Users name suppliers of the best technologies in process control

by Control staff

WE'VE now tabulated the Readers' Choice Awards 26 times, for more than a quarter century, and we're starting to see it as an institution—more than a habit, at least a tradition, and we think, a trusted repository of valuable information for process automation professionals who want to know which companies offer the best technology, according to their peers.

We owe the success of the awards to an esteemed subgroup of those same professionals, the ones who take the time and make the effort to complete our lengthy, fill-in-the-blank surveys. 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, and typed in their names.

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 final control elements. If you're not sure which ultrasonic flowmeters are the best choice, what valve actuators provide the finest 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.

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.

The view at the top

The Best in Control awards are listed first by automation discipline, then broken down into 10 industries using respondents' designation of where they perform all or most of their work. This year, in Continuous Regulatory Control, Honeywell moved up from third to second, and ABB from sixth to fourth in this very prestigious category.

Emerson moved from second to first in Batch Process Automation; Schneider Electric took first place in Safety/Emergency

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BEST IN CONTROL: READERS CHOICE AWARDS BY PROCESS AUTOMATION DISCIPLINE

Continuous Regulatory Control
1. Emerson Automation Solutions
2. Honeywell Process Solutions
3. Rockwell Automation
4. ABB
5. Siemens Industry
6. Yokogawa
7. Schneider Electric
8. GE Automation & Controls

Batch Process Automation
1. Emerson Automation Solutions
2. Rockwell Automation
3. Siemens Industry
4. ABB
5. Honeywell Process Solutions
6. Schneider Electric
7. Yokogawa
8. GE Automation & Controls

Sequential Logic Control
1. Rockwell Automation
2. Siemens Industry
3. Emerson Automation Solutions
4. Schneider Electric
5. ABB
6. Honeywell Process Solutions
7. GE Automation & Controls
8. Yokogawa

Safety/Emergency Shutdown
1. Schneider Electric
2. Rockwell Automation
3. Emerson Automation Solutions
4. Siemens Industry
5. Honeywell Process Solutions
6. ABB
7. HIMA
8. Yokogawa

Continuous Sheet/Web Monitoring & Control
1. Rockwell Automation
2. ABB
3. Siemens Industry
4. Emerson Automation Solutions
5. Honeywell Process Solutions
6. Schneider Electric
7. Yokogawa
8. GE Automation & Controls

Supervisory Control & Data Acquisition (SCADA)
1. Schneider Electric
2. Emerson Automation Solutions
3. Rockwell Automation
4. Honeywell Process Solutions
5. Siemens Industry
6. GE Automation & Controls
7. ABB
8. OSIsoft

BEST IN CONTROL BY DISCIPLINE AND INDUSTRY

	Chemicals Manufacturing	Electric Power Generation	Food & Beverage Manufacturing	Metals, Minerals & Mining	Oil & Gas Extraction
Continuous Regulatory Control	Emerson Automation Solutions	Emerson Automation Solutions	Rockwell Automation	Rockwell Automation	Emerson Automation Solutions
Batch Process Automation	Emerson Automation Solutions	Emerson Automation Solutions	Rockwell Automation	Rockwell Automation	Rockwell Automation
Continuous Sheet/Web Monitoring & Control				Rockwell Automation	
Safety/Emergency Shutdown	Schneider Electric	Schneider Electric	Rockwell Automation	Rockwell Automation	Rockwell Automation
Supervisory Control & Data Acquisition	Emerson Automation Solutions	Schneider Electric	Schneider Electric	Rockwell Automation	Schneider Electric
Sequential Logic Control	Rockwell Automation	Rockwell Automation	Rockwell Automation	Rockwell Automation	Rockwell Automation

