

# Driving Industrial Sustainability

## Delivering Value in Fluid-Flow Processes

Energy Recovery Investor Presentation – March 2021

## FORWARD LOOKING STATEMENT

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# ENERGY RECOVERY SNAPSHOT



We design and manufacture solutions that accelerate the environmental sustainability of our customers' operations.



Our solutions increase efficiency and lower lifecycle cost by reducing waste and energy consumption in industrial fluid-flow systems.



Our flagship PX<sup>®</sup> Pressure Exchanger<sup>®</sup> (PX) energy recovery device (ERD) revolutionized seawater reverse osmosis desalination (SWRO), reducing energy costs by up to 60%.<sup>1</sup> The PX is now the industry standard for energy recovery.



We continue to push the boundaries of our core technology, the pressure exchanger, to handle different operating environments of industrial or commercial applications.

## Financial Snapshot<sup>2</sup>

### Product Rev Growth

<b>Avg. Growth '15 - '20</b>	21%
<b>2020</b>	27%
<b>2021 (estimated)</b>	up to 10%
<b>2022 (estimated)</b>	up to 25%
<b>2020 Gross Margin</b>	69%
<b>Cash &amp; Securities</b>	\$115M
<b>Debt</b>	--

<sup>1</sup>Energy Recovery estimate; <sup>2</sup>Growth and Gross Margin from Product Revenue only

## WE HAVE A GROWING ESG STORY

**\$2.0B** saved for customers on energy expenses annually<sup>1</sup>

**25k+** PXs installed worldwide

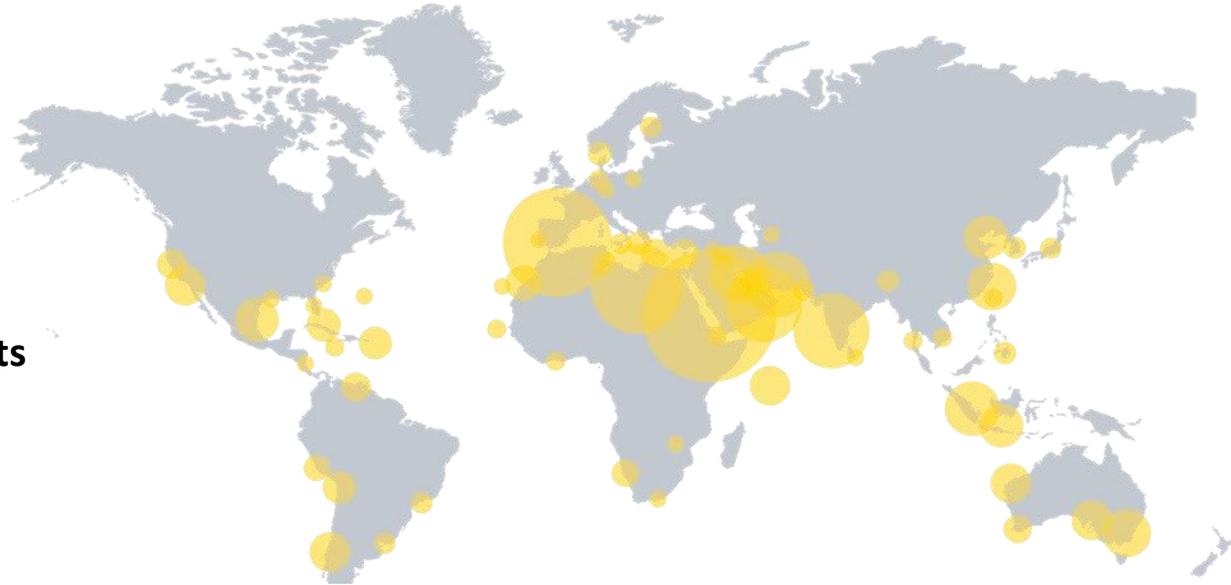
**90%+** product revenue from energy-efficiency related products

**12.4M** metric tons emissions avoided due to PXs = >2.5M vehicles removed from the road annually<sup>1</sup>

**96%** PXs use components made from recycled materials

**100%** Of waste metal from our operations is recycled

### Global Installations of Energy Recovery Desalination Products



<sup>1</sup>Energy Recovery estimates. Assumes all deployed devices are in operation



