C5 B

Cost and Efficiency

C5B Technical Annex 18
IT Investment Case:
Technical Approach and Business Case

NTPBP-EXT-IC-0519

BRISTOL WATER

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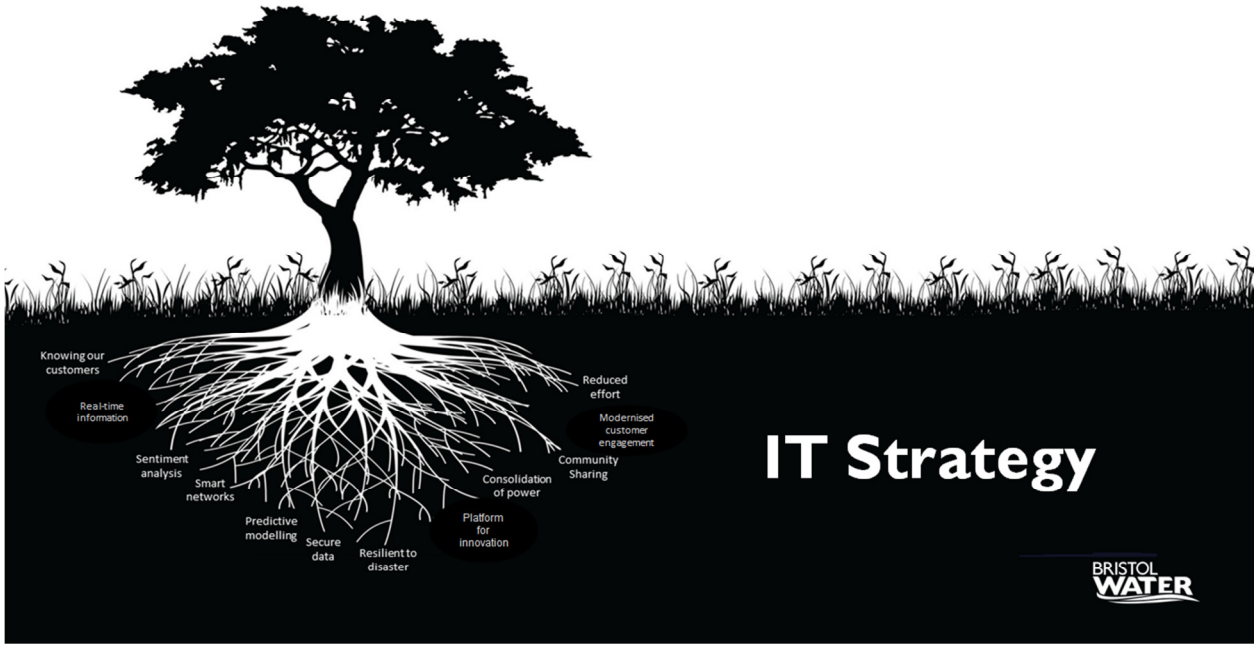


Bristol Water has completed an extensive Customer engagement programme identifying that Customers want us to focus on delivering excellent Customer experiences, a safe and reliable water supply, corporate and financial resilience as well as local community and environmental resilience. This document makes the case for £16.127million capital investment for the provision of Information Technology (IT) at Bristol Water between 2020 and 2025, which will significantly underpin the organisation's ability to achieve these outcomes within the wholesale functions. It is projected that £29.86m benefits will be offered by this investment, primarily in the mitigation of risk but also in opportunities to greatly improve ways of working and the impact this will have for Bristol Water's Customers. An example of this is the work to establish and build upon a *single view of the customer*, which will better enable the respond to, and subsequent prediction of, customer needs.

The high-level needs that were identified to enable Bristol Water to meet our targets for Asset Management Period (AMP) 7, both in terms of the outcomes for our Customers and regulatory Performance Commitments, fall into three categories. These are Base Maintenance, Prioritised Risk Mitigation and Optimisation. This case sets out the investment required to deliver an optimised state for AMP 7 and outlines the links between the work that is planned and the impact or enablement this will offer to the wider business, our Customers and other key stakeholders.

This IT investment case was developed in line with the investment planning methodologies established for Bristol Water's PR19 Business Plan. The development of options and interventions was rigorously shaped by organisational strategic principles and policies underpinning the management and deployment of IT capability. These ensure that business requirements are met with solutions that are not only aligned to the Company's strategic ambitions but also sympathetic to the technological and architectural designs and parameters set by our vision for IT. This is to meet the expectations of our

Customers and colleagues by providing an engaging, useful and reliable Information Service in a secure, sustainable and affordable way.

By 2025, with the interventions outlined in the investment case delivered, Bristol Water will be a truly technologically-enabled business. Pockets of reliance on paper-based and repetitive manual processing that exist at the end of AMP 6 will be replaced with dynamic, fit-for-purpose IT solutions, enabling our business teams to work in new and innovative ways and to focus on delivering increasingly better experiences for our Customers. Decision-making will be data and intelligence-led, with AMP 7 seeing a shift through enhancing responsiveness to issues that arise towards a greater ability to take proactive, targeted action based on intelligent, predictive analytics. The impact of this will be far-reaching and felt first and foremost by an improved ability to meet our regulatory Performance Commitments and to better meet the needs and expectations of our Customers.

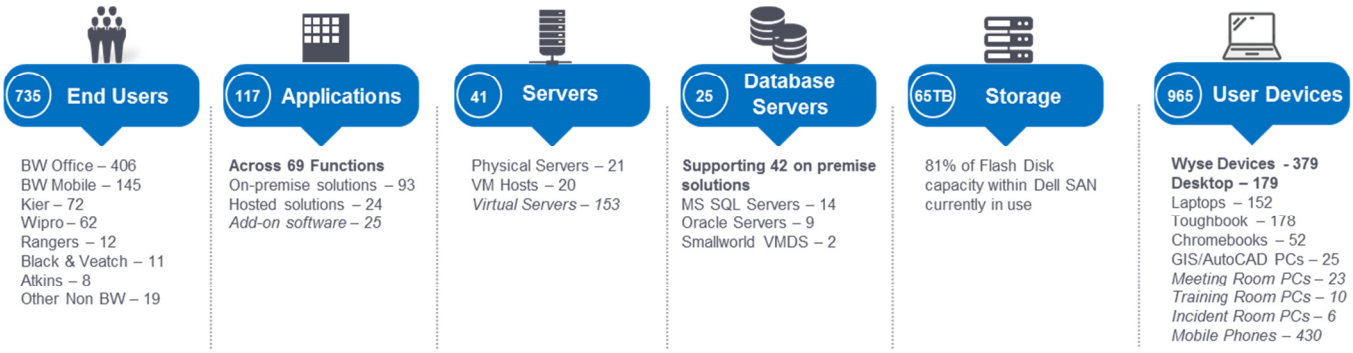
2 Foreword

This investment case incorporates the work necessary from 2020 to 2025 to provide effective information and technology services and products to support Company operations and enable us to meet our performance targets. As we move away from the constraints and limitations of more traditional approaches to IT, this investment case underpins our vision to meet the expectations of our Customers and colleagues by providing an engaging, useful and reliable Information Service in a secure, sustainable and affordable way. During AMP 7, the interventions outlined in this investment case will maintain and reinforce business resilience and support the realisation of our strategic ambitions to become a truly digitally enabled organisation.

Information Technology (IT) relates to all systems (platforms or software and databases) and infrastructure (hardware, communications and networking) that provides the capability to process, store or transmit electronic data and information. Operational Technology (OT), the hardware and software dedicated to detecting or causing changes in physical processes through direct monitoring and control of physical devices such as valves and pumps, is not within the scope of this investment case. The use and management of data produced by OT is, however, covered by this investment case. Indeed, during AMP 7, the convergence of IT and OT is an important tenet of our planned work, providing the foundations for moving closer to real-time, and where possible centralised, monitoring and control of our sites and assets, towards the ambition for a *smart* water network.

