

EDITORIAL

INVESTMENTS

Innovation as a customer service

The goal of every company is to earn money via economic activity, but this can only happen with satisfied customers.

This is why: The customer is king. In slower economic times, this connection is often ignored. Instead of looking at the future with optimism, the "money valve" is closed off. This isn't the way of Hydro-Elektrik GmbH.

Last year, a record sum of around Euro 1.7 million was invested in the construction of a new production facility and the development of a new system for tank construction. In addition to the securing of jobs, the establishment of a fully innovative system for drinking-water storage was clearly in the forefront, and the success is bearing out. In addition to exceptional customer acceptance, this activity was also honoured with an award.

VR-InnovationsPreis Mittelstand 2003

Ein Sonderpreis des Finanzverbundes der Volksbanken Raiffeisenbanken

ist heute an

Hydro-Elektrik GmbH
Bruno Bachhofer
Ravensburg

in Würdigung der Entwicklung eines

Spezialverfahrens zur wirtschaftlichen Vor-Ort-Fertigung zylindrischer, spiralgeschweißter Großbehälter aus Edelstahl

verliehen worden.

Der Preis ist mit 10.000 EURO dotiert.

Stuttgart, 19. November 2003

Im Namen der

Volksbanken Raiffeisenbanken

in Württemberg

Erwin Kuhn
Präsident

Württembergischer Genossenschaftsverband
Raiffeisen-Schule-Deitzsch e.V.

Gerhard Schorr
Verbandsdirektor

Württembergischer Genossenschaftsverband
Raiffeisen-Schule-Deitzsch e.V.

The awarded Special Prize for Innovation from VR Banks recognises not just innovation, but also, according to the jury, the benefits to society.

Thus the innovation is also a service for customers, as only they profit from it in the end. Satisfied customers are capital for the future.

TECH TALK

FINANZVERBUND DER VOLKSBANKEN RAIFFEISENBANKEN (FINANCIAL ASSOCIATION OF RAIFFEISEN BANKS) RECOGNISES INNOVATIVE MANUFACTURING PROCEDURE

Special Prize for Innovation conferred to Hydro-Elektrik

The 19th of November, 2003 was a special day for Bruno Bachhofer, CEO of Hydro-Elektrik GmbH. It was the day that a donated Euro 10,000 special prize was conferred to the Stuttgart Geno House. The prize was personally presented by Erwin Kuhn, president of the Geno Banks, together with Minister of State Christoph Palmer. This prize recognised the "development of a special procedure for economic on-site manufacture of cylindrical, spiral-welded large-capacity tanks made of stainless steel".

It all began about two years ago.

Time and time again, customers disturbed the maximally 2.5 mm-thick walls of tanks produced with the folded spiral-seam method. In addition, one-sided welding lead to tension and distortion.

"There must be another way", said Bruno Bachhofer, who began with a number of different welding attempts with plating 4 mm thick.

At the end, the models produced with counter-welding were so promising that work commenced immediately on the construction of an appropriate welding machine. High-precision plate guidance, exact positioning of the firer and a constant speed were ultimately required for a high-quality welding seam. Therefore, both the plate guidance and the welding process had to be automated under electronic control. The end result was a fully-automatic welding module.

Once the welding technology was in place, modules for tank construction had to be developed. Modular construction was important, as all of the technology should be transportable.

After only a year or so of deve-



Minister Palmer (left), CEO Bachhofer (centre) and President Kuhn (right) Photo: Geno

lopment, Bachhofer reached his goal, and was able to present the first spiral-welded tank mantle. Just a few weeks later, the first tank was finished and had a volume of 200 m³. Meanwhile, a new production facility with 1,000 m² of production space was constructed in Tannheim. With this, the basis for a cost-effective and high-quality technology for the construction of large storage tanks was laid.

In addition to the development, market preparation had also occurred. This technology initiated a revolutionary change, especially in the field of com-

munal drinking-water storage. As Bachhofer puts it optimistically: "It won't be long now before those responsible will have to justify themselves if they want to erect storage equipment out of concrete using conventional methods".

The fact is that it doesn't just concern the tank. Hydro-Elektrik has developed a complete system solution. This includes a cleaning system for the tank interior, controlled venting and aeration via high-capacity pollen filters and a special inlet system to prevent changes to the water condition.

NEWS & TRENDS

REPORT

A comprehensive technical report on "new perspectives for the construction of drinking-water storage systems" is published in the year review of the DVGW "Energie Wasser Praxis" magazine. The magazine, is the official organ of the DVGW.

