GLOBAL WATER SUMMIT 2025

Pressure Retarded Osmosis Industrial Scale

Presentation by

Christian Halken

MD & CCO

SaltPower™

ACCELERATING INVESTMENT

12 - 14 May 2025 | Paris, FR

GWI GLOBAL WATER INTELLIGENCE

SaltPower

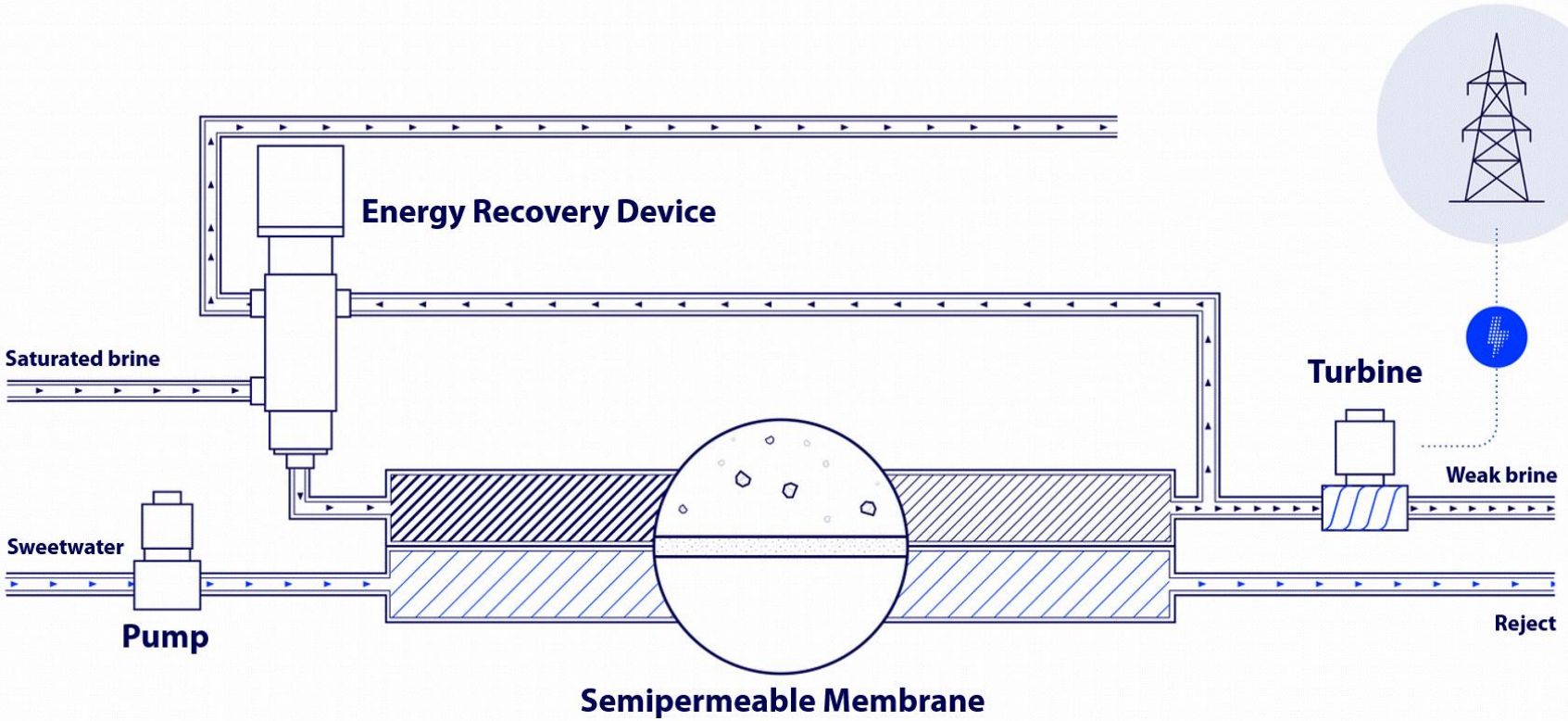
- Located in Sønderborg, Denmark
- Established in 2015
- 100% privately owned

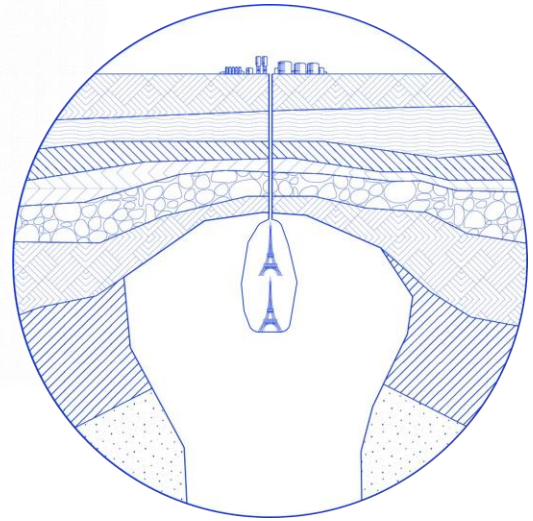
“If others can do it, so can we. If others cannot do it, we still have a chance”

