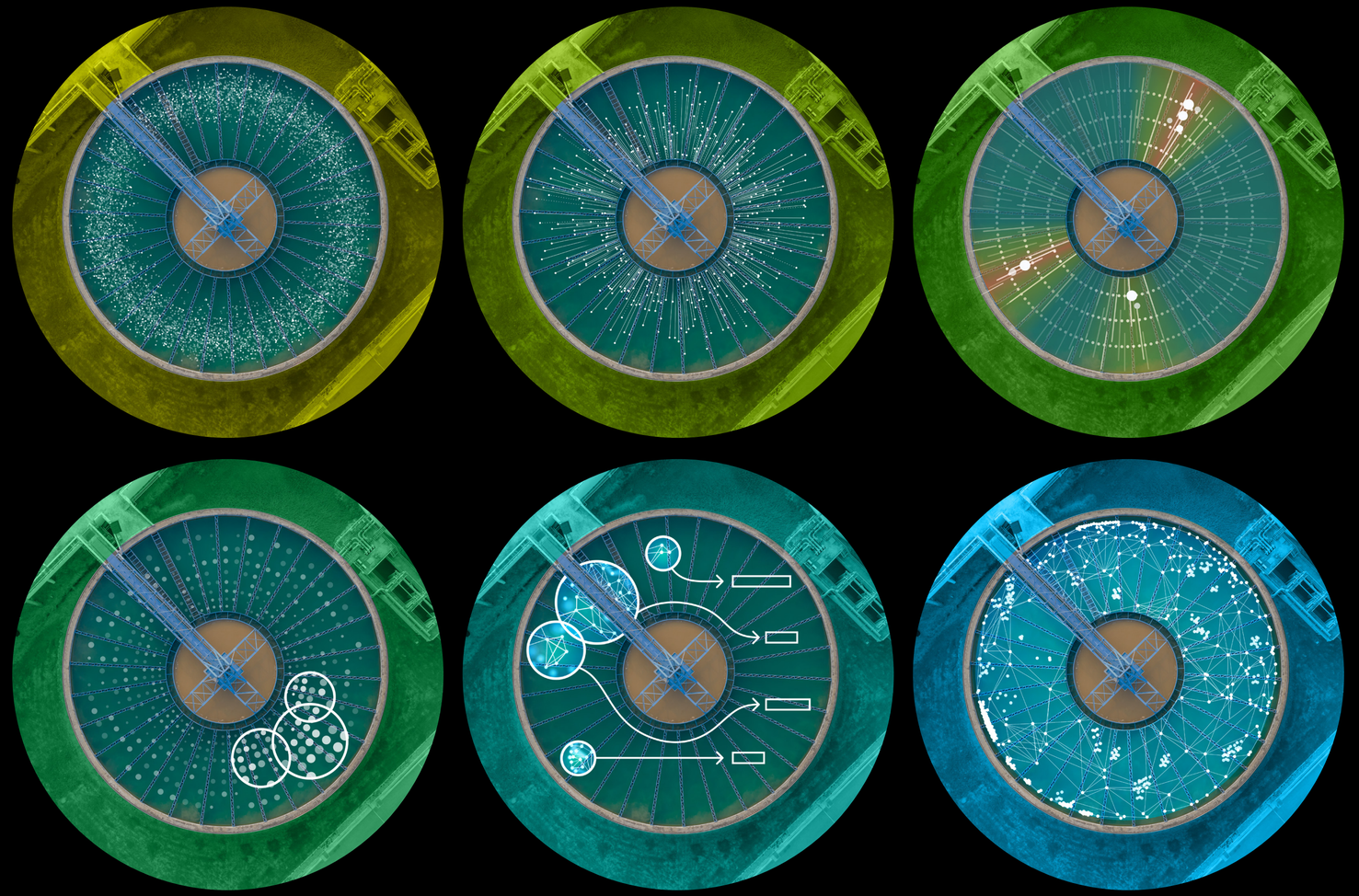
AUTODESK

The six stages of treatment plant intelligence

Learn how collective intelligence puts people at the forefront of operations



Contents

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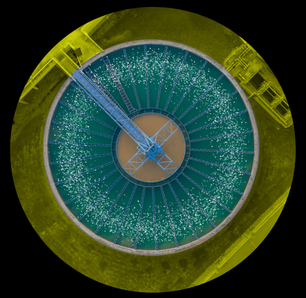
Stage 01

