Mekorot: Fortifying Its Mobile Platform to Enhance Field Crew Productivity and Consistency

MEKOROT
ISRAEL NATIONAL WATER CO.

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Company
Mekorot

Industry
Utilities

Products and Services
Water supply, desalination, reclamation, and engineering and development of water projects

Web Site
www.mekorot.co.il

SAP® Solutions
Sybase® Unwired Platform, SAP® Afaria® mobile device management solution

Mekorot, Israel's national water company, is a leader in water reclamation and project engineering, safety, and quality. As the utility's field crews maintain Mekorot's water supply system, they update back-end maintenance records using mobile devices. But a cellular connection is not always available, hindering efficiency and consistency. In response, Mekorot **fortified its mobile platform** with help from Sybase® Unwired Platform and the SAP® Afaria® mobile device management solution.

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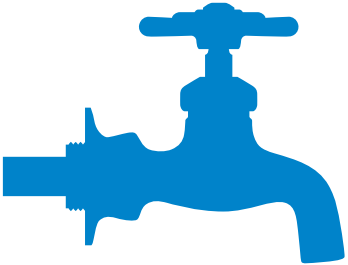
Meeting the need for a steady flow of clean water

Mekorot is one of the world's most technologically advanced water companies. Founded in 1937 and fully owned by the State of Israel, Mekorot has answered the call for a steady flow of clean water. Despite the region's limited freshwater resources, arid climate, and difficult geopolitical realities, Mekorot is able to quench the thirst of Israel's rapidly growing population. The utility supplies 80% of Israel's drinking water and 70% of its entire water supply, operating 3,000 installations across the country. It generates US$700 million per year in sales revenue, and its customer base is comprised of 4,800 municipalities, local councils, agricultural settlements, kibbutzim, and regional associations.

By applying over 70 years of innovation, Mekorot has become a world leader in desalination, water reclamation, water project engineering, water safety, and water quality. The company's uniqueness as a water utility lies in the experience of its more than 2,150 employees, industry know-how, and innovative technology. Its processes enable the effective management, operation, and treatment of all types of water resources, whether surface water, underground water, brackish water, seawater, or effluents.



80%

Proportion of Israel's drinking water supplied by Mekorot

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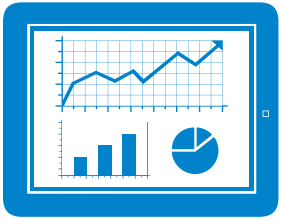
Managing water resources more efficiently

Mekorot supplies about 1.5 billion cubic meters of water per year, enabled by a vast system of water plants, conduits, and controls located throughout Israel. The utility's 400 teams of technicians and supervisors maintain thousands of sites and hundreds of thousands of pieces of equipment. Field crews use mobile devices extensively in their work to track the status of equipment and record work completed. Each device holds around 35,000 records that need to be synchronized daily with the utility's back-end software, the SAP ERP application.

Keeping track of maintenance operations using mobile devices was a challenge for the field crew, as Mekorot's CIO Zvika Gleichman explains, "Many of our facilities are in remote locations that lack cellular coverage and have high security requirements. So our crews couldn't always count on a connection to access our enterprise software to update their records, Each geographical region handled this challenge differently. Some were using aged mobile devices for offline use, and some were tracking work on paper."



35,000 records

Stored on each mobile device

Mekorot wanted to adopt a software solution to help it increase the efficiency and consistency of its maintenance processes. Its goal was to consolidate the operations for all of its geographic regions and establish a mobility solution that facilitated the work of its field crews, even when a cellular connection was unavailable.

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Choosing a proven enterprise mobility platform

Mekorot embarked on a technology innovation project to transform its plant maintenance operations. The project, named "Maslul," was part of a parallel project to implement the plant maintenance software of the SAP ERP application to help manage the utility's water facilities and equipment.

