




S Y S T E M S

Enabling solutions to the World's water crises

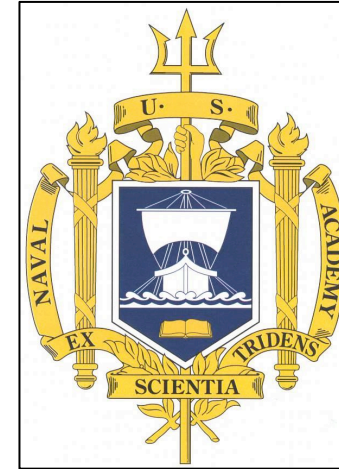


END[®] electro-desalination

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CTO

September 21, 2017

Technology Origins: Grant Page @ NRL



MI Systems: Bold clean water innovations



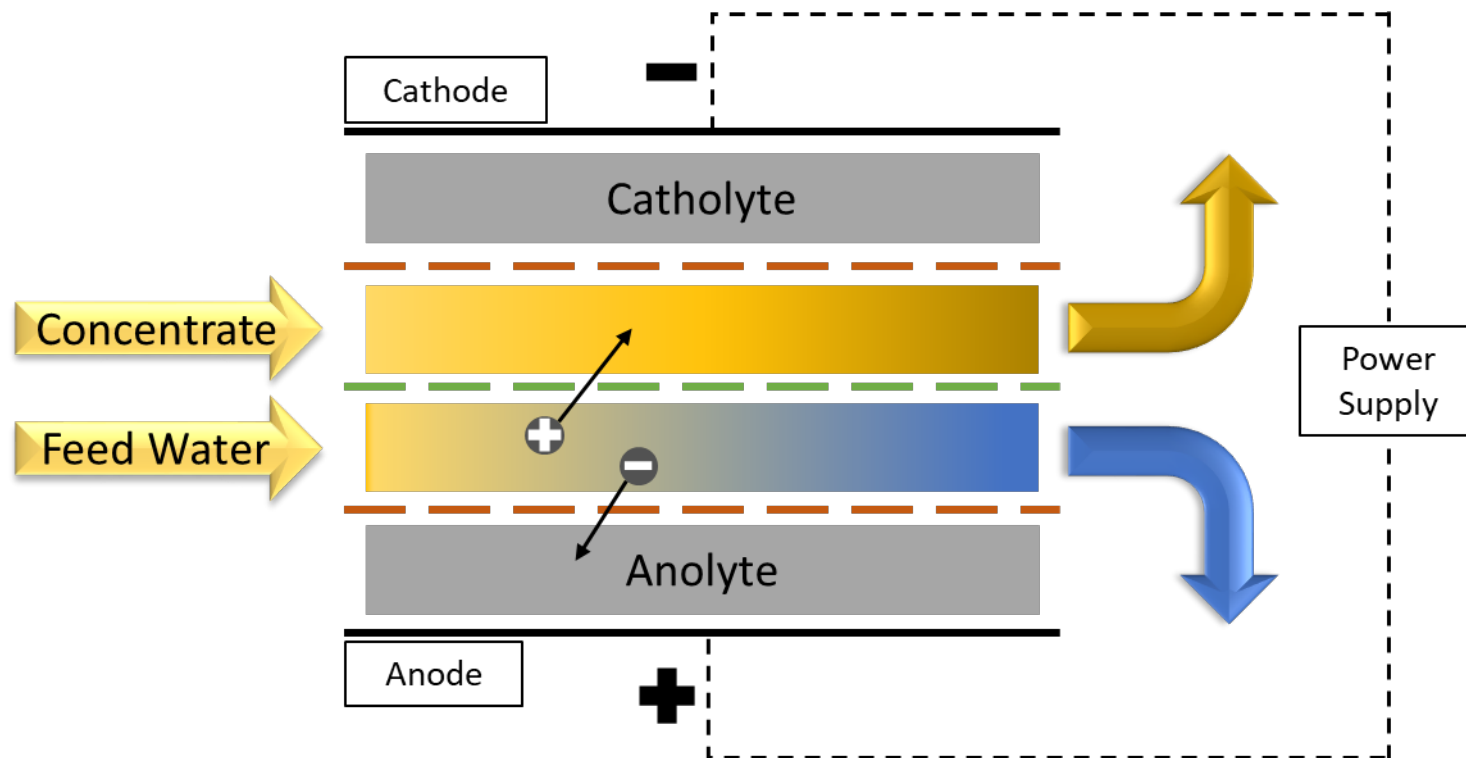
- MIS is an energetic, cutting-edge water treatment technology company
- Est. 2015 to bring END[®] electro-desalination to market
- Headquartered in Houston, TX
- 14 full-time employees
- 8,000 sq ft of lab and manufacturing space



