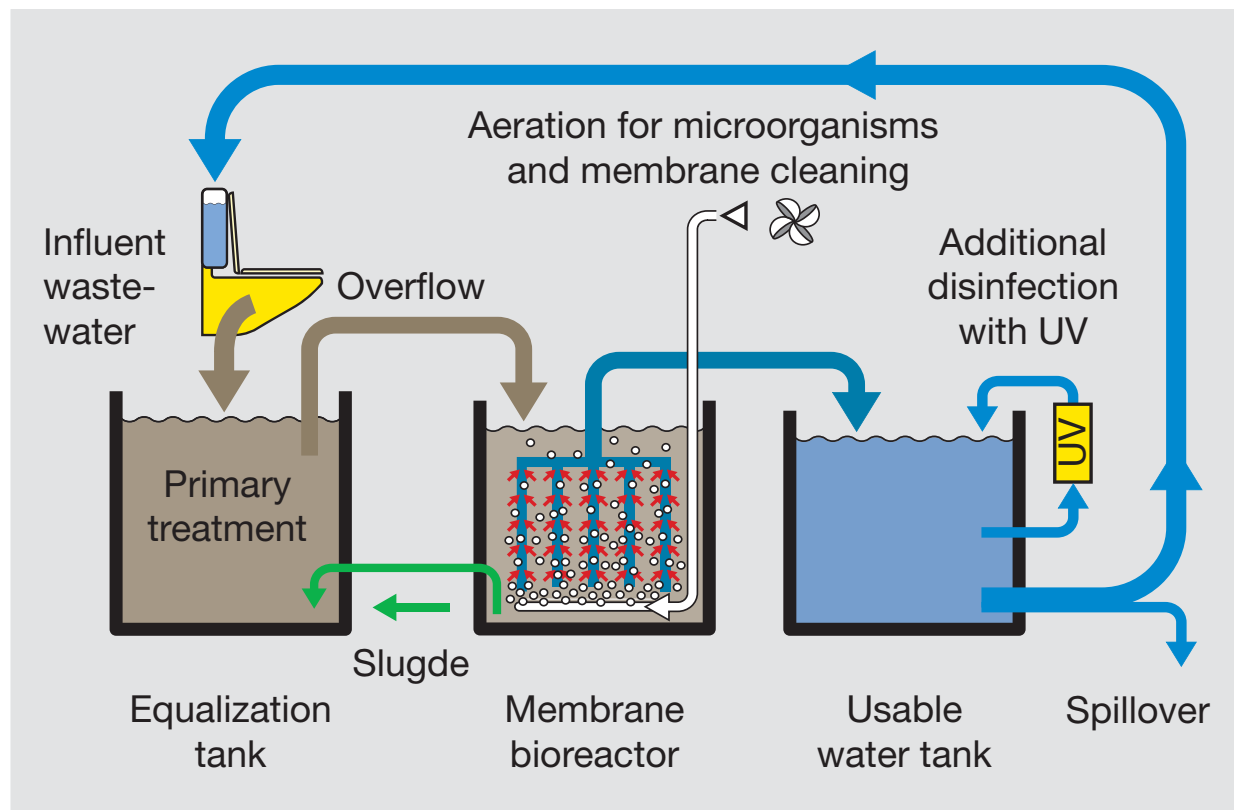
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## Turning wastewater into clean water

There is no source of potable water on Hohtaelli. All water has either to be brought up using tanks carried by the cable car or be won in an even more time- and energy-consuming way by melting snow and ice. For this reason a better use of the available resources is made by processing and recycling the wastewater.



## Biological self-purification

The purification and reuse of water helps conserve sensitive mountain areas and habitats. Since 2004, the performance of a small, closed-system, biological sewage treatment plant using membrane-filter technology installed at the Hohtaelli cable car station in Zermatt has been carefully studied. The processes involved in the biological sewage treatment method used in the plant are comparable with natural self-

purifying mechanisms found in rivers and lakes. Bacteria feed on the materials in the wastewater and convert these into carbon dioxide, water and biomass. Compared to nature, the conversion process in the biological sewage treatment plant takes place in much shorter time. The bacteria are specialised on the nutrients offered by the wastewater and provided with oxygen. The central element of the plant is the bioreactor with a membrane filter having extremely small micropores with a diameter of around 0.35 micrometres ( $10^{-6}$ m). Water can pass through the pores, the material in suspension in the wastewater, however, cannot. Fluid and solids are thus separated, without the addition of chemicals. Therewith the wastewater - around 500 toilet-flushings per day - is sanitised; viruses, bacteria and other pathogenic agents are held back.

## A sustainable solution providing clean water for the benefit of people, animals and plants

A joint project carried out by the Zermatt Bergbahnen AG, TerraLink GmbH, the Swiss Federal Office for the Environment and Eawag (Swiss Federal institute of aquatic science and Technology).

### Project coordination

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