Watercare STP

Building Technology Enabled Planning Capability

Brendon Harkness
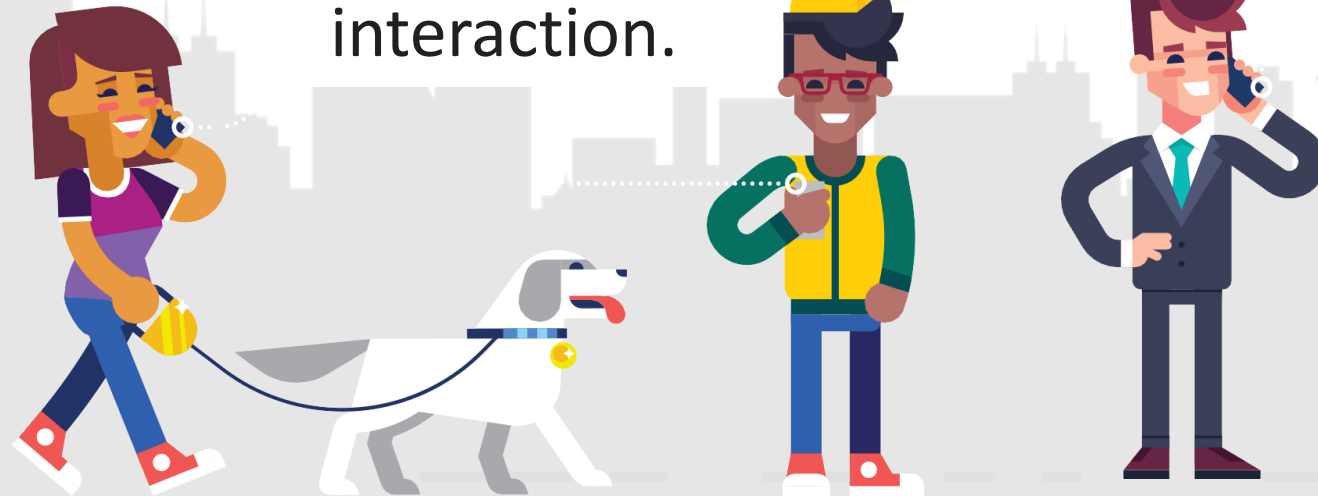
September 2019

Watercare
An Auckland Council Organisation

Strategic Transformation Programme

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

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

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

(The view through the command pod of a B-wing fighter)
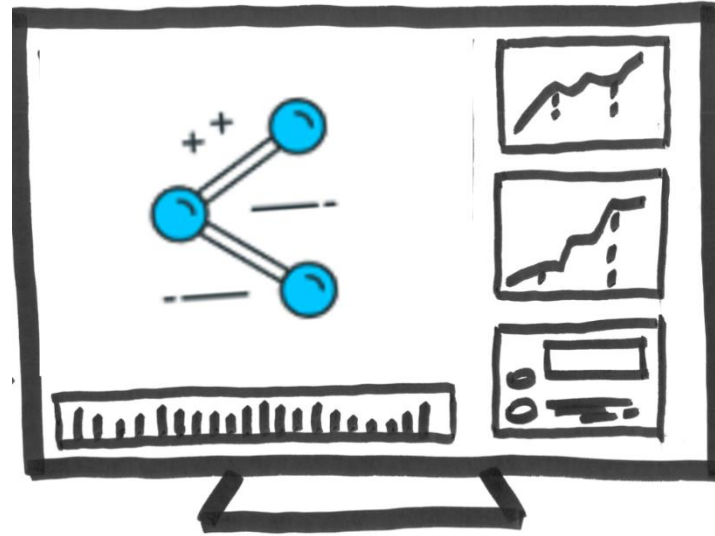
Gyroscopic command pod

Powerful engine

Heavy weaponry
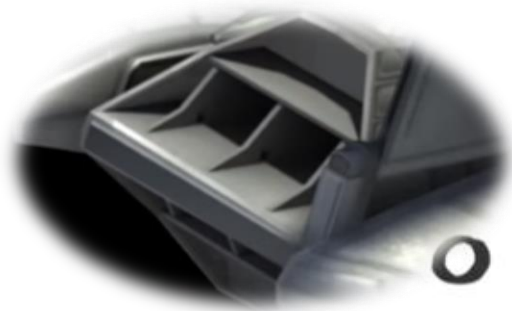
B-WING

What problems are we solving for?

