

TRANSFORMING WATER UTILITIES WITH OUTCOME-DRIVEN IOT SOLUTIONS

Nucleus3 is an Australian technology and systems integration leader specialising in smart water management solutions for utilities and councils. Through its N3Edge division, the company delivers purpose-built IoT applications that transform how water authorities monitor resources, engage customers, and optimise operations. Leveraging deep integration expertise, Nucleus3 unlocks the true value of interoperability to deliver scalable, flexible, and future-proofed solutions. Its Water Bureau IP extends the core capabilities of IoT platforms with ready-to-deploy microservices, custom widgets, and integration tools designed to solve real-world water industry challenges.

DELIVERING REAL VALUE BEYOND PLATFORM CAPABILITIES

As a strategic Cumulocity partner, Nucleus3 brings specialized water management expertise to utilities seeking practical outcomes from their IoT investments. By combining Cumulocity's powerful IoT foundation with Nucleusv3's Water Bureau IP and deep industry experience, utilities can accelerate their digital transformation with solutions that go beyond basic platform capabilities. Together, we enable water authorities to turn complex IoT data into actionable insights, automate critical processes, and integrate seamlessly with existing enterprise systems. This partnership transforms how water utilities visualize operational data, detect leaks, monitor network performance, and engage with customers.

With more than 70 IoT use cases already developed and in operation, the platform provides utilities with a wide library of ready-to-deploy functionality, reducing time-to-value and demonstrating proven maturity at scale.

•I••••II

MOVING FROM IOT PLATFORM TO BUSINESS OUTCOMES

Water utilities face increasing pressure to do more with less - conserving resources, improving customer service, and meeting regulatory requirements with constrained budgets and aging infrastructure. The traditional approach of implementing a generic IoT platform often leaves utilities struggling to translate technical capabilities into meaningful business improvements. The Nucleus3-Cumulocity solution addresses this challenge by providing pre-built, water-specific functionality that delivers immediate operational value. By extending Cumulocity with Water Bureau microservices, widgets, and integration tools, utilities gain a complete solution that simplifies implementation, accelerates time-to-value, and focuses on industry-specific outcomes.

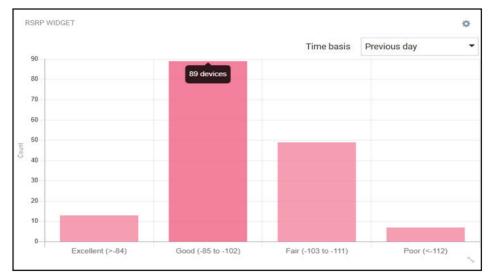
•1••••11

SOLVING CRITICAL WATER UTILITY CHALLENGES

Making Complex IoT Data Accessible

Transform technical IoT data into user-friendly operational insights that everyone can understand - from technical specialists to frontline staff and managers - without requiring deep IoT expertise.

Utilities often face fragmented device types and inconsistent data formats. By overlaying Nucleus3's widgets and microservices onto Cumulocity, these complexities are normalized into clear, actionable insights. This ensures both technical and non-technical staff can make timely operational decisions without requiring specialist IoT knowledge.

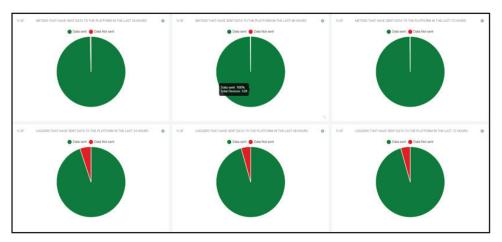




Ensuring Reliable Data Collection

Monitor device connectivity in real-time with intuitive dashboards that show exactly which meters are reporting properly, eliminating data blind spots that can affect billing accuracy and leak detection.

The Water Bureau IP provides intuitive reliability dashboards that surface exactly which devices are reporting across multiple time horizons (24h, 48h, 72h). This prevents blind spots that can impact billing accuracy, leak detection, and customer service, while enabling proactive troubleshooting before issues escalate.

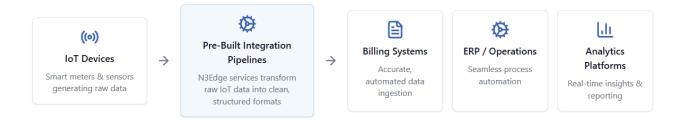




Streamlining Enterprise Integration

Connect IoT data seamlessly with billing systems, analytics platforms, and operational tools through pre-built integration services that eliminate manual workarounds and duplicate data entry.

Connect IoT data seamlessly with billing systems, analytics platforms, and operational tools through pre-built integration services that eliminate manual workarounds and duplicate data entry.



Pre-built integration pipelines remove the need for manual workarounds and duplicate entry, giving utilities confidence that their enterprise systems receive accurate, reliable data every time.

