



Urban water industry Research, Development and Innovation Strategy

May 2023

WSAA

The Water Services Association of Australia (WSAA) is the peak industry body representing the urban water industry. Our members provide water and sewerage services to over 24 million customers in Australia and New Zealand and many of Australia's largest industrial and commercial enterprises. Based around our vision of 'customer driven, enriching life', WSAA facilitates collaboration, knowledge sharing, networking and cooperation within the urban water industry. We are proud of the collegiate attitude of our members which has led to industry-wide approaches to national water issues.

Acknowledgements

This Research, development and innovation (RD&I) strategy was developed in consultation with WSAA members. An RD&I Leadership Group was established to provide high level feedback and direction and WSAA members provided detailed review and feedback through the Research and Development Network and Innovation Futures Community of Practice. WSAA would like to acknowledge and thank its members for their contributions that have made this strategy possible.

It is intended that this strategy be a 'living document' and it will continue to be updated and improved over time.

Acknowledgement of Country

We acknowledge and pay respect to the past, present and future Traditional Custodians and Elders of this nation. We recognise their continuing connection to land and waters and thank them for protecting our waterways and environment since time immemorial.





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Foreword

The urban water industry is facing significant challenges over the coming years, driven by the external factors of increased climate variability, aging infrastructure and constraints on our supply chain, human resources and capital availability coupled with increasing customer expectations and upward pressures on interest rates and affordability. In a post-Covid environment, communities have evolved a stronger focus on resilient, well-functioning, digitally connected and liveable cities.

Research, development and innovation provide a clear avenue to help address these challenges in ways that are lower cost and deliver enhanced customer and community value. To assist the sector, WSAA together with a focused leadership team, has formulated an integrated national RD&I strategic approach. Called the 'RD&I ecosystem' it is designed to streamline and enhance the delivery and uptake of RD&I offerings for the sector and position the sector well for the future.

The RD&I strategy outlines the approach to driving the RD&I ecosystem and builds on the national research priorities agenda (co-developed by WSAA and WaterRA). It is a core component of WSAA's national strategic program for the sector. This paper outlines the key elements of the RD&I Ecosystem and the 5-year implementation plan for coordination and collaboration in RD&I across the water sector.



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Overview

The purpose of this RD&I strategy is to help the urban water industry develop, support and harness the RD&I potential from both within the sector and across other industries for value creation that supports thriving communities, optimises customer value, enhances the natural environment and delivers business resilience.

For RD&I to achieve change in the most efficient way it needs to occur as part of a broader ecosystem – an integrated approach between groups including solution providers, researchers, consultants, water utilities and regulators coordinated to develop novel and effective outcomes that meet customer, community and business needs. The strategy provides a framework to improve coordination across all stakeholders and actors in the ecosystem, seeking to engage them when and as needed through a structured approach to better target opportunities, avoid duplication, share resources and create value.

The urban water industry RD&I strategy has been developed around seven elements.



