



Digital Water application in Cambodia

Thomas Allen - RSK Centre for Sustainability Excellence



RSK overview

- Founded in **1989**, with over **10,000 specialists worldwide**, the RSK group is made up of more than **175 companies**
- We are the UK's **largest independently owned** environmental, engineering and technical services provider
- Certification to international standards for quality, environmental management and health and safety management

យើងជាក្រុមហ៊ុនរបស់ចក្រភពអង់គ្លេស។ យើងលក់សេវា

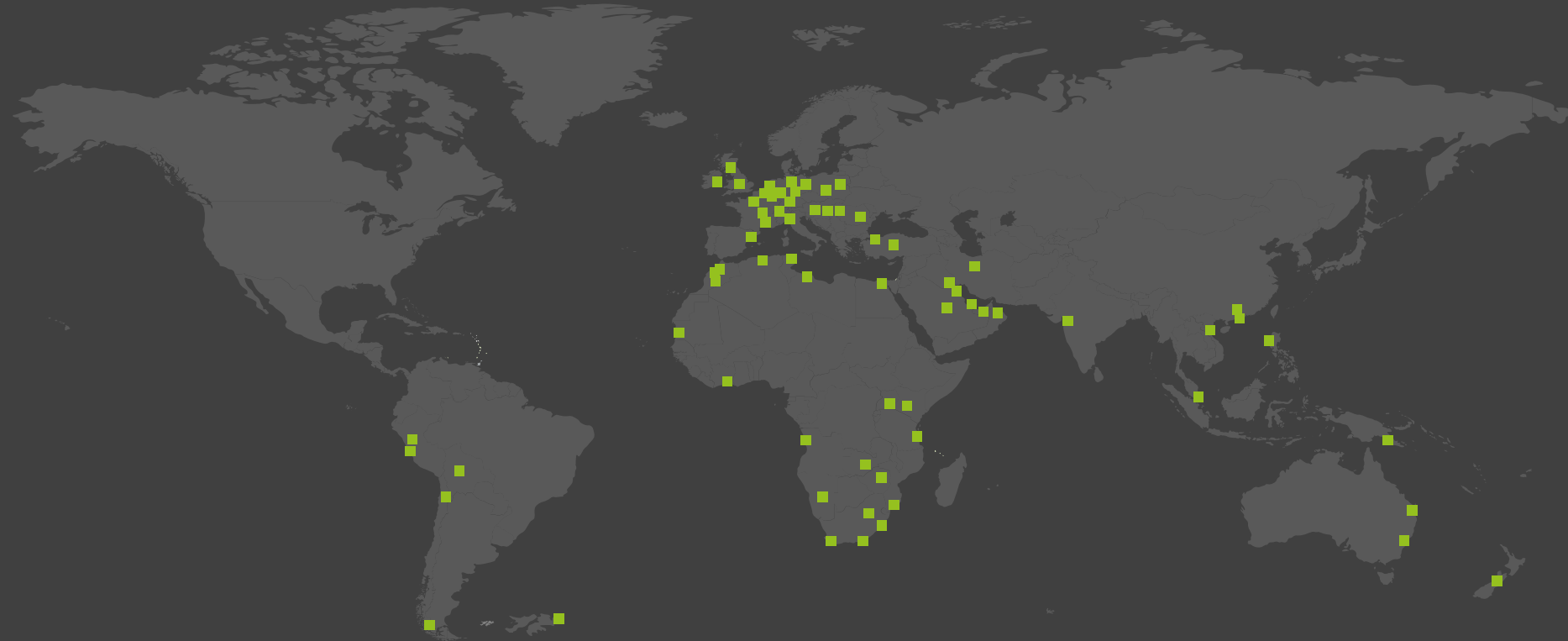
វាកម្មបរិស្ថាន បច្ចេកទេស និងវិស្វកម្ម



Our Global Teams

RSK is a **UK-headquartered business** with an established presence in over **40 countries around the world.**

យើងធ្វើការនៅជាង 40 ប្រទេស



Meet the RSK Centre for Sustainability Excellence team



Lucy Thomas
CSE Director & MD



William Yong
CSE Director & MD
of Binnies
Singapore



Danielle King
Head of Climate
Change



Weiting Liu
Climate Consultant



Thomas Allen
Head of Digital
Water



Shwetha Selvam
Data Analyst



Catherine Lim
Administration
Manager



Dr Robert Charnock
CSE Director & Director
of the Metis Institute



Four teams in the centre

RSK CfSE aims to be a world-leading, research-led, multidisciplinary consultancy and innovation hub that develops and delivers solutions to achieve the UN SDGs, Net Zero and the global challenges we all face, supported by Metis Institute of Climate Strategy and relevant RSK Group business across sectors.



