



Water IT: How the \$16 billion market will take shape

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Steve Minnihan
Research Associate

Lux Research

- We help clients capitalize on **science-driven innovation**
- We focus on **emerging technologies** in the chemicals and materials sector and the energy and environment sector (cleantech)
- We have practices in **Green Buildings, Nanomaterials, Solar, Energy Storage, Water, and Biosciences**
- We have clients on **five continents** – blue-chip corporations, government agencies and laboratories, universities, investors, and SMBs
- We source our intelligence from **direct interaction** with CEOs, CTOs, CSOs, and R&D execs at cutting-edge technology firms in our sectors of focus
- We draw on **our network** to:
 - Continuously monitor emerging technologies
 - Identify discontinuities in technology commercialization
 - Assist with company and technology evaluation
- We have global reach, with 40+ employees in New York, Boston, San Francisco, and Amsterdam
- Research team is 67% scientists, 33% business analysts

Testimony to
U.S. Congress



Suntech solar
factory, China

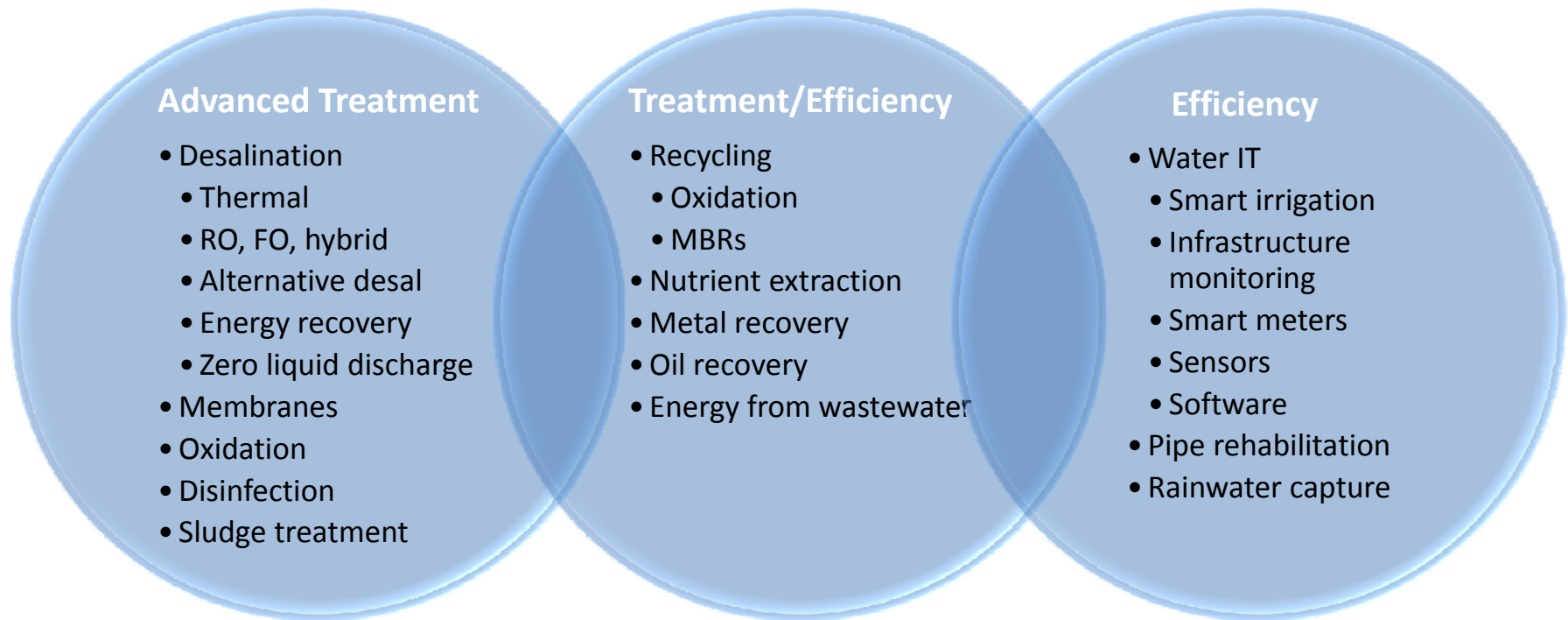


Qatar Science
and Technology
Park



Svalbard Global
Seed Vault, Norway

Lux Water Intelligence

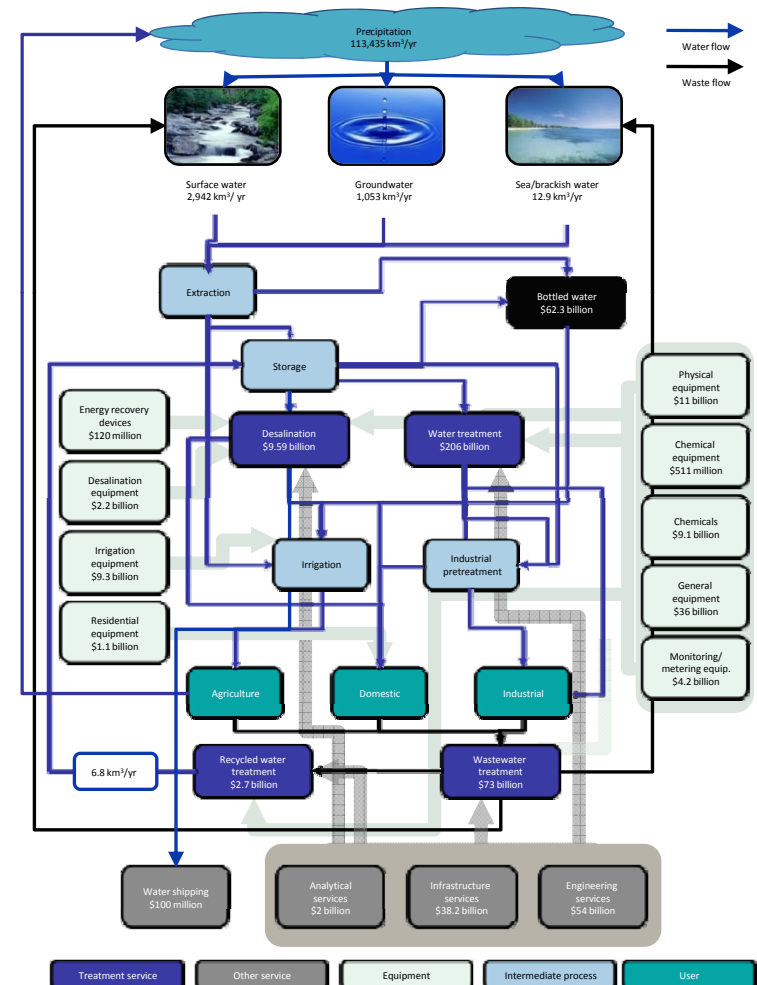


Agenda

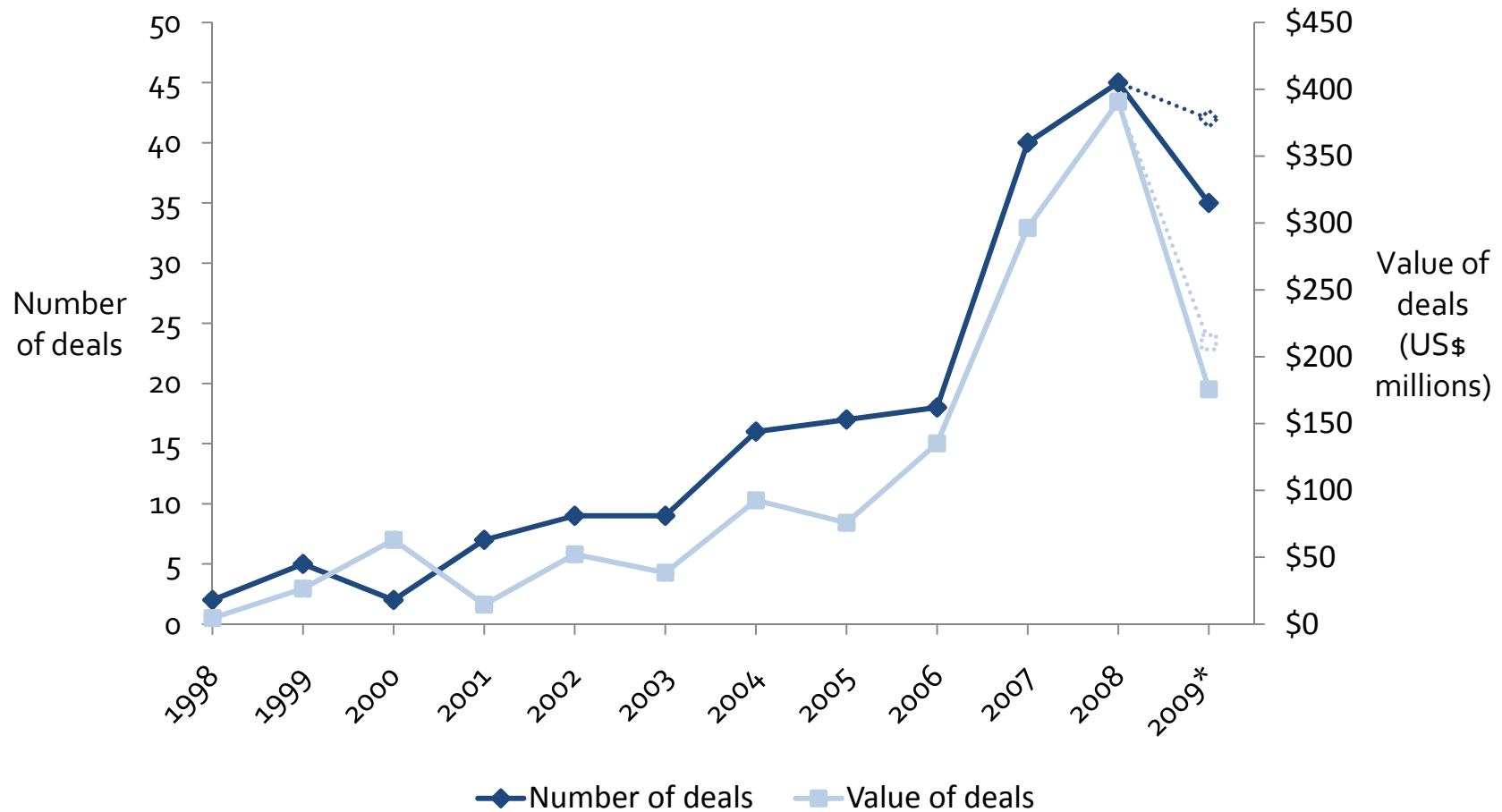
- The changing face of the water industry
- The \$16 billion water IT market
- Picking winners with the Lux Innovation Grid

