INTERNATIONAL INSTITUTE OF MARINE SURVEYING

IN ASSOCIATION WITH CMMI UAE CHAPTER

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The Role of Water in Our Journey to Sustainability

Sponsored by: advanced watertek

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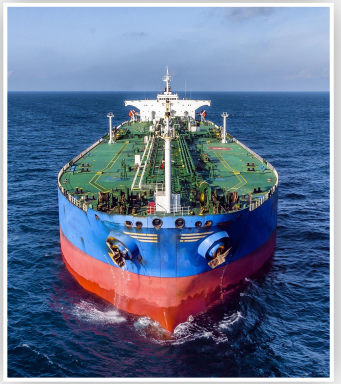
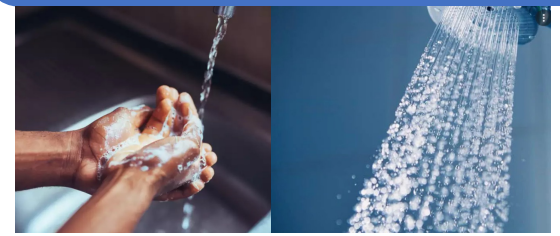
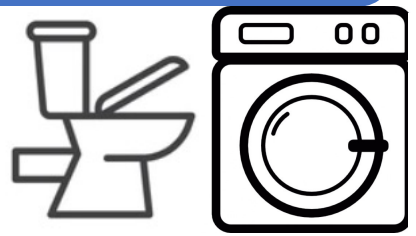
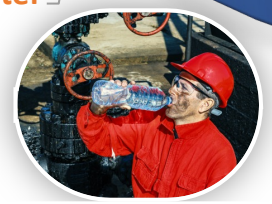


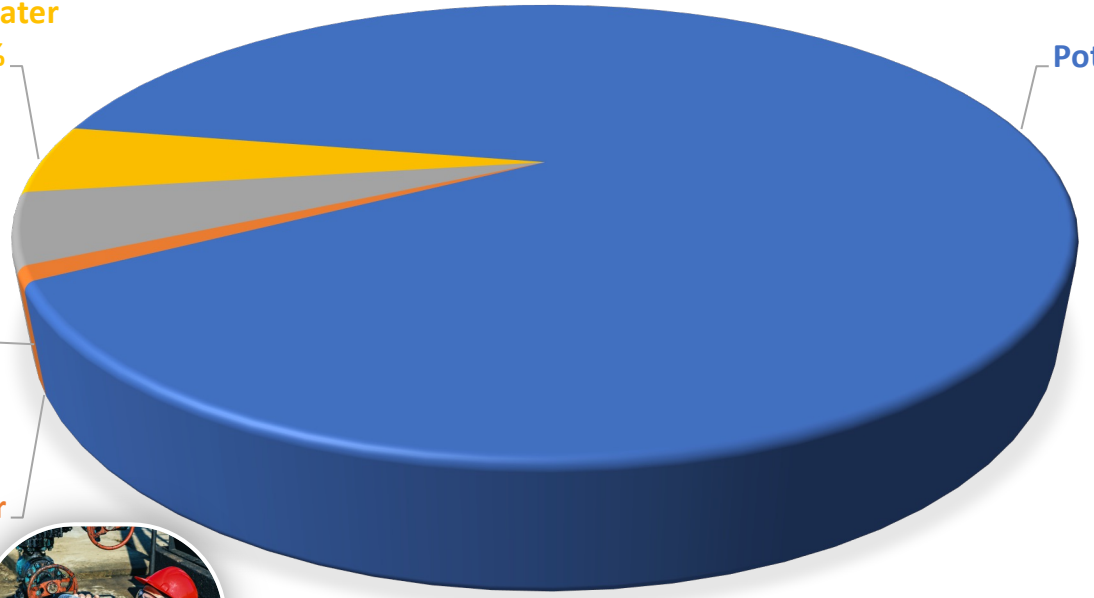
Water – An essential element onboard

WATER SOURCE	APPLICATION	CONSUMERS
-Potable/Bunker Water	-Hand Wash, Shower, Toilet Flushing, Kitchen, Laundry	-POB
-Drinking Water	-Drinking	-POB
-Distilled Water	-Machinery Heat Exchange	-Boilers, Engines
-Sea Water	-Floor Washing, Fire Fighting	-POB, Engine