1. Smart storage

Outcomes

- Integrated sources
- Data visibility

Learning

- Infrastructure resilience
- Deployment pipeline

2. Improved Insights

Outcomes

- Insights library (cloud wiki)

2. Improved Insights

Outcomes

- Insights library (cloud wiki)

Learning

- Concise requirements
  - Sharing / collaboration
  - Smart search
  - Links to data confidence & quality framework
  - Source / lineage of modeling
  - Version control

2. Improved Insights

Outcomes

- Population distribution model

Previous 2018 population distribution

Updated model - 2018 population distribution

2. Improved Insights

Outcomes

- Population distribution model

Learning

- Further refinement required

- User experience at heart of delivery

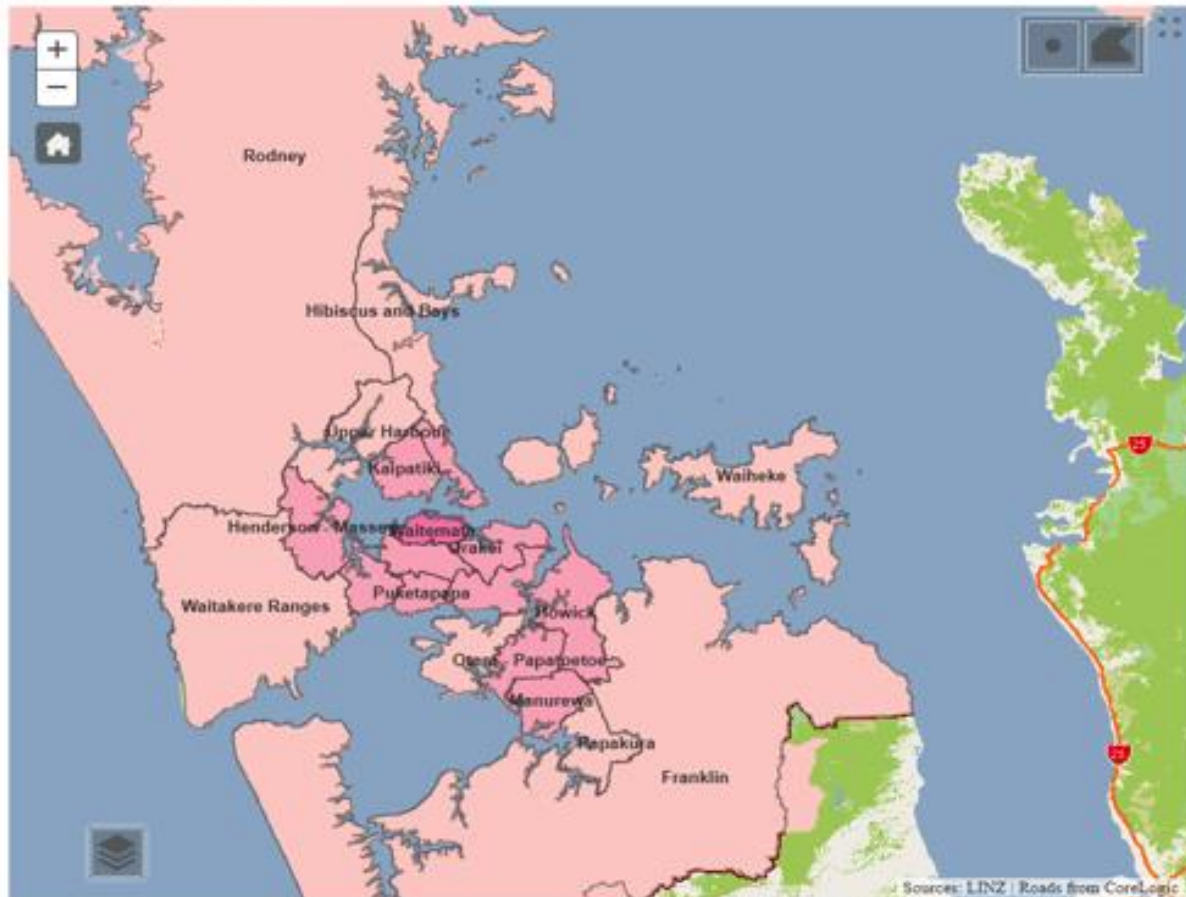- Limitations with architecture / solutioning

