

Seal Rock Water District

Automated Meter Infrastructure (AMI)



Mid-Coast Water Planning Partnership



Adam Denlinger | SRWD
April 23, 2019

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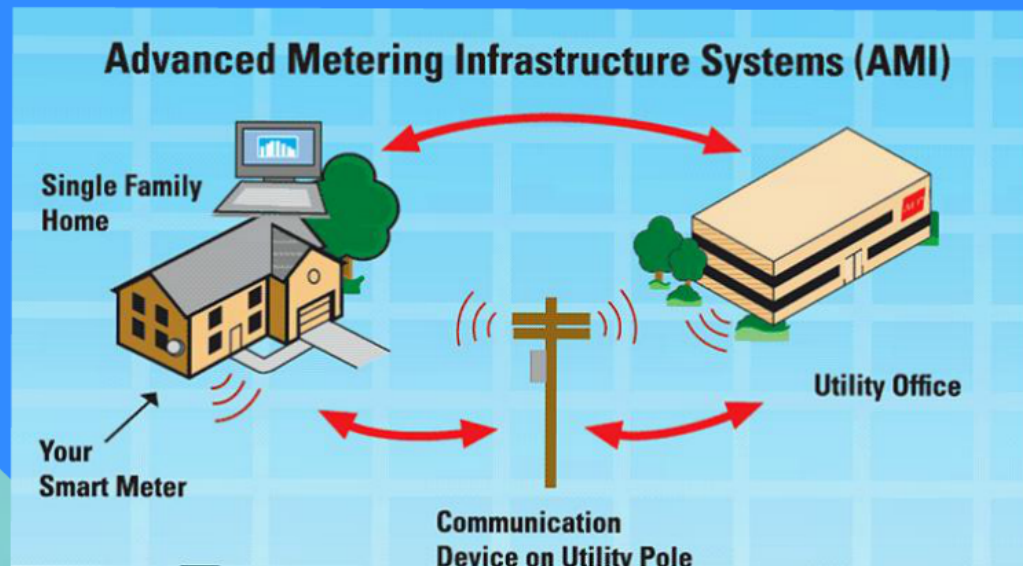
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Intelligent Water Networks

What are they?

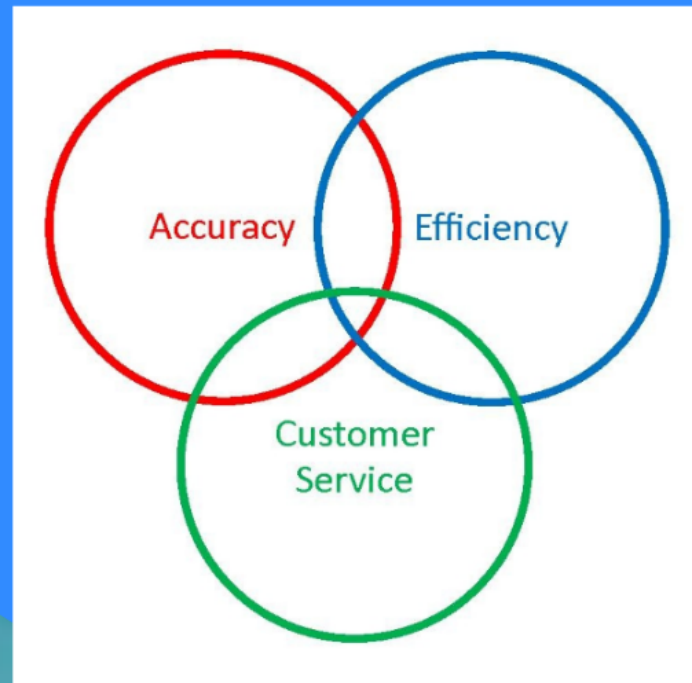
Advanced Metering Infrastructure

- Systems that measure, collect, analyze usage and communicate with metering devices such as water electric and gas meters, either on request or on schedule.



Metering Background

- ***SRWD adopted a touch read meter system in 1990.***
- ***Some radio reads installed along HWY-101 1999.***
- ***Pre AMI included a blend of meters (Sensus/Neptune).***
- ***District has made a strong investment in innovative tools.***
- ***SCADA system monitors the entire Distribution System.***
- ***Undetected customer leaks at the meter point.***
- ***Monthly read time 2-FTE's 4-days.***



Shark Tank

- How long does it take to read meters?
- What's the opportunity cost?
- How much are we spending to read meters?
- Non-revenue water loss?
- How much are we spending to support existing technology?
- How often do we respond to customer leaks?





