



**Jim Lauria**  
Vice President,  
Sales & Marketing  
Mazzei Injector Company

Incoming IOA President

# DROPS OF WISDOM

## DATA-DRIVEN STORYTELLING



**October 24, 2025**

# ANGELO MAZZEI...

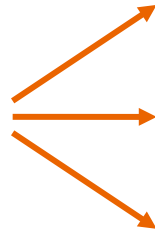
## He Had A Vision

- **THE NEED:** Inject liquid fertilizer or chemicals into pressurized irrigation water lines (*with no electrical power*)
- **INSPIRATION:** California Aqueduct
- **DATE:** 1972
- **PLACE:** Bakersfield, California

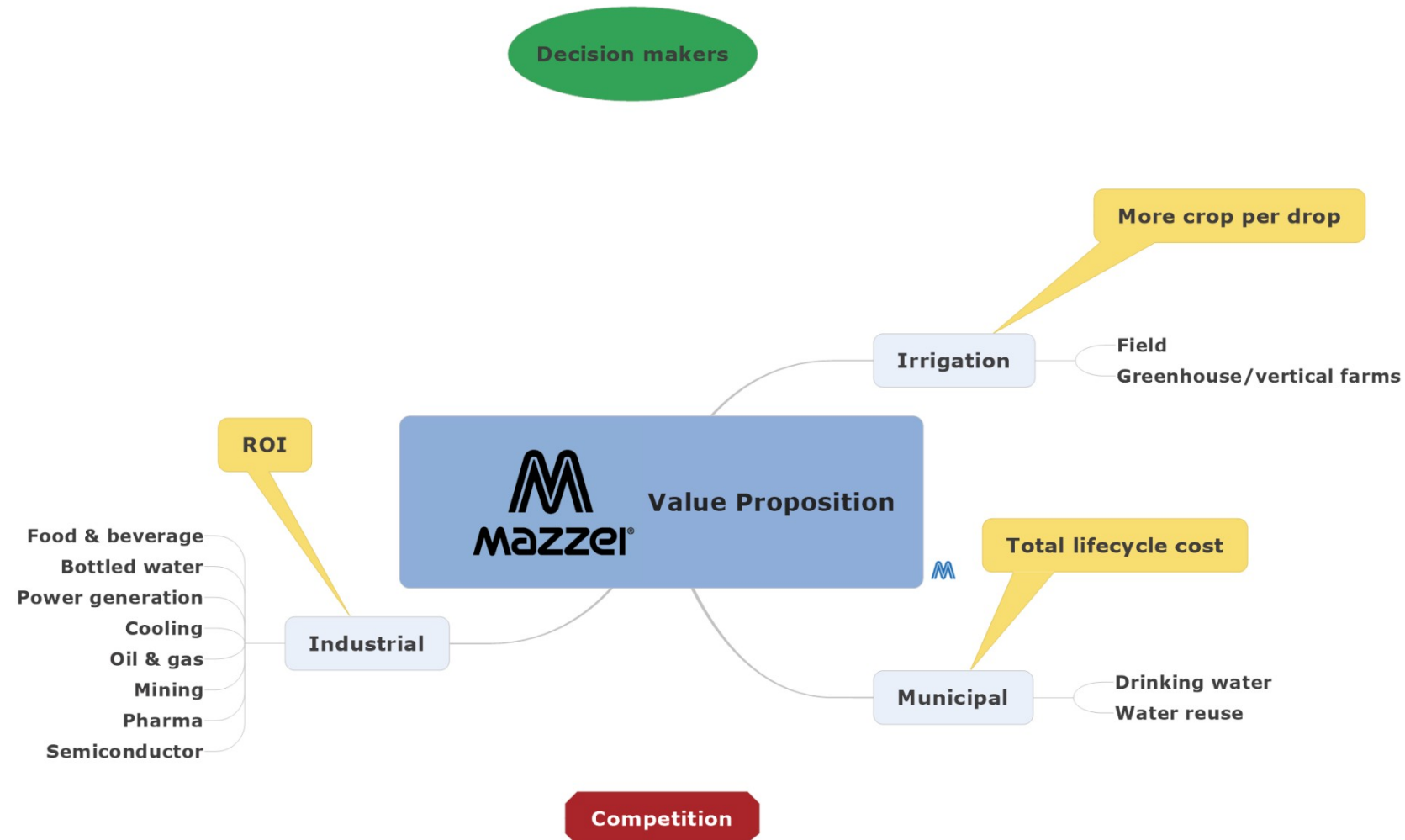




# GROWTH... *from one market to many*



# Gathering detailed customer info allows for better market segmentation





# Fine Bubble Diffusers (FBD)

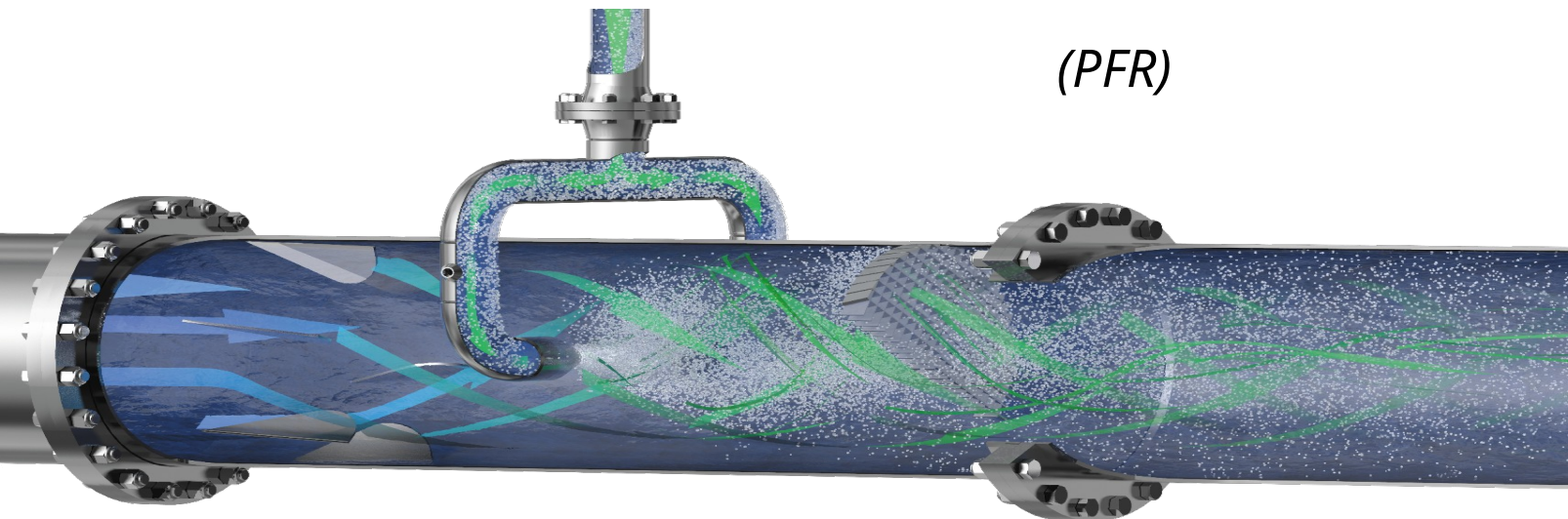


# SIDESTREAM INJECTION (SSI)



Pipeline Flash  
Reactor  
(PFR)

Basin Nozzle  
Manifold (*BNM*)





# INSTALLATIONS

Show Broad  
Ranges  
of...

