



## Executive Summary

Stream is a sector-wide initiative enabling a scalable, repeatable approach to Open Data in Water. Stream aims to bring benefits to the water sector and beyond by establishing a widely accessible open data platform and associated governance and data standards, with a vision to unlock the potential of water data to benefit customers, society, and the environment.

Working as a collective comprised of 11 water companies and 6 partner organisations, Stream has already worked through phases to define the strategy and co-create an open data framework for the sector. The latest phase has produced this Blueprint, mobilising nine workstreams to gain a deep understanding of requirements, develop a detailed design for Stream, and identify timings, costs and requirements for the subsequent Implementation phase.

Potential partnership opportunities were assessed, identifying the roles of different organisations within the data ecosystem and potential users to engage with for insights and requirements gathering. User interviews with 37 potential users of water industry data across seven categories highlighted strong support for Stream's vision and 3 key foundational requirements for Day 1:

- Ability to find datasets through search and browse;
- View a dataset's attributes and contextual information;
- Download or access the data itself.

To meet these needs (and other requirements identified through the research phase), this Blueprint sets out a detailed design for Stream. Key highlights are:

- Stream is to be established as a Consortium of water companies for Day 1, with a potential later transition to a separate legal entity. A governance structure is being put in place and data licensing requirements have been defined;
- Stream will procure a platform from existing providers to enable a hybrid technical architecture enabling both centralised and decentralised data storage and access and support both standardised and non-standardised data sets;
- Stream will implement a defined operating model structured to support the identified data supplier and data user journeys and associated data, information, and legal relationships.

This Blueprint sets out details of Stream’s next phase, Implementation, which will execute a 10 month delivery roadmap taking Stream to “Day 1” with Minimum Viable Products (MVPs) live. The total cost of the Implementation phase is estimated to be £4.415m, with a 2-step platform procurement process.

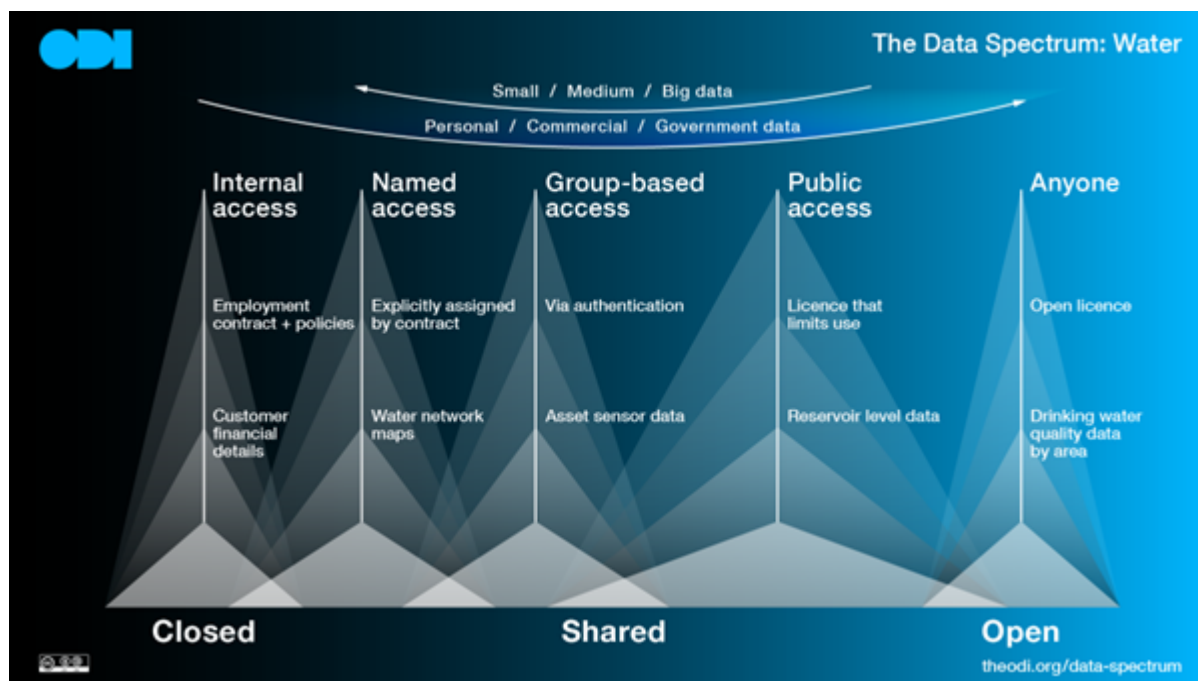
Further delivery phases would enable more complex use cases, greater functionality and new revenue models. This may also include transitioning Stream to a separate legal entity once the open data platform and its associated benefits have been proven (potential advantages of this transition are set out in the Blueprint to aid future decisions).

