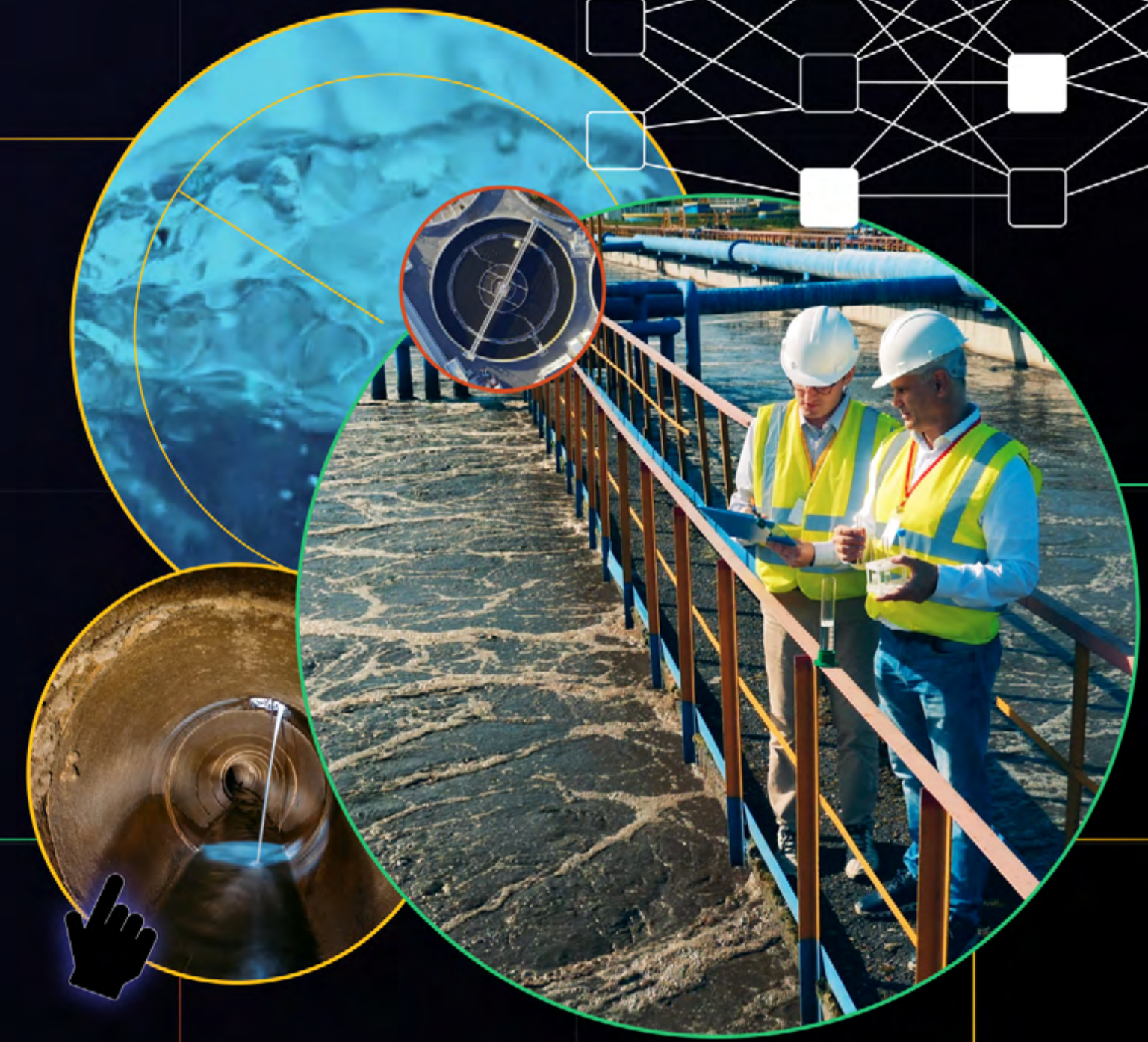
