

BUSINESS CASE

City of Rotterdam



Learn how SAM4 could save over 38% per year on pump repairs and maintenance for one of the largest cities in the Netherlands.

WATER SYSTEMS

 Samotics





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Rotterdam: the city of the future.

From The Atlantic to WaterWorld, this bustling Dutch port city is often hailed as a 21st-century innovator that can serve as a model for the rest of the world. That's no accident: whether it's architecture or wastewater treatment, the city has a long tradition of harnessing the best that technology has to offer in the service of a healthier, happier and more sustainable place to live and work.



The city is building tomorrow's urban water system.



A growing global population and increasing prosperity are driving up demand for clean air, energy, water and food. At the same time, rising sea levels demand forward-thinking water management—especially in a city connected to the ocean. True to form, Rotterdam is innovating the way to a circular urban economy in which fresh water, natural resources and energy are reclaimed from municipal wastewater and reused to heat homes, power factories and feed crops.



**Rotterdam in 2050:
minimal waste, dry feet,
and plenty of clean water.**

— from the Rotterdam municipal wastewater plan 2016–2020

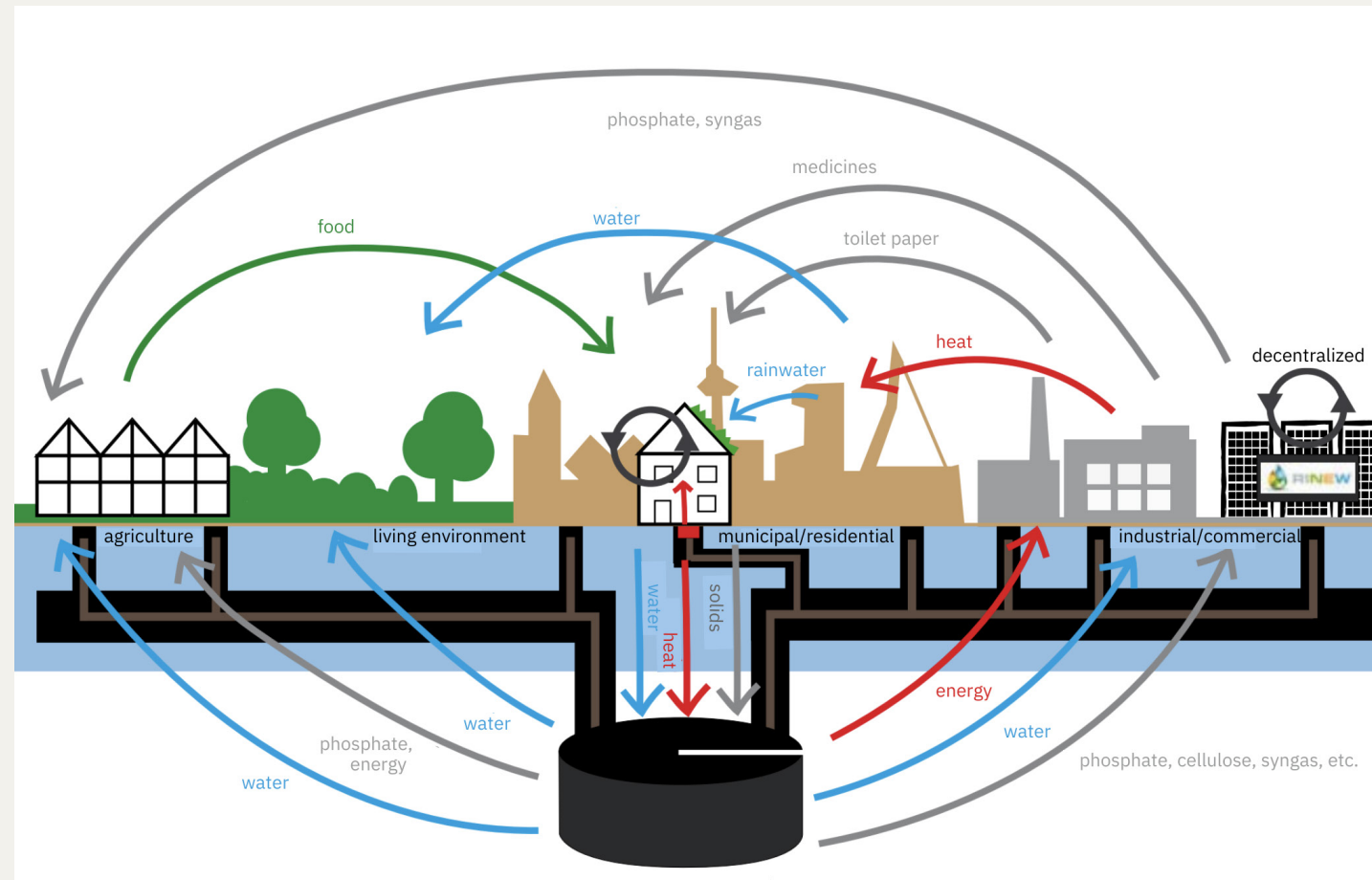


Image | Rotterdam is pioneering ways to close the urban water cycle, as part of the city's transition to a fully circular economy by 2050. © City of Rotterdam

Smart asset monitoring plays an important role.