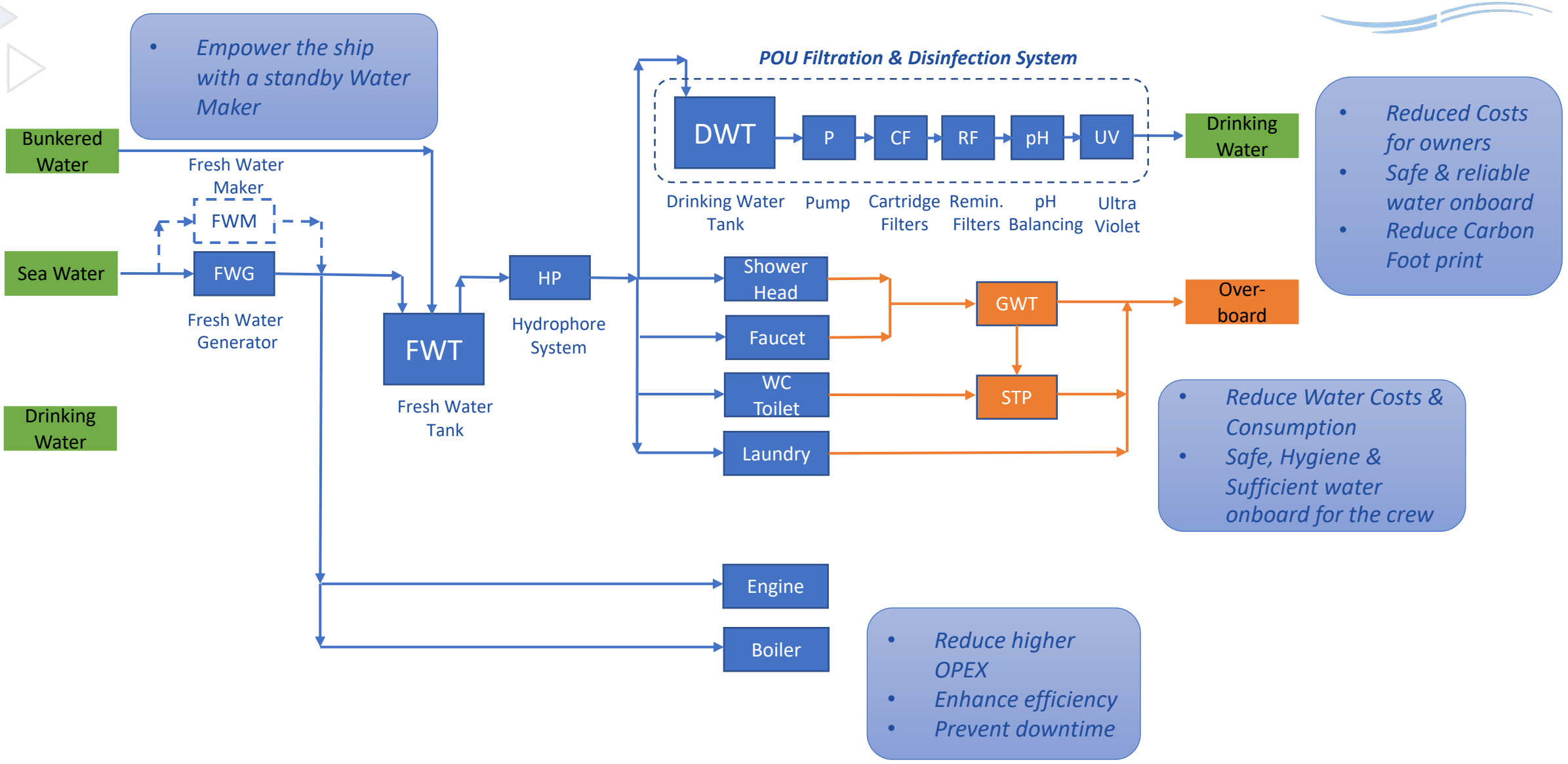

Contribution of Water





Water Source	Application	Consumers
Potable Water	Hand Wash, Shower, Toilet Flushing, Kitchen, Laundry	People On Board
Drinking Water	Drinking	People On Board
Distilled Water	Machinery Cooling	Boilers, Engines
Sea Water	Floor Washing, Fire Fighting	Utilities

Efficiency of Water-dependent packages



FW Generator Vs FW Maker

Parameters	FW Generator	FW Maker
Technology	Vacuum Distillation	Reverse Osmosis
Capacity	7-25T	25T
Pressure	6 bar	60 bar
Temperature	55-90 Deg C	25-38 Deg C
Foot Print & Weight	(L)1,692 x (W)882 x (H)1,395mm | 833kg	(L)1,412 x (W)650 x (H)1,985mm | 400kg
Power	To run SW pump, distillate pump, Ejector, Salinometer, Dosing, Control Panel	12kWh
Operates on	Waste heat + Power	Power
Operating Cost per ton	---	$4
Quality of water	Distilled (10ppm)	Desalinated & Drinking (50-500ppm)
Quality Compatibility	Boilers & Engines	Boilers, Engines & Drinking