	Petroleum Refining	Pharmaceuticals & Life Sciences	Plastics & Rubber Manufacturing	Pulp & Paper Manufacturing	Water & Wastewater Processing
Continuous Regulatory Control	Honeywell Process Solutions	Emerson Automation Solutions	Rockwell Automation	Emerson Automation Solutions	Rockwell Automation
Batch Process Automation	Emerson Automation Solutions	Emerson Automation Solutions	Rockwell Automation	Emerson Automation Solutions	Rockwell Automation
Continuous Sheet/Web Monitoring & Control			Siemens Industry	ABB	
Safety/Emergency Shutdown	Schneider Electric	Rockwell Automation	Rockwell Automation	Rockwell Automation	Rockwell Automation
Supervisory Control & Data Acquisition	Honeywell Process Solutions	Rockwell Automation	Schneider Electric	Schneider Electric	Schneider Electric
Sequential Logic Control	Rockwell Automation	Rockwell Automation	Rockwell Automation	Rockwell Automation	Rockwell Automation

INFRASTRUCTURE

Input/Output System
1. Rockwell Automation
2. Emerson Automation Solutions
3. Siemens Industry
4. ABB
5. Phoenix Contact

Intrinsic Safety
1. Pepperl+Fuchs
2. MTL Instruments
3. Rockwell Automation
4. Phoenix Contact
5. R. Stahl

Power Supply
1. Phoenix Contact
(tie) 2. Rockwell Automation
(tie) 2. SolaHD
4. Siemens Industry
5. Acopian

Signal Conditioner
1. Phoenix Contact
2. Moore Industries
3. Rockwell Automation

4. Pepperl+Fuchs
(tie) 5. Acromag
(tie) 5. Weidmuller

Terminal Block
1. Phoenix Contact
2. Weidmuller
3. Rockwell Automation
4. Wago
(tie) 5. AutomationDirect
(tie) 5. Schneider Electric

Wire & Cable
1. Belden
2. Southwire
3. Lapp
4. Alfa
5. Okonite

Wireless Infrastructure
1. Emerson Automation Solutions
2. Cisco
3. Honeywell Process Solutions
4. Rockwell Automation
5. Siemens

Shutdown and SCADA; and ABB moved up from third to second in Continuous Sheet/Web Monitoring & Control.

Broken down by industry, results were mostly unchanged, though Rockwell Automation became the favorite of the Pharmaceuticals & Life Sciences industry for Safety/Emergency Shutdown and SCADA.

Who's up, and who's in

As we move away from the major control discipline and industry favorites, we see more changes, both in relative rankings and companies winning awards for the first time or after a hiatus. Our survey methods are sound, and we do everything possible to prevent (and disqualify) votes from vendors and other special-interest respondents. But some years, the numbers of some companies' adherents ebb and flow. In the fourth and fifth places, it doesn't take a lot of votes to make a difference, and every vote counts.

This year, the Infrastructure group shows no changes at the top. Among the award-winning lower rankings, we welcome Phoenix Contact to Input/Output System; Acopian to Power Supply; Siemens to Wireless Infrastructure; and Alfa and Lapp to the hard-fought Wire & Cable category.

Software is always increasing in its importance to process

SOFTWARE

Advanced Process Control Software
1. Emerson Automation Solutions
2. Honeywell Process Solutions
3. Rockwell Automation
4. AspenTech
5. ABB

Alarm Management Software
1. Honeywell Process Solutions
2. Rockwell Automation
3. Emerson Automation Solutions
4. Schneider Electric
5. ABB

Asset Management Software
1. Emerson Automation Solutions
2. Rockwell Automation
3. SAP
4. Honeywell Process Solutions
5. Schneider Electric

Calibration Management Software
1. Fluke
2. Emerson Automation Solutions
3. Rockwell Automation
4. Beamex
5. Endress+Hauser

Design/Documentation Software
1. Autodesk
2. Intergraph
3. Bentley
4. EPLAN
5. Rockwell Automation

Human-Machine Interface Software
1. Rockwell Automation
2. Schneider Electric
3. Siemens Industry
4. ABB
5. Emerson Automation Solutions

