# Bringing AI to H2O

**Susan Moisio**
Vice President, Global Water Director

**Amer Battikhi**
Senior Vice President, Divergent Solutions

**Jonathan Doros**
Senior Vice President

Jacobs

Challenging today.
Reinventing tomorrow.



# Jacobs is the world leader in Water

Jacobs

## » Our Team

**9,000** Planning & Technical Experts



Consulting + Alternative Delivery + Operations & Maintenance

Digital

## » Our Focus

**OneWater Solutions**

- All Water Has Value
- Water Challenges are Interconnected
- Water Solutions must be Sustainable, Inclusive, and Equitable

## » Our Accolades

**#1 Sewer & Waste**
(Sanitary and Storm Sewers, Wastewater Treatment Plants)

**#2 Water Supply**
(Water Treatment, Desalination Plants, Water Supply, Transmission Lines and Aqueducts)

SIWI STOCKHOLM INDUSTRY WATER AWARD

GLOBAL WATER AWARDS
Water Company of the Year

FROST & SULLIVAN
GLOBAL DIGITAL WATER CONSULTING SERVICES COMPANY OF THE YEAR AWARD

IWA
Project Innovation Award: Smart Systems & Digital Water Economy

**$1.8B**
Gross Revenue

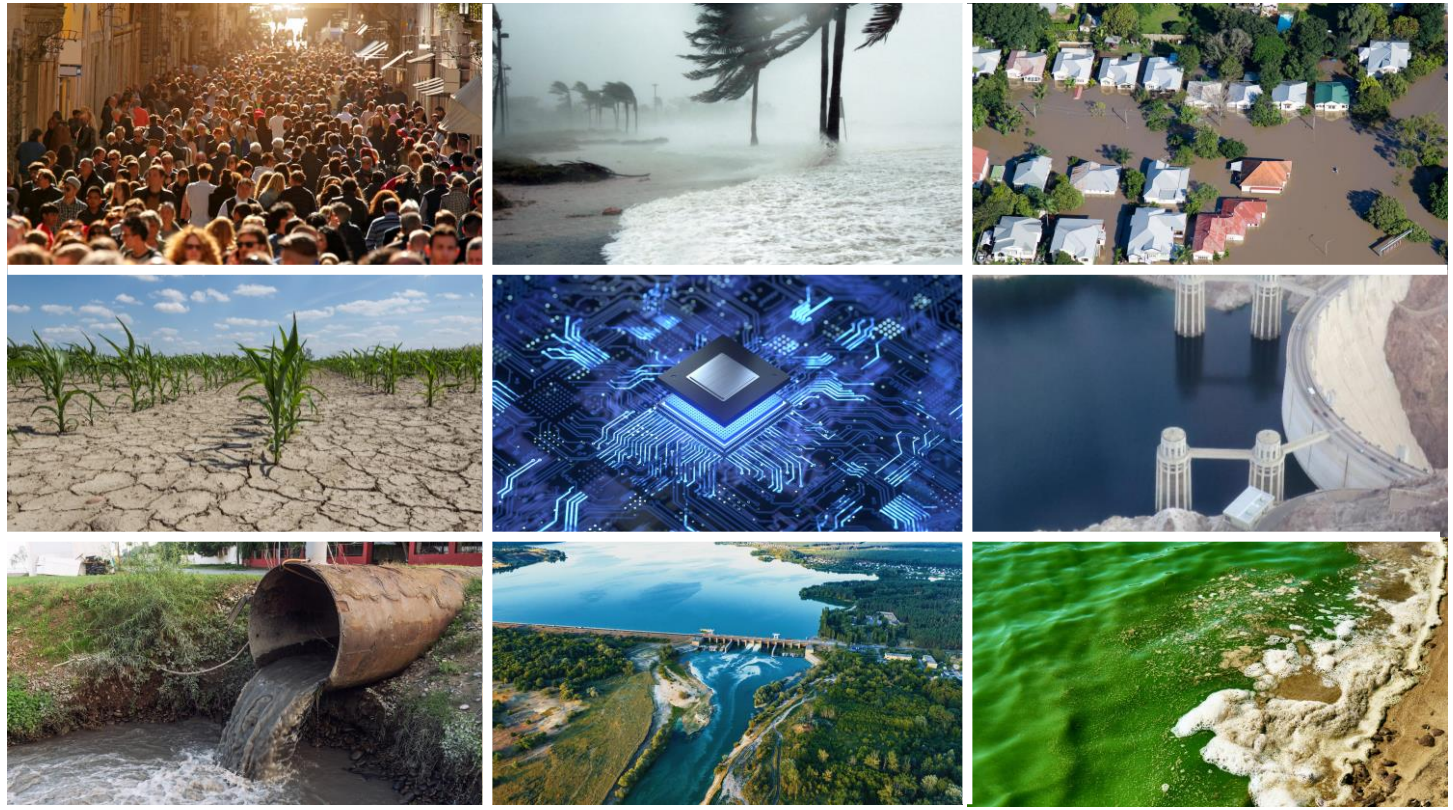
» Jacobs' Water Market (FY22)