In early 2023 Stream will apply for further funding from round 3 of the Ofwat Water Breakthrough Challenge to support the next Implementation phase and establish Stream as an operational open data platform for the water industry.



## Introduction

Stream defines Open Data as: “data that’s available to everyone to access, use and share.” To bring this to life and help build a consistent understanding amongst stakeholders, Stream has produced the Water Data Spectrum as a common communication tool for the whole sector to use when explaining open data, helping to demystify the language of data. Ranging from closed to open, it shows examples of how to access and share data and where it is and isn’t appropriate to do so.



Stream’s Vision is:

**“to unlock the potential of water data to benefit customers, society, and the environment.”**

The blueprint sets out the design for a scalable open data framework enabling innovators to use data to address key water sector challenges, such as:

- Preventing environmental incidents;
- Reducing absolute carbon emissions associated with water extraction, use, and treatment;
- Bringing down the cost of water, particularly for the most vulnerable customers;
- Catalysing innovation and new ways of working across the sector; and
- Enabling our people to do more exciting, meaningful work.

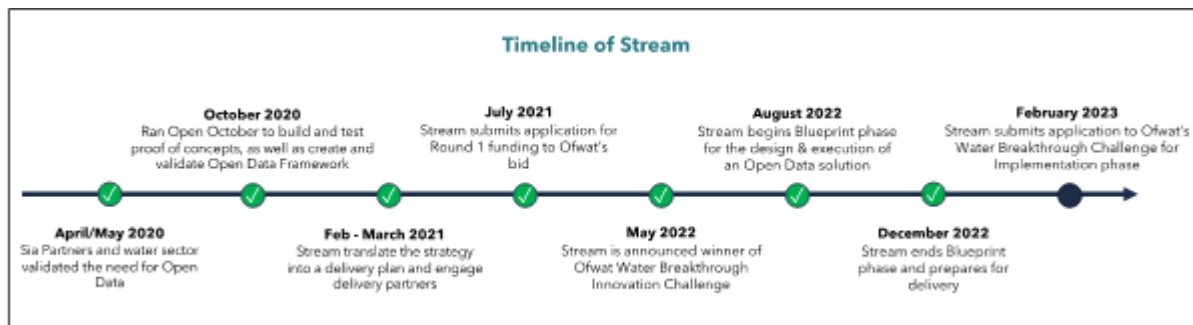
Stream’s vision embodied in this Blueprint intends to bring benefits across the water sector and beyond:

- Transparency and openness with simpler regulation
- Collaboration becomes the default

- More engagement with stakeholders and innovators
- Simple experience for users, with a single interface and set of legal agreements
- Quicker to share Innovation, research and best practice
- More efficient water companies à lower bills
- Improved data based decisions à better performance

## Background to the Blueprint

Stream has moved from concept to detailed design, collaborating at every stage.



For 24 months between 2020-2022 Northumbrian Water, supported by Sia Partners, worked with the UK water sector to design a strategy for stimulating innovation through Open Data. To do so, 11+ water companies and a spectrum of broader stakeholders were mobilised into a working collective called 'Stream'. The collective then co-created an Open Data Framework that provides the capabilities required to unlock the value of water sector data by:

- prioritising and incentivising innovators;
- driving the creation and adoption of data standards;
- effective management of open data, preparing the data to be open, and licensing of open data
- facilitating the seamless, secure release of data; and
- encouraging collaboration across the water sector and beyond.

