



The Barrel

The next generation of desalination plants

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ORGANIZING PARTNERS



EXECUTED BY



TECHNICAL ADVISOR



6-8 March 2022 • Hilton Riyadh Hotel & Residences

SIDEM  **VEOLIA**, resourcing the world

**#weare
RESOURCERS**

Renewing water resources with
DESAL & REUSE

Renewing water technologies with
INNOVATION

Sidem, always at the forefront of innovation



Rabigh 3 - KSA
600 000 m³/d

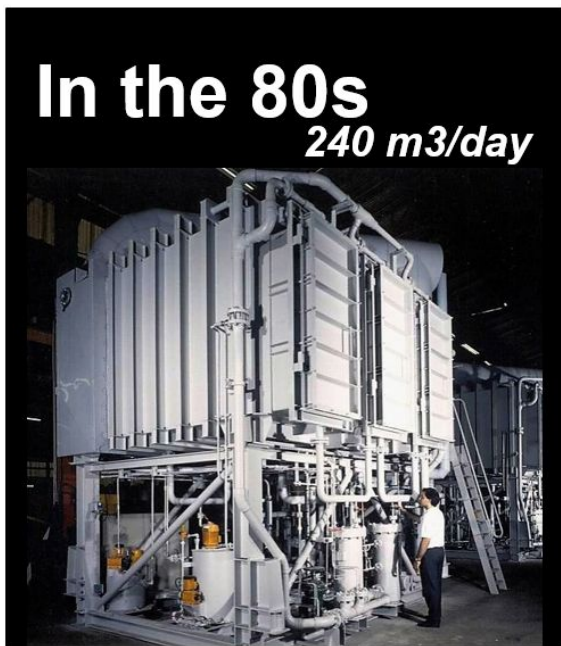


Al Dur 2 - Bahrain
227 000 m³/d



Umm Al Quwain - UAE
682 000 m³/d

MED technology development



RO core technology development

In the 90's



Today



Our proposal.. The barrel

Safe

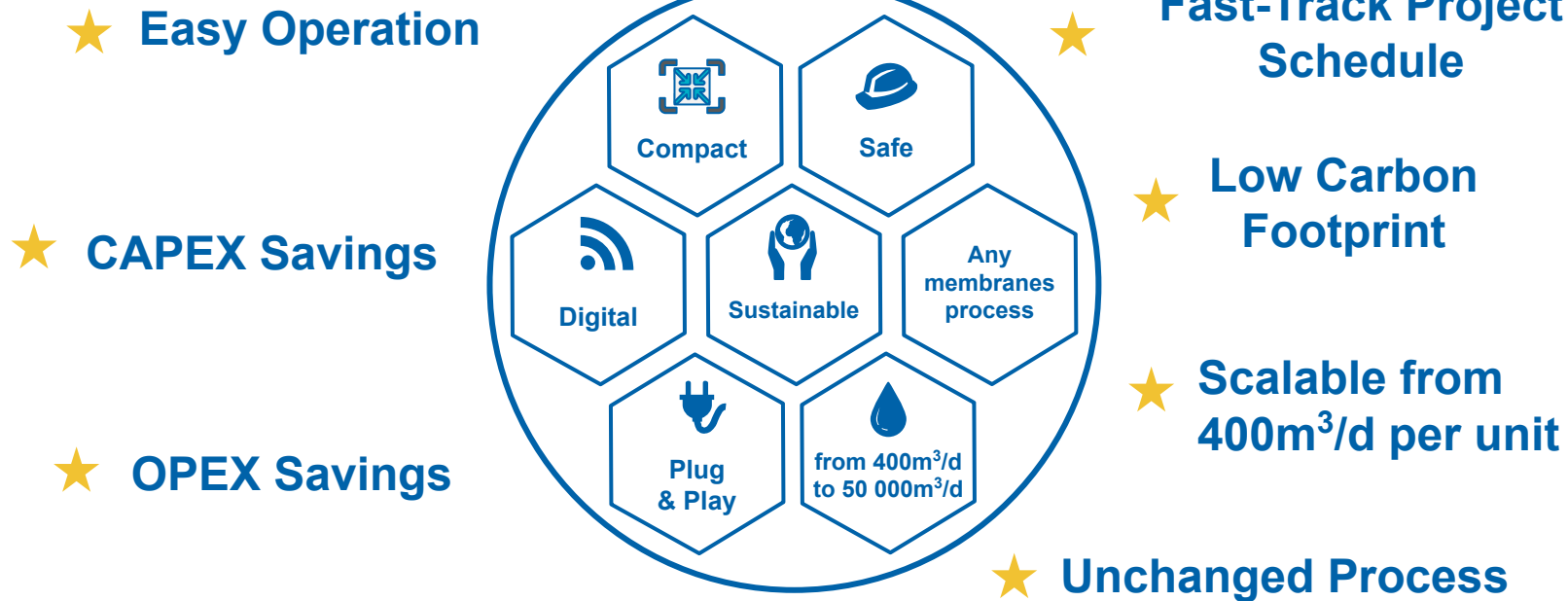
