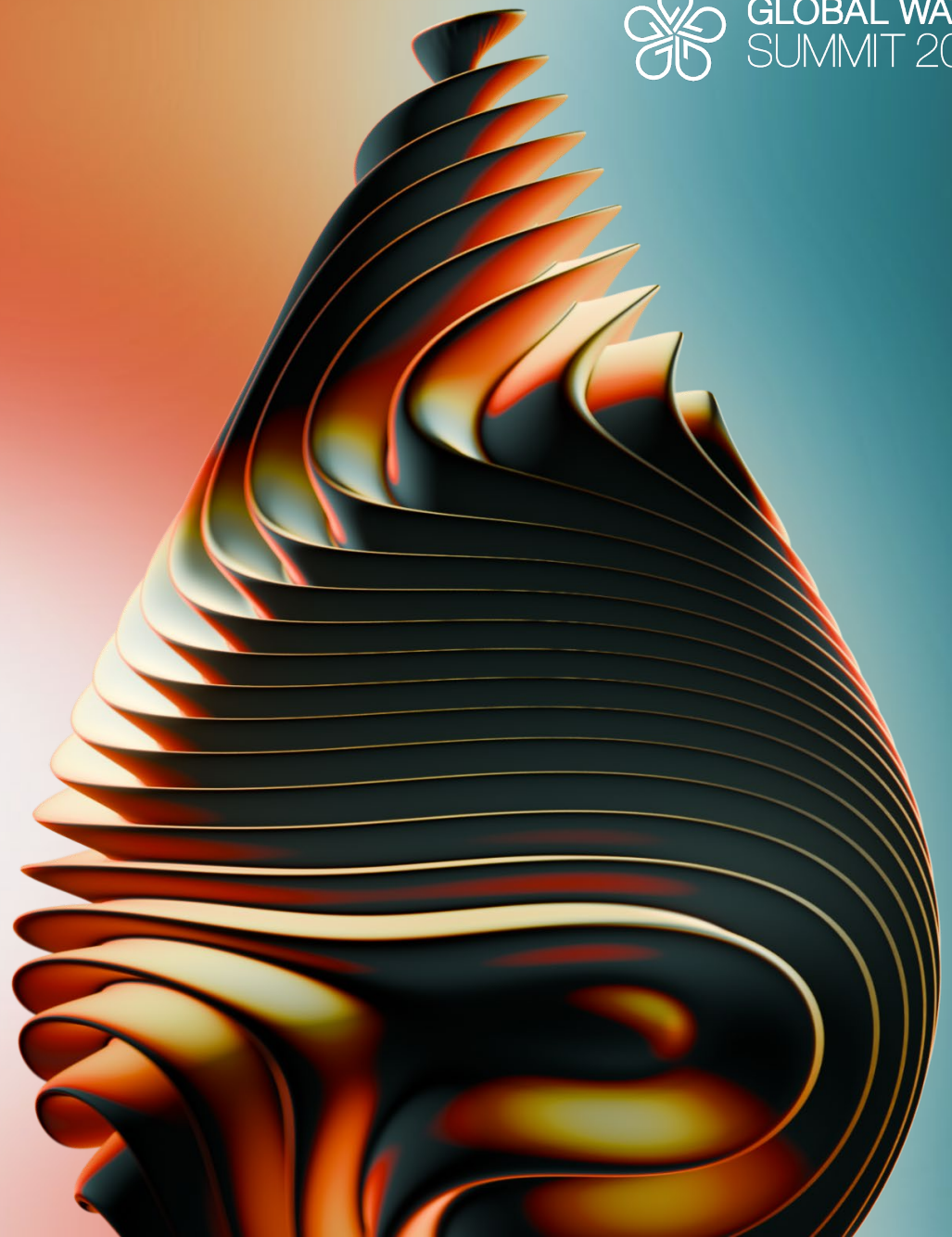
GLOBAL WATER SUMMIT 2026

isle

Technologies for Productivity

Dr. Jo Burgess
Chris Thomas

19th May 2026



We will work through the stages of a water company’s asset workflow

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01 Asset and Data Management

Battery-free, energy-harvesting, AI-based solution, that optimises energy consumption and provides predictive maintenance for motor-driven equipment sets

MachineDoctor™ is an IIoT sensor that measures six parameters (vibration, acoustics, speed, magnetic flux, temperature, humidity) to provide real-time data on machine operations.

NrgMonitor™ is an AI-based platform that analyses this data to facilitate predictive maintenance, accurately forecasting the remaining time to failure for assets.

AI-driven analytics identify the earliest signs of bearing, motor, and pump degradation, enabling maintenance teams to intervene before failures cause costly downtime or energy waste, directly boosting overall plant productivity.

By harvesting vibration energy to power its own wireless sensors, MachineDoctor™ eliminates the ongoing cost and maintenance burden of battery replacement across large fleets of rotating equipment.

MachineDoctor™ and NrgMonitor™

TRL 9

RAPIDA

The Rapida AI Platform is a hardware-agnostic, cloud-based platform that uses computer vision, machine learning, and historical data to automate civil infrastructure asset inspection, analysis, and monitoring.

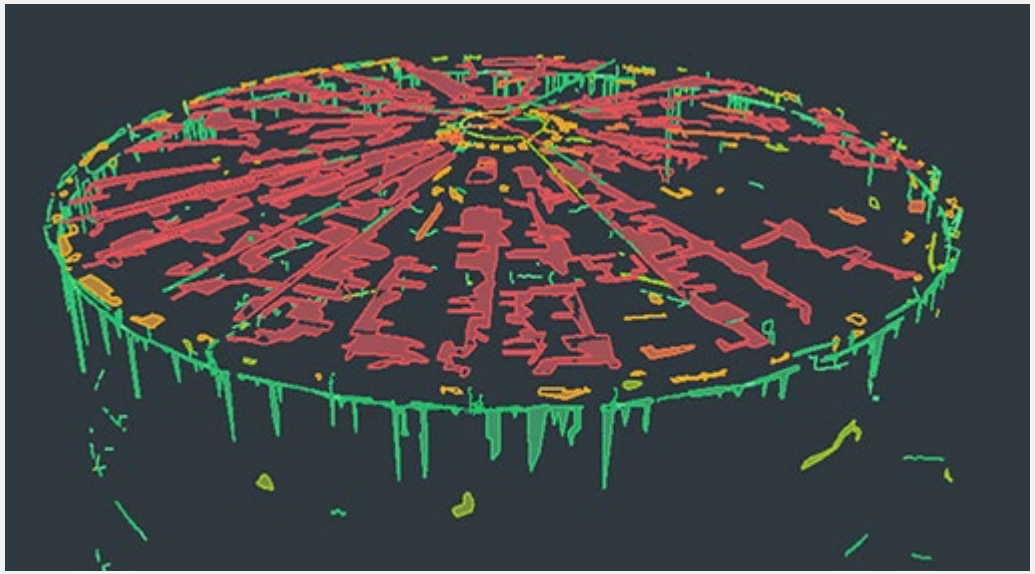
The platform combines visual inspection data, historical asset data, multi-sensor inputs, and industry regulations into an integrated system to automatically detect, classify, and assess defects and structural issues.

The platform generates 3D digital twins, creating colour-coded damage maps that show defect severity, monitors defect changes to identify risk trends, and produces target-based maintenance planning reports.

By replacing manual site visits and subjective visual inspection with automated AI-driven analysis of imagery, Rapida compresses the time from data capture to actionable condition reports.

Being hardware-agnostic, it integrates with existing cameras and sensors, allowing utilities to scale inspection programmes without proportional increases in engineering resource.

Rapida AI Platform



TRL 9

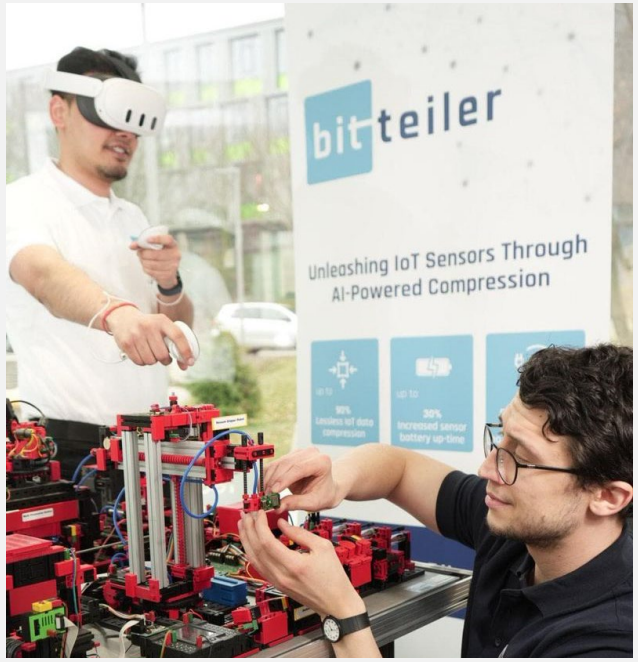
Bitteiler is a communications protocol that drastically reduces the volume of data generated by IoT sensors (up to 90%) directly at the sensor before data transmission.