Loop-Tuning Software
1. Emerson Automation Solutions
2. ExperTune
3. Rockwell Automation
4. Honeywell Process Solutions
5. Control Station

OPC Connectivity
1. Matrikon OPC
2. Kepware Technologies
3. Rockwell Automation
4. (tie) Emerson Automation Solutions
4. (tie) Yokogawa

PLC Programming Software
1. Rockwell Automation
2. Schneider Electric
3. Siemens Industry
4. GE Automation & Controls
5. AutomationDirect

SCADA Software
1. Rockwell Automation
2. Schneider Electric
3. GE Automation & Controls
4. Emerson Automation Solutions
5. ABB

Simulation Software
1. Emerson Automation Solutions/ Mynah Technologies
2. Rockwell Automation
3. Honeywell Process Solutions
4. Schneider Electric
5. Aspentech

control, where new leaders for 2018 include Honeywell in Alarm Management; Matrikon in OPC Connectivity; and Emerson Automation Solutions in Simulation (with the acquisition of 2017 category winner Mynah Technologies). This year, new and returning companies to the top five include Schneider Electric for Asset Management; Endress+Hauser for Calibration Management; Intergraph for Design/Documentation; Yokogawa for OPC Connectivity; AutomationDirect for PLC Programming; and Aspentech for Simulation software.

One thing that distinguishes an institution is continuity. After early expansion and refinement, the Readers' Choice Awards categories have proven very durable, and we've had few occasions to add, adjust or subtract them. But when it's appropriate, we do. For example, for 2018, we dropped the Neural Network software category because that functionality is no longer largely seen as distinct from advanced control or simulation.

We accept suggestions for new categories, and in 2019, we plan to add a category for Data Analytics Software. When we add a new category, we may collect survey data for several years before it reaches a level of response that justifies its addition to this report.

Moving on, in the Interfaces category, Rockwell Automation takes the lead for Process Loop Controller; ABB shows up in Annunciator and Panel Display; Emerson Automation Solutions in Operator Interface Terminal; Schneider Electric in Process Loop Controller; and Endress+Hauser in the Recorder category.

Results from the field
For Flow Instrumentation, Emerson Automation Solutions takes the lead in Positive Displacement Flowmeter and Endress+Hauser in Flow Switch. Breaking into the top five, we see ABB for Coriolis, Open Channel and Vortex flowmeters; VEGA Americas for Open Channel; Omega Engineering for Positive Displacement; Sierra for Thermal Mass; and FMC Technologies for Turbine Flowmeter.

INTERFACES

Annunciator
1. Ametek
2. Rockwell Automation
3. Ronan Engineering
4. ABB
5. Red Lion Controls

Industrial Computer
1. Rockwell Automation
2. Advantech
3. Siemens Industry

Operator Interface Terminal
1. Rockwell Automation
2. Siemens Industry
3. Schneider Electric
4. Red Lion Controls
5. (tie) ABB
5. (tie) Emerson Automation Solutions

Panel Display
1. Rockwell Automation
2. Red Lion Controls
3. Siemens Industry
4. ABB
5. Schneider Electric

Process Loop Controller
1. Rockwell Automation
2. Honeywell Process Solutions
3. Emerson Automation Solutions
4. Yokogawa
5. Schneider Electric

Recorder
1. Yokogawa
2. Honeywell Process Solutions
3. ABB
4. Schneider Electric
5. Endress+Hauser

FLOW INSTRUMENTATION

Coriolis Flowmeter
1. Emerson Automation Solutions
2. Endress+Hauser
3. Krohne
4. Yokogawa
5. ABB

Magnetic Flowmeter
1. Emerson Automation Solutions
2. Endress+Hauser
3. Yokogawa
4. ABB
5. Schneider Electric

Open Channel Flowmeter
1. Endress+Hauser
2. Siemens Industry
3. Emerson Automation Solutions

