

Everything under control



A site of immense dimensions. Almost 50 football pitches could fit on the grounds of BASF and Huntsman's integrated isocyanate production in Shanghai. The project is a true challenge for all stakeholders – among these Endress+Hauser as supplier of measurement technology.

The Shanghai Chemical Industry Park has been designed for large-scale projects. Wide roads cross an area covering over 29 square kilometers. The park features the latest in infrastructure, ranging from water and wastewater treatment to fire brigade and waste incineration. So far 66 companies have found their home there, having invested over nine billion US dollars. There is no other place in China where more money will be invested in chemical plants over the next years. The reclaimed land at the bay of Hangzhou to the south of the metropolis could one day be the world's largest industrial park.

One of the largest single projects has been in operation since 2006: BASF and Huntsman's integrated isocyanate production plant. Together with their Chinese partners, both these chemical giants have invested over a billion dollars in a total of eight plants, operated by three separate joint enterprises. This is where BASF and Huntsman produce the intermediate and raw products and where they operate other joint venture production and finishing plants located in the immediate vicinity. Isocyanates are important primary products in the production of polyurethanes – versatile plastics found in the dash-

board of cars, in the soles of shoes or in the insulation of refrigerators.

The whole of the Endress+Hauser world joining in

"The project was extremely complex because there were so many different operators and contractors," says Michael Sinz of Endress+Hauser who looked after the project in China. Contacts, technology, offers, quotations, contracts, development – everything proceeded along parallel tracks. "In actual fact, we had several separate projects to handle."

And then there were the sheer dimensions of the project: almost 5,000 measuring instruments had to be specified and quoted. "This could only be done by a major international team," says Dr. Thomas Reiner of Endress+Hauser Instruments International, who coordinated the work within the Endress+Hauser group and with the subcontractors. "We had people from China, Germany, Greece, India, Korea, Switzerland and Taiwan on board. Occasionally, we worked through the night to get everything done on time."

"What matters in project business is to offer the customer an all-round service," says Dr. Thomas

Reiner. "Radiometric methods – measurements involving radioactive sources – require a lot of engineering brainpower. We benefit from many years of experience in this field." Another staggering challenge was system integration. Not only did Endress+Hauser's instruments have to fit seamlessly into the control systems but, being the main supplier, Endress+Hauser also had to integrate devices supplied by outside manufacturers. Dr. Thomas Reiner: "This is also a field where we have a lot of expertise – thanks to our fieldbus laboratory in Reinach."

Always a common objective in mind

Endress+Hauser was awarded all level measurements and radiometric units, along with flow instruments for BASF's plant section – all in all almost 2,500 measuring points. The highly corrosive and toxic substances processed in the plant – one of the primary products is the nerve gas phosgene – make

very high demands in terms of material and design. Time and again, instrument specifications had to be altered at short notice. "Situations such as these show how good a supplier is," believes Bora Ipek, BASF's Senior Project Manager. A good partner, he says, maintains quality standards even when new demands and requirements arise. "Endress+Hauser really was a good partner in this project."

There were times when as many as 1,500 engineers in China, Korea, Taiwan and the USA worked on the plans for the isocyanate plant – up to 8,000 workers were employed on the building site in three shifts. Hectic phases were inevitable, but Dr. Thomas Reiner was full of praise for the way people worked together, even in critical situations. "We always had a common objective in mind." Michael Sinz sees Endress+Hauser's strong presence in China as "an invaluable advantage". Bora Ipek concurs: "Direct contact with the supplier has made work very efficient. Everything ran smoothly." The Senior Project Manager is happy that the tight schedule has been stuck to. "In Europe," he says, "this would have been impossible at these costs."



"Direct contacts make work highly efficient," says Bora Ipek, Senior Project Manager for BASF.



Michael Sinz (left) and Dr. Thomas Reiner coordinated and managed Endress+Hauser's international project team.