**Flow Rates**

**Water Sources**

**Applications**

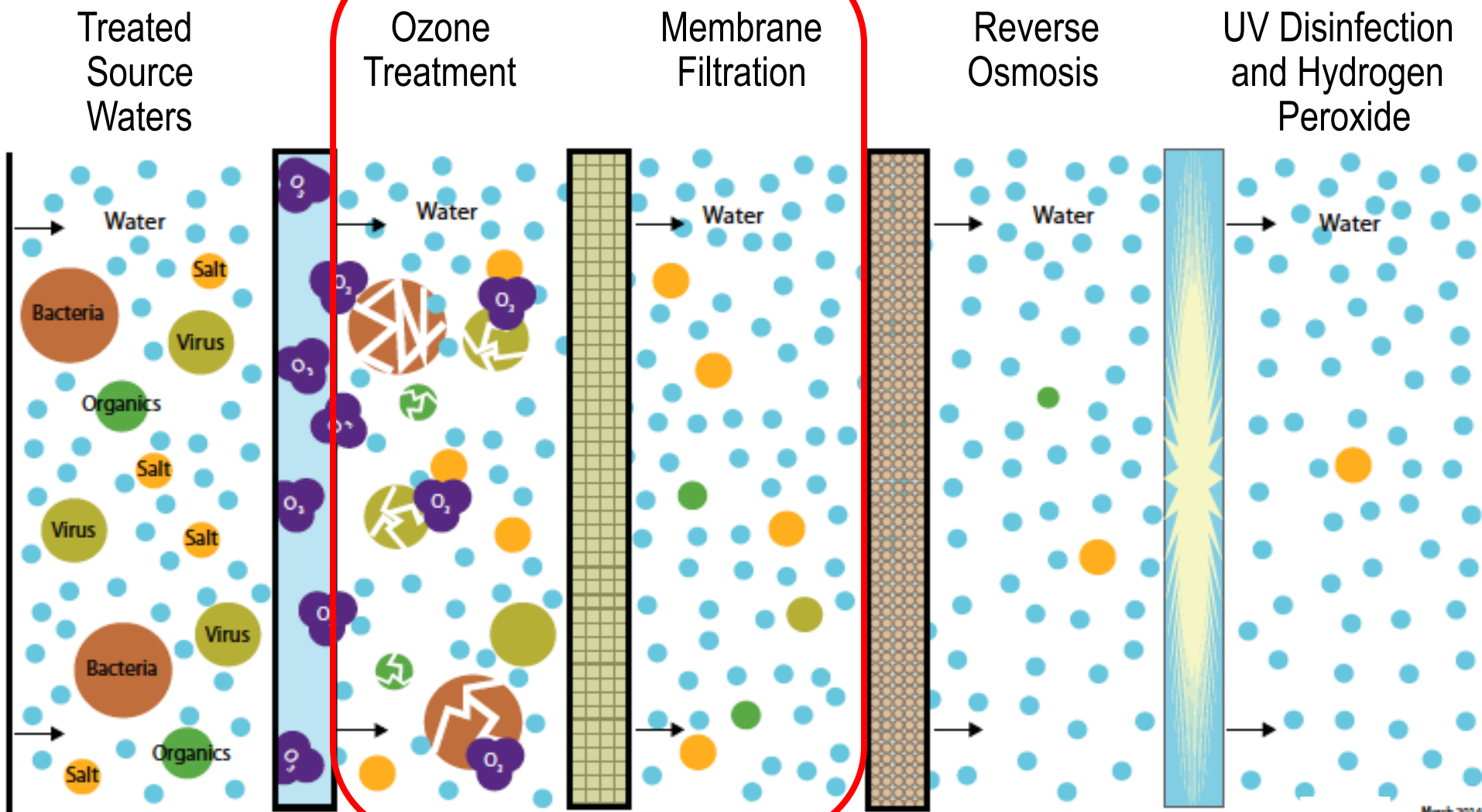
180 MGD  
Kansas City

40 MGD  
