



Government
of South Australia



Maximo Project Overview

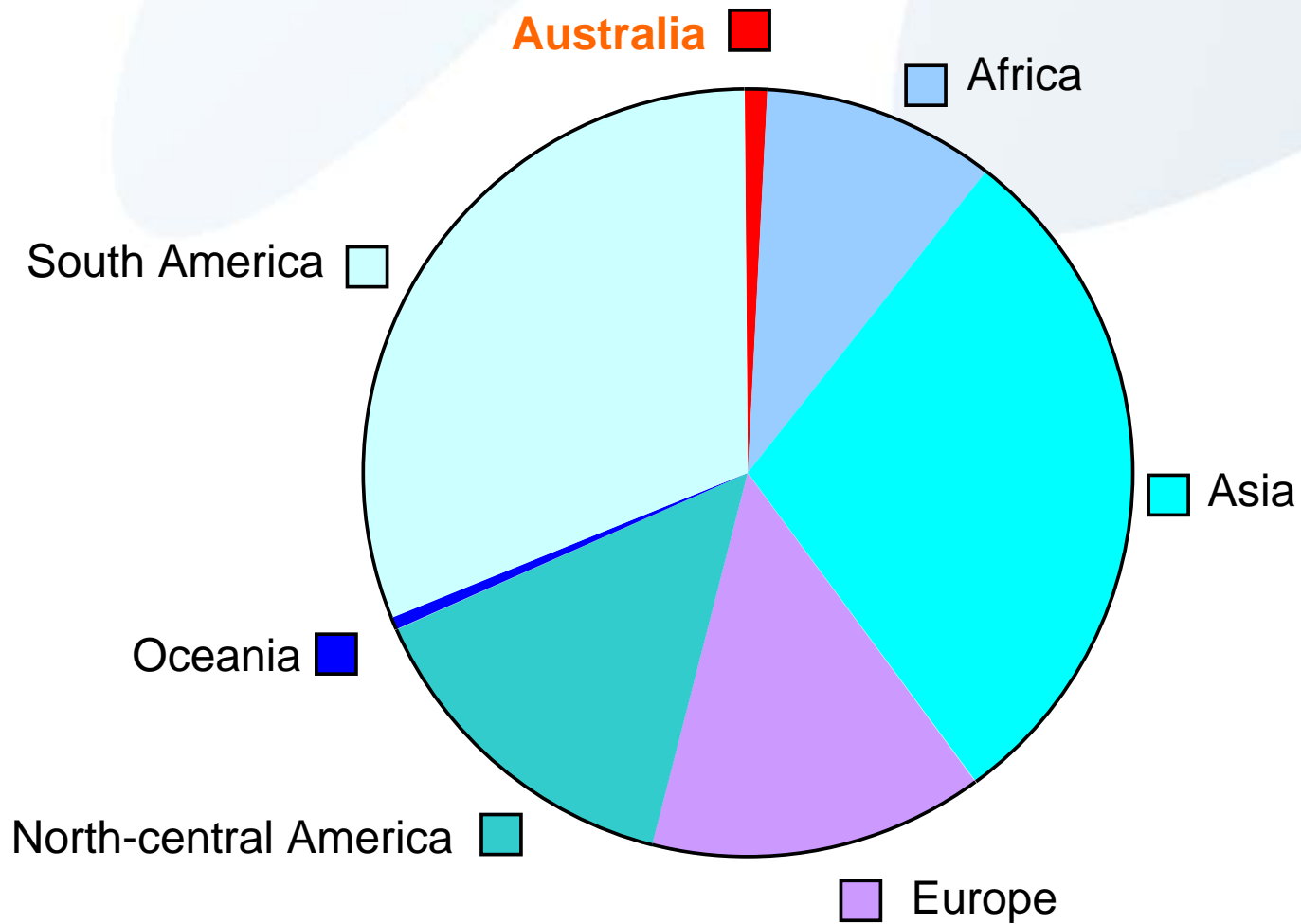
Agenda



- SA Water Operating Context
- Strategic Review
- Project Scope
- What was delivered
- Customer Service Centre Solution