AQUA Blue C80

AWS-840-25T

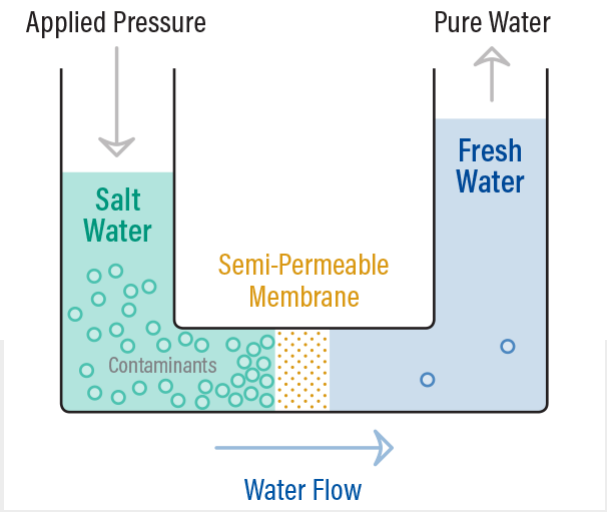
FW Generator Vs FW Maker

Parameters	FW Generator	FW Maker
Cleaning In Place (CIP)	Required	Required
Chemicals	Antiscalant	Antiscalant
Capacity Upgradation	Limited to amount of JCW to evaporator	Flexible with increasing membranes & HPP capacity
Spares	Custom-made	Universal
Suitable	More voyages	Voyages & Anchorages

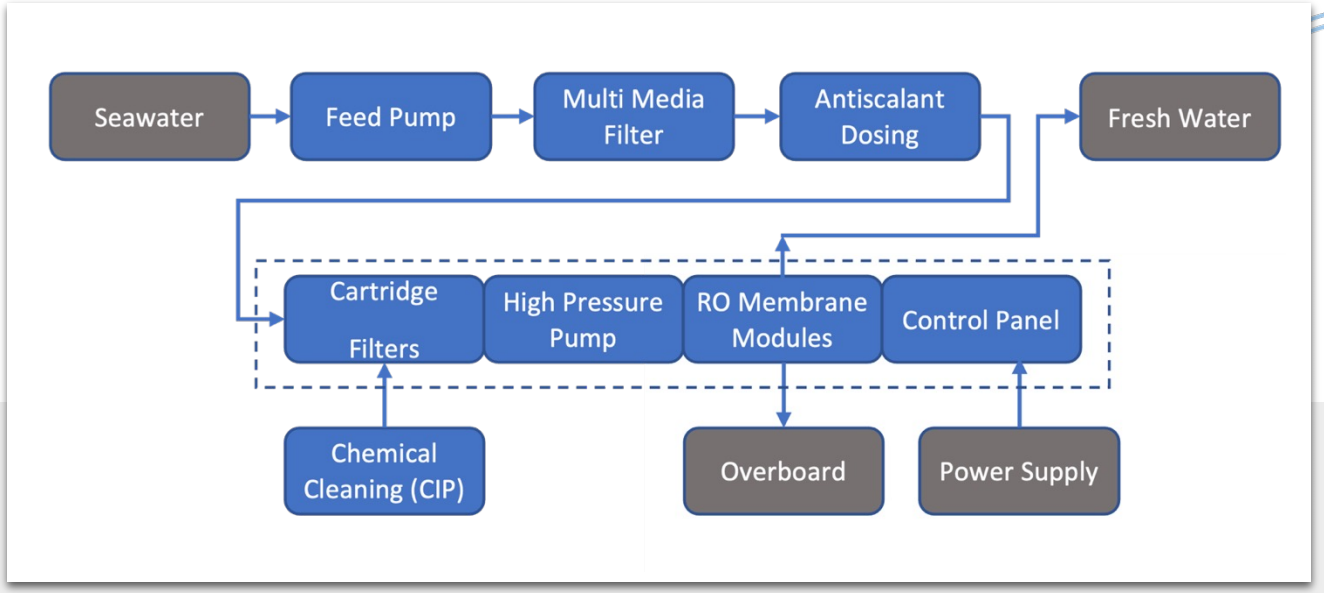
AQUA Blue C80

AWS-840-24T

Desalination via RO



Reverse Osmosis



Process Flow

Feed Pump

Multi-media Filter

Antiscaling Dosing

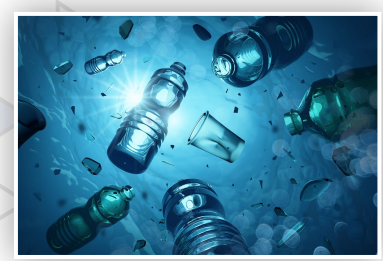
Water Maker

CIP System

Common reservations

- “Can one replace a FWG with a FWM on an existing vessel ?”
- “Can one send muddy water to a FWM ?”
- “Can one upgrade an existing FWM ?”
- “Can one retrofit any other make of FWM with universal spares ?”
- “What are the critical components in FWM & Cost of replacement ?”
- “Can a FWM produce what it commits ?”
- “What is the level of automation employed in a FWM ?”