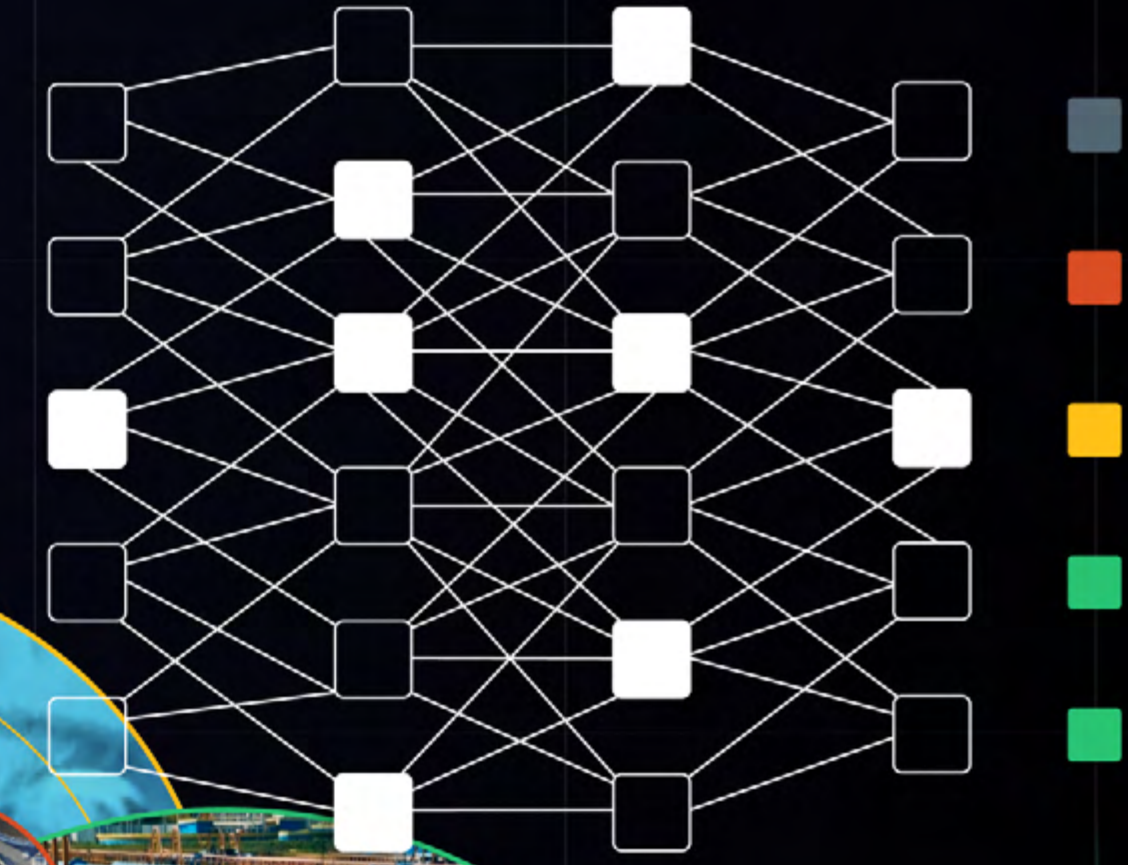