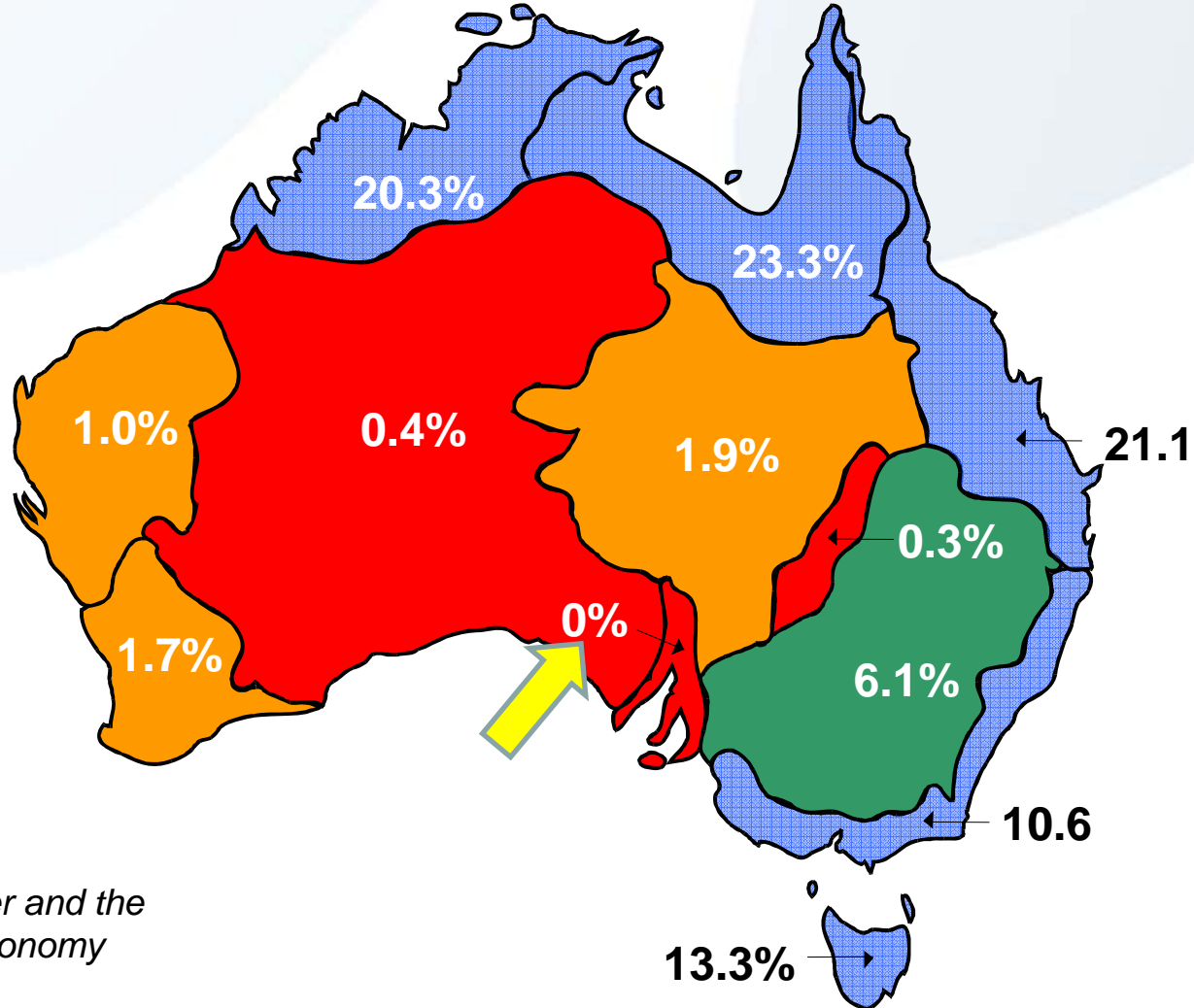


Global Water Resources



FAO AquaStat Data

Water Zones



Source: *Water and the Australian Economy*
– April 1999

Ratio of maximum annual flow to minimum annual flow for selected rivers



COUNTRY	RIVER	RATIO BETWEEN THE MAXIMUM and the MINIMUM ANNUAL FLOWS
BRAZIL	AMAZON	1.3
SWITZERLAND	RHINE	1.9
CHINA	YANGTZE	2.0
SUDAN	WHITE NILE	2.4
USA	POTOMAC	3.9
SOUTH AFRICA	ORANGE	16.9
AUSTRALIA	MURRAY	15.5
AUSTRALIA	HUNTER	54.3
AUSTRALIA	DARLING	4705.2

