



Many equate the advent of the modern technology revolution to the introduction in the early 1980s of the personal computer (aka PC).

Since that time, computerization has dramatically changed the way human beings think and act. Yet, some of us still had to be dragged kicking and screaming into the 21st century and have only recently given in to the “force” and assimilated into the techno paradise that now touches and embraces each of our lives on a minute-by-minute basis.

For the few still in denial, it’s difficult to imagine living without an automatic teller machine dispensing your money on a 24-hr. basis, or trying to purchase a vehicle that is not controlled with more computer power than what put man on the moon. Try to imagine a world without a cellular phone—*have you tried to find a public phone that takes actual money these days?* Where would we be without our “point-and-shoot” instant memory-maker camera systems or our ultra-realistic high-resolution interactive games? Then, of course, let’s not forget the information superhighway we call the Internet, which has changed the way we access information, pay bills, make friends and buy and sell stuff!

Similarly, technology has accelerated industry into a “warp-speed-ahead” introduction and continual update of complex computerized asset and information management systems, computerized document management systems, computerized manufacturing control systems and a host of high-tech user-friendly diagnostic equipment. Throughout all of these changes, the maintenance department has been dragged along, often unwillingly, for the ride.

New, improved techno-maintenance

To gain recognition as an integral element of the production process, the maintenance department has been forced to drastically change and improve its methods and level of communication. It’s done so by building the types of strategic partnerships this column addresses—*with technology playing a significant role in establishing and sustaining these relationships.* Delivering equipment effectiveness, availability and uptime has fast become the new maintenance creed. Setting maintenance goals and objectives that dovetail into production/manufacturing goals and corporate goals are concepts that would have been almost laughable 30 years ago. The new and improved maintenance department has entered the era of “techno-maintenance” in which today’s maintainer must understand and work with

Communications: The Technology Partnership

Written by Ken Bannister, Contributing Editor
Monday, 01 March 2010 17:03

complex equipment designs and control systems that demand a critical thinking approach to troubleshooting, combined with a moderate to high computer skill level.

The modern maintenance department has kept pace through the introduction of maintenance philosophies such as TPM (Total Productive Maintenance) and failure analysis methods used in RCM (Reliability Centered Maintenance), both of which demand the maintenance department to develop partnerships with operators and engineers, and gain an intimate knowledge of the equipment itself—*which requires good data*.

Data is discreetly gathered, analyzed and turned into real-time management information through the CMMS (computerized maintenance management system). Data is received whenever a transaction is opened and closed through the work request and work order process. Data is collected real-time through electronically connected “online” condition-based management equipment monitoring systems, and through downloading of interfaced predictive maintenance diagnostic technologies such as infrared thermographic systems, and vibration analysis systems, etc., all used on a daily basis in the majority of today’s maintenance and reliability departments.

Lifelong learning

In the early 1900s, much of the industrial equipment in use was handmade by Victorian-influenced craftsmen who were also required to maintain the equipment. By the 1920s, the mechanization revolution had restructured the way equipment was designed and manufactured—*think of Henry Ford and his Model T, and Frederick Taylor’s time/motion studies*. Manufactured components and equipment could be made utilizing machines, and put together on moving assembly lines with every action timed to the second. Maintaining this new manufacturing approach required less of a craftsman’s hand and more of a specialist’s hand. Accordingly, the maintenance profession began to develop multiple specialties, including: electricity (electrician); steam (steamfitter, stationary engineer); machining (machinist); mechanics (fitter, mechanic, millwright); and metalworking (sheet metal worker, plater, welder).

The new maintenance specialists were collectively called tradesmen. To stay employable, most craftsmen moved into their strongest niche area to be absorbed as one of these new tradesmen. Thus, mechanization gradually phased out the craftsman from the industrial mainstream requirement.

Sixty years later

History began repeating itself in the 1980s with the computerization revolution that today is placing huge demands on tradespersons. With more and more equipment now being designed by computer, built by robots and run by computer control, modern maintenance requirements demand critical thinking skills and computer diagnostic abilities. Ten years into the new millennium, it is easy to see the maintainer's role as one that has evolved from that of a tradesperson to that of an actual Capacity Assurance Technician (CAT).

Today's rapid pace of change demands a modern maintainer be current in both manufacturing and maintenance technologies—*as well as modern maintenance methods and philosophies*. Arguably, the relationship a modern-day maintainer has with technology is one of extreme importance if he/she is to be viewed as a valuable and marketable employee. Luckily, as maintenance professionals, we do not have to write the code for the technology, only invest in understanding how to operate and analyze with the technology.

To reach a level of comfort in our work lives, we must examine and draw upon the comfort with technology that we enjoy in our personal space and lives, and realize they are one and the same. Remember, however, that partnering with technology involves more than simply investing in a computer and "exploring the Web."

Truly partnering with technology involves investment in oneself. Maintainers must invest in themselves through attendance of simple word-processor, spreadsheet, database and presentation software training; through attendance at trade shows and conferences such as MARTS; and of course, through subscription and reading of targeted, industrial trade publications such as **Maintenance Technology** and **Lubrication Management & Technology**. It also involves reading books and building one's own maintenance and engineering reference library to familiarize ourselves with (and learn how to apply) technology in the workplace.

The payoff to all this? Investing in oneself and staying current in the technology of your profession is a partnership that virtually assures a position in the maintenance environment of the future. **MT**

Ken Bannister is lead partner and principal consultant with Engtech Industries, Inc. Telephone: (519) 469-9173; e-mail: kbannister@engtechindustries.com.

Communications: The Technology Partnership

Written by Ken Bannister, Contributing Editor
Monday, 01 March 2010 17:03

(EDITOR'S NOTE: Ken also will be a featured part of MARTS 2010. To register for and/or learn more at his great Pre-Conference Workshop "Liquid Gold: Implementing a Winning Lube Strategy for Maximum Gain," or his must-attend Conference Session "How to Kill a Bearing," visit www.MARTSconference.com .)