

BUSINESS SKILLS

Strengthen Company, Minimize Risk

WHEN JUSTIFYING AUTOMATION INVESTMENTS, “if you look at justification methodologies that you have to take to upper management, ultimately you have only a few economic buckets in which you can claim benefits,” observes Pete Sharpe, principal consultant with the Advanced Applied Technology Group for process controls vendor Emerson Process Management (www.emersonprocess.com), in Austin, Texas.

Whatever those buckets may be, though, the underlying motivation is increasing profits and minimizing risks. To do both, “you’ll either increase revenues or lower costs,” he emphasizes. Increasing revenues is a bucket on the positive side of the formula. That means “you have to increase sales of the more valuable product, or increase the yield of product,” Sharpe states. Cost-lowering considerations could involve maintenance, labor, energy, utilities or raw materials, among other areas.

But attention also must be paid to product quality. Off-specification products could cause customer refusal or what Sharpe calls quality giveaway. For example, “if at a refinery, the client’s specification calls for 92-octane rating [product] but you produce 92.2, you’ve got 0.2-octane giveaway,” he explains. “If I didn’t make that 0.2 octane giveaway, then I could have made more 92 octane.”

Consider intangible costs, too, Sharpe advises. Those include safety and environmental issues. “The other intangible we talk about is being

able to have a premium price because you’re a better supplier, with more consistent product,” he adds.

When modernization is the goal in justifying automation investments, Sharpe starts with a simple question: “How does the manufacturer make money?” He also asks, “What are the economic incentives, the things we can focus our attention on?” Predictably, the formula to determine these answers depends on the industry, specific facility and existing controls’ age and condition. “Based on all of those, we typically try to focus our efforts on the areas that give the biggest bang for the buck,” Sharpe says.

But “you have to put any automation investment back to the financial terms the management is going to be evaluating,” he stresses. What they’ll evaluate is the payback of the proposed investment. “Mostly, we see return on investment (ROI) and simple payback. These are the ones we typically put in a consulting report,” Sharpe reveals.

Noting simple payback disregards the time value of money. He defines this indicator as the annual estimated benefits divided by the total cost of installation. “Most of the time, we see end-users wanting a simple payback within one to three years. Of course, that depends on the size of project,” Sharpe states. But for those less than \$500,000, “I’d think they’d want payback within a year.”

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ULTIMATE METRIC

However, he believes the ultimate metric for justifying investments is ROI. He notes that it includes the time value of money, and calculation of returns based on expected future cash flows from the investment.

“Typically, a company will have a hurdle rate ROI that’s absolutely required for a project to be funded,” he observes. Not surprisingly, hurdle height depends on the company. And in Sharpe’s experience, “larger companies will make investments at lower rates than smaller ones.” For larger companies, investments at 9 percent to 15 percent ROI are not uncommon, because of the lower cost of capital for larger companies, he notes.

Regardless of whether it’s simple payback or ROI, “when small projects are taken forward to plant managers, projects with higher paybacks are the ones that ride the top,” Sharpe declares. And therein lies the rub. “For very large projects—the megaprojects costing tens of millions; for example, a major automation modernization at a refinery—corporate management might select it even if the ROI is below the hurdle rate.” Why? “Because it’s a stay-in-business decision—and that is to minimize risk.”

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