1 Megalitre (ML) = 1 Olympic
size pool



1 Gigalitre (GL) = 1000 Olympic size pools

Units



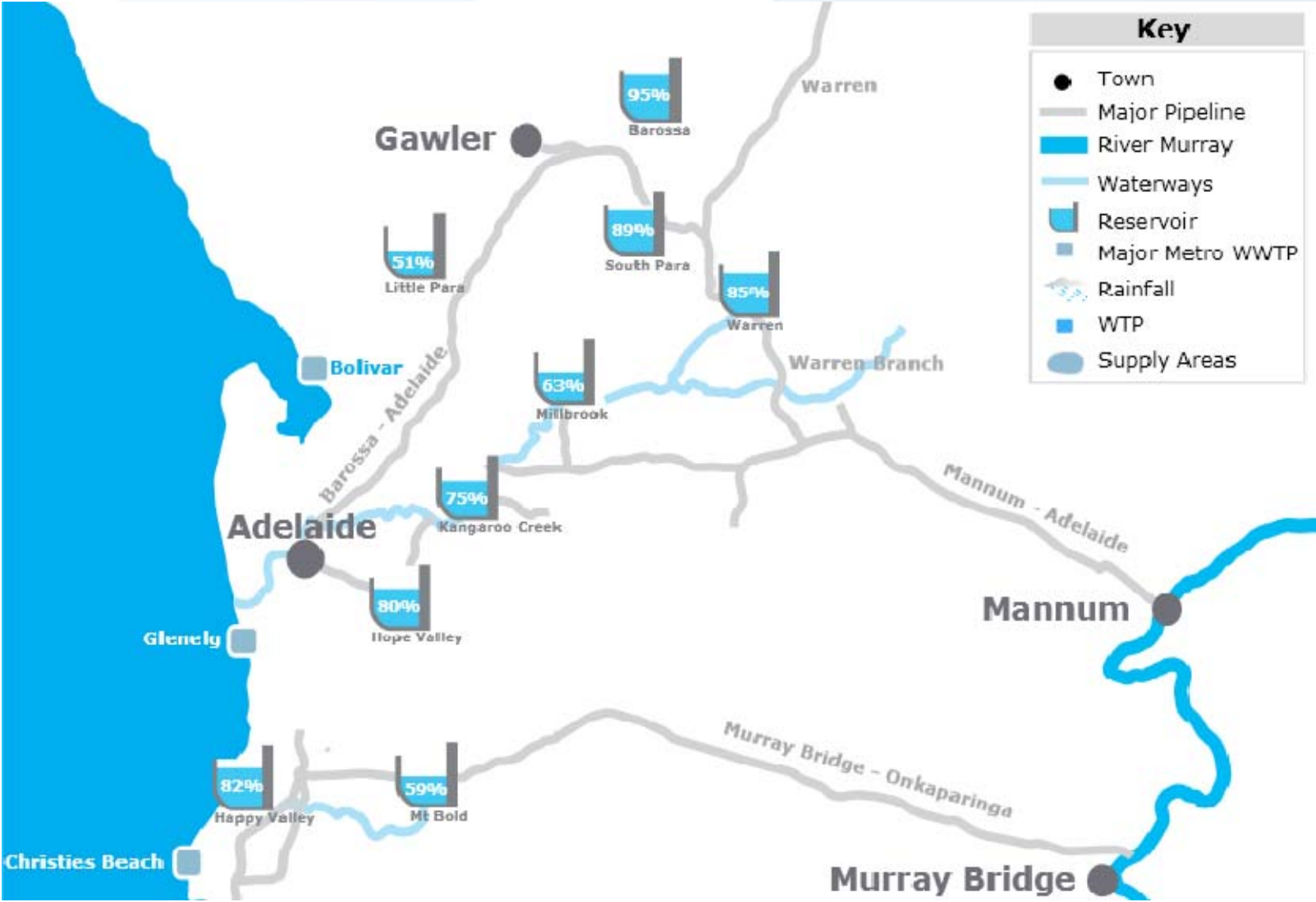
500 GL = Sydney Harbour

Units
3000 GL = Hume Dam



Units

200 GL = SA Reservoirs



SA Water Corporation



- Corporatisation July 1995 (previously Engineering & Water Supply Department)
- Wholly owned by the Government of South Australia
- Owns, manages & operates water supply & wastewater treatment systems
- Delivers water and wastewater services to almost 1.5 million people
