



**Scottish
Water**



**The Scottish
Government**
Riaghaltas na h-Alba

**Trusted partners
in the global
water community**

Collaboration at its best: How to Achieve a Successful Knowledge Transfer Partnership

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Analytics and Modelling Manager



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- **The Problem**
- **The Project**
- **The Collaboration**
- **The Winning Formula**
- **The Achievements**



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The Problem



30,000 miles of water pipes
30,000 miles of sewers
2,000 treatment works

1.3 billion litres of drinking water to deliver each day
2.45 million households

Invested £1.2 billion to maintain our services from
2010 to 2015.



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The Problem



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The Project

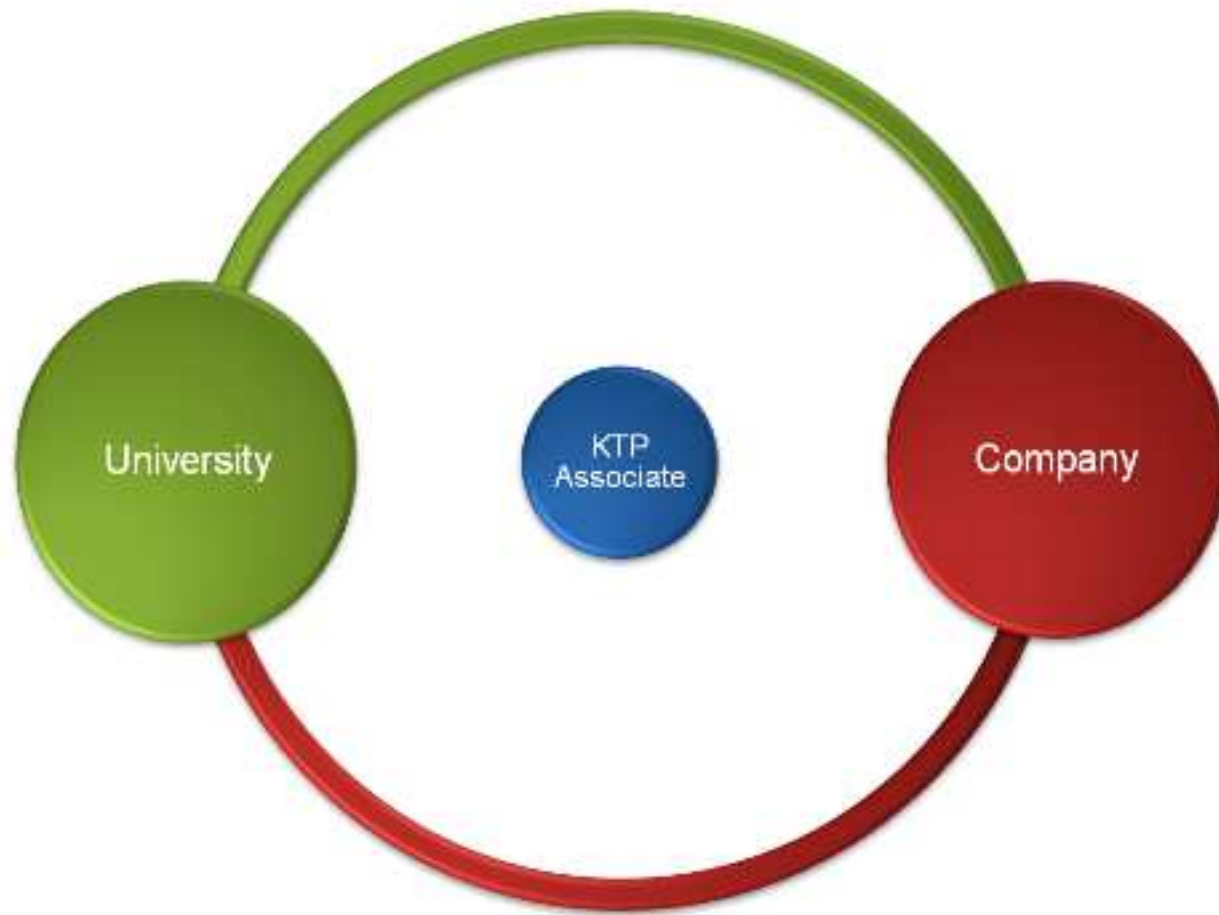
1. To develop statistical models to forecast asset performance.
2. To develop an optimisation tool for planning expenditure over a short, medium and long-term planning horizon.



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The Collaboration



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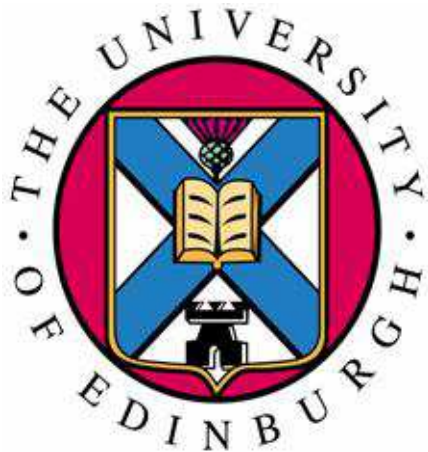
The Collaboration



- Prof Lesley Walls (Head of Management Science, Strathclyde University)
- Prof Tom Archibald (Head of Management Science, Edinburgh University)
- Prof Jake Ansell (Edinburgh University)

Expertise:

- Reliability modelling involving expert knowledge
- Managing uncertainty
- Risk management and the optimisation of investment



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The Collaboration



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Academic Partnerships



Industry Partnerships

RISK CONSORTIUM





- Using a “win-win” situation
- Current problem that has potentially large benefits
- Problem has longevity
- Solutions that can be owned by the company afterwards



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The Winning Formula



- 2 associates, 2 universities
- Project sponsor in a high enough position
- Company supervisors who know enough of the subject and can help embed the problem into the company
- Keeping on track

The will to SUCCEED!



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The Achievements

- Long-term forecasts of asset performance, risk and investment allocation
- Genuine savings for the company and regulator recognition
- Finalist for the 'Best of the Best KTP in the UK' Award 2015
- Associates employed permanently in the company
- Academic papers presented at international conferences
- Teaching advantages for the Universities – real-life examples
- Continued collaboration on various projects
- Expansion of company team into Asset Intelligence and company ownership and further development of the knowledge gained in the project



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Asset Intelligence

Purpose Statement:

To help Scottish Water succeed by improving the quality and availability of data and enabling insightful analytics led decisions.

Primary Functions:



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Thank You –

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