Digital



Patented

Compact

Benefits of the Barrel



SAFE



Only 2
High-Pressure
connections
vs thousands of PVs
connections

A safer
working
environment
always safe

Significant
reduction in
pressurised
connection

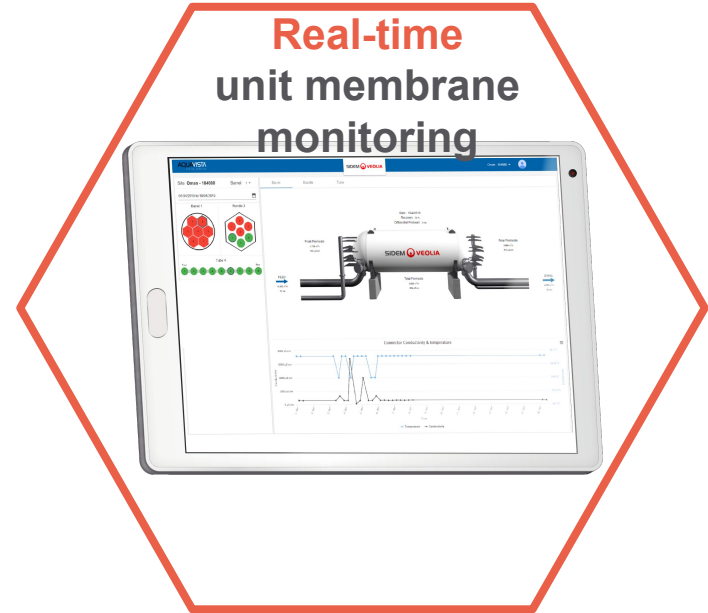


Flange
connection
vs couplings

DIGITAL



Complete
mapping of
membranes



DIGITAL

The Smart Connectors... *what does the membrane say?*

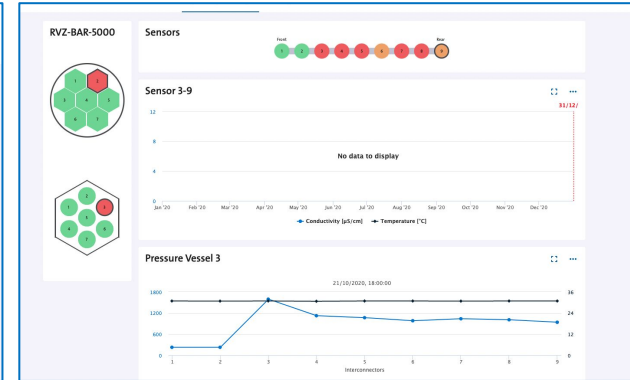
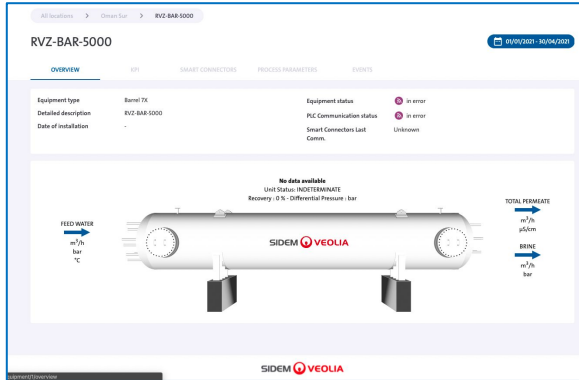
- Inside the permeate tubes, next to standard interconnectors.
- Real time conductivity and temperature monitoring
- One sensor per membrane
- Passive sensors - no battery installed
- Wireless communication