The Five Steps to O&M Efficiency

Simplify your digital transformation in water and wastewater operations and maintenance



Introduction

Water and wastewater asset owners face numerous challenges, from aging infrastructure and regulatory pressures to climate uncertainties and talent shortages. Maintaining service levels and system performance under these conditions can be daunting.

However, there is a growing resource: the increasing influx of data from plants and networks. Utilizing this data effectively, a process known as digital transformation, can revolutionize your operations and maintenance processes. However, despite this potential, digital transformation is often misunderstood or seen as too complex.

This e-book aims to bring clarity to digital transformation for water and wastewater asset owners and demonstrate how easily it can be integrated into your daily operations using cloud-based applications. We will guide you through five simple steps to start your journey towards digitized operations and maintenance, showcasing the tangible benefits such as more resilient systems, efficient operations, and proactive planning.

01 Information capture

Begin by collecting and collating data from your various assets.

02 Digital collaboration

Use digital tools to connect your teams and eliminate silos.

03 Data analytics

Analyze the collected data to extract valuable insights.

04 System optimization

Apply the insights gained from data analytics to optimize your networks and plants.

05 End-to-end automation

Refine and accelerate workloads through automation.

01 Information capture

From flow rates to status updates, water and wastewater systems generate vast amounts of information. Unfortunately, much of it is lost or remains siloed in SCADA, CMMS, GIS, and other asset registries. But, by using a cloud-based environment, you can start to capture and centralize this valuable data. It becomes easier to save, sort, and share asset data, ensuring it is not only accessible and useful for your operations and maintenance needs, but acts as a solid foundation for strategic decision-making.



Operations

Real-time monitoring.

Fully integrated with SCADA and IoT sensors, raw data is automatically monitored with alerts for system anomalies such as pressure drops, water quality issues, or equipment malfunctions—allowing for earlier intervention.

Comprehensive reporting.

Automated data collection and reporting systems help ensure comprehensive compliance management and the timely submission of required reports.

Digital twin configuration.

Access the tools and data needed to create a dynamic digital model of your network or plant which you can use to validate decisions and actively support responses to incidents.

Workflow templating.

Turn staff knowledge into organizational best practice with the ability to create custom workflow templates. Templates can be shared with external partners (or vice versa) and offer both efficiency and resilience against losing expertise from staff turnover.

I Info360 Insight

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Maintenance

One asset registry.

All your asset data is recorded in a single place, removing the need for managing manual spreadsheets. This helps you identify trends in system performance and make more informed planning decisions.

Efficient inspection reviews.

The inspection portal makes it easier to track inspection quality, find the correct footage, and capture all feedback, notes, and observations on CCTV inspections in the same place.

User-friendly data upload.

Streamline inspection uploads from the field direct to the cloud, including batch uploading. The inspection portal automatically flags duplicate files, incorrect metadata, and any missing media.

Storage issue elimination.

The cloud-based nature of Info360 Asset offers scalability to utilities of all sizes and removes the need for complex IT infrastructure. No more issues with external hard drives or storage backups.



02

Digital collaboration

Cloud-based solutions provide a centralized space where data can be easily visualized in user-friendly dashboards, rather than being scattered across spreadsheets. This enhanced communication and data sharing allows operators, asset managers, and field engineers to quickly exchange information. The result is better coordination and improved efficiency between stakeholder groups.



Operations

Intuitive digital workspaces.

Create common spaces for teams to visualize, update, and share asset information. All users across your organization can measure operational data against key performance indicators (KPIs) in shareable, customized visualizations.

Move beyond spreadsheets.

Replace spreadsheets and manual data entry with automated calculation and formatting tools. You have a single, trusted source for up-to-date maps, plant schematics, data visualization and analytics, and compliance reports.

Faster response times.

With the ability to share near real-time data across job roles, sites, and organizations, managing projects is more efficient and staff can respond to issues more proactively.

I Info360 Insight

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Maintenance

Centralized asset data.

Collect all your asset data in a single place, so you can view historical inspection results for each pipe, associated CCTV footage, and previous defect codes at a glance. This also helps you to create well-grounded strategic asset plans moving forward.

GIS visualization.

With integration to ArcGIS Pro and ArcGIS Online, you can also account for geospatial context and build a map of overall network risk. Merge inspection data with GIS data and differentiate pipes by risk or with specific defects, such as root intrusions.