The strategy was brought to life across multiple phases - from programme managing 50+ contributors to writing the bid and building the future business case to underpin it. The collective benefited from additional expertise of Aiimi, enterprise information management consultants and the Open Data Institute (ODI).

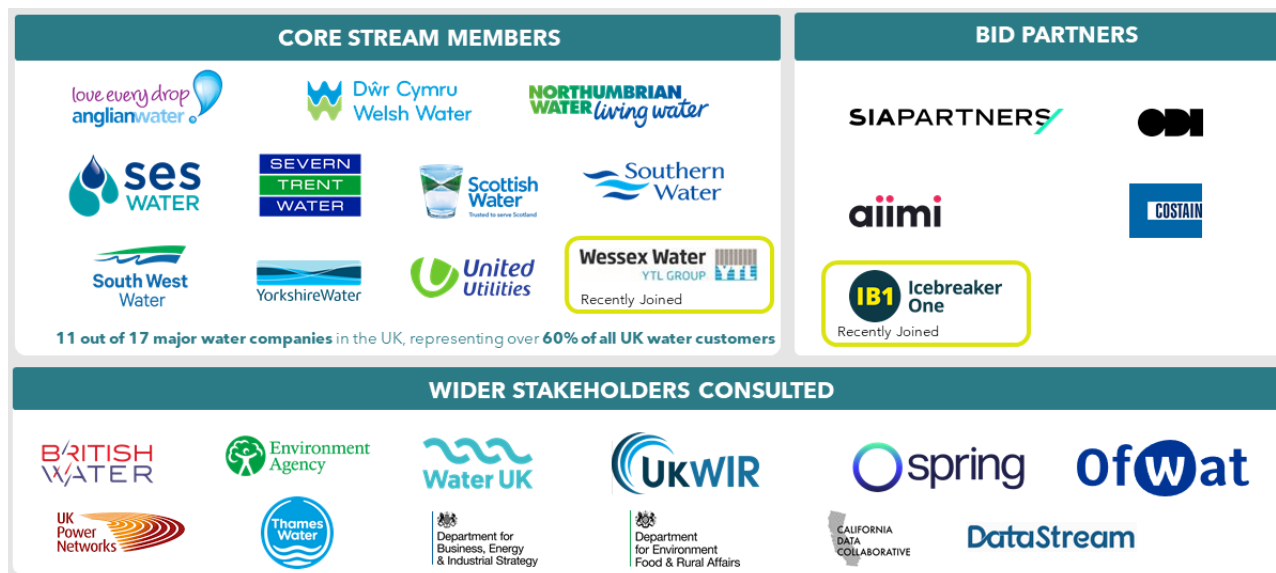
The latest step of the Stream journey has involved building a Blueprint to identify the people, process and technology options required to implement the Open Data Framework. This Blueprint has been produced by a blended delivery team of Water Companies, Sia Partners, Aiimi, Costain and the ODI, together with a review and input from Icebreaker One.

## Blueprint goals

- Develop a roadmap of features required to implement the Open Data Framework at scale (based on demonstrable user need)
- Develop principles and contractual terms for long-term sector data sharing including a legal and commercial governance framework
- Identify technical architecture options and preferred technology partners for two agile delivery phases
- Outline the high-level project operating model, including options for governance, commercial and legal processes, and procurement approaches

The key output of this phase is this Blueprint that defines the high-level features, technologies, and operating model required to deliver our strategy.

Stream members include 11 out of 17 major water companies in the UK, representing the majority of UK water customers.