The current Company IT estate is summarised by the following figure:

Figure 1: Bristol Water IT landscape snapshot



The investments have been split thematically, according to the impact for our business, and also by primary need areas. The themes are as follows:

- Customer Experience
- Colleague Experience
- Asset Planning
- Operations
- Core IT
- Information Management

Whilst the investment has been sliced into these themes, in reality all interventions will contribute to an overall sustained or improved customer experience. Maintaining the Company's IT system, for example, will ensure operational staff are able to provide the services that keep our Customers in supply and mean customer facing teams have the information at their disposal to respond effectively to customer needs via developing a *single view of the customer*. Equally, the improvements offered to business process through delivery of the AMP 7 investment case for IT will ultimately result in better experiences for Customers of Bristol Water.

The high-level needs that have driven development of the interventions that make up this investment case are:

- Base Maintenance
- Prioritised Risk Mitigation
- Optimisation

Base Maintenance investment will provide an IT capability and service maintained at the current level of performance and reliability, with no expectation of growth or organisational change over the period. The considerations for not proceeding with this level of investment include:

- Data, information and applications would not provide support for expected AMP 7 operations
- Applications and infrastructure capabilities will not be able to support optimised ways of working
- Reactive premium incurred when risks realised (additional to investment)

Prioritised Risk Mitigation investment will provide an IT capability and service maintained and improved to mitigate anticipated regulatory or legislative risk. The considerations for not proceeding with this level of investment, combined with Base Maintenance, alone include:

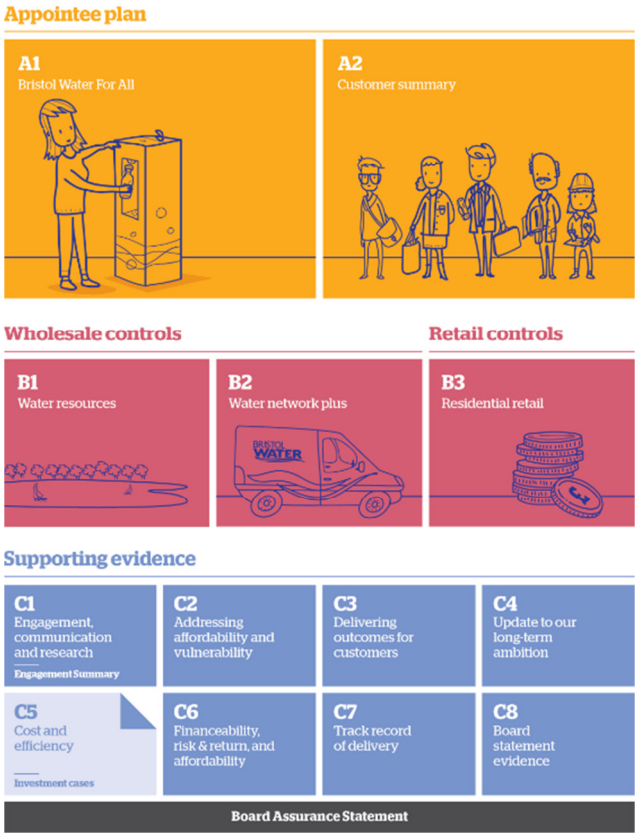
- IT landscape not optimised to enable Performance Commitment delivery
- No effective information governance or capability
- Unable to effectively realise strategic or organisational change
- Very limited scope for IT-enabled business process improvement

Optimisation investment, combined with Prioritised Risk Mitigation and Base Maintenance will support the aim to match the expectations of our Customers and colleagues by providing an engaging, useful and reliable Information Service in a secure, sustainable and affordable way. Therefore, a modernisation and step-change to the IT landscape will support the challenge of the new regulatory period, whilst also providing a platform for innovation, efficiency, and potential growth.

Our aim is to enable decision-making to be increasingly data and intelligence-led, with AMP 7 seeing a shift through enhancing responsiveness to issues that arise towards a greater ability to take proactive, targeted action based on intelligent, predictive analytics.

This investment case sets out the investment required to deliver an optimised state for delivery of Bristol Water's wholesale functions for AMP 7 and outlines the links between interventions and the outcomes this will directly generate or enable for the business, our Customers and other key stakeholders.

This investment case document is a technical annex to section C5B of our overall business plan submission, as illustrated by the diagram below:



This investment case is aligned to the Water Resources and Water Network Plus Wholesale Control aspects of our business plan. It is recommended that this investment case is read in conjunction with the PR19 Investment Case Summary Document[1] which outlines in detail our methodology for defining investment.

[1] Bristol Water PR19 Investment Cases Summary Document NTPBP-INV-PR1-0635

3 Customer priorities

Customer priorities relating to Bristol Water's outcomes, Performance Commitments and Output Delivery Incentives (ODI) have been determined through Customer Engagement and Research. This ensures Bristol Water have engaged effectively with Customers on longer-term issues such as resilience, and have taken into account the needs and requirements of future Customers. Through this process the high level objectives, known as Outcomes, that Customers value most have been identified as:

- Excellent Customer Experiences
- Safe and Reliable Supply of Water
- Local Community and Environmental Resilience
- Corporate Financial Resilience

To secure these outcomes, and based on the Customer priorities, Bristol Water has developed innovative and sector-leading Performance Commitments together with corresponding ODIs. The Performance Commitments are therefore, in effect, a measure of what the Customer wants.

This investment case indirectly supports (Tertiary classification, as per the Benefits Quantification Methodology) or enables (Secondary classification, as per the Benefits Quantification Methodology) delivery of these Performance Commitments as listed in Table 1 below, which also shows how the Performance Commitments relate to our outcomes. The key themes that will enable or support the delivery of each Performance Commitment and Outcome are also provided. This is a summary view of the primary set of interventions that will underpin delivery. In reality, all interventions are interdependent and will contribute across all areas of performance. Detail of which interventions fit within each theme in the investment case is provided in Table 4 in section 7.1 *Investment Case Need*.

More detail of the benefits offered through delivery of this investment case is provided in section 7.6 *Benefits*.

Table 1: Investment case contribution to Performance Commitments and Outcomes

Outcome	Performance Commitment	Contribution	Key Theme
Excellent Customer Experiences	CMeX	Secondary	Customer Experience
	DMeX	Secondary	Customer Experience
	Raw Water Quality of Sources	Secondary	Customer Experience
	Recreational visitor satisfaction	Secondary	Customer Experience
Local Community and Environmental Resilience	Percentage of Customers receiving vulnerability assistance option(s) who are satisfied with the assistance	Secondary	Customer Experience
	Meter Penetration	Secondary	Customer Experience
	Water Poverty	Tertiary	Maintain & Upgrade
	Energy efficiency	Secondary	Operations
	Bio-diversity Index	Tertiary	Maintain & Upgrade
Safe and Reliable Supply of Water	Water Quality Compliance	Tertiary	Maintain & Upgrade
	Water quality - discolouration Customer contacts	Secondary	Customer Experience
	Water quality - taste/odour Customer contacts	Secondary	Customer Experience
	Turbidity of water at treatment works	Tertiary	Maintain & Upgrade
	Supply Interruptions	Secondary	Operations
	Leakage	Secondary	Asset Planning
	Main Bursts	Secondary	Operations
	Unplanned Outage	Secondary	Operations
	Properties at risk of receiving low pressure	Secondary	Operations
	Unplanned non-infrastructure maintenance	Secondary	Asset Planning
	Per Capita Consumption	Secondary	Customer Experience
	Drought Risk	Tertiary	Maintain & Upgrade
	Abstraction Incentive Mechanism	Tertiary	Maintain & Upgrade
	Waste Disposal Compliance	Secondary	Operations
Corporate Financial Resilience	Value for Money	Secondary	Asset Planning

4 Historical Performance and Investment

Table 2 shows the investment in IT for previous AMPs and provides a summarised view of the performance during each period. It should be noted that these figures represent the allocation for the IT budgets for each AMP and are not reflective of the true total cost of IT. Communications and Networking has not, for example, historically been included in the allocation for IT, whereas this is now included in the current IT investment case.

