

### Wastewater Plant Enhanced Automation And Decision Intelligence

Streamwise D.I.<sup>™</sup> brings decades of deep expertise in wastewater, together with the power of AI and machine learning, to deliver optimum performance to all aspects of your wastewater treatment process.

A patented, intelligent, fully integrated data monitoring and enhanced automation solution, Streamwise D.I.<sup>™</sup> helps wastewater treatment plant operators collect accurate, consistent and comprehensive real-time data about inputs, outputs, plant operations and treatment processes.

Driven by our AI powered platform, Streamwise D.I.<sup>™</sup> digitizes wastewater using:

- Industrial grade, Integrated Internet of Things (IIoT)
- Wireless level sensors
- Cameras and Devices installed at key locations across the plant.

Data is continually collected and stored in the advanced cloud based Streamwise D.I.<sup>™</sup> portal, so operators have full visibility of the treatment process, as well as access to real-time, 24/7 data intelligence and insights.

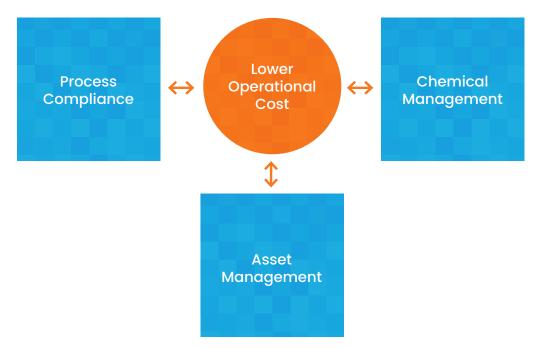




# How Streamwise D.I.<sup>™</sup> Helps You

# Streamwise D.I.<sup>™</sup> lowers cost and improves quality and efficiency in three key areas:

- 1. Process Compliance: Delivers intelligent insight that ensures that the plant adheres to strict environmental regulations when discharging water from the plant, at all times.
- 2. Chemical Management: Enables enhanced automation of chemical dosing rates to the opitmal dosages to ensure the water discharged from the plant is appropriately treated and no excess chemicals are used or discharged.
- 3. Asset Management: Makes sure that all components of the plant are fully optimized and appropriately maintained, avoiding expensive unscheduled repairs and plant outages.





# How Streamwise D.I.<sup>™</sup> Delivers Value

# Streamwise D.I.<sup>™</sup> is an out of the box solution that brings together the latest in:

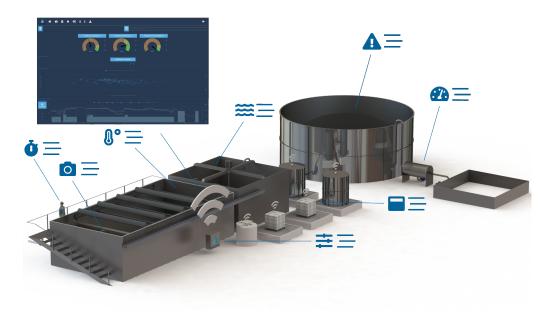
- Digital and sensor technologies
- IIoT and wireless communication
- AI and big data analytics
- Powerful industrial grade edge device.

By combining these powerful capabilities, Streamwise D.I.<sup>™</sup> delivers an unparalleled way to monitor, manage and automate your wastewater in real-time to reduce operational costs, increase quality and optimize efficiencies.

Using powerful industrial IoT, AI and big data analytics, Streamwise D.I.<sup>™</sup> digitizes each step of the wastewater treatment process.

Real-time data is continually digitized and analyzed in our secure, advanced cloud based Streamwise D.I<sup>™</sup> portal.

The operator now has real-time data, insights and 24/7 visibility of the treatment process. As data is collected, simulations and predictive scenarios continuously deliver enhanced automation that optimizes treatment plant performance.



Using Streamwise D.I.<sup>™</sup> at your site will lower costs, improve compliance and reduce risk.

# **Powerful Portal Gives You Full Visibility**

Accessing your wastewater real-time plant data is easy through the Streamwise D.I.<sup>™</sup> customer portal. Using our powerful industrial grade edge device and onsite sensors, the portal delivers easy to read and secure data.

The easy to interpret dashboards are customized to your site and drilldowns make it simple and fast to track everything from operational and compliance performance to chemical management.