## MSCI ESG RATINGS



CCC	B	BB	BBB	A	AA	AAA
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- First Environmental, Social, Governance (ESG) report issued Sept 2020
  - Aligned with SASB and GRI sustainability reporting frameworks; select United Nations Sustainable Development Goals
- Our products address climate change, sustainable industrialization, energy efficiency, water scarcity
- Reflects our ongoing commitment to becoming a more sustainable, resilient business

To download the full report, please visit

[bit.ly/ERI-ESG](https://bit.ly/ERI-ESG)

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## INDUSTRIES SERVED

Commercial products across multiple sectors

Industry	Markets	Customer Type	Key Benefits Provided
	<ul style="list-style-type: none"><li>○ Seawater Desalination</li><li>○ Brackish Water Desalination</li></ul>	<ul style="list-style-type: none"><li>○ International EPC Firms</li><li>○ Desalination OEMs</li><li>○ Plant Owners and/or Operators</li></ul>	<ul style="list-style-type: none"><li>○ Less Energy Consumption</li><li>○ Lower Emissions</li><li>○ Reduced Costs</li></ul>
	<ul style="list-style-type: none"><li>○ Industrial Wastewater Treatment</li></ul>	<ul style="list-style-type: none"><li>○ International EPC Firms</li><li>○ Industrial Plant Owners and/or Operators</li></ul>	<ul style="list-style-type: none"><li>○ Less Energy Consumption</li><li>○ Lower Emissions</li><li>○ Reduced Costs</li></ul>
	<ul style="list-style-type: none"><li>○ Natural Gas Processing</li></ul>	<ul style="list-style-type: none"><li>○ EPC Firms</li><li>○ Plant Owners and/or Operators</li></ul>	<ul style="list-style-type: none"><li>○ Less Energy Consumption</li><li>○ Lower Emissions</li><li>○ Reduced Costs</li></ul>

# COMMERCIALLY AVAILABLE PRODUCT CATEGORIES

## Desalination

### Energy Recovery Devices



*PX® Pressure Exchanger®*



*Turbocharger*

### Pumps



*AquaBold™*



*ATMP*

## Industrial Wastewater Treatment

### Energy Recovery Device



*Ultra PX™*

## Natural Gas Processing

### Energy Recovery Device



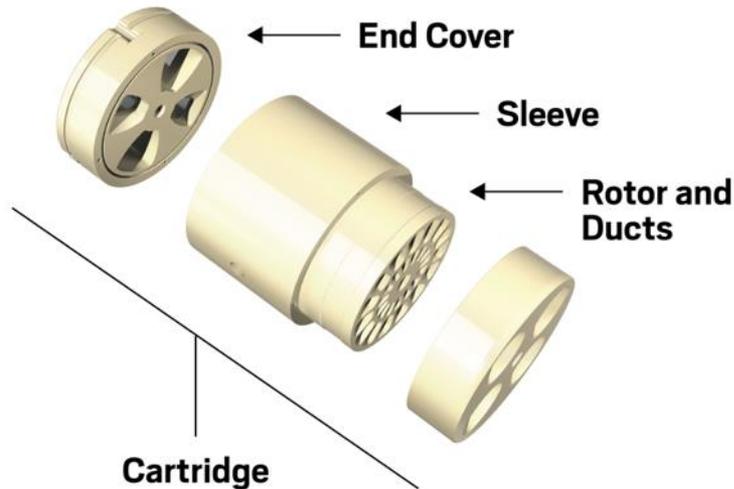
*IsoBoost*

Please visit [EnergyRecovery.com](http://EnergyRecovery.com) for complete product information

# PRESSURE EXCHANGER TECHNOLOGY PLATFORM

## Anatomy of a Pressure Exchanger

Transfers energy from high-pressure to low-pressure fluids (both liquids and gas) through continuously rotating ducts with only one moving part (the rotor)



- Our pressure exchanger technology works as a platform to build product applications
- The technology is versatile – can handle liquid, gas, range of pressures
- Benefits include lower lifecycle cost and energy use in industrial fluid-flow systems
- Pressure exchanger technology is at the heart of many of our products