4. Schneider Electric
5. (tie) ABB
5. (tie) VEGA Americas

Positive Displacement Flowmeter
1. Emerson Automation Solutions
2. FMC Technologies
3. Badger Meter
4. Omega Engineering
5. Brooks Instrument

Thermal Mass Flowmeter
1. FCI
2. Endress+Hauser
3. Emerson Automation Solutions
4. Brooks Instrument
5. Sierra

Turbine Flowmeter
1. Emerson Automation Solutions
2. Badger Meter
3. Hoffer Flow Controls
4. FMC Technologies
5. Omega Engineering

Ultrasonic Flowmeter (Closed Pipe)
1. Emerson Automation Solutions
2. Endress+Hauser
3. Krohne
4. Siemens Industry
5. GE Automation & Controls

Variable Area Flowmeter
1. Brooks Instrument
2. Krohne

3. Emerson Automation Solutions
4. ABB
5. Yokogawa

Vortex Flowmeter
1. Emerson Automation Solutions
2. Endress+Hauser
3. Yokogawa
4. Schneider Electric
5. ABB

Flow Switch
1. Endress+Hauser
2. FCI
3. Emerson Automation Solutions
4. Magnetrol
5. Dwyer

Ensuring process availability.
Providing flexibility.
Challenging expectations.

VisuNet HMI Systems

LEVEL INSTRUMENTATION

Level Gauge, Capacitance/Admittance/Conductance
1. Endress+Hauser
2. Emerson Automation Solutions
3. Ametek Drexelbrook
4. Magnetrol
5. (tie) ABB
5. (tie) VEGA Americas

Level Gauge, Float/Displacer
1. Emerson Automation Solutions
2. Magnetrol
3. Endress+Hauser
4. Schneider Electric
5. ABB

Level Gauge, Guided Wave
1. Emerson Automation Solutions
2. Endress+Hauser
3. VEGA Americas
4. Magnetrol
5. ABB

Level Gauge, Non-Contacting Radar
1. Emerson Automation Solutions
2. Endress+Hauser
3. VEGA Americas
4. Siemens Industry
5. ABB

Level Gauge, Inventory Grade
1. Emerson Automation Solutions
2. Endress+Hauser
3. Honeywell Enraf
4. VEGA Americas

Level Gauge, Laser
1. ABB
2. Emerson Automation Solutions
3. Keyence
4. Sick

Level Gauge, Magnetostrictive
1. Emerson Automation Solutions
2. ABB
3. Orion Instruments
4. MTS
5. Endress+Hauser

Level Gauge, Radiometric (Nuclear)
1. VEGA Americas
2. Endress+Hauser
3. Thermo Scientific
4. Emerson Automation Solutions
5. Berthold Technologies

Level Gauge, Ultrasonic
1. Endress+Hauser
2. Emerson Automation Solutions
3. Siemens Industry
4. VEGA Americas
5. ABB

Level Switch, Electrical Property-based
1. Endress+Hauser
2. Emerson Automation Solutions
3. VEGA Americas
4. Magnetrol
5. Ametek Drexelbrook

Level Switch, Mechanical
1. Magnetrol
2. Emerson Automation Solutions
3. Endress+Hauser
4. ABB
5. SOR

Level Switch, Ultrasonic
1. Emerson Automation Solutions
2. Endress+Hauser
3. Magnetrol
4. VEGA Americas
5. Ametek Drexelbrook

Level Switch, Vibration
1. Endress+Hauser
2. Emerson Automation Solutions
3. VEGA Americas
4. Ametek Drexelbrook
5. ABB

Magnetic Level Indicator
1. Orion Instruments
2. Emerson Automation Solutions
3. ABB
4. Jogler
5. Endress+Hauser

Clearing the bar in Level Instrumentation, we found Magnetrol at the top for Level Switch, Mechanical, and Orion leading for Magnetic Level Indicator. ABB became visible in Capacitance/Admittance/Conductance, Float/Displacer and Non-Contacting Radar Level Gauges, as well as in Level Switch, Vibration. Endress+Hauser broke into the top five for Level Gauge, Magnetostrictive; Sick for Level Gauge, Laser; and VEGA Americas for Level Gauge, Inventory Grade.