Mapping the water industry

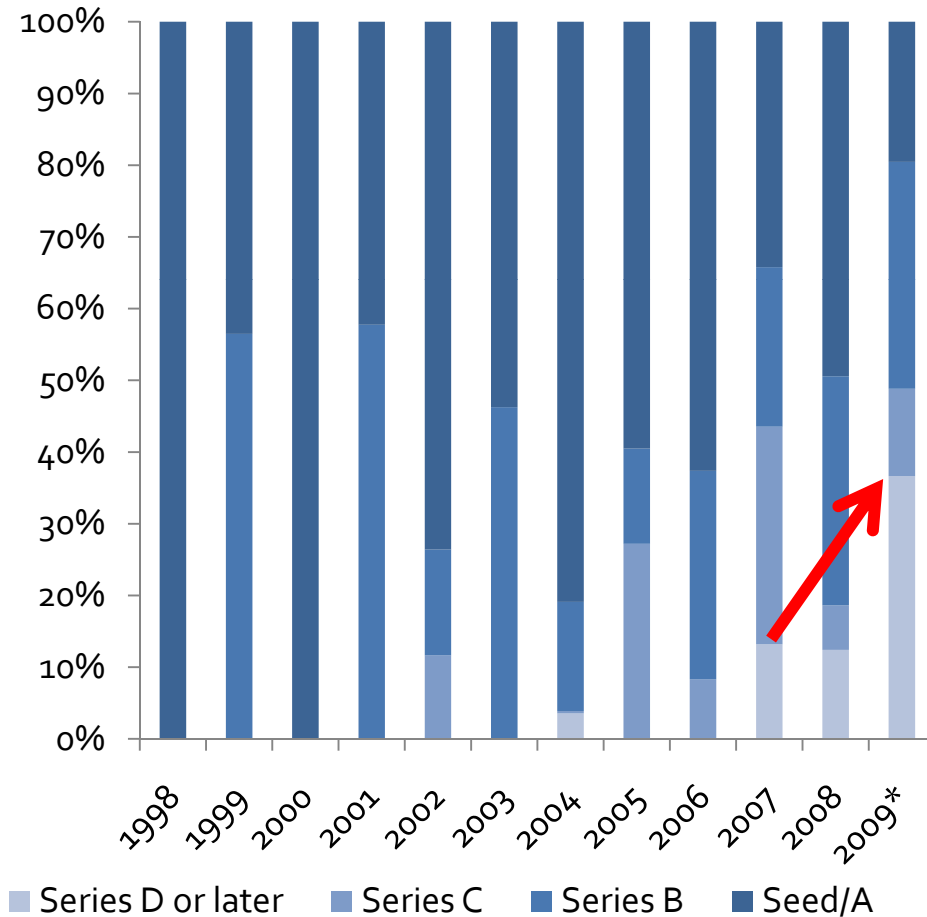
- Total 2007 revenue US\$522 billion
- Four top-level categories:
 - **Services:** \$386 billion (74%)
 - **Equipment:** \$64 billion (12%)
 - **Chemicals:** \$8.9 billion (2%)
 - **Bottled water:** \$62 billion (11%)
- 85 individual segments within these four top-level categories
- Total 2020 revenue US\$961 billion



Water financing is on the decline



Late-stage deals are on the rise



- Seed/Series A deals dominated VC transactions through 2006
- 2007 ushers in 4 Series D or later transactions
- Investors now focused on later stage companies
- 2009, 37% of the total value invested when to Series D; only 20% for Seed/Series A

Addressing the aging infrastructure



London- 2007



Northcote, Australia – January 2009



Boston - 2005

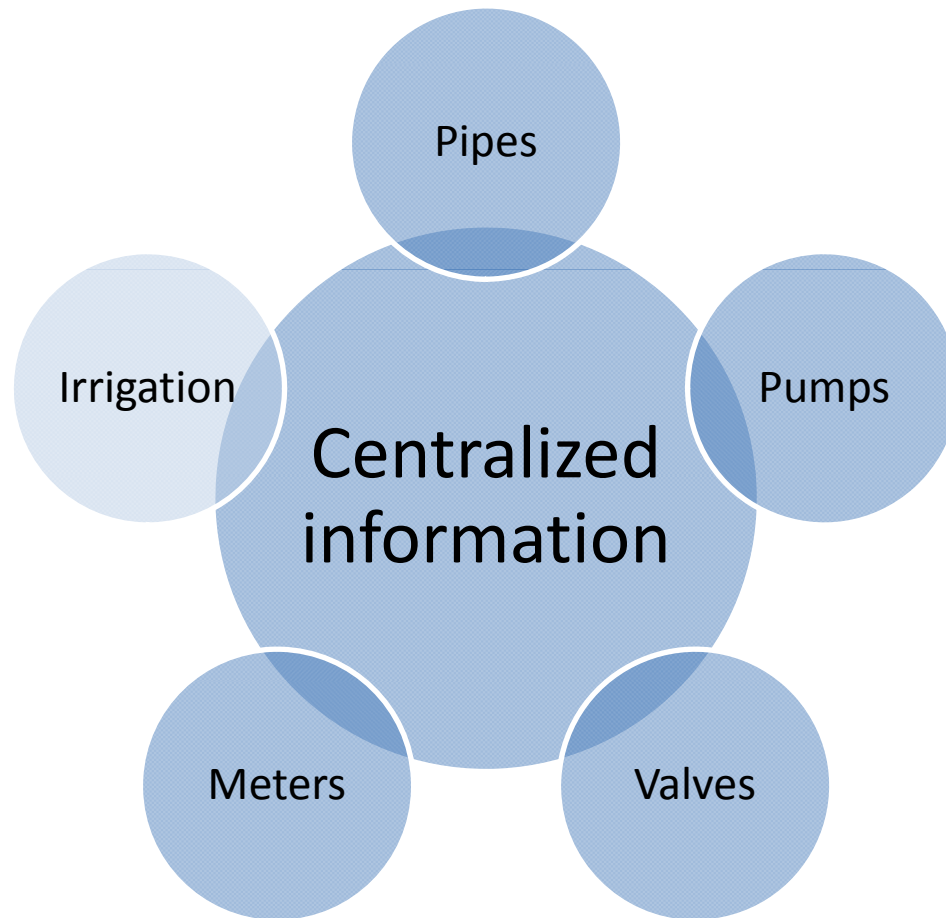
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Many companies providing water IT solutions



