Exciting developments in industrial networking were clearly among the driving forces behind then-Putman Publishing’s decision to launch a magazine dedicated to process automation and control. Control’s very first issue in October 1988 dove right into the topic, starting with a news story on the Manufacturing Automation Protocol/Technical Office Protocol (MAP/TOP) standard for communicating among “islands of information” in industrial environments.

A tutorial article detailed the anatomy of the International Organization for Standardization’s Open Systems Interconnect (ISO/OSI) model, and another article covered the ISA SP50 committee’s progress toward a digital communications standard, which it had started working on in 1984.

That first issue also included a “Honeywell News” story, “The SP50 War,” where the company paid for space to explain its neutral position on the emerging standard: “In 1975, ISA’s Standards Practices Committee, SP50, defined 4-20 mA as industry’s analog fieldbus standard. Now, with digital sensors and actuators replacing analog components, digital communications have become irresistible as a means to transmitting information.”

Continued on page 38...
MARCH 1992
Rosemount Quits Development Effort
Rosemount drops out of a joint effort with Honeywell and Ronan to develop an integrated chipset for the emerging fieldbus standard, saying that it would not lead to the interoperability desired by end users. Honeywell remains committed.

OCTOBER 1992
New Powerhouse Consortium to Develop Single Fieldbus
The InterOperable Systems Project (ISP) is launched by Fisher Controls, Rosemount, Siemens and Yokogawa to “accelerate the availability of interoperable systems and products.”

DECEMBER 1992
Fieldbus, Fieldbus, Who Has the Fieldbus?
With ISP, IFC, SP50 and FIP Club all going in their own directions, growing confusion among end users and animosity among vendors is evident at the October Instrument Society of America show in Houston.

MARCH 1993
WorldFIP Tries to Balance the Scales
A late breaking news story announces the formation of WorldFIP, a “global organization dedicated to developing an open and universal fieldbus specification.” Charter members include Honeywell Inc., Allen Bradley Co., Elsag Bailey Inc. and Square D Co.

JULY 1993
SP50 User Document Approved Over ISP ‘No’ Votes
Despite negative votes from key members of the InterOperable Systems Project, a technical report defining the user layer of the developing fieldbus standard is approved by the SP50 user layer subcommittee.

SEPTEMBER 1993
Fieldbus Wars Heat Up at ISA/93
The 1993 Instrument Society of America show will feature adjacent booth demonstrations by the InterOperable Systems Project, the Profinbus Trade Organization and WorldFIP, as well as a number of technical sessions.

DECEMBER 1993
HART: A Stepping Stone to Fieldbus
“While much of the process control industry’s attention has been focused on the development of a fully digital fieldbus standard, the HART protocol has quietly gained de facto standard status,” said Senior Editor Keith Larson.

AUGUST 1995
Don’t Need No Stinking Fieldbus!
Small bands of renegade suppliers are offering gateways and adapters that allow users to make “the connections they need without a fieldbus standard.”

MAY 1996
Foundation Fieldbus Finalized
The March 6 completion of the specification for a low-speed 31.25 Kbit/sec. H1 Foundation fieldbus allows users to begin planning applications and vendors to start making products.

MARCH 1994
Waiting for Fieldbus
While vendors battled over market dominance in the fieldbus wars, end users were not placing any bets on who will win or what standard will emerge. 88% of survey respondents indicated they will wait until the standard and technology mature.

OCTOBER 1995
Fieldbus Approaches Critical Mass
As the pressures of urgent need and tantalizing benefits continue to build, frustrated end users are giving up on the concept of a single standard and going ahead with what they can lay their hands on.
February 2000
IEC Approves Eight-Part Fieldbus Standard
Calling IEC 61158 "an eight-headed monster that benefits no one," long-term SP50 and IEC Fieldbus Committee Working Group 6 Chairman Dick Caro ultimately resigns in protest while vendors rejoice as approval of a standard—any standard—opens the global market.

October 2000
ISA Expo 2000 Touts Wireless World

July 2001
BP Chemicals Adopts Foundation fieldbus for plant in Lima, Ohio

June 2000
Energy companies launch research into CO2 sequestration

March 2000
IEC 61158 Is ‘Just a Joke’
Jim Pinto’s notorious fieldbus poem ends: “This standards fiasco confuses the choices. End users simply had no voices. The ideal standard we all agree, Is only described in poetry.”

August 1999
Ethernet Ready to Strike
It already exists at the boardroom level; it’s operating at the control level. The next step is the device level, “but it will have to gain speed and strength if it hopes to swallow the bulk of industrial applications.”

September 1996
ISA/96 Is Wired for Fieldbus
Fieldbus products across the show floor are wired together in a multi-booth live demo of standardization and interoperability—and it works.