MI Systems' Facilities

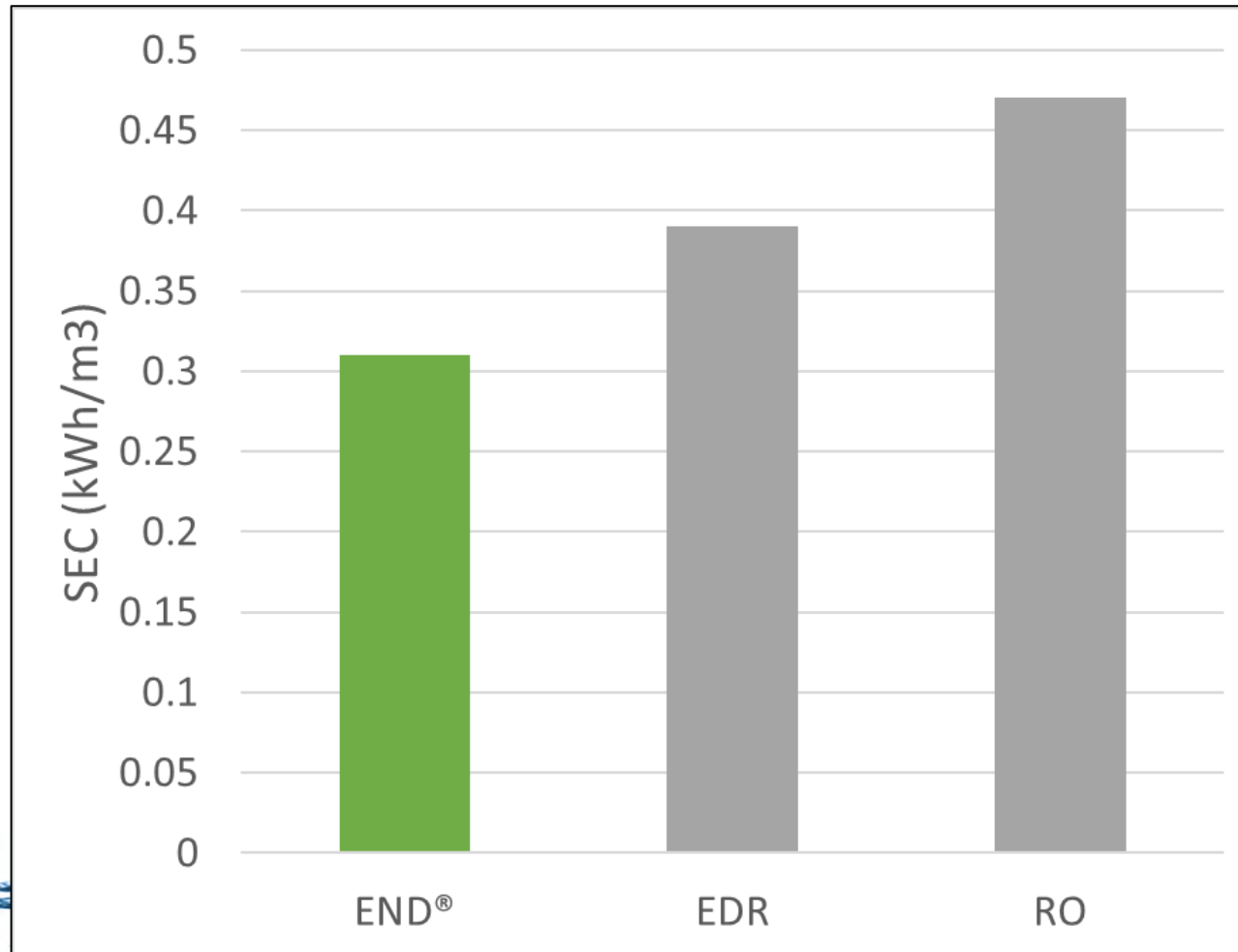


Patented END[®] electro-desalination technology



- END[®]: Designed to reduce energy consumption
 - Novel low resistance electrode/electrolyte combinations
 - Proprietary spacer materials
 - Proprietary power profiles