Dashboard 1.0
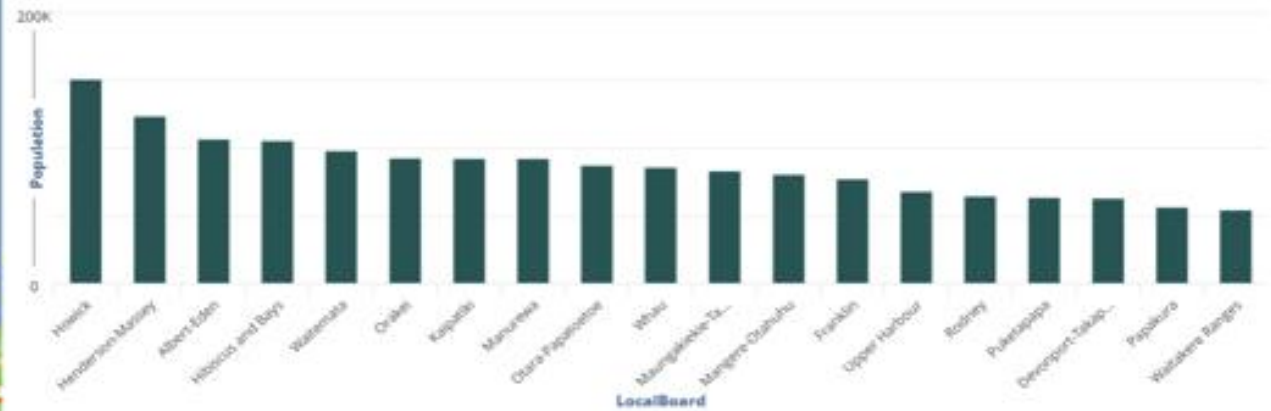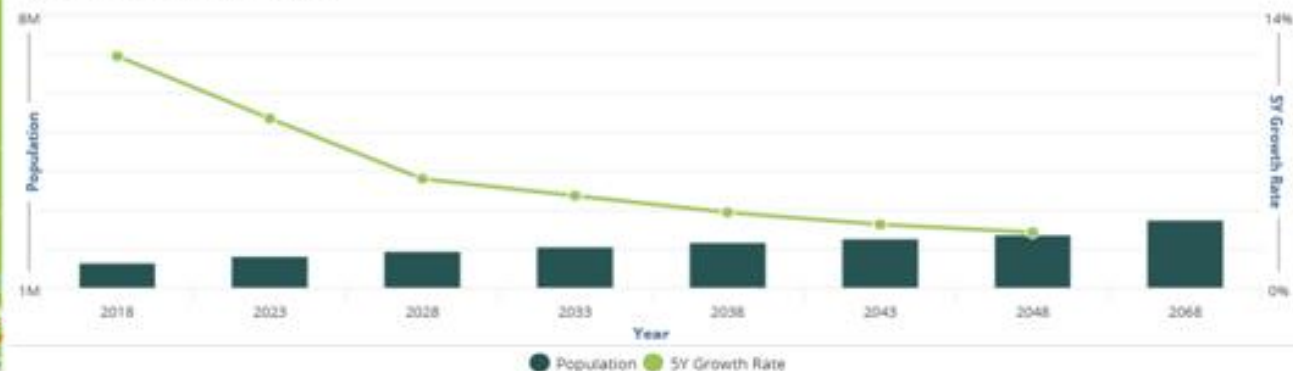
Outcome re-validation