DIGITAL => Opex savings

Hubgrade
développé par VEOLIA

Connected to Hubgrade, a full digital world

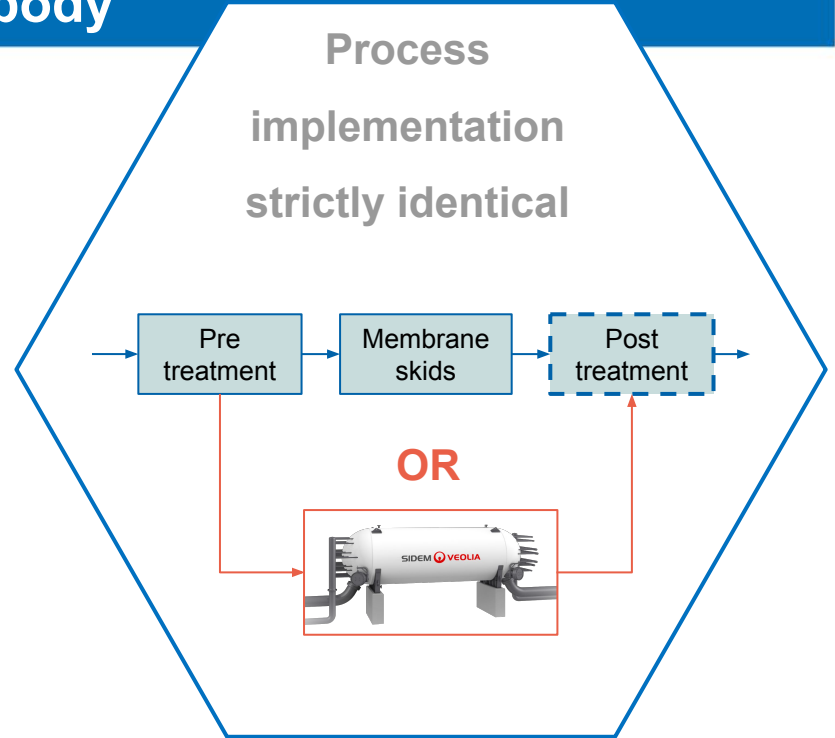
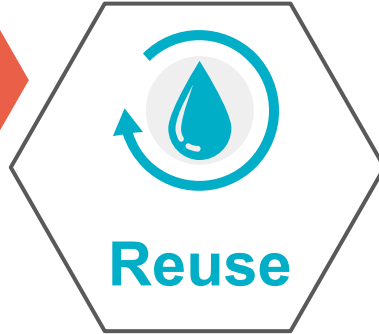


No intervention on the pressure vessels = **Totally Safe** analysis.