END[®] brackish water performance

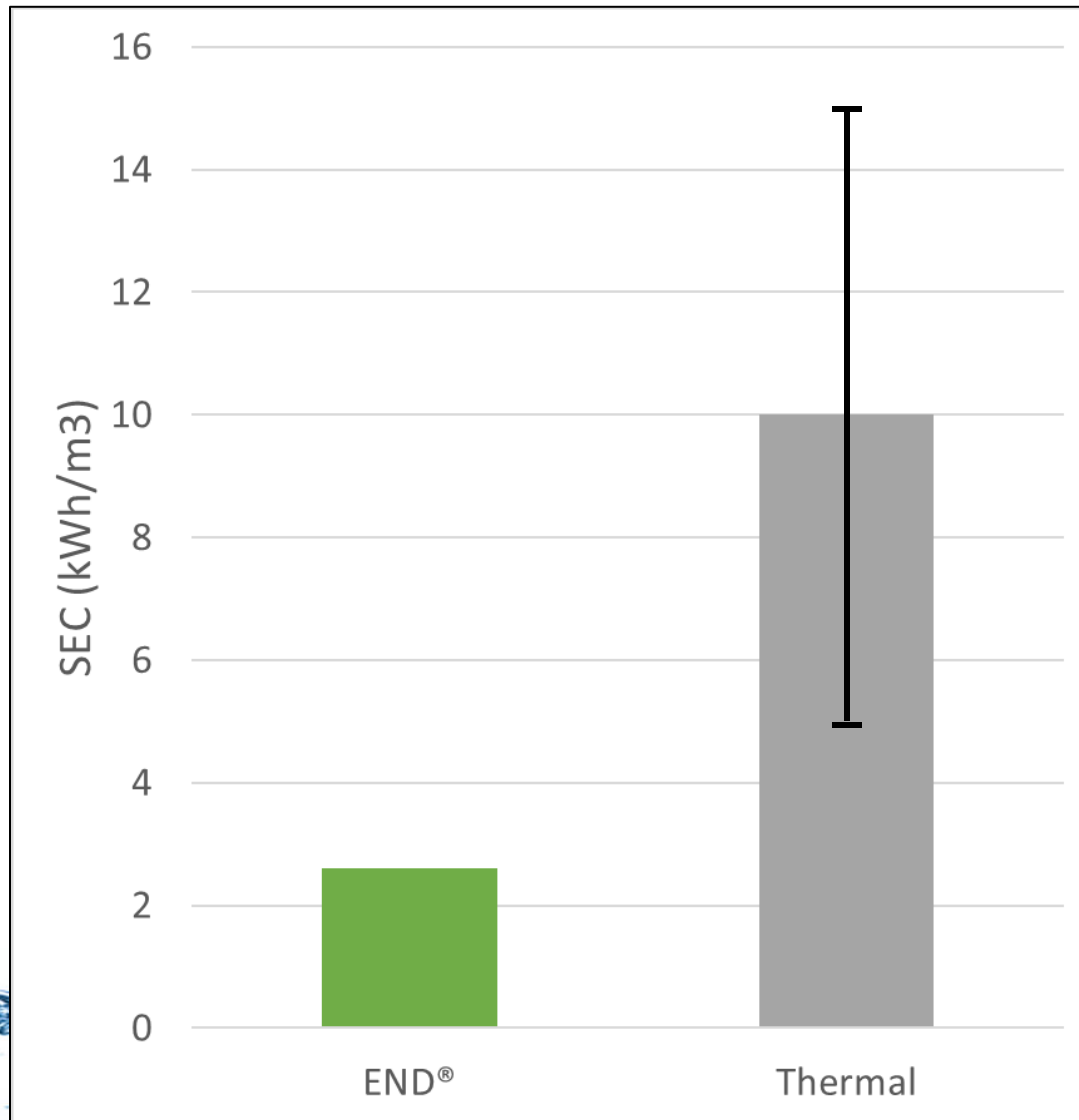


Test Parameters:

- Initial TDS: 1,500 ppm
- Final TDS: 500 ppm
- Temp: 20 C
- Recovery*: 70%
- Flow Rate: 100 GPD

*70% recovery used for comparison purposes. Recovery >95% possible with proprietary END[®] process design

END[®] partial desal performance

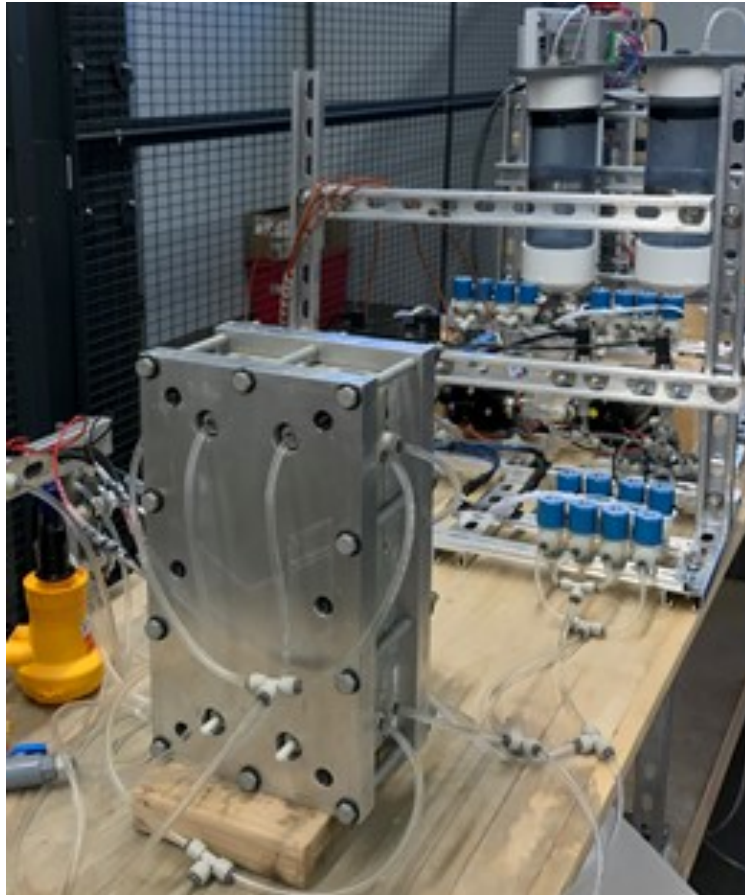


Test Parameters:

- Initial TDS: 70,000 ppm
- Final TDS: 40,000 ppm
- Temp: 20 C
- Recovery*: 50%
- Flow Rate: 100 GPD

*Optimization expected to increase recovery (>70%) and decrease energy (<2 kWh/m³)

END[®] Key Benefits



- Low energy consumption
- High recovery
- Low scaling potential
- Control of ionic species
- Dynamic feed control



Contact Us



- Working closely with clients to determine needs and wants
- Actively testing client water
- Targeting 1-10 gpm pilot in 2017

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Ideal Customer Attributes

“If these attributes describe a company or application you know, we would appreciate your ideas, contacts, and introductions—Thank you”

- Fresh water challenged geography (think El Paso, Las Vegas, etc.)
- Control of ionic species concentration as important as absolute removal. Some ideas include:
 - Emulsion size & surface charge
 - Phase behavior (liquid, liquid extraction)
 - Reaction kinetics
 - Taste (bread)
 - Preservative (meat and dairy)
 - Color (ham & hotdogs)
 - Surface quality (paints and coatings)
 - Material properties (strength, chemical resistance)
 - Scale & precipitate control
 - Corrosion prevention
- Responsiveness to dynamic feed conditions is important (flow rate and composition changes)
- Excess electrical power available ideally limited to lower voltages (think wind farms, solar, etc.)
- Turndown is important
- A fleet of identical equipment operated remotely across sites is important
- Noise conscience (think resorts)
- Water quality is important-but prefer no chemicals
- Early adopter innovation
- Brand image as an advocate of “green, low impact technology & vendors” is wise investment

A decorative graphic at the bottom of the slide showing a horizontal splash of water with bubbles and droplets, rendered in shades of blue.

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