

Building a Water Utility for Tomorrow

11th International Symposium on Water Supply Technology

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Chief Operating Officer

Watercare 
An Auckland Council Organisation 

What I will talk about

- Who we are
- What we do
- What is important to us
- How we are transforming
- Who we are becoming
- Rugby



Provide safe
and reliable
water and
wastewater
services 24/7

Protect
public
health

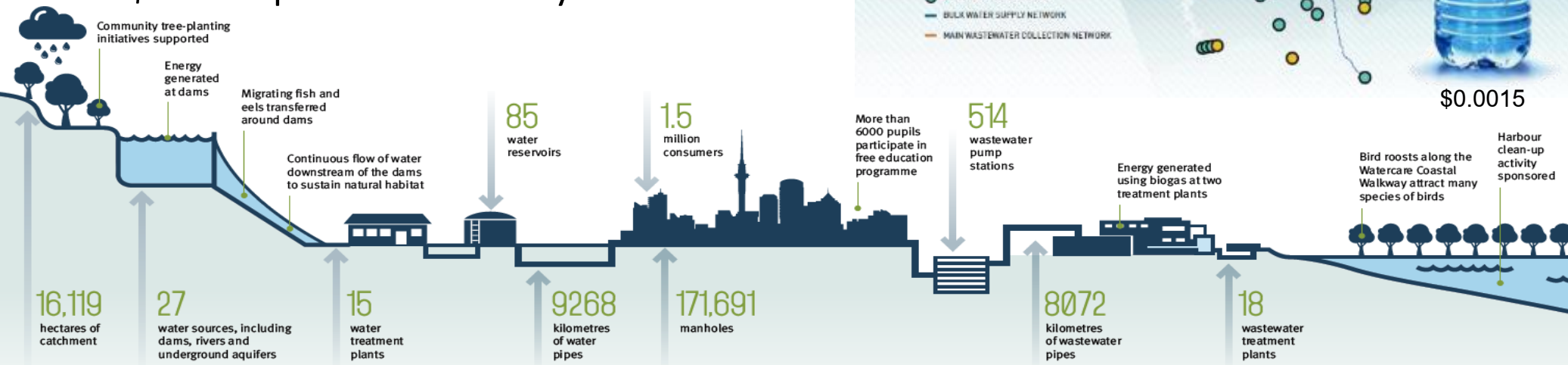
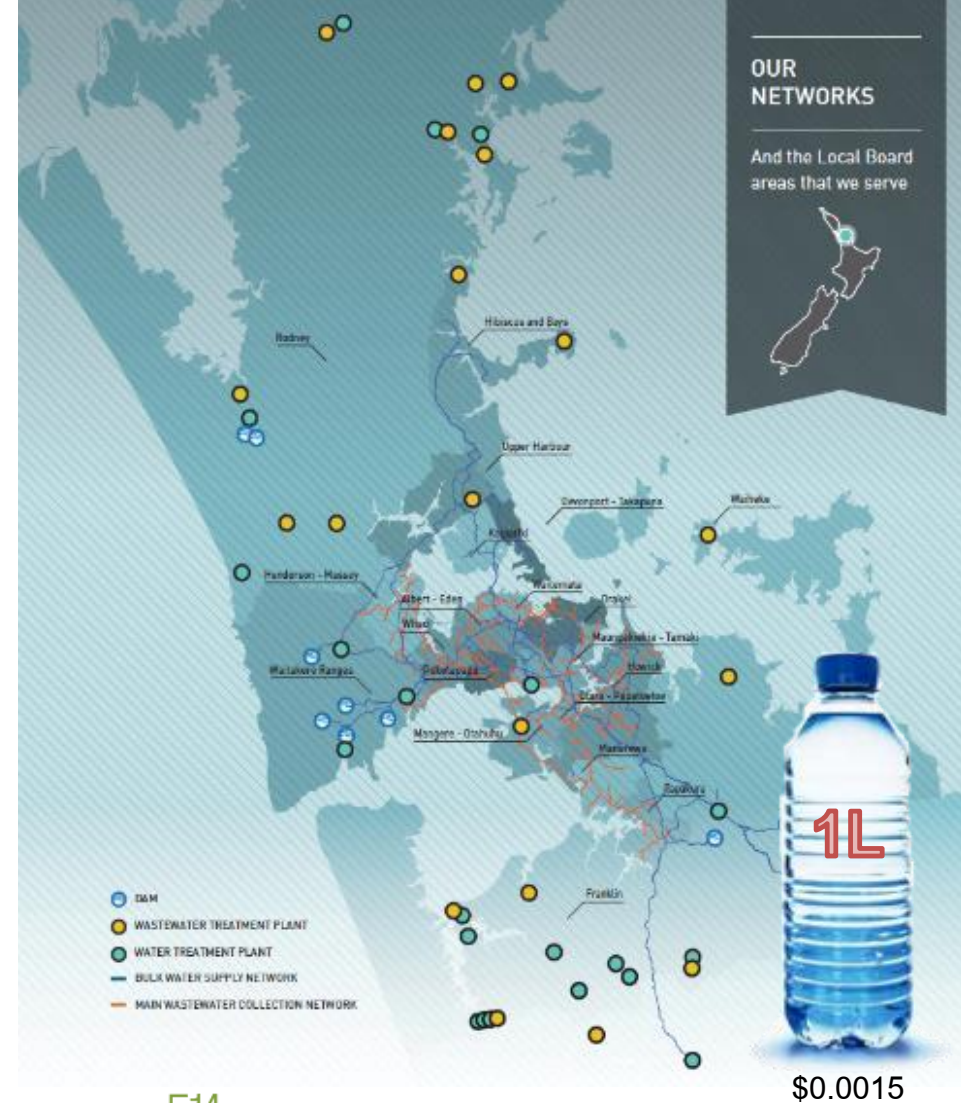
Enable social,
economic and
environmental
well-being

