

5 – 7 May 2021 · Online Event

3D Cell Culture 2021 Models, Applications & Translation

VBU Association of German Biotechnology Companies

SWISS BIOTECH
National Thematic Network



Information for poster authors during the conference

All E-Posters will be displayed throughout the online conference. Participants can contact you at any time through various channels. Please check these channels regularly, and especially during the poster sessions:

1. Questions in the **Q&A area** below your poster.
In the Q&A area you could post a link of an external meeting room (e.g. to your own Zoom or Webex room) to invite participants to discussion.

Poster session I
5 May, 3.05 - 4.45 p.m.

Poster session II
6 May, 1.30 – 3.00 p.m.

The poster authors are requested to be present in the Virtual Venue during the poster sessions for Q&A.

WASTEWATER RECYCLING

Water is an important resource in food industry. In 2006 the customer decided to outsource the water treatment after a transition from the use of drinking water to substrate process water and an increase of their water demand. Their supplier of choice was Biotec Industriewasser (BIW), who had already proved to be a reliable partner. On the basis of a O&M contract (Design, Build, Finance & Operate) BIW realized a process water plant and became responsible for the whole water management, including long-term operations. The customer is guaranteed a supply of water that meets the specifications and quantities required. The plant is fed with surface water from the river Moselle. The use of surface water instead of drinking water is a sustainable solution. Nevertheless the customer developed a sustainability strategy for 2020 and was looking for technical solutions to reduce its water footprint to 50%. To meet that target wastewater recycling is the most promising solution. The aim therefore was to recycle the effluent from the customer's own WWTP as process water.

Parameter	Requirement	Value
Flow rate	200 m³/h	200 m³/h
Temperature	10-15 °C	10-15 °C
Chemical oxygen demand (COD)	100 mg/l	100 mg/l
Biochemical oxygen demand (BOD)	50 mg/l	50 mg/l
Suspended solids (SS)	10 mg/l	10 mg/l
Ammonia nitrogen (NH ₄ -N)	10 mg/l	10 mg/l
Nitrite nitrogen (NO ₂ -N)	10 mg/l	10 mg/l
Nitrate nitrogen (NO ₃ -N)	10 mg/l	10 mg/l
Total phosphorus (TP)	10 mg/l	10 mg/l
Total nitrogen (TN)	10 mg/l	10 mg/l

WASTEWATER REUSE

At Dörr Temzecken (Dörr Industriewasser (DIW)) owns and operates (O&M) a demineralized water plant (DWP) since 1996 which produces boiler feed water and process water. Initially the process was a combination of micro reverse osmosis (MRO) and membrane technology (MT) from seawater. Because of water scarcity in the region, Dörr sought a solution that could handle the increase in water demand while further reducing the energy and freshwater consumption. In 2007 DIW searched for wastewater from the municipal WWTP Temzecken as feedwater for the DWP. With that substitution of seawater as feedwater more than 90 % energy savings were achieved.

Savings from 2007 onwards:

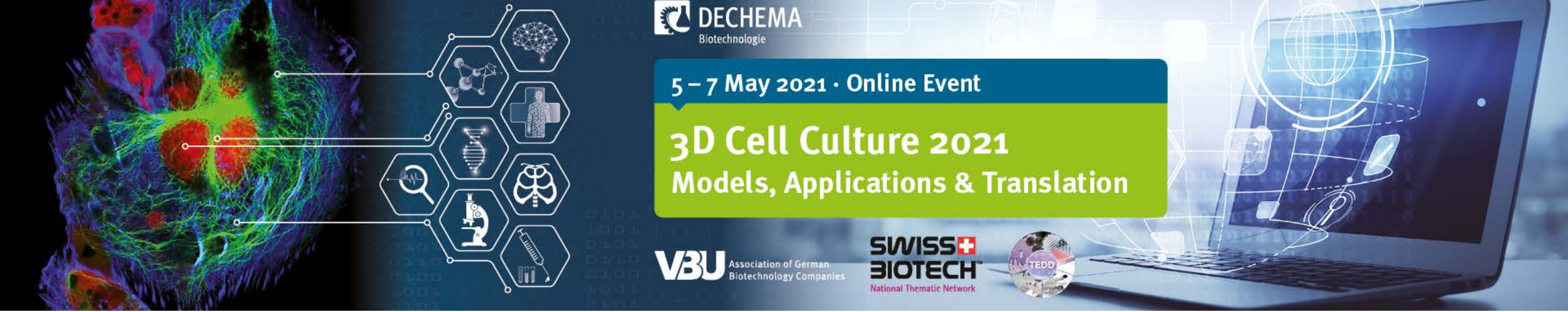
- Freshwater (feed): 3 Mio m³/a
- Energy: 5.000 MWh/a
- Rejected CO₂ emission: 2.500 t/a
- Savings chemicals: 500 t/a
- Savings wastewater: approx. 1.000 PE

Because the WWTP Temzecken, operated by the water authority Scheldtstromen, was in need of an upgrade, while at the same time an expansion of the treatment capacity was necessary on a fairly limited surface area, DIW realized an ASBR (max. 620 m³/h) on the site of the WWTP in 2010, to treat on-site municipal wastewater to feedwater for the DWP. At the same time a necessary replacement of the microfiltration could

Questions & Answers Rating ☆☆☆☆☆

Question

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3. Participants can invite you to a **1:1 video chat** (via button "Meet Now" associated with your name in the list of participants)