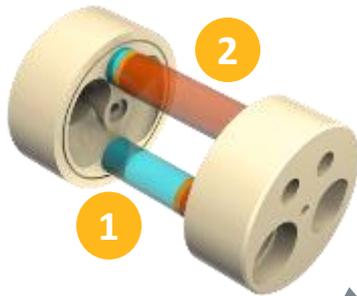
## Pressure Exchanger Technology Operating Range



# HOW PRESSURE EXCHANGER TECHNOLOGY REDUCES ENERGY CONSUMPTION

## Sealed Phase

Two fluids on opposite sides of PX; rotor duct is sealed, isolating high, low pressure fluid streams



1. Low pressure driven fluid that will be pressurized and sent into system
2. High pressure motive fluid that will pressurize low pressure fluid

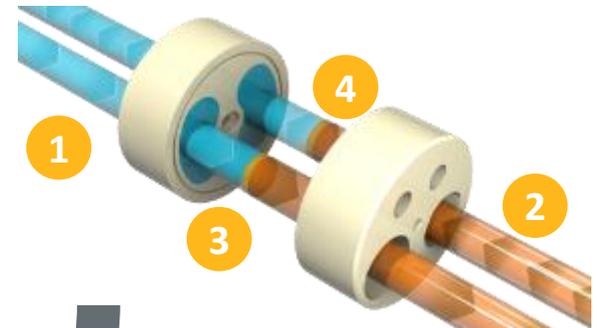
Rotor duct rotates to pressure exchange phase



Rotor duct rotates to sealed phase

## Pressure Exchange Phase

1. Low pressure driven fluid enters the rotor duct
2. High pressure motive fluid enters the rotor duct



3. Low pressure driven fluid contacts motive fluid, expelling it at low pressure
4. High pressure motive fluid contacts driven fluid, expelling it at high pressure

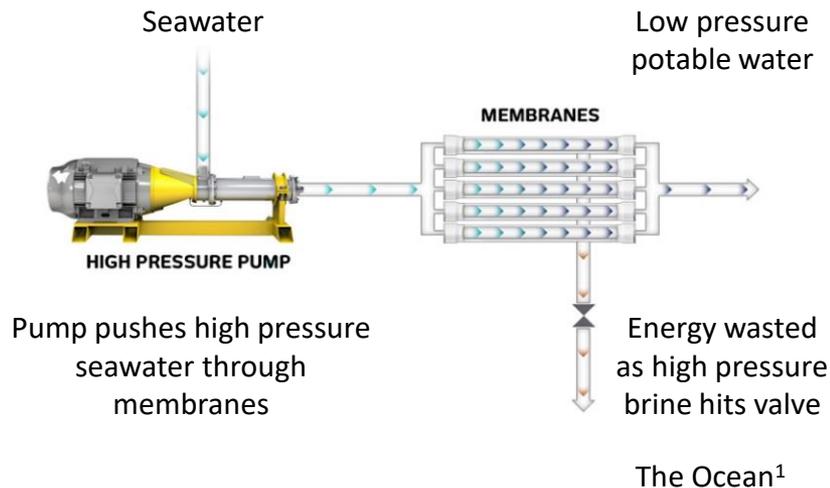
*Pressure is exchanged continuously as the rotor spins at high speed*

# PRESSURE EXCHANGER TECHNOLOGY IN ACTION: PX PRESSURE EXCHANGER FOR SWRO

- Flagship PX device recycles energy, reducing operational costs and emissions in SWRO facilities
- PX plays similar role in other vertical markets - although benefits differ across product applications, energy efficiency is a common theme