FIGURE 1
The seven elements of the RD&I strategy

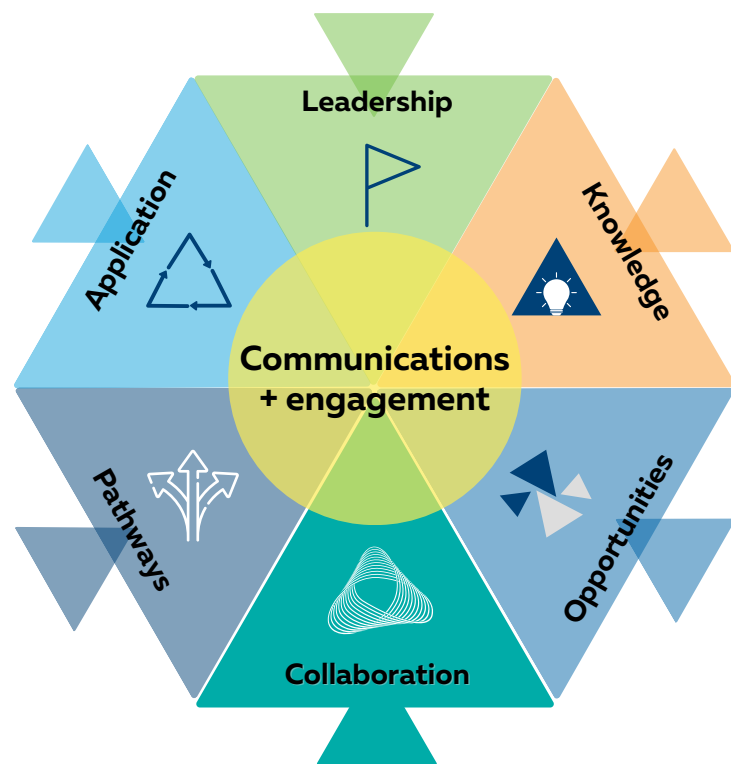


FIGURE 2
Details of the long-term objective of each strategy element

Element	Long-term Objective
Leadership	To enhance the way leaders are involved in RD&I, fostering greater collaboration between all parties within the ecosystem to improve customer and community outcomes.
Knowledge	Enhanced access to water sector relevant knowledge and wisdom from around the world facilitated by a human centred design approach.
Opportunities	Catalysing outcomes on sector needs by connecting ideas, people, technology and information.
Collaboration	The Urban water industry is seen as a go-to RD&I delivery partner. Leveraging collaboration to lower cost, foster learning and deliver improved operations and service delivery.
Pathways	Confidence and clarity in the process/stages for taking an idea through to scaled business implementation and/or commercialisation.
Application	Promoting, launching and embedding ecosystem RD&I outcomes into the commercial marketplace.
Communications and Engagement	Promotion, consultation, and feedback on industry RD&I activities to engage and sustain participation by ecosystem participants and stakeholders.

Building on strong foundations

It is recognised that the water sector has strong foundations in RD&I. Within WSAA there are a number of groups focused on RD&I including the Research and Development Network and Innovation Futures Community of Practice. In addition, WSAA seeks to facilitate RD&I outcomes and uptake through partnerships, such as with Isle Utilities in running the W-Lab program which brings innovative technologies to challenges targeted by utilities for potential trials. Outside of WSAA there have been long standing research brokering and coordination groups within Australia and internationally. These include agreements with Water Research Australia, VicIWN, Global Water Research Coalition, UK Water Industry Research, Water Research Foundation, and WaterShare. There is also a strong base of universities, consultants, service providers and technology providers. The intent of this strategy is to build on these existing foundations, providing greater opportunities to share knowledge, collaborate and leverage across all actors in the sector, and to drive opportunities for growth and expansion in RD&I for the benefit of the industry.

Explaining the Elements

The following sections explain each of the seven elements of the strategy in detail. Describing the objectives and providing the 'why', then outlining the key actions and timing. Performance measures are provided for each element to assess the implementation of the strategy.



Leadership



Leadership

Objective

To enhance the way leaders are involved in RD&I, fostering greater collaboration between all parties within the ecosystem to improve customer and community outcomes.



Key Action

Provide a combination of tools, training, mentoring and industry insights to enhance leadership capability in RD&I.

Leaders at a senior level within an organisation play a vital role in fostering a culture that supports RD&I. Creating an enabling environment to develop, build, test and learn from new ideas or explore new opportunities is the foundation to building RD&I capability in the workforce.

When leaders understand the value of RD&I to the business and the need for active champions, they can unlock the potential in their organisations by empowering their teams and supporting them through the inevitable challenges that arise when doing something new.

Innovative leaders will ensure their organisation enhances customer outcomes and value whilst managing risk exposure. This element seeks to develop, support and enhance leadership capability in RD&I and promote opportunities to participate in the ecosystem.

Actions to take us there

TABLE 1
Leadership actions summary

Item	2023	2024	2025	2026+
Develop RD&I leadership guidance material.				
Publish industry insight briefs.				
Provide RD&I training sessions.				
Develop an RD&I mentoring program.				

Note: see appendix for detailed timeline.

Develop RD&I leadership guidance material

Consolidation and development of guidance material to support urban water industry leaders to develop skills in fostering RD&I.

WSAA will build on work completed in partnership with the Water Research Foundation in a project titled: Leading Water and Wastewater Utility Innovation (LWWUI). The LWWUI project (2021) provided tools and tactics to help foster a culture of innovation including:

- Empowering the utility workforce;
- Accelerating innovation through more effective external partnerships;
- An easy-to-use planning tool to scale innovation management insight; and
- Defined steps for creating meaningful innovation strategies and launch plans to support effective and sustainable utility-led innovation.