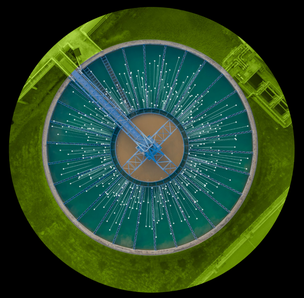
Analyse manually



Collect data by hand, process and report with spreadsheets

Stage 02

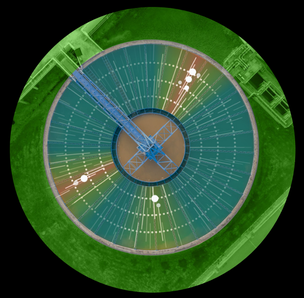
Connect, capture, and visualise



Connect sensors to the cloud and start seeing how a plant performs

Stage 03

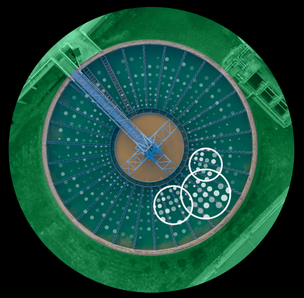
Measure, analyse, and calibrate



Analyse live data and begin tuning operations to changing conditions

Stage 04

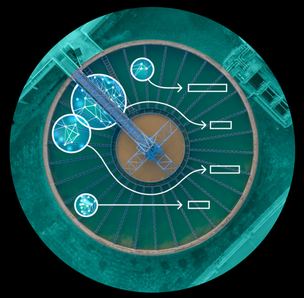
See the future with predictive analytics