The analytics feature allows you to view historical data and metrics over selected dates. In addition to sensor data, the chemical usage and inventory onsite, can be tracked on the portal. The metrics and data can be provided as downloadable reports for any required time period. SMS or email alarms for compliance, chemical stock outs, or any required site maintenance, can also be accessed and customized.

With full visibility across the site, you now have the data and decision intelligence to implement operational adjustments to achieve optimal performance outcomes.



Streamwise D.I.<sup>™</sup> gives you 24/7/365 access to real-time operational data to help you optimize efficiencies.

### **Choose What Suits You Best**

Streamwise D.I.<sup>™</sup> is a powerful IIoT integrated solution designed to enhance the performance of treatment processes such as membrane filtration, biological, solid/liquid separation, oil-water separation, sludge thickening, oxidation and other chemical and mechanical treatment systems.

As treatment trains vary in size, equipment, chemical use, wastewater type and performance objectives, you can choose the Streamwise D.I.™ solution to best meet your needs.

#### Streamwise D.I.<sup>™</sup> Insight



MONITOR & LEARN PLATFORM

Digitize your wastewater to monitor and learn.

#### Streamwise D.I.<sup>™</sup> Advanced



**MANAGEMENT PLATFORM** 

Data modelling, simulations and predictive analysis. Enhanced automation and chemical dosing.

#### Streamwise D.I.<sup>™</sup> Pro



SUPPLY PLATFORM Complete chemical inventory and supply chain management.

Sign on to Streamwise D.I.<sup>™</sup> Insight and your first 14 days are free. Use the Streamwise D.I. portal and learn how you can improve monitoring and overall performance of your wastewater processes to reduced operational costs.

# Streamwise D.I.<sup>™</sup> Insight ()



#### STEP 1

Digitize Your Wastewater: Streamwise D.I.<sup>™</sup> connects to sensors and digitizes real-time data collected at your plant. Automatic data cleaning is used to identify and remove any "dirty" data from sensors and databases.



#### STEP 2

Data Collection: Reliable data is available in real-time 24/7/365 through the Streamwise D.I.<sup>™</sup> customized portal.





# Streamwise D.I.<sup>™</sup> Advanced 🍌



#### STEP 3

Deep Data Learning: For clients wanting to further improve operational efficiencies, monitoring and chemical usage, additional devices such as cameras and level sensors, can be installed. This delivers even more intelligence and insights to optimize performance and help reduce operational costs.

Full integration with your existing systems, including monitoring of the entire treatment plant processes and visualising your plant through the Streamwise D.I. <sup>™</sup> portal, is also available, along with customised analytics configurations.



#### STEP 4

Digital Twin: The wastewater treatment plant process data is fed directly into a digital twin (a simulation platform). This customized simulation of your plant tests and teaches the machine-learning model and algorithms, allowing for scenario testing and simulations. The more data collected, the more robust and predictive the algorithms become.



#### STEP 5

Data Modelling: Selects and tests the right machine learning model to fit a specific location problem and run simulations with accurate predictions, before deploying in the real world. The Streamwise D.I.<sup>™</sup> Advanced solution delivers both enhanced automation and decision intelligence which includes automation of chemical dosing, applied targeted dosing to increase chemical efficiencies and improve trade waste quality.



# Streamwise D.I.<sup>™</sup> Pro 🗱

**STEP 6** 

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Advanced Chemical Management: Fully automate your chemical supply with intelligent dosing, remote inventory tracking, consumption metrics and automatic re-ordering and delivery, saving you time, money and resources.





### **Customized To Your Site**

# Each wastewater treatment site is different, with variations of inputs, volume, equipment, chemical use, wastewater type and performance objectives.

Streamwise D.I.<sup>™</sup> develops predictive models by collecting data at scale, finding patterns in behaviours across multiple sites and industries, to create a cohesive knowledge base.

As Streamwise D.I.<sup>™</sup> gains a detailed understanding of the operation of a wastewater plant through an increasingly accurate model, it can begin to shift behaviours such as varying the chemical dose. As more data is collected, Streamwise D.I.<sup>™</sup> can create simulations and run them at faster than real-time speeds across any number of unique scenarios, then make recommendations and enhanced automation adjustments to optimize overall treatment plant efficiency.

Al is the perfect tool when it comes to constantly checking and monitoring large data flows and sending alerts when flows change. The beauty of Streamwise D.I.<sup>™</sup> over a standard alarm system is that it can be trained to recognize new outliers, as well as trained to recognize false alarms. Streamwise D.I.<sup>™</sup> also learns from other sites and becomes more accurate, as time goes on.





