FATHOM VALUE PROPOSITION

Turn-key AMI/CIS Delivery (Project Delivery)
FATHOM Smart Grid for Water
- Risk Transfer
- Speed of Delivery

Managed Services (Meter to Customer)
FATHOM CIS & Utility Billing
- Increased Revenue
- Increased Customer Service
- Improved Execution
- Simple

Mission Critical Software at the Meter/Customer Interface
FATHOM MDM & User Portals
- Big Data Management Solution
- Customer Self Service
- Non-Revenue Water Management
- Revenue Assurance

DATA HOSTING & DATA MANAGEMENT
METERS & MEASUREMENT
AMR / AMI & SENSORS
ANALYTICS
BILLING
CUSTOMER SERVICE
TELEPHONY, IVR & REMITTANCE MANAGEMENT E-BILL, TEXT BILL & 7 WAYS TO PAY
CUSTOMER WEB TOOLS & MOBILE APPLICATIONS

UTILITY-TO-UTILITY SOLUTIONS
Utility data systems do not locate water or revenue in space-time.
DATA ERRORS

- Water theft from bypassed meters
- Unauthorized connections
- Meter degradation and inaccuracy due to meter age or physical damage
- Meter degradation due to water quality or particulate precipitation
- Meter programming errors
- Meter losses, including meters missing from the billing inventory
- Meter installation errors
- Improperly sized or specified meters
- Data transcription errors, including meters not correctly mapped to customer information
- Incorrect billing codes in the billing platform
- Human errors, including meter reading mistakes or estimates
ARE YOU LEAKING DATA?

Source: Mattar, R., “Kahramaa’s vision for non-revenue water reduction”, Water Utility 21, April 2013

Apparent Losses = 2 x Real Losses
Geo-located meters ensure all meters are billed all the time.

GIS-enabled audit technologies ensure all meters are in the billing platform.

Highly granular meter data can be used to ensure accuracy of meter readings.
Real-time pumped-vs-billed analysis ensures highly accurate understanding of non-metered use.

Combined with real-time hydraulic models unmetered use can be pinpointed.
Combining GIS + CIS + AMI data finds water theft by disconnected customers.

Using virtual DMAs utilities can find an eliminate unauthorized use from hydrants.
GIS-based Field and Paper Audits find data voids.

Validating infrastructure vs relying on old data eliminates errors.

GIS-enabled best practices and Data Validation tools built into systems maintain the integrity of the data.

Real-time Meter Accuracy
Real-time demand data + hydraulic modeling + geospatial location finds real leakage.

This “first-principles” approach validates flows and can identify pre-existing leaks which can be hidden in baseline acoustic or analytics methods.
USING DATA TO CAPTURE REVENUE

- Tax Parcel Data
- Aerial Photographs
- Infrastructure Data
- Asset Data
- Census Data
- Customer Engagement
- Geospatial Data
- Meter Data
- CIS Data
USING DATA TO CAPTURE REVENUE
Figure 2: Meter Accuracy versus Cumulative Flow for Low Flow Tests - Ten Year Service
(5/8" x 3/4" Positive Displacement Residential Water Meter)
REAL-TIME METER ACCURACY & PERFORMANCE

Variance of AMI Read Data

- Degradation in Signal
- Component Failure
METER DEGRADATION

Figure 1: Results of commercial meter audit in Global Water – Santa Cruz Water Company

Commercial Meter Evaluation

- Met Standard
- Measured 50% to 97% of Flow
- Measured < 50% of Flow
- Measured ZERO Flow

Meter Changeout = More Accuracy

- Cycle 1 (+40.7%)
- Cycle 2 (+5.4%)
- Cycle 3 (+9.2%)
- Cycle 4 (+49.2%)
- Average (+25.9%)

Gallons per Day per Meter

Old Meters (GPD) vs. New Meters (GPD)
New Meters:

- 8.7% increase in volumetric revenue = More Revenue
- 6.3% increase in measured flow = NRW reduction
**ABNORMAL CONDITIONS**

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**Consumption Summary Table**

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<thead>
<tr>
<th>MTU 47401464, Port 1, Meter Serial 94251800</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hourly Consumption Summary to</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
<tr>
<td><strong>Average</strong></td>
</tr>
<tr>
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<td><strong>Weekly</strong></td>
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<tr>
<td><strong>Daily</strong></td>
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<td><strong>Monthly</strong></td>
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**Hourly Water Consumption Chart**

- **Abnormal Consumption**

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**Utility-to-Utility Solutions**

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**FATHOM**
KEEPING IT CLEAN

**Improved Revenue, Decreased Demand**

Average results for FATHOM Utility Clients over 5 years

- Year 0: 1.00
- Year 1: 1.05
- Year 2: 1.09
- Year 3: 1.15
- Year 4: 1.19
- Year 5: 1.13

- Year 0: 0.93
- Year 1: 0.94
- Year 2: 0.93
- Year 3: 0.91
- Year 4: 0.84

- Net Revenue Increase (Revenue - Rates)
- Per Capita Demand
Britain's first water sniffing dog hired to pinpoint leaks and broken pipes

Snipe the dog sniffs different jars filled with water. CREDIT: AARON CHOWN/PA WIRE
Use Data to Find Revenue to Fund Infrastructure Repair and Replacement

FIX YOUR DATA FIRST

FATHOM
www.gwfathom.com
www.TheSmartGridForWater.com