Adapting to a sustainable Eco-system



"Plastic-free drinking water solutions for a sustainable tomorrow"

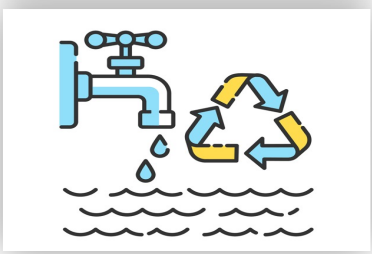
"Eliminate plastic usage, disposal, reduce carbon foot print, empower your crew"

"Envisaging clear water & consistent water availability onboard"

"Secure the ship with safe and reliable water for the crew"

"Longer service intervals for water-dependent packages"

"Reduce downtime, operational costs, enhance efficiency"



"Continuous training for casting a water-savvy crew"

"Reduce water consumption, enhance experience and efficiency"

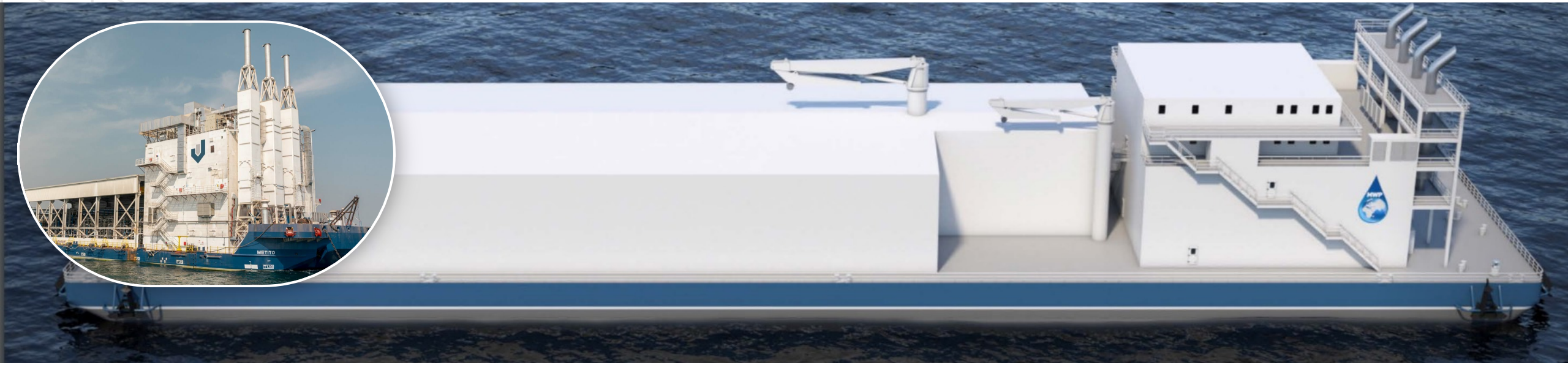
Marine Water Production

Project: ROSI
Vessel Name: FW Production Vessel
RO Capacity: 24,000 m3/d
Vessel Dimensions: 70m(L) x 22m(W)
Operator: Siemens & Lloyd Werft C
Region: International Waters

Project: Aquaculture (Live Fish)
Vessel Name: Aqu Spa
RO Capacity: 2 x 2,500 m3/d
Vessel Dimensions: 84.4m(L) x 16m(W)
Operator: Norwegian
Region: North Sea

Project: Livestock Carrier
Vessel Name: Dareen
RO Capacity: 1 x 300 m3/d
Vessel Dimensions: 140m (L) x 20m (W)
Operator: Reestborg Cia Naviera SA
Region: Middle East

Floating Desalination



Potable Water Production:
100,000m3/day

Water Product Specifications:
150ppm TDS maximum, at SW temperature of 35Deg C & salinity of 45,000ppm

Key features:
-Competitive Cost of Water
-Mobile Water Supply Solution
-Robust Technology in Desalination
-Fast Water Delivery
-No infrastructure investment
-Easy to Operate & Maintain
-Lower impact on near-shore property

General unit specifications
-Intake depth 15m
-Distance from shore 500m
-Water depth 30-100m
-Fuel consumption 1 L/m3
-Power consumption 5.04 kWh/m3

Your Water.. Our Solution

Over

38

years in operation

upto

5,000

M3/day capacity

Clients across

50+

countries

Thanks!

"One of the first Systems installed 30+ years ago is still running efficiently!"