



AMERICAN WATER

NAWC Summit

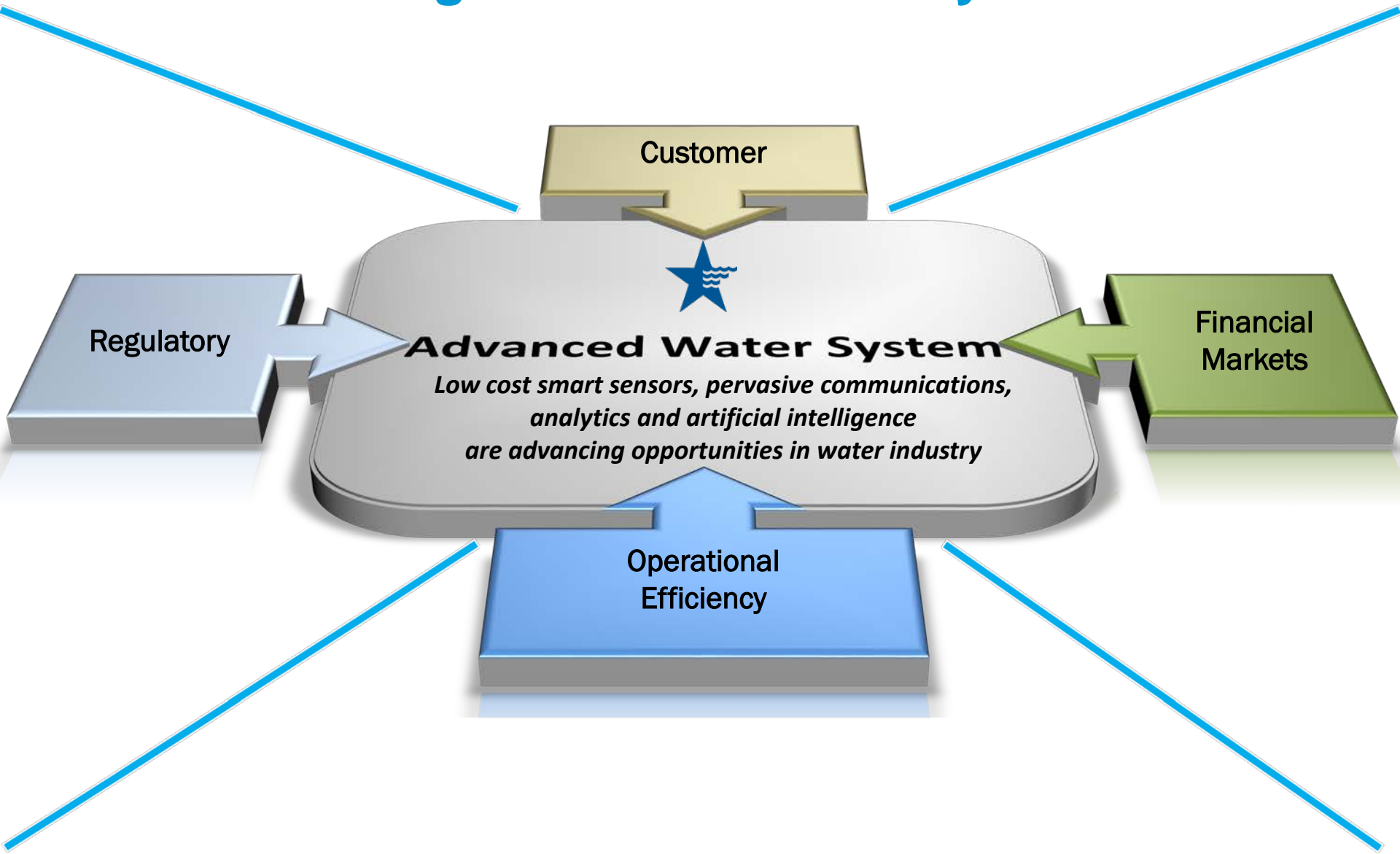
Presenter:

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Forces Driving Advanced Water System



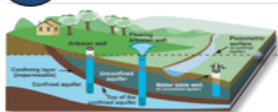
Technologies to Automate Water System

Water Technologies



Source Water
Water quality alarms
WQ data feed to Plant

1 Water Source, Storage and Extraction



Groundwater
Well pump efficiency
Water quality link to treatment

Storage
Security network
Advanced algal treatment

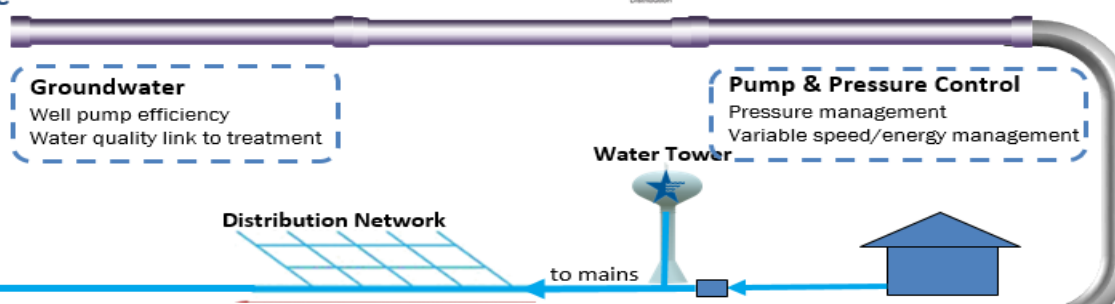


2 Water Storage & Purification

Water Treatment
Integrated treatment water quality system
Pump efficiency monitoring



Climate
Weather service feed to Plant, irrigation IOT



Pump & Pressure Control
Pressure management
Variable speed/energy management



5 Operations
Integrated alarm and workforce management system
GIS updating

4 Domestic Use

Residential Metering
Hourly AMI integrated to customer
Remote shut-off valves
Tamper detection
Flow anomaly detection



3 Water Distribution

Transmission and Distribution
Leakage management (acoustics, satellite, district metering)
Automated flushing
Pressure and flow sensors to detect anomalies



4 Industrial Use

Other Metering
Backflow monitoring
High increment flow reporting

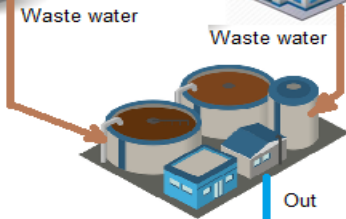
Overall Monitoring

Water quality
Water hydraulics (low pressure)
Equipment monitoring
Chemical addition
Energy consumption
Storage
Customer use
Infrastructure performance
Equipment activation
Thermal, acoustical
Environmental condition
Workforce management



6 Service Provider

Field Services
Automated actuators
Remotely controlled actuators



7 Wastewater Treatment

Wastewater Treatment
Once at the treatment plant, water and organics are separated. Water is treated so end product meets stringent water quality standards prior to discharge back into lakes and streams

Big Data Analytics and the Cloud are key enablers for the Advanced Water System



- Provide proactive water cycle awareness to the public, customers and employees
- Enable innovation and real time information for business optimization
- Enhanced environmental sustainability and improved employee and public safety