Smart water grid



Water IT market segments

Water mapping

- Identify groundwater sources through land based and submarine based technologies

Water infrastructure

- Reduce pipe leaks, minimize energy requirements through leak detection equipment and software

Smart meters

- Intelligent metering of domestic water supplies

Smart irrigation

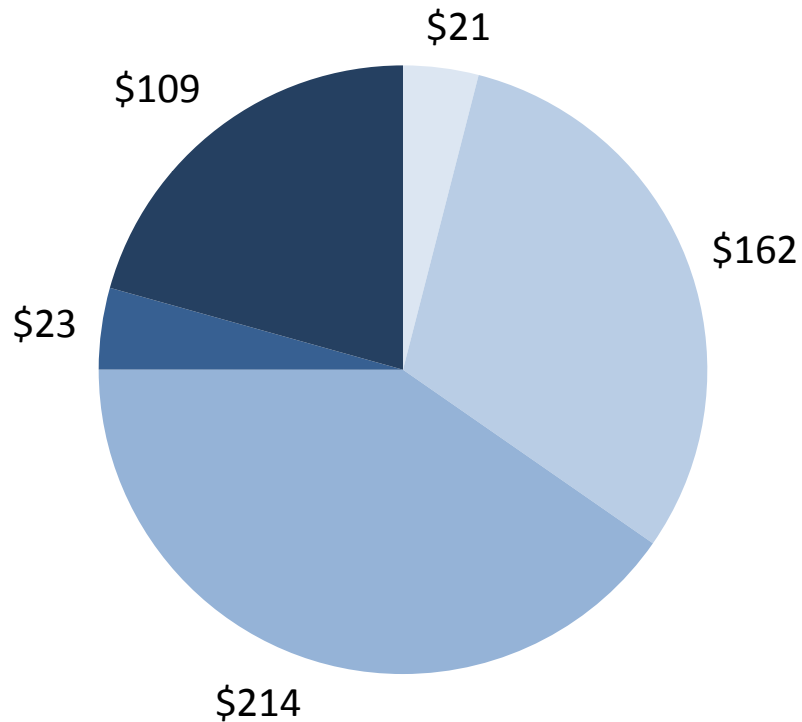
- Manage water use in irrigation through controllers

Water quality monitoring

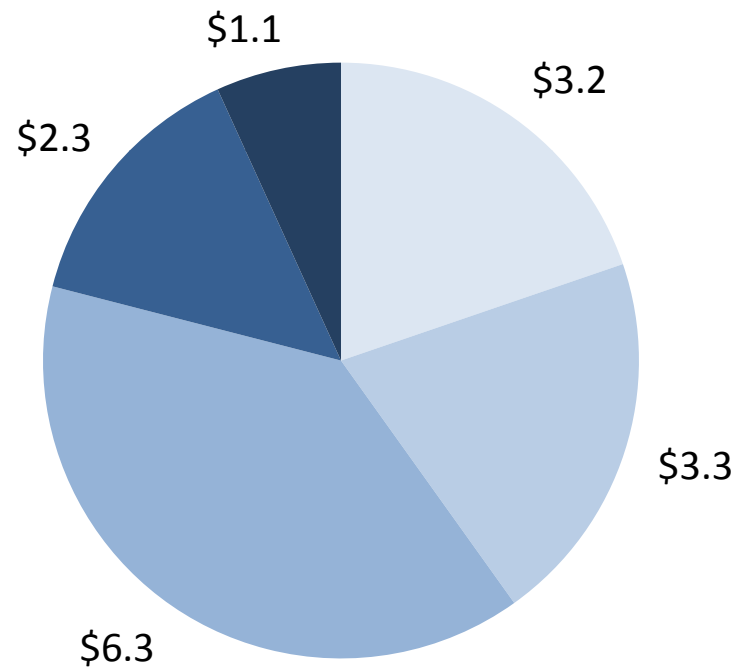
- Characterize water sources through a range of water quality parameters