The reduction of the volume of data generated by IoT sensors significantly lowers data transmission and storage costs while also reducing energy consumption by up to 30%.

The compression is lossless, meaning the original data can be perfectly restored on the receiver side (such as edge servers or cloud), ensuring no information is lost.

With reduced bandwidth per sensor, the same infrastructure can support ten times the number of devices without requiring upgrades,

Bitteiler



TRL 9

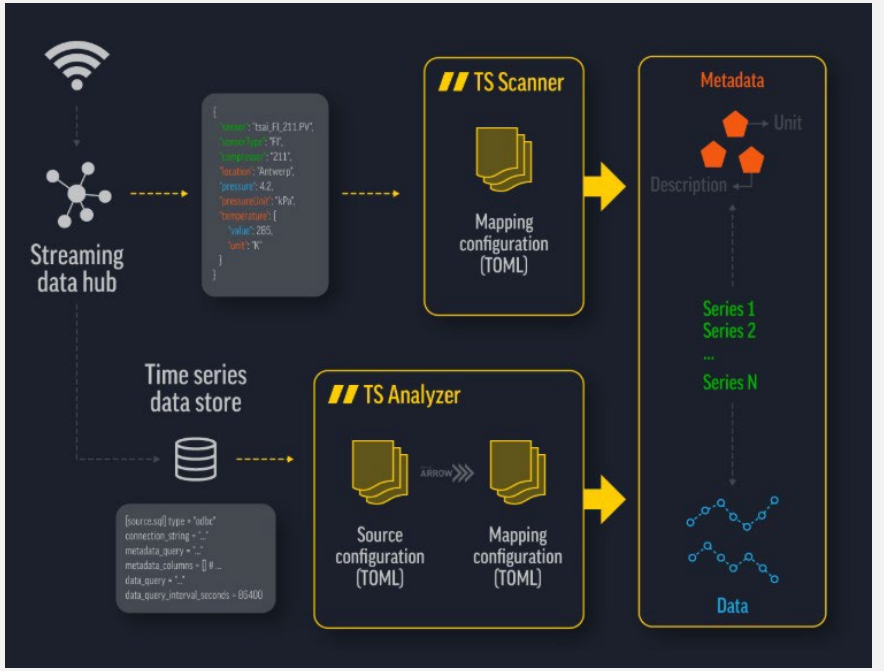
AI-powered IIoT sensor data validation platform for automated, reliable time-series management, detecting hidden anomalies before operational impact

Timeseer.AI is an AI-powered sensor data validation platform creating a trust layer for digital water systems. It automatically validates and manages IIoT sensor data in a centralised and scalable way, ensuring reliable data for operational, analytical, and regulatory decisions.

The solution is used to reduce false leak detection alerts from faulty sensors, flag anomalies in water quality data, detect reversed flows, abnormal usage and validate consumption for billing, and verify long-term groundwater monitoring compliance.

The platform is demonstrated to reduce manual data validation workload by 50%, cut data-related errors by 80% and enable anomaly detection up to 90% faster than conventional IT data quality methods.

Timeseer.AI



TRL 9

info tiles®

An analytics platform that assesses and cleans data in static and dynamic utility network datasets, and uses the higher quality data for advanced analytics for condition assessment of pipeline assets.

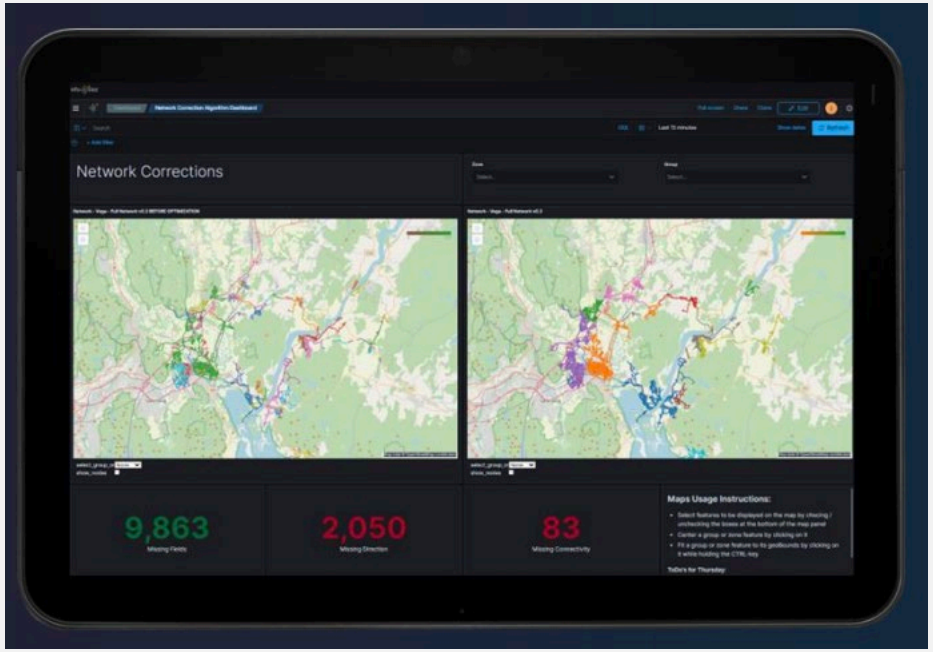
PipeFusion increases the quality and completeness of water and wastewater network data.

PipeFusion's proprietary AI and ML models are trained to solve specific problems in modern utility network infrastructure, automatically verifying and correcting data with over 99% accuracy, in real-time.

By using high-quality and real-time data, utilities are able to improve their operations, reduce waste and ensure consistent water services to their communities.

PipeFusion automates the process of data cleaning and correction as well as giving an accurate view of network conditions, improving accuracy and regulatory compliance.

PipeFusion



TRL 9

Operations and asset resilience metrics and guidance platform for the reduction of cascading failures in water and wastewater utilities

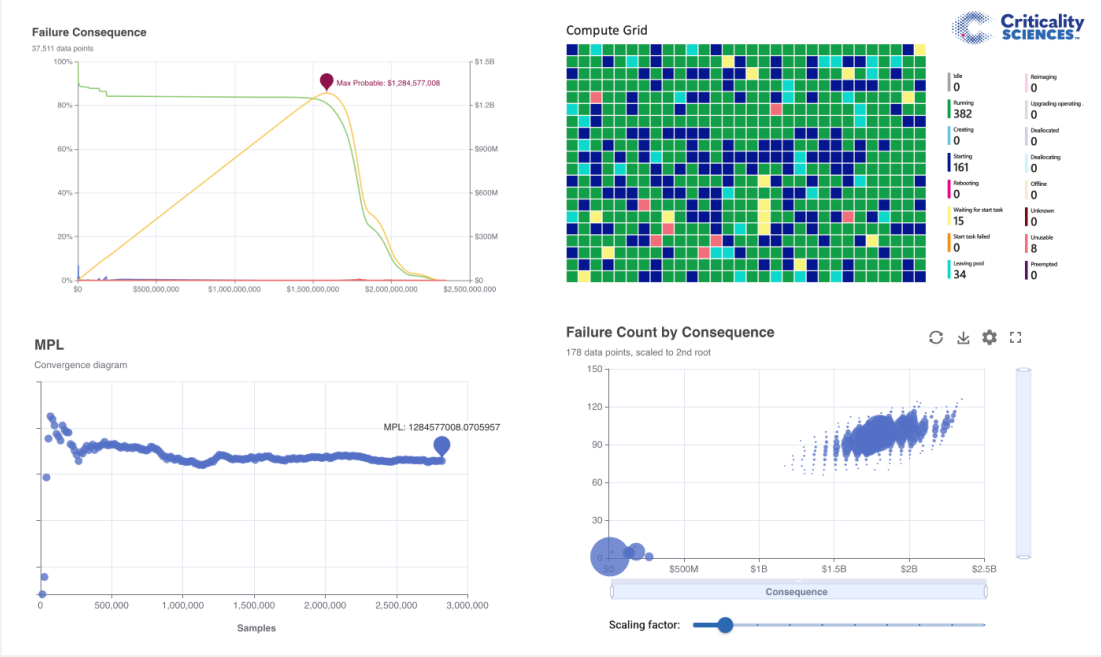
NetResilience™ is a software platform that provides utilities with a service to quantify risk and resilience metrics for uncertain, large-consequence asset and system failures, including cascading failures.