CLIMATE CHANGE

- Delivery of assessment, management and disclosures services in support of the Paris Agreement and UN SDGs
- Management, disclosure (including TCFD, CDP and GCoM) and advisory services on ESG strategy and planning, green funding and carbon offset credits and markets, greenhouse gas assessment and reduction, and climate change risk assessment
- Nature-based solutions consultancy for biodiversity net gain, science-based targets for nature, task force on nature-related financial disclosure, natural capital accounting and rewilding



RENEWABLE ENERGY

- Support the development of renewable technologies, including floating solar and tidal energy projects
- Construct and operate floating solar and tidal renewables projects
- Maintenance of renewable energy installations



DIGITAL WATER

- Innovation
 - A testing ground and framework for new ideas
 - Innovation development from proof of concept, through pilot testing to Minimal Viable Product
- Delivery
 - Blended methodology combines the best components from the technology, water engineering and consultancy sectors
 - Harness RSK's knowledge and expertise along with leading edge digital development
- Talent
 - Develop digital skills and competences to support the water sector and internal skills
 - Establish partnerships with academic institutions to provide student placements



SUSTAINABLE AGRICULTURE

- Agricultural supply chain vulnerability and adaptation to support net zero
- Use of renewable smart energy systems for crop production, lighting and cooling
- Crop yield enhancement and resource use efficiency

METIS INSTITUTE OF CLIMATE STRATEGY

Established to contribute to the global debate on corporate climate strategy · Bridging academia and practice through robust and timely research projects
Focussing on how to enhance the climate resilience of businesses across APAC

EXTERNAL: Events, campus recruitment, round tables, case studies and insights · **INTERNAL:** Employee events and networks, innovation, research and capacity building



Digital Water mission and vision

Our mission is to **accelerate digital adoption** in the water sector by providing world leading **solutions, skills and innovation**

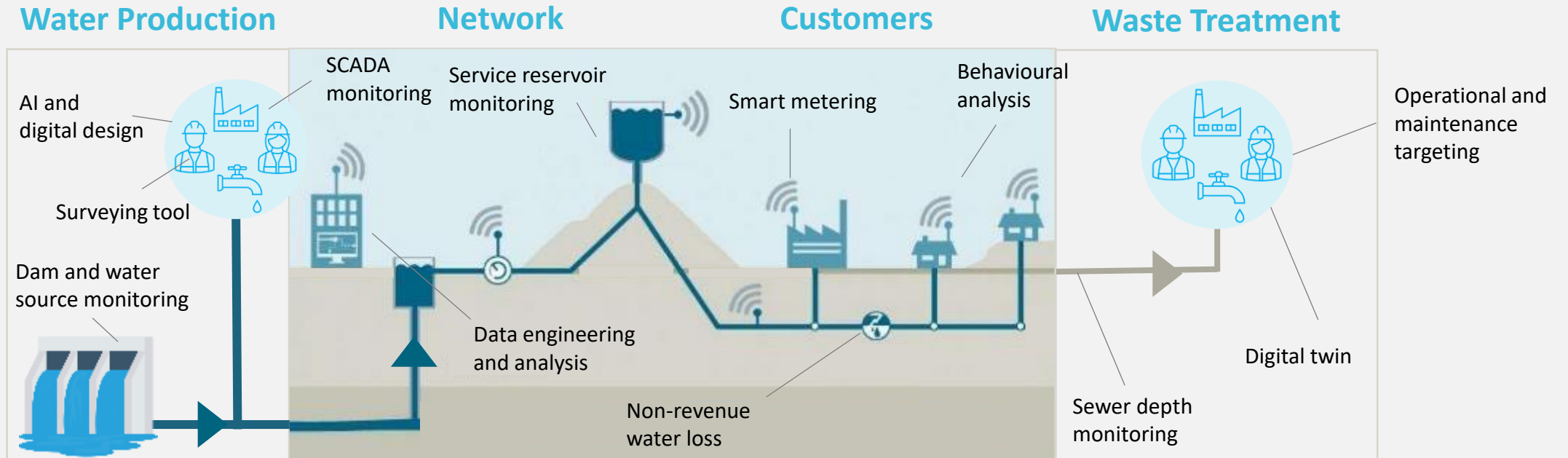
Our vision is a world where **safe, sustainable and resilient water** is available for all

គោលបំណងរបស់យើងក្នុងការផ្តល់ទឹកប្រកបដោយសុវត្ថិភាព
និរន្តរភាព និងធន់គឺសម្រាប់មនុស្សគ្រប់គ្នា



Digital water utility

We support the **planning, design, implementation and operation** of digital technology to enable the **water utility of the future**



Reduces...