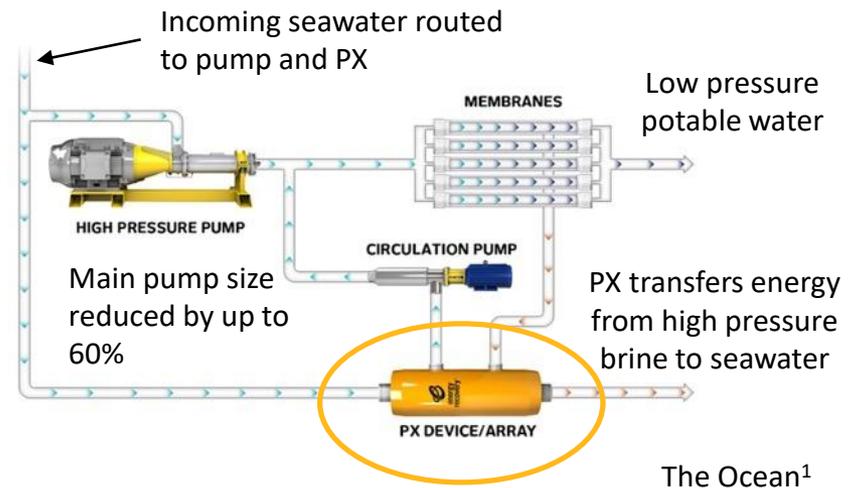
## Without Energy Recovery Devices (ERDs)

Approx. 60% of energy wasted during SWRO prior to implementation of ERDs



## With PX Pressure Exchanger

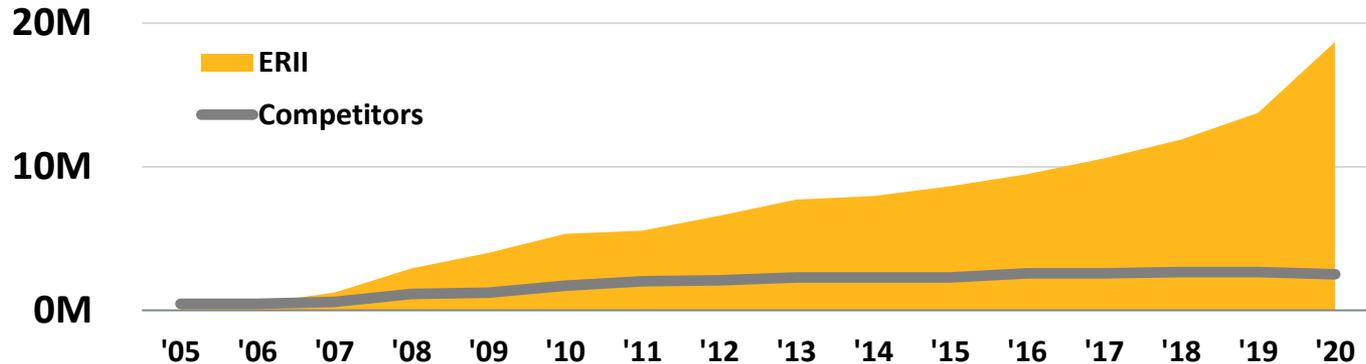
PX lowers energy consumption by up to 60%



