The benefits of communication

With years of experience in control valve technology plus innumerable application discussions with customers in every conceivable industry, Jos Geers is without doubt a 'go-to' person if you have a control valve question. Valve World therefore decided to ask Mr. Geers if he would share his thoughts on the future of the control valve.

By David Sear

Open any modern control valve catalogue and you'll inevitably see slogans such as 'smart systems', 'digital devices', 'non-intrusive sensors' and the like. Clearly the latest generation of control valves can provide a wealth of data, which must surely simplify the running of the plant as well as facilitating the proper maintenance of the valves themselves. Yet, that is not necessarily the case, emphasizes Mr. Geers.

"A complaint often heard from end users is that they can be submerged by too much raw data which has little meaning. Especially as data can originate from different sources. Established plants will often have a mix of analogue and digital devices, which may be coupled using various architectures, such as HART, Profibus, Foundation Fieldbus, etc. What I would like to encourage, therefore, are more comprehensive standards. Giving these an open structure would facilitate the generation of meaningful diagnostics information," says Mr. Geers.

In addition, Mr. Geers stresses that more open dialogue between supplier and customer well in advance can reap benefits. "By working up front with, let's say, reliability managers we can more precisely determine the types of information he or she is really interested in. So we can reduce the information flow from smart devices, presenting only that information which is of most interest and, moreover, in an easy to interpret format. In other words, we can help to create diagnostics templates."

Usable data should also be provided to local operators, notes Mr. Geers. "I expect that it will be increasingly realistic to store data about hardware close to the actual source. Suppose a field operator is concerned that a control valve is making an unusual noise. He could immediately scan the device to see if any parameters have changed. For example, perhaps the supply air pressure may have altered, or the force needed to operate the control valve may have dropped. If collected over the long-term, such data is - of course - tremendously valuable if you wish to move from reactive or planned maintenance to predictive maintenance."

Digital twins

The smart systems described above are just some of the many forward-looking ideas that Mr. Geers is keen to champion. Another development he foresees concerns open communication, by which he means communication from the instrument to the control system, but also from instrument to instrument. "Suppose we couple inline devices such as the pressure gauge and the flow meter to the control valve. Then the operator should be able to immediately see if say an issue, which takes place inside the valve, has actually been caused by a drop in the set point or even a pressure increase upstream. I am certain that coupling instruments will be a great way to identifying the root cause of a problem."

Another promising tool that can help to prevent and resolve control valve issues is plant simulation. "If we create a digital twin of every control valve in a facility it will be very simple – and safe! – to check all possible outcomes of an equipment upset on performance. Alternatively, we can feed in unusual plant performance data to identify possible causes at the equipment level."

"Similarly, digital forming could be used to help optimize the shape of the control valve," says Mr. Geers.

He concludes, however, with a trend that is sadly affecting many branches of industry and not just control valves, namely knowledge drain amongst end users. "Plants are looking to economize by cutting back on staff numbers and at the same time many of the 'baby-boomers' are reaching retirement age. So, significant local knowledge is leaving the industry and not being replaced. And on top of that owners are looking to run plants for longer intervals and with shorter shutdown periods."

As a result, plant managers are increasingly turning to their suppliers, notes Mr. Geers, as a source of knowledge and expertise. "There are - of course - limits to what a supplier can do; we cannot start to provide guarantees that valves will perform perfectly between planned shutdowns for example. But what we certainly can contribute - thanks to our extensive installed base - is the provision of realistic and sensible guidelines on maintenance practices and schedules. This will enable plants to realize the very best performance from their control valves. And that is where we can make a genuine difference."

Meet Jos Geers

Sales Manager Mr. Geers has been at SAMSON for about twenty-two years, gaining experience in inside sales, outside sales, projects and management. In his free time he enjoys yoga and building acoustic guitars, and describes both pastimes as being great ways to relax and unwind.

** STOP PRESS: just before this issue went to print, Mr. Geers contacted Valve World with news that SAMSON, together with KROHNE, has launched a 'valve of the future'. The photo shows André Boer (KROHNE) and Kavreet Bhangu (SAMSON) together with the new valve. Watch this space for more details.*