



# TAP VINTAGE EXPERTISE

End users toast the companies that provide the best in process control. by Control staff

**ENGINEERING**, installing and maintaining automation systems for safe, efficient, quality production takes many talents. Along with a real grip on the technologies and techniques of process control, you must have a good understanding of manufacturing principles, finances, people and more.

One of the most important tools in your belt is your hard-won knowledge of what works. Through real-world experience, you've found products and brands you can rely on to give the best combination of performance, ease of use, reliability and reasonable cost.

But no single automation professional is expert in every one of the myriad categories of process control hardware, software and systems necessary to properly support today's plant. Where do you turn when it's time to identify a new source for one of the less familiar needs

of your facility? Who do you want to consult—your purchasing department? Your local reps? Magazine editors? The web?

How about your fellow professionals who read *Control*? That's who we poll to determine our annual Readers' Choice Awards.

## A veritable who's who

The professionals who took the time and made the effort to complete our lengthy, fill-in-the-blank surveys worked hard at it. For each of more than 80 categories, they decided whether or not they had the experience to name up to three suppliers who, in their opinion, deliver the best technology. If so, they decided who those suppliers would be, ranked them one to three, typed in their names, and moved on.

What does it take to deliver the best technology? No respondent was able to fill in all the blanks—many felt qualified to fill in less than half the categories. Clearly, naming the best supplier isn't a casual decision. Today's industrial facilities increasingly rely on vendors to not only deliver high-performance, rugged, durable equipment and expert services at rock-bottom prices, but to back those products and services with competent, immediate, 24/7 support. Only the strongest suppliers can generate the loyalty that leads to a place in our Readers' Choice Awards.

Determined solely by readers' responses, the awards you'll find on the following pages name the vendors that provide the best technology in categories from software and systems to instrumentation and control elements. If you're not sure which ultrasonic flowmeters are the best choice, what valve actuators provide the best control, whose SCADA package leads the pack, or where to turn for excellence in any of our 83 categories, the Control Readers' Choice Awards arm you with a quick reference to the preferences of your peers.

### Cautions and congratulations

As you review this year's winners, remember that the fill-in-the-blank format of the survey means every supplier has an equal chance—the choices are not limited to a selection of entries determined by vendors, editors or other people who are not practicing process automation professionals.

In the survey, we ask end users to vote only in those categories where they have personal experience. A vote for a specific company should mean the respondent has found its products to be better than other companies' in that category.

Every vendor named in the accompanying tables has been designated as offering the best value by a significant number of respondents. Since more respondents have experience with companies that have higher installed base or market share, the results are inevitably biased toward the larger companies. Furthermore, there are certainly small companies that don't make the list, no matter how excellent their technologies, just because they are relatively unknown. If you have a favorite smaller supplier, consider yourself fortunate and don't be concerned that they aren't in our Readers' Choice Awards.

While we ask respondents to write in the name of the company, some

write in the names or numbers of specific products or software packages. We strive to recognize and translate these responses into parent company names. In short, the Control Readers' Choice Awards offer a reference list of brands that readers like you say offer the best—a veritable who's who of plant equipment, software and service providers.

We've done our best to get experienced automation professionals, people who have the necessary perspective and wisdom to judge, without prejudice or penalty, who makes the best stuff for process control. We express our heartfelt appreciation to the hardy respondents who took the time to share their valuable wisdom by selecting our winners, and we congratulate each listed vendor on being recognized in our Readers' Choice Awards.

### First up: Best in Control

Best in Control categories are broken down into six automation disciplines and by 10 vertical industries. These platform categories are dominated by the largest companies in process automation, with little change in rankings from year to year. But this year, Honeywell Process Solutions returned to first in Continuous Sheet/Web Monitoring & Control and rose to fourth in Batch Process Automation. Schneider Electric rose to third in Sequential Logic Control, fourth in Continuous Regulatory Control, and fifth in Batch Process Automation.