- Reimagining
- Value focus / review
- Impact mapping

Planners

System performance visibility through connected GIS network model avoids assumed capacity and informs better decicions between new vs optimised assets

Additional system consumption and environmental data will improve modelling and predictive capability and validate demand & discharge assumptions

Network & spatial model(s) can be regularly validated using system performance data, informing water balance / serviceability

Network & spatial model(s) can provide a greater range of future performance scenario datapoints and

cleanse data (aut
trace connectivity
publish
6%

Timeseries dashl
geospatial link to
automatate/stre
continuous valid
dashboards to f
5%

Connect model
server based m

Dashboard 2.0

Dashboard 2.0

Outcomes

- Custom dashboard
- Historic / dynamic insights
- User focus

Learning

- Full stack architecture required
- Reusable microservices
- UX / UI input

Historical Consumption

3. Next gen GIS
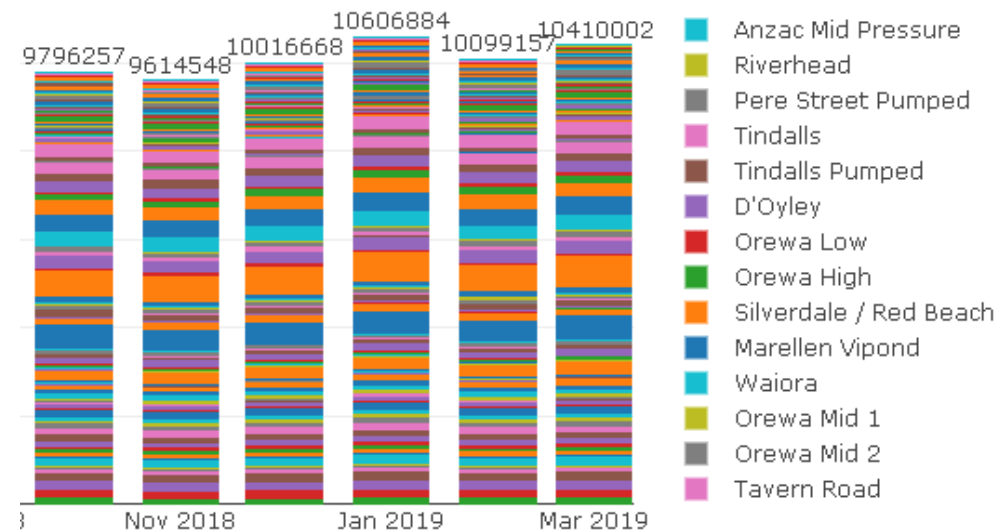
Outcomes

- Geometric network PoC
- Wastewater network tracing
- Dynamic labelling
- Digital twin enabled

Learning

- Network wide GIS cleanse = value
- Streamlined model build

Where to next...

Digital twin

- Stakeholder impact assessments
- Boundary isolation
- Model validation & automation