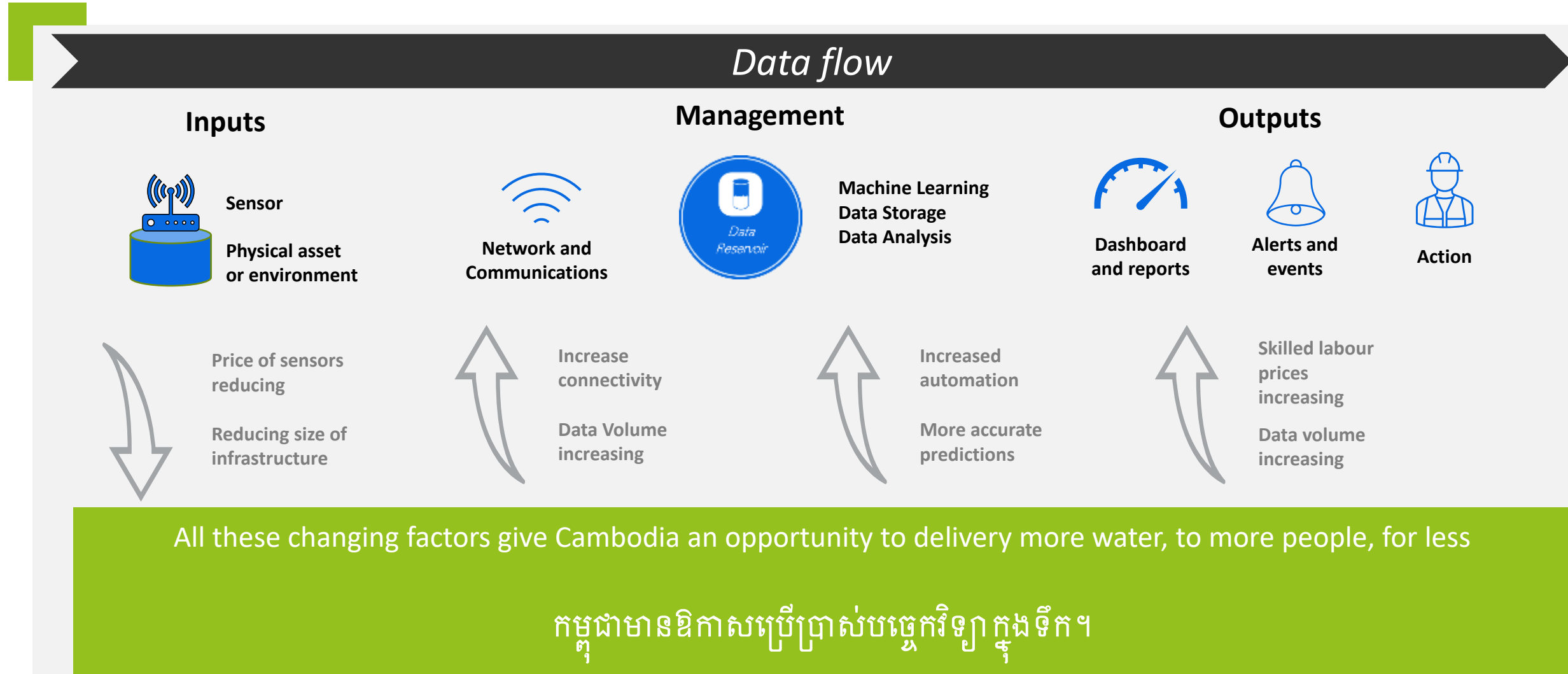
- Design time
- Skilled labour costs
- Reactive maintenance
- Non-revenue water loss
- Outages

Benefits

Increases...

- Customer satisfaction
- Profitability
- Data accuracy
- Operational visibility
- Asset life

Digital technology stack



Services we offer

សេវាកម្មរបស់យើង ។

ការប្រឹក្សាយោបល់



With years of experience across the water and digital domains, we offer specialist consulting services to support clients in Digitising Water.

- **Digitisation benefits analysis**
- **Digital transformation**
- **Feasibility studies**
- **Smart metering strategy**
- **AI and digital design**
- **Data architecture and strategy**

បច្ចេកវិទ្យា



We market scan for the latest technology, and support in selection of connected asset hardware, network availability and digital readiness.

- **Digital planning**
- **Market scanning**
- **Technology selection**
- **Technology collaborations**

ការវិភាគទិន្នន័យ



We have built a modern cloud based data platform to host external, internal and open data. This is a highly flexible and scalable platform.