Table 2: Historical perfomance and investment

AMP	Investment (£)	Performance Narrative
6	18,519,353	The focus for this AMP was non-household market separation and building system resilience. Other key initiatives included: • Single View of the Customer • New mobile works management system and devices • Cyber Security accreditation • Disaster Recovery enhancements • Modernised integration and data processing capability • Real-time interruption to supply reporting
5	7,058,364	Integration and the use of data between core IT platforms were the key areas of focus for AMP 5. Other priority areas of work included: • Important upgrades and improvements to FFA (mobile works management platform) and SAP Customer Relationship Management including better use of work scheduling • New failover and Disaster Recovery capability at Barrow
4	8,810,415	Developing a new, effective way of mobile working and providing new mobility capabilities to our workforce were the primary areas of development in AMP 4. Additional areas of focus were: • TMA 2004 Bentley street works implementation • Billing and Wessex data integration improvements • Customer Relationship Management improvements • Asset and performance management improvements
3	9,252,072	AMP 3 was aimed at rationalising and consolidating our IT provision. Key projects included: • SAP Enterprise Resource planning (ERP) implementation • Removal of Engarde, Sovereign Billing, Customer and finance management platforms • Major SmallWorld GIS upgrade. • Billing separation and the RAPID billing platform implementation

5 Summary of Output and Expenditure

The total Capex for the IT investment case for AMP 7 is £16.126m.

Across the six business outcome themes, investment in IT can be summarised as follows:

- £3.28m for Customer Experience
- £2.04m for Colleague Experience
- £3.16m for Asset Planning
- £3.82m for Operations
- £2.72m for Core IT
- £1.10m for Information Management

In practice, investment will deliver impact across themes. Maintaining or improving business processes for operational activity under the Operations theme will, without question, underpin the Customer experience, for example. There is also interdependency in delivery and capability across themes, as well as between interventions. Delivery of a configured asset maintenance regime, for example, may be dependent on the effective implementation of an asset data collection framework and governance for effective enterprise information management so that asset maintenance activity can be deployed according to complete, accurate, reliable and timely information about our assets.

The interventions shown in Table 3 reflect the best balance of cost, risk and performance for the IT investment case.

Table 3: Summary of Selected Interventions in the IT Investment Case

Intervention ID	Intervention Title	Total capex (£)	Change in opex per annum (£)
32.001.01	A Configured Asset Maintenance Regime	422,000	-16,430
32.001.02	A Proactive IT Service Desk	178,000	-
32.001.03	An Integrated Procurement Experience	893,000	-
32.001.00	Asset Data Collection Framework	343,000	-
32.001.05	Business Process Automation	243,000	-
32.001.06	Capital Delivery Support	259,000	-10,110
32.001.07	Communications and Networking	1,287,000	-
32.001.08	Consistent User Experience on a Consolidated Set of Devices	201,000	-
32.001.09	Consolidated Asset Mapping Information	243,000	-9,480
32.001.10	Effective Collaboration & Knowledge Management	296,000	-29,590
32.001.11	Effective IT to Deliver Enterprise Information Mgmt.	260,000	-
32.001.12	Effective Organisation & Knowledge Management	195,000	-200,000
32.001.13	Efficient Energy Usage	234,000	-
32.001.14	Enable Big Data Analytics	23,000	-
32.001.15	Enhanced Field Force Toolsets	616,000	-1,810
32.001.16	Enhanced Interaction with Suppliers	308,000	-12,010
32.001.17	Enhanced Interaction with Third Parties	211,000	-8,220
32.001.18	Enterprise Document Management	340,000	-86,110
32.001.19	Extended Customer Contact Channels	308,000	-11,790
32.001.20	Externally Presented Operational Updates	746,000	-200,000
32.001.21	Governance for Effective Enterprise Information Mgmt.	81,000	-
32.001.22	In-depth Customer Analytics	97,000	-75,000
32.001.23	In-Field Operational Support	713,000	-32,780
32.001.24	Internally Integrated Applications	243,000	-27,090
32.001.25	Maintain & Upgrade	4,543,000	-63,200
32.001.26	Operating Systems Refresh	500,000	-200,000
32.001.27	Outage & Risk Assessment Solution	415,000	-
32.001.28	Provide a Seamless, Uninterruptable Service	75,000	-10,000
32.001.29	Retail Market Competition Enhancements	325,000	-34,320
32.001.30	Single View of the Customer	1,205,000	-25,000
32.001.31	Streamlined Accurate and Timely Reporting	227,000	-100,000
32.001.32	Water Resource Market Participation	97,000	-3,160
Total IT investment from selected interventions		**16,127,000**	**-1,156,100**

6 Data

The IT investment case was developed using a risk based approach, whereby risks and opportunities focussed on our outcomes were captured, reviewed and approved, which in turn drove the development of solution, option and intervention design, review and approval. Each phase of this process involved expert opinion from Company IT professionals, external consultancy and business subject matter experts. Details of this are captured in the Strategic Risk Register[2], Investment Case Intervention Register and Investment Planning Interventions Register.

The primary risks and opportunities addressed by the investment case are as follows:

- Asset lifecycle and maintaining capability – licensing compliance and maintenance, support or upgrade requirements
- Legislative or regulatory obligations – e.g. GDPR, Cyber Security, Household Separation
- Market analysis – trends or disruptors that are impacting or will impact on how organisations, Water Companies or IT functions operate
- Business strategy – formalised or derived through ongoing business engagement
- Business improvement – identified opportunities for enhancing or rationalising existing business processes via technological means
- Efficiency of service – continuing to deliver a good value, rationalised IT service

Each of these key risks and opportunities underpins the overall business impact in relation to Customer Experience, Safe and Reliable Supply, Community and Environmental Resilience and Corporate Resilience.

The risks, opportunities and outcomes were used to generate the six themes (Customer Experience, Colleague Experience, Asset Planning, Operations, Core IT and Information Management) and lower level business impacts (six per theme), which ultimately became the proposed interventions. Following review, four interventions were not taken forward, leaving the total number at 32 interventions.

A series of themed workshops brought together expert opinion aligned to the above risks and opportunities. The outputs were reviewed and iterated through ongoing, targeted business engagement. Optioneering and solution approval again brought together expert opinion and business stakeholder input to develop a full set of interventions and lower level projects required to deliver these agreed business impacts and outcomes.

Costings were developed via market testing by Wipro Ltd, Bristol Water's IT Support Partner and assured by Baringa Partners LLP.

The datasets used in the development of this investment case are listed in Appendix B.

[2] Strategic Risk Register, NTPBP-CAL-STR-0127

7 Technical Approach

7.1 Investment Case Need

Bristol Water must continue to maintain its current level of performance and, where defined by our Customers and ratified by our regulator, improvements will be delivered. A significant proportion of our core business processes are fundamentally supported by IT. Where *visible* IT capability must be maintained, in most cases, this will involve an uplift in the underlying technology such as to enable increased data throughput or to effectively handle growing volumes of historic records and support the generation of the improved analytics and insight this affords.

Where processes are supported by IT, any business change must be reflected by the corresponding IT systems and enabling infrastructure. Within an increasingly changeable political, regulatory, economic and Customer expectation landscape, organisations must be agile and able to adapt to new requirements. An organisation's IT capability needs to be suitably flexible to service different needs and provide greater insight to support improved ways of working and greater efficiency. Providing a suitably agile IT architecture can come at a cost whose impact may not be instantly visible to the business or necessarily have an easily predictable return on investment period. Therefore, where practical, development of the changes required within Bristol Water's IT landscape have been designed into the solutions to meet other challenges or realise different opportunities. This does, however, require investment in its own right that is additional to the investments in the organisational IT capability up to this point.

As well as ensuring all strategic and operational decision-making is based on robust evidence, assurance of Company information is a fundamental prerequisite of the statutory reporting and business planning activity Bristol Water is responsible for. These undertakings ensure our regulators, Customers and other stakeholders have confidence in us as a provider of an essential service and curator of key regional infrastructure. The mechanisms for ensuring the generation of data and information is robust and stands up to scrutiny increasingly need to be well supported by IT. Systemising the management of information that used to be handled by paper-based processes is not a straightforward sequence of events. Engineering and operational work performed by a Water Company is highly complex in nature and is subject to a vast array of conditions and variables. Accounting for and supporting these in IT systems is a big challenge and often requires sophisticated production of bespoke tooling, which then needs careful management and development as changes come into effect. Providing managers and their teams with greater levels actionable intelligence is a priority need for AMP 7 so that the business can operate in a truly optimised state and this requires significant investment across interventions to deliver effectively.