Understand the past and start predicting events, seasonal changes, and maintenance

Stage 05

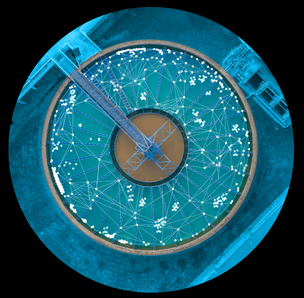
Optimise in real time with prescriptive analytics



Use machine learning and AI to tune operations in real time, automatically

Stage 06

Apply collective intelligence



Run smarter with an AI-powered plant that can consult with management, train staff, and operate the plant at maximum efficiency

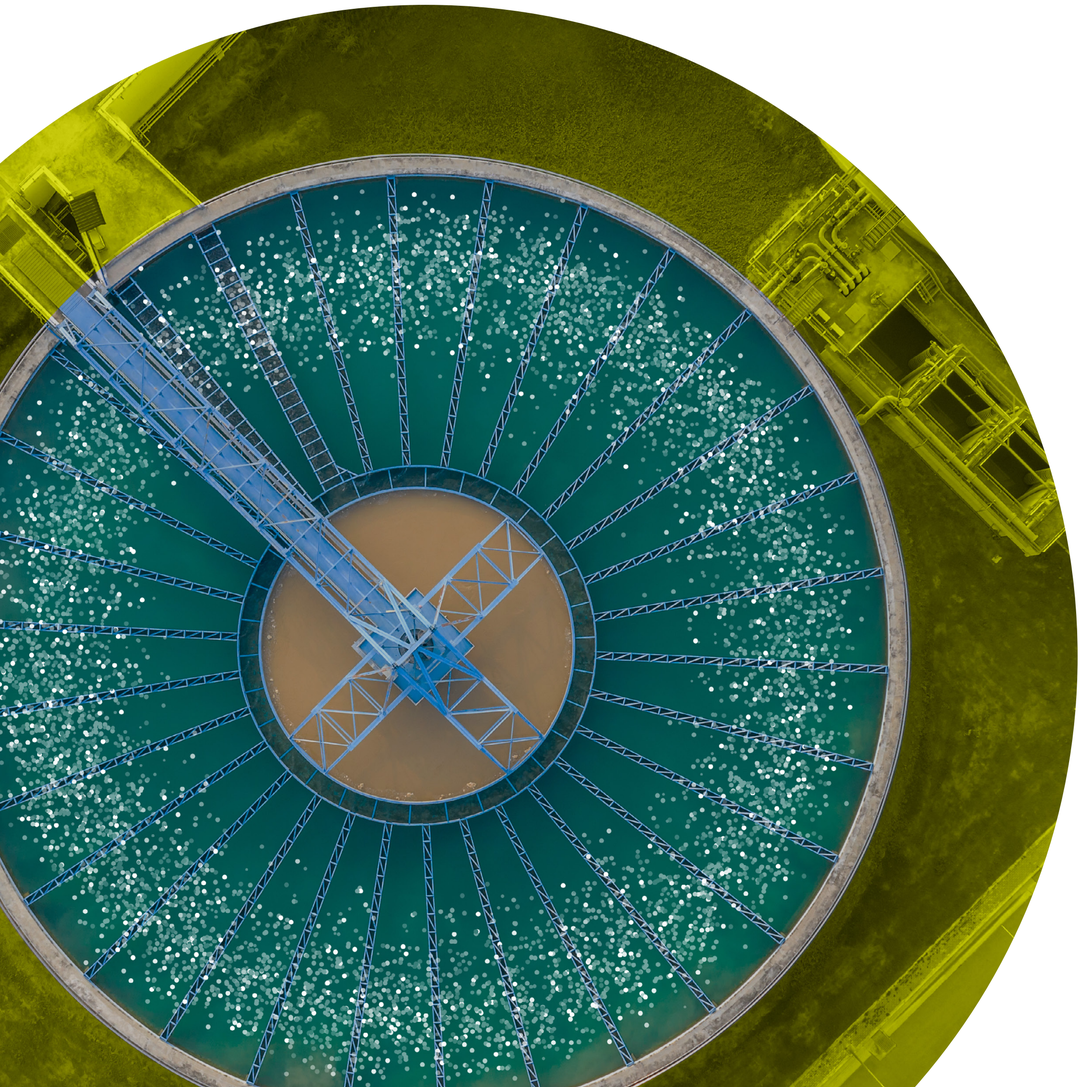
Smarter treatment plants are easier to build than ever