- Annual turnover of about \$1.065 billion
- \$271 Million profit
- Assets of more than \$9 billion
- More than 1570 staff

More Statistics.....



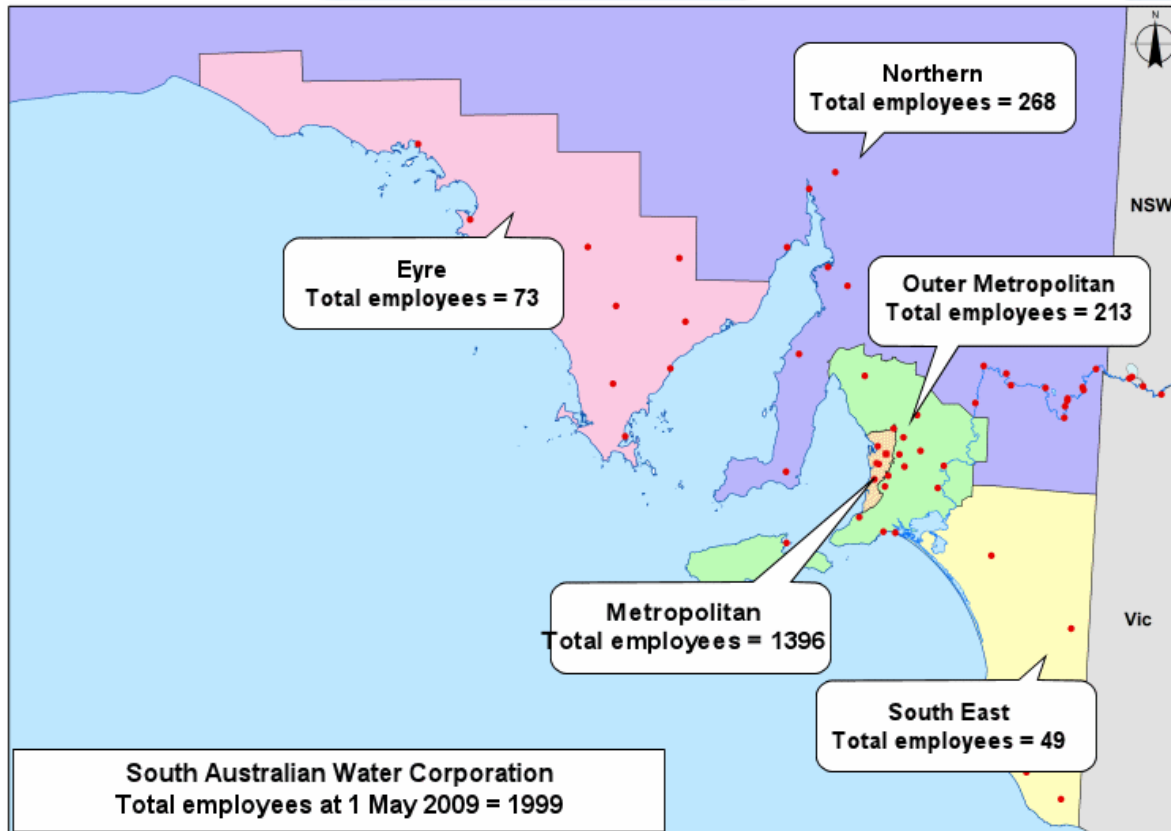
- 26,300 km of water mains
- 30 water treatment plants
- 8,600 km of waste water mains
- 25 waste water treatment plants

2009-2010

- 216 GL of water supplied (average 383 Olympic size pools / day)
- 44% from Murray River
- 49% from surface (2006/07 – 3%)
- 6.2% from ground water
- 0.03% from sea water