Cater
for growth

Contribute
to Auckland's
quality of life

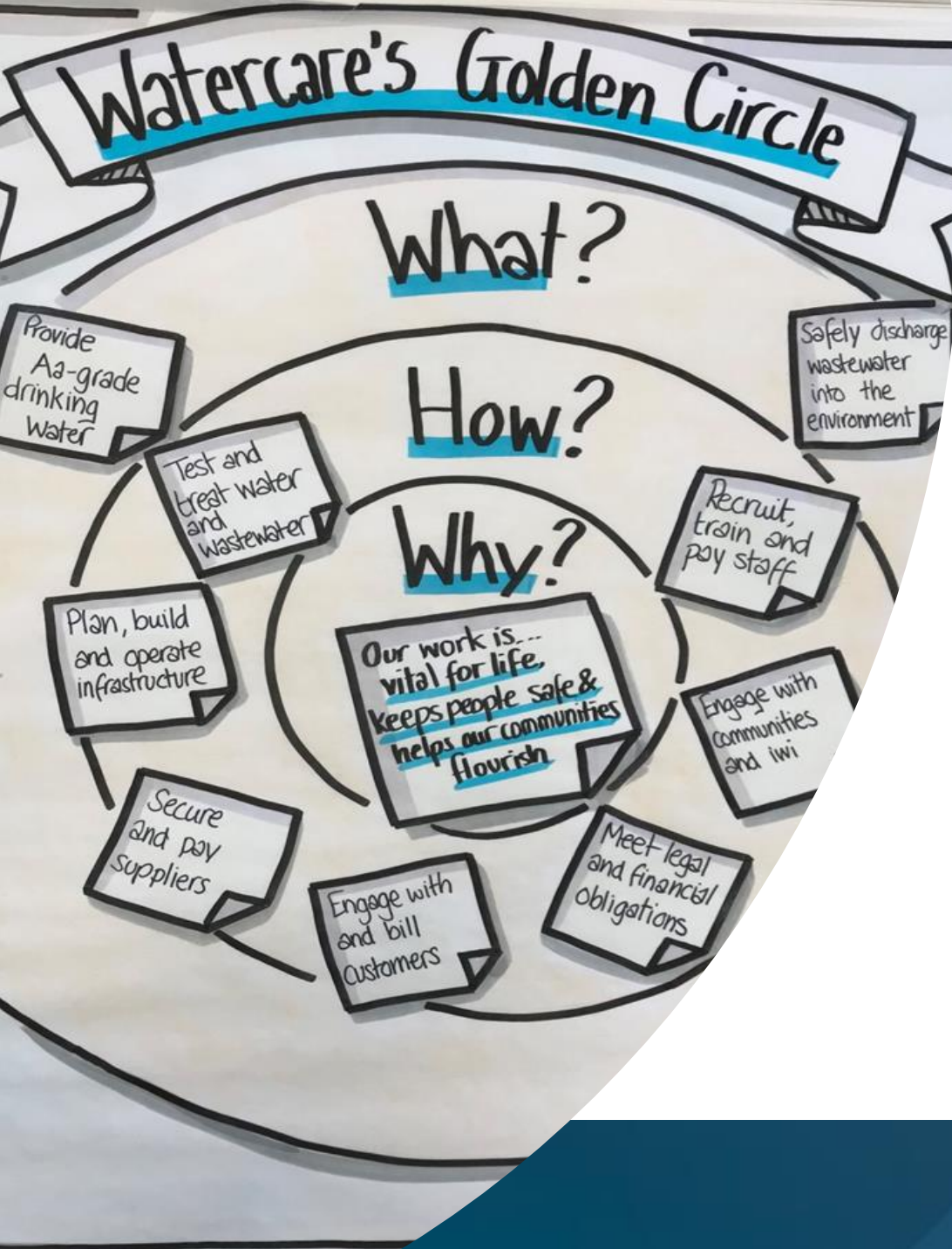
Today we are

- 1.5 million customers; 440,000 meters
- \$10.2 billion in asset value
- 15 water treatment plants
- 18 wastewater treatment plants
- 16,800 kilometres of retail pipes
- 584 water/wastewater pump stations
- 90 water reservoirs
- \$250M Opex; \$150M Operations
- \$5.4B Capex over next 10 years



Our values drive business outcomes...