Water IT market size and opportunity

Market Size, 2009
US\$ 530 million



Market Opportunity, 2020
US\$16.3 billion



Water mapping

Water infrastructure

Smart meters

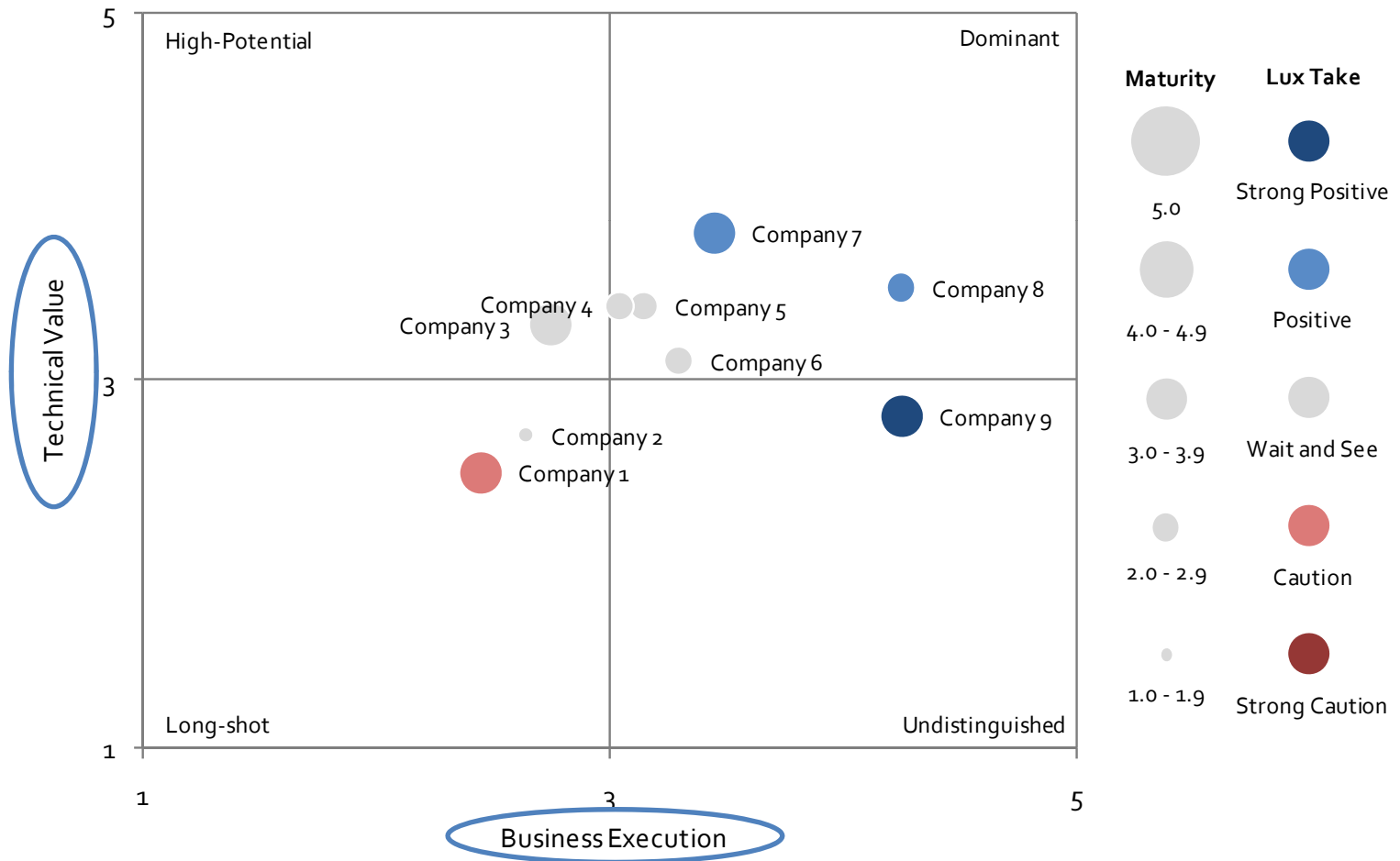
Smart irrigation

Water quality monitoring

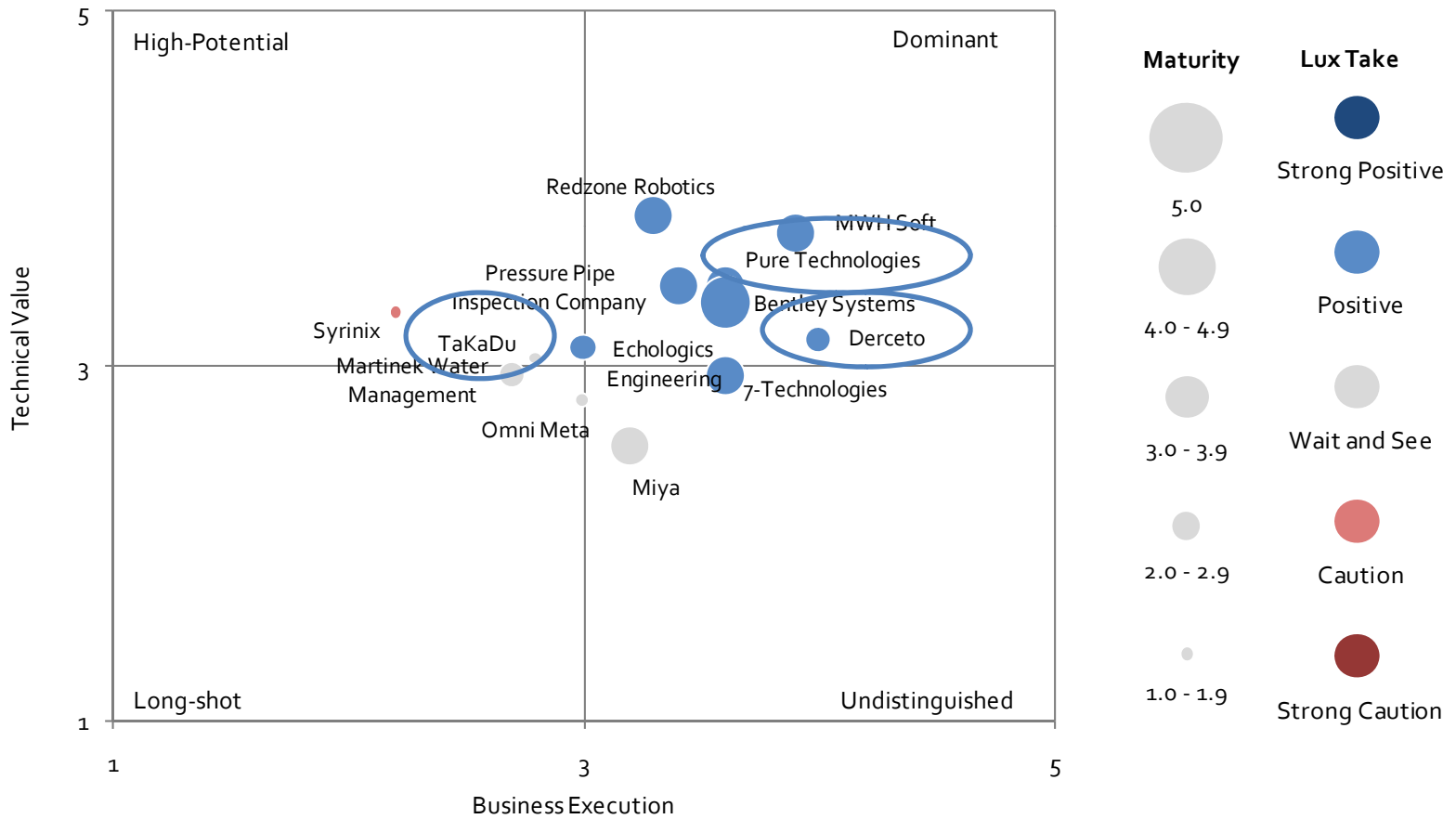
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Lux Innovation Grid (LIG)