Opportunities/Challenges

Most utility providers use mixed meter brands which in many cases are old and out of calibration:

Meter System Evaluation:

- How old are existing meters?
- Verify meter accuracy.
- Begin to engage meter reps.
- Engaging your governing body.
- Field trips to visit other systems.
- Attend training and conferences.
- Collaborate with other communities.
- Employee make up - capacity!



Understanding Cost

Develop a funding strategy:

- Reserves
- Rates
- State/Federal Grants and Loans
- Do you qualify?
- Phased implementation
- Self installation
- Surplussed opportunities





AMI installation was a \$1.5Million-dollar project fully funded through a grant provided by USDA Rural Development through its Water and Waste Disposal Loan and Grant program.



Key Benefits of Intelligent Water Networks:

- Reduced staff time to read meters.
- Increased system maintenance.
- Reduce non revenue water loss.
- Increased employee safety.
- Reduce our demand on the Source.
- Environmental benefits.
- Conservation!



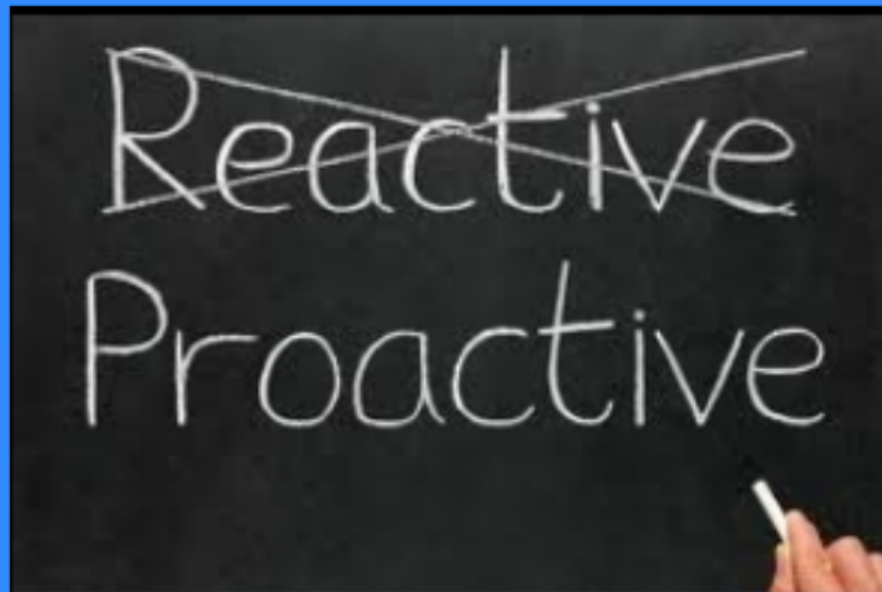
AMI is a Brave new world

- Community engagement.
- Daily data - payload of actionable information which benefits the district and customers
- Education, community messaging centered around conservation.
- Early leak detection, saving customers money they lose from wasted water.
- Customer expectations are changing - greater engagement.



Customer Benefits

- Gallon reading is easier to understand.
- Usage information and history is readily available through the internet.
- Much earlier notification of potential customer leak.
- Information available before Standard Billing Periods i.e 30-days.



Operational Efficiencies

- End of using 4-FTE's to manually collect readings each month.
- More data to act on, so we needed to supplement field services.
- With AMI, you cant achieve 100% staff reduction of meter readers.
- One employee has been reclassified as a result of implementing AMI.
- Net Savings (when factoring monthly endpoint charge) is about 10% of current meter reading cost.



Return on investment:



Factors in Return on Investment:

- **Meter Technology:**
 - Longer life
 - No Accuracy fall-off
 - Alarms
- **Operational efficiencies:**
 - Streamlined billing and acct information
 - Water production audits
- **Sustainability:**
 - Proactive leak detection
 - Smaller carbon footprint
 - More Data = better planning



Proactive approach by the SRWD Board

- Targeted approach to reduce water loss through capital improvements.
- Replacement of 50,000 LF of mainline (approx 9.5 miles) in the last 5-years.
- Replacement of pressure reducing valves and Master meters.
- Pump station improvements.
- Increased efficiency.
- AMI metering infrastructure.



Measurable improvements in unaccounted for water:

- Water Management and Conservation plan adopted 2014. Water loss recorded at 21%
- WMCP Update 2019...water loss at 12%

Exhibit 8. Annual Water Audit, FY 2012-2013 to FY 2017-2018.

