

EM2 Analytics

Empowering asset management with smart analytics

EM2 Analytics, a collaboration between field operations, analysts, and developers, provides improved asset management. Specialist field data is presented on ArcGIS dashboards, offering insightful recommendations to optimise maintenance and renewal budgets, transforming water and wastewater network operations from reactive to proactive.

Enhance Fault Detection & Management

- **Reduce Reactive Faults:** Proactively discover and address faults before they escalate, reducing the need for emergency repairs, unplanned outages and service interruptions.
- **Trend Analysis:** Detect and understand fault trends, allowing for better prediction and prevention of future issues.

Optimise Maintenance & Budget Allocation

- **Efficient Budget Use:** Spend maintenance and renewal budgets more effectively by targeting areas with the highest need and impact.
- **Cost-Effective Asset Management Planning:** A low-cost solution for data-driven decision-making, avoiding the need for expensive alternatives.
- **Improved Budget Planning:** Structure contract budgets to accommodate necessary improvements without overextending financial resources.

Improve Data Visualisation & Accessibility

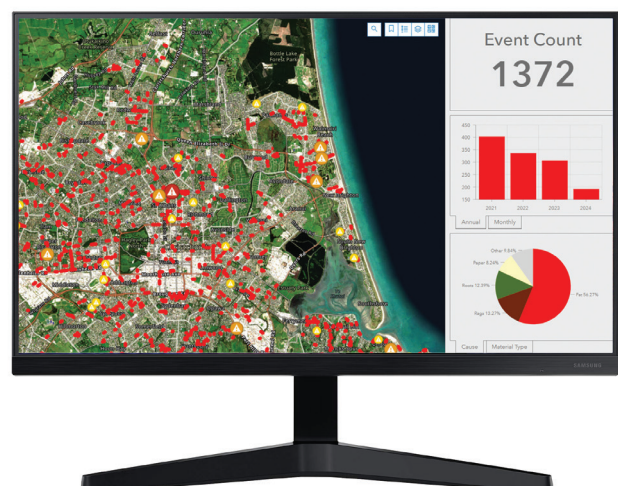
- **Visualise Maintenance Data:** Use ArcGIS dashboards to transform complex data into easy-to-understand visual formats, facilitating quick reviews and trend analysis.
- **Centralised Data Management:** Consolidate field data, comments, pictures, and check sheets into a single, accessible platform (EM2), enhancing data accuracy and usability.
- **Better Customer Experience:** GIS and asset information that takes customer support to the next level, offering deep analytics on all water assets to enhance trust and confidence from residents.

Environmental & Operational Benefits

- **Reduced Environmental Impact:** Lower the occurrence of sewer overflows and blockages, contributing to a healthier environment.
- **Seasonal Preparation:** Use historical data to prepare for seasonal challenges, such as increased wastewater blockages in winter and water leaks in summer.

Enhanced Analytical Capabilities

- **Root Cause Analysis:** Identify correlations, such as between root blockages and overflow locations, to address underlying issues more effectively.
- **Data Accuracy & Assurance:** Benefit from expert-validated data, ensuring reliability and confidence in maintenance decisions.
- **Scalability:** Extend analytical capabilities beyond water and wastewater to include stormwater, providing comprehensive network management solutions.
- **Diverse Offerings:** Expert understanding of different maintenance types and which are best to handle different fault cause trends.



CASE STUDY

The Benefits of Investment in Smart Analytics for Programmed Maintenance

Wastewater overflows happen regularly to many of New Zealand's councils. One council where services are maintained by Citycare Water is fighting back thanks to EM2 Analytics.

When EM2 went through its last upgrade in 2022, Citycare Water's capability to bring in more asset data was also upgraded. Over the last four years the capture of detailed blockage data, CCTV and terrain info, coupled with GIS tools, enabled smart decisions on programmed maintenance. For instance, trends in event frequency allows for the selection of identified risks in selected suburbs, and correlations between overflows and root intrusion can support the recommendation of root-cutting programmes.

In the case of this council, four years of data on fats and rags blockages was turned into a recommendation to council to adopt a monthly routine cleaning and flushing campaign of specifically identified pipes within the network. They agreed, and four years on and that programme has delivered an astounding 10-15% reduction in reactive works every year since its inception.

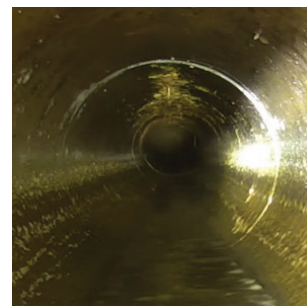
Our aim at Citycare Water is to help councils and customers address the bigger picture in their asset management planning, by building the data insights that delivery cost-effective and future focused outcomes for them and their customers.



Root cutting



Blocked Pipe



Clean Pipe