- **Operational reporting**
- **Data engineering**
- **Data science**
- **Operational and maintenance targeting**
- **GIS and Geospatial analysis**
- **Behavioural analysis**

កម្មវិធី



Ready made digital water software to manage the entire lifecycle of water processes. Products can be customised or built new to meet each client's needs. This included our advanced Helix platform to offer:

- **Digital twin**
- **Surveying capture tool**
- **Dam monitoring**
- **Data quality tracking**

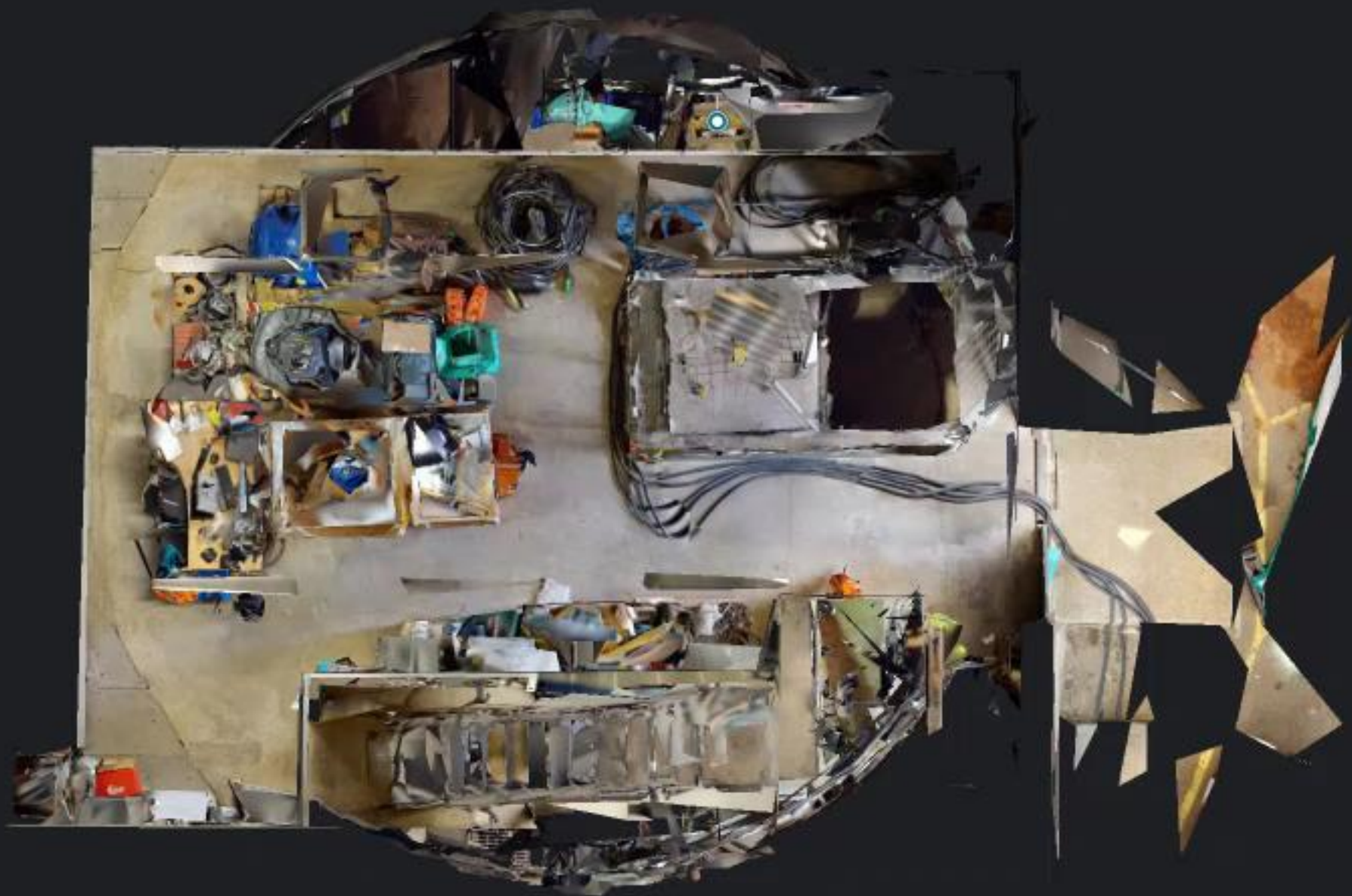
Example of digital water assets

Steps we deliver

- 1 Install sensors on critical pumping assets
- 2 Collect data and transmit into Digital Twin software
- 3 Analyse data against past trends and patterns
- 4 Monitor and raise alerts when issues detected
- 5 Proactively arrange maintenance action
- 6 Resolve the issue before asset outage
- 7 Capture results and feed back into the analysis