Fiscal Year	Demand (MG)	Metered Consumption (MG)	Accounted For Water Loss (MG)	Water Loss (MG)	Water Loss (%)
2012-2013	108.2	81.7	3.2	23.3	21.5
2013-2014	109.3	81.7	4.3	23.3	21.3
2014-2015	115.8	86.4	11.6	17.8	15.3
2015-2016	128.3	86.4	22.6	19.3	15.4
2016-2017	110.7	84.0	9.2	17.4	15.7
2017-2018	110.2	87.8	9.0	13.5	12.2



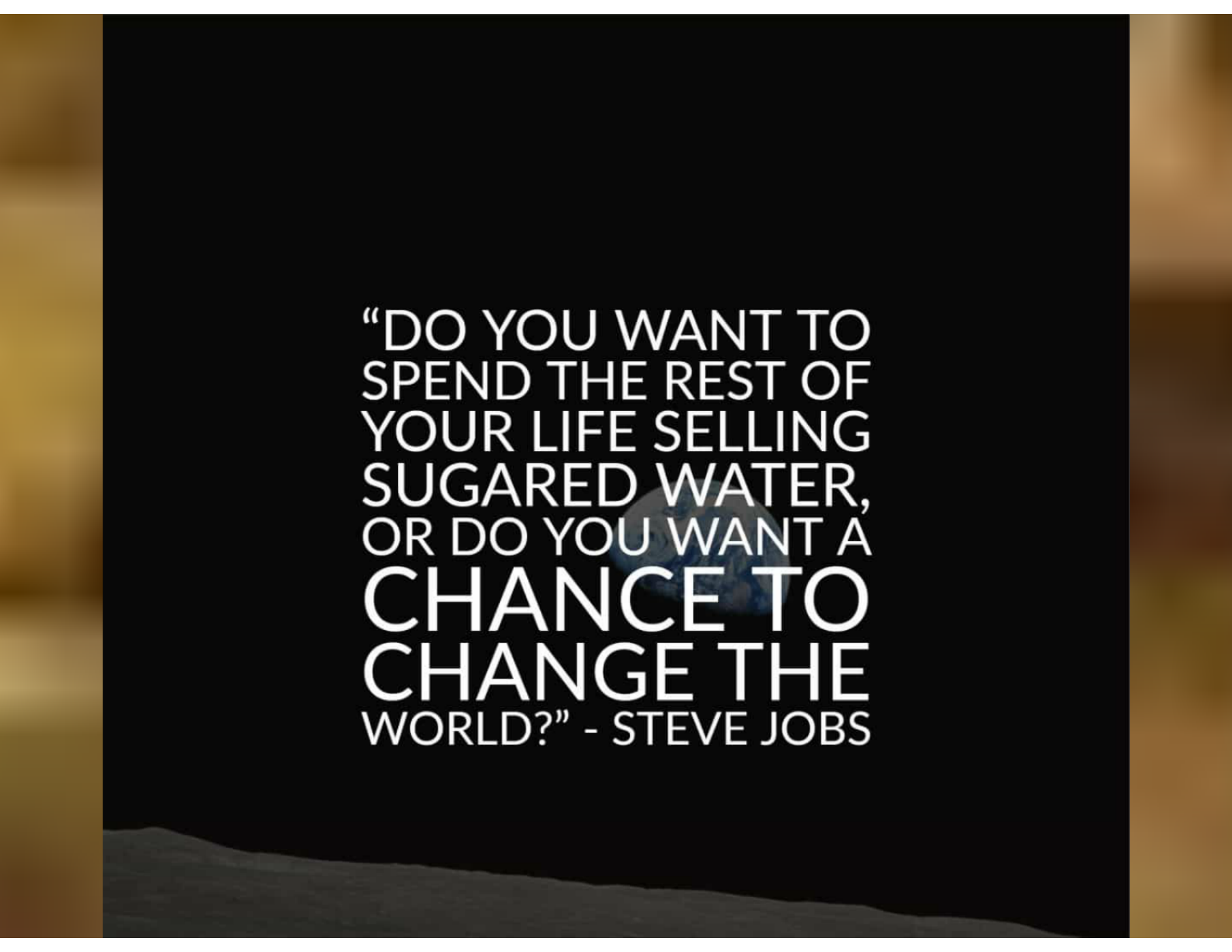
The Industry:

- Proper water management is necessary in order to gain control of the little water we do have.
- Innovative metering technology is one cost effective solution for municipal water suppliers.



Whats at the heart
of daily life for you?



The image features a quote by Steve Jobs centered on a dark background. A faint, semi-transparent image of the Earth is visible behind the text. The quote is written in white, uppercase letters. The background is dark with a subtle gradient and a light-colored, wavy shape at the bottom. Vertical gold-colored bars are on the left and right sides.

“DO YOU WANT TO
SPEND THE REST OF
YOUR LIFE SELLING
SUGARED WATER,
OR DO YOU WANT A
CHANCE TO
CHANGE THE
WORLD?” - STEVE JOBS

