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The Value of Communication in Our Collective Journey

George Bernard Shaw famously wrote “The single biggest problem in communication is the illusion that it has taken place.”

I became aware of this quote some time ago, and I use it as a guidepost in my professional life. If you search the web for the meaning, you will find many discussions of how interpersonal communication can be misunderstood. One or both parties in a conversation think that they agree about a concept, desire, instruction, what have you. Later, or worse, never, they find that what they heard was not said or what they said was not heard. Certainly, in the current political and media environment, examples abound.

I latched on to this quote in a completely different context. My day job is chief operations systems officer at MKS Instruments, a provider of process control solutions for industries such as thin film, environmental, life sciences and scientific research. In my day to day, we struggle with communicating business and technical information in a useful and actionable way. The problem is not the availability of data. We have plenty of data, more than you can imagine. The amount of data we have access to grows every day. Our problem is utilizing the data we have and transforming it into information that can be analyzed and acted upon.

A significant part of my job is looking at this issue and finding ways to collect, analyze and communicate information. I have a sign in my office that I acquired from a Cisco website that says, “Data is the new oil.” On my version of it, DATA is scratched out and INFORMATION is written in.

We are all following with great interest and intent, the smart factory, IIoT, big data and so on. My colleagues and I have engaged in a several recent projects in this space. We have implemented automated torque tools for the production floor that receive and send data to set and verify ap-

plied torque without operator intervention. We are currently kicking off a project to apply sensors to the hundreds of vacuum pumps we utilize in testing a variety of products in our factories. It is our hope to create a predictive model for maintenance, instead of our current, largely reactive model. These and other projects are just the tip of the iceberg on our journey toward a digitally integrated factory.

So, what is the problem you might ask? Good and useful projects, correct? Our problem is this. We are already starting to be overwhelmed by the sheer quantity of the data we now collect. And, we have only begun the journey. Sure, we have some great reporting tools. At our company, we use a wonderful business intelligence tool, Tableau, for dashboards and analytics. But how do we get to a place where the data begins to be actionable and not just a firehose from which we need to find a way to drink?

In an article from a sister publication of SME, *Smart Manufacturing* magazine, I found a discussion that has changed the way I am thinking about our journey. From the September 2017 issue, the article is “Passport to Innovation” by Editor-in-Chief Brett Brune. In a conversation related by Brune, Tom O’Reilly of Rockwell Automation states that companies going on their smart manufacturing journey need to find the value first. Sometimes people just get wrapped around the technology.

As I contemplated that statement, I realized that was exactly what we are in the danger of doing—getting wrapped around the technology for technology’s sake. I am probably safe in my assumption that others in the smart factory space are doing the same thing. After all, many of us are engineers. We love the technology, and the media is awash with reasons why we should embrace it. I now know to change the conversation at my company to first ask the following questions:

- What value will we derive from this project?
- What problem are we trying to solve?
- How will we COMMUNICATE and act on the data we get from this technology?

We have also learned that a key to the process is open discussion with all the stakeholders. Talk to ALL the functions that will consume the data you possess. Will the production supervisor want the data presented the same way as the engineers? Will the operators on the floor want to consume the information the same way as management? Ask ALL your customers how they will use the information.

Further, we have learned that a key to success is follow-up. Be certain to check in with the user base, after deployment. Are they getting the value they expected? Do not be afraid of the critics of your project. Criticism is not failure—it is a learning moment and an opportunity to adjust.

I wish I had a magic bullet or a piece of wisdom to offer that would address the issue in its entirety. I have neither. I can say this—embrace the VALUE in your journey before the technology. Ask yourself, why? Talk to others about their successes, and sometimes more importantly, their failures. Look to SME. It is a great source of information and networking, which is one of the reasons MKS became a supporting corporate member. Certainly, *Smart Manufacturing* magazine is one of the most obvious examples available to explore discussions in this arena. Also, do not overlook SME events and webinars. I can personally testify to the efficacy of both. I am so happy to be participating in a time of disruptive manufacturing opportunity. If we remember the value of communication in our collective journey, it will be an exciting time indeed! ➔

2018 Award Nominations

SME is currently seeking nominations for the following awards:

2018 SME College of Fellows—Since 1986, the SME College of Fellows has honored those members who have made outstanding contributions to the social, technological and educational aspects of the manufacturing profession. This is a highly prestigious honor that can only be earned through years (20 or more) of dedication and service. Nominations are due Dec. 1. Submission form and award information can be found at sme.org/fellows.

Excellence in Composites Manufacturing Awards—These awards acknowledge the valuable roles that both large and small manufacturers play within the composites industry. Each award showcases the companies that have excelled in manufacturing products made from advanced composite materials. Award-winning companies must demonstrate a dedication and ongoing contribution to further advance the design and development of technology used in the manufacturing of advanced composites. Nominations are due Jan. 16, 2018, and can be submitted at sme.org/composites-manufacturing-excellence-awards.

J.H. “Jud” Hall Composites Manufacturing Award—This award celebrates innovation in solving issues related to production and applications development, and acknowledges significant contributions that reduce costs and waste streams, and improve quality and efficiency. Submit nominations by Jan. 16, 2018. Additional award details and nomination forms can be found at sme.org/hall-award. ➔

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