It uses probabilistic simulation, network science, and high-performance computing to stress test utility systems, analysing disruption impacts and identifying vulnerabilities.

The platform provides a suite of baseline metrics, including a system resilience score, Maximum Probable Loss (MPL) in financial value, recovery time and cost from high-consequence events, and assets ranked by cascading failure risk.

These metrics enable utilities to detect fundamental weaknesses, guide capital improvement projects, and design resilience upgrades.

NetResilience™



TRL 7

7Analytics

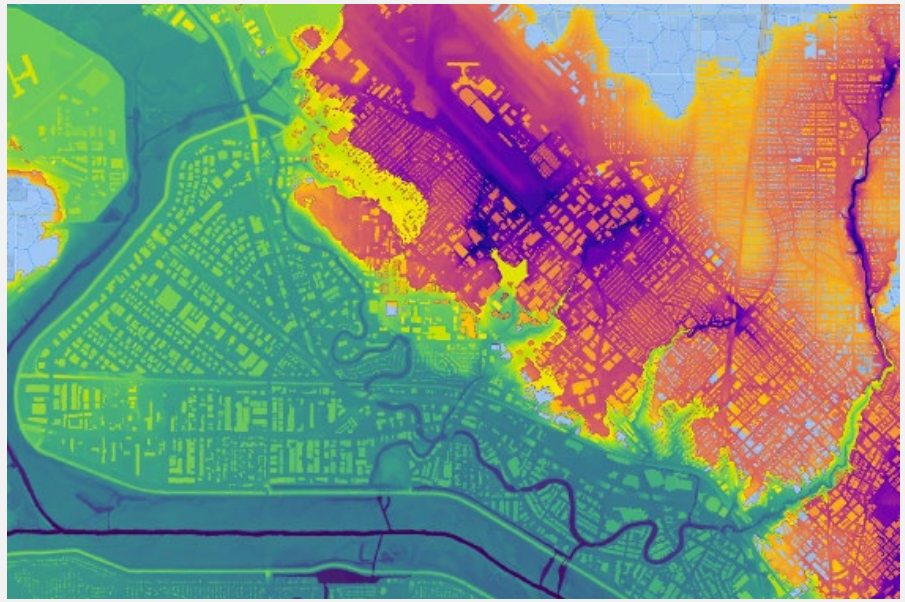
AI flood models to provide high-precision flood risk assessments, with detailed flooding and consequence predictions up to 72 hours in advance.

7analytics is a real-time flood prediction engine offering asset-level risk views. It can predict pluvial, fluvial, and flash flooding up to 72 hours in advance.

The engine achieves this using neural networks and integrating high-resolution (1x1m) data, land-use information, live weather feeds, and asset attributes where available.

By receiving alerts 72 hours early, utilities can perform preventative maintenance to prevent asset failure and avoid emergency downtime.

Flood prediction



TRL 9

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02 Design and Capital Delivery

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Spatial insight

Automated water network design programme to optimise and bring uniformity to tertiary pipeline design, within the policies and guidelines of the utility.

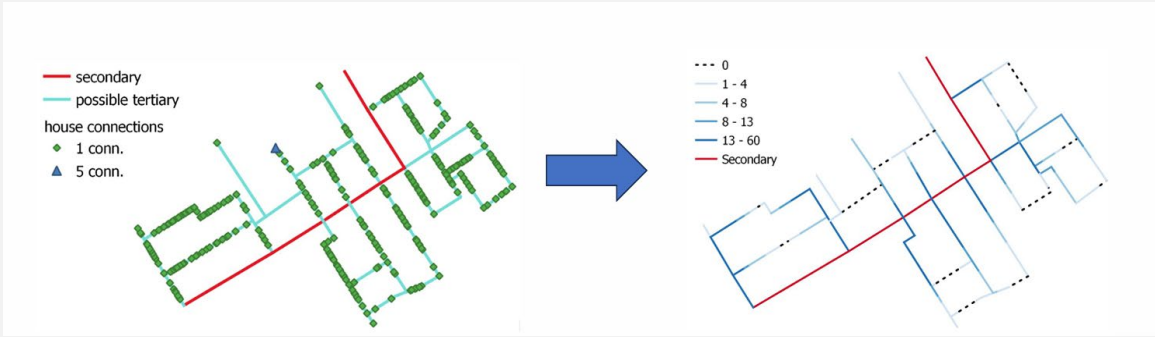
SI-Design is an automated water network design tool that optimises tertiary pipeline layouts.

The system automates the design of small-diameter ‘tertiary’ pipes, enabling uniform, efficient layouts while allowing human intervention where needed for local adjustments or expert judgment.

SI-Design significantly reduces installation costs, pressure loss, and water residence time, supporting financial, technical, and sustainability goals.

The platform helps utilities insource engineering, retain in-house expertise, and reduce carbon emissions through material efficiency.

SI-Design



TRL 6

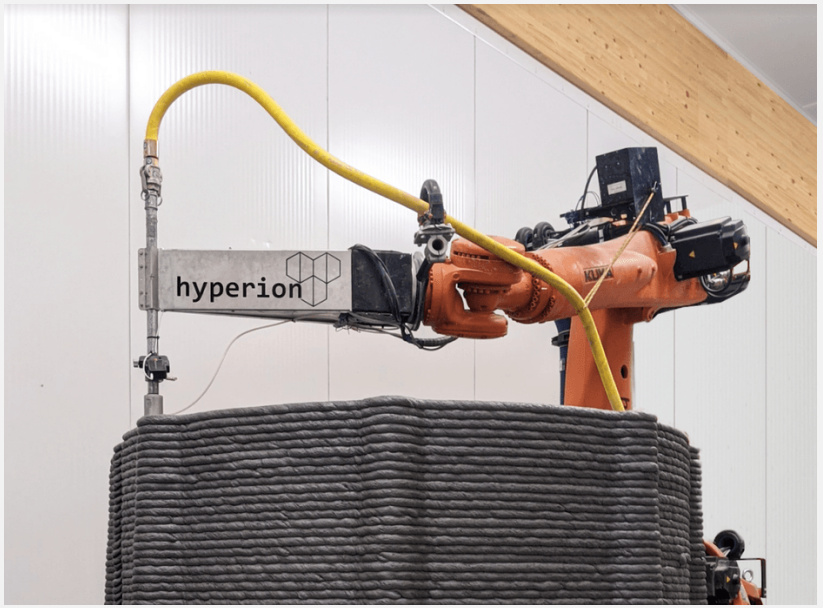
Integrated design-to-delivery system for carbon-optimised 3D printed infrastructure, such as water tanks, drawpits and foundation

Hyperion Robotics' 3D printing technology designs and manufactures low-carbon concrete structures for infrastructure projects using parametric software, automated manufacturing processes, and specialised concrete mixes.

The parametric software allows for quick design modifications and optimisation while ensuring compliance with structural engineering standards.

The technology replaces traditional methods by printing permanent formwork in optimised shapes, achieving up to 70% construction time savings and 75% material savings.

Low-Carbon 3D Printed Structures



TRL 9

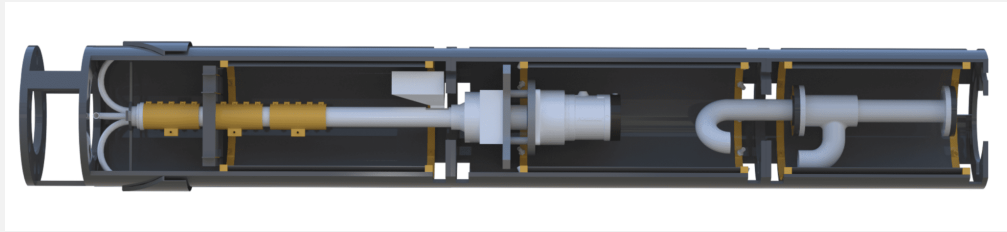
Advanced micro tunnel boring machines for efficient, cost-effective, and sustainable tunnelling.

Swissloop's integrated steering and in-situ lining system constructs the tunnel wall as the machine advances, eliminating the separate, time-consuming lining phase of conventional micro-tunnelling.

The Groundhog Beta software stack utilises real time telemetry and machine control, as well as a data platform for persistent storage and analysis of production data.

The digital-first, small-footprint approach reduces crew size requirements, minimises surface disruption in urban environments, and lowers both CO_2 emissions and overall project cost.

Swissloop



TRL 6

SippTech
Integrity Renewed³

MICP is a composite lining system that is manufactured and installed in-pipe, structurally independent from the original host pipe.

