

# TECHNICAL SERVICE KEEPS PLANTS UP-TO-DATE MODERNIZING AND EXPANDING EXISTING PLANTS INCREASES THE EFFICIENCY AND SAVES COST

Plants in the food industry can produce high quality products for decades as long as they are regularly updated. Doing so doesn't always require extensive modernization work; however, it does require a constant dialogue with the plant manufacturer



**T**he After Sales Service department of Zeppelin Systems GmbH looks after most plants for as long as they are in use. The team not only takes care of regular maintenance work but also updates plants for today's and fu-

ture challenges. These Revamping projects are an everyday challenge and encompass simple tasks like changing mechanical parts such as pipes or valves or even optimizing an entire plant, which can also mean exchanging a complete silo.

Projects are often driven by new legal requirements (e.g. ATEX), changes in the Ordinance on Industrial Safety and Health, new hygiene standards or changes in the EC Directive on Machinery (e.g. energy efficiency). The Revamp-



ing team also gets involved when a new product or a new recipe is planned to be processed in the plant.

Another common case: A plant has been operational for two years already and the daily routine unveils handling bottlenecks. This happened in a cookie production plant in Saudi Arabia where the dosing of glucose/syrup mixture was done by hand – a sticky task that was hard to control. “Of course it doesn’t make sense to redesign the whole plant for that,” explains Martin Faller, Head of Key Components & Customer Service at Zeppelin Systems. “We integrated an automated dosing system instead that added the automated batch tracking as a bonus feature on top.” This application is a good example of how a small customer request can develop into a substantial Revamping order. “We learn through experience that the plant operators are often not involved enough at the planning stage of the plant,” says Faller. Many Revamping projects

provide the opportunity to optimize the plants for the local requirements while implementing measures to improve productivity.

### Simply update the mechanics

Many Revamping projects are initiated in order to upgrade the control technology, usually from the Simatic S5 to the S7 system. “Operators are used to software changes, but who thinks about updating a discharge aid? Mechanics can be brought to a whole new level just as well,” Faller claims. There was a project where originally just a recipe change was planned. This required changing the powdered sugar dosing from one line to two. In the end, not only were the old steel vessels exchanged for stainless steel ones but the filters as well to meet the ATEX requirements. In order to eliminate a bottleneck, the buffer vessels were enlarged and equipped with special discharge screws that had an integrated mixer with intermittent operation. This led not only to an increase of throughput but also to a reduction of clotting and sticking, putting an end to the frequent plant downtimes. Another good example are plants in the Middle

East, where fluctuations in quality hinder the continuous supply of raw material. This is often countered by an increase in silo capacity which, in turn, leads to Revamping programs. The same tendency is true for Europe, although here the driving factor is fluctuation in price rather than in quality, but the demand for Revamping projects is just the same.

### Whole-grain flour presents new challenges

Sometimes consumer trends trigger Revamping projects. The Brandt group employs more than 800 people in three locations in Germany. Brandt is the market leader in Germany with a share of 80% of the zwieback business and sells its products worldwide – six million zwieback toasts a day, along with crispbread and chocolate. 60 tons of zwieback are produced every day in the Ohrdruf (Germany) plant close to Gotha near Erfurt, Thuringia. Zeppelin Systems (formerly Reimelt) supplied this plant twelve years ago and since then, the maintenance team around the technical director Steffen Keichel has been taking care of maintenance, optimization and operation. In 2012,





Brandt approached Zeppelin Systems in order to adjust the plant to new demands from the market. “The content of whole-grain flour had increased year after year,” reports Keichel. Until then, the whole-grain flour required had always been weighed manually and added to the dough. This was feasible but very labor-intensive and always prone to human error, requiring additional strict control that used up time reserved for other tasks. Therefore, changing the dosing and weighing of whole-grain flour from manually to fully automatic was necessary. “We designated an existing silo to whole-grain flour and modified it accordingly,” says Keichel, describing the plant integration. The silo is 16 meters high, has a discharge unit and an additional separate sifting machine. Diverter valves were changed and pipes newly routed. “This might sound relatively simple, but on top of all mechanical integration work, the silo and the new diverter valves had to be integrated into the programming and visualized in the user interfaces,” he explains. Brandt gladly relied on Zeppelin Systems for the planning and realization of the Revamping. “Zeppelin Systems knew the plant in and out, making the silo integration a

very fast job,” says Keichel. Thanks to perfect preparation and planning and a very experienced team, the Revamping was completed in less than three days. Today the production planning is done more flexibly and manual weighing is history. “We have not only gained new freedom in planning and are more flexible in production, we also have more time for other tasks now,” he adds while praising the excellent cooperation. “I am sure we will turn to Zeppelin Systems again when another project such as this one arises.”

### Trust is everything

From a customer’s view, Revamping projects are less time-consuming than rebuilding complete plants, which requires substantially larger investments and often causes production downtime.

Zeppelin Systems is convinced that Revamping is the logical consequence resulting from the long-lasting and very close relationship with their customers. “We stay close to the customers from the very beginning of the plant to its end,” says Faller and adds: “We did that even long before the term lifecycle management was coined.” For Faller, Revamping is not just a department

in an organization. “The basis for our Revamping projects is the trust of our customer and our constant dialogue with him. Often enough plant operators don’t know what technology offers today.” Zeppelin has the vast experience of the most unconventional solutions realized in more than 1,000 plants world-wide. Operators can count on getting the best solution possible.

### ABOUT ZEPPELIN SYSTEMS GMBH

*The Strategic Business Unit (SGE) Zeppelin plant engineering with its 1,300 employees at 20 locations world-wide is specialized in the development, the production and the construction of components and systems for the handling (storage, conveying, mixing, metering and scaling) of high quality bulk materials and liquids. In this area Zeppelin Systems supports its customers from the project development phase via engineering, production, job site installation, commissioning to the after sales service. The customers of the SGE plant engineering belong to the chemical industry, plastic producers and processors, the rubber and tyre industry as well as the food industry. For further information [www.zeppelin-systems.com](http://www.zeppelin-systems.com)*

