

# Marcon International, Inc.

Vessels and Barges for Sale or Charter Worldwide

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November 2023

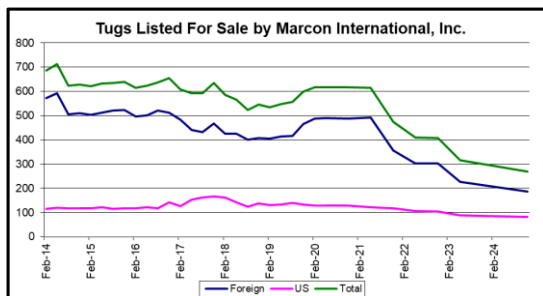
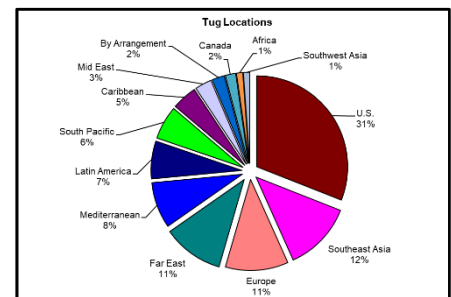
## Tug Market Report

Of the 13,283 vessels and 3,754 barges that Marcon tracked as of November 2023, 5,149 are tugs with 268 officially on the market for sale worldwide, down 140 or 34.31% from one year ago, November 2022, and down 278 or 50.92% from November 2018. 93.90% of U.S. and 39.78% of foreign tugboats for sale are direct from Owners. 28 or 10.45% of the tugs worldwide, primarily foreign flagged, were built within the last 10 years, are newbuilding re-sales or currently under construction – compared to 18.63% one year ago and 33.15% five years ago. 53 (19.78%) are over 50 years of age, with five of those over 75 years old. Five have no age listed. The oldest tugs Marcon currently has listed are two 1943 built U.S. flag tugs based on the U.S. West Coast. These “old ladies” are balanced by three twin screw tug newbuild resales for delivery in the U.S. and Mediterranean in 2023 and 2024.



### Market Overview

The majority of tugs Marcon tracks for sale as of this report are in the US with 83 tugs officially on the market (vs. 102 one year ago), followed by 33 in Southeast Asia (68), 30 in Europe (58), 29 in the Far East (54), 22 in the Mediterranean (35), 18 in Latin America (24), 16 in the South Pacific (15), 12 in the Caribbean (15), 8 in the Mid East (17), 6 where location unstated (9), 5 in Canada (7) and 3 each in Africa (3) and Southwest Asia (1). Where machinery is known, CAT diesels power 73 or 28% of the tugs listed for sale. This is followed by 43 vessels with EMDs, 31 Cummins, 23 Niigata, 19 Yanmar and 9 with GM. 63 tugs are powered by other machinery from Akasaka to Wartsila with one Fairbanks Morse tug on the market.



Five years ago, 33.15% of tugs for sale worldwide, primarily foreign flag, were built within the previous 10 years compared to 10.45% today. Then 12.82% of the tugs on the market were 50+ years old compared to 19.78% today. At that time, Marcon had six tugs older than 75 year, one less than today. The average age of all tugs that Marcon has for sale worldwide today is 33 years, with 1990 average build date, compared to 25 years, 1993 average built, in November 2018. The U.S. had the largest selection of tugs listed in 2018 with 134 available (24.5%), followed by 100 in Southeast Asia (18.3%), 59 in the Mid East (10.8%), 45 in Far East (8.2%), 53 in Europe (9.7%), Mediterranean 56 (10.3%), 45 in Latin America (8.2%), 21 in the Caribbean (3.8%), 10 Africa (1.8%), 9 in the South Pacific (1.6%), 3 Canada (0.5%), 7 where location is unknown (1.3%) and 4 in Southwest Asia (0.7%).