Rockwell Automation notched up to second in Continuous Sheet/Web Monitoring & Control, where Emerson Automation Solutions bumped up to third. We welcome Yokogawa into the winners circle in Supervisory Control and Data Acquisition.

### Infrastructure supports the system

While many process automation product categories have seen extensive consolidation through mergers and acquisitions, infrastructure remains dotted with independent companies that haven't been bought, including Pepperl+Fuchs in Intrinsic Safety, Moore Industries for Signal Conditioners, and Phoenix Contact in Power Supplies and Terminal Blocks. At the same time, Emerson Automation Solutions replaces SolaHD because of its acquisition.

Wire and Cable remains led by the familiar Belden, Southwire and Lapp, with Anixter returning to the winners this year in fourth

## Best in Control: Readers' Choice Awards by Process Automation Discipline

Continuous Regulatory Control	5. Honeywell Process Solutions	Sequential Logic Control	5. Siemens Industry
1. Emerson Automation Solutions	6. (tie) ABB	1. Rockwell Automation	6. Schneider Electric
2. Honeywell Process Solutions	6. (tie) HIMA	2. Siemens Industry	7. GE Automation & Controls
3. Rockwell Automation	7. Yokogawa	3. Schneider Electric	8. Yokogawa
4. Schneider Electric		4. Emerson Automation Solutions	
5. ABB	Batch Process Automation	5. ABB	Supervisory Control & Data Acquisition (SCADA)
6. Yokogawa	1. Emerson Automation Solutions	6. Honeywell Process Solutions	1. Schneider Electric
7. Siemens Industry	2. Rockwell Automation	7. GE Automation & Controls	2. Rockwell Automation
8. GE Automation & Controls	3. Siemens Industry	8. Yokogawa	3. Emerson Automation Solutions
	4. Honeywell Process Solutions		4. Honeywell Process Solutions
Safety/Emergency Shutdown	5. Schneider Electric	Continuous Sheet/Web Monitoring & Control	5. Siemens Industry
1. Schneider Electric	6. ABB	1. Honeywell Process Solutions	6. GE Automation & Controls
2. Rockwell Automation	7. Yokogawa	2. Rockwell Automation	7. ABB
3. Emerson Automation Solutions	8. GE Automation & Controls	3. Emerson Automation Solutions	8. Yokogawa
4. Siemens Industry		4. ABB	

## BEST IN CONTROL BY DISCIPLINE AND INDUSTRY

Continuous Regulatory Control	Emerson Automation Solutions	Emerson Automation Solutions	Emerson Automation Solutions	Rockwell Automation	Emerson Automation Solutions
Batch Process Automation	Emerson Automation Solutions	Emerson Automation Solutions	Rockwell Automation	Rockwell Automation	Emerson Automation Solutions
Continuous Sheet/Web Monitoring & Control				Rockwell Automation	
Safety/Emergency Shutdown	Schneider Electric	Schneider Electric	Rockwell Automation	Rockwell Automation	Schneider Electric
Supervisory Control & Data Acquisition	Schneider Electric	Emerson Automation Solutions	Schneider Electric	Rockwell Automation	Schneider Electric
Sequential Logic Control	Rockwell Automation	Rockwell Automation	Rockwell Automation	Rockwell Automation	Rockwell Automation

Continuous Regulatory Control	Honeywell Process Solutions	Rockwell Automation	Rockwell Automation	Emerson Automation Solutions	Rockwell Automation
Batch Process Automation	Emerson Automation Solutions	Rockwell Automation	Rockwell Automation	Emerson Automation Solutions	Rockwell Automation
Continuous Sheet/Web Monitoring & Control			Siemens Industry	ABB	
Safety/Emergency Shutdown	Schneider Electric	Rockwell Automation	Rockwell Automation	Schneider Electric	Rockwell Automation
Supervisory Control & Data Acquisition	Honeywell Process Solutions	Rockwell Automation	Rockwell Automation	Schneider Electric	Schneider Electric
Sequential Logic Control	Rockwell Automation	Rockwell Automation	Rockwell Automation	Rockwell Automation	Rockwell Automation

