
UTILIZING ASSET MANAGEMENT IS NOT A MATTER OF IF, BUT WHEN!

YOUR INTELLIGENT MEASUREMENT DEVICES PROVIDE THE OPPORTUNITY FOR IMPROVED PLANT RELIABILITY

OVERVIEW

In case you have not been paying attention, there is a shortage of skilled labor in the automation industry. As [Baby Boomers](#) continue to exit the workforce, they take with them a tremendous amount of knowledge and experience that cannot be found in text books, training courses or YouTube® videos. According to [Industry Week](#)®, “Between retiring Baby Boomers and uninterested youth, age clearly is taking its toll on U.S. manufacturing skills.” This paper looks at why and how an asset management system can play a role in the solution to retaining more knowledge while also attracting the current and next generation of tech-savvy workers. The addition and use of an asset management system combined with an effective implementation plan can help you better manage your assets to improve plant reliability, get or remain competitive, and may help to attract and challenge younger engineers and skilled workers to fill the gaps created by retiring [Boomers](#).

INTRODUCTION

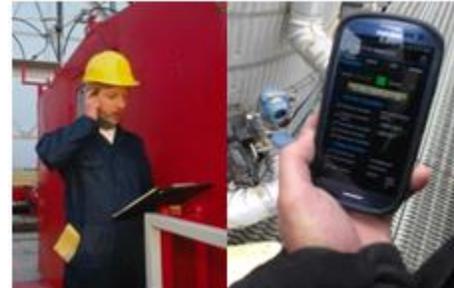
Today, the automation industry and specifically the process industry are facing a predicted shortage of skilled workers. This industry as a whole has not done a good job educating students on the many opportunities that exist within the industry. In addition, over the years as companies trimmed their budgets and workforce, [training and intern programs](#) were sacrificed. In 2014, the total [estimated number of Baby Boomers](#) is 76.4M (25% of total U.S. population), the oldest of which are 69 years old and retiring in record numbers. Those born at the end of the Baby Boomer era are now turning 50 and in many cases are in management or key decision-making positions and will soon walk out the door to head for their favorite retirement bungalow.

Those remaining trained and experienced workers with retirement in their crosshairs may be reluctant to take risks and initiate multi-year programs requiring a culture change in the organization or work processes. Managing a [change](#) in maintenance strategy such as implementing an [asset management](#) system can be seen as a little risky and difficult to orchestrate in today’s corporate environment. But, even with limited budgets, using a low-risk standardized technology solution such as an asset management program that is [FDT® Technology](#)-enabled can make the change manageable and rewarding.

WHERE'S THE DIGITAL?

Engineering grads can decide to work in a refinery or chemical plant or they can work at a high-tech, digitally-equipped location for Google®, Apple®, Microsoft®, Amazon®, Facebook® or others. Recently, a sales person reported that an engineering grad reporting to a plant for his first day of work found only analog, mechanical and little-to-no digital access to information, decided he made a poor decision and immediately left the company.

The next generation, the “[Millennials](#)”, are all digital! Graduating engineers and skilled technical workers relate to the digital world and sometimes are disenchanted when they see the mainly “analog world” of the process industry. Even with an ever-increasing need for information, analytics and big data, the industry appears to have one foot firmly planted in the analog world and the other foot beginning to be forced into the digital world. But appearances can be deceiving, especially when you consider all the underutilized digital information that can be accessed from the intelligent measurement devices already in your plant that contain information vital to the health of the process.



Consider the fact that 80–90 percent of all measurement devices shipped each year are smart. That means there’s a good chance the devices installed at your plant in the last 5-10 years are smart – also referred to as digital or intelligent. These [smart devices](#) are the critical basis of an asset management system. They can communicate on the traditional 4-20mA analog signal ([HART®](#)) and/or on a dedicated all-digital ([Foundation Fieldbus®](#), [Profinet®](#), etc.) communication bus. They are intelligent, contain digital information and can provide data to help you improve plant reliability. So it’s not a matter of “when to start going digital” to begin your migration to asset management, because you probably already have much of the infrastructure to get started!

ASSET MANAGEMENT AND THE INTELLIGENT MEASUREMENT DEVICE

The process industry is buzzing with “digital speak”: Analytics, Industrial Internet of Things, Industry 4.0, Big Data, Cloud Computing, Mobile Worker, Predictive Maintenance, Smart Control Rooms and many more terms that bring attention to the availability of and, at the same time, the lack of currently available technology that can really change the way you maintain your plant to dramatically improve plant operations and reliability.

Asset management can provide solutions in the situations mentioned above. Not only does it deliver benefits in all phases of the [plant life cycle](#) but it also is a stepping stone to address the growing need to deliver “plant floor” information to all levels of the enterprise. This “[industrial internet of things](#)” initiative is supported by seeking to get the right information into the right hands at the right time enabling the right decision to be made to achieve the right results. FDT Technology, embedded in the majority of device configuration and asset management application solutions, provides fast, easy and reliable access to the digital information already in your field devices regardless of protocol. Your automation supplier can tell you if your control or

asset management system is FDT enabled. If so, you are much closer to achieving a more effective asset management solution!

THE MIGRATION TO ASSET MANAGEMENT – IT’S NOT A MATTER OF IF, IT’S A MATTER OF WHEN

Most companies are not in a position to replace control systems and may have limited budgets for major upgrades. But the addition of an FDT-enabled asset management system, or even a change of device management strategy that utilizes stranded, intelligent device information, has been well documented to provide a high return on investment and [bottom line benefits](#). This is partly because a large part of the required investment – the cost of intelligent measurement devices - may not have to be considered because the devices currently exist and are installed in YOUR facility.

