

Germany

## IBU-tec on Course for Dynamic Growth

IBU-tec advanced materials AG is a highly specialized, development and production service provider in the thermal processing sector for the treatment of inorganic powders and granulates in rotary kilns and pulsation reactors.

With its roots in ZAB Dessau (Zementanlagenbau – Cement Plant Construction, Dessau/DE) the Weimar/DE company had but 20 employees at the time of its purchase by CEO Ulrich Weitz in 2001. Prior to the German Reunification of 1990, the company operated as an Institute for Building and Environmental Technology. It was during this time that the first rotary kilns and pulsation reactors came online in Weimar.

Today, IBU-tec tackles global megatrends, such as Green Mobility (e-mobility and automotive catalysts), Green Economy (e.g. CO<sub>2</sub> reduced construction materials, rare earths, stationary energy storage) and high-performance ceramics (e.g. dental ceramics). At present, the company has just under 250 employees in multiple locations, and was successfully listed on the Frankfurt Stock Exchange's Scale sector in March 2017. Ulrich Weitz (UW), CEO, explained his growth strategy to us.

**cfi:** Since you acquired the company, IBU-tec has invested over EUR 40 million into the Weimar facility and acquired BNT Chemicals Bitterfeld/DE. Can you elaborate on your strategic growth plan over the last two years?

**UW:** Of course. First, we focused on the projects that supported the organic growth of the company. In July 2017, we began operations at our new logistics center in Nohra, located approximately 10 km from our Weimar HQ. That investment came to around EUR 1,7 million and provided us with extensive new storage capacities of 8700 m<sup>2</sup>, some 1400 pallet bays and much-needed additional office space.

In May 2018, we acquired a plot in the Bitterfeld-Wolfen Chemiepark/DE, which gave us room for future expansion and additional capacities. Our first rotary kiln that can process materials in complex conditions (e.g.

N<sub>2</sub>, H<sub>2</sub>, O<sub>2</sub> atmospheres) is slated to begin operation there this year.

With its infrastructure and support network, our chemical park offers optimum condi-



**Fig. 2** Indirect rotary kiln IDO 7 at the IBU-tec Technical Center in Weimar



**Fig. 1** Ulrich Weitz, CEO IBU-tec

tions for relatively large production volumes and for processing materials with technically demanding requirements. Our Weimar facility remains primarily focused on the production of pilot quantities, analytics and the development of new engineering solutions.

**cfi:** With the acquisition of BNT Chemicals at the same Bitterfeld location, you've greatly expanded the breadth of your portfolio. What opportunities for growth does this offer the IBU-tec Group?

**UW:** Good question. BNT's expertise lies in the synthesis of organotin compounds for



**Fig. 3** BNT Chemicals's factory side in Bitterfeld

a wide range of applications. Its products are used in a variety of applications, such as catalysts in the chemicals and pharmaceuticals industry and for glass coatings. BNT is in the immediate vicinity of the new IBU-tec-site in the Bitterfeld-Wolfen Chemiapark and has around 85 employees. Its purchase greatly increased our contract production capacities, provides a much broader base for future growth and gives us valuable insight and know-how in the wet chemistry sector, particularly in the production of organometallic compounds.

With these new competences and capacities, we are expanding customer options to work with us in generating even greater value. With the development of the Bitterfeld site, increasingly attractive possibilities for contract production become more available. Our customers can now minimise their own investment and capital risks by outsourcing more challenging processes and projects to us, their trusted partner, thus avoiding the need to commit company resources to developing new capacities or jeopardize disrupting their own internal



**Fig. 4** BNT Chemicals's production in Bitterfeld

production schedules. This applies to variety of situation, such as large-scale production that would strain existing customer manufacturing facilities, or to tasks such as new materials feasibility studies. At present, we are able to process approximately 40 t/d at temperatures up to 1550 °C. This is where the importance of our pulsation reactors comes into play. We can complete a calcination in 0,1–2,0 s producing an ultrafine powder with high homogeneity and purity, a lucrative, high demand product in the material development sector with near limitless possibilities for 3D-printing, coatings and materials with new properties.

Besides material and process development, we can, of course, perform plant optimisation for customers and actively support them in the implementation of plant engineering solutions.

**cfi:** *The automotive sector is an important aspect of IBU-tec's business. Can you elaborate on that for us?*

**UW:** Gladly. IBU-tec is active in the thermal treatment of both catalytic converters for combustion engines as well as for battery materials in fast growing electromobility sector. A double-digit drop in the number of licensed Diesel vehicles operating, due in no small part to the Diesel scandal and resulting sales loss, led to a significant decrease in the demand for Diesel catalysts which, in turn, negatively impacted our 2017 numbers. On the bright side however, battery materials are currently the fastest-growing segment of IBU-tec, we were more than able to compensate for this deficit in 2018.

**cfi:** *Are your projects in this sector principally focused on lithium ion batteries?*

**UW:** Those are important projects, but we are also working on better materials for stationary energy storage. At the beginning of the year we, along with six partners (including VARTA Microbattery GmbH/DE) began a three-year project fully funded by the German Federal Ministry of Education and Research (BMBF) in which we will employ our expertise and know-how with pulsation reactors to produce iron oxide as the basis for iron slurry electrodes.

**cfi:** *Interesting. Is raw material efficiency and recycling of valuable materials a company focus as well?*

**UW:** Naturally. A core principle of IBU-tec is to sustainably enhance material properties and maximise the energy efficiency of

both production and processes. A great example this philosophy in action, is an ongoing project in which IBU-tec has devised an integrated process using rotary kilns to recover energy and recyclables from paper sludge. The reactivation of rare earths is another important project. Here it's a matter of being able to guarantee the purity of the reactivated materials. As such, we work at 1200–1300 °C in a reducing atmosphere in a continuous process.

**cfi:** I understand you're returning to and exhibiting at POWTECH 2019. What's your international trade fair engagement plan?

**UW:** Our stated goal is to increase our foreign turnover, in order to increase growth and open up new customer markets.

For IBU-tec advanced materials AG, POWTECH is one of the most important trade fairs in the basic materials and chemical sectors. It remains very interesting due to its increased internationality. In addition,



**Fig. 5** Pulsation reactor at IBU-tec in Weimar

since 2017 we have been represented at the Ceramics Expo in Cleveland/US because the USA is the biggest chemicals market in the world. We are in the process of stepping

up our activities in Asia. Especially with the new BNT portfolio. The best is yet to come.

**cfi:** Thank you for talking to us.

KS

**IBU | tec**

 Material Development & Analytics

 Process Trials & Scale-Up

 Tolling Services

 Plant Optimization & Engineering

## CUSTOM CERAMICS INTERMEDIATES

From lab scale to industrial quantities

**Al**  
oxide

**Mg**  
oxide

**Y**  
oxide

**Zr**  
oxide