

## Editorial

### Chemical Safety in Motion?

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Dear Readers,

Are the plants in the process industry really safe? YES is the answer most German citizens would probably give today. It was not like that a few years ago. The chemical industry had the reputation of not being very frank about the effects of plant malfunctions. Reports were sometimes quite late. Descriptions seemed to be incomplete. In this respect a remarkable change has taken place. Today, fire departments and public authorities are actively involved in hazard prevention planning and in case of an incident they are rapidly informed. The press quickly receives progress reports. Communication has become more open.

Safety technology has also undergone extremely rapid development over the last 30 years: risk assessments are now done as a matter of course. The hazards of substances and chemical reactions are determined professionally in suitable laboratory tests, and analysis of potential consequences of faults consistently leads to appropriate counteractive measures. Research techniques have become more subtle. Laboratory instruments and measuring methods have become more accurate. Today, plant failures are reviewed and the lessons learned are made generally available in databases. It is taken for granted that experts from different companies meet regularly to discuss the best safety concepts. DECHEMA is strongly involved in these processes. For the last 30 years, and nowadays represented by its ProcessNet Safety Technology Section which is chaired by N. Pfeil, Berlin, DECHEMA has offered an important platform for discussion to specialists from Germany and other countries.

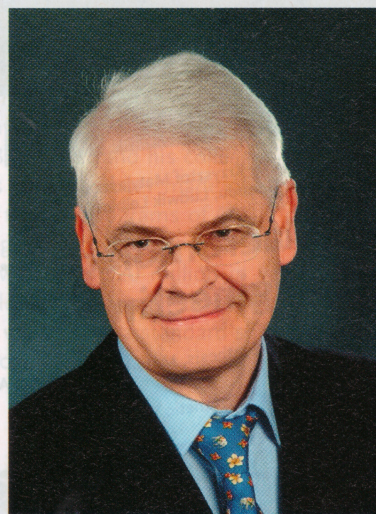
A look at the current situation reveals interesting trends in safety technology: numerical computation methods (dynamic modeling and CFD) are catching on; increasingly, more sophisticated measuring techniques are providing early warning of deviations from normal plant operation; and process simulators are designed for safety, so that the need for pressure relief can often be eliminated. Disciplines such as reaction technology, process optimization, process automation and safety technology are becoming intermeshed. Increasing the efficiency of chemical plants while simultaneously protecting nature and the environment on a very high level – these are the challenges of today. Engineers and chemists with interdisciplinary qualifications are required. There is a need to motivate people in schools and universities to choose a career in safety technology!

But where are these experts? Today's universities offer very few projects in the field of safety technology. Research funding for it has been reduced to almost zero. Only a few engineers and chemists are still being trained in this area. At the same time, some major chemical companies have outsourced safety technology to smaller units. There, research and development as the authors were once lucky enough to experience them practically no longer exist. Instead, existing knowledge tends to be applied routinely and there is sometimes a simple lack of experience.

Has the high safety standard of our plants led us to the conclusion that we no longer need training in the field of safety technology? This is a dubious trend and must be reversed. The high level of expertise in safety technology needs to be maintained. The challenges exist – industry and public authorities are called upon to meet them.

The present topical issue of Chemical Engineering & Technology on Chemical Safety demonstrates that Chemical safety made in Germany meets high standards. This issue is complemented by further issues in German language journals such as Chemie Ingenieur Technik, Forschung im Ingenieurwesen and Technische Überwachung. A total of approximately 60 contributions on up-to-date topics allow the readers to familiarize themselves with a wide range of subject areas in which safety technology plays an important role. Our thanks go to the authors and we wish interesting insights to our readers.

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