- 99% of service delivery jobs performed within target
- 99% of preventive maintenance work performed

Operating Context



- 4 Regions operated by SA Water
- Metro area operated by Allwater on SA Water's behalf
- 41 regional Depots covering maintenance and operations of water and waste water networks, pipelines, reservoirs and treatment assets
- 7 workshops (trades based)
- Around 400 maintenance staff in total
- Around 280 light fleet and 130 heavy fleet vehicles
- 202,000 work orders completed 08/09 financial year

Background



Strategic Review Project

Background

In 2005, a strategic review team identified key areas for improvement. Projects were developed for each of these improvement areas and approved by the Board.

Objective

The review refocused SA Water on its core business of delivering water, recycled water and wastewater services using assets that we own and/or operate. The project is customer and business oriented and will deliver improvements in our services.

Benefits

- To improve our service delivery to customers.
- To ensure we manage our assets better, now and into the future.
- To create better tools to support our employees.

In preparation for regulation.

Strategic Review Outcomes supported by Maximo



Area	Outcomes
Service Delivery	Improved performance standards => improves delivery of service quality against customer focussed standards. Improved planning and delivery of preventative maintenance schedules against targets. Productivity savings across country-based operations through improved unit cost performance.
Capital & Project Delivery	Outcome based and value for money capital investment decisions. Improved capital efficiency through portfolio selection and review. Simple capital approval process into 2 categories. Improved capital project delivery.
Asset Management	Assessing success in terms of customer outcomes => allows quantifiable management regimes, best practice in place, maintenance completed. Enhanced techniques for developing capital and maintenance plans => reduce whole-of-life asset costs.
Decision Support	Introduce 1-page Strategy Map to link and align strategic and operational objectives, show KPIs, improve accountability and focus decision making processes.

Project Challenge



The Maximo Project will provide the core infrastructure for delivering improved asset management, work management and service delivery.

Maximo, as the core information system, will:

- Facilitate accurate and timely information
- Enable consistent and efficient business processes
- Support a more effective workforce

Maximo Project Objectives



Regional Operations

- Improve user experience
- Capture and use staff business and operating knowledge
- Establish infrastructure for MoFFS (**M**obile **F**ield **F**orce **S**olution)
- Improve planning and scheduling
- Improve business processes
- More accurate performance reporting



Asset Management

- Maintain an accurate asset register of all production assets
- Capture Asset Management data at the maintainable asset level for analysis via the data warehouse
- Life Cycle Costing and Analysis