<sup>1</sup>Ocean or other geological mass

# OUR PX PLATFORM HAS COME TO DOMINATE LARGE SCALE SWRO DESALINATION

## Cumulative Won Mega Project<sup>1</sup> Desal Capacity (m<sup>3</sup>/day)



## Technology Strength = High Margin

**69%** ERII Gross Margin<sup>2</sup>

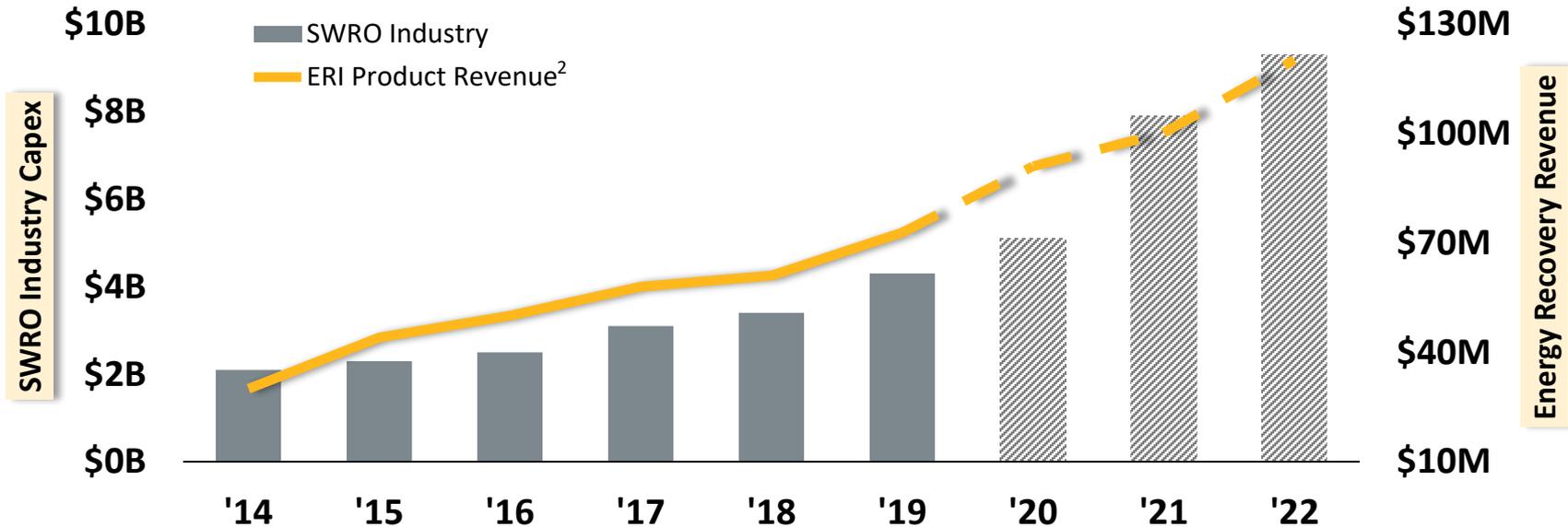
**25%** Russell 2000 Industrials

**Our ceramics PX Pressure Exchanger is designed for a 25-year life, needs no maintenance and has up to 98% efficiency – unrivalled quality that translates into high profitability**

<sup>1</sup> Mega Projects produce 50,000 cubic meters or more of water per day; <sup>2</sup>2020 Reported Gross Margin

# NEW WATER DEMAND AND TECHNOLOGY SHIFT DRIVING SECULAR SHIFT IN SWRO

## Annual SWRO Capital Expenditures<sup>1</sup>



**Our growth roughly tracks overall SWRO desal capital spend**

<sup>1</sup>DesalData Estimates; <sup>2</sup>2020-2022 – ERI Estimates

## FINANCIAL TIMES

No end to crisis in sight as drought grips India's Chennai



Saudi Water Partnership Company has released its Seven-Year Statement for 2020-26

## The Washington Post

Africa's largest dam powers dreams of prosperity in Ethiopia – and fears of hunger in Egypt



Australia prepares for 'Day Zero' – the day the water runs out

## The New York Times

*Flash Drought in the South Brings Record Heat Without Rain*



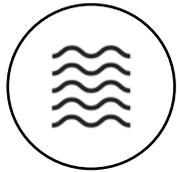
South America ravaged by unprecedented drought and fires



Alaska Villages Run Dry and Residents Worry About a 'Future of No Water'

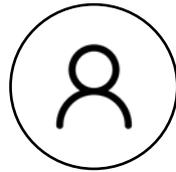
# EXISTING FRESH WATER SUPPLIES WILL LIKELY NOT MEET FUTURE DEMAND

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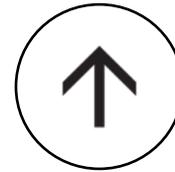
**60%**