MICP™ creates a new structural pipe within an existing deteriorated host pipe without the need for excavation, avoiding the significant time and disruption of open-cut replacement.

As the composite lining is structurally independent of the host pipe, the rehabilitation can extend the asset life of pipes that would otherwise require full replacement, deferring major capital expenditure.

The lining solution embeds high-performance foam and carbon fibre to elevate the structural integrity, energy absorption, and longevity of SIPP.

Manufactured In-Place Composite Pipe (MICP™)

TRL 8

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SAMP

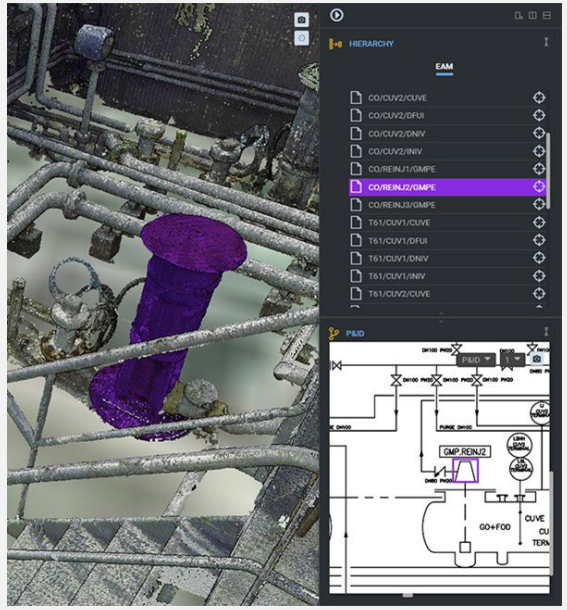
SAMP allows utilities to rapidly scan sites and assets to build 3D digital reality site models, then synchronising these models databases and workflows, such as electronic engineering records, asset management support, rehabilitation and maintenance.

SAMP Cloud-Based AI Solution uses digital reality site models to support efficient asset management, rehabilitation and maintenance.

SAMP creates a comprehensive 3D digital site model using 3D point cloud data from LIDAR (terrestrial or drone), photogrammetry, and videos. Users navigating through the workspace model have a 360° perspective of real site conditions.

Samp AI Solution eliminates the need for manual tagging in P&ID records or 3D point cloud models. It reads and automatically aligns 3D point clouds, P&IDs, and equipment lists.

Samp Cloud-Based AI Solution



TRL 9

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03
Water Treatment

CarboNet

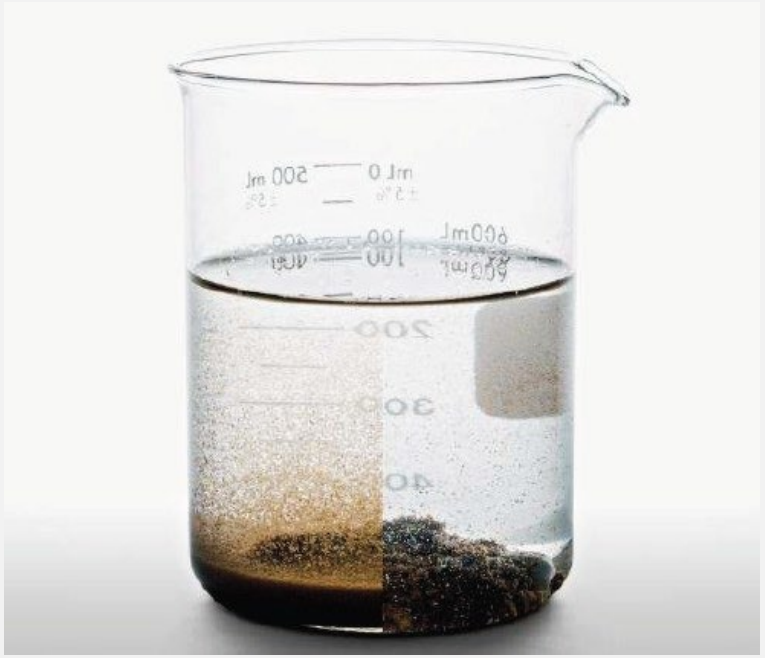
Ready-to-use nanoparticle-enhanced surfactant as coagulant and flocculant for improved water and wastewater treatment efficiency

CarboNet SimpleFloc™ is a nanoparticle-enhanced flocculant based on CarboNet's NanoNet™ platform that uses molecular targeting to selectively bind contaminants in wastewater, including oils, greases, suspended and dissolved solids and metal ions.

CarboNet SimpleFloc™ is used to bind hard-to-capture solids that conventional PAM struggles with, resulting in lower flocculant consumption by up to 50 – 80%.

SimpleFloc™ is delivered either pre-activated or as a ready-to-dilute emulsion, eliminating the need for make-down systems in pre-activated formats and significantly reducing preparation time and infrastructure requirements.

CarboNet SimpleFloc™



TRL 9

bluemethane

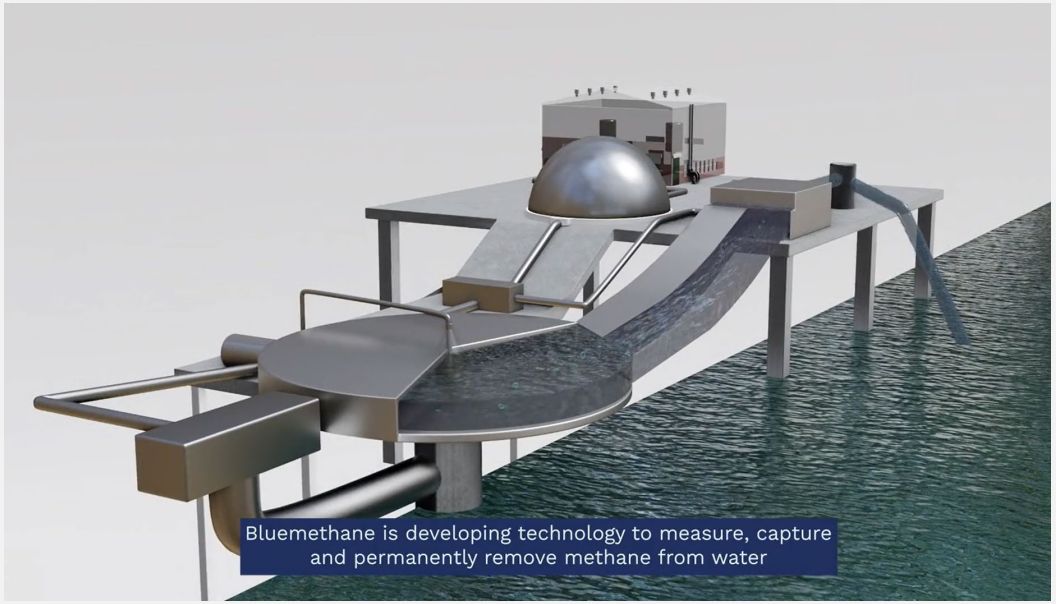
Methane recovery from water and wastewater for additional energy generation and GHG emissions reduction

Bluemethane is a modular system that captures methane from water and wastewater as a new source of energy and revenue, reducing emissions and boosting bioenergy production.

With minimal energy consumption, the process is designed to be energy positive, even when methane concentrations are low.

The technology's modular design offers flexibility in installation; units can be delivered all at once or phased in over time with minimal disruption.

Bluemethane



TRL 8

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04 Networks and Workforce Management

ACWA ROBOTICS

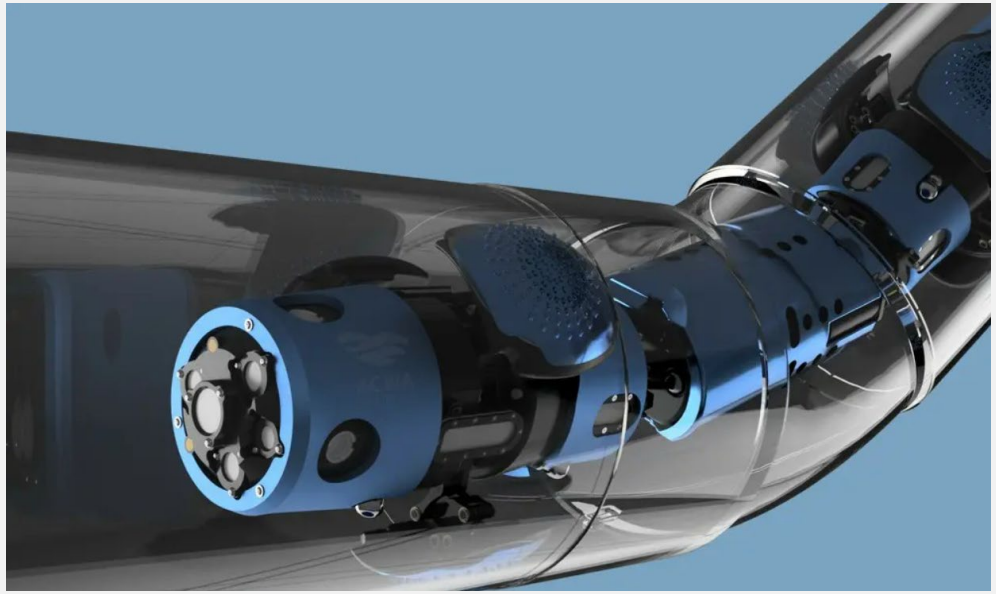
Autonomous robot with precision stop/crawl capability for in-service water pipeline inspection

Pathfinder is an autonomous robot, incorporating AI-driven analysis and locomotion control for condition assessment of in-service water supply networks.

