

# CONTROL

F O R T H E P R O C E S S I N D U S T R I E S

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## Justifying Fieldbus, Part I

One of my neighbors recently nixed a job that would have installed Foundation fieldbus in his refinery this year. It was a small project—the kind the Fieldbus Foundation encourages ultra-conservative end users to undertake. At the same time, another, larger refinery within the company will soon be installing Foundation fieldbus devices by the thousands; it is doing an enormous project to expand the plant to run heavy canadian sour crude.

above two categories, along with the rapid commissioning enabled by fieldbus, can be key selling points. So can the ease of obtaining and storing persistent records of real-time instrument health, especially where the process benefits from real-time integration of sensor and signal status. But when upgrading an existing well-maintained legacy DCS with electronic field devices, wiring savings can be small, and the cost to replace existing electronic in-



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Meanwhile, the controls staff at a large Southern California refinery is doing exactly the sort of project my friend deleted. The rest of that company, one of the largest refiners in North America, will systematically upgrade each of its refineries to

Foundation fieldbus. How was their management sold on such a dramatic upgrade, when its peers, equally sophisticated and techno-savvy, are in the “we can’t justify it” camp?

Ten years ago, the main justification for fieldbus was wiring savings. To be sure, significant savings are there, but this argument is like justifying personal computers in the hopes of saving paper. Maybe the promise of paper savings was enough to get management approval for the first PC purchases, but the real benefits came to light a number of years later. Anyone think they’re paying for their PC’s with paper savings today?

Another common justification for fieldbus is asset management. By examining smart device diagnostics, we are able to chip away at the maxims of “Total Productive Maintenance”—know what needs to be fixed before it breaks; fix only the things that need to be fixed; carry no more parts than necessary; and do repairs correctly the first time.

However, some of us are getting extraordinary reliability from our instruments already. I can still save a decent sum of money by not repairing things that need no repair, but the size and pace of the payback may not be enough for brownfield sites.

When one is building a greenfield facility, the

struments must be justified.

A number of early adopters have determined process availability—staying online—is potentially the biggest payout of fieldbus. Some manufacturers have justified millions to implement rules-based expert systems to achieve this and labor-and-consultant-cost-intensive efforts to develop thoughtful and manageable alarming strategies. At the same time, the “abnormal situation prevention (ASP)” camp seeks to prevent such situations from happening in the first place. Users have found fieldbus can deliver ASP by providing physical-layer diagnostics and detecting problems before they impact the process. See my columns in the December 2006 ([www.controlglobal.com/articles/2006/247.html](http://www.controlglobal.com/articles/2006/247.html)) and January 2007 ([www.controlglobal.com/articles/2007/004.html](http://www.controlglobal.com/articles/2007/004.html)) issues.

At the Emerson Global User’s Exchange in 2005 Tom Wallace proposed that industry would benefit from installing smart devices integrated through Foundation fieldbus to combat the “brain drain” of retiring baby-boomers. By exploiting the device and process diagnostics and thoroughly mapping the abnormal conditions detected, future operators and technicians can be better empowered to keep our large process infrastructure running. Since saving this knowledge is already a struggle, I think this argument has potential to have some resonance with senior management. Like us, they want their annuities to keep paying out after they retire.

In August, I’ll delve deeper into how real fieldbus benefits can be linked to the hot buttons that help win management support and financing. 

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