April 1999
Foundation Fieldbus Wins Recount
Saying they lacked the required technical basis, the IEC SC65C subcommittee disqualified six votes cast by the Czech Republic, Denmark, Luxembourg, Poland, Romania and Slovakia. But it doesn’t mean IEC 61158 is approved. That’s up to the IEC Committee of Action.

May 1999
Industrial Ethernet Association Is Formed

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OCTOBER 2001
Let Them In
Despite concerns about security and safety, giving customers and suppliers access to information from your control system network is now relatively easy, and there are ways to avert the nightmares.
25 YEARS OF CONTROL

APRIL 2003

Industrial Ethernet to ‘Absorb Competition’

“Remember the 1958 movie “The Blob”? asks Rich Merritt, senior technical editor. “The Blob slithered along, devouring everything in its path. It was virtually indestructible and impervious to all weapons. Ethernet is like that. Except it’s even more adaptable than the Blob was.”

JUNE 2005

The Many Flavors of Industrial Ethernet

Ethernet is only the base on which to build an industrial protocol, so the Fieldbus Foundation has HSE, Profinbus has Profinet, and then there are also ODVA, EtherNet/IP and many more.

JULY 2006

Fieldbus Wars Continue

Profinbus claims 15.4 million nodes installed worldwide; ODVA announces its millionth EtherNet/IP node. Foundation fieldbus has 625,000 devices and 10,000 systems installed, and some 10 million HART-enabled devices are in the field. Now along comes wireless.

AUGUST 2006

Emerson, Siemens Declare Fieldbus War Over

The companies will exchange technology and engineering support to add the interfaces that extend their systems and software to offer customers expanded global interoperability and greater functionality.

OCTOBER 2007

Fieldbus Foundation, HART and Profinbus Will Cooperate on Wireless

The Fieldbus Foundation announced it has joined the HART Communication Foundation and Profinbus Nutzerorganisation e.V. (PNO) in launching a cooperative initiative for wireless technology in the manufacturing and process industries.

OCTOBER 2008

The One Network

“If the mythical Tower of Babel had implemented an industrial network, I think 21st-century controls professionals could have provided the design and troubleshooting,” says John Rezebek, columnist, “because it appears that our supplier community is gearing up for a diverse spectrum of interconnection options instead of the global standard once envisioned for IEC 61158.”

MAY 2009

Dueling Wireless

The ISA100 Committee has approved a draft standard for ISA100.11a wireless networking, but with many vendors and users committed to WirelessHART and other standards, “The wireless war is far from over.”

NOVEMBER 2004

Are the Fieldbus Wars Heating Up Again?

Emerson is promoting the latest EDDL standards, the HART Communication Foundation has opened to end users, Modbus TCP has received IEC acceptance as a standard, and Siemens says Profinet is “the one and only fieldbus you will ever need.”
All Quiet on the Wireless Front

End users have voted with their feet, ignoring standards wars and moving ahead with useful applications. Our survey shows 43% of users already have been using wireless field networks, and 27% expect to use them in the next three years. “That’s remarkable penetration of a market that appeared to be mired in controversy just a year or so ago,” says Editor in Chief Walt Boyes.

The Ethernet vs. Fieldbus Cage Match

Industrial Ethernet is faster, can use standard wireless and has more topology options, but fieldbuses hold their turf in hazardous areas, severe environments and specialized applications.

Continued from page 32

SP50 has again convened, this time to define a new serial, digital, bi-directional communications protocol. During these interim years, several instrument and control manufacturers have forged ahead with their own digital communications architecture. The situation has raised some interesting questions.”

Honeywell counseled readers to understand the difficulty and importance of developing a truly interoperable fieldbus standard. “Each manufacturer with its own protocol wants it adapted as the standard. None, however, meet the criteria.” Meanwhile, “Most likely, if you plan to invest in your system, there will be simple digital plug-ins available to convert your protocol to the new fieldbus…for example, Honeywell is developing a plug-in interface card that will link control room devices to the new standard and to the existing protocol in our smart transmitters.”

Development of a single standard was seen as imminent: “The SP50 committee should be submitting a draft for approval by 1990…you could be integrating SP50 components into your system sometime in 1991.” As the accompanying timeline shows, it took a lot longer to get a digital standard.

Some would say we never made it. Users wanted a standard that could do everything; vendors wanted a standard that would give their proprietary protocols a level playing field (if not a head start); and everybody wanted something they could hope to afford to implement. While SP50 and then IEC 61158 committees worked to establish a global standard, the Fieldbus Foundation, Profinet International and OPC Foundation—found FDI Cooperation LLC to promulgate a single, common solution for field device integration (FDI).

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