Teradyne Corporation

*Saving millions of dollars through integrated workplace management*

Jennifer Wickwire, facilities manager and corporate architect for Teradyne, likens facilities planning to navigating an aircraft carrier.

“You can’t change course on a dime,” she says. “You must track utilization and employee needs over time so you can plan appropriately.”

In early 2000, Wickwire presented a new approach for facilities management to Teradyne’s executive team. As the world’s largest supplier of automated test equipment, Teradyne maintains 66 locations worldwide, totaling approximately one million five hundred square feet of space.

While the company is in the business of automation, its own facilities management department was bogged down in manual processes.

“Our manual processes were not sustainable,” says Wickwire. “We needed to view space and respond to maintenance requests on demand. And we needed better track our assets over their lifecycle.”

**Improving space management with greater visibility**

The team’s first area of focus was space management.

“We were managing and analyzing space allocations straight from CAD drawings and had to print everything out,” says Wickwire. “There was a lot of time and guesswork involved in answering basic questions.”

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**Smart is...**

*Applying innovative workplace strategies to support employee needs within a smaller footprint.*

With building costs often one of the largest expenses that companies have, it’s not surprising that facility management professionals must make the most of each square foot of space. Using a powerful, integrated workplace management system, Teradyne has gained incredible visibility into occupancy trends, maintenance requirements and asset performance to help it predict operational needs and proactively respond. This insight has helped drive millions of dollars in savings and is enabling Teradyne’s facilities team to develop innovative alternative workplace strategies that improve space utilization and financial performance.
By deploying an integrated workplace management system based on TRIRIGA® software (now IBM® TRIRIGA software), Wickwire and her team can use CAD floor-plan drawings as a graphical interface to the facility database. Each organization is shown with a unique combination of color and hatching pattern, and each room type is color-coded, making visualization and interpretation of data both simple and accurate.

The drawings and information it contains—room types, symbols for people or assets, and so on—are bi-directionally linked to the corresponding database entry. As a result, any changes to the database are automatically updated in the drawings and vice versa.

“IBM TRIRIGA software takes a two week exercise and boils it down to minutes,” says Wickwire. “And we gain credibility because of how quickly and accurately we can answer executives’ questions. Having this information readily available would not be possible without this system.”

**Supporting millions of dollars in savings**

A clear and accurate view of space allocation and space composition has helped the organization improve facility planning and increase facility utilization.

“The ability to view the occupancy rate of a building from quarter to quarter helps us better understand our needs,” says Wickwire. “We've been able to consolidate more than 20 facilities in the United States over the last 10 years, totaling more than USD30 million in savings in year one alone, because we can easily track vacancies and conduct ‘what if’ scenarios. We can also see much earlier than before which sites require more space so we have additional lead time to prepare for growth.”

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**Business benefits**

- Identified consolidation opportunities at more than 20 U.S. locations, totaling in year one a cost avoidance of USD30 million
- Provided more than USD750,000 in new revenue generation over four years
- Increased asset performance through greater preventive maintenance
- Reduced reporting times by 99 percent

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“We can see how people use the space and then match that with innovative layouts to accommodate our employees within a smaller footprint.”

—Jennifer Wickwire, Facilities Manager and Corporate Architect, Teradyne Corporation

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**Smarter Operations: Unprecedented insight transforms facilities management**

**Instrumented**

CAD floor plan drawings along with asset and facility information are fed into a single workplace management system.

**Interconnected**

Integrating real estate, space, maintenance and asset management information enable facility managers to gain a big picture of workplace needs.

**Intelligent**

Business analytics help uncover occupancy and space trends, enabling staff to create alternative workplace strategies that reduce costs while meeting employee needs.
Designing innovative workplace strategies
After the objective for better space utilization became an executive requirement, the facilities management team began using IBM TRIRIGA software to identify alternative workplace strategies that have increased the ratio of people to workspaces, from one employee for every workstation to 1.5 employees for every workstation.