The world will only have 60% of the water it needs by 2030



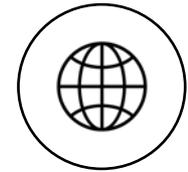
**>2B People**

1/4 of all people live in high water-stress territories



**30%**

Potable water demand expected to increase 30% by 2050



**26%**

Global population is expected to grow from 7.7B to 9.7B in 2050

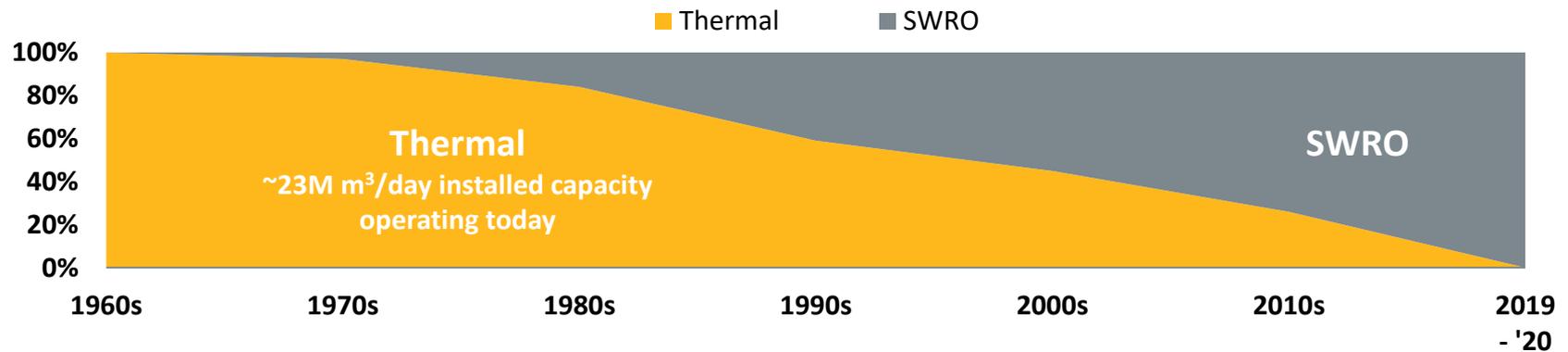
*All statistics – United Nations*

# TECHNOLOGY SHIFT FROM THERMAL TO SWRO: \$0.5B TAM TO MAINTAIN EXISTING CAPACITY

## SWRO Eclipsed Thermal Desalination as Technology of Choice in the 2000s

- Existing thermal capacity should eventually be replaced by SWRO
- We are seeing this demand in our revenue and pipeline today
- SWRO is more efficient, less energy intensive and far more economical
  - \$1B SWRO retrofit of two Saudi thermal plants will generate OPEX savings of \$360M/year<sup>1</sup>

## Thermal vs. SWRO<sup>1</sup> (% of Annual Plant Installations)



**23M cubic meters of thermal capacity equivalent to approximately \$0.5 Billion in PX sales<sup>2</sup>**

<sup>1</sup>DesalData; <sup>2</sup>ERI Estimate

# BUILDING LONG-TERM SUSTAINABLE GROWTH AND VALUE

Revenue Growth	Increase Bottom Line	Sustainability
<b>New Technologies</b> Develop new PX products, widen technical aperture	<b>Leverage Existing Assets</b> Large investments in organization not needed for success	<b>Environmental Sustainability</b> Accelerate the sustainability of customer operations via reduced energy consumption
<b>Diversify Revenue</b> Diversify outside of desalination, de-risking revenue and accelerating growth	<b>Invest in Achievable Projects</b> Realistic commercial timelines, manage complexity and scope	<b>Align Organization</b> Align organizational aspirations with sustainable product aspirations
<b>Protect Position in SWRO</b> Invest in improved products and operations to protect existing strength in swiftly growing desalination market	<b>Discipline</b> Disciplined focus on financial KPIs and marketability of technologies	<b>Shareholder Transparency</b> Open communication with shareholders on progress and plans

# LEVERAGING PX TECHNOLOGY FOR SUSTAINABLE DIVERSIFIED GROWTH BEYOND DESALINATION



## Fluids

- Manage pressure energy between fluid flows
- Relatively clean seawater to caustic pressure pumping proppant; CO<sub>2</sub> gas



## Technology

- PX Platform – focus on reducing energy consumption
- 1,000 - 10,000+ PSI (70 – 700 bar)
- Build off what we know – we are not inventing new markets
- Industrial / Commercial applications
- Maintain first-in-class reliability