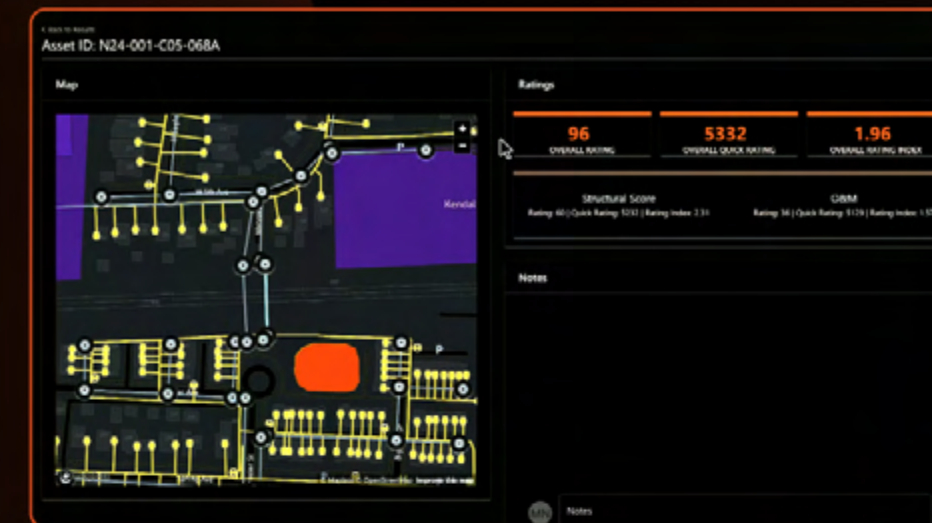
I Info360 Asset

Clearer inspection workflows.

Info360 Asset offers a complete workflow for inspection teams and asset owners to track, review, and approve inspections directly in the app, including the ability to add observations and actions that notify relevant parties.

Accurate condition data.

Constantly updated inspection records help inform your risk models and rehab plans with latest condition information, and help you demonstrate due diligence in maintenance to regulators.



03 Data analytics

Data analytics is crucial because it extracts valuable insights from your cleaned asset data to uncover patterns and trends. These insights inform your decision-making processes, enabling more strategic and effective actions. By analyzing data, you can create what-if scenarios, map asset failure risks, and respond quickly to incidents, all while planning proactively for future needs.

Operations

Improve analytic depth.

Get in-app contextual help to apply relevant analytic functions to datasets and unlock more from your data. Additionally, gain access to in-built standard preset functions to measure metrics such as revenue water loss, pressure, and energy use.

Analytics template library.

Your domain experts can help convert their systems knowledge into time-saving analytic templates that help the entire organization improve service delivery, maximize business resources, and rapidly manage incident responses.


Model with the latest data.

With integration to Autodesk modeling software like InfoWater Pro, you can more easily update and calibrate your hydraulic models with real-time SCADA and IoT sensor data. You can then validate your models against actual system performance.

Upskill your workforce.

With domain expertise captured into templates, junior engineers and business users have low- and no-code ways to assist with data analytics and develop their skills. Additionally, onboarding is simpler with less reliance on advanced IT support.

 Info360 Insight

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Maintenance

Trust your data and decisions.

With the ability to use the latest, reliable asset data to build decision trees built-in, you can speedily query asset risk and the cost of rehabilitation to decide appropriate actions for each asset. You have repeatable, clear logic to justify CapEx decisions.

Ensure precise risk mitigation.

Identify and prioritize high-risk assets with likelihood of failure (LoF) and consequence of failure (CoF) scoring and develop targeted risk mitigation strategies to extend asset lifespans. Track trends and incorporate historical condition data.

Access AI enhancements.