Digitising water and wastewater treatment plants might seem like a daunting task, but with data platforms, practically any plant can start to capture data and optimise systems with minimal capital expenditure.

Once a plant's sensors are connected to the cloud, its digital transformation journey can begin. You can immediately start gaining insight and automating workflows.

Smart plant platforms automate busy work and simplify operations

- Monitor plant performance and predict maintenance needs automatically
- Deliver insight into chemical and energy consumption
- Provide workflows that automate process reviews, energy audits, and compliance reports
- Help staff do better by capturing and optimising best practices



Stage 01

Analyse manually

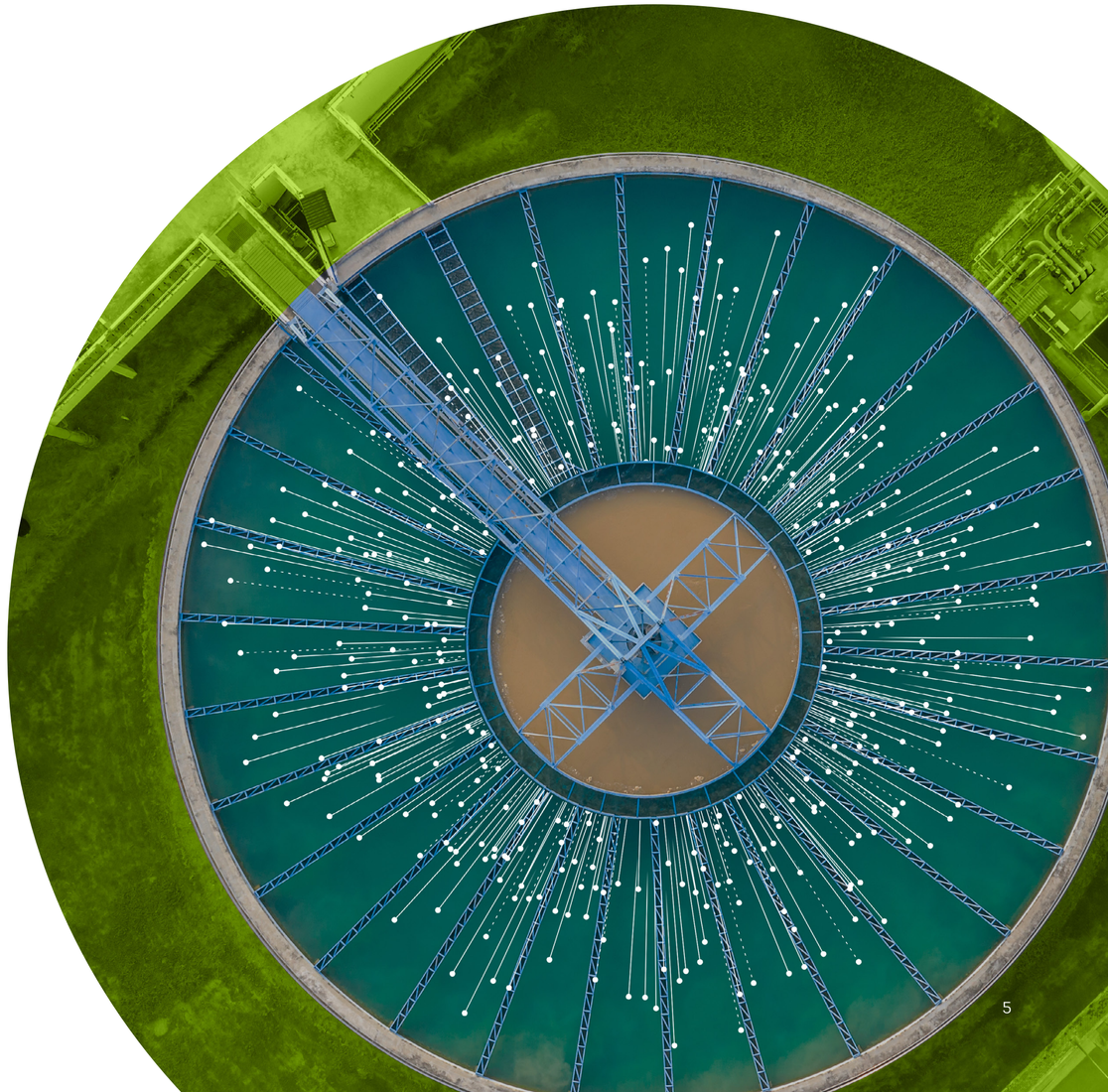
Plants in stage one have few, if any, sensors and are limited in their ability to capture enough data to derive insights. The data they do collect must be prepared and analysed manually. The result?

Hours burned and knowledge lost.

Stage 02

Connect, capture, and visualise

Stage two begins by aggregating data from key sources throughout a water or wastewater facility. Flow rates, asset information, historical data, weather information, plant telemetry—these are all **vital plant functions that can be captured, cleaned, analysed, and correlated** as part of best management practices.



On premises or cloud?

In the past, smart plant technology required expensive on-site servers, switches, and software licenses.