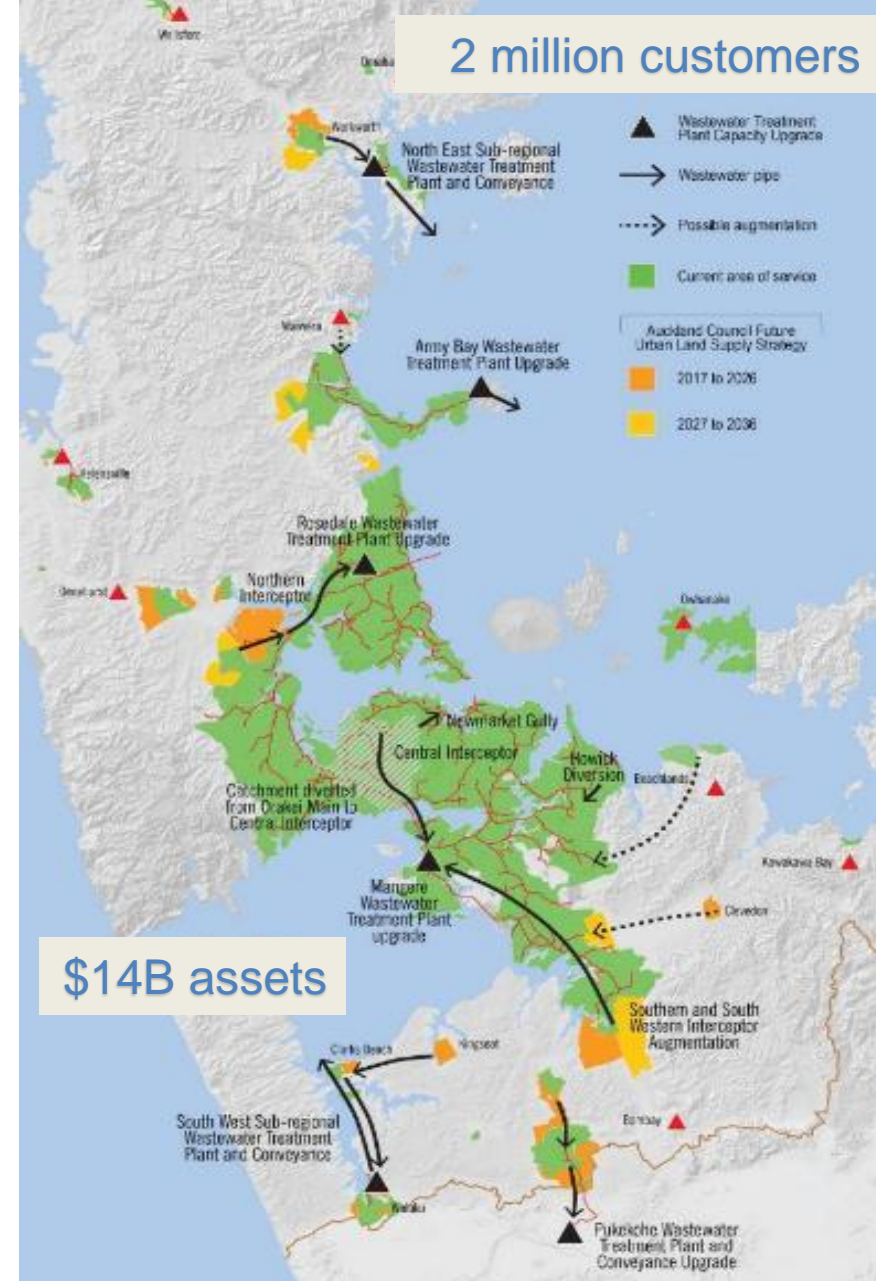


Focus on
our purpose

Tomorrow who will we be

- New Zealand's largest Infrastructure owner
- Deeply trusted by our communities
- Employer of choice
- Supply chain partner to the country
- Unlocking the potential for water investment across the country
- Lighthouse global water utility

Every 8 years Auckland grows in population equivalent to Wellington, the capital city of New Zealand



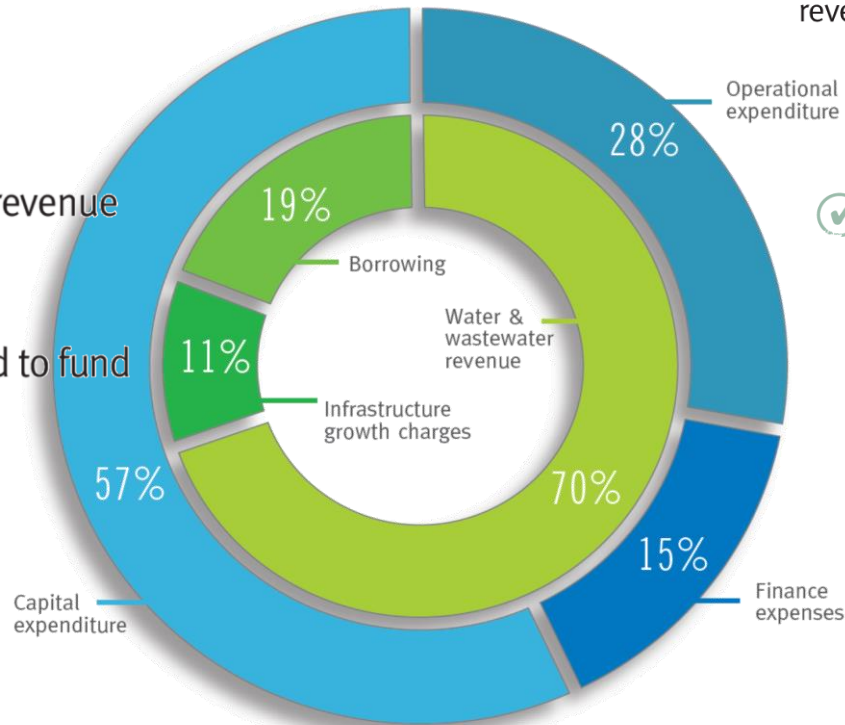
Our strengths have been

- ✔ No revenue funding from Auckland Council or Government
- ✔ All revenue generated directly from customers through user charges (not council rates)
- ✔ Revenue is used to operate, maintain and expand infrastructure
- ✔ Any shortfall is financed through borrowing
- ✔ Stable price path to ensure balance between revenue and borrowing and equity between present and future generations
- ✔ The funding plan demonstrates how we intend to fund and finance activities over the next 10 years.

✔ Building new assets to service our existing and future customers makes up 57% of our expenditure over the next 10 years, funded and financed by water and wastewater revenue, IGCs and borrowing