## KPIs

### Financial KPIs

- 20%+ ROI
- 50%+ Gross Margin

### 3 Year Timeline

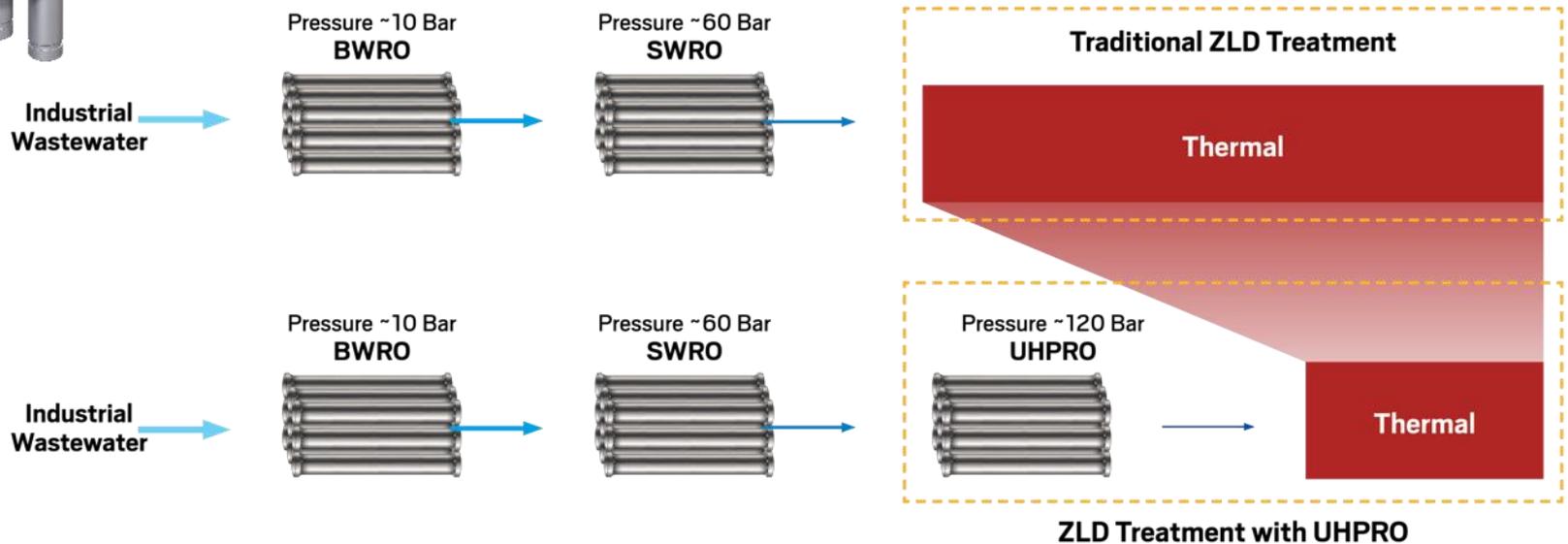
- 1 year: prove technical validity
- 2 years: commercial product
- 3 years: cash flow positive run rate

- **Cap R&D Expense to limit size and scope of R&D projects: 15-20% of revenue in 2021**
- **Discipline: Maintain rigorous commercial hurdles for ROI, Gross Margin, and Timelines**

# ULTRA PX – ENERGY RECOVERY DEVICE FOR INDUSTRIAL WASTEWATER LAUNCHED IN 2020



- Countries are mandating zero liquid discharge (ZLD) to mitigate environmental effects of industrial wastewater discharge
- Ultra High-Pressure RO (UHPRO) could supplant thermal as the prevalent technology due to superior efficiency, much as it has in SWRO
- Our PX can potentially recover up to 60% of wasted energy with 93%+ efficiency in the UHPRO process
- First commercial POs for Ultra PX received for projects in India and China



*Applying UHPRO to ZLD treatment reduces thermal requirements at the end of the process*

## VORTEQ – 2 MAJOR HURDLES REMAIN TO COMMERCIALIZE

### VorTeq seeks to protect pumps from abrasive proppant

- Increase safety of operations
- Reduce emissions, energy intensity of pump operations
- Decrease pump failures
- Lower maintenance, capital costs