Detroit



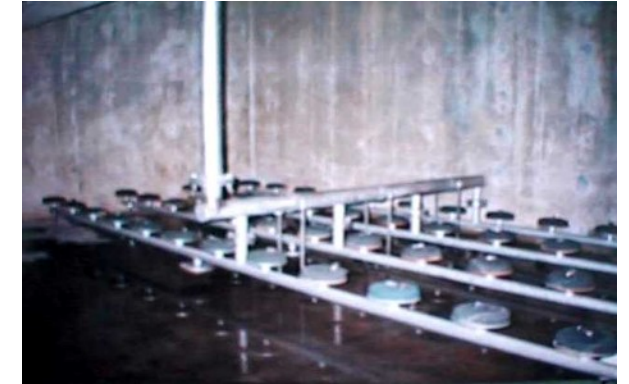
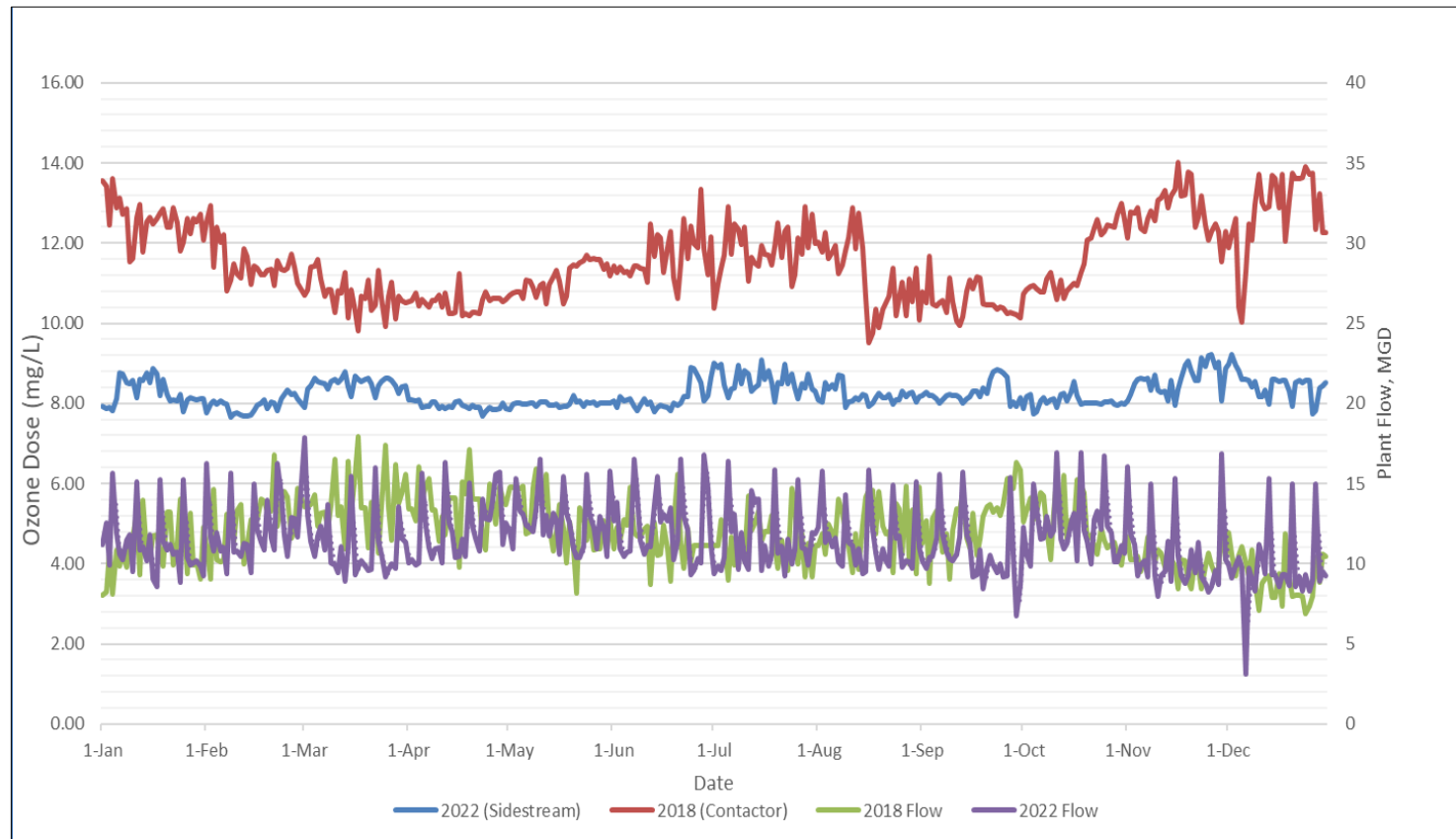
**Process  
Detectives**