Growth, how Bristol Water will adapt to better meet the needs of our Customers and other stakeholders, as the population increases has been a key consideration in the development of this investment case for IT. Within reasonably anticipated parameters, the natural expansion of footprint that will support the effective delivery of our plans and targets as an organisation has been factored into, and also contribute in no small part, to the rationale for the investment plans outlined here.

Table 4 below shows how the high level themes encompass groups of interventions. This helps summarise the overarching needs that have driven the generation of the interventions in this IT investment case.

Table 4: Interventions grouped by themed impact

Customer Experience	Colleague Experience	Asset Planning	Operations	Core IT	Information Management
• Extended Customer Contact Channels • Externally Presented Operational Updates • In-depth Customer Analytics • Retail Market Competition Enhancements • Single View of the Customer	• An Integrated Procurement Experience • Business Process Automation • Effective Collaboration & Knowledge Management	• A Configured Asset Maintenance Regime • Capital Delivery Support • Consolidated Asset Mapping Information • Enhanced Interaction with Suppliers • Enhanced Interaction with Third Parties • Water Resource Market Participation	• Asset Data Collection Framework • Communications and Networking • Efficient Energy Usage • Enhanced Field Force Toolsets • In-Field Operational Support • Outage & Risk Assessment Solution	• A Proactive IT Service Desk • Consistent User Experience on a Consolidated Set of Devices • Enable Big Data Analytics • Internally Integrated Applications • Operating Systems Refresh • Provide a Seamless, Uninterruptable Service	• Effective IT to Deliver Enterprise Information Management • Effective Organisation & Knowledge Management • Enterprise Document Management • Governance for Effective Enterprise Information Management • Streamlined Accurate and Timely Reporting
Maintain & Upgrade					

7.2 Risk Associated With Current Situation

If Bristol Water does not appropriately invest in IT, the impact on core business processes that are reliant on IT will limit the Company's ability to act as a custodian of critical national infrastructure. Any significant downtime to key Company systems could result in a reduction in, or total loss of, ability to continue supplying water to our Customers. Whilst there may be manual, non-systemised means of continuing to deliver services as a Water Company, these are very unlikely to be sustainable under our existing operating, resourcing and funding models and within hours or days could result in compromise to safety or effectiveness. This will certainly impact on Bristol Water's ability to meet our Performance Commitments as well as the level of service and quality of experience we can offer to our Customers.

Failing to effectively maintain IT capability will result in loss of basic, necessary functionality. Any such loss will require larger scale maintenance work to remedy the situation and significant additional penalties will arise from the need to expedite this work and from the impact the work may have on other planned activity. The same applies to licensing whereby license breach penalties are usually many times the cost of payment in line with the law.

Reduction in, or loss of, service or non-compliance with the law will have a significant impact on our reputation with Customers, regulators and other stakeholders. A data protection breach, for example, can have far-reaching impact on an organisation's reputation. Over the last few years, large-scale publicised data protection breaches have caused the organisations in question to suffer significant losses, with the longer term effects perhaps yet to be fully appreciated. Reducing the likelihood of these events occurring can, more often than not, be supported by IT, which requires maintenance and development of the existing capabilities or the implementation of new technologies.

7.3 Intervention Identification

The process of identifying interventions has been detailed in the Risk Identification, Risk Verification and Needs Identification Methodology. This process provides a 'Line of Sight' starting with asset based risks, through identification of Needs informed by Customer priorities and Performance Commitments.

7.4 External Requirements

Our obligation to provide our Customers with a safe, reliable water supply is a key foundation for investment in IT at Bristol Water. Additional to this, compliance with a variety of laws and regulations is significantly dependent on IT. These include but are not limited to the General Data Protection Regulation 2018 and Networks and Information Systems Directive 2018 which have come into effect more recently than other relevant legislation.

Whilst there may be manual, non-systemised means of continuing to maintain compliance with legislation, these are very unlikely to be sustainable under our existing operating, resourcing and funding models and within hours or days could result in compromise to effectiveness.

7.5 Options Assessed

Details of the options considered but not progressed to interventions within the IT investment case are contained Appendix C. This includes commentary and rationale for why these options were not taken forward.

7.6 Benefits

The total benefits for the IT investment case projected for AMP 7 is £29.86m.

The interventions in this IT investment case enable or contribute indirectly to the delivery of our Company Performance Commitments as detailed in Section 2. Whilst the maintenance and improvement of IT capability will certainly have a positive impact on the delivery of Performance Commitments, this is not necessarily directly quantifiable. Benefits for the IT interventions were therefore derived by monetising the risks and opportunities associated with the existing or proposed state. The ultimate impact of these risks being realised or the opportunities being exploited will be an increased ability to manage the level of services or quality of experiences the Company offers to Customers.

By the same measure, the interventions within the IT investment case will also offer greater efficiency in the way information and technology is utilised at Bristol Water. This may be through a range of means including the simplification of our sourcing models, rationalisation of our IT architecture and deploying more agile, flexible IT solutions.

Risks, as outlined in Section 6.2, were in relation to the following:

- Costs, reactive premiums and likelihood of asset failure
- License penalties
- Reputational or stakeholder experience impact
- Legislative penalties
- Likelihood of Performance Commitment impact

Opportunities were identified in relation to the following:

- Efficiency enablement in reduced business process labour costs
- Reputational or stakeholder experience impact
- Likelihood of Performance Commitment impact
- Operating costs (such as power consumption)

The split of benefits across the IT investment case is approximately a ratio of 3:1 risk to opportunity.

The output of benefits quantification following the set Company investment planning methodology and with consideration to the above risks and opportunities is summarised in Table 5 below.

IT investment is fundamental to the success of many, if not all, the other investment cases, and the achievement of our Company Performance Commitments.

Table 5: Quantified Benefits Associated with Selected Interventions

Intervention ID	Intervention Title	Other monetised benefits (£)
32.001.01	A Configured Asset Maintenance Regime	532,000
32.001.02	A Proactive IT Service Desk	191,555
32.001.03	An Integrated Procurement Experience	1,203,000
32.001.00	Asset Data Collection Framework	385,386
32.001.05	Business Process Automation	382,168
32.001.06	Capital Delivery Support	265,337
32.001.07	Communications and Networking	1,543,000
32.001.08	Consistent User Experience on a Consolidated Set of Devices	300,000
32.001.09	Consolidated Asset Mapping Information	322,000
32.001.10	Effective Collaboration & Knowledge Management	315,876
32.001.11	Effective IT to Deliver Enterprise Information Mgmt.	972,229
32.001.12	Effective Organisation & Knowledge Management	2,521,166
32.001.13	Efficient Energy Usage	250,000
32.001.14	Enable Big Data Analytics	48,795
32.001.15	Enhanced Field Force Toolsets	772,999
32.001.16	Enhanced Interaction with Suppliers	310,370
32.001.17	Enhanced Interaction with Third Parties	446,181
32.001.18	Enterprise Document Management	808,656
32.001.19	Extended Customer Contact Channels	370,516
32.001.20	Externally Presented Operational Updates	1,749,992
32.001.21	Governance for Effective Enterprise Information Mgmt.	95,542
32.001.22	In-depth Customer Analytics	1,150,000
32.001.23	In-Field Operational Support	817,125
32.001.24	Internally Integrated Applications	587,950
32.001.25	Maintain & Upgrade	6,213,030
32.001.26	Operating Systems Refresh	2,575,900
32.001.27	Outage & Risk Assessment Solution	518,984
32.001.28	Provide a Seamless, Uninterruptable Service	765,000
32.001.29	Retail Market Competition Enhancements	810,760
32.001.30	Single View of the Customer	1,985,519
32.001.31	Streamlined Accurate and Timely Reporting	327,047
32.001.32	Water Resource Market Participation	321,588
Total quantified benefits associated with selected interventions		**29,859,671**

7.7 Costs

The costing for each intervention has been calculated with consideration of the Costing Methodology and the costs for each intervention under this investment case are listed in Table 6 below.