Input/Output System	3. Acromag
1. Rockwell Automation	4. Moore Industries
2. Emerson Automation Solutions	5. Rockwell Automation
3. Siemens Industry	Terminal Block
4. ABB	1. Phoenix Contact
5. Honeywell Process Solutions	2. Weidmuller
Intrinsic Safety	3. Rockwell Automation
1. Pepperl+Fuchs	4. Wago
2. Rockwell Automation	5. ABB
3. MTL Instruments	Wire & Cable
4. Phoenix Contact	1. Belden
5. R. Stahl	2. Southwire
Power Supply	3. Lapp
1. Phoenix Contact	4. Anixter
2. Rockwell Automation	5. Alpha
3. Emerson Automation Solutions	Wireless Infrastructure
4. Siemens Industry	1. Emerson Automation Solutions
5. Acopian	2. Cisco
Signal Conditioner	3. Honeywell Process Solutions
1. Phoenix Contact	4. Phoenix Contact
2. Pepperl+Fuchs	5. Rockwell Automation

place. We welcome Phoenix Contact to Wireless Infrastructure this year in fourth place, and ABB to Terminal Blocks in fifth.

### Seek your own level

It seems so simple to automate the elementary tasks of looking at a sight glass or dipping in a stick, but level remains an area where instrumentation based on the simplest principles (like some things oat) competes with nuclear radiation and microwave radar to provide the least expensive, most reliable and exactly appropriate way to deal with fluids from flammable hydrocarbons to sticky foams, clumping solids and elusive interfaces.

However, once you know what you want, there are still some specialized companies that may win your loyalty. And if you are surprised that a favorite one of those smaller companies isn't in our rankings, you may find that it's owned by one of the majors—we roll those votes up into a single total for the parent company.

This year, a notable change is Endress+Hauser's rise to first place in Level Switch, Ultrasonic and returning winners in Level Gauge, Magnetostrictive; Magnetrol for Level Switch, Vibra; and Varel for Level Gauge, Inventory Grade; AutomationDirect for Level Gauge, Magnetostrictive; Magnetrol for Level Switch, Vibra; Wika for Magnetic Level Indicator; Omega Engineering for Level Gauge, Ultrasonic, and Level Switch, Electrical Property-based; and Endress+Hauser and VEGA Americas for Level Gauge, Laser. There are no losers on these charts.

### Flow keeps rolling

For years now, advances in flow detection and measurement have centered more on accuracy, reliability and communications than the measurement technologies themselves. In a way, it helps that the large system companies have bought up many niche manufacturers because it means they can truly recommend the best technology for the job. Some are so good, our vot-

ers think they make instruments in categories where they don't.

This year, unchanged first-place winners in all the flow categories belie stiff competition in some of the technologies. Krohne is new or returning for Magnetic Flowmeter, ABB for Thermal Mass Flowmeter, Ametek for Open Channel Flowmeter, GE Dresser for Turbine Flowmeter, and Endress+Hauser for Turbine and Positive Displacement flowmeters.

FLOW INSTRUMENTATION			
Level Gauge, Capacitance/Admittance/Conductance	3. VEGA Americas 4. Siemens Industry 1. Endress+Hauser 2. Emerson Automation Solutions 3. Ametek Drexelbrook 4. Magnetrol 5. VEGA Americas	Level Gauge, Radiometric (Nuclear)	1. Endress+Hauser 4. ABB 5. SOR
Level Gauge, Inventory Grade	1. Emerson Automation Solutions 2. Endress+Hauser 3. Honeywell Enraf	Level Switch, Ultrasonic	1. Endress+Hauser 2. Emerson Automation Solutions 3. Magnetrol
Level Gauge, Float/Displacement	4. VEGA Americas 1. Emerson Automation Solutions 2. Magnetrol 3. Endress+Hauser 4. Schneider Electric 5. ABB	Level Gauge, Ultrasonic	4. VEGA Americas 5. Ametek Drexelbrook
Level Gauge, Laser	1. ABB 2. Emerson Automation Solutions 3. Endress+Hauser	Level Switch, Vibration	1. Endress+Hauser 2. Emerson Automation Solutions 3. VEGA Americas
Level Gauge, Guided Wave	4. Keyence 5. (tie) Binmaster 5. (tie) VEGA Americas	Level Switch, Electrical Property-based	4. Magnetrol 5. Ametek Drexelbrook
Level Gauge, Magnetostrictive	1. Emerson Automation Solutions 2. Orion Instruments	Level Switch, Mechanical	1. Orion Instruments 2. Emerson Automation Solutions 3. ABB
Level Gauge, Non-Contacting Radar	1. ABB 2. MTS 5. Automation Direct		4. Endress+Hauser 5. WIKA