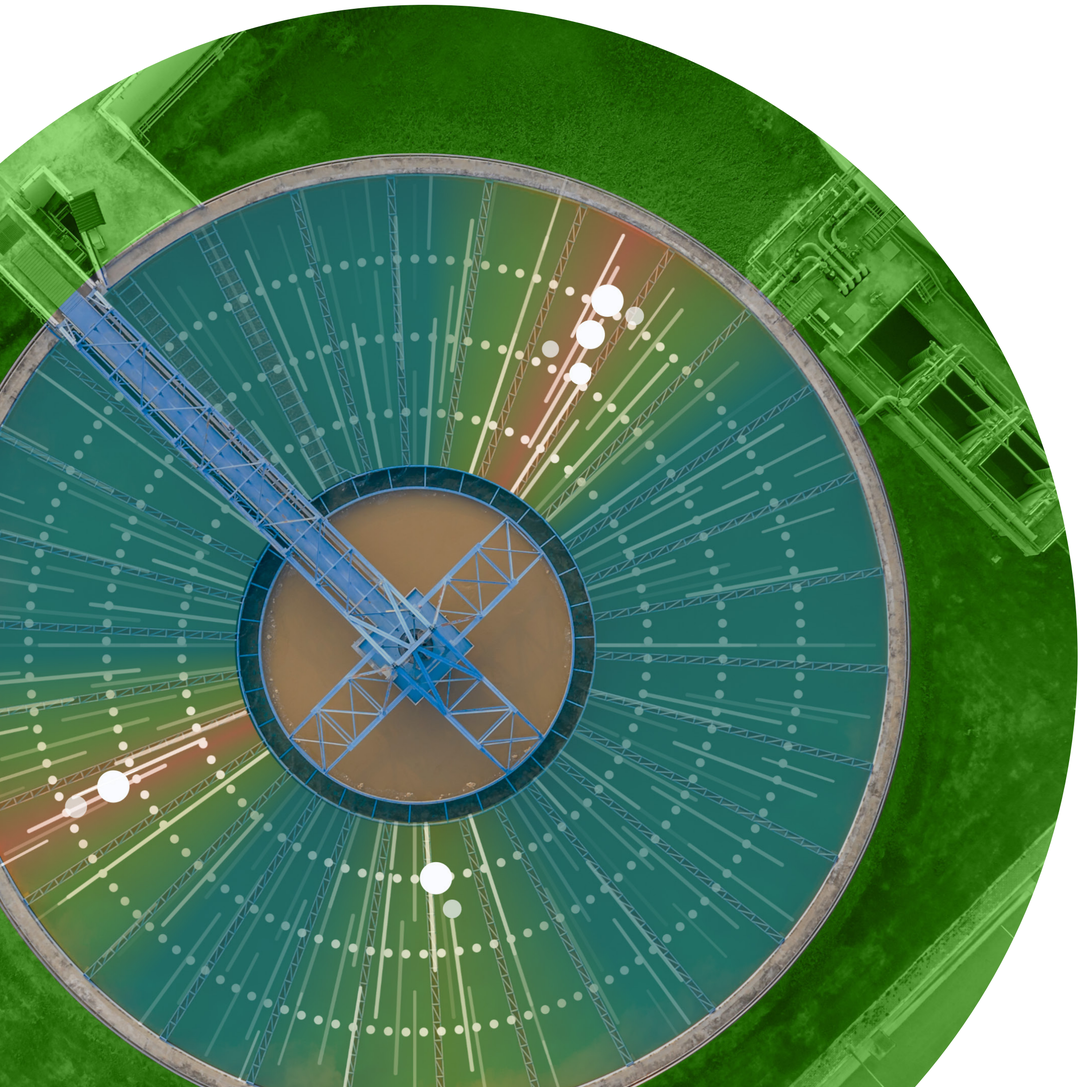
Today you can skip that step—and the large capital hardware investment—by connecting datasets directly to the cloud, so you can tap into almost endless computing power.

On-premises hardware

- Large capital outlays, rapid value depreciation
- Costly and time-consuming computations
- Hindered collaboration

Cloud model

- Zero capital outlay
- Fast, cheap, automated compute workflows
- Web access anywhere there is a signal



Stage 03

Measure, analyse, and calibrate in real time

With datasets available at a click of a button, operators and engineers no longer have to spend hours consolidating data to validate their decisions. With a smart plant platform, users can auto-generate reports, apply analytics to multiple data streams at once, and analyse process performance.