# Ozone Treatment of Wastewater Improves MF Membrane Performance





# Ozone Dose Trends for FBD and SSI Dissolution Systems, OUC Conway WTP (2018, 2022)

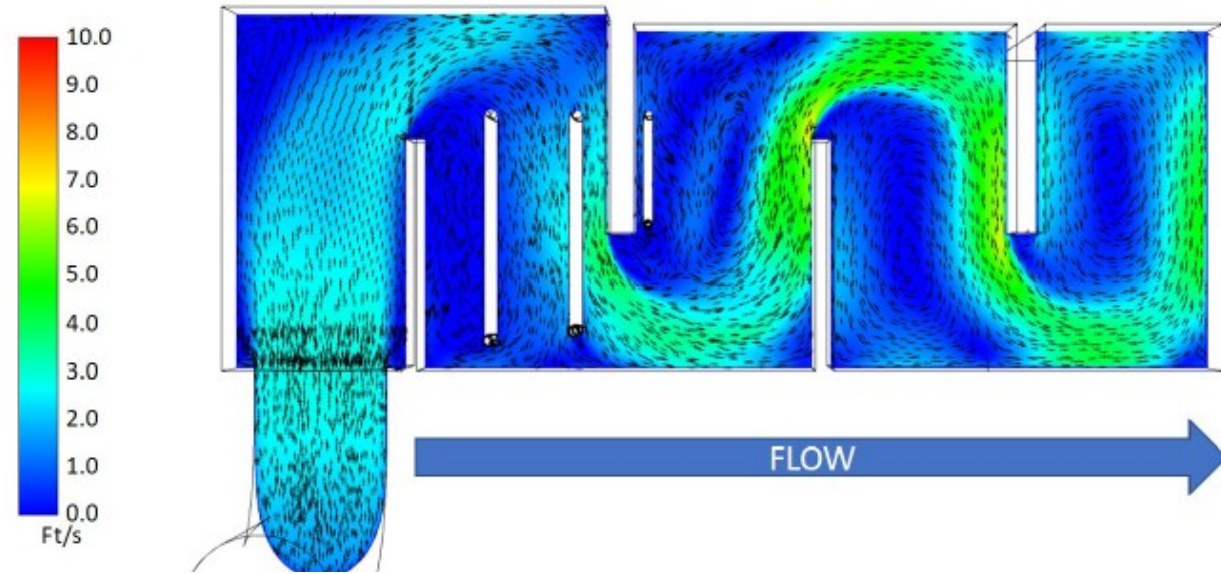


From: C. Schulz – CDM Smith, Ozone 101: Overview and Fundamentals, IOA PAG 2024 Conference.