FLOW INSTRUMENTATION			
Coriolis Flowmeter	3. Siemens Industry 1. ABB 5. Ametek	Turbine Flowmeter	3. Emerson Automation Solutions 1. ABB 5. Yokogawa
Positive Displacement Flowmeter	1. Emerson Automation Solutions 2. Brooks Instrument 3. FMC Technologies	Vortex Flowmeter	1. Emerson Automation Solutions 2. Endress+Hauser 3. Yokogawa
Magnetic Flowmeter	1. Badger Meter 5. Endress+Hauser	Ultrasonic Flowmeter (Invasive Pipe)	1. Schneider Electric 5. ABB
Thermal Mass Flowmeter	1. FCI 2. Endress+Hauser	Flow Switch	1. Endress+Hauser 2. FCI
Open Channel Flowmeter	3. Emerson Automation Solutions 4. ABB 5. Sierra	Variable Area Flowmeter	3. Emerson Automation Solutions 4. Dwyer 5. Magnetrol

Temperature and pressure cook along  
 Pressure and temperature switches and transmitters play major roles in field instrumentation. This year, our only change in the top rankings is that FLIR Systems took over first place in Infrared Imaging/Thermography.

Lower in the rankings, Honeywell Process Solutions is back for Pressure Transmitter and Temperature Transmitter, JMS

Southeast for Thermocouple, and Williamson for Infrared Temperature Sensor.

### Outfitting the interfaces

Software needs a place to run and a way for operators to run it. That may be in a centralized control room or various locations across the plant—either way, you often need pieces

TEMPERATURE & PRESSURE			
<b>Pressure Transmitter</b>	<b>Resistance Temperature Detectors</b>	<b>Temperature Transmitter</b>	<b>Infrared Imaging/Thermography</b>
1. Emerson Automation Solutions	1. Emerson Automation Solutions	1. Emerson Automation Solutions	1. FLIR Systems
2. Endress+Hauser	2. Omega Engineering	2. Endress+Hauser	2. Fluke
3. Yokogawa	3. Endress+Hauser	3. Yokogawa	<b>Temperature Switch</b>
4. Honeywell	4. (tie) Pyromation	4. Honeywell	1. Emerson Automation Solutions
5. Schneider Electric	4. (tie) JMS Southeast	5. Schneider Electric	2. Ashcroft
<b>Pressure Switch</b>	<b>Thermocouple</b>	<b>Infrared Temperature Sensor</b>	3. Omega
1. Emerson Automation Solutions	1. Emerson Automation Solutions	1. Fluke	4. Endress+Hauser
2. Ashcroft	2. Omega Engineering	2. Omega Engineering	5. United Electric
3. United Electric	3. Pyromation	3. FLIR Systems	
4. Endress+Hauser	4. Endress+Hauser	4. Emerson Automation Solutions	
5. SOR	5. JMS Southeast	5. Williamson	



from this eclectic collection of specialized hardware.

This year, Schneider Electric took top place in Process Loop Controller. The company also showed up, along with Honeywell Process Solutions in the Annunciator category, and along with Phoenix Contact, in the Industrial Computer category.

The Industrial Computer category collects many votes for Dell and HP, reflecting either support for non-industrial PCs or the rising tendency for computational power to be allocated to servers. If either of those are your style, they may be your winners.