Looking at tugs for sale worldwide, conventional twin screw tugs lead with 186 (69.4%) available, followed by 49 azimuthing (18.3%), 25 single-screw (9.3%), five Voith Schneider tractors (1.9%) and three triple screw (1.1%). This is fairly comparable to five years ago when 13.2% of the 546 tugs for sale were single screw, 60.6% twin screw, 23.3% azimuthing, 1.5% VS tractor and 1.5% triple screw tugs. Bearing in mind that we are focusing on those available for sale, it seems that for the past five years, azimuthing and conventional twin screw tugs have maintained fairly steady positions in the market. Single screw tugs are mostly relegated to nearly zero commercial work, except in certain specific cases. Available for sale units have dropped considerably with many of those being scrapped due to age and condition. It is noted that in November 2023, Sea-Web reported 2,384 tugs worldwide scuttled, broken up or to be broken up world-wide. This is up 9.26% from November 2022's 2,182. Since November 2018, there has been a 60.43% increase in the number of tugs scrapped, with a significant portion of those reported in 2021 and 2022. Scrapping rates are tipping upwards again, but these seem to be units that were not able to find work or are too costly to put back into service. In certain areas of the market, we have seen an increase in demand for tugs and barges, with there being a shortage of units with desired specifications.

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Details believed correct, not guaranteed. Offered subject to availability.

# Marcon International, Inc.

## Tug Boat Market Report – November 2023

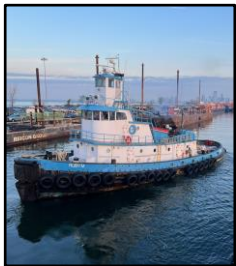
Marcon's database shows 278 fewer tugs officially for sale than five years ago in November 2018 with largest shifts in the lower horsepower categories. There are 37 fewer tugs are today listed in the 1-2,000HP and 5-6,000HP ranges. Average age for the 1-2,000HP tugs increased from 24 to 38 years, while the average age for the 5-6,000HP tugs increased from 17 to 31 years. The 2-3,000HP range lost 56 tugs while their average age increased from 28 to 34 years. The 3-4,000HP range lost 72 tugs while average age increased seven years. The 4-5,000HP range increased by 46 tugs with average age rising from 16 to 28 years. There were minor changes in the higher horsepower ranges as far as number available for sale and average age. In summary, we saw a 50.92% drop in listings with an eight year increase in overall average age.

Marcon closed 30 sales and two charters in 2023. Some of these sales are noted as follows: An 80,000BBL double hull U.S. Flag ocean tank barge, an 11,000HP AHTS, a 145' OSV and a 197' LOA coastal deck barge, one Tier 3 U.S. Flag 2,200BHP tug, one U.S. Flag 2,400BHP twin screw tug, three 7,200BHP INVADER Class tugs, a 1,300BHP twin screw U.S. Flag tug, and a U.S. Flag 3,000HP push boat. Additional sales have occurred on private terms, and Marcon has also recently closed on several sales including an 80,000BBL double hull U.S. Flag tank barge which is currently being towed to South America (tow also arranged via Marcon), and we also just concluded the sales of a 190' LOA 3,900BHP U.S. Flag AHTS, a twin screw 1,800HP U.S. Flag tug, a 3,000BHP single screw U.S. Flag tug and a 40' pilot boat to round out the year.

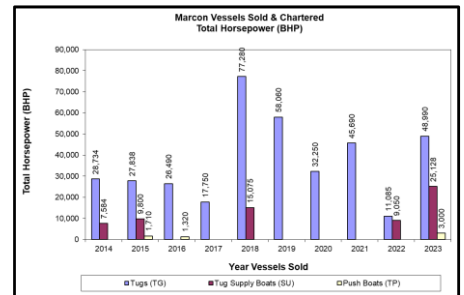
The second-hand tug market in the USA has been very active over the year 2023 with available tonnage that is USCG Certified drying up on the market substantially. Owners are continually upgrading older tonnage with new machinery, and other upgrades as the costs to deliver a newbuilt tug in the USA have gone out of sight, and time delays for delivery are now quite extended. There is very little to offer in the market, especially for Z-peller tugs. However, Marcon can still offer a few working / certified tugs for sale in the US Market, including a 4,400BHP 105' LOA tug with valid certificates, and recently refurbished and ready to trade immediately. Marcon also has for sale a 6,800BHP Z-peller tug which we can offer for sale, in excellent condition with all valid certificates and ready to trade immediately.

