

RAINSTARS AND OTHER INNOVATIONS

STYRIAN ENVIRONMENTAL TECHNOLOGY HAS AN EXCELLENT INTERNATIONAL REPUTATION. IN WATER AND WASTEWATER THE GREEN MARK HAS DEVELOPED INNOVATIONS THAT FIND USE THE WORLD OVER. Roswitha Jauk



It is not only relatively crisis-proof, it is extremely promising as well: technology that benefits the environment. During the crisis global economic stimulus programmes have proven to stimulate growth and by 2020 global revenues from environmental technologies will more than double to EUR 3.1trillion, a German study forecasts.

The region whose „green” solutions are the most innovative and competitive will profit from this business. In the last few years Styria has done pioneer work in three areas and is the market leader today in biomass, solar energy and material flow management.

Another strength of domestic enterprises are innovations for water and wastewater. With their leading technologies in the area of wastewater purification, treatment and sustainable water use, companies such as Andritz AG are a success on the international markets.

Greater water efficiency and global water scarcity are some of the biggest challenges of the next decades. According to water experts, solutions are being urgently sought for the removal of chemical substances (residue from medicines, antibiotics, hormones, chemicals, drugs, etc.) from municipal sewage systems, differentiating between household and industri-

al wastewater. Conventional treatment plants still exhibit enormous deficits in this regard, with the substances ending up back in the groundwater. The Institute for Waste Management and Disposal Technology at the University of Leoben is developing new methods for filtering residue from medications out of wastewater.

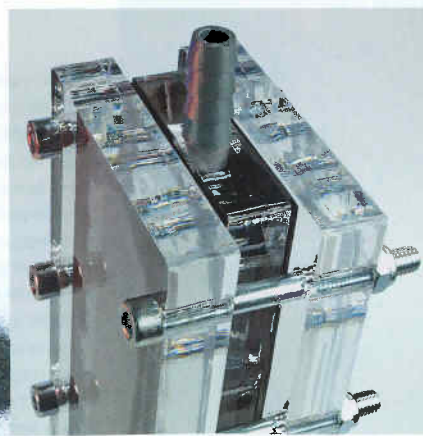
An alternative chlorination system (combining anodised oxidation and ozonation) is to lead to the sterilisation and reduction of medicinal residues. The results of the laboratory tests (pharmaceutical substances were eliminated by up to 90

percent) were such that testing is now underway directly in the treatment plants.

Equipment required for the purification of water is also provided by the Leoben-based spin-off pro aqua, which focuses on the manufacture of diamond electrodes and the construction of the relevant testing facilities. „Not before the development of diamond electrodes were the potentials of anodised oxidation fully recognised,” says company founder Michael Schelch.

As a result of the new carrier material, substances that are difficult to degrade using old methods are removed from the

Electrodes from the finest diamond dust (below) can be used for waste- and potable water treatment entirely chemical-free. Right: Zelle vo pro aqua.



Fotos: Bauer Group, pro aqua, TU Graz



With its Rainstar irrigation machines the Austrian Bauer Group located in Voitsberg, Styria has become a global market leader in the last 40 years.



Everything centres on water and its strengths at TU Graz's new Inffeldgasse hydraulic engineering lab, which recently opened.



water, at the same time dispensing with chemical disinfectants such as chlorine. The Bauer Group located in Voitsberg has devoted itself to technology for the irrigation of land (in times of rapidly growing cities also a segment in strong demand). Originally established as the "Röhren- und Pumpenwerk Bauer Gesellschaft m.b.H.", today the company is occupied primarily with irrigation management, waste management and energy management. Today over 95 percent of this technology is exported; its innovative, particularly resource-compatible agricultural irrigation systems are a global success. From South America all the way to Ukraine, pivot and line systems can be found as well as sprinkler systems such as Rainstar, with which over 800,000 ha of agricultural land are watered throughout the world. The E55 model (small photo above) also won 2nd place for the Austrian Export Award 2009.

www.baugroup.com
www.proaqua.cc
www.unileoben.ac.at
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