In the relatively quiet Temperature & Pressure categories, Emerson Automation Solutions moved into the top spot for Pressure Switch. New and returning to the top five companies are ABB for Pressure Transmitter; Ashcroft for Pressure Switch; Wika for Thermocouple, and Pyromation for Temperature Transmitter. SOR and United Electric both made it into the top five for Temperature Switch, and Flir, Emerson Automation Solutions and Keyence all broke into the newly contested Infrared Temperature Sensor category on the strength of increasing response.

While we mention many companies as "new or returning" to the top five for tabulation, none of them are unfamiliar to those of us who tabulate the awards. They often have won in the past, and invariably have spent some years with scores just a little too low to be included on the published pages.

TEMPERATURE & PRESSURE

Pressure Transmitter
1. Emerson Automation Solutions
2. Endress+Hauser
3. Yokogawa
4. Schneider Electric
5. ABB

Pressure Switch
1. Emerson Automation Solutions
2. Ashcroft
3. United Electric
4. Endress+Hauser
5. SOR

Resistance Temperature Detector
1. Emerson Automation Solutions
2. Endress+Hauser
3. Omega Engineering
4. Pyromation
5. JMS Southeast

Thermocouple
1. Emerson Automation Solutions
2. Omega Engineering
3. Endress+Hauser
4. Pyromation
5. Wika

Temperature Transmitter
1. Emerson Automation Solutions
2. Endress+Hauser
3. Yokogawa
4. Schneider Electric
5. Pyromation

Infrared Temperature Sensor
1. Fluke
2. Omega Engineering
3. Flir
4. Emerson Automation Solutions
5. (tie) ifm efector
5. (tie) Keyence

Infrared Imaging/Thermography
1. Fluke
2. FLIR Systems

Temperature Switch
1. Emerson Automation Solutions
2. Ashcroft
3. (tie) SOR
3. (tie) United Electric
5. (tie) Endress+Hauser
5. (tie) Omega Engineering

ANALYZERS

Ambient Gas Detector
1. Emerson Automation Solutions
2. MSA
3. ABB
4. Yokogawa
5. Thermo Fisher Scientific

Density/Concentration Analyzer
1. Emerson Automation Solutions
2. Endress+Hauser
3. Yokogawa
4. Thermo Fisher Scientific
5. ABB

Humidity/Moisture Analyzer
1. Vaisala
2. Emerson Automation Solutions
3. GE Measurement & Control
4. Michell Instruments
5. Ametek

pH/ORP/Conductivity Analyzer
1. Emerson Automation Solutions
2. Endress+Hauser

3. Yokogawa
4. Schneider Electric
5. Hach

Process Spectrometer
1. Emerson Automation Solutions
2. ABB
3. Yokogawa
4. Thermo Fisher Scientific
5. Siemens Industry

Process Chromatograph
1. Emerson Automation Solutions
2. ABB
3. Siemens Industry
4. Yokogawa
5. Thermo Fisher Scientific

Stack Gas/Emissions Analyzer
1. Emerson Automation Solutions
2. ABB
3. Siemens
4. Yokogawa
5. Ametek

ELSEWHERE IN THE FIELD

Data Acquisition System
1. Rockwell Automation
2. Schneider Electric
3. National Instruments
4. OSI Software
5. Emerson Automation Solutions

Enclosure
1. Pentair Technical Products
2. Rittal
3. Hubbell Weigmann
4. Saginaw Control & Engineering
5. Hammond Manufacturing