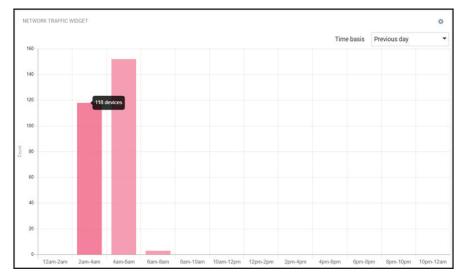
Pre-built integration pipelines offload raw IoT data into billing, ERP, and analytics systems in clean, structured formats. This removes the need for workarounds and duplicate entry, giving utilities confidence that their enterprise systems receive accurate, reliable data every time.

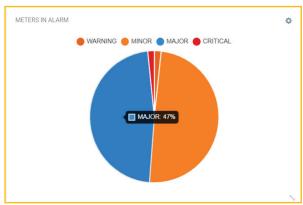
•**I**••••II

KEY BENEFITS OF NUCLEUS3 & CUMULOCITY

Operational Visibility

Gain clear, real-time insight into fleet health, signal strength, network traffic, and alarms through purpose-built widgets that translate complex technical data into actionable information.



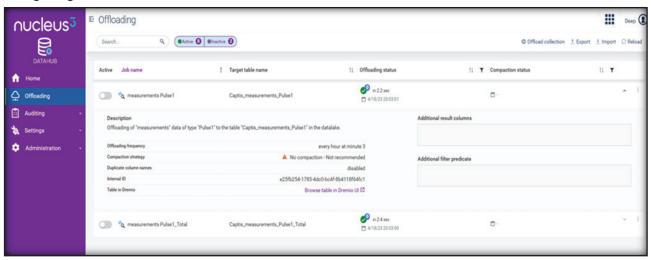


Automated Data Processing

Eliminate manual effort with microservices that decode complex device protocols, generate standardized measurements, and trigger appropriate alarms when thresholds are exceeded.

Integrations and Microservices

• Billing Integration



• LwM2M Decoder

The LwM2M Decoder converts raw data streams from diverse IoT devices into structured, usable information. Because LwM2M object models differ by vendor and device type, decoding is essential to interpret measurements, alarms, and events consistently. This decoder standardizes data formats, enabling seamless integration with IoT platforms, analytics tools, and billing systems, ensuring accurate, interoperable, and scalable data management across multi-vendor environments.

LwM2M Decoder



Transforms raw payloads from LwM2M devices into usable data.

SLA Monitoring



Enterprise System Integration

Connect IoT data seamlessly with billing, ERP, and analytics systems through flexible integration tools that ensure data flows smoothly across the organization.

•I••••II

BUSINESS IMPACT & ROI



REDUCED OPERATIONAL COMPLEXITY

Decrease the technical burden on staff by transforming complex IoT data into standardized formats and intuitive visualizations that everyone can understand and act upon.



IMPROVED DECISION MAKING

Make better operational decisions with evidence-based reporting that provides timely, accurate information about network performance, device status, and consumption patterns.



ENHANCED COMPLIANCE TRACKING

Automate SLA monitoring and compliance reporting with tools that continuously track performance against defined thresholds, identifying potential issues before they become problems.

•I••••II

TRANSFORMATION APPROACH

Our approach delivers water utility transformation through:

- 1. Core Platform Deployment: Implement Cumulocity as the secure, scalable IoT foundation
- 2. Water Bureau Extension: Add industry-specific microservices and widgets
- 3. Enterprise Integration: Connect with billing and operational systems
- 4. Operational Dashboard Configuration: Customize visualizations for different user roles
- 5. Continuous Optimization: Refine and expand capabilities based on evolving needs

•I••••II

PARTNERS IN WATER UTILITY TRANSFORMATION

The Nucleus3-Cumulocity partnership addresses the most fundamental challenges facing water utilities today: how to extract real business value from IoT technology investments. By extending platform capabilities with purpose-built, industry-specific solutions, we help utilities move beyond technical implementation to achieve meaningful operational outcomes. Together, we're not just connecting devices-we're enabling a new generation of smart water utilities that can monitor resources more effectively, engage customers more meaningfully, and operate more efficiently.

nucleus³

About Nucleus3

Nucleus3 specializes in digital transformation solutions for water utilities, helping organizations move from platform implementation to outcome-driven solutions. Through its N3Edge division, the company delivers the Water Bureau IP-a suite of microservices, custom widgets, and integration tools that extend Cumulocity to solve real-world water industry challenges. Based in Australia but serving clients globally, Nucleus3 combines deep industry expertise with practical technology solutions that unlock tangible value from IoT investments.

Learn more at nucleus3.com.au to discover how our integrated approach can transform your water utility operations.



We're an independent device and application management IoT platform. Cumulocity connects and manages your devices and assets efficiently and can control them remotely.