The outcomes of the project will be distilled into easily accessible guidance material for urban water industry leaders. They will then be enhanced by the inclusion of additional guidance on sustaining R&D activities to support the delivery of innovative outcomes.

Publish industry insight briefs

Providing collated, executive-level, information will save leaders time in keeping up to date on current RD&I practices, business trends and opportunities, to ensure that their teams can do their best work.

These briefs will include information to allow leaders to understand barriers, provide clear messaging & understand what other industries are doing.

Provide RD&I training sessions

WSAA will facilitate the development of a program of masterclass-style training sessions for RD&I leadership and practice. The first stage will be developing the content requirements through connecting with leaders to understand their needs. This will be followed by content development, and training session delivery.

Develop an RD&I mentoring program

A peer-to-peer mentoring program to help support RD&I champions will play a key role in supporting innovators in the water sector. Whether it is a leader at the same water agency, or someone that has done something similar at another organisation, being able to contact someone to validate if an idea is worth pursuing, or seeking support if things don't go to plan, makes sticking with the project though the ups and downs more probable.

Through the Innovation Futures Community of Practice (CoP), and Research and Development Network the opportunity is to develop the program in detail and facilitate the opportunity of mentoring as part of the meeting of the CoP.

How we measure improvement

- Increasing the number of organisations with RD&I priorities outlined in their corporate strategies.
- Increasing the number of executives and senior managers with RD&I measures in their performance objectives.

Knowledge



Knowledge

Objective

Enhanced access to water sector relevant knowledge and wisdom from around the world facilitated by a human centred design approach.



Key Action

Improve awareness, accessibility and transfer of knowledge across the urban water sector through active user engagement, better communication and leveraging currently available tools more effectively.

The process of ideation, or problem solving, requires both an understanding of what has been developed and completed previously, and a clear articulation of the need. An approach that facilitates easy access to various forms of relevant information for specific industry challenges will avoid duplication, better target RD&I effort and should result in lower cost, with more efficient outcomes that can be widely shared to rapidly elevate the sector.

Actions to take us there

TABLE 2

Knowledge actions summary

Item	2023	2024	2025	2026+
Develop an interactive online knowledge base.				
Create a biennial urban water industry RDI& Status Report.				
Incorporate human centred design approaches into WSAA's industry knowledge sharing programs.				
Provide greater opportunity for information sharing with expertise outside the water industry.				
Provide opportunities for face-to-face sharing and RD&I knowledge sharing.				

Note: see appendix for detailed timeline.

Develop an interactive online knowledge base

Extend the current Water360 tool from passive repository to interactive knowledge base.

Knowledge continually evolves and updates as we learn more. Being able to capture new information and incorporate it into the existing knowledge base will be very important to make sure that it remains current. An interactive knowledge base will allow users to input new data as well as search for existing data. This knowledge base will also be used to house information on RD&I practice.

An interactive RD&I stakeholder map will also be developed. Understanding all of the stakeholders working on problems across multiple utilities is very difficult, but capturing this information promises to help organisations working on similar problems know who to approach for advice, funding and partnerships, accelerating their RD&I timelines.

Note: alternative or additional platforms or applications may be required to support the necessary functionality.

Create a biennial urban water industry RD&I Status Report

WSAA will help to promote collaboration and recognition of existing work, and reduce duplication of effort, through the publication of a biennial urban water industry RD&I status report. The report will provide an overview of RD&I progress within the industry, including progress on the National Urban Water Industry Research Priorities Agenda (co-developed by WSAA and WaterRA).

WSAA, as a peak association body, provides a key function to connect and broker introductions and linkages. As part of the development of the status report a directory of links and references will be established. To ensure contact details are relevant and up to date WSAA can assist in curating information and responding to requests for connecting individuals.

Incorporate human centred design approaches within WSAA's industry knowledge sharing programs

Incorporate human centred design approaches into WSAA's industry knowledge sharing programs.

As the volume of knowledge increases, the methods we use to access it must not become overly complicated for water agency staff. Understanding how people prefer to interact when trying to find data and information will lower the barrier to finding the right information when it is needed.

To complete this work different methods and mediums to access information will be considered, e.g. standard search, chat-bots, audio, upvoting, etc.