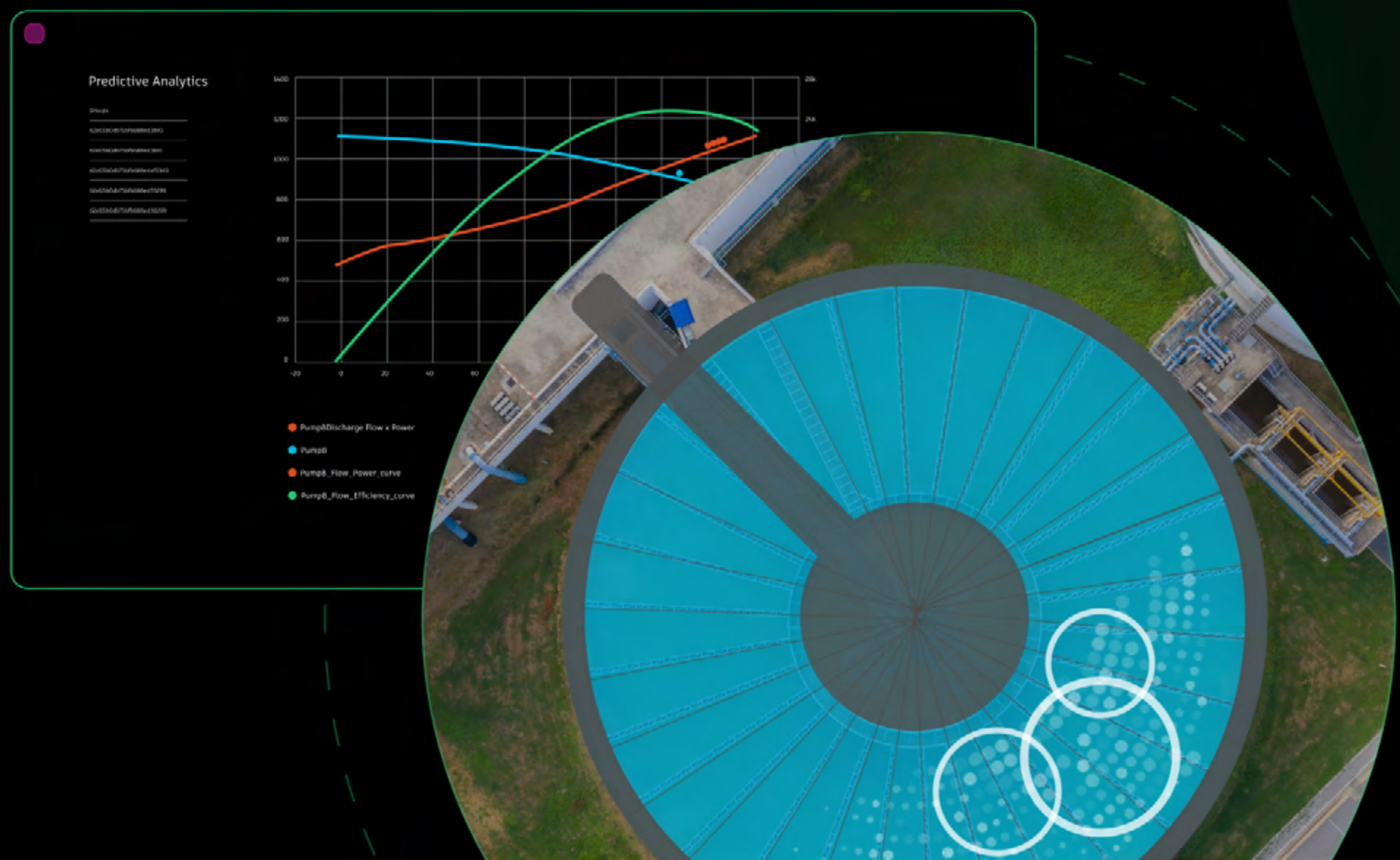
AI-powered analysis (through VAPAR.Solutions integration) can be used to automatically identify and classify pipe defects from your pipe inspection footage. Process footage and calculate condition scores far faster than manual inspections.



04

Systems optimization

The insights generated by data analytics can be used to apply energy, cost, and labor optimizations across networks and plants. Over the long term, current data and past recommendations form a repository of knowledge that can aid management, train new staff, and improve efficiency.



Operations

Identify trends and recommend actions.

Use the latest performance data, geospatial data, climate forecasting, and more to optimize systems and processes with prescriptive analytics, anticipating equipment failures, seasonal changes, and maintenance needs.