Pathfinder can navigate through 90° elbows, pass branches and 45–60° slopes without water service disruption, supporting optimisation of pipe renewal programmes.

The robot's "caterpillar mode" allows it to stop precisely at points of interest and crawl along the pipe for detailed data acquisition at specific locations. This reduces the risk of the robot becoming lodged, thereby minimising manual retrieval such as excavation.

Pathfinder



TRL 7

Leak detection platform that quantifies and pinpoints leaks in real time, and also analyses a network to determine optimal placement of sensors to improve leak detection capabilities.

HULO
SAVE TIME. SAVE WATER.

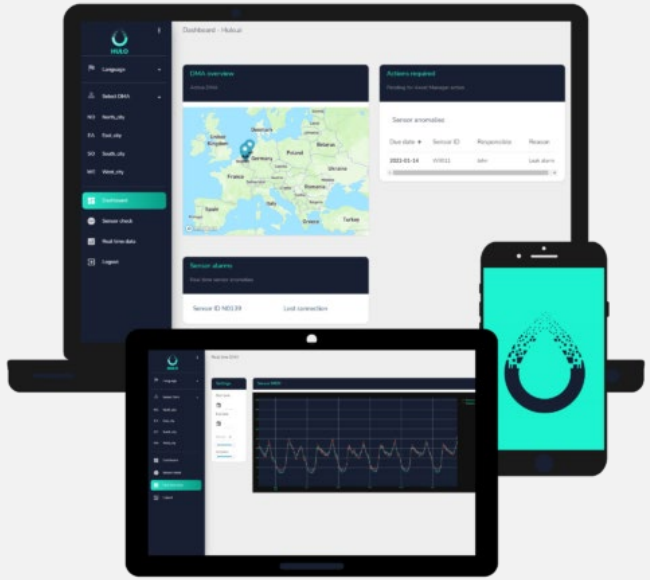
HULO's advanced algorithms detect, localise, and quantify water network leaks in real-time. Requiring only eight days of training data and functioning without pre-defined DMAs, deployment time and cost can be significantly reduced.

Multiple algorithms are used to detect different types of leakages (e.g. bursts, dormant) and for data cross validation. Furthermore, cross referencing between multiple sensors significantly reduces the number of false positives.

By narrowing suspected leak locations to areas as small as 250 m², field teams can prioritise repairs accurately and efficiently, reducing the volume of treated water lost and cutting unnecessary excavation.

One module is used to optimise sensor placement in the network for efficient data collection, leak localisation, or digital twin support. It also can be used for DMA design and optimisation.

HULO Leak Software



TRL 9

FieldForce4
WORKPLACE PERFORMANCE SPECIALISTS

Cloud-based field workforce management system

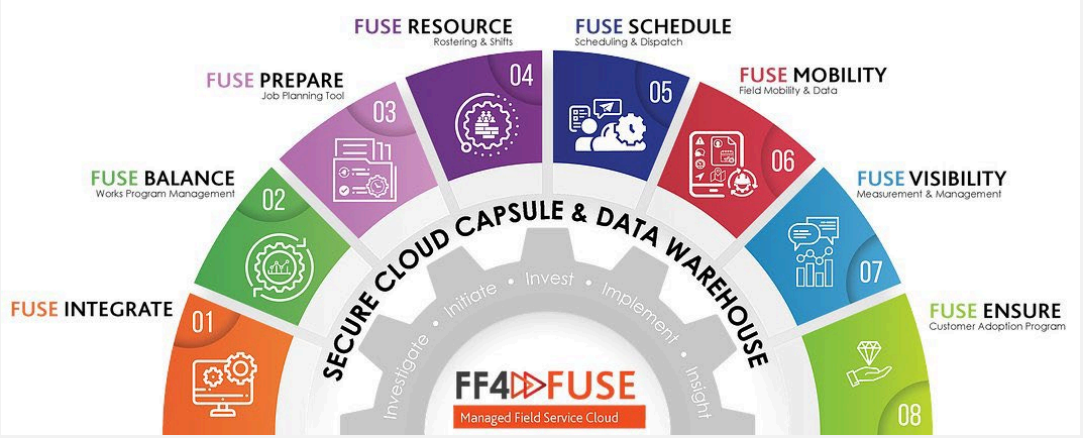
FUSE is a cloud-based, modular software tool that optimises work and resource scheduling, automates job safety assessments and job dispatch for field workforce.

Fuse's mobile application enables field staff to access and add asset data and photos relating to job completion. FUSE analyses this data to provide reports on operational performance and process compliance.

Insights, provided via a performance dashboard for each staff member and in a performance optimisation agenda for supervisors, are used to facilitate productivity improvements.

FUSE targets a 12% productivity improvement, equivalent to adding one additional hour of productive labour per field technician worker in an 8-hour shift.

FUSE



TRL 9

Digital platform designed to maximise the productivity and safety of field operations with AI

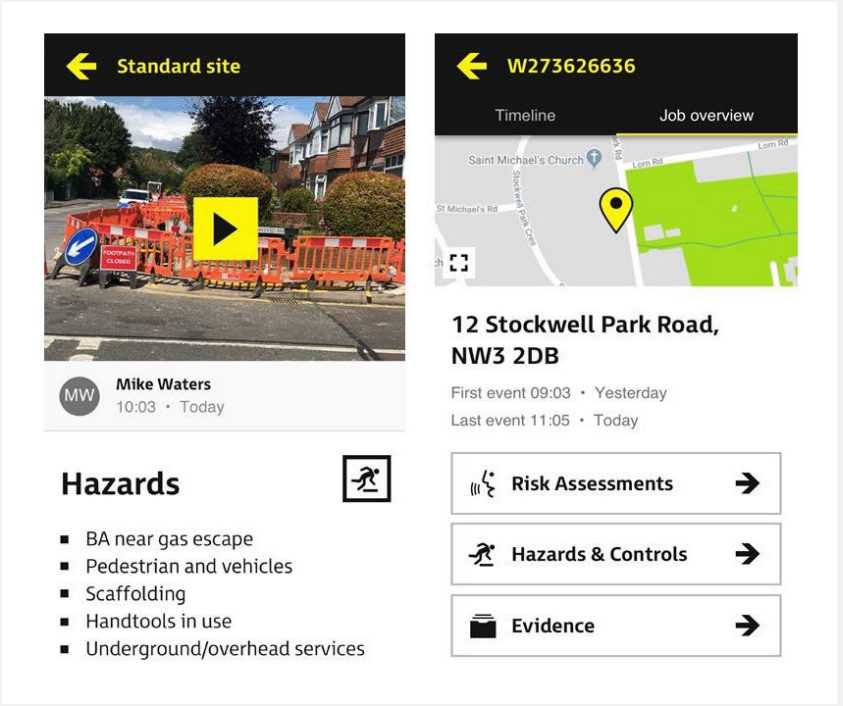
FYLD is a field intelligence platform that utilises artificial intelligence (AI) to convert real-time video, audio, and voice data from the field into structured, actionable insights.

The platform boosts productivity by eliminating manual data entry and automatically generating standardised reports and compliance documentation from field input.

The platform enables smart job tracking capabilities that monitor work progress, dynamic shift handovers to maintain operational continuity, automated permit prompts that ensure regulatory compliance, and AI-powered alerts that notify supervisors of critical issues.

FYLD enables decision-makers greater insight and real-time awareness of field activities and productivity metrics, allowing them to keep projects on track, intervene earlier, allocate resources effectively, and reduce unnecessary administration.