Provide greater opportunity for information sharing with expertise outside the urban water industry

Develop a method or framework to facilitate the capture of experience and knowledge from adjacent industries into the knowledge base. Capturing RD&I from other industries, that can be repurposed for the urban water industry, greatly enhances the sector's ability to deliver innovative outcomes.

Provide opportunities for face-to-face sharing of RD&I approaches and outcomes

Leverage / support face-to-face RD&I sharing opportunities through the existing WSAA Networks so that new ideas and outcomes are more easily shared and built upon.

There is something different about being in the same room together, rather than working solely online. WSAA recognises this and will facilitate face-to-face knowledge sharing in addition to online options.

How we measure improvement

- Water industry members use, value, and contribute to the knowledge sharing platforms developed, measured by increasing awareness and usage year on year.

Opportunities



Opportunities

Objective

Catalysing outcomes from sector needs by connecting ideas, people, technology and information.



Key Action

Build from the Urban Water Industry National Research Priorities Agenda, and network activities led by WSAA, to develop a knowledge base of industry challenges and technological opportunities.

Working within an ecosystem can provide opportunities for individuals and organisations to connect with others in their field and gain a deeper understanding of the industry's direction and key challenges. By consolidating challenges and focusing on shared needs across the water sector, individuals and organizations can increase the relevance and effectiveness of their interactions and ideas, leading to better identification of opportunities in RD&I that benefit the sector.

WSAA recognises its ability to highlight and promote these opportunities through the ecosystem, thus facilitating broader connections when needed.

Actions to take us there

TABLE 3
Opportunities actions summary

Item	2023	2024	2025	2026+
Compile a list of opportunities that would benefit from collaborative support.				
Publish a regular industry Insights Report on potential opportunities.				
Identify and communicate opportunities for collaboration across industries.				

Note: see appendix for detailed timeline.

Compile a list of opportunities that would benefit from collaborative support

Develop a virtual marketplace to identify and manage a list of innovative opportunities aligned with the Urban Water Industry Research Priorities Agenda where value can be shared across the industry and where we can identify quick wins and demonstrate value.

Creating the space and time for opportunities is vital, as it is the type of activity that can easily get crowded out by day-to-day activities. An improved process is required, to facilitate the discovery of relevant technologies and new research for the industry on key areas, such as through WaterRA's research roadmaps, and to attract relevant proposals for consideration. Being able to find opportunities for funding, e.g. utility funding, grants, or private funding, will help turn opportunities into collaborations.

Being able to show the value of applying this urban water industry RD&I strategy in the short-term, will help get the buy-in from the industry to achieve the medium and long-term goals and build momentum for RD&I capability development within water businesses.

Publish a regular industry insights report

Regular insight reports that capture the current industry challenges and how they are being met will be generated by surveying WSAA's networks and communities of practice.

The networks and communities of practice represent valuable sources of information on needs across the urban water industry and key areas to target for identifying solutions. Better targeting RD&I through real-time industry insight will reduce the likelihood of duplication and improve the fit between developed research, technological solutions and the challenges that face the industry. The insights reports will also be available to the broader RD&I ecosystem and offer a resource for providers of new processes and solutions; enabling them to better align their technological solutions to urban water industry needs.

Identify and communicate opportunities for better collaboration across industries

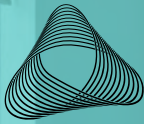
Actively support a process to uncover, identify and share opportunities across adjacent industries.

Building on what we learn from finding opportunities within the urban water industry and extending our list of opportunities to include those from outside the industry.

How we measure improvement

- Increase and sustain the quality of valued ideas, engagements and connections that are made matched to industry needs. This will be measured by an annual survey of member satisfaction with connections made and the quality of insights reports.

Collaboration



Collaboration

Objective

The Urban water industry is seen as a go-to RD&I delivery partner. Leveraging collaboration to lower cost, foster learning and deliver improved operations and service delivery.



Key Action

Maintain WSAA's strength in facilitating collaboration and reduce barriers starting with WSAA Networks and forums, extending across and beyond the sector.

There exists a high level of trust between water utilities in the Australian and New Zealand urban water industry and a strong desire to collaborate and share. This provides the starting point from which to build and extend trust across the industry. The actions in this section aim to improve capability and capacity for more open collaboration.

