



Consolidated Contractors Company

Generating million-dollar cost savings by improving the performance and utilization of assets

Overview

The need

When the construction market crashed after the 2008 economic crisis, established players suddenly had to cut costs and boost revenue – or risk losing market share to new competitors from the Far East.

The solution

Multi-billion dollar construction firm Consolidated Contractors Co. (CCC) gained clearer visibility of assets and costs, enabling higher utilization of resources and a switch to predictive maintenance.

The benefit

Cuts operational expenditure per asset by USD1100, contributing to total savings exceeding USD15 million per year; reduces project delays, helping CCC complete work on time for clients.

“It’s a tough time to be in the construction industry,” says Khaled Al-Shami, Head of Enterprise Asset Management Solutions at Consolidated Contractors Company (CCC). “Companies need to find ways to do more with less, or they will soon be overtaken by competitors.”

Prior to 2008, the construction industry had enjoyed a global boom. Operational efficiency was not a priority, because companies had large backlogs of new projects.

But when the construction market crashed in the wake of the 2008 global economic crisis, established players such as CCC suddenly had to find ways to cut costs and boost revenues – especially given the arrival of competition in the form of new firms from the Far East.

Recognizing the need to become a flexible, highly dynamic business, CCC set out a 2020 vision of operating smarter construction sites supported by cutting-edge Internet of Things technology. Specifically, it targeted improvements in the management and utilization of its equipment, since these factors have a major influence on the total costs of completing each construction project.

“In the construction industry, people are interested in results rather than IT systems. Once senior managers and field staff saw Maximo in action and recognized its huge potential to improve our business, they gave us their full support for the investment,” says Khaled Al-Shami, Head of Enterprise Asset Management Solutions, Consolidated Contractors Company.



Solution components

Software

- IBM® Maximo® for Transportation

IBM Business Partner

- CCT International
 - eSolutions
-

To pinpoint areas for improvement, CCC needed a clear view of equipment availability, health, status, location, and maintenance costs, which its existing IT systems and paper-based processes were unable to provide. The firm asked IBM, eSolutions (an IBM Premier Business Partner specializing in asset management and facilities maintenance) and CCT International (an IBM Business Partner focused on providing software solutions and professional services to construction firms) to help it find a solution.

Finding a solution fit for a global business

Working with CCT International and eSolutions, CCC deployed IBM® Maximo® for Transportation software, a solution designed to help large companies optimize the performance and management of their assets.

CCC staff based at construction sites all over the world record the status, location, and maintenance details of each asset directly in the Maximo solution, which manages more than 16,500 pieces of equipment worth a total of USD1.2 billion. Critically, the firm now has an accurate view of asset-related expenses, such as the costs of spare parts, fuel and upkeep, which its previous disparate IT systems and paper-based processes were unable to provide.

“In the past, it could take up to three months to compile an overview of all our assets,” remarks Khaled Al-Shami. “Now, we have this information in real-time. In addition, because staff don’t need to enter the same data into multiple systems, we have also cut the time spent on data entry by at least 30 percent.”

Right equipment, right place, right time

One of the key challenges faced by global contractors is ensuring that they have the right equipment in the right place at the right time to meet the needs of dozens of projects based all over the world.

“Any individual part is unlikely to be needed for the entire duration of a construction project, which is usually several years,” explains Khaled Al-Shami. “With the Maximo solution, we can accurately plan our global operations in great detail to ensure that we have each piece of equipment on-site when we will need it to avoid delays as we wait for a repair or replacement.

“Similarly, for specialized equipment that needs to be operated by certified employees, we can get the right staff in place to save even more time.”

“We are currently working on further developments to the IBM solution that will enable us to tap into the vast potential of the Internet of Things. Our goal is that all machines will be connected and report problems before they have them.”