### Intelligence in software

Software powers the control system's brains and communications, so it's no surprise that many software winners are the same companies we saw at the top of the equivalent platform categories.

This year, Schneider Electric (with its Wonderware, Foxboro, Invensys and Triconex brands) took the lead in Supervisory

Control and Data Acquisition (SCADA) Software, where Siemens and Honeywell Process Solutions made fresh appearances. ABB showed up in OPC Connectivity and Asset Management; Honeywell Process Solutions in Human-Machine Interface (HMI); Emerson Automation Solutions and Siemens in Design/Documentation; and Schneider Electric in Advanced Process Control Software.

### Elsewhere in the field

Here's our collection of essential field equipment, instrumentation and devices that don't fit into another major category. Don't be confused by Pentair's name change to nVent—and that's still where we count all the Hoffman votes.

These categories are led by solid performers that remain at the top. In the rest of the rankings, Honeywell Process Solutions is back for Data Acquisition System, GE Druck for Portable

Annunciator	3. Siemens Industry	Panel Display	3. Yokogawa
1. Ametek	4. Schneider Electric	1. Rockwell Automation	4. Emerson Automation Solutions
2. Rockwell Automation	5. Phoenix Contact	2. Siemens Industry	5. Rockwell Automation
3. Ronan Engineering	Operator Interface Terminal	3. Red Lion Controls	Recorder
4. Honeywell Process Solutions	1. Rockwell Automation	4. Schneider Electric	1. Yokogawa
5. Schneider Electric	2. Siemens Industry	5. ABB	2. Honeywell Process Solutions
Industrial Computer	3. Schneider Electric	Process Loop Controller	3. ABB
1. Rockwell Automation	4. Red Lion Controls	1. Schneider Electric	4. (tie) Endress + Hauser
2. Advantech	5. Emerson Automation Solutions	2. Honeywell Process Solutions	4. (tie) Schneider Electric

Advanced Process Control Software	5. Honeywell Calibration Management Software	3. Siemens Industry	3. Siemens Industry
1. Emerson Automation Solutions	1. Fluke	4. Emerson Automation Solutions	4. GE Automation & Controls
2. Rockwell Automation	2. Emerson Automation Solutions	5. Honeywell Process Solutions	5. AutomationDirect
3. Honeywell Process Solutions	3. Beamex	Loop-Tuning Software	SCADA Software
4. ABB	4. Rockwell Automation	Emerson Automation Solutions	3. Schneider Electric
5. Schneider Electric	5. Endress+Hauser	2. ExperTune	2. Rockwell Automation
Alarm Management Software	Design/Documentation Software	3. Rockwell Automation	3. Emerson Automation Solutions
1. Honeywell Process Solutions	1. Autodesk	4. Honeywell Process Solutions	4. Siemens Industry
2. Emerson Automation Solutions	2. EPLAN	5. Control Station	5. (tie) ABB
3. Rockwell Automation	3. Intergraph	OPC Connectivity	5. (tie) Honeywell Process Solutions
4. Schneider Electric	4. Emerson Automation Solutions	1. Matrikon OPC	Simulation Software
5. PAS	5. Siemens Industry	2. Kepware Technologies	1. Emerson Automation Solutions
Asset Management Software	Human-Machine Interface Software	3. Rockwell Automation	2. Rockwell Automation
1. Emerson Automation Solutions	1. Rockwell Automation	4. Emerson Automation Solutions	3. Honeywell Process Solutions
2. Rockwell Automation	2. Schneider Electric	5. ABB	4. Schneider Electric
3. Schneider Electric		PLC Programming Software	5. Aspentech
4. ABB		1. Rockwell Automation	
		2. Schneider Electric	