### Streamwise D.I.<sup>™</sup> **Benefits**







**SAVE ON** Overall Operating Costs



**SAVE ON** Operator **Oversight And** Reduce Risk



**SAVE ON** Chemical And **Energy Costs** 

	Insight	Advanced	Pro
Optimize operational costs using Al	-	~	~
Process Compliance			
Recommendations and stepwise advice	~	~	~
Avoid trade waste penalties	<b>v</b>	~	~
Data accuracy guarantee	<b>v</b>	~	~
Meet regulatory compliance	-	~	~
Chemical Management			
Optimize performance based on AI and Machine Learning	-	~	~
Optimize chemical use per kL water treated	-	~	~
Save on chemical costs	-	-	~
Prevent chemical stockouts	-	-	~
Streamline chemical supply management	-	-	~
Asset Management			
Manage lifecycle costs	-	~	~
dentify unexpected issues in WWTP	-	~	~
Future proof operational budgets	-	~	~
Manage long-term funding strategy	-	~	~
Optimize asset maintenance	-	~	~
Prolong asset life	-	~	~
Streamwise D.I.™ Powered Portal			
mprove awareness WWTP compliance and performance	<ul> <li>✓</li> </ul>	~	~
Secure portal for peace of mind	<ul> <li>✓</li> </ul>	~	~
Real-time portal access anytime and anywhere *	<ul> <li>✓</li> </ul>	~	~
User friendly and easy to use portal	<ul> <li>✓</li> </ul>	~	~
Access to wastewater expertise and knowledge base	<ul> <li>✓</li> </ul>	~	~
Reduce operator oversight	<ul> <li>✓</li> </ul>	~	~
Real-time issue identification	<ul> <li>✓</li> </ul>	~	~
Predictive issue identification	_	~	~
Streamwise D.I.™ Installation & Integration			
DIY installation and easy integration	~	~	~
Interacts with all commonly used industrial protocols	~	V	~

### Streamwise D.I.<sup>™</sup> Features







SAVE ON Overall Operating Costs



SAVE ON Operator Oversight And Reduce Risk



SAVE ON Chemical And Energy Costs

	Insight	Advanced	Pro
Complete End-To-End Data Protection	~	~	~
Streamwise D.I.™ Powered Portal			
Access To Streamwise D.I.™ Powered Portal	~	~	~
Customizable Data Visualisation And Capture	✓*	~	~
Online Analysis Of Compliance, Performance And Operation	<ul> <li></li> </ul>	~	~
Autogenerated Weekly Reports To Summarise Operations	<ul> <li></li> </ul>	~	~
Downloadable Customizable Reports	-	~	~
AI Powered WWTP Optimization Platform	-	~	~
Visual Dashboard For Opex Tracking	-	~	~
Alarming Capabilities			
Compliance Based Alarms Via SMS Or Email	<ul> <li></li> </ul>	~	~
Intelligent Performance Alarms	-	~	~
Control Capabilities			
AI Optimized, Automated Chemical Dosing	-	~	~
Predictive Asset Management	-	~	~
Camera Imaging	-	~	~
Chemical Management			
Chemical Level Monitoring	-	~	~
Chemical Inventory Management	-	-	~
Al Based Automated Chemical Ordering	-	-	~
AI Based Chemical Program Optimization For Quality And Cost	_	_	~



### What Our Customers Say

"Streamwise D.I." permits very accurate control of chemical dosing in line with set points while optimizing chemical usage levels through feedback loops."

> Customer Since 2017 World's largest food and beverage company

"We are currently in the process of implementing another Streamwise D.I." due to the positive results that we observed. I believe that Streamwise D.I." would be beneficial for many other industrial applications."

> Customer Since 2017 Multinational Dairy Foods Company

"The Streamwise D.I." system installed on our DAF has provided a simple yet very effective way to increase our control over compliance and cost."

> Customer Since 2017 Australia's Largest Meat Processing Company

Markets We Serve:

Dairy | Food & Beverage | Heavy Industrial | Meat Processing | Mining & Mineral Processing | Municipal | Oil & Gas | Pulp & Paper





Streamwise D.I.<sup>™</sup> is a water-tech company providing powerful industrial grade AI solutions for wastewater management. By combining our deep expertise in wastewater with the power of AI, we deliver enhanced automation and decision intelligence to achieve optimal outcomes for your site.

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