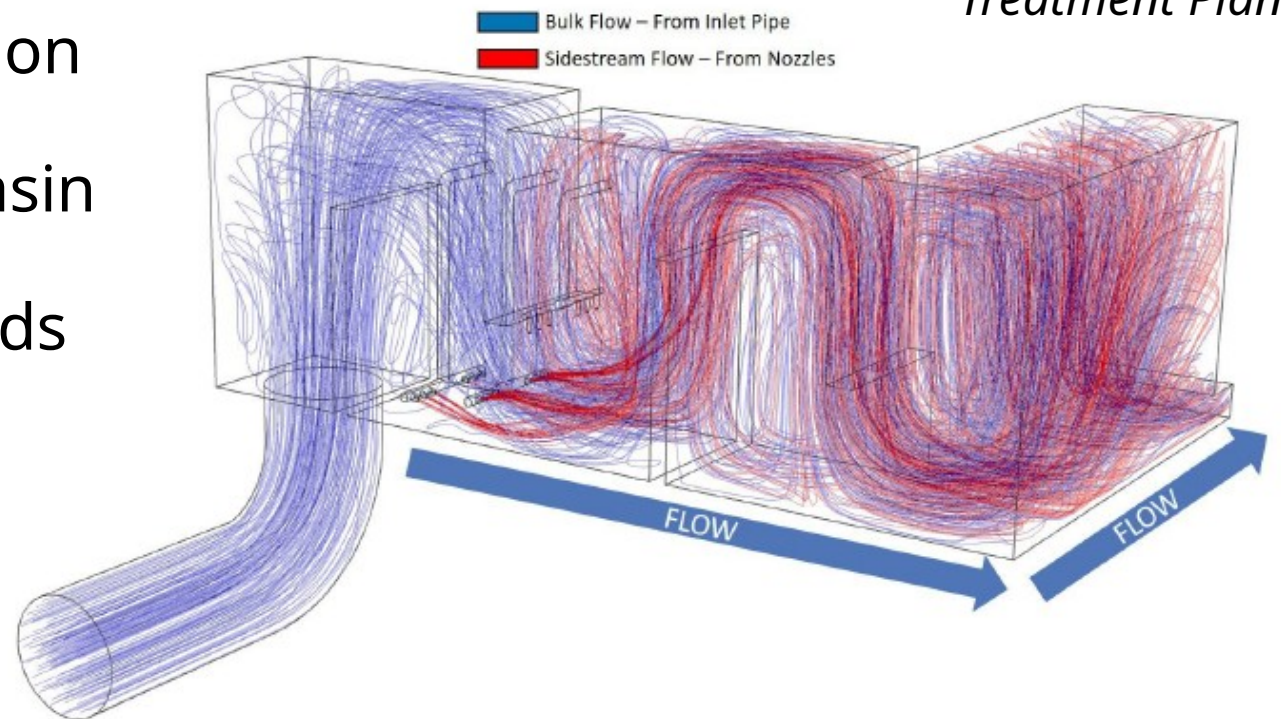
# Computational Fluid Dynamics (CFD) Modeling...

powerful tool for precise design, sizing, and siting of mixing nozzles, aids in creating

mass transfer efficiencies well in excess of 90% making SSI ideal for high-rate applications