Costings for the IT investment case were provided by Wipro Ltd, global information technology, consulting and business process services company and Bristol Water's IT Support Partner. Costings were assured by Baringa LLP. The methodology for the generation of costs based on data for the IT investment case was market testing and expert assessment. As a global provider of IT and currently providing the IT support for Bristol Water, Wipro were ideally, if not uniquely, positioned to be able to provide reliable cost derivations and forecasts. Wipro may also be a prospective IT partner for delivery of this work and therefore were under reasonable commercial pressure to provide realistic and efficient costs. As industry and technology experts, Baringa were very well placed to offer scrutiny and challenge. Baringa did not identify any need for change to the costings provided by Wipro and this was supported by internal validation by Bristol Water IT professionals.

Some general assumptions were taken into consideration during the development and assurance of costings for the IT investment case. These included the following:

- Solutions developed to *Minimum Viable Product + 1*, allowing for essential features to mitigate risk, deliver business benefits and enable optimised operation
- Business change and knowledge transfer or management costs are, generally, not covered by this investment case on the assumption that these are either Opex or at the cost of the business area
- The solution and cost to respond to the identified risks and opportunities will be, within reason, based on technology currently known to be available
- Overheads have been calculated as part of the costing work completed by Wipro and are based on known overheads for delivery of IT, these were also assured by Baringa and validated by internal review utilising external benchmarking data including information from Gartner.

Capex Before was calculated as the reactive premium incurred if the intervention was not completed and the anticipated asset failures or risks were realised. Generally, for the IT interventions outlined in this investment case, not proceeding with the planned interventions would result in the reactive premium or Capex Before costs. This is due to the fact that the likelihood of asset failure or risk identified leading to the development of these interventions is very high or certain. Capex After was calculated as the capital cost of delivering the intervention via the identified optimal solution. There are no indirect costs associated with these interventions.

Opex figures were based on the labour costs for the business processes identified to be supported by the current or planned IT capability. The change in Opex, where identified, is therefore the reduction or increase in labour required to deliver the business process following the intervention relative to the start position. This does also, where changes have been identified, incorporate the change in labour costs associated with the support of the IT capability following the intervention. A low confidence rating has been applied to projections for support costs, due to their being a variety other variables at play, including external factors, besides the completion of the planned interventions that will ultimately determine the true cost of IT support during AMP 7.

Base maintenance (Intervention 32.001.25 *Maintain & Upgrade*) under this Investment Case will be £4.54m over AMP7. Base maintenance spend under this Investment Case will include:

- SAP SRM (procurement processes)
- Data Warehouse (significant proportion of Company data processing)
- SAP CRM (Customer service processes)
- SAP SYSTEMS ECC (enterprise resource planning)
- Data-, asset- and SAP-focussed maintenances

Table 6: Intervention Costs

Intervention ID	Intervention Title	Total capex after (£)	Change in opex per annum (£)
32.001.01	A Configured Asset Maintenance Regime	422,000	-16,430
32.001.02	A Proactive IT Service Desk	178,000	-
32.001.03	An Integrated Procurement Experience	893,000	-
32.001.00	Asset Data Collection Framework	343,000	-
32.001.05	Business Process Automation	243,000	-
32.001.06	Capital Delivery Support	259,000	-10,110
32.001.07	Communications and Networking	1,286,643	-
32.001.08	Consistent User Experience on a Consolidated Set of Devices	201,000	-
32.001.09	Consolidated Asset Mapping Information	243,000	-9,480
32.001.10	Effective Collaboration & Knowledge Management	296,000	-29,590
32.001.11	Effective IT to Deliver Enterprise Information Mgmt.	260,000	-
32.001.12	Effective Organisation & Knowledge Management	195,000	-200,000
32.001.13	Efficient Energy Usage	234,000	-
32.001.14	Enable Big Data Analytics	23,000	-
32.001.15	Enhanced Field Force Toolsets	616,000	-1,810
32.001.16	Enhanced Interaction with Suppliers	308,000	-12,010
32.001.17	Enhanced Interaction with Third Parties	211,000	-8,220
32.001.18	Enterprise Document Management	340,000	-86,110
32.001.19	Extended Customer Contact Channels	308,000	-11,790
32.001.20	Externally Presented Operational Updates	746,000	-200,000
32.001.21	Governance for Effective Enterprise Information Mgmt.	81,000	-
32.001.22	In-depth Customer Analytics	97,000	-75,000
32.001.23	In-Field Operational Support	713,000	-32,780
32.001.24	Internally Integrated Applications	243,000	-27,090
32.001.25	Maintain & Upgrade	4,543,000	-63,200
32.001.26	Operating Systems Refresh	500,000	-200,000
32.001.27	Outage & Risk Assessment Solution	415,000	-

Intervention ID	Intervention Title	Total capex after (£)	Change in opex per annum (£)
32.001.28	Provide a Seamless, Uninterruptable Service	75,000	-10,000
32.001.29	Retail Market Competition Enhancements	325,000	-34,320
32.001.30	Single View of the Customer	1,205,000	-25,000
32.001.31	Streamlined Accurate and Timely Reporting	227,000	-100,000
32.001.32	Water Resource Market Participation	97,000	-3,160
Total IT investment from selected interventions		**16,126,643**	**-1,156,100**

7.8 Assumptions

A considerable assumption in relation to the investment in IT for Bristol Water is that the organisational structure, functions delivered and services provided by the Company will remain, within reasonable parameters, in line with the current state. Should a significantly different operating model or way of working be brought to bear, this will potentially require additional or different investment in IT capability to support the transitions to and sustainability of the new environment. As summarised in Section 6.1, it is a focus of delivering an optimised state for Bristol Water IT to establish a more agile, adaptable technology provision for the Company. There are, however, tipping points in terms of scale or complexity beyond which a substantial shift in direction from the proposed interventions will be required.

Detailed design of the selected interventions has not been completed and therefore there remains risk and cost which may alter the balance of cost to benefit for the selected interventions. The cost estimates of the interventions are based on rates which include average risk, however the risk of any particular intervention may prove to be higher than average and therefore the cost benefit ratio will be altered and could, potentially, be undermined.

Alongside the development of a strategic vision through to 2030, in order to support planning for AMP 7, a set of Business Architecture Principles[3] have been established by the IT function. These provide guidelines and rules by which the organisation's IT capability is managed. It is an assumption that these principles will be adhered to in all decision-making around information and technology. Where the principles are undermined or circumvented, this will have a bearing on the effectiveness of the plans put forward in this investment case. Included in these Business Architecture Principles are guidance in relation to:

- Controlling application diversity
- Business continuity
- Security and privacy by design
- Data as an asset

[3] Bristol Water, Business Architecture Principles. CUS-BA-GUI

- Requirements-based change
- Interoperability

As summarised in Section 6.1, assumptions have been made in the development of this investment case in relation to the level of growth Bristol Water will undertake as a business before, during and, to a lesser extent, after AMP 7. These projections are grounded in what is practically foreseeable based on current strategic direction of travel and historic trends. Should these assumptions underestimate the true picture, it will likely impact significantly on the investment plans for IT at Bristol Water for AMP 7. As an example, a large increase in the number of personnel working for or in the functions delivered or services provided by the Company will require significant additional and different investment in IT capability outside of what is set out in this investment case.

Assumptions in relation to costings are outlined in Section 6.7.