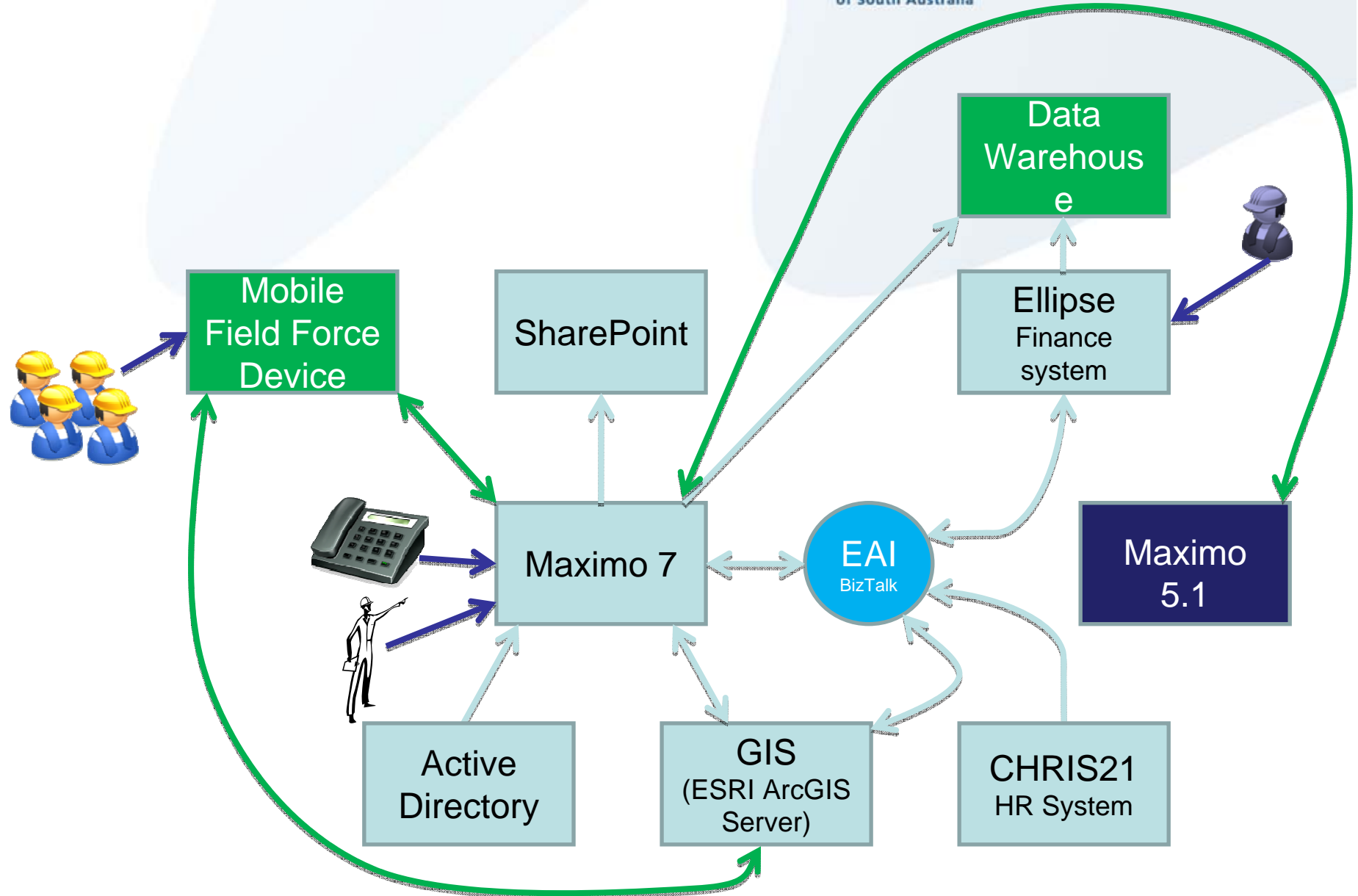
Metro Operations

- A single system capable of managing all of SA Water assets on commencement of new metro contract
- Suitable for a range of service delivery models

Implementation Approach



- Rollout
 - The rollout was staged by Depot and Region.
- Data Migration
 - Based on a new “vanilla” Maximo database.
 - Combination of integration to Maximo 5.1, data migration and manual data entry
- Configurations & Extensions
 - Shall not compromise the ability to implement additional functionality.
 - New functionality is to be used only to meet project objectives and following extensive testing and evaluation.
 - Data driven and there will be no hard-coding configuration of parameters.
 - Technical extensions kept to a minimum and must be justified by the corresponding business benefits.
 - All development is to be to a defined programming standard in accordance with recognised software engineering principles



Challenges



- Business Engagement – Project was not a ‘business’ initiative – commitment of resources was always a struggle with competition from many projects for same resources
- Ground up redefinition of assets / work classifications, took time
- Business Change – Owner / Provider model, Operations process unification - not just a software implementation
- Requirements gathering – 4 different regions using different business processes and Asset Management not using Maximo much at all
- Scope changes
 - Enterprise data warehouse delayed
 - Financial system web services implementation brought in scope
 - GIS version upgraded
 - Maximo 5 integration extended to deliver additional functionality

Work Management - Impacts



Customer Calls

Create Work

Plan Work

Schedule Work

Perform Work

Complete Work

Analyse Work

- Improve Call Centre Quality
- New Call Centre Scripts
- Improved Useability
- Address Validation
- Improved GIS Integration
- Google Integration

- New Classifications
 - Work
 - Location Hierarchy
 - Addresses
 - Failure Codes
- Improved Useability
- Improved GIS Integration
- Google Integration
- Work orders for:
 - Mods to GIS & Asset Register, PMs
 - Journaling costs including asset creation

- 2 way integration to MS Project
- Improved integration to finance system
- Classification of Contract work (standard services)
- PM Forecasting of resources and costs