Network analytics

- Regional activities
- Climate / disrupters
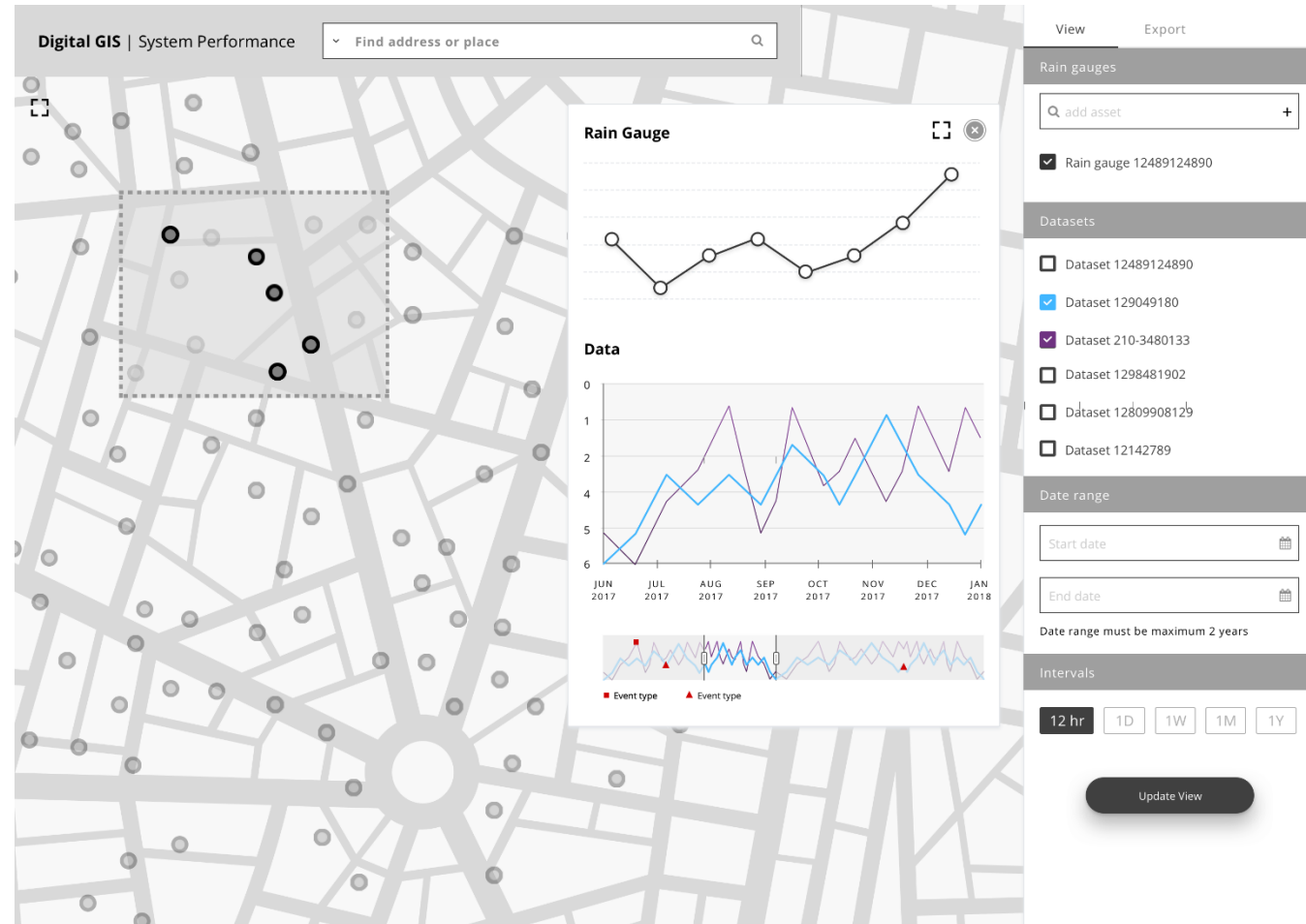
Where to next...

User hub & Workflow

UX / UI refinement

Field data integration

Ways of working

- Agile planning

- Programme approach

System / data scaling

In conclusion

- **Disruptive planning horizon requires stability**
- **Integrated storage improves pace; visibility**
- **Resilient deployment essential**
- **Dashboards provide powerful insights**
- **Geometric network improves network capability**
- **Future value through analytics; data integration**
- **Agile practices are effective in planning**
- **Watercare's approach is adaptable and scalable**

Thank you

Watercare
An Auckland Council Organisation