These actions also aim to increase options for conceptualising and testing new ideas and executing on the opportunities identified. The central role for WSAA is supporting the function of the ecosystem through facilitating collaboration for better industry results.

Actions to take us there

TABLE 4
Collaboration actions summary

Item	2023	2024	2025	2026+
Continue to support WSAA’s RD&I groups: the R&D Network and Innovation futures community of practice.				
Develop a strategy to reduce structural barriers to industry collaboration.				
Provide support for multi-organisation collaborative projects that include participants outside the urban water industry.				

Note: see appendix for detailed timeline.

R&D Network and Innovation futures community of practice

Key communities at WSAA to share the latest in R&D and innovation practices, new developments, what works and what doesn't. By sharing and learning together we can accelerate innovation capability. A safe space for water agencies to share what did not work, or current issues, so that others can learn or provide advice is highly valuable.

Develop a strategy to reduce structural barriers to industry collaboration

Identify and develop a strategy to help reduce structural barriers to effective internal industry collaboration.

The will to collaborate and share in the urban water industry is one of its key strengths. Practical considerations, such as legal and procurement requirements, and intellectual property ownership, can form significant barriers especially when individual innovators are required to overcome these challenges on a case-by-case basis.

In order to make collaboration easier, standard processes and documentation will be developed as base-templates for utilities to use.

Provide support for multi-organisation collaborative projects that include participants outside the urban water industry

WSAA's networks will provide support for multi-organisation collaborations developed across the value chain – moving beyond water utilities.

Building on experience with leading collaborative projects within the urban water industry, it is expected that utilities will be involved in multi-organisation collaborative projects with organisations from outside the urban water industry.

How we measure improvement

- Number and value of collaborations, partnerships, joint initiatives, etc. facilitated within a 12-month period, as assessed by annual survey.

Pathways



Pathways

Objective

Confidence and clarity in the process/stages for taking an idea through to scaled business implementation and/or commercialisation.



Key Action

Development, demonstration and facilitation of the processes to validate new ideas, processes and technologies by users of the RD&I ecosystem.

Taking a new technology, process, business model or idea, through the journey to implementation is difficult. It can be made even more so if the steps required are unknown or unclear. Providing more clarity about entry and destination for successful RD&I outputs, will entice more innovators and provide greater certainty for RD&I investment. Such clarity will also allow us to be more successful with implementing the products that are developed.

Understanding both the costs and benefits of taking new RD&I solutions through a commercialisation pathway is an important component of decision making for utilities.

Actions to take us there

TABLE 5
Pathways actions summary

Item	2023	2024	2025	2026+
Develop a guideline to assist all parties interacting within the RD&I ecosystem.				
Coordinate and promote an industry testbed network.				
Develop a common validation process for new technologies.				
Develop a database of the results of tests and trials				

Note: see appendix for detailed timeline.

Develop a guideline to assist all parties interacting within the RD&I ecosystem

The guideline will outline how to take an idea through to implementation as BAU and the steps to engage within the RD&I ecosystem.

RD&I happens along a pathway. Understanding the steps on the path and opportunities to enhance or gain support for what is being developed will accelerate delivery and reduce the effort required. The guideline will show the key steps required for a successful implementation and give utilities a language to help in their negotiations with potential partners.

The guideline will cover the critical stages during the translation of research and development of innovations. This will include how the requirements to manage risk need to be built into the utilities' planning and for partners involved in the process to have a better understanding of these risks.

Coordinate and promote an industry testbed network

An Industry RD&I Testbed Network will allow innovators to source testing resources more easily for new technologies, allowing for development of a proof of concept, iteration, and scaling processes.

New investments can target areas where gaps have been identified by understanding what test bed facilities are already available.

Develop a common validation process for new technologies

Enhanced translation and validation system/process for novel processes and technologies.

Being able to understand new technologies and processes to a sufficient level to be able to validate their performance is a key capability for a successful RD&I program. When resources are limited, it helps us understand what to pursue further and why. To be able to leverage validation testing across utilities, without the need for duplication, will also lower the barrier to entry for suppliers and make it more attractive to supply potential solutions to the urban water industry.

Engagement and involvement across the industry in creating the validation process provides transparency and develops understanding of the detailed requirements. The need to protect commercially sensitive information will be included as part of setting this process.