Data Acquisition System	Remote Terminal Unit
1. Rockwell Automation	1. Rockwell Automation
2. Schneider Electric	2. Schneider Electric
3. National Instruments	3. Emerson Automation Solutions
4. Honeywell Process Solutions	4. Siemens Industry
5. OSI Software	5. ABB
Enclosure	Instrument Fittings
1. nVent	1. Swagelok
2. Rittal	2. Parker Hanni n
3. Saginaw Control & Engineering	3. Inly-Lok
4. Hammond Manufacturing	Vibration Instrumentation
5. Hubbell Weigmann	1. GE Energy
Purge System	2. Emerson Automation Solutions
1. Pepperl+Fuchs	3. ABB
2. nVent	4. Fluke
Portable Calibrator	5. Metrix
1. Fluke	Weighing System/Load Cell
2. Emerson Automation Solutions	1. Mettler Toledo
3. Beamex	2. Hardy Process Solutions
4. GE Druck	3. Rice Lake Weighing Systems
5. (tie) Honeywell Process Solutions	4. Siemens Industry
5. (tie) Yokogawa	5. BLH Nobel

Calibrator, and ABB for Remote Terminal Unit and for Vibration Instrumentation, where it shares the fresh limelight with Metrix.

#### A look inside analyzers

As the ability to make sensitive composition measurements has largely moved from the laboratory to the plant floor, few and highly specialized manufacturers are able to combine precision with the ruggedness and stability required for industrial-strength reliability. The companies with the right engineering and fabrication chops change little from year to year.

Of note for 2019, ABB took first place and Ametek broke into Process Spectrometer. Draeger showed up in Ambient Gas Detector, Yokogawa in Humidity/Moisture Analyzer, Agilent in Process Chromatograph, and Thermal Fisher Scientific in Stack Gas/Emissions Analyzer.

#### Final elements make their moves

This year, we complete the recognition of ABB's acquisition of Baldor Electric by migrating the top name in the Electric Motor category to ABB Motors & Mechanical. We welcome Marathon back to Electric Motor, Festo and Metso to Pneumatic Valve-Actuator, and Festo and Cameron to On/Off Valve.

Thanks again to all the process control professionals who completed the surveys and chose the winners of the 2019 Control Readers' Choice Awards.

Ambient Gas Detector	5. ABB	4. Hach	3. Yokogawa
1. Emerson Automation Solutions	Humidity/Moisture Analyzer	5. Schneider Electric	4. Siemens Industry
2. MSA	1. Vaisala	Process Spectrometer	5. Agilent
3. ABB	2. GE Measurement & Control	1. ABB	Stack Gas/Emissions Analyzer
4. Thermo Fisher Scientific	3. Emerson Automation Solutions	2. Emerson Automation Solutions	1. Emerson Automation Solutions
5. Draeger	4. Ametek	3. Thermo Fisher Scientific	2. Yokogawa
Density/Concentration Analyzer	5. Yokogawa	4. Yokogawa	3. Ametek
1. Emerson Automation Solutions	PH/ORP/Conductivity Analyzer	5. Ametek	4. ABB
2. Endress+Hauser	1. Emerson Automation Solutions	Process Chromatograph	5. Thermal Fisher Scientific
3. Yokogawa	2. Endress+Hauser	1. Emerson Automation Solutions	
4. Thermo Fisher Scientific	3. Yokogawa	2. ABB	
Control Valve	4. Flowserve	2. Metso	3. Siemens Industry
1. Emerson Automation Solutions	5. Honeywell	3. Flowserve	4. Schneider Electric
2. Samson Controls	Pneumatic Valve Actuator	4. Festo	5. Yaskawa
3. GE Energy	1. Emerson Automation Solutions	5. Cameron	Electric Motor
4. Flowserve	2. Flowserve	* Includes Emerson Industrial Automation (ASCO) and Emerson Automation Solutions brands	1. ABB Motors & Mechanical
5. Metso	3. Festo	Electric Motor Drive	2. Siemens Industry
Electric Valve Actuator	4. Metso	1. Rockwell Automation	3. GE Power Conversion
1. Emerson Automation Solutions	5. Samson	2. ABB	4. Marathon
2. Rotork Controls	On/Off Valve		5. WEG
3. Auma Actuators	1. Emerson Electric*		