Ozonation with SSI + Basin Nozzle Manifolds



*75 MGD Water Treatment Plant*



## Sidestream Injection Technology

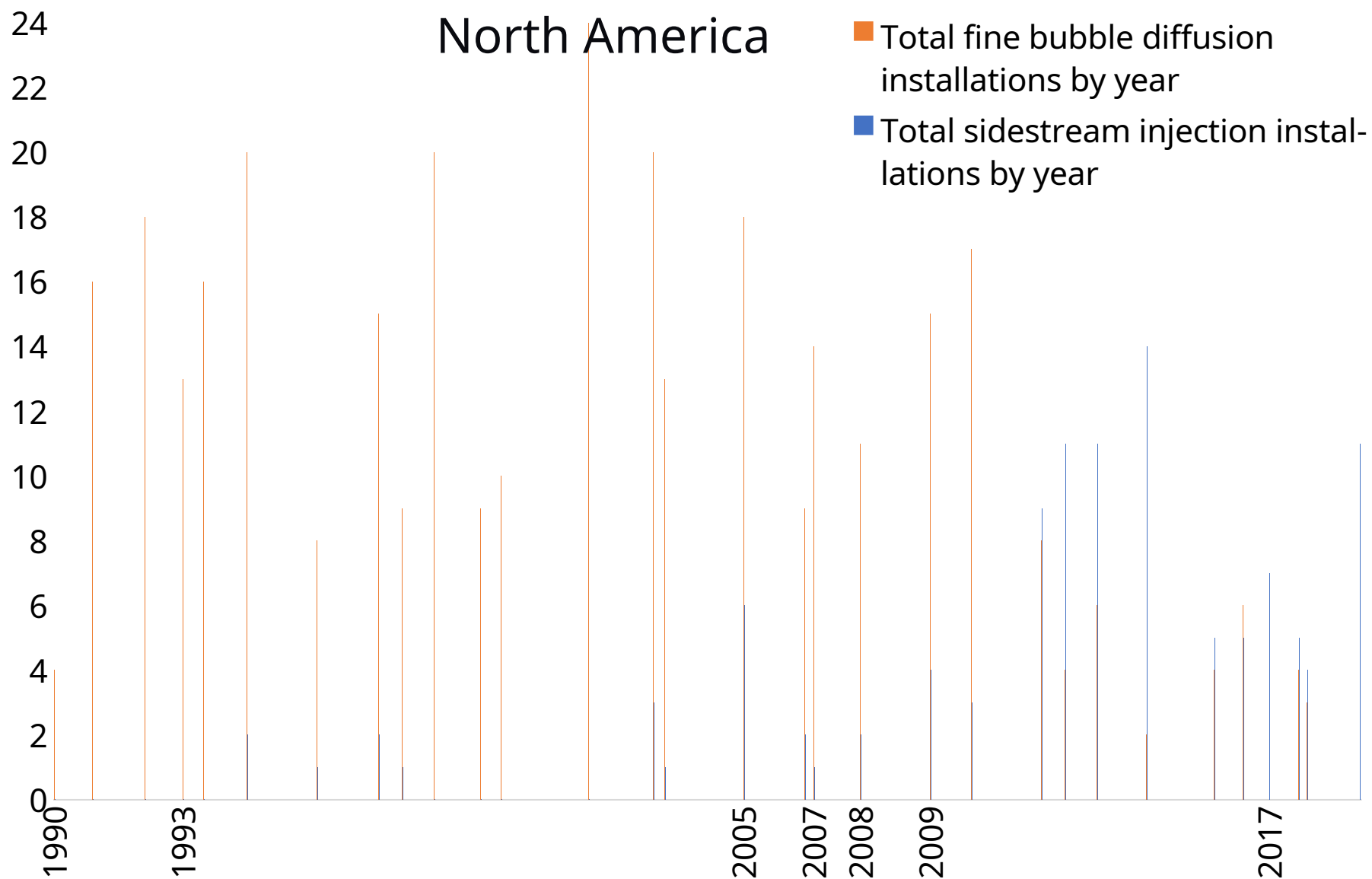
for Ozone  
Applications

- Flexible—High turndown capability and operation flexibility (no expensive stops to plant operations)
- Control—High level of applied ozone dose control
- Small Footprint—Less steel & concrete
- Energy Efficiency—Used for mixing & mass transfer (not just gas addition)
- Lower Bromate Formation
- Very Low Maintenance
- Tailored for Each Application—CFD modeling assures enhanced hydraulic mixing & contacting

All of this achieved with typical sidestream flows  
of less than 10% of plant flow!

## Trends in Ozone Dissolution

### Comparison of FBD vs SSI Ozone Projects in North America







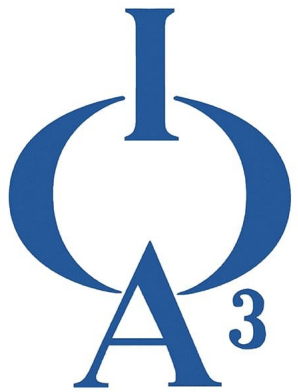
## Jim Lauria

Vice President, Sales & Marketing

Mazzei Injector Company

[JLauria@mazzei.net](mailto:JLauria@mazzei.net)

[www.linkedin.com/in/jimlauria/](http://www.linkedin.com/in/jimlauria/)



International  
Ozone  
Association -  
Pan American  
Group

**Incoming IOA President**

Podcast:



**WATER**  
**WE TALKING**  
**ABOUT?**

LinkedIn Newsletter:

TO KNOW WATER IS TO  
**LOVE**  
**WATER**