### Recent Marcon Tug Sales & Charters

Marcon sold or fixed tows for 12 tugs totaling 48,990BHP amongst 32 sales and charters in 2023, after selling or fixing tows for five tugs totaling 11,085BHP in 2022. Since our first sale in 1983, Marcon sold or chartered 395 tugs totaling 1,296,762BHP out of 1,578 sales and charters total.



Marcon is pleased to report the sale of the 1,700BHP twin screw tug *"Ruby M"* (ex *Texaco Fire Chief*) from Dann Ocean Towing to repeat USVI buyers. Built in 1967 at Jakosen Shipyard in New York, the tug measures 100' x 28' x 13' depth and is powered by twin CAT D398TA engines driving a pair of fixed pitch propellers. Marcon was the sole broker in this transaction. This is the 12<sup>th</sup> tug sold or chartered year-to-date.



In July and October, Marcon completed a charter and two sales of twin screw tugs on a private and confidential basis.

Marcon is pleased to announce the sale of the 4,000BHP *"Brooklyn"* (ex *Brooklyn Service, Peggy Sheridan and Gulf Star*) from Apex Oil to Florida based buyers. Built in 1975 at Halter Marine, the 109' x 31' x 14' depth, the tug is powered by twin EMD 16-645E6 engines and is equipped with a single drum Markey winch. After a period of overhaul, the tug will enter service for the new owners. Marcon was the sole broker when Apex purchased the tug in 2013 as well as now for the sale to new owners.



# Marcon International, Inc.

## Tug Boat Market Report – November 2023

### Featured Tugs Available for Sale in Descending BHP Order



**File: TG51090 Tug - Triple Screw:** 90.0' loa x 40.0' beam x 16.0' depth x 12.00' loaded draft. Built in 2002 by Green Cove Springs, FL. U.S. flag. GRT: 98. USCG COI Sub M. Exp. 29 Jun 2025. FO: 80,000g. FW: 8,000g. Crane: 1 - 2T Hiab. Winch: Almon Johnson Single Drum; 1 - electric (1,650' x 2.25"). Wire: 2,100' x 2.25". Stern Roller. Main Engines: 3 x Cummins KTA50 **total 5,000BHP**. 87" x 83" Pagett Swann 4-blade props on 8" shafts. Kort nozzles. M/Es built '86/remanufactured. Bowthruster 100BHP. **Bollard Pull: 66T**. Speed about 12.3kn max. Gensets: 1 - 104kW / John Deere; 1 - 56kW / John Deere; 1 - 75kW / GM6-71. Quarters: 8 in 6 cabins. 800gpd watermaker. Modified, type 37 (88") backing kort nozzles. 1/2" plating. Heavy keel coolers & fendering incorporated as part of structure. Six Rudders. No loadline necessary, due to low GRT. Anchor handling. Reportedly built in excess of ABS requirements. **U.S. Gulf Coast. Prompt.**

**File: TG45013 Tug - Triple Screw:** 110.0' loa x 41.0' beam x 16.0' depth x 11.00' light draft x 14.00' loaded draft. Built in 1987 by Jacksonville, FL. U.S. flag. GRT: 139. ABS Loadline - Expired. No COI. FO: 110,000g. FW: 14,000g. Crane: 2T Hydraulic. Winch: Double drum. Line Pull: 100T. Wire: 2 - 2,000' x 2.25". Main Engines: 3 x EMD 12-645E2 **total 4,500BHP**. 3 - FP 96" x 95" props on 9" shafts. Kort nozzles. Six steering "vane" rudders. **Bollard Pull: 72T**. Gensets: 2 - 70kW / GM; 1 - 90kW / GM. Quarters: 11 berths (5 – 7 crew). Upper pilot house with 55' eye level. 1,000lpd watermaker. Range 30 days towing/60 days utility works. ITC - 450G / 135N. **U.S. Gulf Coast.**



