



### Business challenge

King Saud bin Abdulaziz University for Health Sciences (KSAU-HS) relied on contractors and manual, paper-based processes to manage assets and facility maintenance operations, costing it time and added expenses.

### Transformation

Recognizing that its approach to asset management wasn't making the grade, KSAU-HS engaged IBM Business Partner eSolutions Maximo to deploy an advanced asset management platform based on IBM® Maximo® software, gaining double-digit cost and process efficiencies across its maintenance operations.

### Results

**95% decrease in the number of lost assets**

through greater visibility and the ability to track expensive equipment

**95% drop in the number of uncompleted work orders**

by monitoring contractor tasks and assessing status of work order tickets

**100% decrease in paperwork and consumption**

by replacing manual processes with automation

# King Saud bin Abdulaziz University for Health Sciences

## Transforming facility operations with a world-class asset management solution

Established in 2005, KSAU-HS is the first university in the Kingdom of Saudi Arabia and the Middle East specializing in health sciences. Its three campuses, located in the cities of Riyadh, Jeddah and Al Ahsa, host a total of 14 colleges that are attended and staffed by more than 3,300 students and 630 faculty members. The university offers undergraduate and postgraduate degrees in medicine, nursing, pharmacy, dentistry, applied medical sciences and other health-related fields.

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—Ahmad Tarhini, Senior Business Consultant, eSolutions Maximo



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## Managing facility operations manually

King Saud bin Abdulaziz University for Health Sciences (KSAU-HS) is a medical university that maintains what are widely recognized as the most advanced medical facilities in the Middle East, with state-of-the-art training and research centers at three campuses in three cities. To keep its business of education moving forward, it must manage and maintain hundreds of physical assets, such as elevators and electrical and mechanical equipment. Yet despite the university's progressive and innovative environment, it relied on independent contractors and manual, paper-based processes to track inventory and handle its facility maintenance operations.

Ahmad Tarhini, Senior Business Consultant at eSolutions and project manager for the KSAU-HS engagement, elaborates on his client's challenges: "KSAU-HS used manual procedures that had been implemented by its contractor such as spreadsheets, paper forms and emails to manage its maintenance operations, track assets, create preventive maintenance work orders, capture employee complaints, approve corrective maintenance work orders and schedule future maintenance projects. Not only did each site have its own maintenance process, but also maintenance

operations are managed and run by different contractors. They couldn't track materials between one site and another. So, a lot of the data wasn't accurate and some of the paperwork would get lost. It took a lot of effort just to maintain it."

The university's technical affairs department realized that the incompatibility and challenge of paper-based systems combined with its dependency on contractors to perform and manage maintenance work also made it difficult to monitor contractor performance.

Ziad Lamaa, General Manager for eSolutions, explains: "King Saud bin Abdulaziz University for Health Sciences is a big facility. They had to sign agreements with four different contractors. You can imagine how difficult it is to manage those relationships and track compliance with SLAs [service level agreements]. There was also no way for management to track spare part consumption, work order progress and the physical locations of its assets across its three campuses."

What's more, the paperwork was piling up. "They had a huge storage of paper," says Tarhini. "If they wanted to go back and look at some old documents or review work orders, they had to go through the pile and start searching. It could take days to find a particular document. They knew there was a better way to manage operations."

## Replacing paper with automation

Recognizing that it needed to take back responsibility for asset management and implement a comprehensive, automated system to manage the entire scope of maintenance operations, KSAU-HS turned to eSolutions to deploy IBM Maximo Asset Management V7.6 software. Using Maximo software, KSAU-HS standardized its facility maintenance operations and can now capture critical maintenance information, track the performance of contractors and more, all from a single unified platform. The fully customized solution is based at the Riyadh campus and hosted on the client's private cloud.

To help operations managers identify, locate and manage assets, eSolutions integrated radio frequency identification (RFID) tagging technology with the Maximo platform. Today, using the software's Asset module and search capabilities, KSAU-HS can capture locations data and identify the physical whereabouts of each asset across three cities.

Lamaa comments: "eSolutions has many Maximo implementations in the education sector. Everyone understands its benefits. And one of the main benefits is that it standardizes processes across different sites while also accommodating the specific needs of each site."

To replace the university's paper-based systems, eSolutions employed the Maximo Workflow Designer application to automate and standardize the university's many business processes. These processes include corrective, emergency and preventive maintenance; service request and self-service; purchase requisition; purchase order; permit to work; spare parts receiving and issuance; and others. It also customized the processes using several of the technology's core modules and applications, such as Service Request, Work Management, Inventory Management, Purchase Management and Contract Management technologies.

"They use Maximo to automate just about everything, including processes and data," notes Lamaa. "It's especially helpful in automating approvals because they have very long cycle times."

To automate the sequence of approvals for service request and corrective maintenance work orders, KSAU-HS takes advantage of the software's automation engine and the Maximo Scheduler add-on offering. With Maximo Scheduler technology, operations executives can plan quarterly, semi-annual and annual preventive maintenance work, and generate preventive maintenance work orders based on employee schedules and maintenance sections. They can also track and forecast inventory needs and create forecast

reports for inventory acquisition planning, helping prevent delays resulting from lack of spare parts or skilled workers.