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# We focus on solving the world's most pressing water challenges

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## » Market Drivers



**Climate Resilience** | **Water Quality** | **Urbanization** | **Digital Transformation**

**Water Scarcity** | **Aging Workforce** | **Equity** | **Water-Energy-Food Nexus**

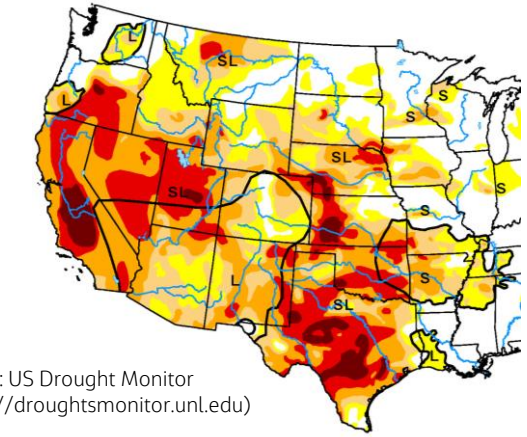
## » Market Accelerators

**BIPARTISAN INFRASTRUCTURE LAW**

**No More Lead Pipes**

**Resilient Infrastructure**

**Western US:**
Water Scarcity
& Drought



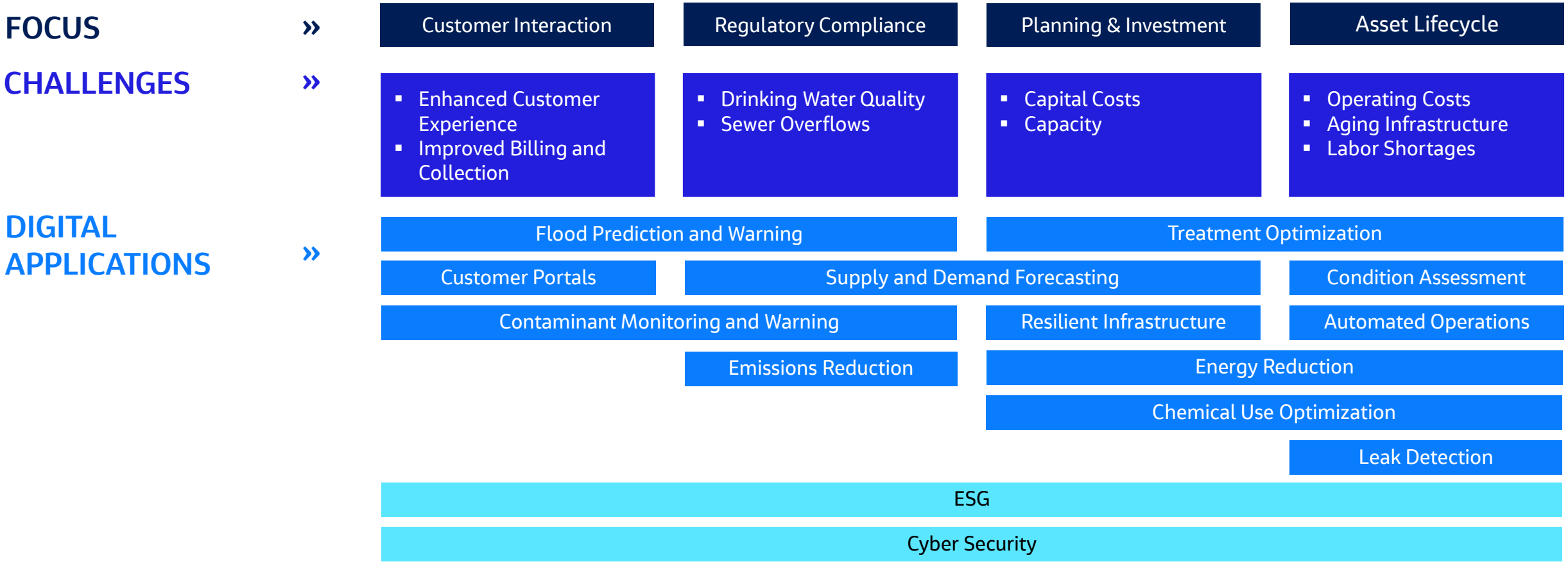

Source: US Drought Monitor
(https://droughtsmonitor.unl.edu)

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# Market drivers & accelerators inform our **Digital OneWater** Approach

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» Digital OneWater is an integrated ecosystem of data-enabled water solutions. We take a holistic view of our clients' challenges and apply innovative domain driven digital tools to transform and optimize assets and operations.