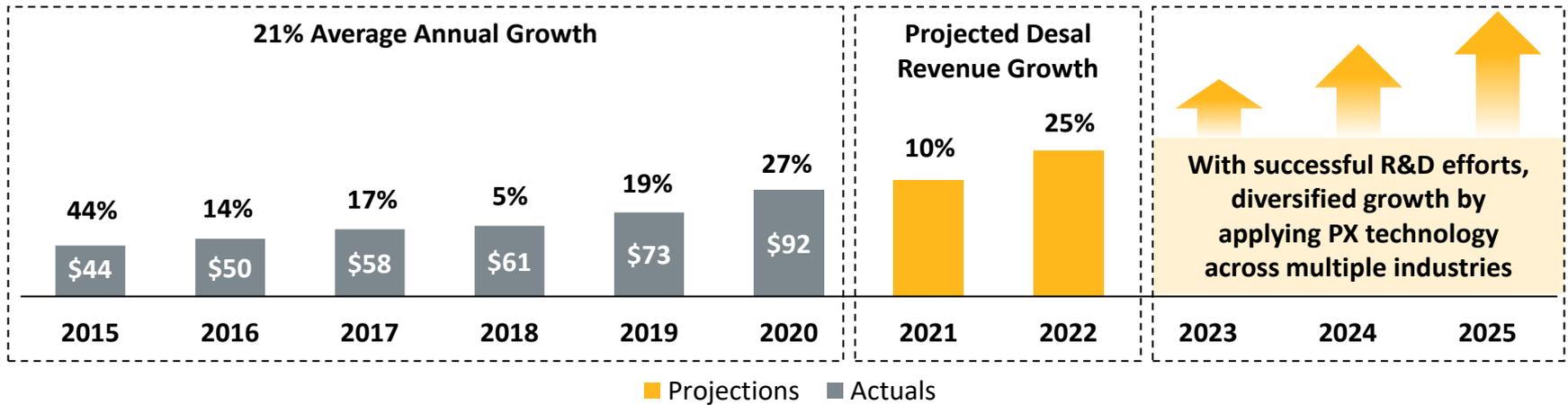
### Status of Commercialization

- Completed multiple frac stages at live wells in Q1
- Two critical hurdles remain
  - Validate customer value proposition
  - Optimize cartridge life before repairs or replacement
    - ✓ Highest operational cost to ERI
- Must make decision to commercialize by June 2021, or cease investing
- Spend has decreased roughly 50% since mid 2020 as engineering efforts wind down

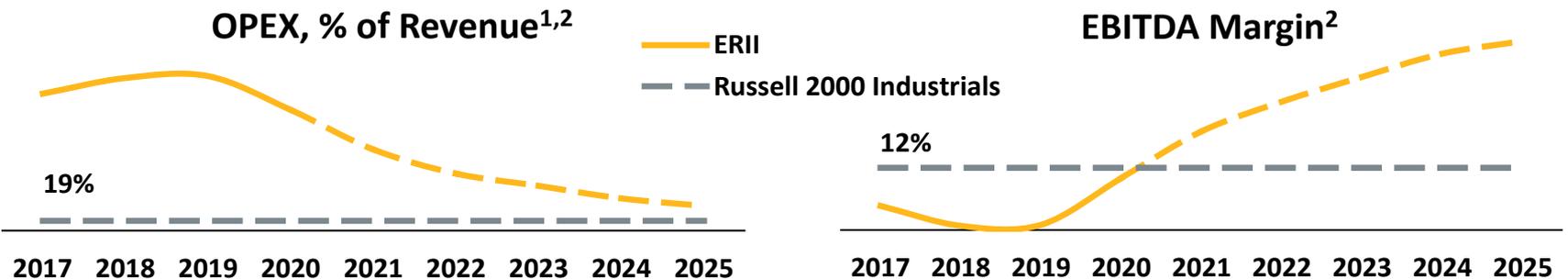


# DISCIPLINED FOCUS DRIVING TOP AND BOTTOM-LINE GROWTH

## Drive Diversified PX Top Line Growth<sup>1</sup>



## Maintain Gross Margin and Manage OPEX to Drive EBITDA



<sup>1</sup>2020 – 2025 are estimated projections; <sup>2</sup>Excluding Schlumberger License and Development Revenue

Thank You





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