FORUM ISA-FRANCE 2007
AUTOMATION TECHNOLOGY TRENDS
Les mercredi 9 mai et jeudi 10 mai 2007, à Nice

Major Technology Trends in Process Control Systems

Dick Caro
CEO, CMC Associates
Acton, Massachussetts, USA

Key words: actuators, control, distributed, industrial, network, sensors, standards, wireless.

Since 1980, the dominant technology for control of continuous processes has been the DCS, or Distributed Control System. Geographic distribution has not been a significant feature of most DCSs. Rather, it is the control function that is distributed to several multifunction controllers. A few suppliers have recently begun to allow geographical distribution of their controllers and I/O racks to reduce installation costs of wiring sensors and actuators.

The biggest technology change, beginning in about 2002, has been the use of FOUNDATION™ Fieldbus for large process control systems. Today, most large new plant construction in all process industries uses FOUNDATION technology. However, while FOUNDATION technology supports control in the field device, most installations use this feature sparingly and do not take advantage of its potential to reduce the number of multifunction controllers and the capital cost of the control system.

The next major paradigm shift in the process control industry is predicted to be the use of wireless networks to interconnect sensors and actuators with the control system. A number of proprietary networks using available wireless chips are already available from many major suppliers of field instruments and process control systems, but are not yet integrated into the DCS architecture. The ISA SP100 standards committee has been charged with developing a single standard for wireless industrial automation networks. This committee is expected to release its first draft in late 2008 or early 2009