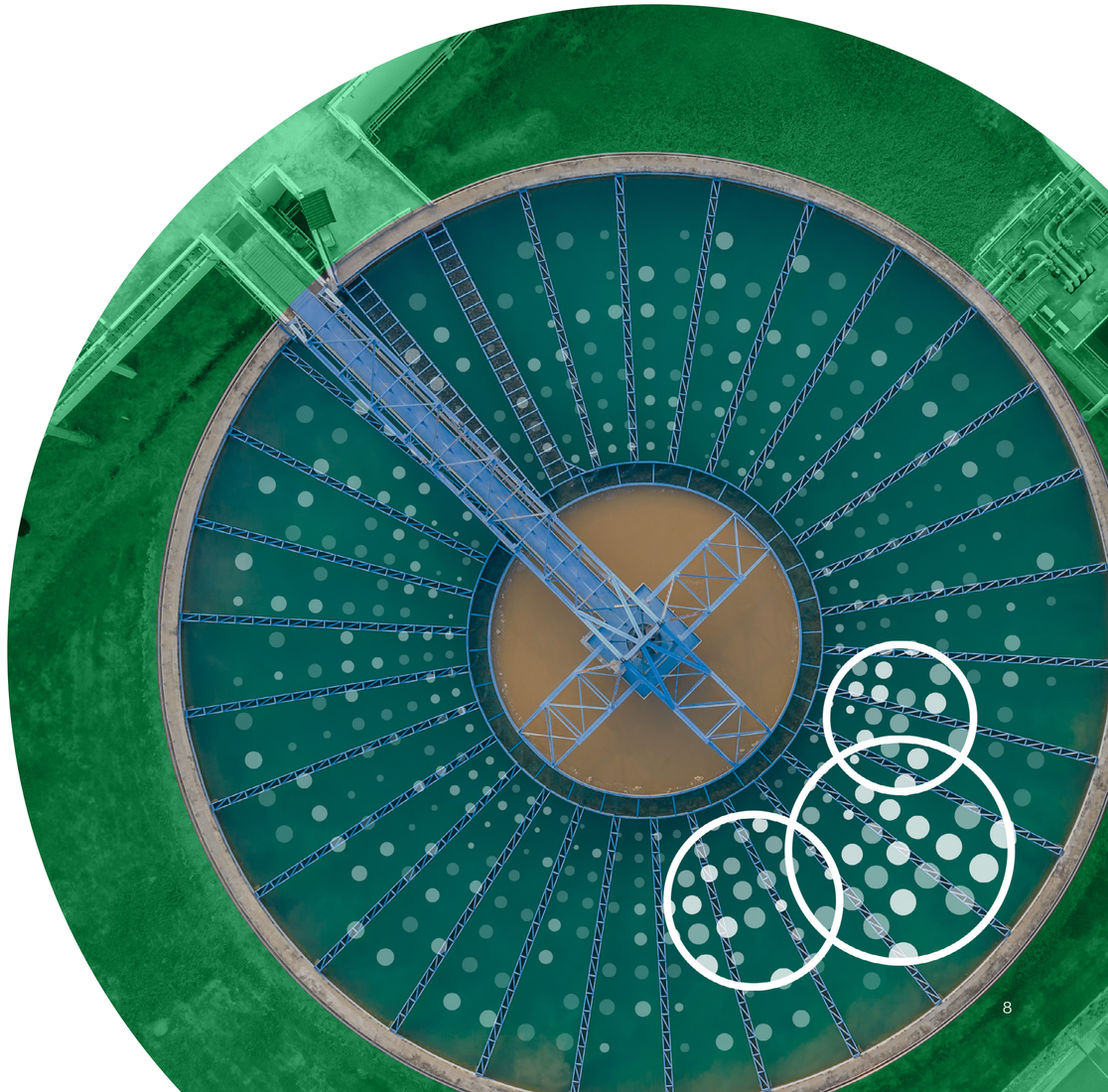
These rich, always-on measurements drastically simplify compliance measurement as well as capital and operations planning. Plus, **multiple people in the organisation can perform root-cause analyses at the same time.**