Mads Jørgen Clausen, Founder of Danfoss

SaltPower™

Making Energy from Salt with Pressure Retarded Osmosis

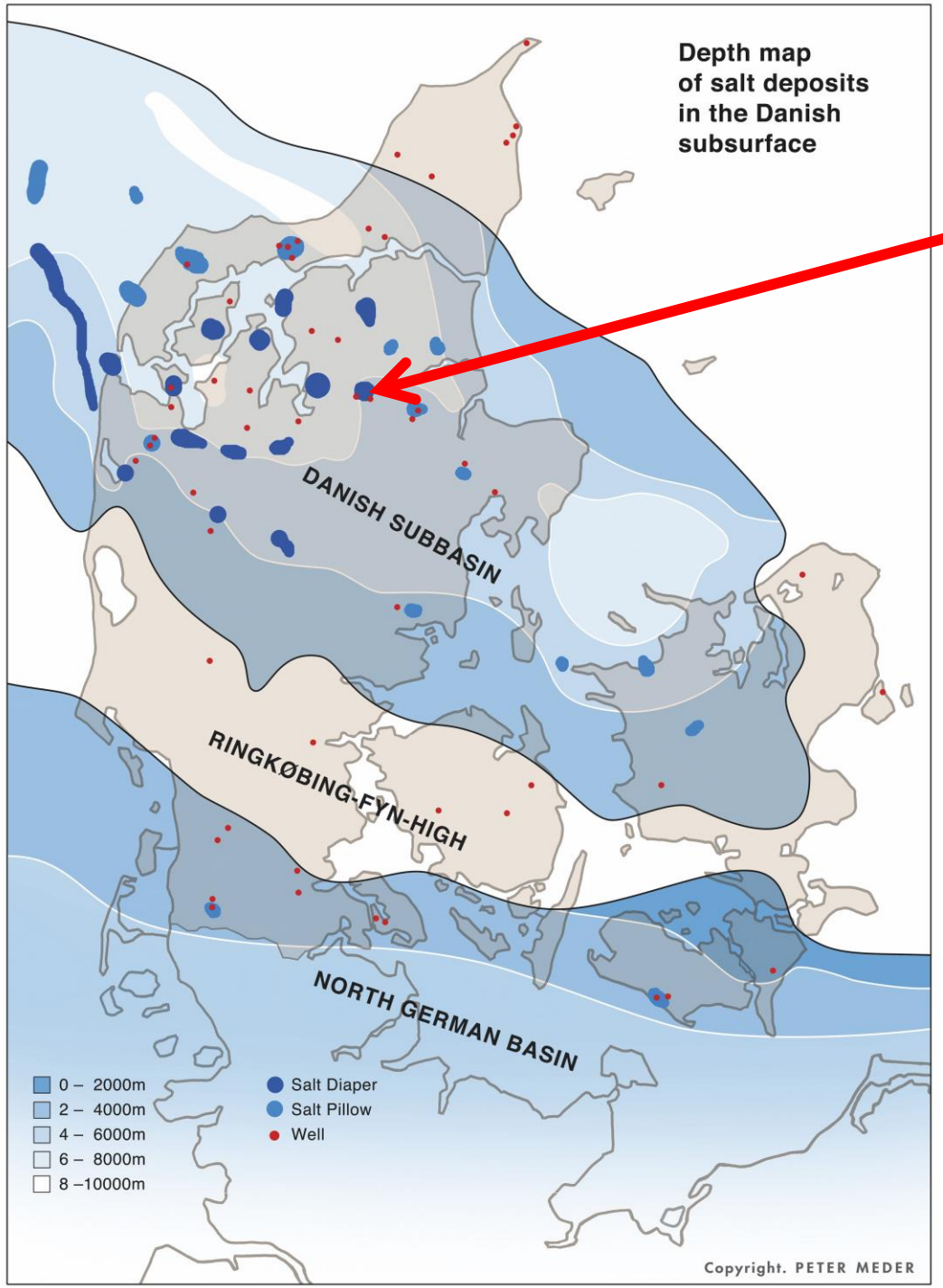




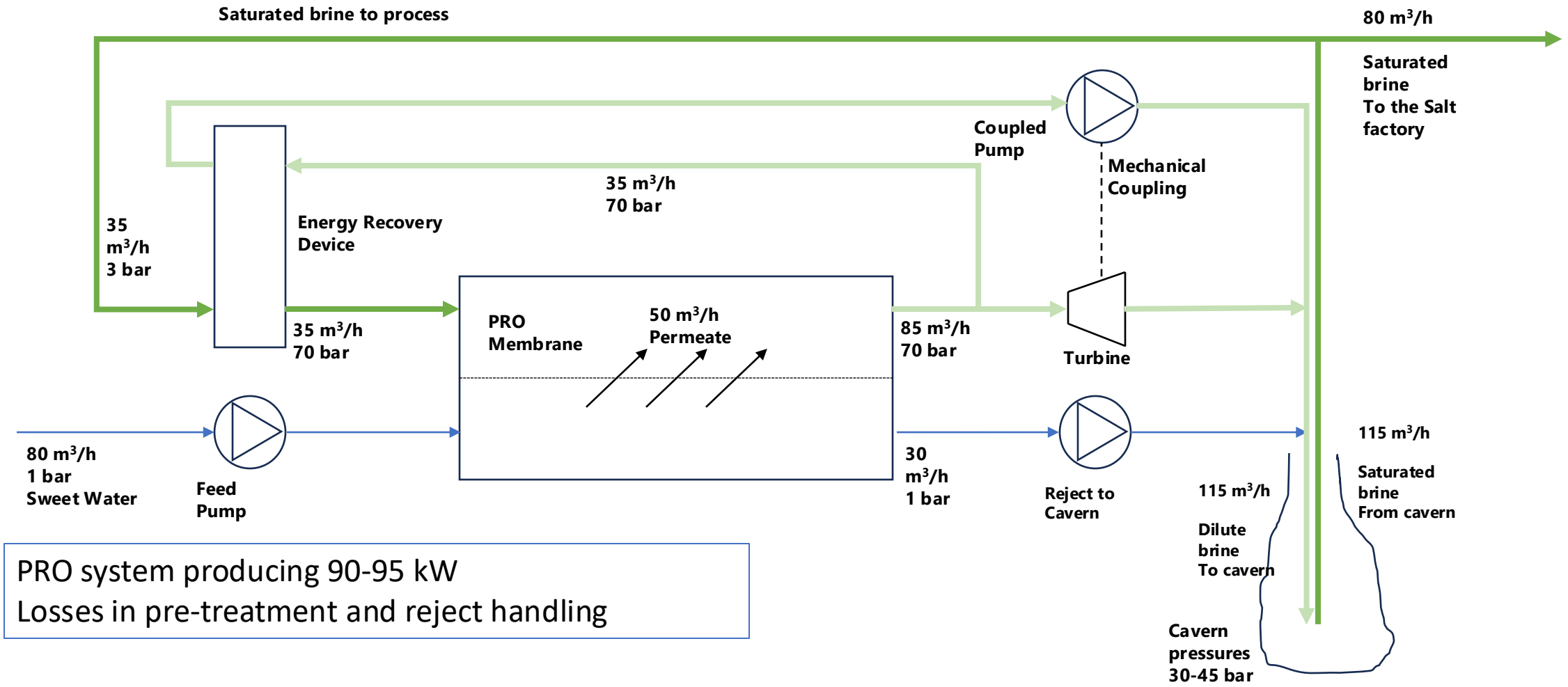
First operating plant at industrial scale

Solution mining at large salt production facility

- Designed to offset pumping energy
- 100 kW design
- Started in Q1 2024
- >1000 hrs operation
- A lot of sweat, tears, learnings and good times



Operating data



PRO system producing 90-95 kW
Losses in pre-treatment and reject handling

Operating Data

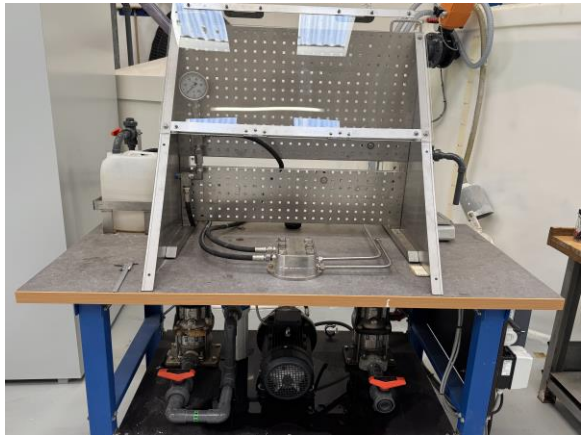
Hollow Fiber Membranes	CTA hollow fiber RO membranes (modified by SaltPower)*
	100 modules**(Ø10 inch times l:1500 mm pressure vessels)
Operating Pressure	70 bar
Flux	1.03 lmh
Total Power Output (PRO)	90 -95 kW
Power Density	2.0 Watts/m2