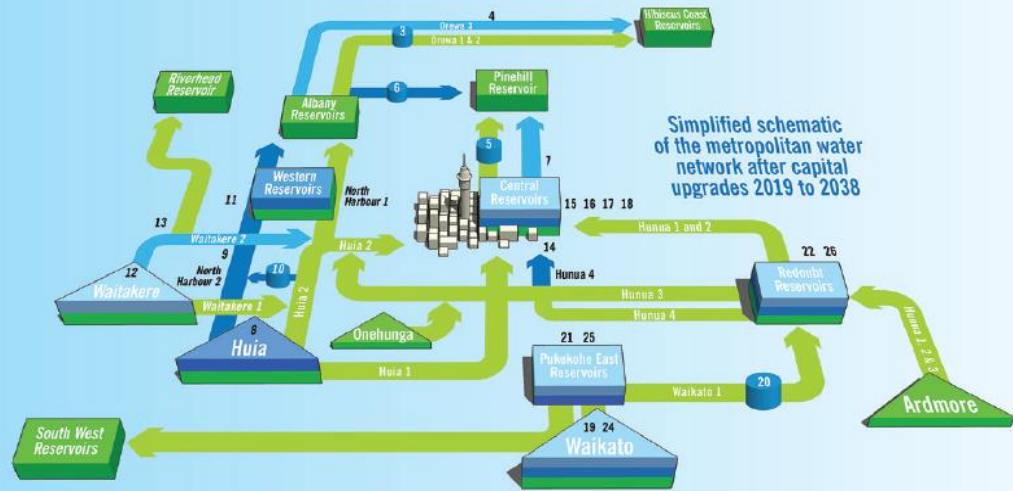
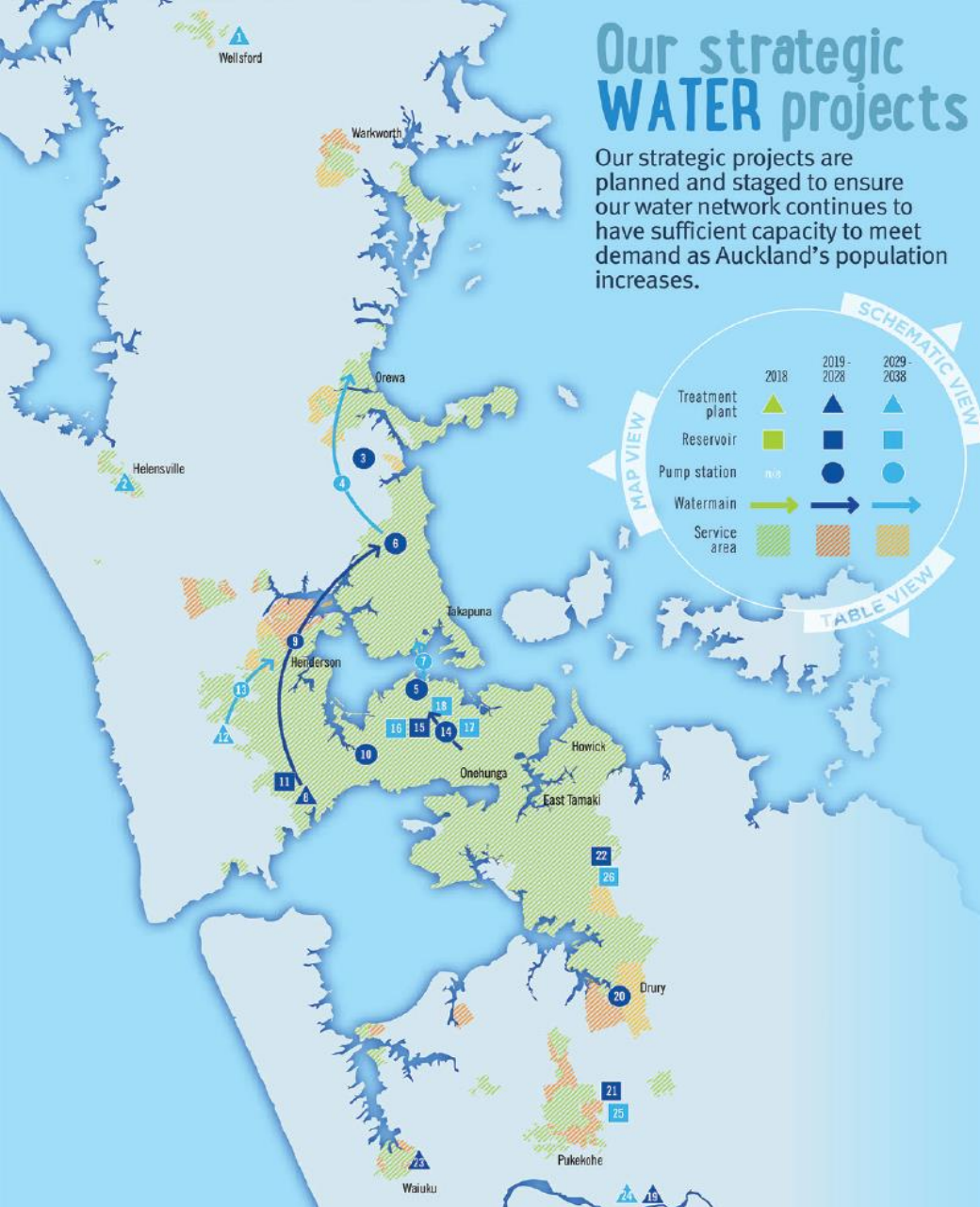
✔ Operating our business to service our customers makes up 28% of our expenditure over the next 10 years, funded by revenue

✔ Finance expenses, also funded by revenue, makes up 15%



Our strategic WATER projects

Our strategic projects are planned and staged to ensure our water network continues to have sufficient capacity to meet demand as Auckland's population increases.



Area	Project description	2019 - 2028	2029 - 2038
Rodney	1 Wellsford water supply augmentation		
	2 Helensville water supply augmentation		
	3 Construct pump station to boost supply from Albany to Hibiscus Coast	\$61m	\$170m
	4 Construct Orewa 3 Watermain		
North	5 Construct pump station to boost supply from Auckland City to North Shore		
	6 Construct watermain and pump station to supply Pinehill from Albany	\$11m	\$0
	7 Construction of new watermain as part of planned NZTA Waitemata Harbour crossing*		
West	8 Replace Huia Water Treatment Plant		
	9 Construct North Harbour 2 Watermain		
	10 Construct pump station to boost supply from central to west Auckland	\$731m	\$201m
	11 Construct additional reservoirs in the west		
	12 Replace Waitakere Water Treatment Plant		
	13 Replace Waitakere 2 Watermain		
Central	14 Complete Hunua 4 Watermain to Khyber reservoirs		
	15 Construct reservoir at Khyber Reservoir Complex		
	16 Upgrade Ponsonby Reservoir	\$102m	\$69m
	17 Replace Domain Reservoir		
South	18 Replace Khyber 3 Reservoir		
	19 Increase Waikato Water Treatment Plant capacity to 175 MLD		
	20 Construct pump station to boost supply via Waikato Watermain to Redoubt Reservoirs		
	21 Construct Pukekohe East Reservoir at Runciman Road		
	22 Construct reservoir at Redoubt Road	\$136m	\$357m
	23 Waiuku water supply augmentation		
	24 Increase Waikato Water Treatment Plant capacity to 250 MLD		
Other programmes	25 Construct additional Pukekohe East Reservoir		
	26 Construct additional Redoubt Road Reservoir		
	Increasing capacity to support growth	\$208m	\$354m
	Renewing and replacing existing assets	\$634m	\$1529m
	Improving the level of service for our customers	\$35m	\$159m
TOTAL		\$1918m (\$1.9 billion)	\$2838m (\$2.8 billion)