“The client automated the generation of many of complex reports, which used to take them a considerable amount of time to build and consolidate before presenting them to senior management in Riyadh,” explains Lamaa. “The reports inform and support their decision making related to budgets, parts and labor costs, and whether to fix existing assets or purchase new ones.”

Using the Maximo Service Request application, eSolutions also automated and customized the university’s HR business processes related to contractors, including hiring, leave requests, employee performance evaluations and resignations. The new capabilities make it easier for KSAU-HS to enforce the contractual obligations of its contractors as stated in various agreements.

To further customize the solution, eSolutions integrated the Maximo Health Safety and Environment Manager add-on offering, enabling KSAU-HS to generate and automate the approval of permits for work orders involving life-threatening or dangerous activities. All workers involved in high—risk activities receive a copy of the permit and must comply with the precautionary measures.

The solution is fully deployed but continues to evolve. In the next phase, KSAU-HS will integrate the platform with its business management systems and supervisory control and data acquisition (SCADA) technology. When it does, the technical affairs staff will be able to create work orders automatically, instead of waiting for engineers to call in service requests.

## Gaining campus-wide, double-digit returns

By using Maximo Enterprise Asset Management software to standardize its facility maintenance operations and automate its business processes, KSAU-HS has virtually transformed its asset management practices. From time savings, cost avoidance, efficiency gains and more, the payback is impressive.

For instance, through automation and greater visibility across its three campus locations from a single dashboard, KSAU-HS gained the ability to control and track expensive equipment held as inventory in contractors’ stores. Tarhini explains: “Many of the inventory items in contractors’ stores are valuable. Before, they didn’t have proper management of those items. Now, by using Maximo and well-defined asset movement and transfer procedures, KSAU-HS has greater visibility into

the store and better top-down control of asset availability.” As a result, the university decreased the number of lost assets by 95 percent while also avoiding costs it would have spent on replacement purchases.

A related improvement is the ability to track contractor performance in real time. “A very important point is that Maximo helps our client streamline its relationships with its contractors,” says Lamaa. “It takes maintenance and operation procedures to a higher level of professionalism. They can also enforce agreements and know when to charge penalties when contractors aren’t performing their work.”

Now, the technical affairs staff can quickly and easily monitor all tasks across the university by contractor and by system, assess the current statuses of all work tickets, follow up on pending work orders of each contractor and calculate the amount of deductions resulting from noncompliance of service level agreements (SLAs). The results of the newfound capabilities are measurable: KSAU-HS decreased the number of uncompleted work orders by 95 percent while speeding work ticket resolution times by 95 percent. The ripple effect of the improved contractor work efficiencies is faster response times to the university’s customers—students, faculty, employees and campus residents—and improved customer satisfaction.

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—Ziad Lamaa, General Manager,  
eSolutions Maximo

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Automation has also replaced the arduous and time-consuming task of manual report compilation. Today, the university not only generates highly complex reports more quickly than before but also reduces human error and the rework that results from it. The efficiency gains have yielded a 100 percent decrease in report generation efforts, a 95 percent increase in the correct assessment of work orders and a 90 percent decrease in the number of duplicate work tickets. Automation also means less paper: KSAU-HS cut its paperwork and paper consumption by 100 percent.

KSAU-HS realizes additional cost savings on spare parts and services by using the Maximo Warranty Contracts application. Using the software, technical affairs staff can determine in real time if an asset is under warranty and therefore benefit from coverage that might have otherwise been overlooked.

Moving forward, KSAU-HS is keeping the eSolutions team busy. For instance, after visiting the IBM Watson IoT™ Center in Munich, Germany, the university is interested in extending the Maximo solution to include the use sensors and data from the Internet of Things (IoT). The work is being planned for 2019. In the meantime, word is spreading about the benefits of the platform, resulting in other departments at the university wanting the software.

Tarhini explains: “Someone from the security department liked a form that was sent to them through Maximo. So now they want to be part of this solution and have automated processes instead of doing their job manually. The same goes with the housing department; the person responsible for making schedules for the department maintenance work orders wants Maximo to do the scheduling.

“So I guess they are saying good things about Maximo. It saves them a lot of headaches,” he concludes.

## About eSolutions Maximo

Established in 1996 with headquarters in Dubai Internet City, IBM Business Partner eSolutions develops and deploys strategic asset and service management solutions for companies throughout the Middle East and North Africa. Since its founding, it has served 250 customers and 32,000 IBM Maximo software users across myriad industry sectors, including facilities management, infrastructure, utilities, oil and gas, government, telecom, manufacturing, IT and others. eSolutions employs more than 100 people and has offices in Abu Dhabi, Dubai, Jeddah, Riyadh, Kuwait and Doha.

### Solution components

- IBM® Maximo® Asset Management
- Maximo Health Safety and Environment Manager
- Maximo Scheduler
- eSolutions Maximo

### Take the next step

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