One of the goals for the Maslul project was to create a mobile application that provided access to back-end plant maintenance functionality. "The application needed to support field crew work even when the mobile devices were offline," Gleichman explains. "Plus, we planned to mobilize other processes, like meter reading and water sampling. So we needed a platform to help us establish a consistent approach to mobile application development." Mekorot also needed a means to effectively manage and secure its mobile devices.

Mekorot selected Sybase Unwired Platform and the SAP Afaria mobile device management solution. Sybase Unwired Platform enables the creation of mobile applications and the secure exchange of data, and SAP Afaria supports the secure and remote management of mobile devices.

These solutions were selected for a number of strategic reasons. "Native integration with our SAP ERP software was a major factor in our decision," Gleichman says. "Plus the platform has built-in features to allow for offline work." Other factors for both solutions include strong security features and flexible designs. The solutions will enable Mekorot to add business logic to its device-based applications to help it keep pace with its evolving business needs. Hebrew-language support and the technical support available through a local distributor were added pluses.

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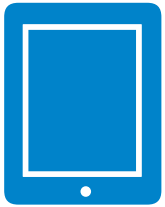
Enabling greater transparency, efficiency, and effectiveness

Mekorot successfully created a mobile application that enables its 400 field crews to access back-end functionality via mobile devices. It began the deployment stage with 20 field workers and completed the rollout to its users all over Israel within six months.

Sybase Unwired Platform enables Mekorot to integrate data and processes with SAP ERP and synchronize data for offline use, and it authenticates users with back-end security systems. "Our crews can access the plant maintenance component but also some purchasing, inventory, and financial data as well," Gleichman explains. "The crews can perform processes such as work-order management, work-progress reporting, equipment management, and notifications." Mekorot uses SAP Afaria to secure the devices, distribute and upgrade the mobile application, and back up data.



6 months

To complete rollout to 400 devices

For the first time in Mekorot's history, an area supervisor at the lowest level of management can see in real time all work orders for that geographic region and their status. More significant, the supervisor can add critical information, such as priority, obstacles on the way to the site, and safety and security issues to alert maintenance crews. "The project significantly improves our field maintenance processes. It also enables greater transparency, efficiency, and effectiveness," says Ilan Devir, a key user in the Maslul project.

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Realizing the benefits of mobile technology

The Maslul project has created numerous benefits for Mekorot. Mobile access to back-end software has enabled field crews to work more efficiently. The crews are realizing that the mobile application makes it easier to complete tasks. "We've received good feedback from the field. The application is straightforward to use, and minimal touches are required to input information," Gleichman says.

Establishing a mobile application and ensuring that all regions comply with its use have dramatically reduced human errors associated with paper-based processes. This has improved data consistency, resulting in better insight into plant assets to support strategic decisions. And it has strengthened the end-to-end integration and security of Mekorot's critical maintenance systems.

Sybase Unwired Platform has helped Mekorot dramatically reduce software development effort by providing a development platform that is consistent but highly adaptable. "We can now focus on meeting the business demands rather than building a technological infrastructure," said Elchanan Schwartz, Maslul project team leader.

Overall, management and users understand the qualitative advantages of the new technology. It has helped to establish order from chaos by standardizing processes and data, and it makes work more visible to management.

"The most important benefit of the Maslul project is it has enhanced our ability to make the best use of scarce water resources, improve water quality, and reliably and cost-effectively deliver water to Israel's citizens, farmers, and industries."

Zvika Gleichman, CIO, Mekorot

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Expanding into new areas

Now that Mekorot's initial rollout has succeeded and the user interface for its mobile plant maintenance application has been enhanced, it will focus on adding device types to its mobile architecture, including iPhones and Android devices. It will work to mobilize additional processes, such as water quality sampling and meter reading. It also plans to extend the use of SAP Afaria to manage all enterprise mobile devices.

"The Maslul project has paved the way for Mekorot's mobile application architecture," Gleichman emphasizes. "It has helped us set a solid technological base for our upcoming mobile applications and expansion into new business areas."

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