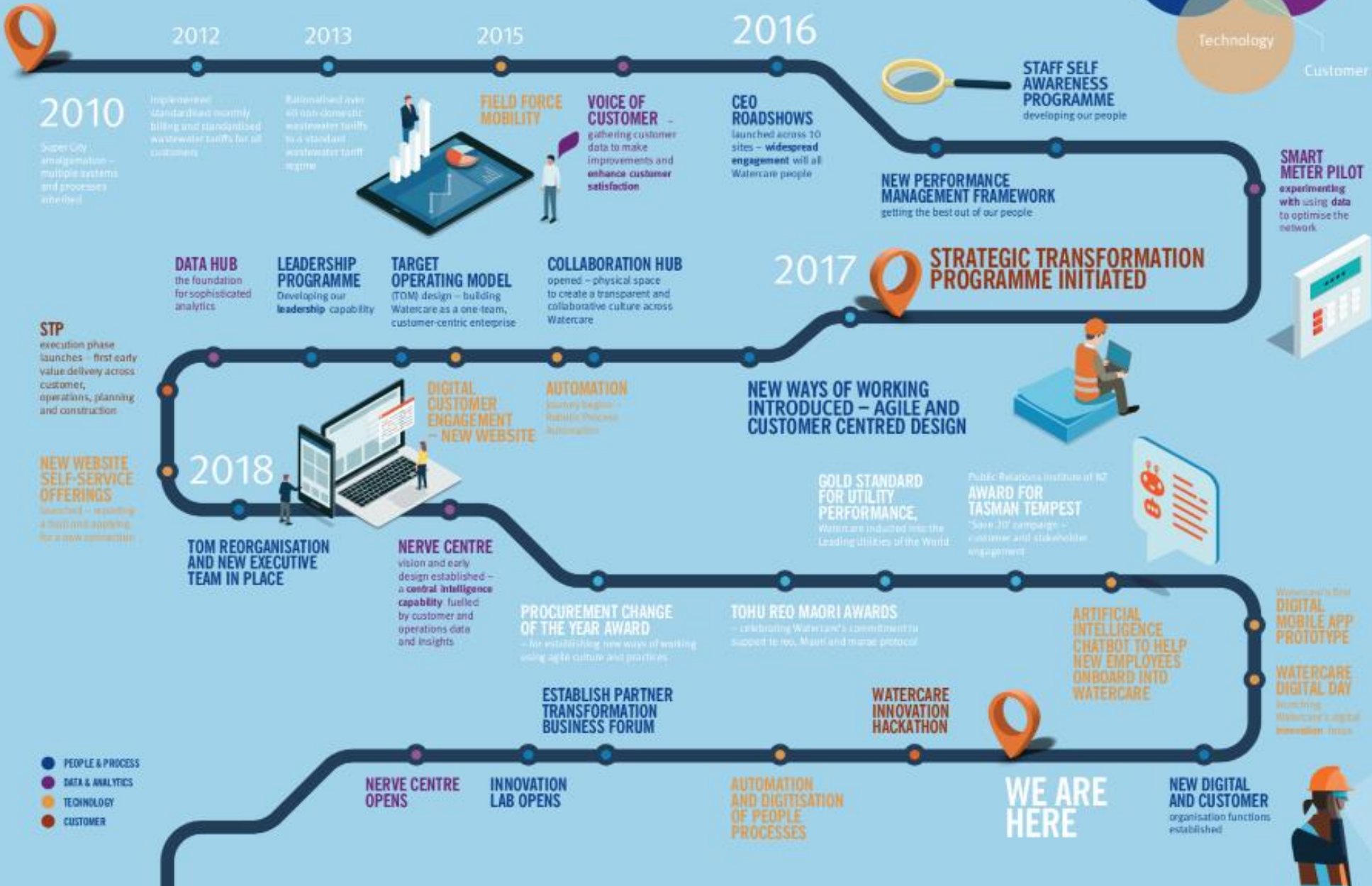
All monetary figures are nominal. MLD = millions of litres per day
 *Currently in third decade. Subject to NZTA timing for the second harbour crossing.

Excellence in capital delivery



Operational agility

Our organisational journey



- PEOPLE & PROCESS
- DATA & ANALYTICS
- TECHNOLOGY
- CUSTOMER



Our business transformation toolkit



There is an absence of a number of key **'guiding' capabilities**, resulting in a cascading alignment problems

Embrace change



There are only a few pockets in the organisation where things are done fast and at pace, **creating backlogs** and/or inability to effectively and efficiently respond to the market

Pursue excellence



The historic engineering and compliance oriented culture has **stifled new ways of working** – across agility, innovation, and customer orientation

Break down barriers

Harness human capital

Challenge culture



There is no end-to-end **ownership of the customer** experience, resulting in sub-optimal customer interactions

Transform leadership

Disrupt norms



WC's **sourcing is inconsistent**, implicating the relationship with contractors and cascading impact on WC's customers

Leverage experiences



Several functions are duplicated throughout the organisation, resulting in **loss of value**



Embrace change



Harness human capital

Watercare
An Auckland Council Organisation





EY
Building a better world
Building a better world

Successful Programs
2020 Watercare
Watercare

EY Building a better world
working world

EY

Pursue excellence

Watercare
An Auckland Council Organisation





Transform leadership



Challenge culture



Leverage experiences



Break down barriers



Disrupt norms

Our digital innovation approach

WHAT ARE OUR STRATEGIC ASPIRATIONS?



A customer can do everything for themselves, wherever they are, in a single interaction



Every employee has the right tools, the best processes and is empowered



Every employee can make insight-informed, fact-based decisions with confidence

WHAT BUSINESS PROBLEMS ARE WE SOLVING THROUGH OUR DIGITAL STRATEGY?



CUSTOMER LED

Our customers have ever increasing expectations for self service, digital enablement, and frictionless experiences



EFFICIENCY / PRODUCTIVITY

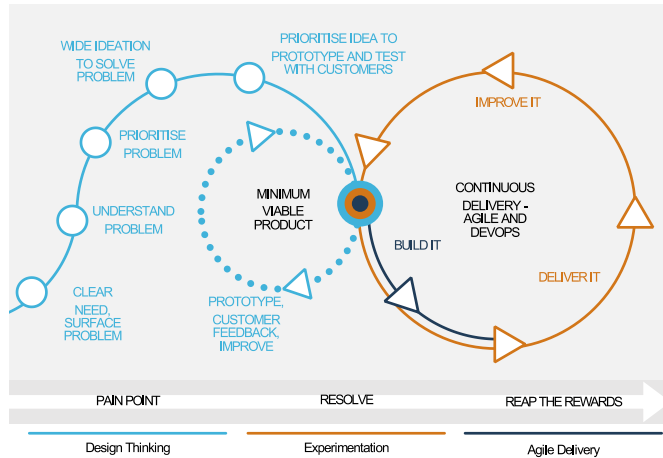
Optimise our business and drive greater efficiency by better leveraging our people, process and technology to become 'future-fit'



VALUE FROM DATA

Identifying and utilising our rich data to run our business and to add value to Aucklanders

