



GE Digital



GRAYMATTER

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UNIVERSITY

Water 2.0 Conference

Digitally Connecting the Water Industry

October 4-5 2017 - Charlotte NC



Water 2.0 Conference

October 5, 2017

The \$620 Billion Water Industry

Robust Infrastructure vs. No Infrastructure

1. The \$620 Billion Water Industry... lack of innovation?
2. Why are emerging technologies not being implemented?
3. 5000 Water utilities in America
 - Residential Users
 - Industrial Water Users

Do both lack innovation?

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Water 2.0

www.water2.org

Robust Infrastructure vs. No Infrastructure

American Water Infrastructure – 70 plus years old

The Water Industry has been slow to digitalization and has not kept pace with other industries during the past 40 years. Why???



A 100 year old pipe in a metropolitan area

How to buy a personal computer.

Suddenly everyone is talking about personal computers. Are you ready for one? The best way to find out is to read Apple Computer's "Consumer Guide to Personal Computing." It will answer your unanswered questions and show you how useful and how much fun personal computers can be. And it will help you choose a computer that meets your personal needs.

Who uses personal computers.

Thousands of people have already discovered the Apple computer—businessmen, students, hobbyists. They're using their Apples for financial management, complex problem solving—and just plain fun.

You can use your Apple to analyze the stock market, manage your personal finances, control your home environment, and to invent an unlimited number of sound and action video games. That's just the beginning.

What to look for.

Once you've unlocked the power of the personal computer, you'll be

using your Apple in ways you never dreamed of. That's when the capabilities of the computer you buy will really count. You don't want to be limited by the availability of pre-programmed cartridges. You'll want a computer, like Apple, that you can also program yourself. You don't want to settle for a black and white display. You'll want a computer, like Apple, that can turn any color tv into a dazzling array of color graphics.* The more you learn about computers, the more your imagination will demand. So you'll want a computer that can grow with you as your skill and experience with computers grows. Apple's the one.

How to get one.

The quickest way is to get a free copy of the Consumer Guide to Personal Computing. Get yours by calling 800/538-9696. Or by writing us. Then visit your local Apple dealer. We'll give you his name and address when you call.

*Apple II plugs into any standard TV using an inexpensive modulator (not included).



 **apple computer™**

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Innovation has arrived . . .

Challenges Facing the Water Industry

- **Financially strapped municipalities** This can be solved through a \$400 billion U.S. capital commitment over a 10 year period.
- **Aging infrastructure** Our American water infrastructure was built over 70 years ago. As noted in my last article [“JFK’s Famous Water Quote: A Brief History”](#)
- **Water scarcity** More difficult to solve but can be accomplished through emerging metering technologies and conservation. Btw, water conservation is not a solution for rate payers. [LA DWP, other utilities to raise water rates because of drought](#)
- **Emerging contaminants** [Contaminants of Emerging Concern](#)
- **Operational efficiency** Difficult to implement with legacy workforce issues.
- **Advanced treatment technologies** Energy efficient wastewater treatment significantly reduces the energy requirements. Additionally reduce/eliminate the amount of additional carbon required for denitrification.

- **Energy efficiency** Enhanced use of smart grid. ENBALA Power Network interfaces the electric grid with SCADA systems.
 - **Automation** Enhanced use of smart metering systems. Data analytics for stopped meters, continuous running meters and backflow. We will begin to see the commoditization of meters. [GE Intelligent Platforms](#)
 - **Environmental concerns/stewardship** The water industry believes they are the trusted steward of your precious resource – water.
 - **Security** America needs to do a complete examination as it relates to water utilities.
 - **New environmental regulations** Toxic Substances Control Act (TSCA). [TSCA Reform News & Information](#)
- Customer satisfaction** Water utilities need to embrace 21st century social media in regard to the environmental concerns of their customers