SWAN
SMART WATER NETWORKS FORUM

Keynote: "From Reactive to Proactive: A Control Room Transformation Driving Organisational Change & Improved Decision Making"

Sharon Hamilton
Intelligent Control Centre Manager
Scottish Water

Scottish Water’s Intelligent Control Centre

Our Transformation Journey

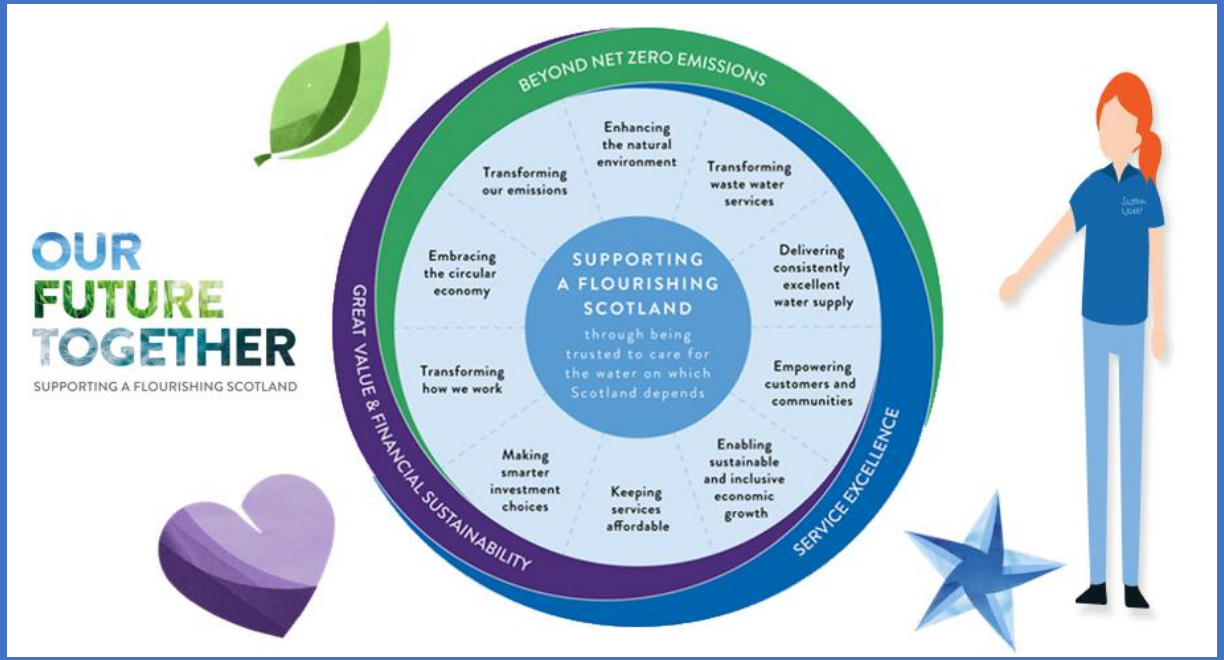
Sharon Hamilton | November 2024

SW Internal
General

Scottish Water

- Providing essential Water and Wastewater services to over 2.6 million households
- Publicly owned and funded through customer charges
- Proud asset of Scotland

Our Strategic Ambitions



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We won’t have enough funds to invest in everything we need, so we’re faced with 3 options

1) Ask for more cash
Borrowing from government and increasing customer charges

2) Get support externally
Changing customer habits and reducing leakage

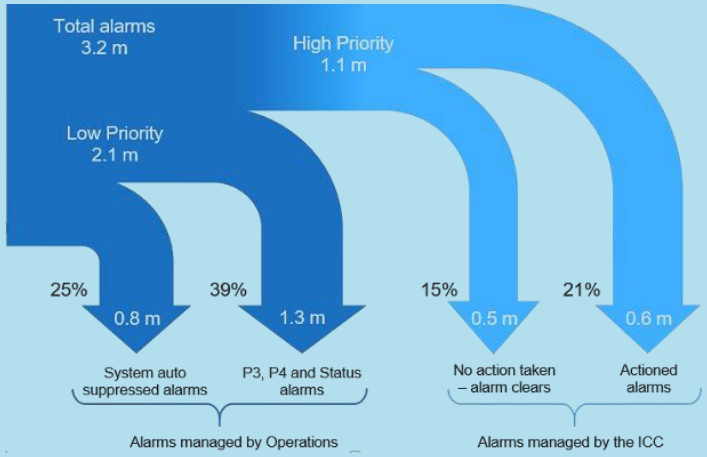
3) Take action ourselves
Look at our org and drive improvements with what we have

Intelligent Control Centre (ICC)

- Created in 2010
- Grown and built maturity over time
- Providing 24/7 critical services and support
- Monitoring and managing risk
- Built strong foundations that will support our future transformation