Stage 04

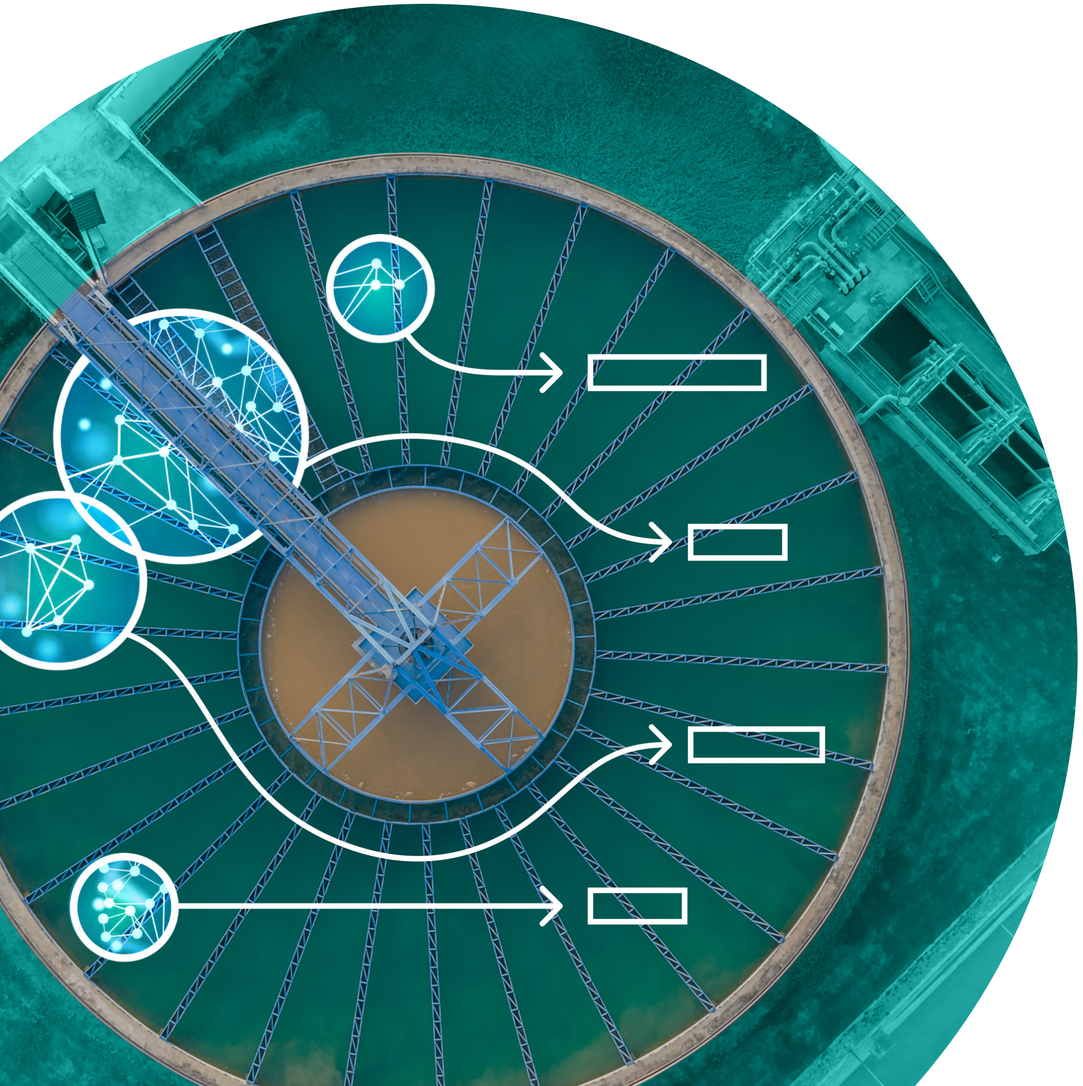
See the future with predictive analytics

Over time, the smart plant platform builds a historical record that can be used to establish baselines and evaluate trends. With the right forecasts, operators can prepare for shock loads, manage risks and emergencies, and plan for and report on their needs and requirements to maintain compliance.

Personnel can use these insights to simulate possible outcomes based on real data and intervene quickly. Would running a pump at half or full speed be more efficient? What water demand is needed to optimise production? You don’t need to guess. You can use domain-trained forecast models to get near **real-time insights about actions you need to take right now or in the future.**



8



Stage 05

Optimise in real time with prescriptive analytics

At stage five, machine learning and AI begin to play a key role in day-to-day operations. The smart plant platform can combine insights from separate systems to make recommendations that help optimise operations.