— Khaled Al-Shami, Head of Enterprise Asset Management Solutions, Consolidated Contractors Company

Driving smarter decision-making

The detailed information on the status and location of its equipment also helps CCC improve asset utilization. For example, if staff at one site require a piece of equipment that is currently located but not needed at another project nearby, it can arrange transport rather than purchasing a new part. By making the best possible use of the assets it already has, CCC can keep costs down by purchasing only what it truly needs.

Khaled Al-Shami adds: “With a clear view of where our equipment will be at any time and the costs involved in transporting it, we can make better business decisions. For example, if we see that most of our equipment will already be in use when a new potential project is due to start, we can work out whether it is more economical to hire equipment locally rather than transport our own tools, or whether it would make commercial sense to invest in purchasing new equipment. Likewise, if our equipment will be available but very far away, we can examine the potential costs of transporting it and factor these into our estimate.”

Switching from reactive to predictive maintenance

Equipped with the IBM asset performance management solution, CCC is also achieving major improvements to its equipment-management practices by shifting from reactive to predictive maintenance.

Khaled Al-Shami explains: “Whenever a piece of equipment malfunctions, we need to wait for a replacement or repair. This does not only disrupt the individual project and upset the client, but can also cause knock-on delays on subsequent work. It is therefore imperative that we maintain our assets effectively to minimize downtime.

“But keeping track of maintenance is no easy task, given that we use a diverse range of equipment. For example, we need very different equipment to construct a building compared to a gas pipeline, and each tool requires different types of maintenance performed at different intervals.”

He continues: “With the Maximo solution, we can delve into the maintenance history of each item, predict when it is likely to fail, and either schedule maintenance or purchase a replacement to avoid downtime. This keeps clients happy, because we can avoid delays to their projects, and keeps costs down because efficient maintenance extends the usable life of our equipment.

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— Khaled Al-Shami, Head of Enterprise Asset Management Solutions, Consolidated Contractors Company

“Additionally, it helps reduce the fees we pay to subcontractors. For example, if we hire someone to operate a certain type of crane for three weeks, but the equipment is broken for a week, the costs of having to employ them for longer can quickly amount to hundreds of thousands of dollars. Avoiding these costs provides enormous benefit to our business.

“We are currently working on further developments to the IBM solution that will enable us to tap into the vast potential of the Internet of Things. Our goal is that all machines will be connected and report problems before they have them. This will contribute to even greater reductions in downtime and the amount of time technicians spend monitoring the health of assets.”

Saving millions of dollars, every year

Overall, the solution plays a pivotal role in helping CCC reduce the costs of equipment transport and maintenance, maximize asset availability, enhance utilization, and ensure that any equipment it purchases is available for as long as possible.

Khaled Al-Shami elaborates: “We have already achieved a full return on our investment in the Maximo solution. In fact, we have reduced operational expenditure per asset by USD1100 – helping us achieve total savings across our global business of USD15 million per year. These huge efficiency gains have helped us emerge from the construction market crash as one of the best-positioned contractors in the industry.

“IBM Maximo is so much more than an asset management solution – it tells you everything you need to know about your assets accurately and at the right time. We are confident that the Maximo solution equips us well to deal with whatever challenges the future may bring.”

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For more information

To learn more about IBM asset performance management solutions, contact your IBM representative or IBM Business Partner, or visit the following website:

ibm.com/software/products/en/maximoassetmanagement

About Consolidated Contractors Company

Founded in 1952, Consolidated Contractors Co. (CCC) is one of the largest construction companies in the Middle East and ranks among the top 20 contractors worldwide. The firm generates annual revenues of around USD5.3 billion, employs approximately 130,000 people, and manages projects based in more than 40 countries all over the globe.

To learn more about CCC, please visit: www.ccc.me

About eSolutions

IBM Premier Business Partner eSolutions specializes in providing asset management and facilities maintenance solutions to companies across the Middle East.

To learn more about eSolutions, please visit: www.esolutions.ae

About CCT International

CCT International is an IBM Business Partner dedicated to providing advanced software solutions and professional services to firms in the construction industry.

To learn more about CCT International, please visit: www.cctintl.com



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