The City of Rotterdam manages more than 2,000 sewage pumps to move wastewater out of the city. These sewage pumps reside in underground wells and pumping stations, where they are essentially invisible to residents and visitors.

Ronald van Kampen is the wastewater system supervisor for the City of Rotterdam, responsible for the system's proper operation. Behind the scenes, Ronald's team ensures that the pumping stations keep working optimally and in the event of a calamity, comes up with a solution as quickly as possible.

“Pumps get clogged with all kinds of things,” says Ronald. “Grease, wet wipes, you name it. Letting that go on too long not only shortens the pump's lifetime, but makes for difficult and even dangerous working conditions for the maintenance crew. On the other hand, sending a crew to a pump that's still healthy means they went into the sewers for nothing.”



Image | Ronald van Kampen in one of the city's underground pumping stations. © Fleur Beerthuis



“

We looked at all the smart asset monitoring systems out there, and SAM4 had the best price-performance track record. What's more, it was the only system whose sensors could survive the conditions our pumps operate in.

— Ronald van Kampen

The SAM4 business case.



The City of Rotterdam sat down with the team behind SAM4 for an in-depth assessment of the value SAM4 would provide in the specific conditions of the city's larger pumping stations.

30% annual savings on cost of maintenance, unclogging & cleanup

- Of the 100% spent maintaining the 139 pumps in the city's 44 larger pumping stations:
- x 30% of these maintenance costs can be prevented by SAM4
- = 30% can be saved per year

50% annual savings on large pump replacements

- Of the 100% cost to replace large pumps that break from unwanted items:
- x 50% typical cost of repair in advance vs. cost after running to failure
- = 50% can be saved per year

76% annual savings on emergency rentals

- Of the 100% annual cost for a temporary backup system:
- x 80% caused by equipment faults (not human error)
- x 95% SAM4 fault detection accuracy
- = 76% can be saved per year