3.1 million

telemetry alarms every year



25,000

out-of-hour callouts every year

£2.5m

cost every year

9,500 hours

lost due to rest time

Unreasonable demands

on our people

500 + Incident Alerts

12,500 hours

of free time lost

The opportunity for transformation lies in proactively responding to our asset data

Preventive Action: Proactive Asset Management

Listen to Data

- Millions of underutilised alarms
- Leveraging data can help anticipate failures

Innovative Practices

- Embracing new ways of working
- Prevent asset failures
- Reduce emergency responses

Immediate Benefits

Operational Efficiencies

- Less time spent on reactive measures
- Improves productivity and efficiency within control room

Customer Satisfaction

- Fewer failures means fewer customer service call-outs
- Enhances customer experience

Organisational Impact

Collaborative Asset Health Management

- Org-wide view of asset health
- Informs effective and dynamic investment decisions

Employee Wellbeing

- Making jobs easier
- Reducing unreasonable demands
- Lowering stress
- Breaking down silos

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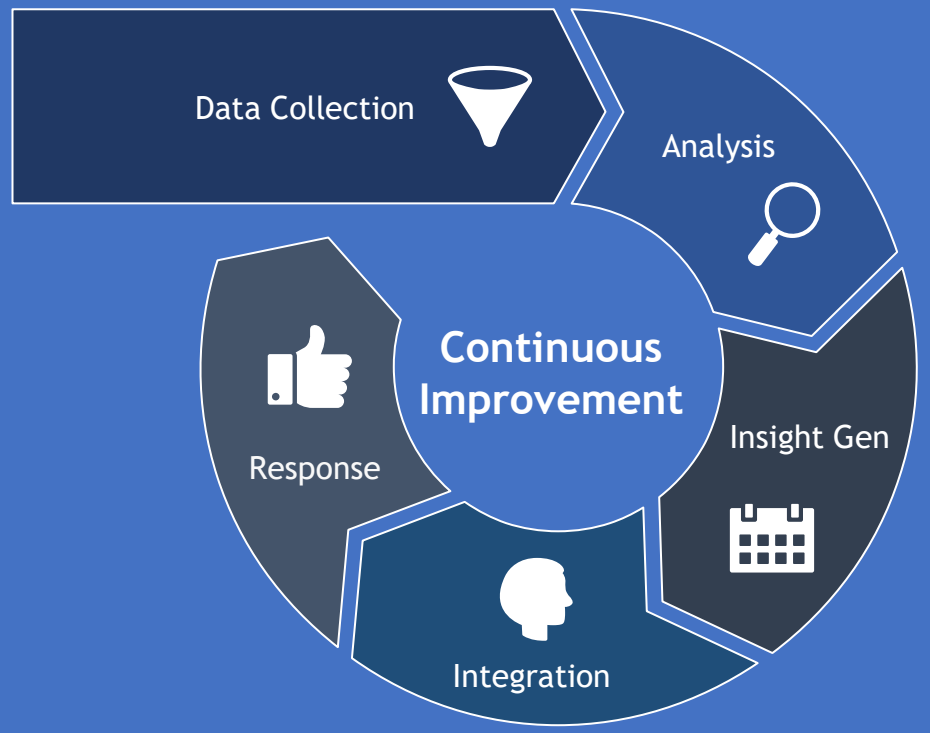
ICC to ROC


Data Collection
Analysis
Insight Gen
Integration
Response
Continuous Improvement

Scottish Water

We have defined several transformation work streams

Condition Based Monitoring
We have deployed at scale and moved into proactive maintenance whilst building SW strategy

Asset Insights
We developed insights dashboard PoC which has incorporated several rounds of feedback from Control Room team members

Remote Management
We enabled remote control of Water treatment assets and are implementing automation on our existing telemetry systems

Technology Enhancements
We are building out new reporting capabilities and bringing data together to aid decision-making

Selected based on opportunity to drive benefit and quick wins for our people

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Today we will briefly discuss Asset Insights and Remote Management

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Asset Insights

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We currently monitor only two alarm types, missing valuable asset data that could indicate early changes

We have 4 types of alerts

P4	Something's not quite right
P3	Definitely feeling under the weather
P2	Urgent Emergency Care
P1	Critical Response Required

Current Process

P2 P1 → Reactive Response

We wait until a **P2** or **P1** alert is received and Urgent Emergency Care is needed before we respond

To-be Process

P4 P3 → Proactive Preventative Response

P2 P1 → Reactive Response

We proactively analyse **P4** and **P3** alerts to anticipate and understand changes in asset health to enable proactive interventions and defer capital investment need

