

Practical and theoretical tips

22nd «Zürcher Logistik Kolloquium» Dr Acél & Partner

Erschienen: Internationale Transport Zeitschrift ITZ, 9. Dezember 2005/49-50

Verfasser: Robert Altermatt

The 22nd edition of the “Zürcher Logistik Kolloquium” was recently held at the Technopark in Zurich (Switzerland). The topic of this year’s interesting lecture series was the “demand chain” – that is the supply chain cross corporate, locational or industrial sectors. The event was organised by the logistics consultancy Dr Acél & Partner, which will celebrate its tenth anniversary next year, in collaboration with the Institute for Automated Production at the Swiss Federal Institute of Technology in Zurich (ETHZ).

The event’s host Dr Peter Acél welcomed around 40 participants who were pre-sented with five highly interesting short lectures (25 minutes per lecture and a -five-minute discussion) about the demand and supply chain in the course of the -afternoon. Dr Acél said “the aim of this event is to exchange experience, ideas, know-ledge, practices and examples”.

One of the five lecturers, Simon Zeier, an assistant of Professor Dr Urs Meyer at the Institute for Automated Production at ETHZ, gave a particularly fascinating and lively talk on “the need to invest in a battery production line”. Zeier reported on the experiences that he gained in production processes when he was writing his dissertation. He performed his practical work at the battery production company Renata AG, based in Itingen near Basel (Switzerland). Renata, a subsidiary of the world famous watch corporation Swatch Group, produces all kinds of batteries, in particular lithium button cells. These are mainly used to power Swatch watches with quartz works. Renata produces more that a million button cells per day. At first glance, it may seem surprising that the battery manufacturer still produces such low cost items in high-priced Switzerland. The continually increasing pressure on prices around the world is forcing more and more (industrial) companies in many highly industrialised western countries to shift their production sites to countries or regions where lower wages (still) exist.

The aim of Zeier’s dissertation was to reorganise and redesign the logistics of Renata’s final assembly line so that the battery producer was in a position to manufacture its goods more economically. This would remove the need to transfer the production to low wage economies such as China.

Process-orientated analysis

Zeier used the so-called process-orientated analysis method (POA) for his field studies at Renata. This approach opens the way for analysis and optimisation of complex production systems. Zeier was the first person to make an analysis of the status quo of the battery manufacturing processes and product flows at the Renata production plant. He explained that “I was able to establish exactly where everything was made in the production process by talking to Renata’s employees. Then I evaluated the workers’ statements about product flows in detail and presented them in a diagram. The result was an enormous poster with 129 main and auxiliary processes – this pro-ved to be a perfect analysis tool for me.” Zeier was confronted with striking deficiencies in logistics processes during his studies at Renata. His results indicated that there were far too many

-auxiliary processes which added hardly any or no value whatsoever. His specific conclusion was that there were way too many empty receptacles (crates, plastic containers) for the intermediate storage of miniature-sized products standing around the factory.

Chaotic product flow

In addition, the (intermediate) storage methods in the production hall were inadequate. Instead of the “first in, first out” storage method, Renata used the “first in, last out” system. This was proving to be a headache for the intermediate storage of freshly manufactured batteries, as the button cells are comprised of two single parts that have to be closed and then dried for two days. Renata employees stacked the batteries in large plastic receptacles. Zeier said “I discovered that the staff used to prepare the uppermost crate – that is the one that had lain there the shortest amount of time – for dispatch first. That led to a drop in quality of the goods in the underlying containers. Poor quality cannot be sold and therefore a company cannot make money with these products!” Finally, Zeier found out that the product flow was rather chaotic as the batteries’ production path from beginning to end was far too long and complex. As a result, he designed three solutions to solve the problems.

Cost reduction

Zeier concluded that the only way to achieve a significantly cheaper production cost structure was by investing (nearly CHF 2 million) in a new production plant for lithium batteries. The results would have to be “seen” to be believed. The company would be able to reduce personnel costs by 50% and direct manufacturing costs by almost 27% per battery. The new facility would pay for itself in only three and a half years, Zeier commented. At present, Renata, or respectively the Swatch Group, is checking to see whether Zeier’s fact finding results can, in fact, be implemented.