

## No such thing as “either/or”

**According to Dr. Eberhard Veit, Chairman of the Management Board of Festo, there's no such thing as “either/or”. In this discussion about process and factory automation, he doesn't see two different views, but rather synergies resulting from the two areas of expertise.**



Originating in factory automation (FA) and now increasingly involved in process automation (PA), automation specialist Festo has cross-disciplinary expertise in mechanical engineering. As the industries expand, process automation is taking on a dominant role as a result of the huge potential in this area.

► Dr. Veit, why is a company that started out in pneumatics and developed expertise in automation now moving increasingly into the area of process automation?

◀ Markets change and companies have to stay up-to-date to see and grasp opportunities. If you look at the market for process automation, the opportunities for growth in PA are significantly high-

er than for FA. Festo is particularly interested in developing the possible synergies throughout the entire value creation chain, both at product level and in relation to the potential in development, production, global logistics and distribution. In particular, the so-called hybrid industries offer enormous potential for companies like Festo that have expertise in both FA and PA.



► What, in your opinion, are the main differences between the two?

◀ Factory automation normally involves indoor systems where speed, throughput, fast motions and precise transport of heavy loads are the main factors. Process automation is different. These are normally huge outdoor plants with different climatic conditions and safety regulations in the event of incidents. Despite the seemingly very different focus, there are approaches to the development of automation applications that facilitate cross-fertilisation of the two worlds.

► Can you give an example? How specific is the synergy from production automation?

◀ Take, for example, Interpack, the international trade fair for processes and packaging. It is characterised by a hybrid use of PA and FA. Machines and systems are considered from a point of view of life cycle costs – and in most cases processes are mixed. Factory automation products can be found in process automation

systems. We should no longer be looking at individual steps, but at a mix of circulating media and controlled movement of materials. A machine tool has lubricant and coolant circuits as well as surface treatment.

► So do we need new products for these hybrid applications?

◀ Yes and no. New products round off the hybrid portfolio and standard solutions open up interesting cost opportunities. To begin with, Festo will launch new products specifically for PA at the end of 2008. These will include the CPX-P remote I/O for process automation. In addition to the pilot valves VOFC and the VOFD valves, we will introduce the DFPI, a compact and robust regulated linear drive with integrated position controller and displacement encoder. And at the beginning of 2009, we will supplement the product range with sensor boxes.

Functionality from FA can be adapted to the areas of bio-pharma and fine chemistry. Valve terminals can be used, offering clear

cost benefits over solutions using individual valves. A prime example for pneumatics in PA is the quarter-turn actuator, which offers great cost benefits in comparison to electric solutions, but also offers reliable switching and overload protection and is maintenance-free. It is ideal for use in food and water & waste water applications.

► What specific tasks lie ahead and how will customers benefit?

◀ Up to now, the focus has been on expanding PA. Now Festo has to do its homework and determine industry requirements, for example with regard to explosion protection in the development of products. This is the only way in which Festo can service all eight process automation segments professionally and offer a single source for automated process valves.

It will be important to leverage our strategic advantage by servicing all three levels in PA, from control with valves to pneumatic drives to process valves. This will ultimately

significantly reduce the engineering effort for automation. What is also needed is a significant partner in the international arena who can safely and surely marry the two worlds in a lasting way.

► If you take factory automation and process automation: in which industry does the mix of the two areas of expertise really come together?

◀ “Life science” is a trend for both areas. Automating laboratory processes in medical technology offers huge growth potential. Medical diagnostics and the development of active ingredients are the keywords. Basically, successful processing requires both PA and FA expertise. Liquid handling and sample handling are key technologies. On the one hand this involves the discrete conveying and positioning of vials for analysing samples or micro-approaches to research into active pharmaceutical ingredients, on the other it involves the precise handling of small amounts of fluid.



From the process control technology point of view, many processes are similar or identical – a clear advantage for the synergies in our development and our use of automation components. The trend is increasingly towards miniaturisation because of the small amounts of fluid involved. Table-sized analyzers and sample preparation equipment like miniaturised factories have already been around for a while. ■

### Factory automation or process automation? Continuous or discrete?

Factory automation is primarily concerned with the rapid execution of (intermittent) motions. This frequently involves highly dynamic motion of large machine parts that must nonetheless be moved and positioned with great precision. The machines are normally moderately sized and they are usually installed in closed halls. This means that the requirements for temperature resistance of the components used are not particularly strict. But as components are frequently

mounted directly on the machines – without a protective control cabinet – the IP protection class of the components is of great importance. The overall production plant generally consists of several machines from different manufacturers which are often independently automated and not infrequently have different control elements.



Process automation designed for continuous processes, however, has different requirements. The first thing you

notice is that there isn't much movement within the processing plant – except in the event of incidents, in which case the plant operator's personnel spring into action very quickly. Otherwise, the plant consists of closed systems which, at first glance, reveal nothing of the actual production process. Pumps are mainly used to pump media

through pipes and valves from container to container, in which materials are added and mixing and temperature control takes place.

