Innovation can be a manufacturer’s worst nightmare especially when it comes to conducting formal evaluations. From conflicting priorities and disagreements over schedules to ineffective communications and a lack of engagement from key constituencies, any number of project elements can go wrong. To make matters worse the rate of innovation is increasing. It is creating a gap between technology and the labor its intended to help. In spite of this trend simple steps can be taken to assure that evaluations are fully aligned with a manufacturer’s goals and existing resources. There is a way to avoid the traps.
Avoiding the Traps

Technology is frequently characterized as a gateway to improved manufacturing efficiency, and the history of innovation’s impact on production is noteworthy. That is particularly true in terms of the impact made by digital technologies. From the introduction of the digital controller and distributed control system to smart sensors and valves, digital innovations have consistently enabled safer, more efficient production. Indeed, much of the growth in production output experienced over the past 50 years is attributed to innovations in production automation. Putting these gains aside, innovation continues to leave value on the table as manufacturers fail to capitalize on technology’s full potential.
Digital innovations continue to enter the general marketplace at a rapid rate and their value is now outpacing increases in labor productivity. In its report entitled “From exponential technologies to exponential innovation”, Deloitte LLP analyzed the performance of several core digital technologies relative to labor productivity. Their analysis focused on the 12-year period of 1999 to 2011, and it charted a divergence in the growth rate of the two. Whereas the rate of labor productivity grew at a CAGR of 2%, the rate of digital innovation soared at a staggering CAGR of 49%. Their assessment: Labor is struggling to capitalize on innovation’s full potential.

Global manufacturing is undergoing a renaissance of sorts. The reality of an aging workforce is steadily settling in as manufacturers cope with the difficulty of replacing retirees. To make matters worse they are encountering an indifferent work force. In its study entitled “The 2015 Skills Gap” the Manufacturing Institute found that Gen Y ranks careers in manufacturing dead last. On the brighter side a persistent push toward manufacturing automation has positioned many to realize production gains with less staff. In the end Deloitte’s analysis suggests that these competing forces have done little more than offset each other.

An article published by Manufacturing Automation in late 2014 looks at this growing gap between innovation and labor productivity from the perspective of the innovator. Written by Shawn Casemore the article points to common characteristics of successful technology implementations. It stresses that investments in technology are not enough. Rather, the author emphasizes that the value of innovation rests in a manufacturer’s ability to synthesize new technology investments with its existing people and processes. For many manufacturers the key challenge is assessing both the financial benefits of a given technology along with the synergies existing between technology and existing practices.

While putting technology through its paces in advance of an investment is common there are a range of considerations that should be taken into account. Most are common sense but they significantly improve the probability of a successful evaluation and subsequent technology adoption. What’s more, they help manufacturers avoid the traps.
Goals & Requirements

Establishing clear goals and expectations for a given technology evaluation is essential. In fact, it should be priority #1. While seemingly obvious it is not uncommon for manufacturers to invest in technology without plainly stipulating their end objectives. So too it’s essential that a manufacturer’s requirements are well understood. Whether due to a lack of features or functions or a misunderstanding related to scope or schedule, evaluations can easily go awry. Setting appropriate expectations assures that manufacturer and supplier are in sync and that they are committed to the same end results.

Clear evaluation goals are needed to distinguish success from failure.

Planning & Scheduling

Evaluations are routinely performed according to a fixed time-table. Such a schedule assures that the evaluation involves appropriate staff from both manufacturer and supplier, and it provides sufficient opportunity for the technology in question to deliver on the target objectives. Without the timely involvement of key staff, however, an evaluation can quickly get off track. For sure, scheduling challenges should be expected and even factored into the plan. Production environments are dynamic and unexpected issues arise regularly. Even so, an effective plan will take those factors into consideration.

Detailed plans and schedules can keep an evaluation on the fast track.
People & Processes

Conducting a successful evaluation requires involvement of different communities during the varying project phases. Managerial sponsorship is typically needed at the start and finish. IT resources are often involved during implementation and configuration. Engineering and operations staff are required during both application training and day-to-day use. Beyond the communities themselves, an evaluation must synthesize with the manufacturer’s existing automation infrastructure and processes. It must align with the manufacturer’s internal culture.

Vendors should drive an evaluation in collaboration with your team.

Communication & Reporting

Effective communication is key to keeping an evaluation on schedule and assuring that all constituents remain informed of progress relative to the plan. Reporting is an important component in the communication plan as fundamental performance data can be circulated among stakeholders. In order for reports to be an effective tool, however, they must include analysis that is both concise and relevant along with updates on scheduling and potential plan adjustments. Similarly, regularly scheduled meetings allow for substantive discussion concerning project execution and facilitate ongoing alignment between the various parties.

Effective communications keep stakeholders informed and limits surprises.
A Proven Technology Evaluation Program

Control Station designed its PlantESP Evaluation Program to help manufacturers realize their unique goals and objectives. Recognized as a leading control loop performance monitoring (CLPM) solution, PlantESP proactively assesses a plant’s regulatory control performance and provides actionable insights that help production staff to improve efficiency and throughput. PlantESP utilizes existing process data to provide advance warning of mechanical, loop tuning and interaction issues. PlantESP has been licensed to leading manufacturers and successfully deployed at facilities located around the world.

The evaluation program enables process manufacturers to implement PlantESP at one or more facility and to evaluate the full range of PlantESP’s monitoring, diagnostic and optimization capabilities. More importantly, the PlantESP Evaluation Program enables process manufacturers to put the value of CLPM technology into clear context. Recent program participants realized the following economic benefits:

» **Throughput** — Reduced cycle time of multi-zone furnace application by 9% and increased overall production capacity by 13%.

» **Quality** — Improved control of core processes including ultra-purified water and delivered Payback of less than one (1) year.

» **Energy** — Reduced the variability within key temperature processes and reduced annual energy consumption by over $100,000.

» **Downtime** — Increased quality of steam by more than 2.0% and mitigated the associated threat of unplanned downtime.

The PlantESP Evaluation Program is a unique offering from Control Station. Whether your objective is to increase throughput and quality or reduce energy and waste, PlantESP can help you to meet your goals.
Control Loop Performance Monitoring
Providing Accurate and Insightful Information

Most production processes are highly dynamic and constantly changing, so much so that it’s not hard to stumble upon issues that hamper performance. The real challenge for practitioners is prioritizing limited time around their facility’s most pressing issues. To optimize their effectiveness practitioners need access to information that is both accurate and insightful. That applies equally to their facility’s PID controllers as it does to process instrumentation. If you require improved awareness of your facility’s production performance issues, look no further than PlantESP!

- Plant-Wide Control Loop Monitoring
- Timely Alerts and Detailed Reports
- Targeted KPIs and Advanced Forensic Tools
- Actionable Recommendations for Corrective Action

Contact us today to learn how PlantESP is enabling manufacturers across the process industries to accurately diagnose complex control loop performance issues and to quickly correct them for increased production and enhanced efficiency.