Purge System
1. Pepperl + Fuchs
2. Pentair Technical Products

Portable Calibrator
1. Fluke
2. Emerson Automation Solutions
3. Beamex
4. Yokogawa
5. Honeywell Process Solutions

Remote Terminal Unit
1. Rockwell Automation
2. Siemens
3. (tie) Emerson Automation Solutions
3. (tie) Honeywell Process Solutions
5. Schneider Electric

Instrument Fittings
1. Swagelok
2. Parker Hannifin
3. Hy-Lok

Vibration Instrumentation
1. GE Energy
2. Emerson Automation Solutions
3. Rockwell Automation
4. ifm efector
5. Fluke

Weighing System/Load Cell
1. Mettler Toledo
2. Hardy Process Solutions
3. Siemens
4. BLH Nobel
5. Rice Lake Weighing Systems

Analyzers and everything else

Process analyzers are ripe for technology-driven advances, and present increasing opportunities for process industry companies that want to raise productivity and quality. Among the Analyzers categories, Emerson Automation Solutions has taken the lead in Process Spectrometer. ABB is in the top five for Density/Concentration Analyzer; Ametek for Humidity/Moisture Analyzer and Stack Gas/Emissions Analyzer; and Thermo Fisher Scientific for Process Spectrometer and Process Chromatograph.

The number-one positions in the Final Control Elements categories show no changes from 2017. New or returning companies include GE Energy and Honeywell for Electric Valve Actuator; GE Energy for Pneumatic Valve Actuator; Samson for On/Off Valve; and Yaskawa for Electric Motor Drive. This year in the Electric Motor category, we combined votes for ABB and Baldor, which contributed enough room near the top to add Toshiba and U.S. Motors.

Along with systems, software, sensors, I/O and the networks that get signals to and from the instrumentation and final control elements, reliable control relies on field components from data acquisition systems and remote terminal units to enclosures and calibrators.

Hence, we come to the Elsewhere in the Field categories. Here, we also find no differences from 2017 in the companies at the top of the rankings. Further down the lists, we see that Hubbell Weigmann is now among the top five for Enclosure; Honeywell Process Solutions for Portable Calibrator; Hy-Lok for Instrument Fittings; and Rockwell Automation for Vibration Instrumentation.

Cautions, thanks and congratulations

As we close out the chronicle of the 2018 Readers' Choice Awards, we remind you that anybody can publish a list, or sit with their pals in a conference room and agree on their opinions. As you review this year's winners, remember that the fill-in-the-blank format of the *Control* surveys mean every supplier has an equal chance—the choices are not limited to a selection of entries chosen by vendors, editors or other people who are not practicing process automation professionals.

As part of the survey instructions, 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.

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 do our best to recognize and translate these responses into parent company names.

Every vendor named in the accompanying tables has been designated as offering the best value by a significant number of respondents. But be aware: 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.

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. In summary, 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.

Again, we express our appreciation to all the 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. ∞

FINAL CONTROL ELEMENTS

Control Valve
1. Emerson Automation Solutions
2. GE Energy
3. Flowserve
4. Samson Controls
5. Metso

Electric Valve Actuator
1. Emerson Automation Solutions
2. Rotork Controls
3. Flowserve
4. Auma Actuators
5. (tie) GE Energy
5. (tie) Honeywell

Pneumatic Valve Actuator
1. Emerson Automation Solutions
2. Flowserve
3. Rotork
4. Samson
5. GE Energy

On/Off Valve
1. Emerson Electric*
2. Metso
3. Flowserve
4. Apollo
5. Samson

* Includes Emerson Industrial Automation (ASCO) and Emerson Automation Solutions brands

Electric Motor Drive
1. Rockwell Automation
2. ABB
3. Siemens Industry
4. Schneider Electric
5. Yaskawa

Electric Motor
1. ABB/Baldor Electric
2. Siemens Industry
3. GE Power Conversion
4. WEG
5. (tie) Toshiba
5. (tie) U.S. Motors