Increase labor efficiency.

Eliminate the need for lengthy data requests and better allocate your time by giving access to requested information with a click of a button. Reduce reliance on onsite personnel with remote monitoring and system controls.

Set and track goals.

Establish a benchmark, and track your system's status to create realistic goals, whether that's around managing risks and emergencies, addressing customer concerns, or optimizing time spent on compliance reporting.

Proactive incident management.

Keep track of your incident reports and rapidly identify affected customers with a timeline view of activities for resolving the incident. Simulate possible scenarios to prepare for shock loads, create emergency plans, and meet compliance requirements.

I Info360 Insight

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Maintenance

Justify capital planning decisions.

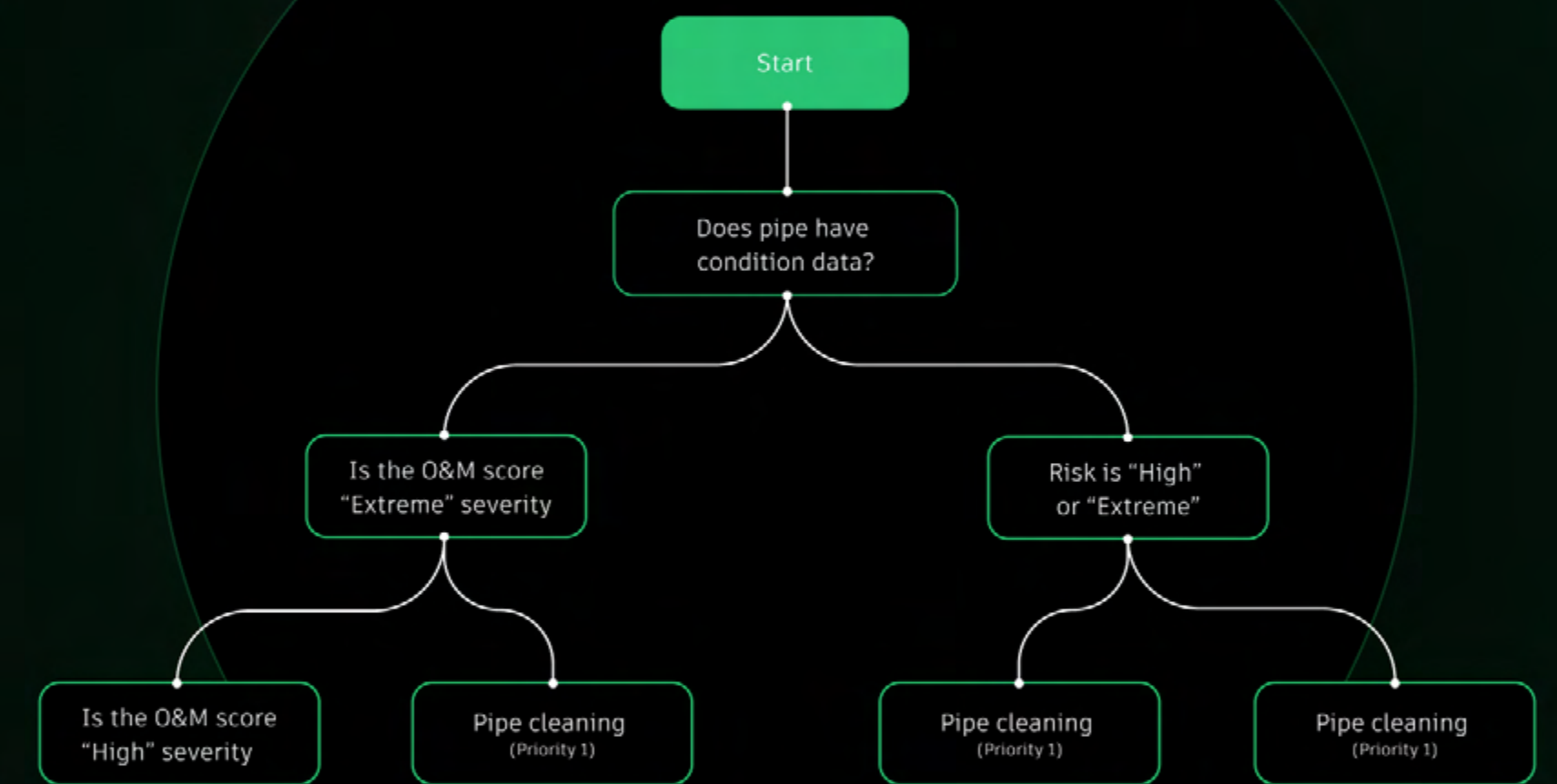
Our in-app decision tree interface allows you to run simple or complex queries to generate repeatable and transparent processes for your CapEx decisions and provide rationales for investments to regulators and stakeholders.

