Emerson Forms Human Centered Design Institute

ORLANDO, FLA — Signaling an important change in technology trends, Emerson is making process control technology easier to use with its introduction of the Human Centered Design Institute. This announcement culminates more than 5 years of customer work-practice analysis, new product development re-engineering and organizational training. The goal is simple: make products that are not only reliable, compatible and cost-effective, but also bring about a significant improvement in ease-of-use and workforce productivity.

“Process control technologies have come a long way in the past 40 years,” said Peter Zornio, chief strategic officer at Emerson. “But the industry has invested almost exclusively on feature and technology enhancement, instead of designing around how people actually use the technology. We believe it’s time technology began serving people, instead of the other way around.”

Emerson Process Management demonstrated its commitment to Human Centered Design (HCD) and reduced product complexity with this week’s announcement of its new DeltaV™ S-series digital automation system hardware, and more than 50 new field Device Dashboards.

“We observed that customer project engineering and design processes across the industry put too much emphasis on locking down designs very early in the project, often before the process design was complete,” noted Zornio. “Not only does this increase FEED and Detailed Design cost and time, it also exposes the project to increased labor and potentially significant change order costs during construction. Additionally, the existing wiring processes were time consuming and laborious…and ripe for an innovative approach.”

With the new DeltaV S-Series of hardware, customers and Engineering Contractors can have unprecedented flexibility in I/O engineering thanks to Electronic Marshalling. Hard-wiring each device as a unique connection from field to controller and every contact in between is eliminated. This means less engineering up front and fewer change orders later in the project. This could revolutionize I/O and project engineering.

Emerson also turned its attention to day-to-day operations, focusing on the repetitive tasks operators and maintenance staff perform and how they interface with field devices.

“We evaluated device interfaces across the industry and found a common problem,” said Zornio. “Routine steps which operators and maintenance personnel perform frequently were cumbersome, confusing and illogically laid out. It’s an

endemic problem throughout the industry. Based on user input, we have overhauled Emerson's Device Dashboard designs to improve speed and accuracy of confidently performing these tasks."

The primary goal of Emerson's Human Centered Design Institute is to ensure that user work practices and improved task completion (usability *or* workforce productivity) are at the heart of every new product that Emerson introduces.

"There is a demographic paradox facing the industry," said Zornio. "In mature markets, knowledgeable workers are retiring. In emerging markets, finding knowledgeable and skilled workers is very difficult. By putting increased emphasis on ease-of-use, we can meet this demographic challenge head-on and simply make it easier to extract value from technology investments."

"We've been incubating this HCD process since the early days of our Smart Wireless designs some years ago, collaborating with Carnegie Melon University, a recognized leader in human interface and interaction with technology," said Duane Toavs, director of Emerson's Human Centered Design Institute. "CMU helped us set direction and get it started, leading to our staffing of this virtual Emerson Human Centered Design Institute that spans design teams for all of our brands."

Human Centered Design is a multi-disciplined science. User Personas, Stakeholder Maps, along with intensive observational research, usability testing and heuristics analysis are key elements of the practice. They provide the insight to blend the disciplines of Industrial, Graphical and Human Interface design into products which are easier to use.

"Getting inside the heads of users, including how they interface with each other and the technologies, is the foundation of Human Centered Design," continued Toavs. "Based on interviews with more than 100 customers, we developed Personas and Stakeholder Maps which help us define the ecosystem of a plant. This includes how those users interact with technology, and how the design of those products affects their productivity. Simple in theory, but really challenging in practice. The products Emerson will introduce based on this and ongoing research will make a profound difference in how people accomplish their tasks."

"We believe Emerson is uncovering an untapped resource that will lead to increased productivity throughout the process manufacturing industry," said Chris Pacione, director of education at MAYA Design and LUMA Institute. "While they continue to deliver powerful new technology, Emerson's investment in HCD represents a major commitment toward taming the complexity inherent in these new products. It's an important commitment. This kind of focus on human centered design will enable more useful and usable solutions and invite Emerson customers and users to be co-inventors of the future of their work, rather than just waiting for it."

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