**File: TG43129 Tug - Azimuthing:** 114.3' loa x 32.8' beam x 14.8' depth x 10.83' loaded draft. Built in 1996 by Kyeong-In Eng. & Shipbldg.; So. Korea. Chile flag. GRT: 375. LR 100 A1 Chile Coastal Service. Exp. May 2026. Dwt: 153mt. Light Disp.: 434mt. Winch: Towing Aft. Main Engines: 2 x Pielstick 8PA5L **total 4,320BHP**. Aquamaster U.S. 2001/3150 props. **Bollard Pull: 53.1mt**. Speed about 13kn. Pumps: FiFi: 360m3/h. Gensets: 2 - 190kW / CAT 3406C-TA. Firefighting: 2 - 3,000Lpm. Monitors. Quarters: 9 persons. AirCon. Galley. Water curtain (125l/min). Oil Dispersant system (400l/min). Foam - 3MT, Dispersant - 4m3. **South America West Coast. Q2 2024.**

**File: TG43125 Tug - Twin Screw:** 118.0' loa x 33.2' beam x 18.5' depth x 15.00' light draft x 18.00' loaded draft. Built in 1970 by Bludworth Shipyard; Houston, TX. U.S. flag. GRT: 196. ABS A1 Towing, AMS exp. Aug, 2025. USCG Sub Ch M exp. Aug 2025. FO: 72,900g. FW: 4,000g. BW: 15,000g. Winch: Skagit double drum / GM8V71. Line Pull: 225T. Wire: 2,700' x 2". Main Engines: 2 x Alco 12-251C **total 4,370BHP**. 2 - 132" x 95" 4-blade FP props on 10 5/8" shafts. Gensets: 2 - 99kW / GM 8-V71. Quarters: 10 berths. AirCon. Galley. 25-day endurance. ITC GRT 428. Model bow twin screw tug. **Upper pilothouse**. Height of eye 46'. **U.S. East Coast.**



**File: TG43011 Tug - Azimuthing:** 114.3' loa x 32.8' beam x 14.8' depth x 10.83' loaded draft. Built in 1996 by Kyeong-In Eng. & Shipbldg.; So. Korea. Rebuilt: 2010. Mexico flag. GRT: 375. LR 100 A1 Mexican Coastal Service. SS Sept 2026. Dwt: 153mt. Light Disp.: 434mt. FO: 62.55m3. FW: 22.75m3. BW: 30.77m3. Winch: Hook. Main Engines: 2 x CAT C280-06 **total 4,320BHP**. Aquamaster U.S. 2001/3150 props. Repowered in 2010 from MAN 8PA5L. **Bollard Pull: 54.5mt**. Speed about 13kn. Pumps: FiFi: 360m3/hr. Gensets: 2 - 85kW. Firefighting: 2 - 3,000Lpm monitors. Quarters: 9 persons. AirCon. Galley. Water curtain (125l/min). Oil Dispersant system (400l/min). Foam - 3MT, Dispersant - 4m3. **Mexico West Coast. March 2024.**

**File: TG36033 Tug - Azimuthing:** 105.6' loa x 34.8' beam x 17.5' depth x 15.78' loaded draft. Built in 1984 by Tamar Shipbuilding Pty Ltd; Australia. Australia flag. GRT: 427. 100 A1 Tug LMC, UMS. LR - SS due Jun 2024. Last DD May 2019. FO: 168m3. Winch: 200T brake Norwinch fore & aft. 60mt tow hook. Main Engines: 2 x Daihatsu 6DSM 28 **total 3,600BHP**. 2 - Niigata Z-Peller props. Engine hrs (01/24) 42,612 & 42,812 hrs. **Bollard Pull: 46mt**. Speed about 13.25kn. Pumps: Fire: CAT 3412 557BHP & CAT 3305 200BHP. Gensets: 2 - 200kW / CAT 3306 415vAC 50Hz. Firefighting: 2 monitors. Foam: 13.92m3. Quarters: 12 berths in 6 cabins. Bollard pull astern about 46T. Currently working. Available for sale "as is, where is". **Australia. Q2 2024.**



