



PROFIBUS and PROFINET • North America

A PTO White Paper Why Use a Fieldbus?



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WHY USE A FIELDBUS?

For those of us who have spent the last 20 years promoting the use of digital communications (fieldbus) in the process industries it comes as a surprise to find that barely 15% of users have made the transition. OK, HART is responsible for some of that, (though HART is not a fieldbus and does not provide the same wiring and other savings) but nevertheless we might have expected a bit more progress.

Does it mean we have failed? No! It's partly because the process industries are reluctant to take too many steps into the future too quickly - and there are many good reasons for that. It's also due to many plants having a life cycle of decades, so there's limited opportunity for change. Nor has the economic situation been very favorable.

But there are many positives, as the new end user adoption survey from Boston-based analysts ARC clearly demonstrates. More people than ever are turning to fieldbus to support new projects they conclude. Their report compared the results of a similar survey 2 years ago with responses to similar questions today. "One of the primary points that emerged," they say "was the increased acceptance of process fieldbus technologies among major end user companies. Fieldbus is being deployed in more and more large plant and critical applications." So fieldbus is finally on the agenda big time.

More than 220 global end users responded to the survey and a much wider industry spectrum was covered this time, with an obvious change being that fieldbus is no longer limited to the high end petrochemical and refining industries. This is because fieldbuses offer a good value proposition for the 'hybrid' industries like food & beverage, and pharmaceuticals too. Tight integration of process and discrete applications is what PROFIBUS does better than anyone and the benefits across the board - in design, engineering, commissioning and whole life costs - can be dramatic, as evidenced by another ARC report completed in 2005. According to that survey, more than 80% of respondents now believe that 'hybrid' capability is 'important'.

In their latest study ARC went on: "While fieldbus is still primarily limited to new installations and greenfield facilities, we are also witnessing increased acceptance of fieldbus in existing installations for replacement of conventional control architectures. We also observed a shift in the concern of users from "soft" issues such as supplier commitment to fieldbus technology to more practical concerns, such as support of remote diagnostics." This of course indicates the growing acceptance plant-wide for fieldbuses and the fact that the size of installations is growing too. Fieldbuses are also being adopted plant-wide by many corporations and naturally the issue of maintenance is becoming more important.

40% savings, with much more on offer too

If we go back to the beginning, fieldbus is basically a way of connecting multiple field instruments to a single cable or network. That means it eliminates a lot of copper and hard labor. Many plants report up to 40% savings during the initial phases of a plant installation and although some of this is offset by higher prices, immediate financial gains are available.

Configuring a fieldbus network is easy too. It can be done from a central operator station sited remotely from the PC, with full engineering and diagnostic facilities at your fingertips. Batching instructions and recipe building can be proven off-line and invoked as necessary.

Often, this is a good enough reason for converting, but it's in the operational stages of a plant's life that even bigger gains take hold. For example, all-digital technology means more accurate measurements leading to better control strategies and tighter quality control. It also means better

trending and historian capability, which adds to the improvements in operational control. Later changes to fine tune the process simple as well, with central audit trails, trending and historian functions enabling you to keep an accurate record of what's going on.

With fieldbus, more data is available on a continuous basis, which means that management level systems can be fed with better information and there's huge potential for improved plant management by means of diagnostics, Preventive Maintenance techniques and Asset Management software. Diagnostics becomes easier because of centralized access, which means engineers rarely have to struggle out in the field to find a fault. With fieldbus, the fault can usually be located remotely, meaning replacement parts can be obtained and fitted much faster.

Making use of all these techniques should be an integral part of running plants today because Returns on Investment can be massive. In the current ARC Survey, 18 percent expected payback within 6 to 12 months, while 27 percent expect payback in 1 to 6 months!

What about the personnel issues?

Changing over from traditional technology can be daunting - particularly for personnel who are skilled in the old arts but not in the new. There's plenty of help available and that 10-15 year background really comes into its own because an enormous amount of experience, know-how, and ancillary services such as training is out there.

The PROFIBUS world boasts 24 Regional PROFIBUS Associations (RPAs) globally, with a similar number of PROFIBUS Competence Centers (PCCs) working alongside. In North America, the RPA is called PTO (the publishers of this newsletter) and the PROFIBUS Interface Center (PIC) is the PCC. Elsewhere in this newsletter you'll find more information about both and either will be pleased to take your calls.

Both organizations are there to give you the benefit of their experience based on an installed base of over 15,000,000 PROFIBUS devices. That's more than all the others put together. Free training courses can ease the early transition stages and more advanced training - for designers, developers, installers and maintenance staff - can fill in the later requirements.

Web site Forums play their role too, and can be used to find answers to common problems. In fact, you'll probably find that your question has already been answered because after 15 years there's not much that has not been covered by this colossal industry called PROFIBUS.

Now ... what's stopping you?

You'd think that all these benefits would convince the world to make the move to fieldbus tomorrow. Sadly, that hasn't happened. If you study the ARC end user survey closely you see that one of the main reasons is a lack of awareness or 'buy-in' at all levels in the organization, from corporate management to the plant floor. As a result a large number of North American plants are running less effectively than they could and gradually becoming more non-competitive.

Is that what you really want? Or would you prefer North American industry to run more effectively and more profitably? If you're one of those 85% who are not using a fieldbus and you want to help then you owe it to yourself, your company and even your country to start the transition today. There's plenty of support available, so there's no excuse. Call us.

See you at one of our [training courses](#)?

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