## Workshops

Our approach for the Blueprint phase was co-created with the Stream group through a series of workshops and validation sessions, leading to a set of key steps:

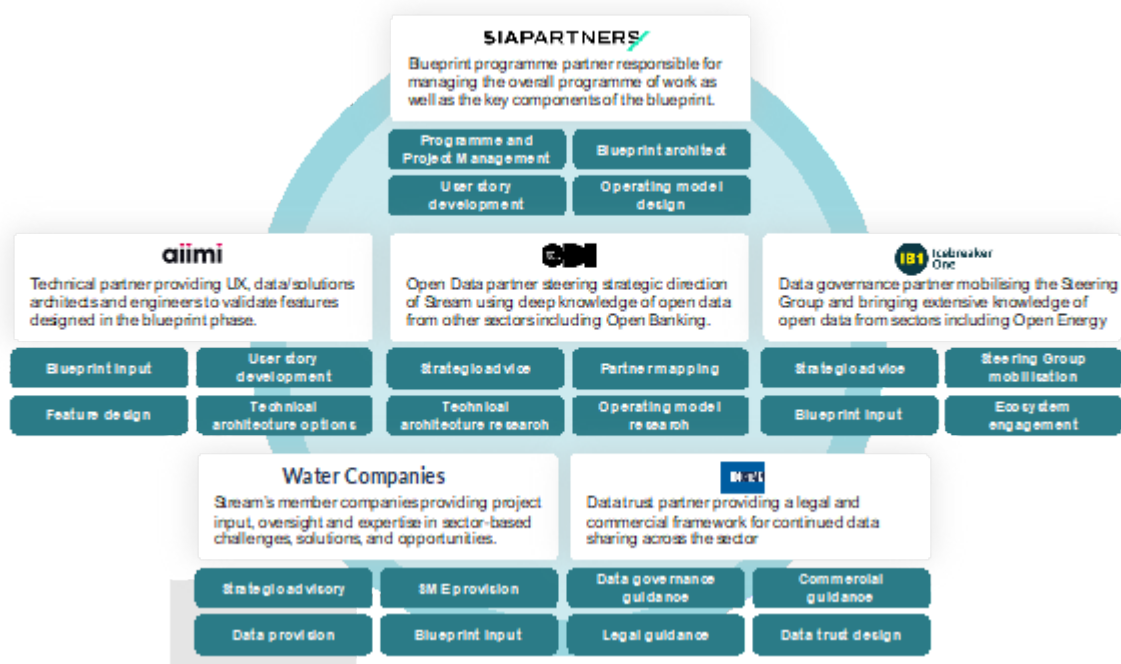
- Generate user stories
  - Develop user stories and personas
  - Validate and test user stories
  - Define acceptance criteria
- Develop feature backlog
  - Map capabilities and requirements
  - Populate feature backlog
  - Prioritise feature backlog
- Partnership mapping
  - Map existing partnership opportunities
  - Engage and agree alignment approach
  - Develop process for ongoing engagement and alignment
- Design technical architecture
  - Design technical architecture for initial sprints
  - Validate architecture with users
  - Update architecture
- Technology options review
  - Map technology options
  - Review and assess against project requirements
  - Identify preferred technology option
- Design epics and sprints
  - Allocate prioritised features and foundational requirements
  - Define roles, responsibilities and resource allocation
  - Undertake financial scenario planning and risk forecasting
- Future operating model
  - Allocate prioritised features
  - Define roles, responsibilities and resource allocation
  - Undertake future financial scenario planning including self-sustaining model
- Design a Data Trust framework (data governance and management)
  - Map commercial and legal governance requirements
  - Design capabilities and features required to enable these
  - Allocate activity to design sprints and epics
  - Enable partners to develop their overall Information / Data Management Frameworks

## Delivery Team and approach

Activities have been run using an agile approach and outputs shared across activities to iterate whilst progressing. Roles required were identified from both external and internal resources, and a blended partnership team was identified to deliver the best outcome, continuing the successful virtual working of previous phases.