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## Tug Boat Market Report – November 2023



**File: TG35911 Tug - Twin Screw:** 111.3' loa x 35.5' beam x 17.7' depth x 16.89' loaded draft. Built in 1983 by Carrington Slipways Pty Ltd; Australia. Australia flag. GRT: 473. LR 100 A1 Tug LMC UMS. SS due Oct 2023. Last DD Mar 2019. Dwt: 345T. Light Disp.: 605T. FO: 161m3. Winch: Norwinch fwd & aft; capstan; mechanical tow pins; Tow Hook. Main Engines: 2 x Daihatsu 6DSM28 **total 3,599BHP**. 2 - Niigata ZP-3B props. Bollard Pull: 56mt. Firefighting: FiFi-1; Foam tank 14m3. **Tug with ASD/Unilever propulsion**. Currently working. **Australia. Prompt.**

**File: TG35103 Tug - Twin Screw:** 105.0' loa x 32.0' beam x 16.9' depth x 15.25' loaded draft. Built in 1972 by Carrington Slipways Pty Ltd; Australia. Foreign flag. GRT: 268. Class: LR disclassed. Laid-up. Winch: Tow hook. Main Engines: 2 x Blackstone ESL16MK2 **total 3,500BHP**. 2 - 4-blade FP props. Kort nozzles. **Bollard Pull: 44T**. Gensets: 2 - 40kW 415vAC 50Hz. Laid-up. **South America East Coast.**



**File: TG35092 Tug - Twin Screw:** 87.6' loa x 28.0' beam x 13.1' depth x 11.20' loaded draft. Built in 2002 by Detroit Chile SA. Peru flag. GRT: 218. Class: ABS A1 Towing Vessel, AMS. Exp July 2027. FO: 57T. FW: 20.8T. Main Engines: 2 x MTU 12V4000M60 **total 3,590BHP**. **Bollard Pull: 42T**. Gensets: 2 - 84kW. **South America West Coast.**

**File: TG34103 Tug - Twin Screw:** 100.0' loa x 32.0' beam x 14.0' depth. Built in 1998 by Thoma-Sea Boats; Houma, LA. U.S. flag. GRT: 96. Class: USCG COI Sub M. Exp. Jun 2025. Winch: McElroy Model DT65-D double drum / CAT3306. Line Pull: 90T. Main Engines: 2 x CAT 3516 **total 3,420BHP**. 2 - FP 83" 4-blade SS props. Kort nozzles. Gensets: 2 - 75kW / CAT3306, 208V, 60Hz, 3 PH. Height of eye 28'. Nordic towing pins. Laid-up with USCG Dry-docking overdue June 2022. ITC - 278G / 83N. **U.S. Gulf Coast.**



**File: TG32053 Tug - Twin Screw:** 105.0' loa x 30.2' beam x 14.7' depth x 12.50' loaded draft. Built in 2007 by Rushan City Shpbldg. Co.; China. Colombia flag. GRT: 279. Class: LR +100 A1 Tug +LMC. Exp Feb 2027. Dwt: 270mt. Light Disp.: 284mt. 85m2 clear deck. FO: 258m3. FW: 24mt. BW: 14mt. Winch: Thor TH-15HTW-MO8-202B. Main Engines: 2 x Cummins KTA50-M2 **total 3,200BHP**. 2 - FP Kaplan props. Kort nozzles. **Bollard Pull: 45T**. Speed about 12kn. Gensets: 2 - 101.25kVA / Cummins 6CTA5.9 400vAC 50Hz. Firefighting: 300m3/h. Quarters: 10 crew. AirCon. Galley. Tug is suitable for towing, mooring,

firefighting and pollution control. Reportedly in excellent condition. Recently drydocked with main engines and gear boxes overhauled. Increased fuel capacity and additional deck space. **Caribbean. Prompt.**