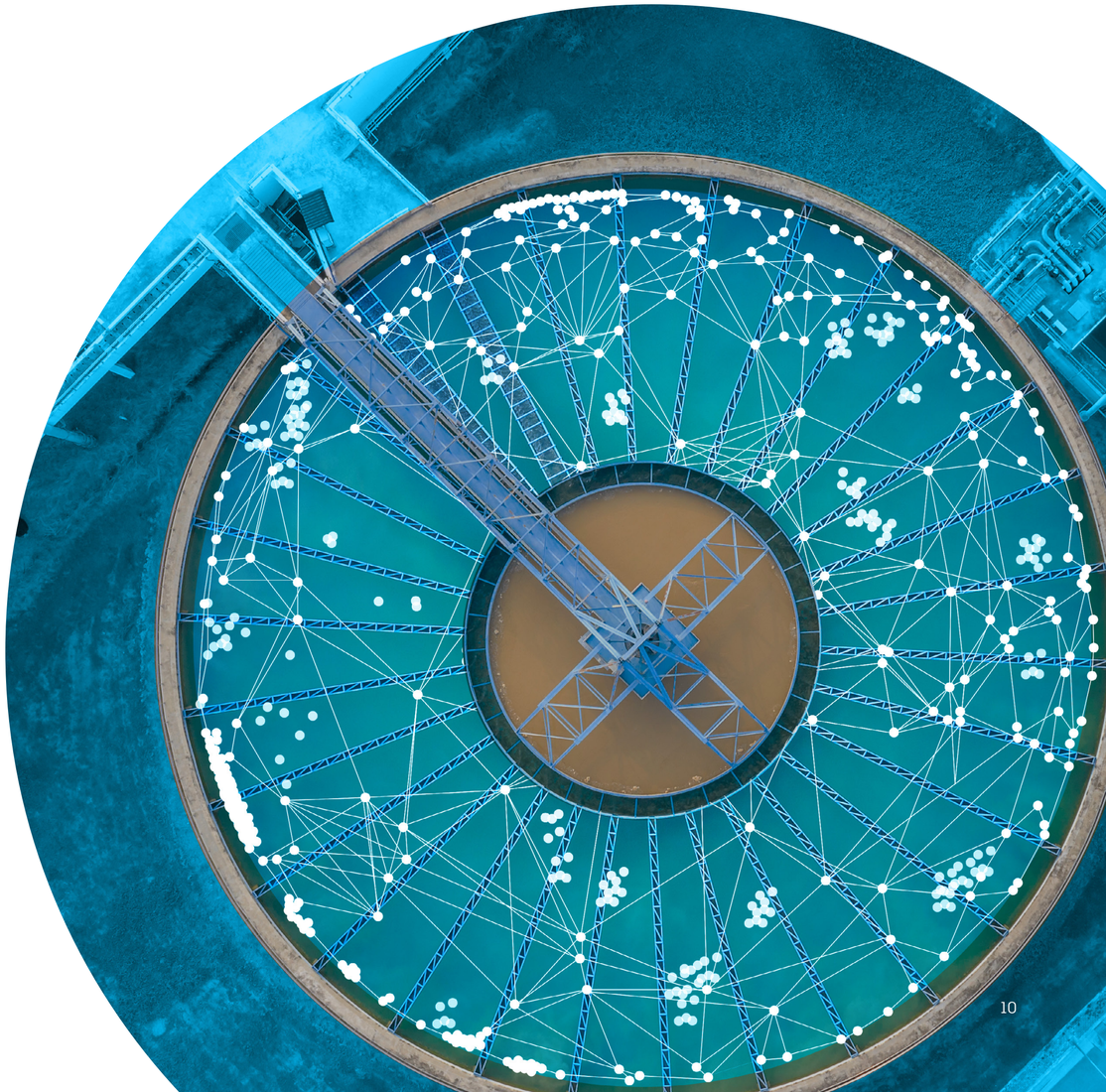
For example, analysis of chemical consumption in relation to water clarity may reveal a point of diminishing return, allowing the plant to use fewer chemicals or identify seasonal variations that require a different chemical balance. Plants in the prescriptive phase can **automatically identify and analyse trends as well as recommend actions** that can save materials, energy, and labor.

Stage 06

Apply collective intelligence

Operations platforms can analyse a plant's performance over long periods of time and generate efficiency recommendations. With data, stored insights, and past recommendations, teams can create a knowledge base that can aid management, onboard and train new staff, and operate the plant at maximum efficiency.

By collecting and making sense of plant data, smart plant platforms capture a plant's wisdom, **validate the intuition of a plant's most experienced operators**, and share insights and best practices with everyone in the organisation.



10

Reduce operational costs, optimise asset management, and streamline workflows with Info360 Plant.

Info360 Plant is a data platform that integrates with data sources at water and wastewater treatment plants, such as SCADA systems, sensors, IoT devices, standard operating procedures, GIS systems, weather and climate forecasts, and water treatment simulations to create an interoperable system and digital twin of your operations.

The tool presents real-time data in user-friendly dashboards and digital workspaces, measures efficiency with powerful analytics, and integrates performance, reporting, and compliance workflows. With Info360 Plant, you can capture what's happening in the moment, develop a roadmap or digitise operations, and access a decision-support tool that can **help you drive positive change.**

Want to move from basic connectivity to collective intelligence with a single, integrated platform?

Discover Info360 Plant

AUTODESK

Getting started with your digital transformation? We can help.

Autodesk infrastructure solutions help facility owners optimise and operate buildings, factories, and plants of any size. From stormwater and drainage to water delivery systems and wastewater treatment plants, our growing catalogue of water solutions can help you drive efficiency.

Talk to us

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