CASE STUDY

From road repair to smart lighting, the City of Edinburgh is driving cost savings

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BACKGROUND

As the capital city of Scotland and home to the Scottish Parliament, as well as three globally recognised universities, a World Heritage Site and the Fringe Festival (the world's largest arts and entertainment festival), the City of Edinburgh often finds its infrastructure pushed to the limit. The city's Place Management team (Public Works Department) is responsible for a wide range of public services and asset management, from roads and public railways to trees and waste management. They recently consolidated data on the assets under their jurisdiction within the help of Siemens asset management software. Having a "single source of truth" for all asset information facilitates better decision-making, improves efficiency maintenance, and is saving the council money.

CHALLENGE

Since 2013, Edinburgh had been using Siemens to manage data on some of the assets for which it has responsibility, but other types of asset information resided in separate, siloed applications. "Traditionally, we chose best-of-breed individual systems to support many of the individual services we were providing," says Gareth Barwell, head of place management at the City of Edinburgh Council.

"Like many councils, we invested in a road system, a tree system, etc. We did not have a single view of our overall infrastructure."

This disjointed approach to asset management resulted in a repair backlog throughout the city. At the same time, pulling together information for necessary reports and one-off requests was a challenge. City Councillors preparing for upcoming meetings would inquire about all kinds of statistics, from energy usage to frequency of certain types of road repair issues. The diversity of systems storing asset data often made it difficult to retrieve this information in a timely manner.

Maintaining multiple systems was also expensive. Faced with the requirement to cut £41 million from the 2019-20 budget,

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THE CITY OF EDINBURGH COUNCIL

Customer: The City of Edinburgh

Location: Edinburgh, Scotland

Vitals:

- Capital city of Scotland
- Responsible for community services and maintenance of public assets, including waste collection, street cleaning, parks and road infrastructure (including lighting)
- Serves a city of more than 500,000 people, with a population that almost doubles during major festivals

Challenges: A disjointed approach to asset management resulted in a repair backlog throughout the city. At the same time, pulling together information for necessary reports and one-off requests was a challenge.

Results: Consolidating data on so many different asset types in one location helps the City of Edinburgh break down organizational siloes and focus on structuring work functionally.

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— **Gareth Barwell,** Head of Place Management, The City of Edinburgh Council

the council looked to technology to lower infrastructure management costs and provide better service to the community. One area that stood out was having a leading-edge technology solution to address the nearly 29,000 resident complaints they received each year related to aging street lighting. The city decided to invest £16 million in upgrading to LED smart lighting.

Barwell and his team knew that consolidating asset data could cut costs. They also saw an opportunity to reduce the city's repair backlog and lower the number of complaint calls they were receiving. Staff needed to be able to centrally manage the new smart lighting system, and adding this functionality to the existing Siemens solution made sense, as well.

> "The level of information we get from Confirm means **we can better determine which investments or improvements we can pursue that will make us more efficient.**

SOLUTION

The council expanded their Confirm cloud-based solution to include street lighting and additional asset categories including bridges and council-owned properties. Now the majority of city assets utilized in waste collection, street cleaning, parks and cemeteries, road maintenance and road infrastructure (including lighting and structures) are managed through Confirm.

More than 250 council employees use the software which houses asset inventory, condition and maintenance data. It holds records of both scheduled inspections and those conducted in reaction to complaints. It records defects uncovered in inspections and monitors the work orders resulting from those defects. It integrates with their customer relationship management (CRM) system to support more efficient responses to customer inquiries. And it offers the ability to analyze asset and performance data.

Managers can use the software to allocate work orders and schedule crews to repair defects. For work crews, inspectors and other employees working offsite, the mobile app provides an efficient, two-way flow of asset information.

Whether onsite or in the field, staff can view information on asset inventory, maintenance and performance through dashboards or a wide range of pre-built reports. "You can see key measures at a glance," explains Barwell. "And running the reports is easy; you don't have to be a specialist.

"The value of having all of our information in one place is huge for driving service improvement and for meeting our efficiency targets," he adds.

Asset management software is also playing a key role in the city's smart street lighting initiative. Now when a light stops working, it self-reports back to a system that's integrated. Through reporting on real-time light failures, the solution is able to quickly prioritize and expedite repair calls, significantly improving repair times.

The integration of the street lighting management system is already delivering an improved repair function and will contribute to an estimated total energy saving of approximately £54 million over the next 25 years.