“The question is: How can you make your space more efficient?” says Wickwire’s manager, Rich Lupien, director of Teradyne Corporate Real Estate. “For example, an office cubicle may sit vacant for a good portion of the day and the associated cost of vacancy is a premium. We needed to look at current-thinking options like ‘hoteling’ and ‘collaboration spaces’; modern concepts that optimize space utilization while still meeting the evolving needs of our employees and their space requirements.”

It's a challenging process. If the team recommends less space than needed, the company may not have enough room for its employees to work. If the team contracts more space than required, it can cost millions of dollars in both operating and capital expenditures.

“IBM TRIRIGA software helps us put our arms around occupancy and utilization trends,” says Wickwire. “We can see how people use the space and then match that with innovative layouts to accommodate our employees within a smaller footprint.”

Creating a comfortable work environment for employees
Through this integrated platform, Teradyne’s facilities staff can also manage maintenance from a central location to reduce costs and improve efficiency.

Employees can log in to report problems and check on the status of an existing request. Service requests are automatically routed to a maintenance manager for assignment and each maintenance technician can view their work orders, request parts, and report the status of the repair on a single screen.
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— Rich Lupien, Director, Corporate Real Estate, Teradyne Corporation

Because the platform draws reference data already stored within the facilities database, data entry and retrieval is both fast and accurate. The system automatically flags duplicate requests, enabling Teradyne to eliminate redundancy, shorten response times and improve customer satisfaction.

“The first year we began to use the maintenance capabilities, we had more than 10,000 work requests,” says Wickwire. “We had no idea that we were being asked to do so much. Now, we can see exactly how many work orders we process and can align staffing to match the level and types of requests. We also have a good understanding of how long it takes perform each repair and what materials are needed so we can plan accordingly. In cases where we lease a building, we have accurate information to share with the owner when we renegotiate our contract.”

**Increasing asset performance**

With Teradyne sites operating 24 hours a day, seven days a week, Wickwire says that buildings need to be “up and running as close to 100 percent as possible.”

As a result, an essential part of the company’s facilities management plan is preventive maintenance.

“We use IBM TRIRIGA software to catalogue all our assets—tracking the make, model and serial number and bucketing them into the appropriate classification so we can automatically schedule preventive maintenance activities,” says Wickwire.

As maintenance is performed, technicians input data regarding an asset’s condition so that staff can identify and respond to emerging problems before operations are affected. For example, the water that circulates through process-loop piping is tested weekly to detect any contaminate growth in the system. The results are entered into IBM TRIRIGA software and the system automatically sends an alert when maintenance staff needs to add a biocide.
The data also enables the team to proactively plan for replacing assets at end of life.

Wickwire explains: “We had a building with air handlers nearing their end of life. As we approached year 16, we were able to forecast their end of life and adequately prepare for that spend so we didn’t surprise our chief operating officer with a request for USD800,000 at year 20.”

**Gaining USD750,000 in revenue**
Companies often cite productivity improvements when implementing new technology. And that has certainly been the case with Teradyne’s use of IBM TRIRIGA software.

But, more interesting, is how Wickwire and her team used the software to generate income for the company.

“We had sold one of our buildings to an insurance company,” Wickwire says. “Once their facilities management executives saw what we were doing, they hired us to manage the building. We brought in USD750,000 over four years with our existing team and the income generated covered the cost of the maintenance staff.”

She adds, “Our job is to manage people, places and things. And IBM TRIRIGA software has showed us again and again that it is fundamental to our work and helps lend credence to the facilities management professional.”

**The inside story: Getting there**
In gaining buy-in from executives for a new approach to facilities management, Wickwire presented both the vision of what could be possible and the strategy for how to get there.

“We tackled space first and rolled out space management capabilities across all Teradyne locations,” she says. “We then deployed maintenance and asset management capabilities, first in the United States and then in our Costa Rican and Philippine operations. As we deploy these capabilities worldwide, our goal is to create an environment that is flexible for our employees and responsive to the constantly evolving needs of our business.”
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