7.9 Justification For Level of Investment

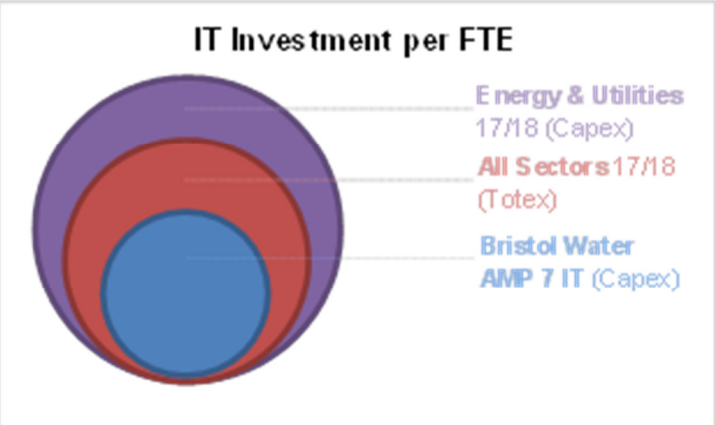
6.9.1 IT Investment Benchmarking

The Gartner Unified Benchmarking Platform[4] was used to analyse investment in IT for AMP 7 compares with current spend on IT within the energy and utilities sector and across all sectors. Gartner are global leads in research, analysis and IT spend metrics.

IT Investment per full time equivalent (FTE) is as follows and as shown in Figure 2 below:

- In 2017/18, the Energy and Utilities sector spent £13,031 capital expenditure per FTE on IT
- All sectors are averaging £8,263 total expenditure per FTE on IT in the same period
- The IT investment case for AMP 7 is based on capital expenditure of £3,795 per FTE

Figure 2: IT investment per FTE

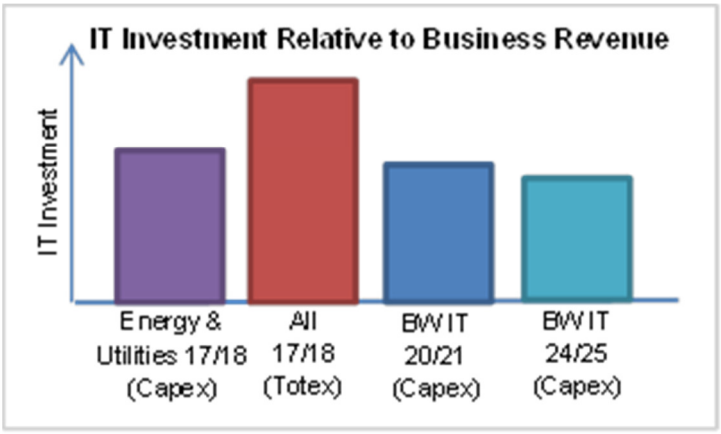


[4] CEB IT Leadership Council, Gartner Unified Benchmarking Platform

IT Investment Relative to Business Revenue (as shown in Figure 3 below):

- In 2017/18, the Energy and Utilities sector's IT total expenditure was 4.9% of total revenue, 59% of this is Capex (2.9% of revenue)
- All sectors are averaged 4.2% expenditure on IT in the same period
- The IT investment case for AMP 7 is based on Capital Expenditure of 2.6% of projected revenue for 2020/21 and 2.3% of the projected revenue for 2024/25 (based purely on inflation)

Figure 3: IT investment relative to business revenue



6.9.2 AMP 6 Comparison

£18.5m was invested in IT in AMP 6. This reflected a need to significantly enhance the technological footprint at Bristol Water and replace legacy paper-based processes with IT solutions as well as to improve the existing legacy platforms already in place. In addition to this, investment in modernising and building resilience into the architecture was a big area of focus. Greater reliance on IT than in previous AMPs meant investing to ensure this growing demand could be met effectively and securely.

Large projects that were entirely or for the most part investment in IT included:

- Retail Separation at a cost of £2.6m
- Energy and Network Optimisation at a cost of £2.8m
- General Data Protection Regulation and Cyber Security compliance plus a range of information and reporting-focussed projects at a cost of £1.1m

In addition to this, analysis has identified investment that has been allocated to, and managed by, business areas currently responsible for the support or management of IT capability. Whilst this IT investment case does not include the costs for all IT for AMP 7, it does represent a significant shift from locally to centrally managed delivery of IT at Bristol Water. Communications and Networking costs have been included in the IT investment case for AMP 7, having previously not been. Overall therefore, in comparison to AMP 6 investment in IT of £18.5m, the corresponding figure for AMP 7 of £16.1m is felt to reflect considerable efficiencies in the way IT will be delivered at Bristol Water in the coming period.

8 Synergies and Interdependencies With Other Investment Cases

The IT investment case is linked to all other investment cases for AMP 7. This is because there are elements within the interventions of each investment case that rely on the effective provision of IT. The interdependencies have been identified and managed through considerable ongoing engagement with key business stakeholders as well as individuals responsible for the development and approval of all other investment cases. The interventions in the IT investment case have been ratified by all stakeholders as aligning to the requirements of the other investment cases. A fundamental principle for the development in Bristol Water's IT capability for AMP 7 is to ensure that there is sufficient flexibility and capacity to support and enable the effective delivery of the Company's vision for that period, in line with our Customers' expectations and needs. Table 7, below, show a view of the synergies with other investment cases. More direct interdependencies are shown with an 'x'. There are less direct interdependencies where there are '-'s.

Table 7: Synergies with other investment cases

Intervention ID	Investment Case																			
	Trunk Mains	Distribution Mains	Service Reservoirs and Towers	Water Pumping Stations	Bulk Meters and PCVs	Customer Meters	Network Ancillaries	Network Monitoring	Leakage	New Development	Water Resources	Raw Water Distribution	Raw Water Pumping Stations	TW Strategic Maintenance	ICA and Telemetry	Resilience	Management and General	Environment	Infrastructure Base Maintenance	Non-infra Base Maintenance
32.001.01	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.001.02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-
32.001.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-
32.001.00	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.001.05	-	-	-	-	-	-	-	-	x	-	-	-	-	-	x	x	x	-	-	-
32.001.06	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.001.07	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.001.08	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-
32.001.09	x	x	-	-	x	x	x	x	x	-	-	-	-	-	x	x	x	x	x	x
32.001.10	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.001.11	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x

Intervention ID	Investment Case																			
	Trunk Mains	Distribution Mains	Service Reservoirs and Towers	Water Pumping Stations	Bulk Meters and PCVs	Customer Meters	Network Ancillaries	Network Monitoring	Leakage	New Development	Water Resources	Raw Water Distribution	Raw Water Pumping Stations	TW Strategic Maintenance	ICA and Telemetry	Resilience	Management and General	Environment	Infrastructure Base Maintenance	Non-infra Base Maintenance
32.001.12	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.001.13	-	-	-	x	-	-	-	-	-	-	-	-	x	x	-	x	x	x	-	-
32.001.14	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.001.15	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.001.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-
32.001.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	-	-	-
32.001.18	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.001.19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-
32.001.20	-	-	-	-	-	-	-	x	x	-	-	-	-	-	x	-	-	-	-	-
32.001.21	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.001.22	-	-	-	-	-	-	-	-	-	x	-	-	-	-	-	x	x	-	-	-
32.001.23	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.001.24	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.001.25	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.001.26	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.001.27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-
32.001.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-
32.001.29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-
32.001.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	x	-	-	-
32.001.31	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
32.001.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	x	x	x	-	-

9 Opportunities for Innovation

We see innovation as integral to our everyday working at Bristol Water and this IT investment case for AMP 7 puts forward ambitious yet functional plans for shaping the way Bristol Water will work from 2020 onwards. The delivery of IT alone will not necessarily be innovative in and of itself. The significant difference will be how the delivery of these IT interventions enables the wider business to work in innovative ways and to generate innovation. Some of these opportunities are presented below.

9.1 Big Data

A commonly used term in technology discussions, *Big Data* refers to the use of unprecedentedly large volumes and complexities of data that require new, smarter means of processing to become more useful than the constituent parts. For Bristol Water, we will leverage Big Data by integrating data and systems in new, more agile ways and establishing new data aggregation and processing capabilities, enabling insight-driven strategic and operational decision-making. The benefits of this will be many and varied but one important application will be in the convergence of Information Technology and Operational Technology and increased, coordinated use of telemetry data, such as to drive proactive maintenances and predict events before they occur. Big data will also enable the Company to extract and leverage powerful insight relating to our Customers. Possibilities here include appropriate use of social media integration to analyse sentiment and, in combination with other data sources, use this to react more quickly to, and also predict, events.