Develop a database of the results of tests and trials

Work with industry partners to exchange and showcase the results of pilots and demonstration installations.

Undertaking tests of new technologies, processes and systems in a trial, pilot or demonstration is an essential way to test and build capability in local installers as well as verify performance. Being able to exchange test results and equipment, and showcase the outcomes of trials, demonstrations, and pilots, will allow accelerated awareness and uptake of RD&I outcomes that are proven to work.

How we measure improvement

- Number of utilities trialling and evaluating concepts, processes and technologies.
- Quality and transferability of trials and evaluations.

Application



Application

Objective

Promoting, launching and embedding ecosystem RD&I outcomes into the commercial marketplace.



Key Action

Showcasing outputs of tests and trials, with support of an RD&I guideline, to ensure new products with demonstrated value are adopted as business as usual (BAU) and supported commercially with minimal delay.

Across all industries, taking RD&I outcomes from a successful trial to full scale BAU implementation or commercialisation remains a significant challenge. In the absence of effective means of application, promising research applications and technologies are often supported overseas before being sold back into the Australian and New Zealand markets. To realise the full value of the resources spent across an RD&I portfolio, utilities must ensure that successful RD&I outcomes are implemented with minimal delay and effective support.

Actions to take us there

TABLE 6
Application actions summary

Item	2023	2024	2025	2026+
Develop a guideline on how to facilitate the uptake of new technologies.				
Provide appraisals, standards, and codes to support confidence in the quality of new technologies.				
Develop a common framework for explaining the value of RD&I outcomes.				

Note: see appendix for detailed timeline.

Develop a guideline on how to facilitate the uptake of new technologies

The concept of the “valley of death” for technologies applies to the urban water industry. This concept relates the difficulty for technologies to progress from trial to being commercialised, or implemented at scale. This guideline will provide advice and options for how to successfully bridge the gap following a trial phase to facilitate the transition into BAU. Consideration will be given to implementation of RD&I outcomes in a broad sense, including new technology processes and procedures, etc. It will also consider approaches to commercialisation. A variety of commercial outcomes are likely to be acceptable to utilities, from developing a product or service for purchase, to developing additional income streams from product development.

Where an innovative solution is developed that has a very clear demonstrated value to the business, accelerating the uptake of this solution will maximise the return on investment. Understanding how to rapidly deploy high value RD&I outcomes across a business will greatly benefit the overall investment return on RD&I portfolios.

Provide appraisals, standards, and codes to support confidence in the quality of new technologies

Standardisation accelerates the mainstreaming of new technologies into business as usual. Australian and New Zealand Standards, coupled with WSAA Codes and product appraisals provide clear attainment criteria for emerging products to ensure industry wide quality control and safety measures for high-volume or high-risk products. WSAA will seek to invest in options to accelerate the development of Codes and supporting material for relevant RD&I outcomes, based on member nomination, to assist their uptake.

Develop a common framework for explaining the value of RD&I outcomes

A holistic methodology to measure the value of RD&I outcomes will be established, building on other national and international efforts. This is critical in developing business cases for innovative solutions, as the many intangible benefits to undertaking innovative projects can make the difference when preparing a business case for funding approval. Being able to value the intangible outcomes will provide increased justification for innovative projects, which will ultimately lead to better outcomes for utility customers and the communities they serve.

Calculating the return on investment achieved from an RD&I initiative also needs to account for unexpected benefits, that were not included in the original business case. The impact of a water agency’s RD&I portfolio on the business needs to be clearly articulated, so that innovative projects are competitive for funding opportunities against more traditional projects. This process should be considered over longer time periods, as RD&I can take some time to generate value, or may continue to generate value over many years.

How we measure improvement

- Value of RD&I outcomes adopted into BAU and new commercial enterprises generated as assessed by annual member survey.

Communications and Engagement

Objective

Promotion, consultation, and feedback on industry RD&I activities to engage and sustain participation by ecosystem participants and stakeholders.



Key Action

Ensure effective communication to create awareness of initiatives and changes across all participants in the ecosystem to ensure its smooth functioning. Develop industry champions to foster greater engagement from all parties involved in the ecosystem.

The RD&I ecosystem is intended to benefit the entire water sector. For the ecosystem to achieve maximum value and become sustainable awareness and participation by all entities involved in the ecosystem is required.

