Healthcare

Let's Build A Smarter Planet

Around 450 professors, 4,000 scientists, 28,000 students and 12,000 employees teach, study, work or conduct research at the University of Tübingen's seven faculties. Based in southern Germany, the organization also manages a university hospital with 17 clinics, 12 research departments and 1,500 beds, which treats 67,000 inpatients and 330,000 outpatients every year.

The University Hospital of Tübingen’s technical support team is responsible for maintaining all of the technical devices belonging to the university and hospital. Support services include maintaining and repairing all of the systems and equipment that provide the university and hospital buildings with heating, cooling, water, gas, electricity and telecommunications. Approximately 150 employees are responsible for maintaining around 360 buildings. The central control room is staffed 24 hours a day to enable an immediate response to technical problems outside of normal working hours.

Reliable, long-term support from IBM Maximo Asset Management

The University Hospital of Tübingen has been using IBM Maximo Asset Management software for more than ten years. Jürgen Bunzel, Senior Vice President of the technical support team at the University Hospital of Tübingen, says: “Over the years, we have adapted IBM Maximo to meet our specific needs. Now we want to expand the solution to provide our maintenance professionals with the additional functionality they need to plan, budget and monitor their areas of responsibility more efficiently.”

To meet this objective, the technical support team worked with IBM Business Partner EAM Software GmbH to implement the latest version of the Maximo software, enabling the organization to benefit from many new features such as web-based access.

Smart is...

Using predictive maintenance to prevent malfunctions of medical equipment.

The University Hospital of Tübingen’s technical support team wanted to improve maintenance for some 360 university and hospital buildings. The aim was to prevent malfunctions and minimize costs through analysis and forward planning. With the support of IBM Business Partner EAM Software, the University Hospital of Tübingen implemented the latest version of IBM® Maximo® Asset Management to optimize maintenance analysis, planning and budgeting.
Detailed evaluations enable targeted maintenance

IBM Maximo stores the inventory of approximately 70,000 pieces of equipment, facilities and systems – including lighting equipment, elevators, emergency generators, pumps, air conditioning and refrigeration equipment.

The vast database contains important information related to each item’s location, building, asset number, manufacturer and technical specifications. The amount of time between services is sometimes specified by the manufacturer or by law. In other cases, IBM Maximo’s extensive analysis of each component’s usage and previous failures is used to determine optimal maintenance times – ensuring that maintenance is planned rather than reactive, and helping to minimize costs. The solution enables the support team to pursue the most appropriate and economical maintenance strategy.

The IBM Maximo solution automatically creates cyclical maintenance and inspection schedules for all technical systems, and helps staff complete around 30,000 maintenance tasks each year. In 15 repair shops spread across the campus, managers receive their lists of maintenance tasks and delegate them to technicians or – where necessary – third-party contractors.

In addition to regular maintenance tasks, the support team is alerted to many problems by phone each day, such as heating outages, broken telephones, stalled elevators, dripping taps or faulty lighting equipment. The central support team sends these alerts to the relevant maintenance department via IBM Maximo. The alerts are prioritized according to their urgency. If a technician is near a recently reported fault, he can go directly to the relevant room, saving time.

<table>
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<tr>
<th>Smarter Healthcare</th>
<th>Improving patient care and cutting maintenance costs</th>
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<tbody>
<tr>
<td>Instrumented</td>
<td>Maintenance data from around 70,000 technical devices, energy consumption and other sources is fed into the asset management system manually or via automated processes and interfaces.</td>
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<tr>
<td>Interconnected</td>
<td>Data on asset management is combined with data from a variety of other business applications, and relayed to a central control room and 15 maintenance departments.</td>
</tr>
<tr>
<td>Intelligent</td>
<td>Combining and processing the data, together with forward planning, helps to prevent accidents, increase patient safety and minimize maintenance costs.</td>
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The IBM Maximo solution enables the organization to optimize maintenance intervals to minimize downtime and costs. Stefan Nußbaum, Head of Operations in the technical support team at the University Hospital of Tübingen, explains: “IBM Maximo is central to our maintenance management. We have been very pleased with Maximo's tremendous stability and performance, which are crucial in our industry.”

**Comprehensive network provides efficient management**

IBM Maximo uses a large number of interfaces to exchange data. For example, detailed asset management data about phone lines is sent from data processing programs to the Maximo system. Data on buildings is automatically sent from Maximo to the in-house cable management system. If a cable malfunctions, the cable management system shows Maximo alternative routes for data transmission in the cable network. This functionality saves considerable time when there are breakdowns. IBM Maximo receives data on inventory levels from the University Hospital of Tübingen's central warehouse, accelerating the maintenance process.

The university and hospital are planning to modernize their telecommunications infrastructure to enable staff to report faults directly from any workstation. The organization is also planning to set up bidirectional data exchange between Maximo and the energy management system to automatically monitor energy consumption in real time.

**Multiple additional features offer improved functionality**

Stefan Nußbaum explains: “IBM Maximo’s enormous flexibility has enabled us to use this solution for the most diverse purposes. Maximo helps us manage our energy, gas and water consumption; hazardous substances; technical documents; inventory levels; and the issue of keys. We therefore have a single application that is always available, and provides us with all the important information we need at the touch of a button.”

The technical support team benefits from the solution's document management system and procurement features. Maximo contains the details of regulations relevant to each maintenance task in the system, and takes these into account when scheduling planned maintenance.

Jürgen Bunzel is also impressed with the high flexibility offered by the IBM Maximo solution: “IBM Maximo enables users to set up customized windows on their screens and to insert additional fields – this functionality is really unique. Employees frequently configure their own applications, meaning that more high-quality data is entered into the system. We are therefore able to perform more maintenance tasks during the same period of time, and provide better levels of service. We can perform more accurate internal profitability analyses, which will allow us to improve in the medium term.”

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**Solution components**

**Software**
- IBM® Maximo® Asset Management

**IBM Business Partner**
- EAM Software GmbH

“IBM Maximo is central to our maintenance management. We have been very pleased with Maximo’s tremendous stability and performance, which are crucial in our industry.”

— Stefan Nußbaum, Head of Operations in the technical support team at the University Hospital of Tübingen
Dashboards provide optimal planning and scheduling

The latest version of IBM Maximo provides the heads of departments in the university and hospital with customized dashboards, enabling them to monitor, configure and plan maintenance tasks more effectively. These overviews offer intuitive graphs and tables related to maintenance tasks, schedules, capacity and cost. The dashboards show staff any pending inspections and maintenance tasks, capacity utilization rates and cost considerations, enabling the university and hospital to meet deadlines and optimally distribute staff and budget resources between the various departments.

Jürgen Bunzel says: “IBM Maximo dashboards provide staff with powerful tools to monitor and manage their areas of responsibility. Meaningful metrics enable benchmarking and uncover areas for improvement. Automated billing and simulations help staff to plan daily maintenance activities more effectively than ever before.”

About EAM Software

With many years of experience in maintenance, facility management and service management, IBM Business Partner EAM Software GmbH is responsible for providing first-level support for IBM Maximo Asset Management software. As part of its long-standing relationship with the University Hospital of Tübingen, EAM Software continues to provide the organization with consulting, solution configuration and solution management services.

For more information about EAM Software, please visit: www.eam-software.de

For more information

To learn more about how IBM and its customers are building a Smarter Planet, contact your IBM sales representative or IBM Business Partner, or visit us at: ibm.com/smarterplanet