WATERCARE DIGITAL INNOVATION AND DELIVERY CYCLE



DELIVERING WITH BUSINESS AGILITY

- Rapid, business-led deployment through cross-functional agile teams
- Clear Product Ownership in place across all Watercare business units, tasked with delivering customer centred value
- Early and continuous delivery with robust value management, tracking and benefits governance
- Optimised use of Cloud, SaaS, PaaS

ANALYTICS & INSIGHTS

- Use of Watercare's customer, asset and network performance data to make smart business decisions
- Central analytics and insights capability – Nerve Centre and Data Hub – to enable self-service and rapid customer focused decision making
- Advanced analytics, augmented intelligence and cognitive technology to maximise the value of our data

DIGITAL OPERATIONS

- Safe and secure continuous service for Aucklanders
- Reliable operation of platforms and technology
- Cloud for efficiency and systems optimisation
- Cyber security strategy to protect our assets and data

CUSTOMER FIRST

- One click, frictionless customer engagement
- Customer research and understanding informs our digital priorities
- Solution prototypes are tested with customers before scaling
- Watercare Digital and Customer teams work as one team on everything touching the customer



ALWAYS ONLINE

- Digital preference drives our channel strategy
- Access to core digital services 24/7 – anywhere, anytime
- Aggressive move to self-service and automation for both customers and staff

WORKFORCE ENABLEMENT

- Equipping Watercare people with the right digital tools to serve Aucklanders
- Workforce experience journeys are mapped and inform the digital vision
- Utilising Watercare top talent to deliver value within business units

DIGITAL TEAM AND CULTURE

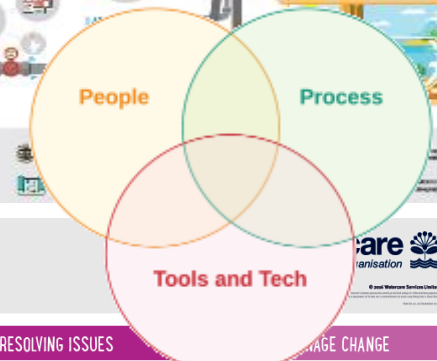
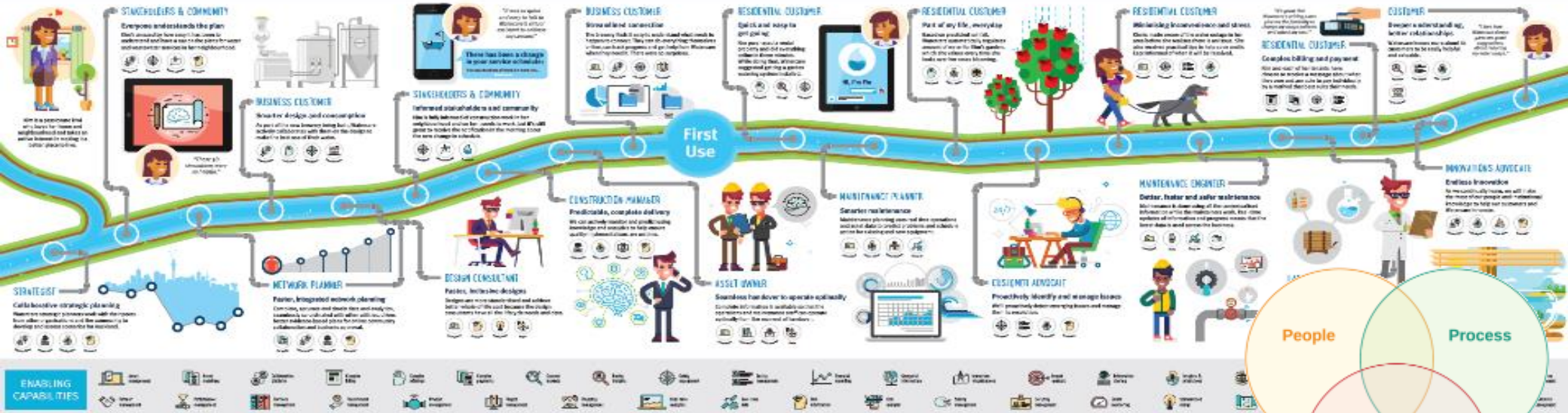
- Motivated, high performing team in a continuous learning environment
- Outstanding collaborative relationships across Watercare and throughout our partnership ecosystem
- Trusted advisors and delivery partners who get it done

INNOVATION

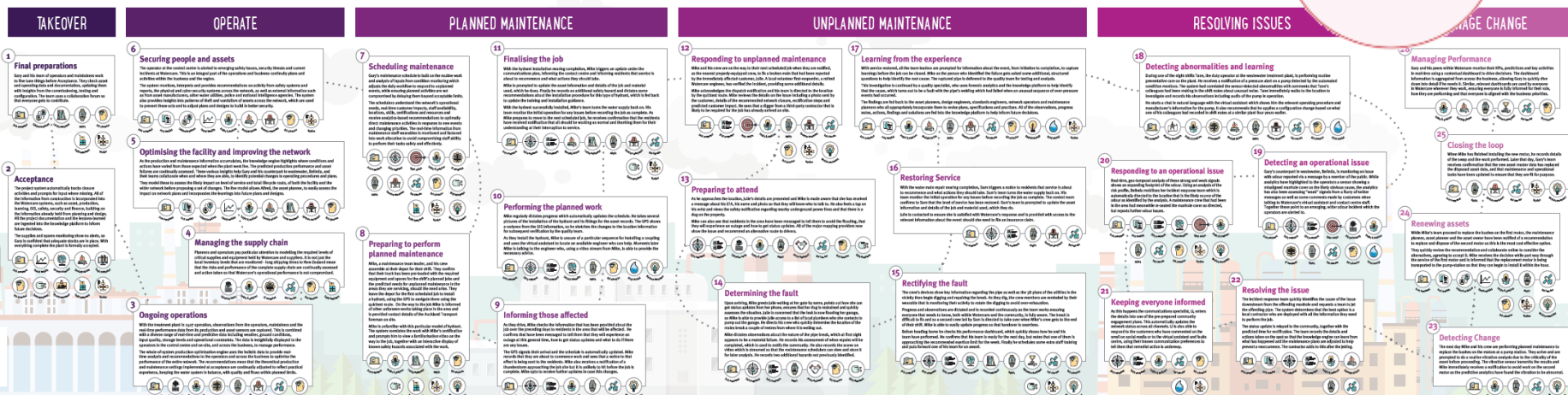
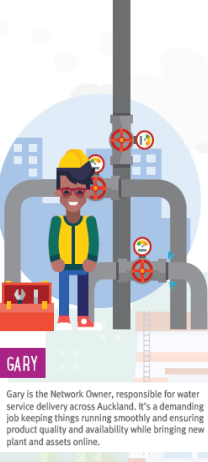
- Human centred design and Lean to define and solve the right problems
- Disciplined and continuous assessment of new and emerging technologies to extract value; Augmented Intelligence, Internet of Things, Robotic Process Automation
- Open plan, flexible innovation environment and tooling for safe experimentation