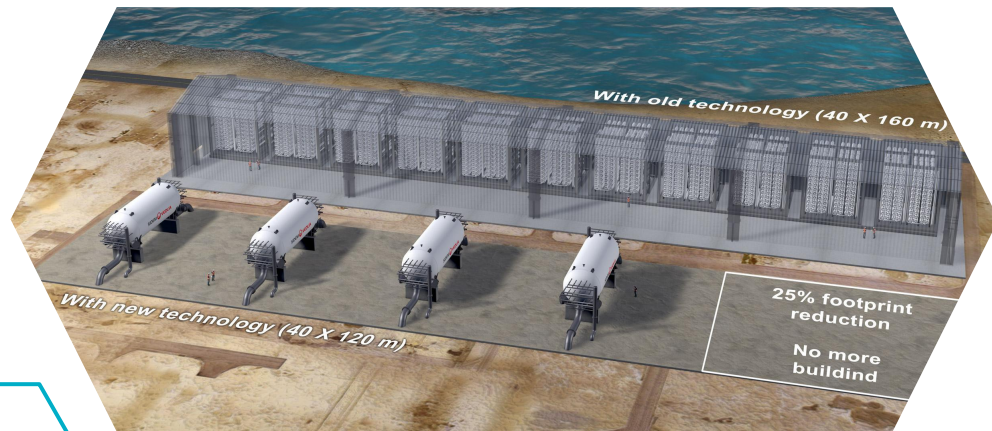
Individual **C** and **T** monitoring & **Alarms** for abnormal situation.

Ease of analysis: Internal leaks and defective gaskets identification.

The same process, in a different body



COMPACT



PLUG & PLAY, FAST TRACK



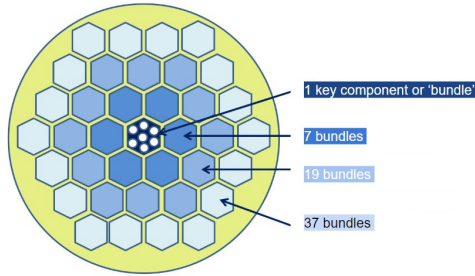
Suitable for plants capacity expansion, multi-phases projects

PLUG & PLAY, FAST TRACK

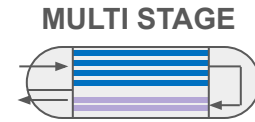
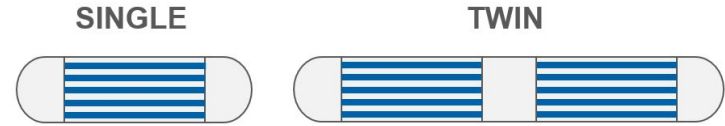


