



Figure 1: Buss delivered two such kneader technologies to China producing anode paste for aluminium electrolysis each of approximately 16 m long line with open process part with a production capacity of about 40 t/h.

Object Oriented Plant Design

“Previously, the Piping and Instrumentation Diagram (P&ID) was a dummy sheet for us. Today, we create an intelligent model with CADISON®, backed with a database containing all relevant technical data for respective equipment”.

How can a company with 150 employees and a turnover of 60 million Swiss Francs (approx 50 million Euros) be so successful world-wide? One creates a niche and develops innovative products? This is the formula for Buss AG in Pratteln. In this case, the niches are mixing and kneading machines for processing plastics, paint, aluminum products as well as food ingredients. The innovative product is the Kneader Technology of the company. It has a single screw-extruder, that performs both rotational and translational (forward/backward) motion. The essential advantages of this

unique technology lie in its quick product change, as well as in high reliability and longevity. Owing to lower down time, the productivity is equally high. “Our Kneader Technologies set a benchmark especially when it comes to processing demanding products that are sensitive to temperature and shear”, summarized Marko Stähler, Head of Project management and member of the management board.

Central applications for the Kneader Technology are common in the plastic industry. For example, for manufacturing cable sheathing, the basic product, i.e. plastic granules is required in primary form, molten form and mixed with functional additions. Since these additions only constitute a small portion of the mass, they must be distributed optimally.

Object Oriented Plant Design

Based on the Kneader Technology, Buss also offers Material Handling Systems and undertakes the planning, designing & execution of customized and advanced technology solutions.

Marko Stähler explains : “In earlier years the customers themselves took care of integrating the ordered Kneader Technology in their plants. Today, most customers expect that we offer complete integration in the plant

including instrumentation and control technology.” As a solution for such tasks, Buss had decided to use the engineering software CADISON®. How does CADISON® stand out, how does it differentiate from other planning tools? CADISON® was not devised by software developers as a pure CAD-Tool, but as object-oriented database supported engineering solution. All project data are automatically and immediately available in different fields of applications, such as P&ID, 3D-pipeline planning, isometric-generation, automatic report generation through integrated databases.

The Essential Advantages in Planning with CADISON® 3D-Solution :

- ▲ Significant acceleration and transparency of the entire process from planning to assembling a plant
- ▲ Changes are reflected in all documents and implemented faster
- ▲ The tool maintains large amount of data reliably
- ▲ The planning / design effort for new plants decreases significantly

All these are essential features, which were considered by Buss AG. “The tool convinced us of costs and

execution”, says Marko Stähler.

Currently, Buss is working on storing its products as standards in the CADISON® database. The aim is to save time and costs with consistent & high quality planning. “If our products are represented completely in CADISON® database, drawing efforts reduce by 30 to 50% and our colleagues can work more productively!”

Marko Stähler is convinced that “Standardization when working with CADISON® leads to substantial savings.”

Even other companies see the advantages of standardization, according to a survey by the Maexpartners consultancy and Large Industrial Plant Manufacturer's Group (AGAB) at the German Engineering Federation (VDMA). The surveyed plant manufacturers think that by modularization and standardization, it is possible to have an improvement in the overall business result up to 10%. The survey showed that by modularization, engineering savings alone can increase by 15%. Errors and associated warranty costs can also be reduced by as much as 23% based on the participants' judgment.

Cost of Failure Reduces

The consistent use of series at assembly and machine level turns out to be very essential for a successful modularization strategy. Since only through the repeated

systems and plant operations, the non-conformity costs are reduced proportionately with economies of scale. During the project run-time, the optimization potential is estimated to be at an average of 12% by the surveyed participants.

In order to achieve these targets, changes must be made particularly in the organization and business processes that affect engineering and proposal management. However, the sales team should adapt and learn to sell standards.



Figure 2: A compounding project designed with CADISON®

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