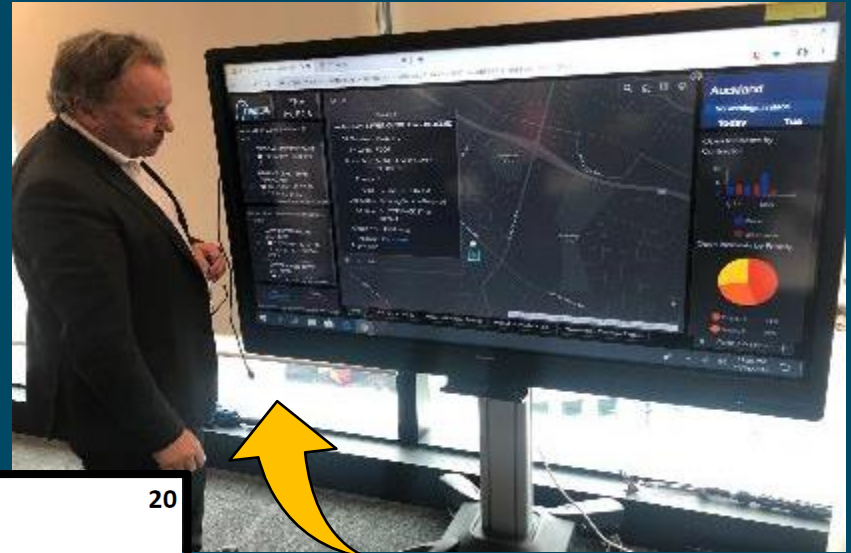
Design thinking imagines tomorrow



STRATEGIC TRANSFORMATION PROGRAMME NETWORK OWNER JOURNEY



Agile delivery builds it today



20 Responding to an operational issue
Real-time, geo-temporal analysis of these strong and weak signals shows an expanding footprint of the odour. Using an analysis of the risk profile, Bellinda mobilises her incident response team which is automatically directed to the location that is the likely source of the odour as identified by the analysis. A maintenance crew that had been in the area had recently re-sealed the manhole cover as directed, but reports further odour issues.

19 Detecting an operational issue
Gary's counterpart in Wastewater, Delinda, is monitoring an issue with odour reported via a message by a member of the public. While analytics have highlighted to the operation a sensor showing a misaligned manhole cover as the likely obvious cause, the analytics has also been assessing "weak" signals from a flurry of twitter messages as well as some comments made by customers who talking to Watercare's virtual assistant and contact centre staff. Together these point to an emerging, wider odour incident which the operators are alerted to.

21 Keeping everyone informed
As this happens the communications specialist, LL, enters the details into one of the pre-prepared community engagement plans. This automatically updates the network status across all channels. LL is also able to respond to the customers who have commented on the social media or to the virtual assistant and funds centre, using their known communication preferences to tell them that remedial action is underway.

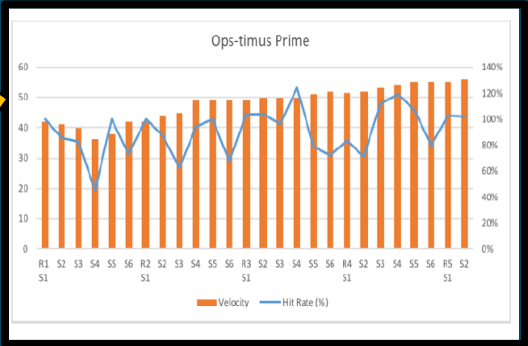
22 Resolve
The incident downstream the affecting local contract to perform it. The status of predicted (in actions taken what has prevent a rec

20

Employee Safety:
An operations/ maintenance planner
can predict and mitigate
safety risks in real time

20 Employee Safety: An operations/maintenance planner can predict and mitigate safety risks in real time

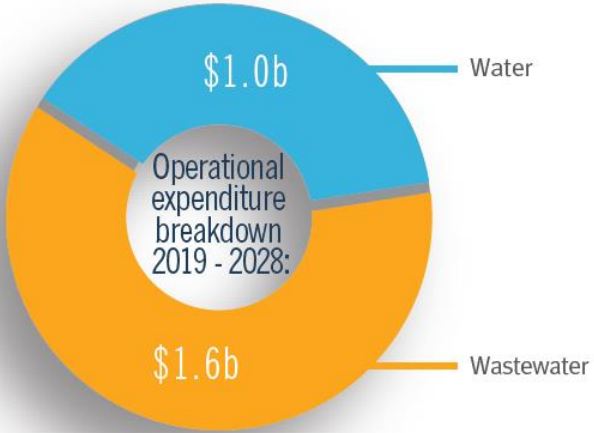
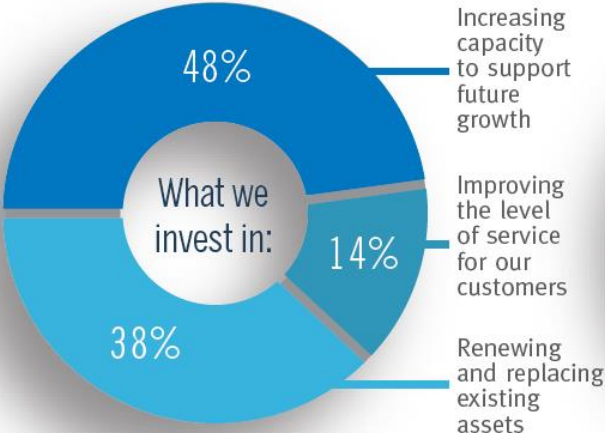
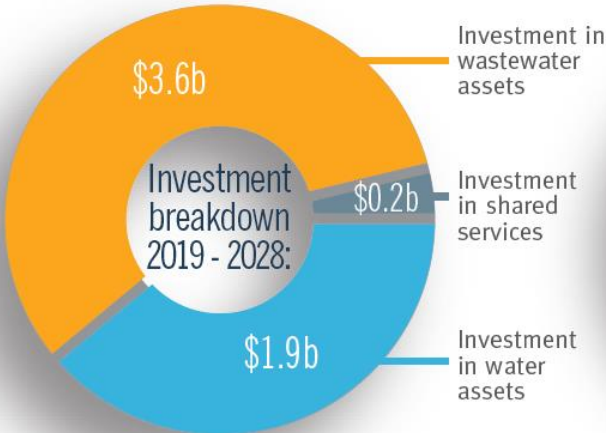
a	Access to consolidated view of structured and unstructured data regarding known and potential safety risks
b	Access to consolidated view of structured and unstructured data regarding safety events and issues
c	Comprehensive real time view of structured and unstructured data regarding operations and maintenance work (e.g. work orders and comments; operational shift notes)
d	Access to consolidated view of personnel and their static (e.g. certifications; physical dimensions; health constraints) and dynamic (e.g. work assignments; current location; hours worked; biometrics) attributes
e	Data analytics on structured and unstructured data of safety events, issues and work to identify new, emerging and declining safety risks
f	Automatically inform an operations/maintenance planner of predicted new or emerging risks for personnel from real time data when creating work plans and doing work assignment
g	Automatically include details of known (e.g. existing hazards) and predicted (e.g. heat exhaustion limit) safety risks in work instructions to internal and external personnel
h	Flexible dashboard to monitor safety risks and to manage mitigation of risks
i	Access to consolidated view of structured and unstructured data regarding known and potential safety risks