Build streamlined workflows.

Reduce the complexity of pipe inspections with drag and drop simplicity for pipe footage upload. Automatically flag missing media and ensure asset inspection data and files all conform to standardized formats, no matter the contractor.

Clear your renewals backlog.

Gain a clear view of which assets are most critical for replacement or rehabilitation and rank your assets by risk. Optimize your available spend by inputting cost data for different intervention strategies in decision trees that evaluate risk and cost factors.



05

End-to-end automation

When all your data is collected and analyzed in one place, you have one source of truth, leading to fewer errors, and less duplicated effort. Automation helps to speed or even eliminate tasks that add delays or don't create value, such as manual data exchange, filling out duplicate work forms, and inspecting the same asset twice.



Operations

Save time on spreadsheet work.


Reduce the need for laborious spreadsheet management with automated calculation and formatting tools built into Info360 Insight and Info360 Plant, saving hours in the process.

Autogenerate compliance and management reports.

Monitor sensor and lab measurements against permit compliance requirements, then insert up-to-date data and purpose-built key performance indicators (KPIs) and analytics into automatically generated and distributed reports.

Apply automated templates.

Use customized templates, built with operator best practice, to help automate treatment plant and network processes and networks by providing ready-to-run expressions.

 Info360 Insight

 Info360 Plant

Maintenance

Automate pipe condition assessments.

Info360 Asset integrates with VAPAR.Solutions—a visual AI system that automatically identifies defects and anomalies in pipe footage. You can cover more of your network and move from reactive to value-based asset maintenance while saving on labor costs.

Esri ArcGIS Online integration.

With integration between Info360 Asset and ArcGIS Online, your risk analysis decision trees and condition data are updated across both automatically. This means a wider range of stakeholders can easily visualize your CCTV data.



Start your digital transformation with Autodesk

Find new efficiencies with our operations and maintenance solutions.

I Info360 Insight

Info360 Insight is a cloud-based digital twin solution designed to improve the efficiency of operational analytics, incident management, and compliance reporting. It unifies network data, enabling you to make data-driven decisions, automate reporting to regulators, and simulate incident impact on customers more effectively.

Try for free.

I Info360 Plant

Info360 Plant is a configurable water and wastewater treatment plant platform that helps you refine how you manage plant performance and maintenance. Enhance collaboration and understanding through its collaborative workspace and digital twin capabilities, and capture your operational best practices into automated workflows.

Try for free.

I Info360 Asset

Info360 Asset is an easy-to-use cloud-based solution specifically designed to store and analyze water and wastewater asset condition and risk data. It creates the foundation for making repeatable and defensible rehabilitation decisions and the optimal allocation of CapEx spend.

Try for free.

Conclusion

Digital transformation is the new reality for water and wastewater asset owners. With the tools needed to revolutionize asset operations and maintenance available today, the greatest risk lies in doing nothing. With costs and complexity rising—and a talent pool often shrinking—digital tools offer a way to regain control and uncover new horizons in efficiency and productivity.

**We can help you
on your digital
transformation journey.**

Learn more >