Digital Water Transformation



View Dollhouse



PUB Choa Chu Kang Waterworks (CCKWW), Singapore

Binnies is supporting reconstruction works in 2022 to equip it with the latest water treatment technologies and smart capabilities

It features autonomous systems to reduce manpower for labour-intensive tasks such as chemical preparation for the water treatment process

Online sensors will monitor and predict the condition and performance of equipment such as pumpsets in real time

Benefits

- Reduced labour costs for maintenance
- Reduced reactive maintenance
- Reduced downtime and outages
- Equipment performance improvements



Yorkshire Water, UK

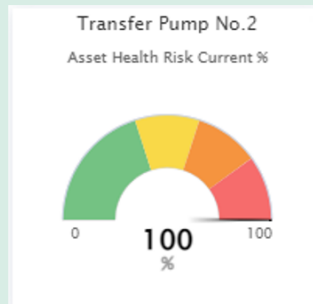
Covering 5.5 million homes across rural areas and cities, Yorkshire water requested our services to deliver proactive monitoring on their key assets and processes.

What we did

HELIX has been configured for proactive asset failure monitoring as part of Yorkshire Water's Dynamic Maintenance programme. So far, the focus for the HELIX implementation has been wastewater treatment works assets.

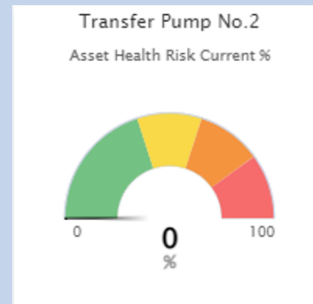
How we did it

HELIX automatically consumes over 9500 data points every 15 minutes. To date HELIX has **proactively notified YW of over 250 asset anomalies.**



Outcomes

This solution has contributed to a **31% reduction in reactive maintenance** by proactively notifying of critical asset anomalies.



Aarhus Vand (AAV), Denmark

RSK (Binnies) deployed of AAV's "OneWater" platform which utilised Azure resources and services to integrate a wide range of datasets, which enabled Data Driven Asset Management (DDMA).

The scope of this work included:

- User Requirements Gathering
- Data Source Review
- Master Data Modelling
- Process Architecture Design (Including Azure Data Factory integration)

Benefits

- In-house capability developed for client
- Repeatable framework for future datasets beyond DDMA
- Single source of truth for Asset management
- Automated and accurate dataflows



Aarhus Vand (AAV) Digital Asset Management, Denmark

RSK developed part of AAV's digital blueprint, which we co-wrote after project completion, and is being integrated within new project specifications

We promoted a data driven approach to asset management and the need to share the journey with other organisations which has resulted in jointly presenting at multiple conferences and webinars

Benefits

- Estimated 40% reduction in reactive maintenance work,
- Estimated 60% reduction in maintenance spend using industry standard ratios
- Enabled alignment to the UNSDGs
- Improved forward planning and risk-based decision-making,
- Optimised investment plans



Key learnings for Cambodia

- **Big challenges are best solved together** - កិច្ចសហការ
 - We are open to partnering with local companies, public organisations and other MNCs
 - We live sustainability, and take a joined up approach with climate and biodiversity
- **Cambodia has a unique opportunity** - ឱកាស
 - We can help build digital by design
 - Retrofitting is difficult, being digital ready helps for the future
- **Digital automation can help with a skills gap** - ជំនាញ
 - By using digital technology, some complex tasks are removed
 - Digital training advancements can upskill labour faster
- **Automation and miniaturisation is tailored for rural operations** - ស្វ័យប្រវត្តិកម្ម
 - Reduces travel times and reduces outages
 - Allows for smaller deployments for rural regions
- **New costing models are available** - តម្លៃថ្មី
 - We offer flexible pricing on solutions
 - Data as a service, or software as a services reduces the need for as much upfront investment

Wherever you are on your Digital Transformation journey, we can enable the water utility of the future.

យើងអាចជួយបាន។

Planning	Design	Delivery	Operate
<ul style="list-style-type: none">• Benefits and business case• Implementation and feasibility study• Readiness and opportunities review	<ul style="list-style-type: none">• Technology selection• Digital tender specifications• Data and system architecture	<ul style="list-style-type: none">• Software implementation• Technology installation• Data analysis	<ul style="list-style-type: none">• Software support• Data analytics• System operator



សូមអរគុណ

Please get in touch at **tjallen@rskgroup.com**
or connect on LinkedIn using the QR code

Thomas Allen
Head of Digital

