

M.D. Anderson Achieves FM Solutions with Technology Upgrades

Five-Year Plan Features Process Improvements

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The University of Texas M.D. Anderson Cancer Center is in the third year of a five-year strategic plan aimed at incorporating innovative technology to continually create better facilities management solutions. The plan, developed to meet the challenge of a 50-percent expansion of physical facilities by 2005, outlines how technology enhancements can increase productivity, improve efficiency, and lower operating costs.

Roy C. Allen, director of Business Services for the Center's Facilities Management Division, says the organization's FM employees need the most modern tools in order to effectively manage seven million square feet of space at 150 buildings, and to prepare for the addition of two more campuses over the next two years. M.D. Anderson, rated the nation's top cancer center by *U.S. News and World Report*, currently operates four campuses spread out over a 140-mile radius with patient care and research buildings in Houston, Smithville, and Bastrop, Texas.

The 140-acre University of Texas Research Park, with its first building opening in 2003 at its South Campus in Houston, will also be home to a proton therapy center that offers the most advanced radiation therapy to patients. Land acquisition is currently underway for the Mid-Campus which will be located between the Main Campus and the South Campus.

"We are managing more than \$1 billion worth of assets and will be adding two million square feet of space with two new campuses over the next two years," says Allen. "Our mission is to provide facilities management services required by the University and our vision is to do so in a faster, better, and less costly manner with condition-enhancing outcomes."

A multidisciplinary team with representatives from various organizational departments spent more than a year tracking industry trends and studying M.D. Anderson's existing systems before developing the five-year plan in 2001. The goals of the plan are to assure interoperability between FM and enterprise systems, provide easy desktop access to data for high-level managers, introduce innovative technology, lower operating costs, and improve institutional and divisional productivity and efficiency.

M.D. Anderson is accustomed to making changes in order to improve the efficiency of the overall organization. Technological improvements in the FM Division began in 1995, building a solid foundation upon which to create the formal strategic plan.

Early Technological Upgrades

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Biography

Roy C. Allen is director of Business Services for the Facilities Management Division at The University of Texas M.D. Anderson Cancer Center in Houston. He has 35 years of experience in operations and financial management in the transportation and healthcare industries. He has worked at M.D. Anderson for 19 years, previously serving as director of the Facilities Resources, Physical Plant, and Biomedical/Clinical Engineering departments.

This report is based upon a presentation Allen gave at Tradeline's *New Facilities Management Systems for Colleges and Universities* conference in March 2003.

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Allen's staff saw the need to consolidate nine FM databases into one in the mid-1990s in order to avoid the duplication of information and the confusion created by data being reported differently by different database owners. Using multiple databases produces islands of information where each FM group, such as physical plant or buildings services, captures the same data, but maintains its own network and often reports the information differently.

The installation of a computerized maintenance management system (CMMS) in 1997 allowed the FM Division to eliminate the islands of information, standardize maintenance terminology, and improve inventory tracking by consolidating databases. The CMMS has resulted in more than \$1 million in savings.

Prior to implementing the five-year plan, the FM Division also installed project accounting systems for capital planning projects with new software from Timberline of Beaverton, Ore.

An art management system, allowing the organization to track more than 1,000 pieces of artwork in its inventory, went online just prior to the strategic plan being unveiled.

"About four years ago, the institution adopted a policy of making art an integral part of the design of our facilities to improve the friendliness of the public and patient care areas," notes Allen. "We acquired many art pieces and it became a real control problem. The solution was to install a system which allowed us to bar code and manage art like the rest of our inventory."

Tracking maintenance of the organization's biomedical equipment also became a challenge, which was resolved in 2001 with the installation of a Web-based biomedical clinical engineering CMMS.

"It was becoming difficult to conform to the federal requirements using our old DOS technology, so we converted to a Web-based system from Four Rivers Software Systems making it faster and easier to retrieve information," says Allen. "It is also less complex as far as system administration. We are trying to simplify everything using Web-based technology."

In 2002, ARCHIBUS software was installed to tie space utilization information to architectural information. The multiple-module software, developed by ARCHIBUS of Boston, can interface with many different systems. M.D. Anderson is currently using the software for its space management system.

The police command center was also updated last year with a new voice recording system, additional workstations, and electronic tracking upgrades.

M.D. Anderson officials have taken steps to ensure that the organization remains a leader by implementing institution-wide computing standards, funding continual staff education, expanding the availability of technology in all departments, and remaining current with industry trends.

Moving Forward with the Strategic Plan

The strategic plan reaffirms M.D. Anderson's commitment to staying abreast of new technology and implementing necessary high-tech systems. The plan calls for the addition of more high-tech information systems and electronic equipment to facilitate

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the decentralization of patient services with new treatment and research facilities.

All information systems improvements at M.D. Anderson must go through a review process, known as System Development Methodology (SDM), to ensure the return on investment justifies the expense. SDM determines whether a project is cost-effective and measures the proposal against a set of standards used to structure and monitor system installations and upgrades.

"Top management made a commitment to automate the human resources functions, replace the financial and purchasing systems, and implement Web technology wherever possible," says Allen. "The FM Division became part of this institutional plan and we were subject to the same standards that were required of any other department. Prior to this, we operated as an independent entity. Now, we must justify our projects in the context of their benefit to the entire institution."

Five strategic initiatives were defined for Facilities Management:

- Provide executive-level management with timely and accurate information by offering desktop access to data, technical drawings, occupancy figures, and energy usage.
- Implement Web-based solutions for facilities information and systems wherever possible.
- Improve productivity and efficiency by sharing information between FM and enterprise systems.
- Deploy state-of-the-art applications, such as a real estate and fleet management systems, to support FM functions.
- Enhance productivity and efficiency by using innovative technology, such as handheld and wireless capabilities.

The ultimate goal is to have seamless integration of systems throughout the organization using open architecture software to allow computer systems to communicate with each other. Application service providers (ASPs) are being investigated as a means to help M.D. Anderson manage software services without significant capital investment as departments become more automated. ASPs combined with Web technology offer savings by reducing the need to have major computing power at each user's desktop. The result is thin-client desktops, or less expensive computers that do not require as much computing capability.

Mapping the Future

Handheld technology will be introduced in the biomedical area as part of a pilot project in 2004. Employees who work with biomedical equipment will use the handhelds to store work orders and log their activity.

Tablet computers are also being investigated for field technicians who work in the physical plant department. The introduction of handhelds in this area is a long-range goal.

Projects slated for completion this year include upgrading the art management and accounting systems, as well as implementing Web-based systems for space management, furniture ordering, and furniture inventory. The facilities maintenance and operations CMMS, produced by Mainsaver in San Diego, Calif., is also slated for renovation.

According to the five-year plan, an automated document



The Alkek Hospital is the major patient treatment facility at The University of Texas M.D. Anderson Cancer Center. M.D. Anderson and its collaborators broke ground in May on a new proton therapy center that will offer the most advanced innovation in radiation therapy to patients. The new center will open in 2006. (Photo courtesy of M.D. Anderson).

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Phase I



The South Campus Research Building I was the first facility to open at The University of Texas Research Park in Houston. The 140-acre park is part of The University of Texas M.D. Anderson Cancer Center's plans to expand its physical facilities by 50 percent by 2005. (Photo courtesy of M.D. Anderson.)

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