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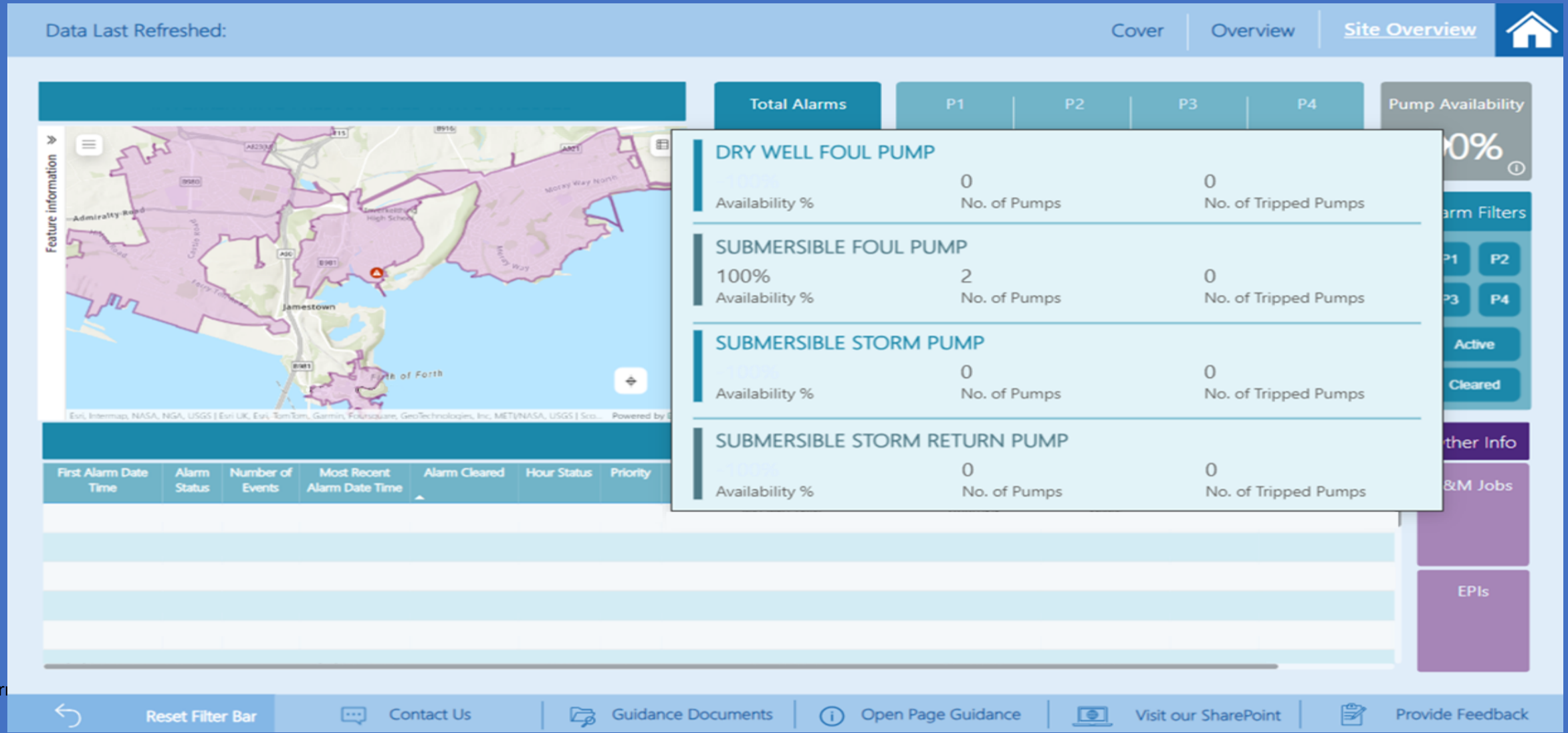
We are building a systemic view of our asset base with integrated data that provides meaningful insight



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Paul Warrington
Product Owner

Remote Control

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From Aspiration to Reality:
Lochmaddy Water Treatment Works

6th October – Power Brownout

- Remote restart of the Water Treatment Works was successfully completed within 20 minutes of the alarm reaching the operator.
- Without remote control capabilities, the operator would have faced a four-hour round trip, potentially impacting our customers and risking our reputation.

Donald McCrury
Team Leader - Western Isles

We have learned several valuable lessons

v1.0 *(June 2021 – December 2022)*

- ☑ Passion / drive from people
- ☒ Alignment on vision
- ☒ Driven top-down with bottom-up engagement
- ☒ Program structure

v2.0 *(June 2024 – Present)*

- ☑ Cross-functional collaboration (ONE team)
- ☑ Leadership alignment on vision
- ☑ Blend of top-down and bottom-up input
- ☑ New structured and transparent ways of working
- ☑ Strategic prioritisation of initiatives

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Thank You

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