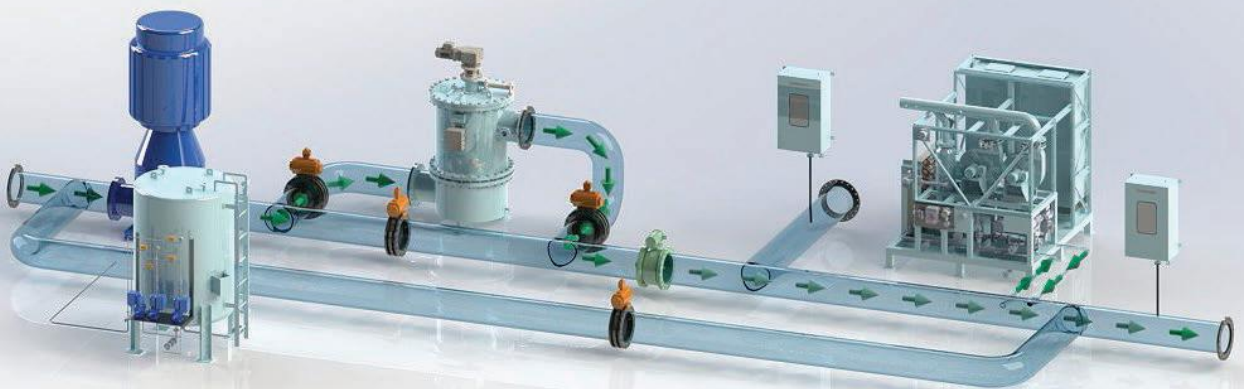




# Ballast Water Treatment System Retrofit



**Who we are**

- S **Schulte Marine Concept (SMC)** is the project focused business within **Bernhard Schulte Shipmanagement (BSM)**, providing a comprehensive range of tailored technical consultancy and project management services as well as value-added solutions for newbuilding, conversion and retrofit projects, and technical support for fleet in service.
- S SMC's expertise in shipbuilding and BSM's experience in shipmanagement provides an integrated 'end-to-end' service from newbuilding through to vessel delivery and full management.
- S Headquartered in Shanghai, China, SMC operates through regional offices in Hong Kong and project-specific site offices spread throughout global key ship building markets.

**Our services**

- S **Ballast Water Treatment System Retrofit**
  - Preselection of BWTS based on predefined procedure and acceptance criteria (proven template)
  - Feasibility study for Owner's preferred BWTS
  - Estimation of BWTS retrofit CAPEX and BWTS OPEX
  - Onboard feasibility survey and photographic scanning
  - Onboard 3D scanning
  - Review of scanned 3D model against actual onboard arrangement
  - Final confirmation on selected BWTS
  - Design development: 3D model ⇒ PID drawings ⇒ classification drawings ⇒ isometric drawings ⇒ Material Take Off list
  - HAZID for fitting the system onboard the vessel (on passage or in dry dock)
  - Class approval for documentation
  - Prefabrication stage
  - Supervision during prefabrication, installation and commissioning

**Our experience**

No.	Treatment Method	Manufacturer	System Name	Vessel Type
1	UV	Alfa-Laval	PureBallast	Container Vessels LEG Carriers
		BIO-UV SAS	BIO-SEA	Offshore Accommodation Vessels
		Hyundai	EcoBallast	Container Vessels
		Hyde Marine	Hyde GUARDIAN	Container Vessels
2	Ultrasound	Brightsky	BSKY	Container Vessels
3	Ozonation	NK	NK-O3 Blue Ballast	Product oil/Chemical Tankers Bulk Carriers
4	Deoxygenation	N.E.I.	NEI VOS	Product oil/Chemical Tankers
5	Electrolisys	Techcross	Electro-Cleen	Product oil/Chemical Tankers
		Headway	OceanGuard	Bulk Carriers LPG Carriers
		Sunriu	BalClor	VLOCs
		Samsung	Purimar	Bulk Carriers

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