**File: TG30258 Tug - Twin Screw:** 105.0' loa x 34.0' beam x 10.7' depth. Built in 1976 by J.M. Martinac Shipbuilding, WA. U.S. flag. GRT: 151. Class: ABS Loadline exp. Feb 2015. Laid-up. Dwt: 252T. FO: 66,000g. Main Engines: 2 x EMD 12-645-E6 **total 3,500BHP**. 2 - FP props. Jan 2024 About 30,000hrs on MEs. Gensets: 2 - Northern Lights. AirCon. Galley. Upper pilothouse. **U.S. West Coast.**



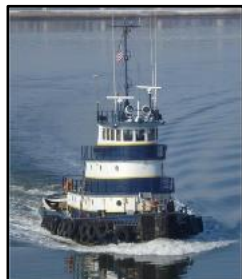
**File: TG29107 Tug - Twin Screw:** 106.0' loa x 34.0' beam x 10.5' depth x 10.50' light draft x 13.00' loaded draft. Built in 1970 by J.M Martinac SB; Tacoma, WA. U.S. flag. GRT: 193. USCG COI Sub M. Exp. Jun 2026. FO: 59,600g. FW: 3,500g. Winch: SWANN single drum. Wire: 2,400' x 2.125". Main Engines: 2 x EMD 8-645E5 **total 2,900BHP**. 2 - 87" x 86" 4-blade SS FP props. Kort nozzles. **Bollard pull astern @ 21.75ST. Bollard Pull: 30ST**. Gensets: 2 - 125kW / GM6-71 450vAC 60Hz. 8 crew in 5 cabins. Galley. Designed for shallow draft ops. Raised pilothouse. Model bow. Flanking rudders. Used for coastwise &

river work. Ex-ABS + A1 Towing + AMS. Both M/Es had the top end overhauled in 2021. **U.S. Northwest.**

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## Tug Boat Market Report – November 2023

**File: TG28193 Tug - Twin Screw:** 95.1' loa x 28.2' beam x 13.5' depth x 11.80' loaded draft. Built in 1995 by President Marine Pte.; Singapore. Panama flag. GRT: 223. LR 100A1 LMC. Exp. Apr 2025. Dwt: 164mt. Light Disp.: 265mt. FO: 96.4m<sup>3</sup>. FW: 38m<sup>3</sup>. Winch: Tow Hook. Main Engines: 2 x Yanmar T240-ET **total 2,800BHP**. 2 - Bronze FP props. **Bollard Pull: 39T**. Gensets: 2 - 60kW / Leroy GM6-71 380vAC 50Hz. Quarters: 7 crew. Harbor tug recently completed intermediate and had a fresh BP test. Reportedly in good condition. Currently working. **South America West Coast. 2nd Q 2024.**



**File: TG24161 Tug - Twin Screw:** 100.0' loa x 27.1' beam x 12.0' depth. Built in 1968 by Main Iron Works, Houma, LA. U.S. flag. GRT: 149. Class: Ex ABS Loadline. FO: 32,000g. FW: 5,000g. Winch: 2 - Patterson barge winches. Wire: 100' x 1-1/8". Main Engines: 2 x CAT 3512 **total 2,400BHP**. 88" x 66" 4-blade stainless props. M/Es rebuilt 2008 starboard and 2010 port. Gensets: 1 - 75kW / GM4-71 (port); 1 - 55kW / GM4-71 (stbd). Quarters: 4 cabins. AirCon. Galley. 24' height of eye. Vertical capstan aft. **U.S. East Coast.**