There are many reasons to migrate to a better utilization of intelligent device information to gain a more proactive asset management strategy. Here are a few to consider:

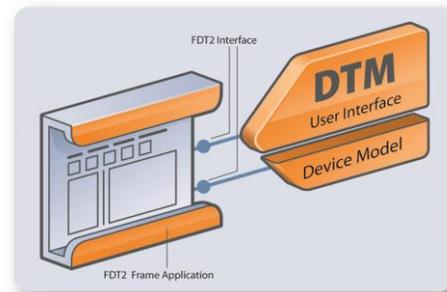
Affordability – With many available low-cost [asset management solutions](#), access to information does not require a major system upgrade. To effectively utilize and access device



information to your system on a small scale, you only need a computer, a FDT-enabled software application for device configuration and management, and a protocol (HART, FF, others) interface device – all of which may currently exist at your facility. And, if you have been purchasing smart devices, you may have what you need to get started.

Scalability – From monitoring one device at a time to monitoring hundreds automatically, the scope and size of the system depends only on your situation. The system can grow and expand to meet your needs. Some of the largest operating plants in the world use FDT-enabled technology solutions.

Open Standards Translates to Interoperable – Many solutions incorporate “open” or standards-based technology which are protocol, control system and device supplier independent and tested to be interoperable. FDT Technology is an open IEC 62453, ISA 103 and GB/T 29618 international standard which provides device drivers called [Device Type Managers \(DTMs\)](#) and device configuration and maintenance [software applications](#). The majority of automation, control and device suppliers offer these valuable protocol, supplier and control system independent solutions that are FDT enabled. And because of the rigorous testing and certification program, you can be confident that devices from different suppliers will fully interoperate with each other for any application – reducing your risk of problems.



FDT DTM provides the user interface and works with the asset management application

Culture Change – Results of an effective asset management program are typically recognized quickly but require workflow/organizational changes that include cross-functional groups -

including management. Once information and results are shared within the operation, more support and empowerment is often available. Decisions made by cross-functional teams bring together the stakeholder, technology specialist, IT, finance, risk management and plant reliability improvement groups. High levels of collaboration and cooperation need to be encouraged in order to achieve significant improvements in plant reliability using better plant asset management practices.

Maintenance Benefits – Most benefits are realized when performance and device information is collected, analyzed and checked then appropriate action taken. Becoming more strategic by using information from your intelligent devices, means you will be able to identify device problems, receive early notification of pending problems, modify device configurations, access additional measurement, determine which devices need attention (and which ones don't), check for possible process problems, determine the seriousness of a problem and a lot more. Most of this can be done from a remote location (control room or instrument shop) reducing trips to the field – saving resources and improving safety. And, the Millennials will feel empowered when accessing digital information.

STATUS QUO IS NOT ACCEPTABLE

Continuing to operate, measure, maintain and repair as you have done for years and expect better or different results is not practical. The ideas of working harder and smarter but not changing the work processes or organizational culture are probably not going to give you the improvements you need in order to remain competitive. Baby Boomer or not, maintaining the status quo, avoiding risk and doing nothing should not be considered an acceptable option.

Instrument reliability improvement programs that use effective asset management may be one of the solutions to the issues stated above. Data from intelligent field devices being viewed in a configuration or asset management tool that uses standardized drop-downs, menus and

- NE 107 Self-Monitoring and Diagnosis of Field Devices
- Guidelines on displays and alerts
- Standardizes the symbols for operators

Maintenance required			
Out of specification			
Check function			
Failure			
Diagnostics active			
Diagnostics passive			

graphics can greatly reduce device configuration time, device diagnostics and troubleshooting. FDT-enabled applications provide such a “digital” configuration environment while the device DTM - provides quick and remote access to intelligent device capabilities and information from smart field devices. Operations are also helped since many FDT applications comply with the NE107 guidelines that define alert and notification symbols for fast and clear problem recognition and resolution.

CONCLUSION

With the retiring experts seeking their fun in the sun, change is inevitable. If you embrace change, empower skilled individuals with the right tools and gain the support of management, you might find that the journey to improved plant reliability is not as long, risky, expensive or painful as you first anticipated.

Change in this discussion covers many different aspects including: organization, culture, work process, technology, training and maybe one of the biggest – risk management. The implementation of an effective asset management system requires change in all of these areas.

But, the financial returns and improvements in plant reliability are well documented by users and should help to provide the necessary roadmap for success – reducing the risk!

By integrating and using information from your installed intelligent devices, more informed decision making is possible leading to increased uptime, lower costs and improved plant reliability. By working with your automation and instrumentation providers, you will quickly learn the power and benefits of making the transition from a scheduled or repair-based maintenance strategy to one that is more predictive – avoiding unplanned shutdowns. There are very few automation initiatives you can consider that will pay back such high returns on what might be a small investment.



So welcome the Millennials, thank the Baby Boomers, embrace digital technology, modify workflow and procedures, manage your risk, think out of the box, create a team (including management) and empower that team to use your intelligent measurement devices for improved asset management. If you are thinking about implementing and using an effective asset management solution to maximize your investment in intelligent measurement devices, you might undoubtedly find the decision is not a matter of if, but when!

For more information on FDT Technology, please visit: www.fdtgroup.org.

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