Infrastructure water IT

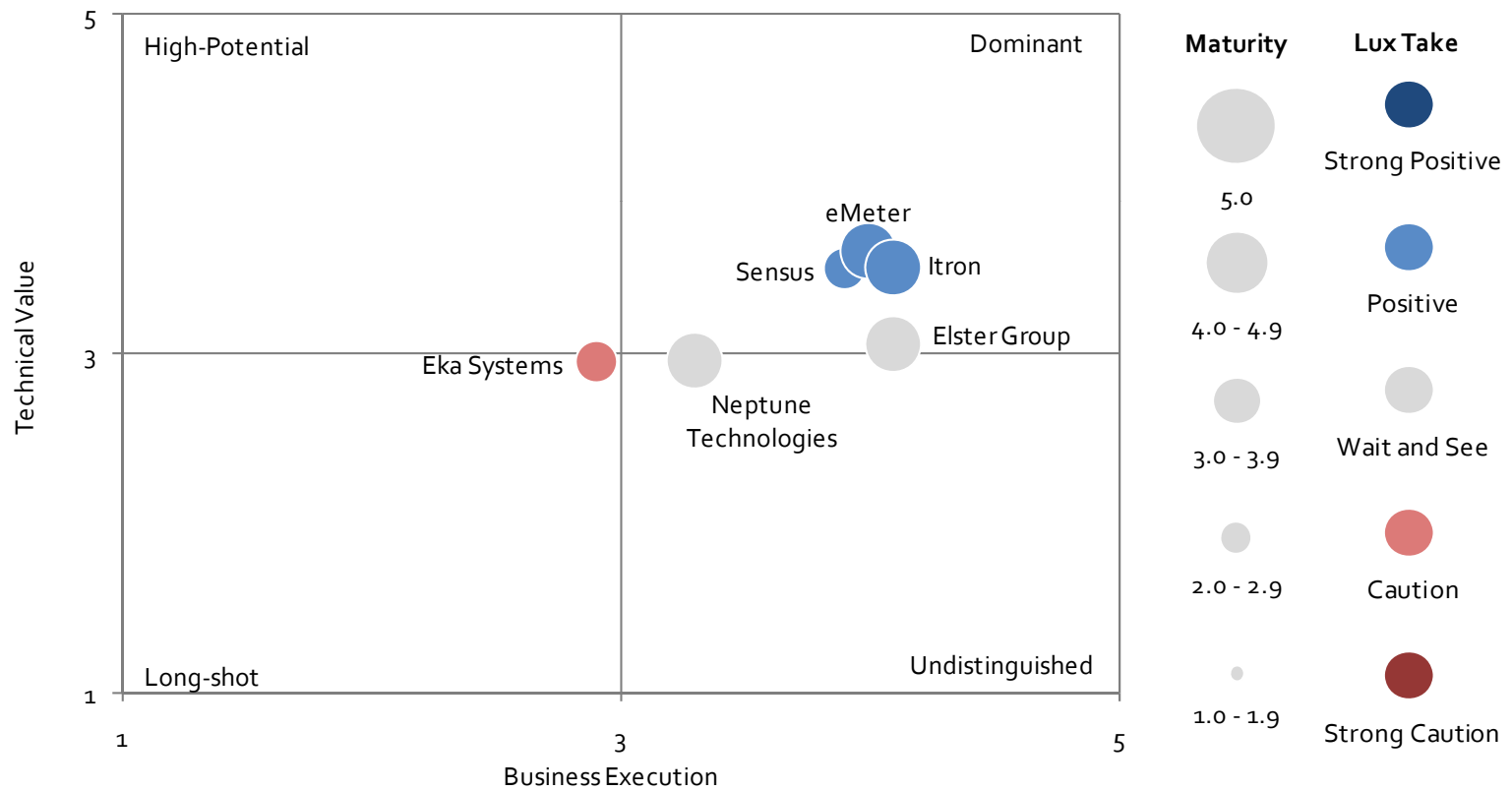


Fixing the aging infrastructure through smart technology

- Start-up software providers take process optimization to task
 - TaKaDu provides a water network monitoring solution to identify locations of leaks, faulty meters
 - Derceto provides process optimization of pumps and valves to reduce operating costs as well as energy requirements
- Pure Technologies uses a new approach in pipeline leak detection
 - SmartBall technology – “rolls” along the pipe, with the flow of water