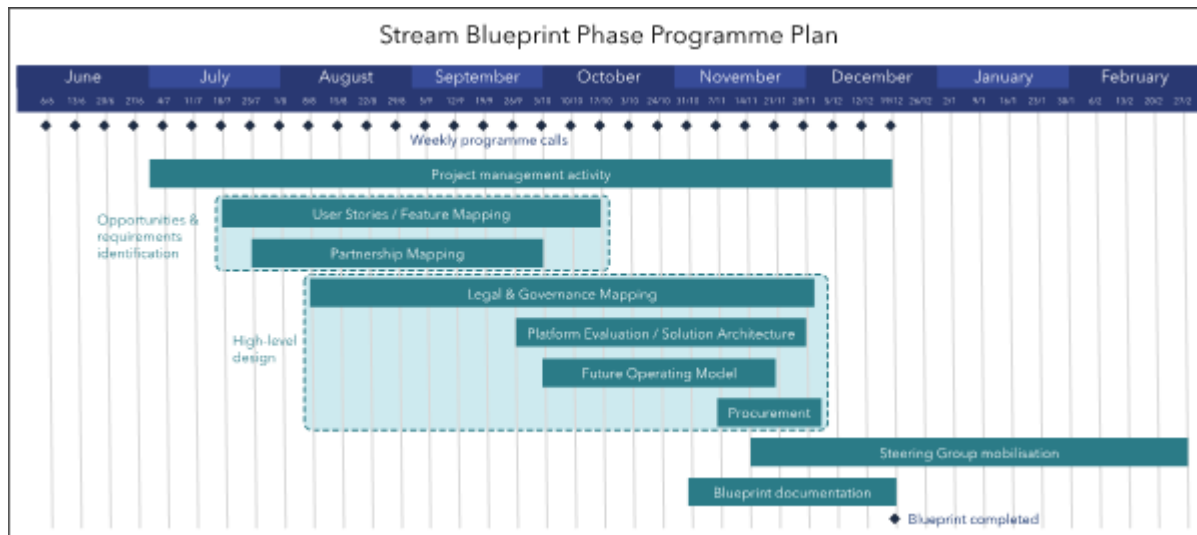
Given the blended delivery team, programme management has been critical to ensure efforts are on track. Weekly Stream Programme Calls have brought all participating organisations together to manage the risks and govern the performance and direction of work.

The involvement of the ODI throughout blueprinting, and the addition of Icebreaker One during the same phase, has enabled us to incorporate considerable experience from opening up data in other sectors.

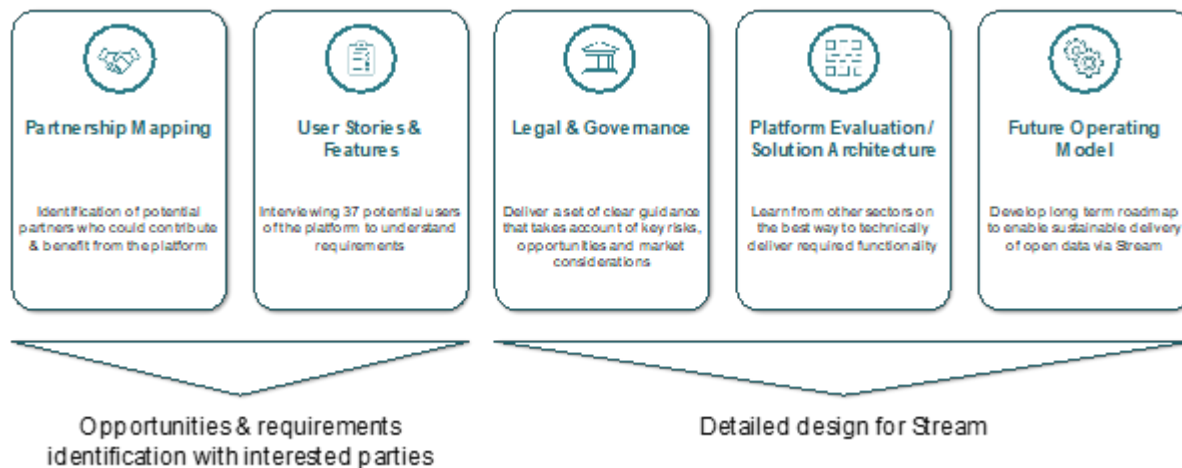


## Programme Plan for Blueprint

The programme plan for the Blueprint phase mobilised 9 workstreams between July-December 2022.



Stream’s primary workstreams during the Blueprint phase have defined requirements and the detailed design.



Further details of these workstreams are available in the output documents from each workstream.



# High Level Platform Design