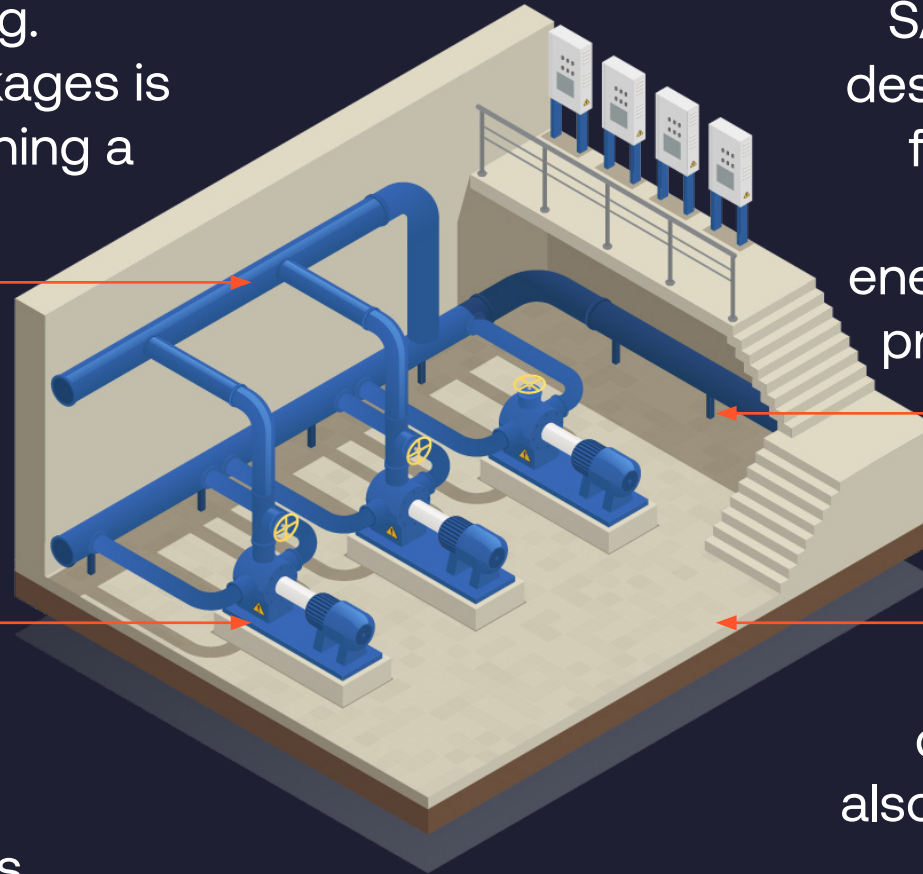
38.6%
total annual savings

1 year payback period on SAM4's initial investment

250% ongoing annual return on SAM4's yearly monitoring fee



SAM4 detects developing blockages sooner, while the pump is still running. Removing partial blockages is much easier than cleaning a fully clogged pump

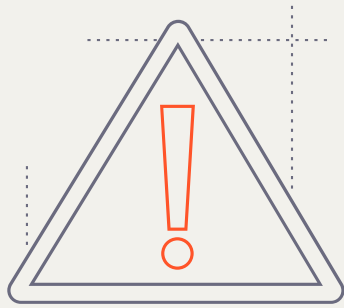


SAM4 prevents complete destruction of large pumps from wood, cans, etc. by detecting inconsistent energy use that signals the presence of foreign items

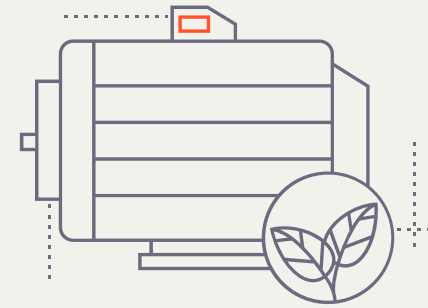
SAM4 reduces the need for temporary pumping installations by detecting blockages before pumps fail

By reliably detecting developing faults, SAM4 also tells you when a pump is still healthy, avoiding unnecessary inspections

SAM4 also enables other benefits.



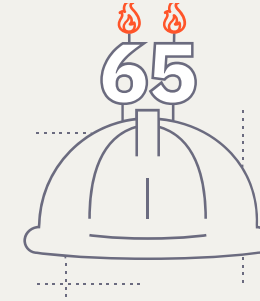
Reduce risks and improve working conditions for maintenance employees



Improve environmental footprint by optimizing energy usage, using SAM4's digital pump curve

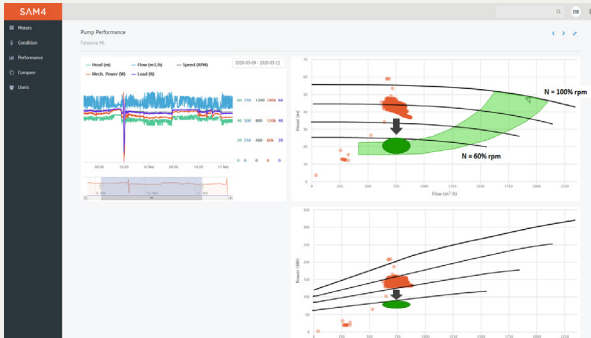


Improve citizen satisfaction and avoid fines by eliminating spillage into streets or rivers



Accelerate digitalization to prepare for rapidly aging maintenance workforce

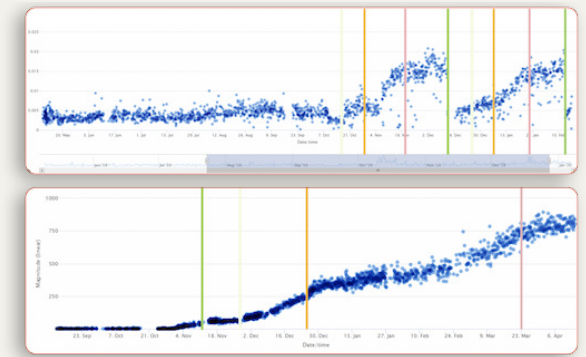
What makes SAM4 unique.



Extend asset life & save energy with real-time performance metrics other systems can't provide, such as a pump performance dashboard.



Monitor all your AC motors and rotating equipment, no matter where it is and what it's exposed to, with sensors that install in the safety of the motor control cabinet, not on the asset itself.



Prevent over 90% of failures with market-leading detection accuracy—and find faults other systems can't, including early-stage electrical failures.

Interested in how much SAM4 could help you save?

Our team of industry experts, data scientists and maintenance consultants will take the time to learn about your specific production setup, and offer real, actionable advice on how SAM4 can help you save money, energy and time.

REQUEST A SAM4 VALUE ASSESSMENT

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