**File: TG21074 Tug - Twin Screw:** 73.8' loa x 23.8' beam x 12.3' depth x 10.43' loaded draft. Built in 1995 by Damen Shipyard / Tczew Stocznia SP Z. Colombia flag. GRT: 145. Class: LR +100 A1 LMC Tug, Coastal Service. Special and Docking Surveys due Jun 2025. 35m<sup>2</sup> clear deck. FO: 38m<sup>3</sup>. FW: 10m<sup>3</sup>. Winch: Mampaey Tow Hook (SWL 45.9T). Main Engines: 2 x Cummins KTA-38-M **total 2,090BHP**. 2 - 1,900mm Bronze FP props. Kort nozzles. P/S Tailshaft Surveys due Jan 2023. **Bollard Pull: 31mt**. Speed about 10kn free. Pumps: GS/Bilge: 2. Gensets: 2 - 58kW / Cummins 4BT 110/440vAC 60Hz. Firefighting: 1,200m<sup>3</sup>/h pump + monitor. Quarters: 7. AirCon. Galley. Damen Stan tug 2207. National Gross Tonnage: 104.9. Currently operational. Recent dry dock maintenance. Suitable for towing, mooring, firefighting and pollution control. 1.5m<sup>3</sup> oil dispersant. **Caribbean. 2nd Half 2024.**



**File: TG19898 Tug - Twin Screw:** 99.4' loa x 35.3' beam x 17.1' depth x 16.30' loaded draft. Built in 1991 by Port Lincoln Ship Constr Pty Ltd; Australia. Australia flag. GRT: 307. Class: LR 100 A1 Tug LMC UMS. SS-DD due Dec 2025. Last DD Sept 2020. FO: 55m<sup>3</sup>. Winch: Jeden fwd & aft; Mechanical Towing Pins; Tow Hook. Main Engines: 2 x CAT 3516 **total 1,918BHP**. 2 - Ulstein 1650H props. **Bollard Pull: 48mt**. **Tug with ASD / Combi Lever**. Currently working. **Australia. Early 2024.**

**File: TG17449 Tug - Twin Screw:** 49.2' loa x 23.8' beam x 9.8' depth. Built in 1981 by John Manly Shipyard. Canada flag. GRT: 78. Winch: Single drum aft. Main Engines: 2 x **total 1,799BHP**. 2 - FP props. Kort nozzles. **Bollard Pull: 26mt**. Speed about 10kn. Currently laid-up. Delivery date to be agreed upon. **Canada West Coast.**



**File: TG11109 Tug - Twin Screw:** 75.0' loa x 23.8' beam x 11.6' depth. Built in 1973 by Lemont Shipbldg & Repair. Rebuilt: 2006. U.S. flag. GRT: 95. Class: USCG COI Sub M exp. June 2024. FO: 25,000g. FW: 4,000g. Winch: Smatco 44HATS-100. Wire: 1,600' x 1.25". Main Engines: 2 x CAT D379SCAC **total 1,400BHP**. 2 - FP props. Speed about 10kn. Gensets: 2-90kW / CATD330. Galley. **U.S. Southeast.**

**File: TG09068 Tug - Twin Screw:** 66.0' loa x 22.1' beam x 8.0' depth x 7.60' loaded draft. Built in 1966 by St Charles Steel Works; LA, CA USA. U.S. flag. GRT: 86. Class: USCG COI Sub M Exp July 2025. Last DD July 2023. FO: 15,000g. FW: 5,000g. Winch: Facing winches, capstan aft. Main Engines: 2 x GM 12V-71 **total 900BHP**. 20-day Endurance. Speed about 9kn. Gensets: 2 - 30kW / Delco. **U.S. Southeast.**



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## Tug Boat Market Report – November 2023



**File: TG08575 Tug - Single Screw:** 75.0' loa x 21.0' beam x 10.0' depth x 8.20' loaded draft. Built in 1966 by Martinolich Shipbuilding; Tacoma, WA. U.S. flag. GRT: 87. Class: USCG COI exp Oct 2026. Subchapter M. Last DD July 2023. FO: 16,000g. FW: 3,800g. Crane: 2,000lb Tulsa. Winch: Foss Single Drum hydraulic. Wire: 1,500' x 1.375". Main Engine: 1 x CAT D398 **total 765BHP**. 1 - 5-blade 85" x 59" SS FP props on 7" shafts. Gensets: 1-30kW/John Deere 4045DF-M70, 1-35kW/John Deere 4045D 120/208v 3Ph. 850HP single screw tug. Steel hull. Foss design "M" Class tug. Currently working. May be developed for sale en bloc with 165' x 45' inland deck/ramp barge DB16545 or separately. **U.S. Northwest.**