* Hollow fiber membrane flux is low; we are looking at various flat sheet options for future plants to improve the energy output and overall performance

** 45000 m2 active membrane area

Most Advanced PRO Test Facility

Finding and testing commercial membranes



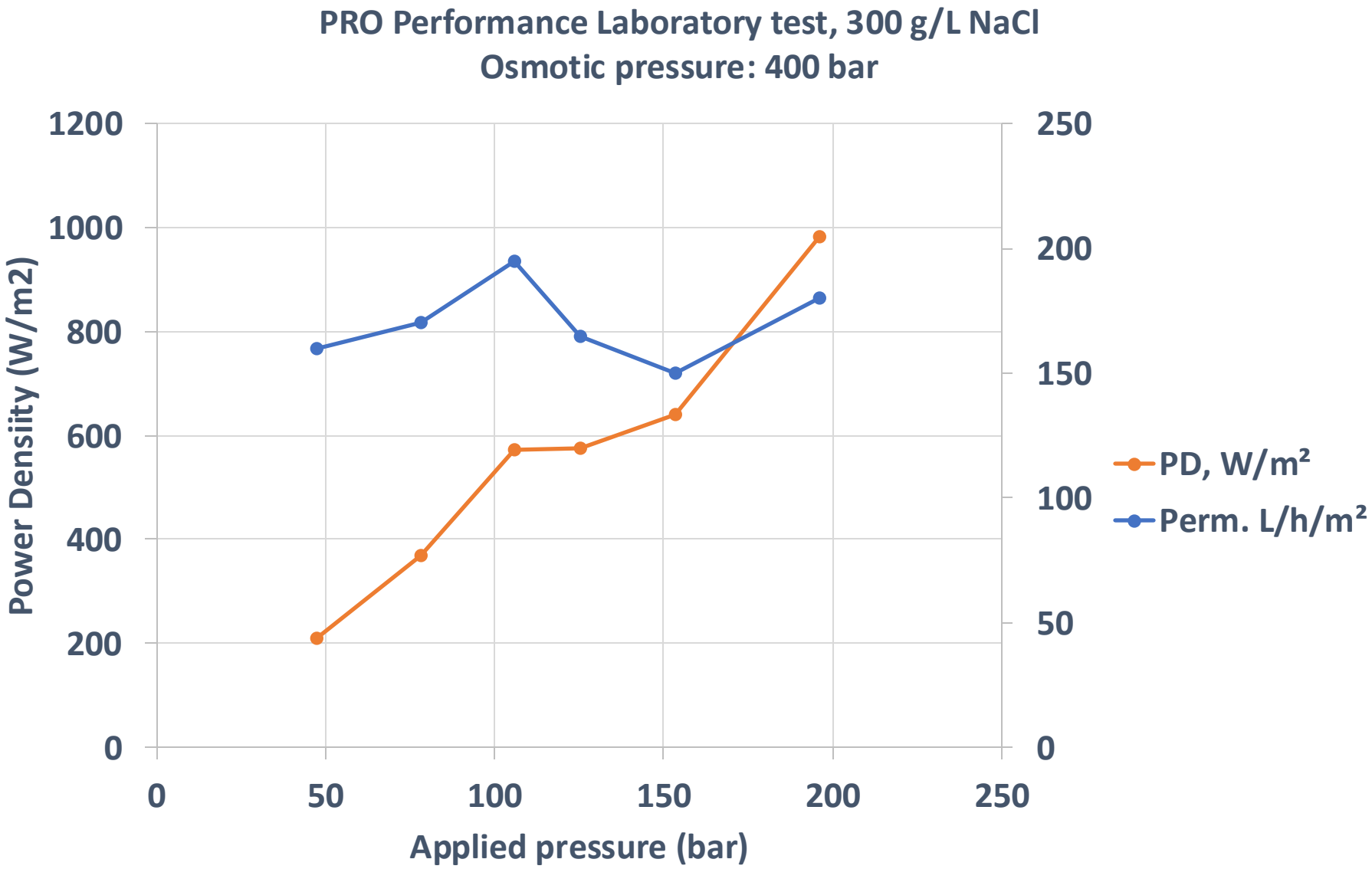
Simple test cell
6 l/min & 70 bar

Industrial scale module test rig.
3 m3/hr, 80 bars 24/7

Advanced test lab. 15 l/min, 200 bar & 24 hrs

Possible test in Industrial Scale

First commercial RO membrane tested



Questions?

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