Communication in the ecosystem will be driven initially by WSAA, with the goal that each part of the ecosystem develops sustainable and well engaged groups that communicate with each other. The intent is to foster a learning culture across each part of the ecosystem such that there is support for each component. Targeted curiosity and creativity should be the basis for driving great outcomes for the sector and its customers.

Actions to take us there

TABLE 7

Communications and engagement actions summary

Item	2023	2024	2025	2026+
Develop an industry communications and engagement plan.				
Leadership: Assist with communications.				
Knowledge: Promotion of knowledge systems.				
Opportunities: Funding sources.				
Collaboration: Promotion.				
Pathways: Build awareness and update.				
Application: Showcase success.				

Note: see appendix for detailed timeline.

Communications and engagement plan

Identifying and planning communication requirements for the many stakeholders in the RD&I ecosystem will help to ensure awareness of the activities and initiatives planned. It will also highlight areas of potential collaboration and other organisations we may wish to influence.

Leadership: Assist with communications

Providing utility leaders with information that can assist with internal communications will help reduce the burden on busy leaders as well as help provide consistency in the understanding and approach to developing RD&I fundamentals across the water sector.

Knowledge: Promotion of knowledge systems

Initially, awareness of the updated knowledge base will be an important avenue for uptake and feedback. The next phase will move to include advocating for regular contributions to the knowledge system to ensure it remains current and useful.

Opportunities: Funding sources

Progressive engagement within sector, other industries & government for knowledge of opportunities for funding / collaboration.

Collaboration: Promotion

Facilitating the promotion of opportunities for collaboration, both inside and external to the water sector, to help increase the number of collaborations.

Pathways: Build awareness and update

Promotion of the guideline for innovators, initially with the aim of participation in its development. Following publication, promotion to increase awareness, usage, feedback and iteration.

Application: Showcase success

Promotion of successful implementations and methodologies will provide excellent learning and growth opportunities for urban water industry innovators in the nuts-and-bolts requirements surrounding RD&I practice and implementation. Presenting this information to water agency customers will show the efforts by water agencies and direct benefits for their customers, helping to build expectations around RD&I in the community.

How we measure improvement

- Members understand and engage with the RD&I ecosystem in increasing numbers over time. As determined by meeting attendance, web portal engagement and participation in initiatives.