GELTENDORF

The new treatment system in the city of Geltendorf is up at the net. It is an aeration system for iron removal and demanganisation with a capacity of 100 m³/h. The treatment system is located next to the 100,000 litre stainless-steel clean-water tank (HydroSystem-Tank).

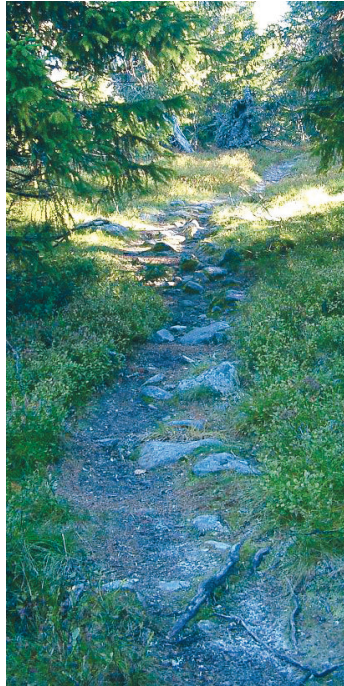
MORE MODERN

The HYDROZON[®] compact drinking-water systems of the TWK series will be equipped with modern touch panels starting next year. With this, the process sequence is presented clearly on a screen. Operation of the system controls occurs by touching the screen.

HYDROZON® WATER-TREATMENT TECHNOLOGY IN NORWAY

On the "Way to the North"

The path to market introduction of the HYDROZON® water-treatment technology in Norway was long, rocky and tough.



Norway, whose name is derived from "Way to the North", is a

very water-rich country. It generates 100% of its energy with the power of water. Even most of the drinking-water supply is raw water taken from lakes.

This water has to be treated and disinfected, as it contains relatively large quantities of organic carbides and humic matter, as it is surface water.

From 1999 to 2001, Hydro-Elektrik GmbH invested a considerable sum in the optimisation of the treatment process following the ozone biofiltration method (see Water News 01/2001), with the construction of a large-scale pilot plant.

Afterward, it was important to make this process known among the professional committees. The goal here was to eventually erect drinking-water treatment systems based on this method. While the publication succee-

ded relatively easy, the transition was much more difficult than initially expected.

One tough point was the high quality and price differential of the different technologies.

Hydro-Elektrik would not consider cutting quality. Some effort to start convincing was in order. In 2002, the goal was near attainment, but agreements on price could not be reached during the contract negotiations.

With three contracts on the order of about Euro 1.2 million, the breakthrough could be achieved in last year. These were two smaller systems for a 500 m³ to 800 m³ daily requirement and a large system for a 4,000 m³ water requirement per day. The first system will commence operation in February 2004, the second at the end of April and the third at the end of summer 2004.

NATURAL DRINKING-WATER TREATMENT

What is ozone biofiltration?

Water is the best solvent. In contact with a host of substances, it breaks up parts of them and incorporates them as part of itself in solute form.

Salts are the most commonly known of such substances. Broken up DOCs (dissolved organic carbons) are other such undesired substances, as they can serve as a source of nutrients for water-borne bacteria and can lead to bacterial growth in the pipe network.

Even supposedly stabile water can suddenly incline toward heavy bacterial infestation after oxidative water treatment (e.g. for disinfection). The reason lies in the affect of the oxidation

agent on the organic carbides, which, depending on the oxidation power, more or less produce AOC (assimilable organic carbon).

The ozone biofiltration technique uses exactly this process. By "ozoning" the water, as much of the existing biologically-unavailable carbides as possible are made biologically available.

In a subsequent filter stage (intentionally set up as a bioreactor), biological reduction of the available nourishment occurs in a totally naturally way.

Here, these substances are broken down to the fundamen-

tal components of CO₂, N, P etc. In other words: A zone of heavy biological activity is built up in the upper filter bed.

This zone is where the reduction occurs. The filtrate thus has an essentially smaller portion of AOC and reduced DOC.

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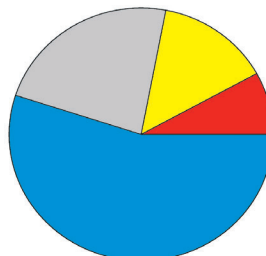
Company publication

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Percentages and types of biologically available substances in water

- Aldehyde (3 - 8 %)
- Ketonic Acid (7 - 15 %)
- Carboxyl Acid (12 - 25 %)
- unknown (52 - 76 %)



Personal

CHANGES TO THE TEAM

INFORMATION REQUEST

- ... about HydroSystemTanks
- ... about ozone biofiltration!
- ... Please give me a call

Name _____

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