FYLD



TRL 9

User-friendly AI-powered video intelligence platform designed to improve workforce productivity and customer response times

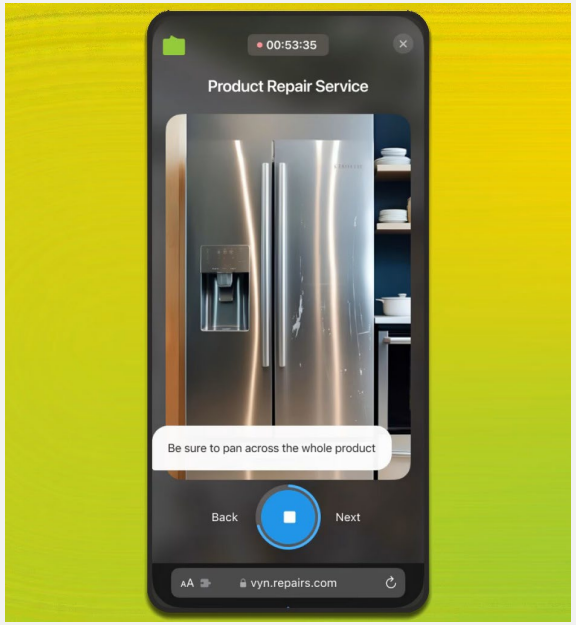
Vyntelligence (Vyn) is a video AI and analytics platform that enables field workforce and customers to capture and submit short guided 'self and/or remote work audits' via smartphones.

The platform automates the labelling, tagging, and categorisation of video content using AI and machine learning, making information searchable and actionable for faster decision-making.

Vyn can predict ‘next-actions’ (e.g. asset health scores for asset condition monitoring, job progress for preventive or corrective maintenance tasks), helping users and business leaders make faster decisions.

The platform replaces inefficient paper/electronic forms, supporting workflow automation, and providing intelligent predictions without the need for hardware investment.

Vyntelligence



TRL 9

FATIGUE SCIENCE

Predictive fatigue management platform leveraging machine learning to increase worker safety and productivity

Readi™ is a predictive fatigue management platform that uses the SAFTE Biomathematical model and machine learning to analyse anonymised sleep data alongside work data, demographics and optional wearable data to predict fatigue levels.

Readi™ provides supervisors with a predictive ReadiScore (0-100) reflecting an hourly fatigue level for each worker. These scores allow supervisors to introduce interventions and countermeasures (e.g. breaks) to reduce risk of occupational health and safety incidents and increase productivity.

The ReadiAnalytics™ analytics software suite enables roster simulations, as well as forecasting and historical data aggregation.

Readi™

TRL 9

TeamSolve

Knowledge Twin™ is a workforce-focused platform that digests historical organisational data and tracks fieldwork operations, to provide data insights and best strategies to manage an asset or improve field productivity, through a chatbot like interface.

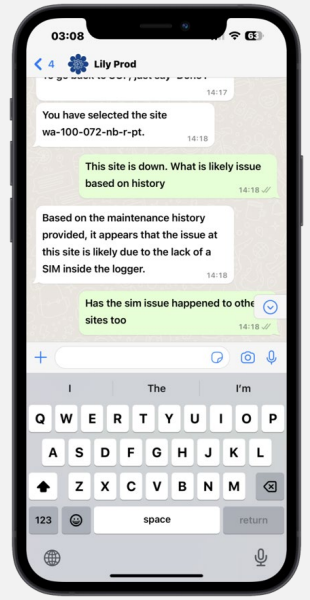
Knowledge Twin™ is a workforce-focused platform that delivers real-time guidance and decision support.

It automates task management, preserves institutional knowledge, and provides on-demand access to tailored procedures, accelerating fault diagnosis and improving maintenance outcomes.

The platform synthesises data to help teams optimise contractor selection, streamline workflows, and ensure billing and compliance accuracy. Users can access knowledge instantly via platforms such as WhatsApp and Teams.

TeamSolve enhances field productivity, supports crisis response, and delivers predictive insights for long-term planning and asset health monitoring, leading to faster onboarding, fewer errors, and reduced downtime.

Knowledge Twin™



TRL 9

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05 Wastewater Treatment

MOLEAER
ADVANCING NANOBUBBLE TECHNOLOGY

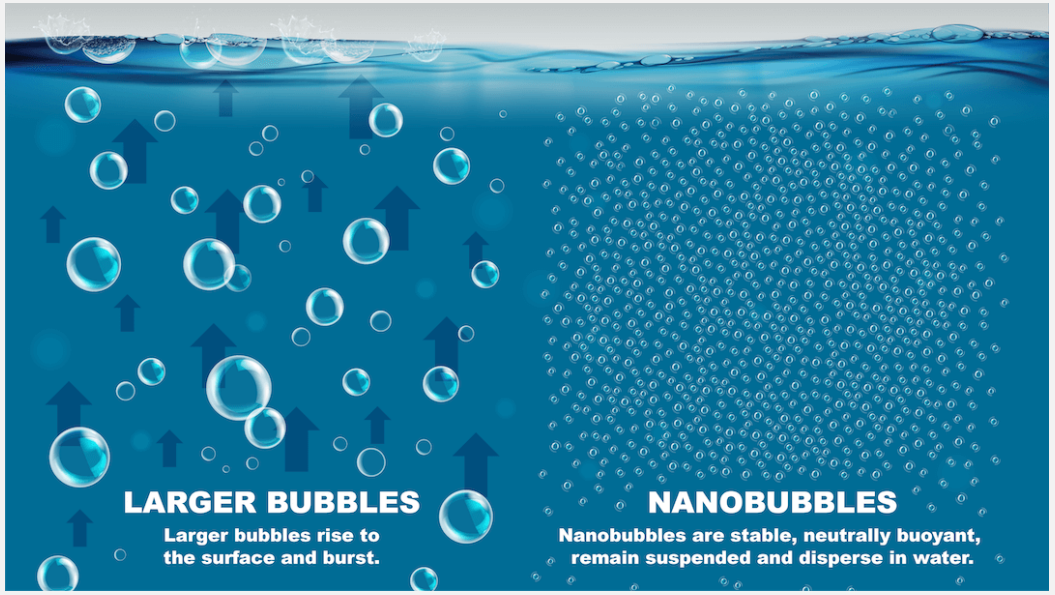
Nanobubble generator for pre-treatment of raw wastewater and process intensification

The Nanobubble Generator (NBG) technology generates nanobubbles (approximately 100 nm) which have a hydrophobic surface and high internal pressure by pumping water and injecting gas.

Moleaer's nanobubble generators can be integrated at the headworks as a drop-in pre-treatment step with minimal retrofitting to convert slowly biodegradable chemical oxygen demand (sbCOD) into readily biodegradable chemical oxygen demand (rbCOD).

Real-world installations have demonstrated up to 45% energy savings at municipal treatment plants, significant reductions in chemical use, and increased treatment capacity, all without major infrastructure upgrades or capital expenditure.

Nanobubble Generator



TRL 9

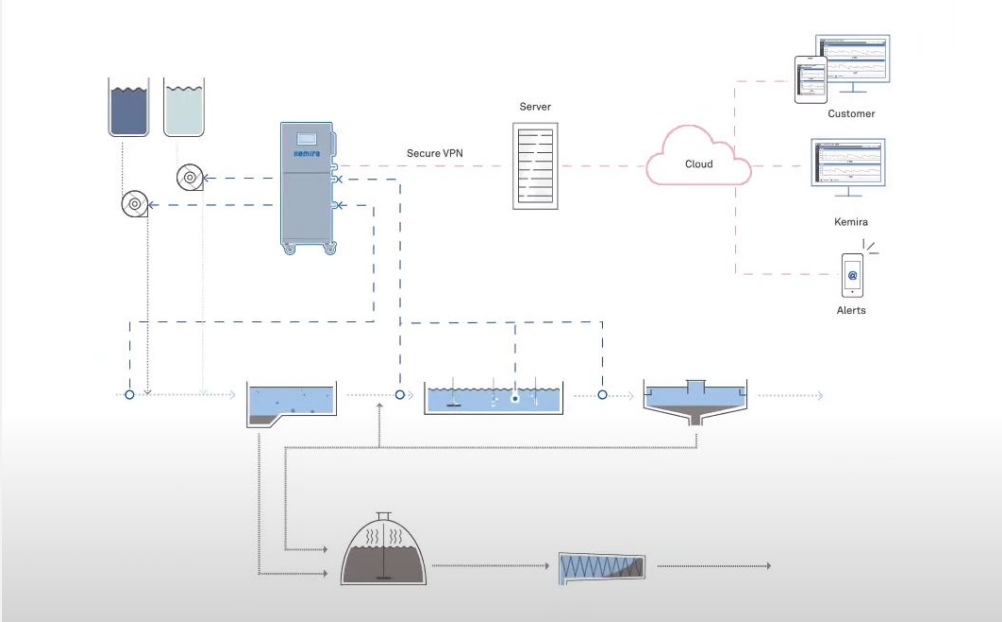
KemConnect™ PT is an automated solution used to optimise the chemical pre-treatment process, enabling various downstream efficiency improvements.