- Assignment Manager as interim solution for MoFFS scheduling
- Improved GIS Integration for grouping work

- Capture Data at Maintainable Asset Level
- Improved useability
- Auto entry of vehicle and plant costs
- Improved integration to finance system
- Improved GIS Integration

- Cost Analysis of
 - Labour
 - Material
 - Plant & Vehicle
 - Contractor
- Asset Life Cycle Costs
 - Electricity
 - Chemicals
- Improved GIS Integration
- Improved useability
- Improved Asset Management Plans
- Improved RCM

Call Centre Environment



- Geographically Spread
 - Identifying the address and exact location of the problem is important
 - May be other organisations assets (e.g. council) or Asset may not exist (Septic Tank)
- Owner or Bill payer may not be the person making the call (Tenant, Real Estate Owner or person driving past)
 - Can't use customer database to identify address
- Problem is often difficult to diagnose (underground)
 - Important in identifying criticality of the response and resources required to fix the fault
- Fixing the fault requires coordination with the customer
 - Lock up dog, provide access to property
- Call Centre is quite large but focussed on account enquiries
 - Operators do not have detailed knowledge of questions that need to be asked

Driver for Change



MoFFS (Mobile Field Force Solution)

- **Advanced Work Scheduling (Assisted / First Cut)**
 - **Where is the problem?**
 - **What is the priority?**
 - **What is the problem?**
 - **What resources are required to solve the problem?**
 - Who is available with the right skills?
 - Who will be the best person to assign to the work?
 - Where are they and how long will it take to get to the job site?
 - When will they finish their current job?
- Work Dispatch + GIS
- Work and Asset Management (receive and capture work data)
- Field Crew GIS

Solution Requirements



- Customer Centric
 - Treat customer as part of SA Water and leverage their skills (sight, smell, taste, hear, touch) to diagnose the problem
- The Customer Service Centre's role is the broker of information between the customer and the planner
- The System assists the Customer Service Centre with this task
 - Translate Operations "technical" speak to Customer "lay person" speak
 - Guide the customer through:
 - Diagnosing the problem
 - Any steps the caller should undertake to enable SA Water to fix the fault
 - Set the expectation with the customer on when the problem will be fixed

Call Process



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Locate

- Validate Address or GIS Map
 - > 70 % of calls relate to faulty meter and do not need a map to locate
 - Map where address is unknown (e.g. 10 kms from turn-off) or too large

Capture

- As much information as possible in first 30 seconds:
 - Classify the problem
 - Is there a global issue that has already been reported (associate with existing work order)

Discover

- Call script:
 - Detailed questions based on Fault classification
 - Display more questions based on previous answers

Expectation

- When will someone:
 - Contact them, arrive on site, fix the problem

Work Order

- Automate as much as possible
 - Description, target dates, priority, SLA, classification (in Technical Terms), job plan

System Requirements



- Lookup and validation of Addresses (> 70% of calls relate to meters)
- “Point and click” classification of request
- “Point and click” priority
- “Point and click” association to existing global issues
- Integration to ESRI GIS
 - Map in separate Window so can display on separate monitor
 - Auto creation of Service Request feature
 - Ability to zoom, pan, move
 - Use GIS tools such as rulers
 - Display service requests, work orders and parcels of interest (e.g. hospitals)

System Requirements (Cont'd)



- Integration to Google Street view
- Classification based call scripts
 - Lead Customer Service through questions
 - Display next questions based on previous answers
- Automated Response Plan
 - Automatically create and plan work order
 - Outline actions Customer Service should undertake
- Configurable, easily change
 - Classifications
 - Call script, questions and available answers
 - Response plan

Quick Capture Tab



Service Requests | Bulletins: (1) | Go To | Reports | Start Center | Profile | Sign Out | Help

Find: [] | Select Action: []

List | **Service Request** | Related Records | Log | Specifications

Service Request: 00030414 | Changed Date: 25/07/11 15:38 | Reported Date: 25/07/11 15:37 | Status: WOCREATED
Name: JOHN SMITH | Changed By: Jose, Ivan | Reported By: Jose, Ivan | Attachments: []
Classification: FAULT \ WATER \ ROAD \ BURST \ TRAFFICIN