9.2 Artificial Intelligence

Building on the larger data sets we will have at our disposal through the developments to leverage a Big Data capability at Bristol Water, the wider application of Artificial Intelligence or *AI* will become a powerful tool. Artificial intelligence is technology that can replace or enhance manual data processing by learning and deriving conclusions. Applications include autonomous vehicles and automatic speech recognition. Bristol Water will be able to apply AI to many different requirements that will simplify or remove entirely some transactional processing activity. This capability may also support how we engage our Customers and the speed with which we are able to proactively prevent or resolve issues, such as leaks, bursts and asset deterioration or failure.

9.3 Business Process Automation

Closely linked to AI is Business Process Automation (BPA), which relates to the automation of processes and functions through technology. Rather than learning like AI, which can usually be applied later to help improve processes further, BPA effectively records or receives and then plays back the systemised design for a business process. Most simply applied to transactional processing, BPA can greatly reduce the manual handling of data. Again, there are a wide variety of possible applications for this technology at Bristol Water. With the concept already proved in AMP 6, the key to successful deployment of this capability on a larger scale into AMP 7 will be the ability to fully understand and evaluate business processes, which can often be considerably more complex than it may first appear. Equally, there are many instances where, for a variety of reasons, it may be more cost-effective to keep processes relatively manual. This may be the case, for example, where there are a large number of variables at play and the best way to balance these and make a decision is for human input.

9.4 Agile working

Building on the deployment of our new mobile works management platform at the end of AMP 6, AMP 7 will see us continue to establish and underpin new ways of working through technologic enablement. This will move the organisation away from traditionally espoused concepts of mobile working to a new agile approach where the experience for our colleagues is seamlessly adaptable to their chosen working location. Any and all necessary data and information will be available to support safe, robust decision-making on the best device for the job at hand and in a format that is appropriately intuitive and intelligible. Equally, when new opportunities to capture or provide different data present themselves, this will be serviced flexibly and without delay. The opportunities to work in increasingly agile and innovative ways will be many and only apparent to their full extent once the mobility projects planned for the end of AMP 6 have been progressed.

9.5 Data and information management

Incorporating and servicing the above opportunities for innovation, the capabilities with which the organisation manages data and information has been on a significant upward trajectory throughout AMP 6. Continuing on this journey, in AMP 7, the assurance of critical and then other data will become a routine part of the way we work. Being able to rely on the data and information that is available to us through an open data architecture will not only support our compliance with legislation as has more been the focus of AMP 6, but will mean we can move towards the provision of meaningful, real-time analytics and information to our colleagues and Customers. This greater reliance on, and use of, information will take us to new places as a Company. We will be able to make decisions quicker in response to issues that arise. Following this, we will be able to take more targeted preventative action both in relation to data available on our assets and infrastructure but also the sentiments of our Customers and stakeholders, shaping or addressing trends before they become apparent.

The way we manage and use data and information as an organisation will provide a large number of opportunities to better understand and control our work and the necessary inputs and outputs. This will enable us to realise our ambition to be a truly digitally enabled organisation.

10 Conclusions

Bristol Water plans to invest £16.127m in IT for AMP 7. It is projected that this investment will deliver £29.86m in benefits, primarily through the mitigation and avoidance of risks with some opportunities for efficiency offered to the business for realisation.

The advent of AMP 7 sees a step change in the way IT is delivered at Bristol Water, reflected by a continuing transition from traditional delivery models towards a true information service, enabling and supporting everything the Company does and driving the strategic direction with regards use of technology and the management of information. The work required to achieve this shift will be nothing short of transformational and will involve a collaborative model of working, across departmental and organisational boundaries.

The interventions in this investment case enable or indirectly support Bristol Water's Performance Commitments, which ensure we deliver what our Customers expect. The inception and design of plans for IT investment for AMP 7 have kept Customer experience at the centre of our focus. The result is that everything in this investment case will help maintain and then build on the level of service our Customers receive. Whilst there are some quick fix approaches that have been incorporated into the proposed set of interventions, this is very much a strategic plan and one that will rely on sustained understanding of, and adherence to, a big picture view whereby each development, although not necessarily delivering significant visible improvements in isolation, is part of something bigger and absolutely critical to delivering the significant benefits outlined here. Following through on this approach will be fundamental to successfully realising our ambition to deliver excellent water experiences.

11 Appendices

- Appendix A: Line of Sight Diagram
- Appendix B: Datasets Used in the IT Investment Case
- Appendix C: Options Considered in the IT Investment Case

11.1 Appendix A: Line of Sight Diagram

IT Line of Sight

Investment Case
NTPBP-INV-IT-0547

Customer Priorities

Performance Commitments

Optimiser Input Form Reference

NTPBP-CAL-IT-0366

Cost Beneficial

Interventions

32.001.01
Configured Asset Maintenance Regime

32.001.02
ProActive Service Desk

32.001.03
Integrated Procurement

32..001.00
Asset Data Collection Framework

32.001.05
Business Process Automation

32.001.06
Capital Delivery Support

32.001.07
Communication and Networking

32.001.08
Consistent User Experience

32.001.09
Consolidated Asset Mapping Information

32..001.10
Effective Collaboration and Knowledge Management

32.001.11
IT to Deliver Enterprise Info

32.001.12
Effective Org and Knowledge Management

32.001.13
Efficient Energy Use

32.001.14
Enable Big Data Analytics

32.001.15
Enhanced Field Force Toolsets

32..001.16
Enhanced Ineraction with Suppliers

32.001.17
Enhance interaction with Third Parties

32.001.18
Enterprise Document Management

32.001.19
Extended Customer Contact Chnnels

32.001.20
Externally Presentad Oerational Updates

32.001.21
Governance foe Effective Enterprise Management

32..001.22
In-Depth Customer Analytics

32.001.23
In Field Operational Support

32.001.24
Internally Integrated Applications

32.001.25
Maintain and Upgrade

32.001.26
Operating Systems Refreash

32.001.27
Outage and Risk Assessment Solution

32.001.28
Seamless Uninterruptible Service

32..001.29
Retail Market Competition Enhancements

32.001.30
Single View of the Customer

32.001.31
Streamlined Accurate /Timely Reporting

32.001.32
Water Resource Market Penetration

OFWAT Initial Assessment Tests

Test Area

What is the quality of the Company's customer engagement and participation and how is it incorporated into the companies business plan and ongoing operations — Engaging Customers

How well has the company used the best available evidence to objectively assess and prioritise the diverse range of risks and consequences of disruptions to its systems and services and engaged effectively with customers on its assessment of the risks and consequences — Securing long term resilience

How well has the company objectively assessed the full range of mitigating options and selected the solutions that represent the best value for money over the long term and support from customers — Securing long term resilience

To what extent has the company clearly demonstrated that it has considered whether all relevant projects are technically suitable for direct procurement for customers. Where it has one or more such projects, to what extent has the Company provided a well reasoned and well evidenced value for money assessment — Targeted controls , markets and innovation

To what extent does the company have a good track record of producing high quality data, taking into account the company's data submission, assurance process and statement of high quality , and our 2018 assessment of the company under the Company Monitoring Framework — Securing Confidence and Assurance

Board Requirements

Assurance that the company's business plan has been informed by customer engagement and feedback from the company's CCG about the quality of its customer engagement and how this has been incorporated into the plan — Customer Engagement

Assurance that the company's business plan has been informed by a robust and systematic assessment of the resilience of the company's systems and services; customer views on managing resilience and a comprehensive and objective assessment of interventions to manage resilience in customers long term interests — Resilience

How has it challenged an satisfied itself that the overall strategy for data assurance and governance processes delivers a high quality data — Business Planning

How has it challenged and satisfied itself that the business plan will enable the company to meet its statutory and licence obligations , now and in the future and take account of the UK and Welsh governments strategic policy statements. — Business Planning