er plants capacity
ulti-phases projects

SCALABLE

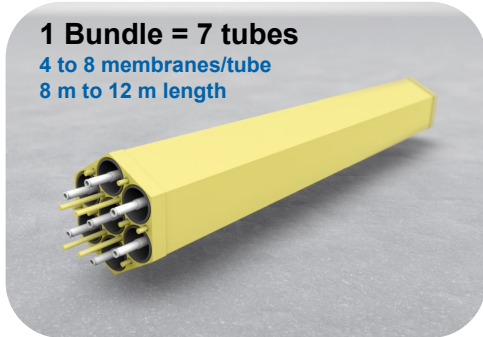


Scalable design
from 500 to 50,000m³/d

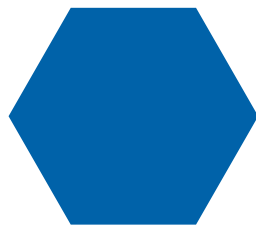


Versatile arrangement
Large desal to reuse

1 Bundle = 7 tubes
4 to 8 membranes/tube
8 m to 12 m length



SUSTAINABLE, with REDUCED CARBON FOOTPRINT

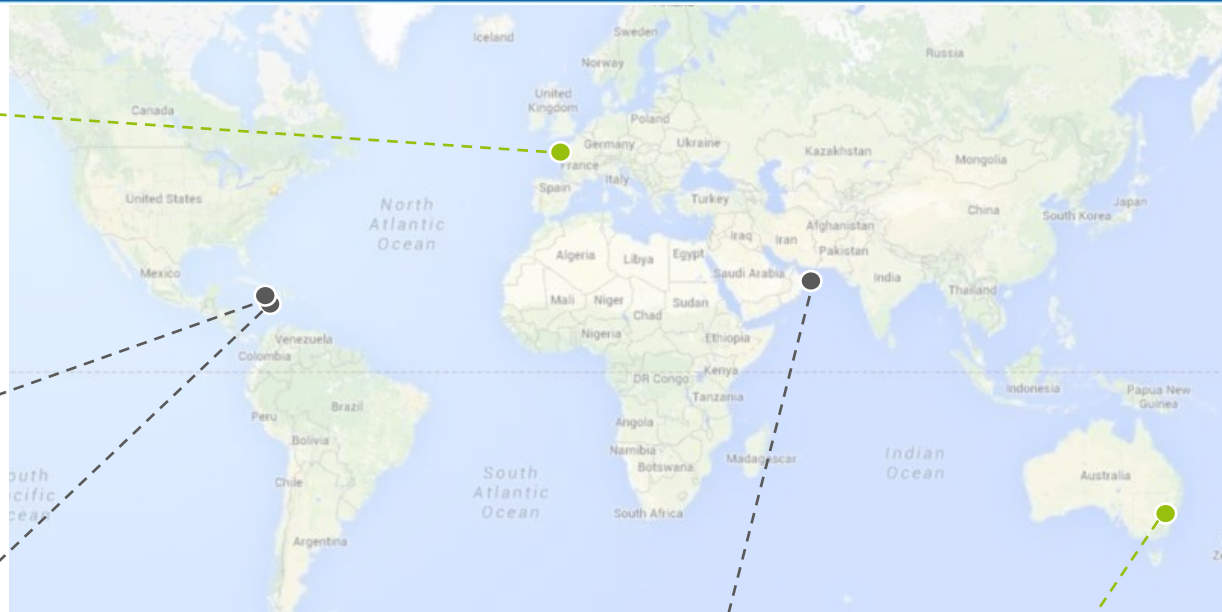


REFERENCES

Jourdain - France
Re-use
2022

Saint Barthelemy
SWRO
2020

Saint Martin
SWRO
2017



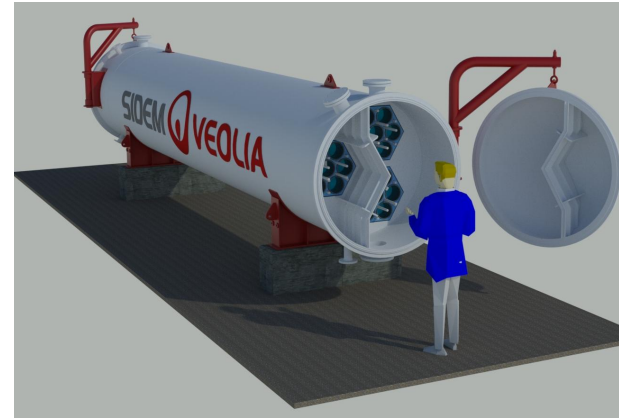
Sur - Oman
SWRO
2019

Sydney - Australia
Re-use
2022

Reuse references



Australia - Reuse application
BARREL™ B1 - 1 x 600 m³/d unit



France - Reuse application
BARREL™ B3 - 1 x 3 600 m³/d unit

SWRO references



St Martin - SWRO
BARREL™ B1 - 1 x 800 m³/d unit



St Barthelemy - SWRO
BARREL™ B1 - 1 x 800 m³/d unit



Oman, Sur - SWRO
BARREL™ B7 - 1 x 5 000 m³/d

Under the Patronage of **HRH Prince Faisal bin Bandar bin Abdulaziz**
Governor of Riyadh Region

وزارة البيئة والمياه والزراعة
Ministry of Environment Water & Agriculture



رؤية
2030
المتجددة
Khashabon or Saudi Arabia

منتدى المياه السعودي
saudi water forum **SWF 2022**
Water Sustainability.. A Responsibility for All

THANK YOU



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شركة المياه الوطنية
National Water Company



شركة السعودية للتقنيات المائية
Saudi Water Technology Company



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General Water Authority



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