RESULTS

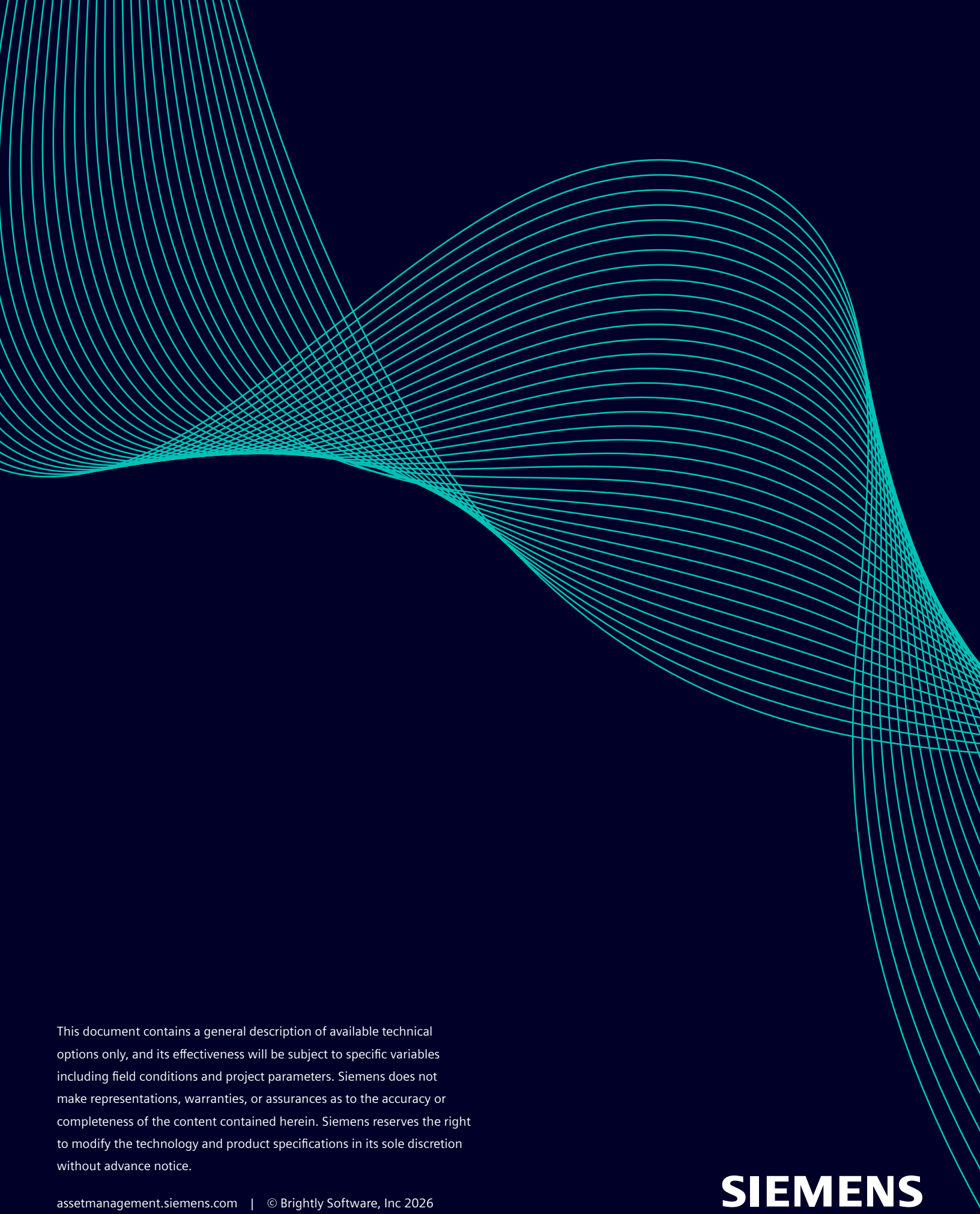
Consolidating data on so many different asset types in one location helps the City of Edinburgh break down organizational siloes and focus on structuring work functionally. It also gives the city a unique view of how assets and teams impact one another. For example, if tree roots are damaging roads or affecting drainage infrastructure, then analysis can be undertaken to identify existing or future defects where there are similar asset relationships.

"What you really want is a system that lets you see the whole picture and identify which asset is causing the problem," says Barwell. "Having all this information in one place helps us find opportunities to resolve multiple defects at one time, efficiently, compared with relying on more local and siloed knowledge."

Siemens asset management software has made the government more responsive to the needs of constituents. Anytime a complaint comes in, it is immediately clear which team has responsibility for the assets in question. It has also improved prioritization, scheduling and completing needed repairs and maintenance work for all types of assets.

"The automation of our processes, directly drawing on our comprehensive asset data, is helping us get our response to inquiries right the first time," Barwell says. "For example, street lighting electricians can show up quickly to the site of a work order with the correct stock on hand."

For the asset categories that were added recently, to the system has reduced repair backlogs by 90 percent and improved performance such that 95 percent of repairs are meeting or exceeding performance targets. Resident complaints are down as a result, and the city is also seeing an improvement in waste management metrics, with a reduction in missed-collection complaints down by more than 30 percent from 2017-18 to 2018-19.



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