→ Quick Capture → Detailed Questions → Response

Customer Details	Contact Details	Address Type	Affected Property Details
Title: [] Name: JOHN SMITH Address Owner: [XXXXXXXXXXXXXXXXXXXX] Account No: [] Meter No: [] Phone: [] Mobile: 0409111222 Email: [] Not all Details Provided? <input type="checkbox"/>	Advise on Resolution: <input type="radio"/> Email <input type="radio"/> None <input checked="" type="radio"/> Phone <input type="radio"/> SMS	Customer Type: <input type="radio"/> Land Agent <input checked="" type="radio"/> Local <input type="radio"/> None <input type="radio"/> Non-Local <input type="radio"/> Owner <input type="radio"/> Plumber <input type="radio"/> Tenant	Address Type: <input type="radio"/> Hundred <input type="radio"/> Lot <input type="radio"/> Other <input checked="" type="radio"/> Street
Unit Number: [] House Number: 12 Street Name: VICTORIA Street Type: SQ Suburb: ADELAIDE Postcode: 5000 Address Code: A.D27841A5.0205730971			

Additional Customer Details: Approximate Address? Further Details: [] Workgroup: METRONET

Address Actions:

Problem Definition				
What Service is Affected? <input type="radio"/> Recycled Water <input checked="" type="radio"/> Water <input type="radio"/> Sewer <input type="radio"/> Other	What is Affected? <input type="radio"/> Disinfect <input type="radio"/> Meter <input type="radio"/> Supply <input type="radio"/> Pipe <input checked="" type="radio"/> Road <input type="radio"/> Footpath	What's the Nature of the Problem? <input type="radio"/> Leak <input checked="" type="radio"/> Burst <input type="radio"/> Damaged	How Bad is the Problem? <input type="radio"/> Minor Flow No Damage <input type="radio"/> Flooding <input type="radio"/> Damage Occuring <input checked="" type="radio"/> Traffic Interruption	Type of Property? <input type="radio"/> Residential House or Unit <input type="radio"/> Business <input type="radio"/> School <input type="radio"/> Hospital <input type="radio"/> Rural Property <input type="radio"/> Reserve / Park <input type="radio"/> Easement

Detailed Questions Tab



Find: Select Action List Service Request Related Records Log Specifications

Service Request: Changed Date: Reported Date: Status:
 Name: Changed By: Reported By: Attachments:
 Classification:

→ [Quick Capture](#) → [Detailed Questions](#) → [Response](#)

Question	Answer	Hint	Question ID
Does the burst look or smell like sewer?	<input type="text" value="N"/>	If there is an indication it might be sewerage, you need to change the service to Wastewater on the quick capture screen.	10,233
Can you see if the water is coming from a metal plate, the road surface or an adjacent property?	Road Surface	If adjacent property then either change problem definition to Water meter/pipe leak or burst.	10,234
How bad is the burst, running water or a damp patch?	Water running		10,236
Please provide further details?	Gushing	Ensure to add details descriptive notes based on the caller's words.	10,237
Has any damage occurred? If so please describe.	Road surface damaged		10,238
Do you know if the water is salty? If so please describe.	no	Extra Question if the Workgroup is Loxton or Renmark. If the water is very salty it may be from a Salt Interception Scheme pipe	10,239

Details

No Further Information Customer Declined to Provide Further Information? Comments

Response Tab



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Find: Select Action [Icons]

List **Service Request** Related Records Log Specifications

Service Request: Changed Date: Reported Date: Status:

Name: Changed By: Reported By: Attachments:

Classification:

→ [Quick Capture](#) → [Detailed Questions](#) → [Response](#)

Tasks Download ?

Activity	Description	Status
T0294133	Contact Depot Immediately	COMP

Dates Workgroup

Reported Date: Target Contact:

Affected Date: Target Attendance: Target Start: Target Finish:

Workgroup:

Primary Contact Phone:

After-Hours Contact Phone:

Second Contact Phone:

E-mail Address:

Related Work Orders Download ?

Work Order	Description	Status
01744912	Burst Water on Road Traffic Interrupted JOHN	WAPPR



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Questions?