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# We leverage 70 years of water experience + OMFS capabilities

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## » Core Digital Capabilities

- Asset Management
- Advanced Metering Infrastructure (AMI)
- Hydraulic Modelling
- Cybersecurity
- Smart Sensors
- Geospatial Sensing
- Smart Technology & Algorithms

## » Our Differentiators

- Domain-Led Analytics
- AI & Machine Learning
- 'Active' Digital Twins
- Transformation Advisory
- OMFS

## » Digital OneWater

- Water Resources
- Drinking Water & Reuse
- Conveyance & Storage
- Wastewater

## » Our current product suite

Dragonfly℠ by Jacobs

Flood Modeller by Jacobs

Aqua DNA by Jacobs

REPLICA

**Intelligent O&M portfolio**

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# Jacobs' Intelligent O&M

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## » Accelerating the digital journey in water and wastewater systems in partnership with Palantir



### Power Consumption

- AI Powered Energy Efficiency
- Cost Optimization
- Real-World Feedback

### Chemical Spend

- Real-Time Monitoring
- AI Optimizations
- Real-World Feedback

### Predictive Maintenance

- Intelligent Work Order Scheduling
- Mobile Dispatching
- Capital Improvement Planning

### Automation

- Remote Monitoring by Jacobs with Our Apex Center
- Proof for Regulators
- Adapt to Market Drivers

### ESG / Regs

- Proactive Analysis of Compliance Adherence
- Push Notifications to Field Staff
- Sensor Drift Monitoring

### Cyber Security

- Data Health and Uptime Monitoring
- IT/OT Attack Monitoring (with MS Defender for IoT)
- DoD IL5 Certified

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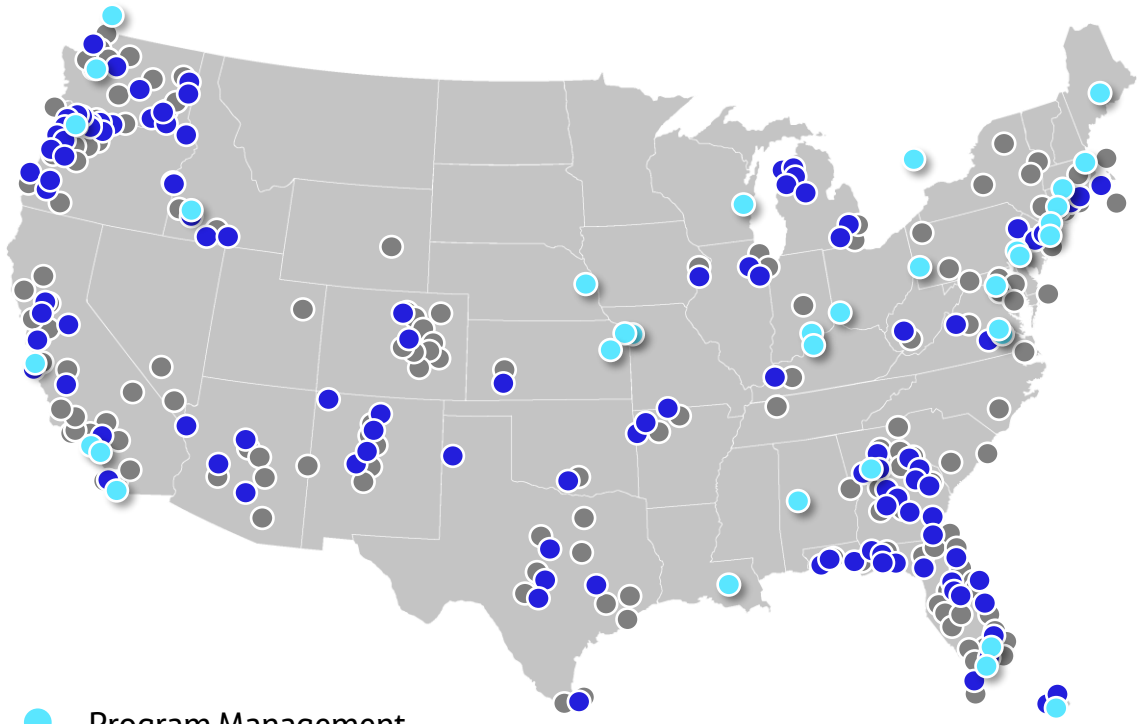
# Cyber Security & Intelligent O&M

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**300+** projects

treating **1.1B** gallons of water and wastewater every day

**3,000** O&M staff



- Program Management
- Long-term O&M contract
- DB/DBO/O&M projects

**Jacobs operates more than 200 utilities combining the issues / perspective of owner / operator with best technologies and practices available to a systems integrator to provide best cybersecurity protection.**

## » Jacobs standardized cybersecurity model for all our plants



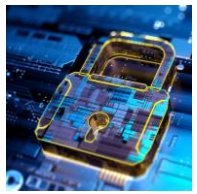
**IoT/OT Asset Discovery**
- What devices do we have & how are they communicating – so we can easily implement better segmentation zero-trust policies?



**Operational Efficiency**
- How do we identify & rapidly eliminate inefficiencies from misconfigured or compromised networks/equipment?



**Continuous IoT/OT Threat Monitoring, Incident Response & Threat Intelligence**
- How do we know if we have any IoT/OT threats in our network right now – and how do we quickly respond to them?



**Unified IT/OT Security Monitoring & Governance**
- How do we leverage exisitng people, training & tools to centralize IT/OT security in our SOCs?
- How do we demonstrate to auditors that we have a safety- and security-first environment?



**Risk & Vulnerability Management**
- What are risks to our „crown jewel" type assets
- IoT/OT assets – and how do we prioritize mitigation?

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