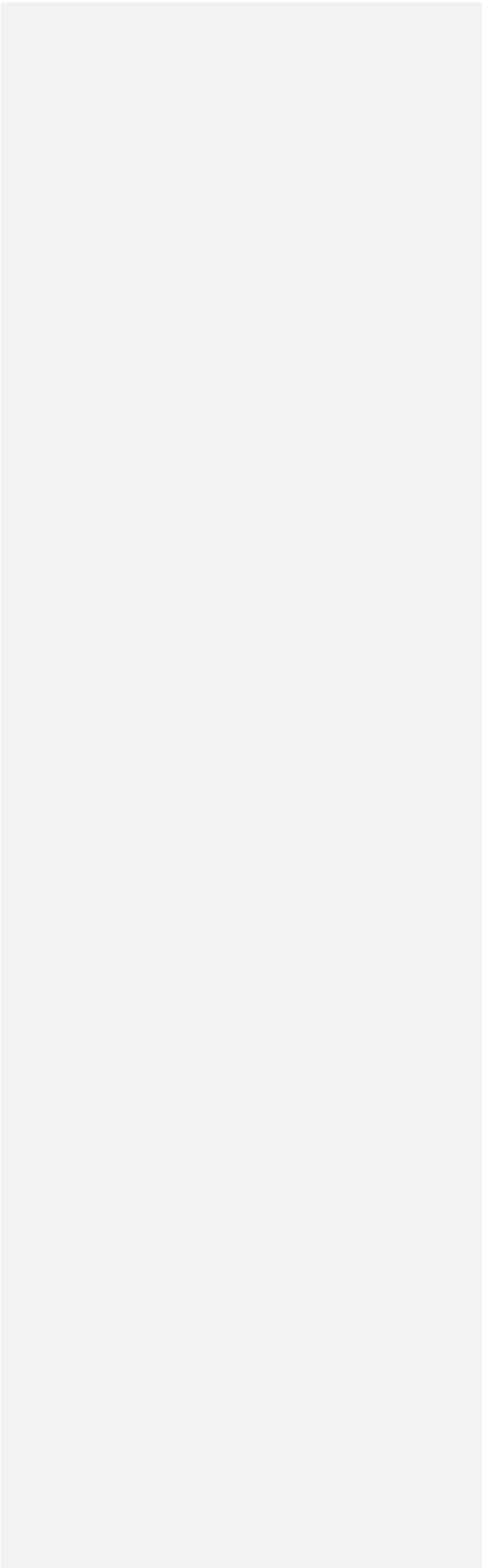


Appendices

Urban water industry Research, Development and Innovation Strategy

WBS#	Task	2023												2024												2025												2026											
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
2.3.2	Incorporation of best practice into knowledge systems																																																
2.3.3	Incorporate these work outcomes into 'update and maintain knowledge base' activity																																																
2.4	Provide greater opportunity for information sharing with expertise outside the water industry.																																																
2.4.1	Determine functionality required for external contributions -Includes orgs to target -Includes value proposition, e.g. market insights / partnership opportunities / access																																																
2.4.2	Implement functionality requirements																																																
2.4.3	WSAA, and its members, periodically target potential contributors.																																																
2.5	Provide opportunities for face-to-face sharing of RD&I																																																
2.5.1	Maintain current WSAA networks and communities of practice (online and F2F mix).																																																
2.5.2	Support for additional face-to-face events at utilities (ad-hoc).																																																
3	Opportunities																																																
3.1	Compile a list of opportunities that would benefit from collaborative support																																																
3.1.1	Use WSAA and WaterRA's Research Priorities Agenda and outcomes from W-Lab to identify areas of potential collaboration at utilities.																																																
3.1.2	WSAA members to complete survey on areas/projects for																																																

WBS#	Task	2023												2024												2025												2026											
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
	and templates for use by utilities.																																																
4.2.5	Legal review																																																
4.2.6	Publish, host and promote documentation																																																
4.3	Provide support for multi-organisation collaborative projects that include participants outside the urban water industry																																																
4.3.1	WSAA to provide support on an ad hoc basis, e.g. agreement facilitation, contract management, etc.																																																
5	Pathways																																																
5.1	Develop a guideline for innovators that outlines the interaction pathway with the RD&I ecosystem																																																
5.1.1	Develop process map for RD&I																																																
5.1.2	Additional explanatory text																																																
5.1.3.	Member review																																																
5.1.4	Publication & promotion																																																
5.1.5	Member adaption and adoption																																																
5.2	Coordinate and promote an industry testbed network																																																
5.2.1	Develop database of test beds and capabilities																																																
5.2.2	Promotion of database																																																
5.2.3	Ongoing maintenance																																																
5.3	Develop a common validation process for new technologies																																																
5.3.1	Develop process to allow greater acceptance of trial results across utilities																																																
5.3.2	Work with IWN (currently Vic & Tas) to develop national trial scheme.																																																
5.3.3	Promotion and uptake of scheme by utilities																																																
5.3.4	Ongoing facilitation of the scheme																																																



WBS#	Task	2023												2024												2025												2026											
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D												
5.4	Develop a database of the results of tests and trials																																																
5.4.1	Undertake trial/testing program (includes current W-Lab work)																																																
5.4.2	Regular publication and promotion of updates and results.																																																
6	Application																																																
6.1	Develop a guideline on how to facilitate the adoption of new technologies																																																
6.1.1	Review of current RD&I practice documentation (in conjunction with 1.1.1)																																																
6.1.2	Develop RD&I guideline structure																																																
6.1.3	Develop content																																																
6.1.4	Source case studies and learnings from utilities																																																
6.1.5	Review and publish																																																
6.1.6	Annual review and update																																																
6.2	Provide appraisals, standards, and codes to support confidence in the quality of new technologies																																																
6.2.1	Develop alternative assessment to appraisal for innovative products.																																																
6.2.2	Test on products submitted for appraisal for Smart Linings Project.																																																
6.2.3	Implement across applicable product categories																																																
6.3	Develop a common framework for explaining the value of RD&I																																																
6.3.1	Review of literature and current tools available																																																
6.3.2	Presentation of options to utilities																																																
6.3.3	Review and comment period																																																
6.3.4	Adaption of tools to meet utility needs																																																

[illegible]