KemConnect™ PT is an automated solution used to optimise the chemical pre-treatment process, enabling various downstream efficiency improvements.

Using real-time sensor data and Kemira's intelligent algorithms, the solution can automatically optimise chemical dosing for primary treatment, replacing manual guesswork.

KemConnect™ PT models the primary clarifier based on actual measured values. This delivers an analysis of the effects of coagulant dosing in 10-15 min, compared to the 2-4 hours typically taken in real-life assessments.

KemConnect™PT



TRL 9

NUVODA MOB Process™

Eco-friendly, ballasted aerobic granulated sludge technology for process intensification of activated sludge systems

The MOB™ process intensifies biological treatment capacity within the existing footprint of activated sludge systems by retrofitting renewable kenaf BioKarrier™ media into existing aeration basins.

This increases treatment capacity and improves nutrient removal without requiring new civil infrastructure, enabling utilities to meet tightening discharge consents or accommodate population growth at significantly lower cost than plant expansion.

Simultaneous nutrient removal and settling saves OpEx by reducing chemical and energy consumption by 50% due to less need for polymers, coagulants, phosphorus precipitants, mixing, and aeration.

Mobile Organic Biofilm (MOB™)

TRL 9

Passavant Geiger

Adaptive influent position system for secondary clarifiers to improve hydraulic capacity and effluent quality

The hydrograv® adapt system dynamically adjusts the influent feed distribution inside secondary clarifiers in response to real-time hydraulic conditions, maximising solids removal efficiency during peak flow events.

This defers the need for costly clarifier expansion by unlocking latent hydraulic capacity within existing assets, improving effluent quality compliance without capital investment in new tanks.

The Passavant® hydrograv® adapt System improves effluent quality to tertiary filtration-equivalent levels, prevents sludge overflow, maintains high sludge concentration even during rainfall, and enhances overall operational safety.

Passavant® hydrograv® adapt System

TRL 9

NOAH
CLOSING THE WATER LOOP

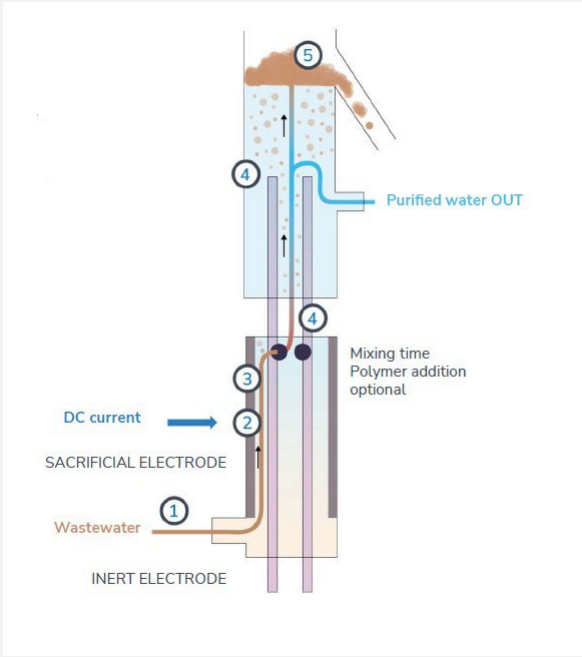
The NOAH Compact Electrochemical Wastewater Treatment Unit (NOAH Unit) is a fully automated system that treats combined or segregated blackwater and greywater streams from a single toilet to a small community.

The NOAH Unit offers a fully electrochemical blackwater and greywater treatment, managing coagulation, oxidation and disinfection without chemical dosing, membranes or biological media.

The NOAH unit is operated via a smart control system that manages reactions, pumps and electrode cleaning, ensuring reliable treatment even with variable or intermittent loading, requiring minimal operator intervention.

the integrated electro-dewatering stage converts sludge into a dry, sealed cartridge that can be safely replaced onsite, eliminating the need for external sludge handling or pumping.

NOAH Compact Electrochemical Wastewater Treatment Unit



TRL 7

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06
Advanced Wastewater Treatment

Energy efficient, high-recovery RO system, for wastewater polishing and reuse

Salinity Solution's SAM is a patented batch RO system that offers footprint and energy efficiency advantages in advanced municipal wastewater treatment applications.

The system achieves lower energy consumption than traditional RO due to its piston-type pressure exchange vessel, which minimises energy wastage during operation.

With a footprint smaller than conventional RO systems, the solution can achieve a higher recovery by recirculating the feedwater around the membrane. This means that 30% more clean water can be achieved from the same input.

SAM System

TRL 9

Chemically active, 3D-printed filters to extract dissolved metals and nutrients for recovery

4D Scavenger® features chemically active 3D-printed filters that can selectively extract dissolved metals and nutrients at high throughputs and a recovery rate of up to 99% for both water treatment and raw material recovery.

4D Scavenger® can target low-concentration elements in µg/l levels from complex water streams, to produce concentrated, usable recovered metal solutions while minimising waste.

The solution provides faster reaction rates, higher selectivity, smaller footprints, quicker operation, and higher adsorption capacity compared to traditional ion exchange, leading to energy-efficient filtration through low-pressure flows and lower cleaning chemical requirements.

The modular, customisable units can be easily integrated into existing processes and operated remotely and automated, maximising productivity.

4D Scavenger®

TRL 8

Containerised, low-energy PFAS destruction system for high-strength liquid waste streams using a proprietary hydrated electron process

The H2Plus PFAS Destruction System is a containerised, continuous flow platform designed to completely destroy PFAS in leachate, industrial concentrate, and other high-strength liquid waste streams

The system mineralises PFAS in a single step with no external chemical inputs or extreme conditions, post-treatment, or hazardous waste disposal, streamlining the treatment process significantly.

The H2Plus PFAS Destruction System's enables scalable treatment of flowrates with its modular design.

H2Plus PFAS Destruction System

TRL 7

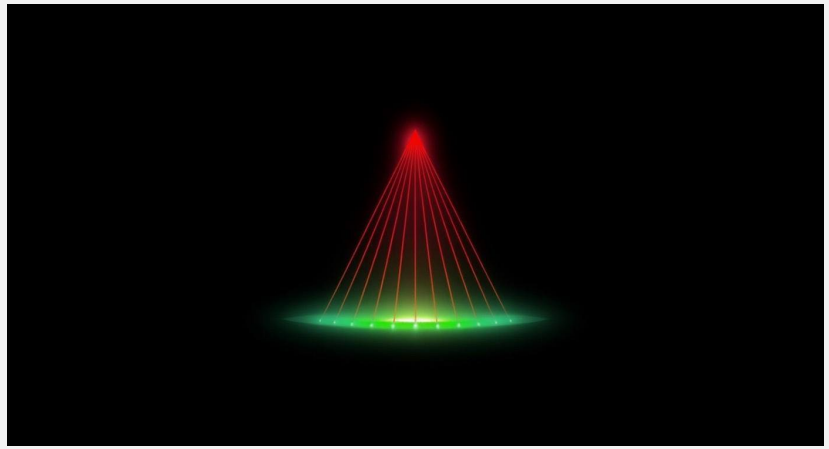
PFAS destruction system for in-situ GAC regeneration using electron beam accelerators

Electron beam accelerators generate high-energy electrons that break molecular bonds in organic compounds, converting them into compounds such as water, carbon dioxide, and mineral salts.

The compact e-beam accelerators offer precise, targeted energy delivery, minimising operational costs.

In-situ treatment allows for the reactivation of GAC on-site, eliminating the downtime and logistical costs associated with transporting spent carbon to reactivation facilities.

e-beam



TRL 5

Passavant Geiger

vyn

SippTech
Integrity Renewed³

GLOBAL WATER SUMMIT 2026

SWISSLOOP TUNNELING

SAMP

Spatial insight

WEEE FINER

ACWA ROBOTICS

7Analytics

Salinity SOLUTIONS

TeamSolve

bit-teiler

HULO
SAVE TIME. SAVE WATER.