How has it challenged and satisfied itself that its plan will deliver operational financial and corporate resilience over the next control period and the long term through its governance and assurance processes, taking into account of its track record of performance — Business Planning

Performance Commitment Key

Common Performance Commitment

Common New Performance Commitment

Bespoke Performance Commitment

Bespoke New Performance Comittment

Document Number NTPBPP-MET-

11.2 Appendix B: Datasets Used in the IT Investment Case

The data and supporting documentation used to develop this investment case are as follows:

Title	Description
Investment case data	Background and costings data for the IT investment case
Benefits quantification data	Detailed benefits quantification data for all projects within each intervention
Benefits quantification methodology	Approach designed to complement the Investment Planning methodology to ensure a standard means of deriving benefits for proposed IT interventions was established
Stakeholder feedback	Outlining the content presented to and feedback received from key stakeholder in relation to the risks and opportunities that were developed into the IT investment case
Theme workshop outputs	Outputs from the themed workshops which helped develop the risks, solutions and options upon which the investment case was built
Average loaded cost per employee	The labour costs received from HR in line with the direction provided by Finance
IT costs from non-IT budgets	Analysis of the capital expenditure on IT that was not from an IT budget in AMP 6
Business Architecture Principles	The set of principles upon which IT decision-making at Bristol Water is and should be based. This is a key assumption for AMP 7 delivery of this investment case; that decisions around IT will continue to adhere to these guidelines
End of assignment deliverables	Outlining the work that was completed by Wipro Ltd to support the development of the IT investment case, including the production of costing data

These can also be found in the Investment Planning Document Register.

11.3 Appendix C: Options Considered in the IT Investment Case

Five options were not taken forward to be included in the IT investment case. The below table summarises the reasons why these decisions were made. Where these options were developed into interventions, put forward for optimising and then subsequently removed from the investment case, this has been recorded in the Investment Planning Change Log, along with the rationale. The relationship between these options and the original record on the Strategic Risk Register is also highlighted.

SRR Ref	SRR Description	Option Title	Option Description	Reason
735	If Health and Safety Applications are not deployed, we may not maintain or be assured of compliance with health and safety legislation	Health and Safety Applications	Building on the access to safety documentation enabled in AMP 6, in AMP 7 we'll need to look to provide an enhanced set of Health & Safety tools for our colleagues. These may include mobile applications to make sure that Health & Safety risks can be assessed, recorded and mitigated, and any incidents that occur can be raised and investigation triggered quickly, from any location. We will need to operationalise the remote tracking of our vehicle fleet, to ensure field operatives' location is visible to operational centre teams. Finally, with the proliferation of wearable devices, we will need to explore the introduction of selected devices, within the confines of new GDPR regulations, to aid colleagues in staying fit and healthy.	The implementation of new Health and Safety applications was brought forward into AMP 6, with investment secured from outside the IT budget. As a result, this intervention is no longer necessary as a standalone item within the IT investment case. There will be limited ongoing support and development required during AMP 7 to ensure the applications continues to meet business requirements. This will be Business as Usual activity.

SRR Ref	SRR Description	Option Title	Option Description	Reason
738	If Integrated HR Systems and Tools are not put in place, we will not be able to rely on a single source of personal data relating to employees which may mean we are not compliant with data protection legislation and will also impact on core business processes	Integrated HR Systems and Tools	In AMP 7, we'll need to make further investments in Cascade, including integration to other colleague experience applications and holding additional information relevant for resource planning. In particular, skills and capabilities information will be held in the system. Combined with integration to SAP ERP and FFA this will enable the right person to be matched to the right role or project. This additional level of detail may also be utilised to support career development planning within the toolset, helping identify relevant learning pathways for colleagues to pursue and track progress against these. As with our Procurement and Finance systems, within AMP 7 we'll continue to develop a consistent user interface to access core colleague applications, including HR applications. This is to ensure that the systems are easy to use, as well as to provide a seamless user experience across a variety of platforms. In response to expectations for an increasingly digital workplace and to promote a Customer-centric ethos, we'll explore options for how our UI can help create innovative work environments. Themed digital work environments may help us to set the scene for an increased focus on Health & Safety, a more Customer-centric outlook, or other behaviours we want to promote in our business.	Development and further integration of HR systems and tooling was brought forward into AMP 6 and, although this has been scaled down somewhat relative to the initially laid plans for AMP 7, the work that has been or is due to be delivered within AMP 6 incorporates the key elements of this option. Furthermore, the project to replace the existing mobile works management platform within AMP 6 will provide the opportunity to build many of the integrations proposed for this option. The net result is that this work is no longer considered to be warranted as a defined intervention in its own right. Where necessary, elements are either being progressed within AMP 6 or will be factored into other planned work for AMP 7 with no impact on the scale or cost of those works anticipated.

SRR Ref	SRR Description	Option Title	Option Description	Reason
745	If Risk and Programmes Solutions are not put into place, management of risk will not be consistent and in line with our asset management strategy, limiting the effectiveness of decision-making and reducing the reliability of audit trails in relation to capital delivery	Risk and Programmes Solutions	To build on our investment in an enterprise risk register, we will be required to develop risk assessment tools that can be used across the company, including by operatives directly in the field. The assessment tool will be accessible through our mixed economy of devices, including mobile, and will provide a clear framework and structure through which to assess the likely implications of risks materialising. The toolset will allow for the capture of more granular risk details that lead to more accurate programme optimisation outputs from the Programme Optimisation Solution we invested in in AMP 6. In AMP 7 we will further develop the Programme Optimisation Solution we invested in in AMP 6 by building in a solution outcome feedback loop. Solutions (programmes/projects) will be monitored to conclusion and their impacts measured. These measurements will be used to inform the optimisation algorithm and enable learnings to inform solution selection going forwards.	The implementation of risk and optimisation tooling has been brought forward to AMP 6. If deemed to be required, the necessary solution capabilities will also be developed to support these tools. The initially proposed scope for this work, planned for AMP 7, is not necessarily fully aligned to the work being delivered within AMP 6. However, this is understood to be satisfying business requirements and therefore the interventions initially proposed will not need to be progressed.

SRR Ref	SRR Description	Option Title	Option Description	Reason
748	If User Friendly Finance Applications are not implemented, financial IT provision will not support our core finance processes and this may limit the reliability of business-critical data and the extent to which we are audit-ready	User Friendly Finance Applications	In the next AMP, as with our Procurement solutions, the same look-and-feel consolidated UI will need to be overlaid on top of the SAP FI/CO modules.	Whilst the proposed cost-benefit suggested this intervention should be included in the IT investment case, relative to the other interventions that have been included in the final case, User Friendly Finance Applications were not deemed to be of sufficient priority to warrant a standalone intervention for AMP 7. It is considered that there may be opportunities to deploy certain key elements of the capabilities outlined in this option through other planned works or ongoing Business as Usual activity should priority dictate as AMP 7 progresses at minimal or no additional cost.

SRR Ref	SRR Description	Option Title	Option Description	Reason
750	If we do not deploy Wider Stakeholder Offerings, this may impact on our C-MeX or D-MeX performance	Wider Stakeholder Offerings	Although we already provide water level and quality metrics, within AMP 7 we will need to invest in interfaces to allow additional detail on these metrics to be shared automatically with relevant stakeholders. This will help build public trust and demonstrate we are meeting our strategic aim of providing excellent quality water. With non-contact stakeholders being part of the measurement of C-MeX in AMP 7, we will look to bring recreational users of our facilities into our Customer journeys. By developing and integrating our recreational platforms, we'll be able to offer a consistent Customer experience, regardless of whether someone has a Bristol Water account. Data collected through these means may also be used to enhance our overall Customer journey and experience.	Whilst the proposed cost-benefit suggested this intervention should be included in the IT investment case, relative to the other interventions that have been included in the final case, Wider Stakeholder Offerings were not deemed to be of sufficient priority to warrant a standalone intervention for AMP 7. It is considered that there may be opportunities to deploy certain key elements of the capabilities outlined in this option through other planned works or ongoing Business as Usual activity should priority dictate as AMP 7 progresses at minimal or no additional cost.