Our new strengths include



- ✓ We are a minimum-cost service provider
- ✓ We self-fund our operations and capital projects through a combination of revenue and borrowings
- ✓ We receive no money from central or local government
- ✓ Our capital expenditure for 2018-2028 is fully funded as part of our asset management plan.



- #1

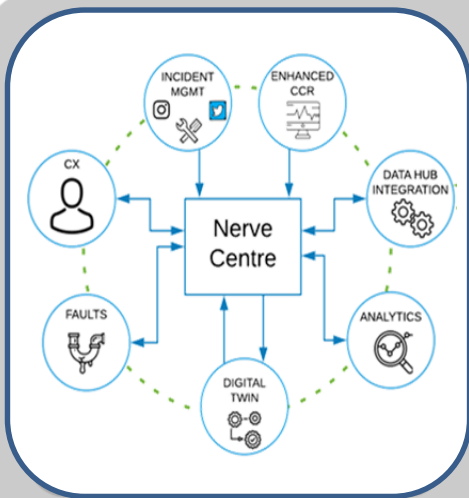
Customer Centric
- #2

Digital First
- #3

Flexible & Agile
- #4

Caring & Nurturing
- #5

Insight Led



Field Services First Contact Resolution

Planned Maintenance

- Meter Replacement
- Asset Replacement
- Sewer Flush

Unplanned Maintenance

P1 ↔ P7

- Network - Meter to Main
- Sewer Chokes/Overflows

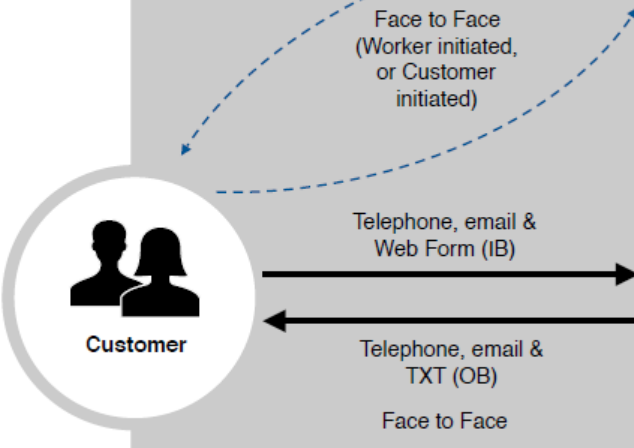
Reinstatement (basic)

Infrastructure

- Vehicle
- Scooter
- HQ/Stock Stores
- Training Centre

Digital Tools

- click Scheduler
- click Mobile
- infor Assets
- GIS Geospatial



Customer Care First Contact Resolution

Operational Functions

- Fault Management
- Dispatch
- Customer Liaison

Digital Tools

- click Scheduler
- infor Faults & Assets
- GIS Geo-spatial
- MiTel Customer Engagement

Flow: Job out of scope, or specialist assistance required → Case Creation → Acknowledge & Resolve → Inform unmarked assets, or inaccuracies

Trusted customer relationship



- ✔ promoting waterwise behaviours to manage demand.
- ✔ Investment in infrastructure to reduce wastewater overflows
- ✔ Conservation activities such as tree planting around our catchments
- ✔ Trap and haul programme in our water storage lakes to enable whitebait and eel breeding.

We have planted more than **120,000** native trees and shrubs in the Hūnua Ranges.

Key future projects:

Central Interceptor, the 13-km wastewater pipe will increase capacity to carry wastewater flows from central Auckland and enable the reduction of overflows into the environment by 2025



Revegetation of 1900 hectares of pine forests with native plantation in the Hūnua Ranges to protect our catchments



Investment in advanced wastewater treatment technology to improve the quality of wastewater discharge at smaller plants





- ✓ Auckland-specific climate change projections commissioned through NIWA in 2017
- ✓ Enterprise-wide climate change strategy and action plan for adaptation and mitigation
- ✓ Signatory of the UN Sustainable Development Goals and Sustainable Business Council Climate Change Statement.

We generate about
30% of our own energy needs
from waste at our two
wastewater treatment plants.



Key future projects:

Improving resilience at Ardmore, Waikato and Huia water treatment plants to deal with extreme-weather events



Future-proofing design of new assets for factors such as sea-level rise



Energy neutrality for Mangere and Rosedale wastewater treatment plants by 2025



Adaptive planning pathways for dealing with climate change uncertainties while planning assets



Mitigation programme including carbon budgets and emission reduction initiatives



Key lessons from our experience





📷 Dan Carter, left, and Richie McCaw regularly sweep their teams' dressing sheds after games.

RUGBY

Revealed: Richie McCaw and Dan Carter clean dressing rooms after All Blacks and Crusaders' games