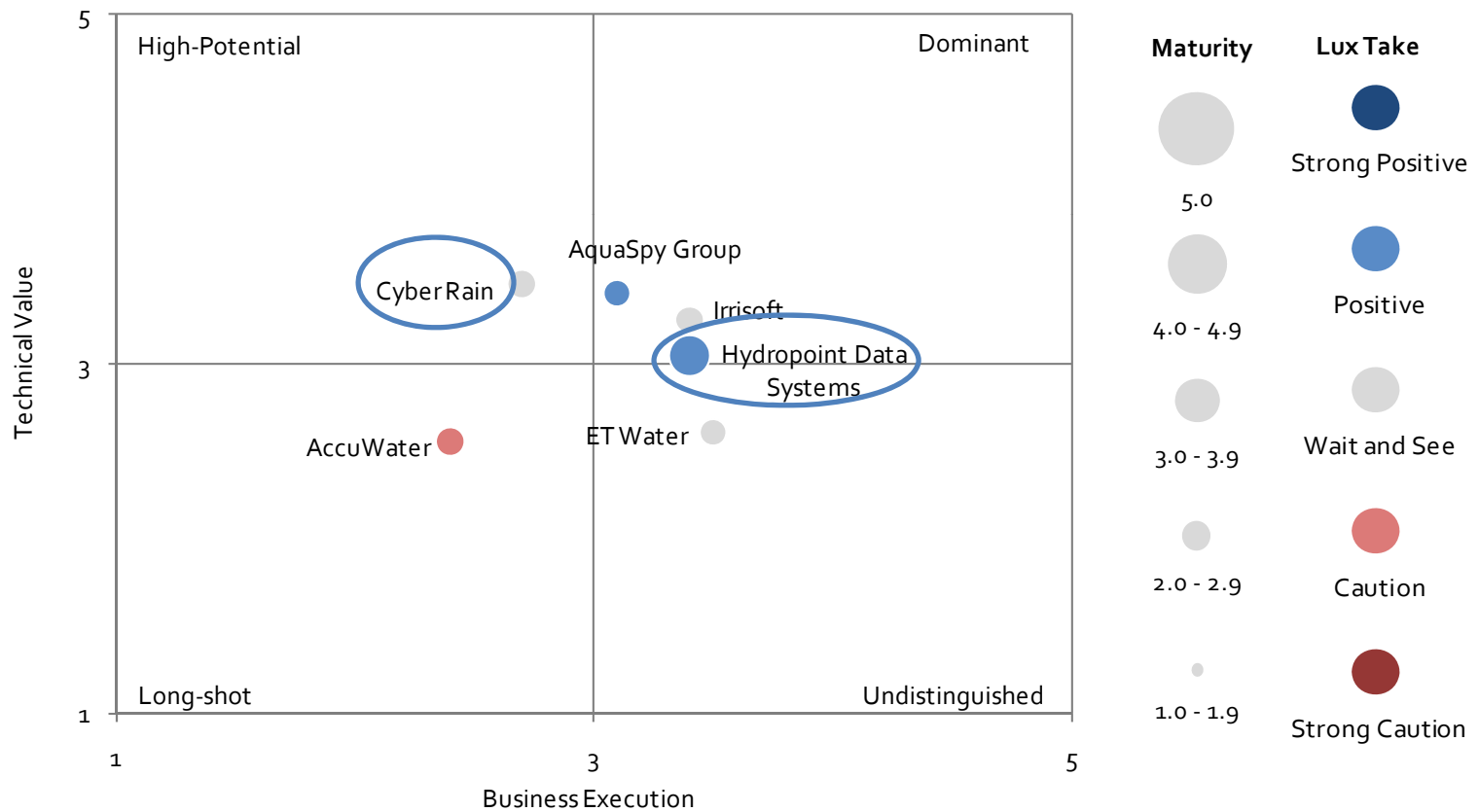
Smart meters - AMI



Smart meters help utilities to manage demand and capture revenue

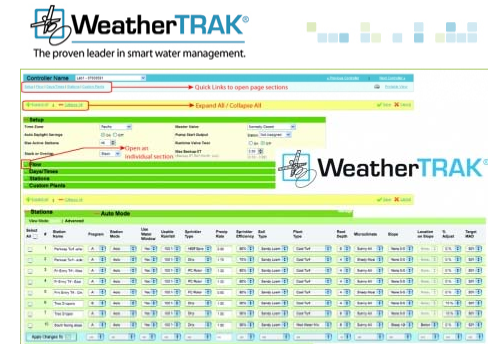
- AMI's can be considered the end point for data management
 - Provides information on water usage, potential leaks at the point of the meter and in the home or business
- Water providers can use interval data to assess rates based on time of use
 - Data can be provided to customer to influence behavior
 - Potentially charge customers higher rates for water usage during peak electrical rate periods

Smart irrigation controllers

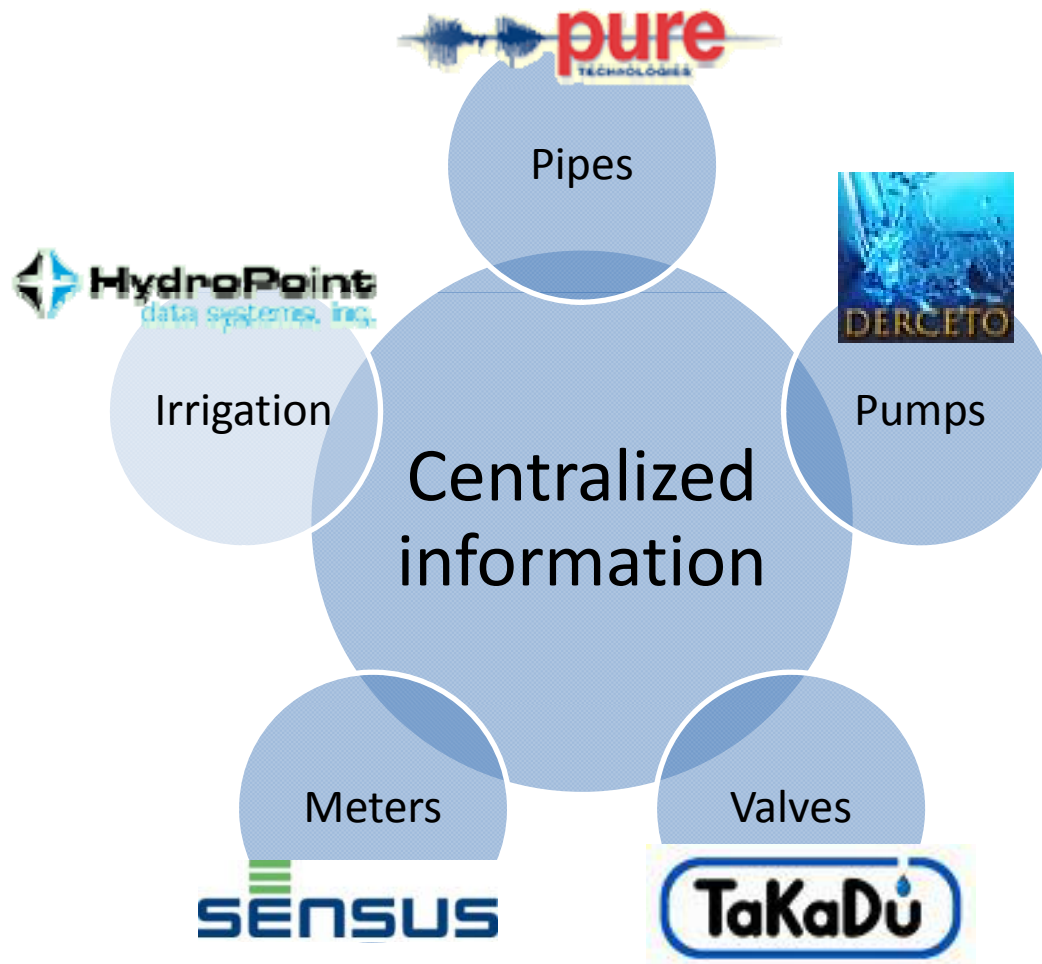


Reducing water use through smart irrigation controllers

- Controllers adjust watering schedule based on evapotranspiration (ET) data
 - HydroPoint's system gathers ET data from 40,000 NOAA weather stations
 - Cyber Rain's system gathers ET data from weather websites
- Both provide real-time web-based dashboard
 - Provides monitoring and water use visibility across a customer's entire property portfolio
- The future.... demand response information is taken to the next level with irrigation controllers
 - Peak load management and water control in times of scarcity



Water IT - Many players; no leader and integrator



Outlook

- Benefits of complete water management solution
- System integrator stands to capture a large share of the profits
- Water stress and aging infrastructure will drive water IT growth
 - Reduce water losses, maintain standard of living
- The future of water AMI hinges on the electric utilities
 - Can share much of the same infrastructure resulting in a higher cost benefit

Questions?

Steve Minnihan

Steven.minnihan@luxresearchinc.com

617.502.5334

Research Associate