

February 2019 | Case study:

Transforming a hidden leak into excellent customer service

Background

Jyväskylä Energy Group, a world-class water utility located in Central Finland's largest city, has a three-year service contract with TaKaDu to increase the efficiency of its water network management. The project was overseen and implemented by Pisara, Jyväskylä Energy's smart water solutions unit.

Since implementation, TaKaDu's Central Event Management (CEM) solution has helped Jyväskylä Energy to improve its operational efficiency, save energy and water, reduce repair costs and improve customer service.

Based on big data analytics, TaKaDu's cloud-based solution enables utilities to detect, analyse and manage



potential events and incidents, such as leaks, bursts, faulty assets, telemetry and data issues, operational failures and other anomalies.

Hidden leak event "lifecycle"

In November 2018, TaKaDu detected an anomaly in the water supply of one of its sub-divisions under the management of the municipality, Uurainen. Located near the city of Jyväskylä, Uurainen buys water from Jyväskylä Energy under exceptional circumstances.

TaKaDu's advanced analytics technology classified the anomaly as a potential leak with all the relevant information (magnitude, zone, start time, etc.), and alerted Jyväskylä Energy's analysts. Following internal verification, the analysts contacted the Uurainen municipality's network manager and asked them about the extra water consumption, and to check for a possible leak in their network.

Uurainen started to investigate and no leaks were found in their main network. After confirming that it was not in their central network, Uurainen published a release to their residents and the smaller operators,

who purchase water from them, to inform them about a possible leak and to ask them to check their systems.

After a short time, one of the operators found the leak in their network and quickly fixed the problem. The whole process took one week in total – from the time TaKaDu detected the 'event' until the time the leak was repaired before it turned into a 'sudden' burst. The repair was also confirmed by TaKaDu verifying that the consumption pattern was back to normal behaviour.

Results: significant water & cost savings

Due to the early detection of the leak, Uurainen (a sub-network of Jyväskylä) benefited from significant water and cost savings, since they are billed for all their operators' water consumption. The hidden leak event could have gone on for weeks or months, before showing up in the system or outside.

Uurainen had not detected the water loss by its own reports, and it had not been reported by anyone in the community. Hidden leaks such as these can remain hidden for weeks or even longer until someone notices a burst.

From its detection until repair, the estimated water loss during the week was 1,530 m³ at a cost of EUR 3,000. If the leak had continued, the water and financial loss could have been huge, as shown in the table below:

Time period	Estimated water loss (m ³)	Cost (Euros)
1 month	6,261	12,272
3 months	18,783	36,815
12 months	76,176	149,305

Summary:

Jyväskylä Energy showed its commitment to customer service, responding quickly to the problem. Even though this billable water was paid for by Uurainen, Jyväskylä Energy was committed to resolve the event quickly, sharing the information they had as quickly as possible. Through the early detection and fast communication with the relevant stakeholders – inside the utility itself, with Uurainen and between Uurainen and its consumers – the detection and repair cycles were relatively short, preventing serious damage later.

TaKaDu was the only network solution which detected the problem, before any disruption to the public. From detection until resolution, TaKaDu acted as the centralized platform for managing the entire life-cycle of the event and streamlining the communication channels.



“TaKaDu’s CEM played a crucial role in finding this leak quickly and enabling an efficient management layer for the utility’s decision makers. If it had carried on for a long time, the leak could have caused water and financial losses. The faster a leak is detected, the easier and cheaper it is to repair. Using TaKaDu’s technology, we can offer the highest levels of service to our customers.”

Pasi Jalonen, Executive Vice President, Smart Water Solutions, Pisara / Jyväskylä Energy Ltd