

Exclusive synthesis: success in exploiting hazardous reactions

Swiss company DOTTIKON EXCLUSIVE SYNTHESIS has been a major player in the custom fine chemicals sector for many years. Company CEO Markus Blocher explains how the business is moving forward through the provision of exclusive synthesis services to the pharmaceutical sector.



Markus Blocher

Founded in 1913, DOTTIKON EXCLUSIVE SYNTHESIS' original business was the production of explosives for construction and military purposes, mainly involving nitration as a key chemical step. In the 1930s, the introduction of catalytic hydrogenation technologies allowed the company to move up the value chain into the chemical intermediates business, using amines and their derivatives. In the 1970s, DOTTIKON ES entered into the intermediates and active pharmaceutical ingredients (API) exclusive synthesis business for the pharmaceutical sector.

"Today, our core technologies, based on more than 90 years of experience, are in using hazardous reactions, such as nitrations and alkylations, azide chemistry and catalytic hydrogenations," says the company's CEO, Markus Blocher. "We have continuously increased our revenue share in APIs by making use of our hazardous reactions know-how, rapid process development skills and gram to multi-tonnes production facilities under cGMP quality standards."

Specialist in hazardous reactions

Since early 2004, DOTTIKON EXCLUSIVE SYNTHESIS has positioned itself as a specialist in hazardous reactions: "Our strategic differentiation is a combination of specific technological know-how in handling hazardous chemical reactions, dedication to performance leadership and our aspiration for continuous improvements," says Blocher. "We invest per year on average 10 per cent of our revenue in realising this differentiation and in 2005 this will amount to around SFr10 million. We have enlarged the existing portfolio

with high-purity primary amines, and tetrazole and indole derivatives, using hazardous technologies such as the Hemetsberger reaction and nitroaldol condensation.

"Custom manufacturing has become a global business. Customers are globally organised and purchasing decisions are often made by interdisciplinary teams involving participants around the world. The traditionally strong pharma markets of Europe, the USA and Japan play a major role in this business," he says.

Global competition

Commenting on the competitive situation in fine chemicals, Blocher states: "Our belief is that quality assurance through regulatory authorities is crucial for the safety of end-users. However, the misuse of such

measures to protect regional markets from Asian suppliers has its roots in protectionism rather than in liberalism. We face global competition and see it as a challenge to improve ourselves. In the long run, there is only one recipe for success: be different and better in what you do. Economic evolution follows the law of survival of the fittest.

"The core of our strategy is our competence and performance leadership in hazardous reactions," he continues. "The pharma market has an increasing demand for shorter response times and higher quality, often under a government-driven price pressure from the end market. Hazardous reactions in many cases allow the use of short-cuts in long synthesis routes, or decrease unwanted side-products, therefore increasing quality and reducing costs. However, performing hazardous chemistry under time pressure requires profound know-how and a strongly developed safety culture. This gives us a clear competitive differentiation."

New approaches

When asked how he sees the custom manufacturing services sector evolving over the next decade, Blocher says:

"The custom manufacturing services sector is in the middle of a consolidation phase. Many sites are being shut down or are for sale. We welcome this situation because there is not enough room out there for companies all doing the same thing. We have to go new ways and cross borders. It's the transition from custom manufacturing to exclusive synthesis that will shape the next decade." **sp²**

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