30 Solutions for Productivity

MOLEAER
ADVANCING NANOBUBBLE TECHNOLOGY

bluemethane

FieldForce4
WORKPLACE PERFORMANCE SPECIALISTS

NOAH
CLOSING THE WATER LOOP

FATIGUE SCIENCE

H2Plus

CarboNet

hyperion™
robotics

NUVODA
MOB Process™

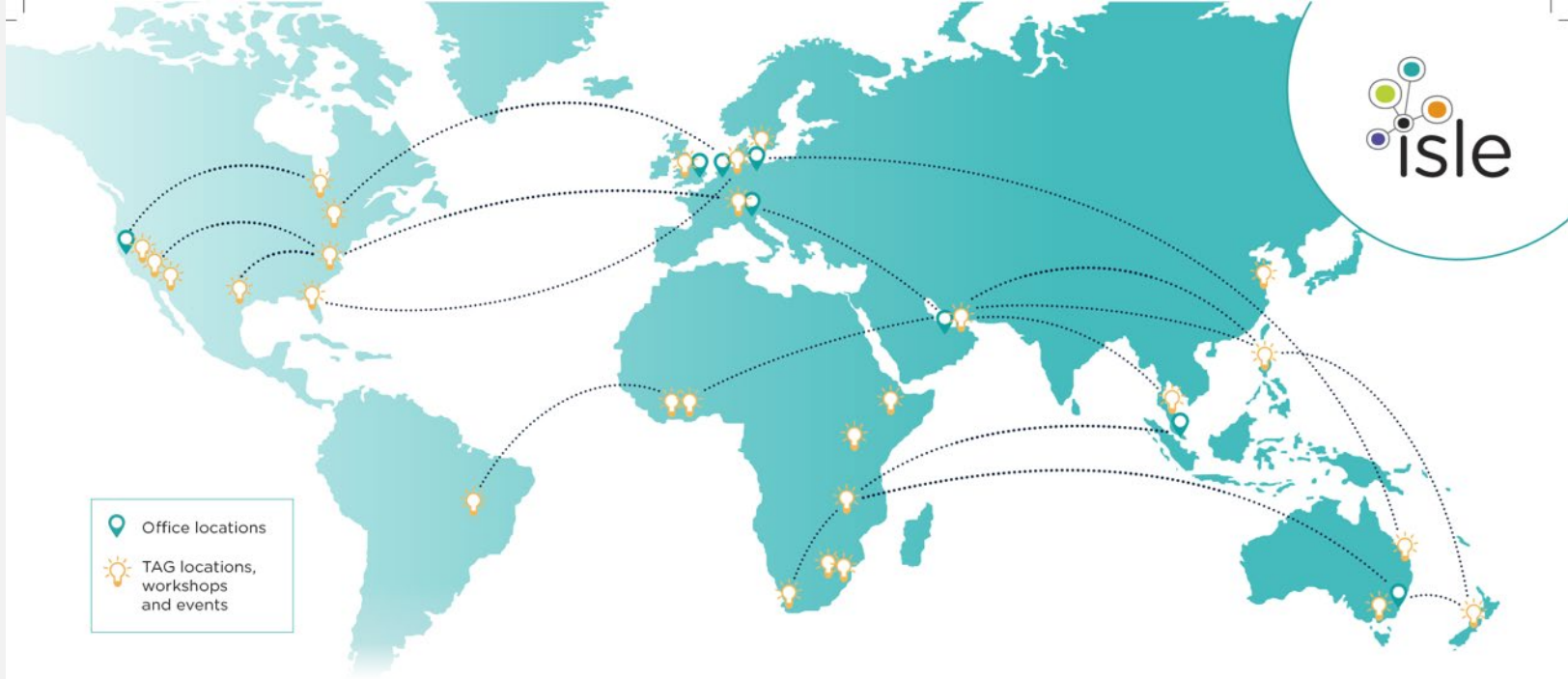
kemira

FYLD

info tiles®

RAPIDA

WE BRING TECHNOLOGIES TO LIFE



>12,400 TECHNOLOGIES EVALUATED

>3,700 TECHNOLOGIES INTRODUCED

>1,700 TECHNOLOGY PRESENTATIONS

17 ESTABLISHED FORUMS

>350 UTILITY PARTNERS

>450 CLIENT PROJECTS DELIVERED

Identifying Challenges

We collaborate with the world's leading utilities and technology end users. After establishing their challenges, we find solutions through the independent sourcing of innovative technologies.

Connecting Technologies

We provide market intelligence to technology providers, enhancing the commercialisation process through increased dialogue and understanding of prospective clients' needs.

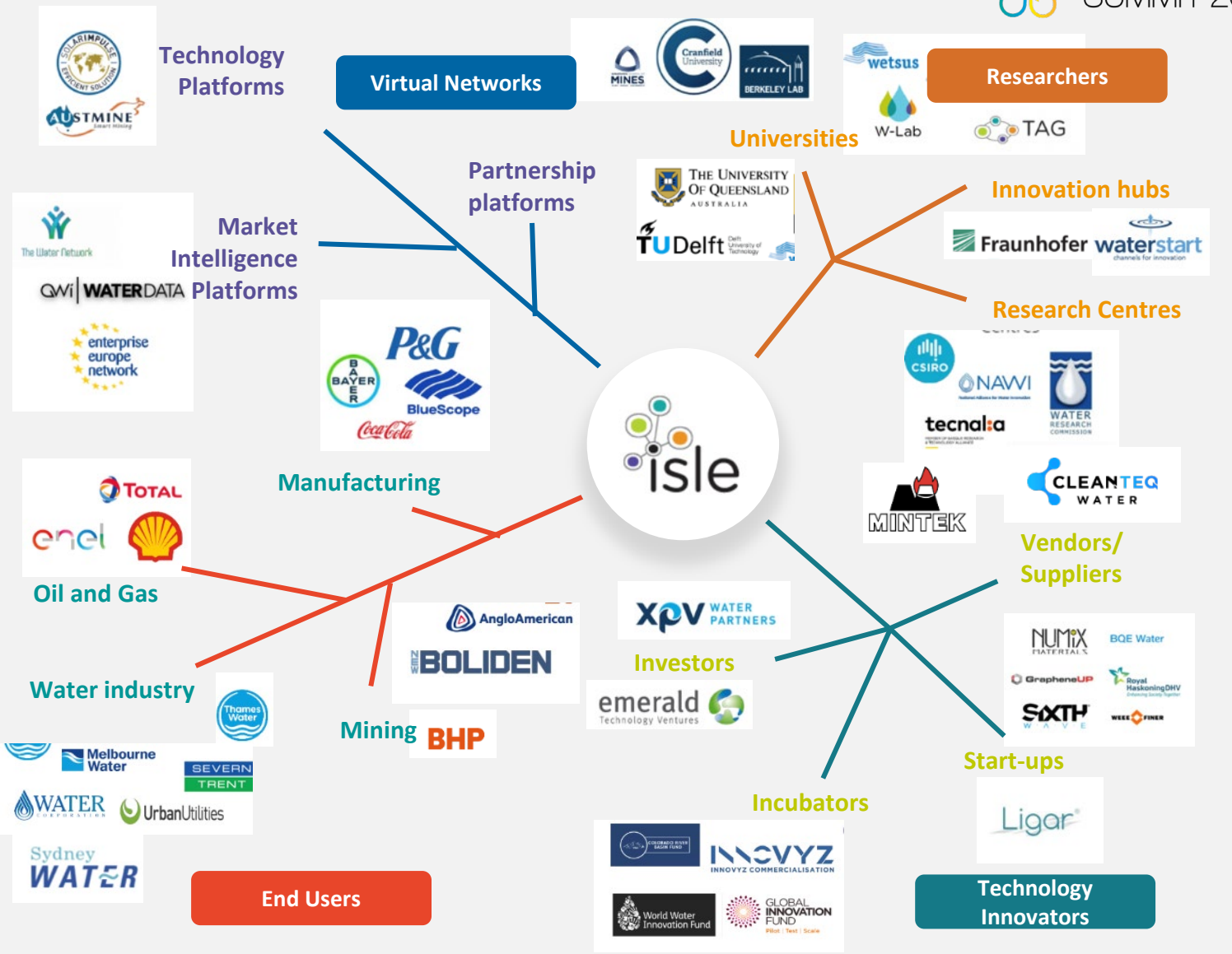
Collaborative Evaluation

Our innovation forums collaboratively review emerging technologies in a peer-to-peer environment increasing opportunities for knowledge transfer and shared resources to support the uptake of technology.

Our Global Network

Isle's engagement with diverse sectors and active involvement in water-related projects has helped us to foster relationships with water utilities, research institutions, and innovative start-ups across the globe. This extensive network not only enriches our knowledge base but also enables us to offer unparalleled insights and solutions.

By staying at the forefront of technological advancements and maintaining close ties with industry pioneers, we are well positioned to support the growth of innovation in water.



GLOBAL WATER SUMMIT 2026

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