**File: TG08065 Tug - Twin Screw:** 65.0' loa x 23.0' beam x 5.0' depth x 6.00' light draft x 8.00' loaded draft. Built in 1969. U.S. flag. GRT: 85. USCG COI Sub M; exp. Feb 2026. 12' x 18' clear deck. FO: 16,500g. Winch: 1 - 6T. Main Engines: 2 x CAT D353 **total 1,200BHP**. 2 - 62" 4-blade props on 5" shafts. Endurance: 20 days or 3,000 miles. Speed about 10kn. Gensets: 1 - 10kW / Miller; 1 - 5kW / Farymann. **U.S. Gulf Coast.**



**File: TG07060 Tug - Twin Screw:** 60.0' loa x 21.0' beam x 7.0' depth x 7.00' loaded draft. Built in 1956 by Clay J. Adams, Cut Off, LA. Rebuilt: 2002. U.S. flag. GRT: 75. USCG COI Sub M Exp. Oct 2026. FO: 10,000g. FW: 4,000g. Winch: Bow Winches, Capstan aft. Main Engines: 2 x GM 12V71 **total 900BHP**. 2 - 60" x 48" FP props on 5" shafts. 20-day Endurance. Speed about 10kn. Gensets: 2 - Kubota V 330-Ts. Quarters: 3 double berths in 2 rooms. AirCon. Galley. Vessel extensively rebuilt with new bottom & all machinery new or overhauled, etc. in 2002. **U.S. Southeast.**

**File: TG06067 Tug - Twin Screw:** 65.0' loa x 23.1' beam x 7.9' depth x 6.50' loaded draft. Built in 1972 by Loreauville, LA. U.S. flag. GRT: 79. USCG COI Sub M exp. July 2027. FO: 10,000g. FW: 1,000g. Main Engines: 2 x GM 8V71 **total 600BHP**. Speed about 8kn. Gensets: 2 - 20kW / GM 2-71. Model bow tug with push knees 32' eye level from upper pilothouse. **U.S. Southeast.**



### Worldwide Number of Tugs

According to **S&P Global Sea-web Online Ship Register**, which only covers "sea-going" vessels over 100GRT, as of 9 November 2023, there were 21,384 "sea-going" tugs over 100GRT worldwide, up from 20,998 (1.84%) and 19,141 (11.72%) in November 2022 and 2018, respectively. Total horsepower is 58,763,788BHP, up 1,376,484BHP (2.40%) over the past year. Even considering flags of convenience, the largest national fleet of tugs over 100GRT continues to be under Indonesian flag with 5,937 tugs totaling 10,775,562BHP. The U.S., as the second largest national fleet of tugs, operates 1,454 "sea-going" tugs over 100GRT, or 6.80% of the world market, totaling 5,442,402BHP (9.26% global BHP). Average age of tugs worldwide is 23.3 years (built 2001) with the U.S. flag "sea-going" fleet at 35.5 years (built 1988). The "Unknown" flag group is 11.41% of the world market, comprised of 2,439 tugs totaling 4,778,505BHP or average 1,959BHP each with an average age of 36.3 years (built 1988). This large "Unknown" group indicates to us that older, lower horsepower tugs may be falling off the radar. Five years ago, average age of the worldwide fleet was 21.6 years (built 1996). Average horsepower of the worldwide fleet over the past five years has held steady at approximately 2,700BHP.

**Top 10 "Sea-Going" Tug Fleets by Units as Of November 2023 According to S&P Global Sea-web Online Ship Register**

Flag	Total BHP	%	# Tugs	%	Avg BHP	Avg Age
<b>Worldwide</b>	<b>58,763,788</b>	<b>100.00%</b>	<b>21,384</b>	<b>100.00%</b>	<b>2,748</b>	<b>2001</b>
Indonesia	10,775,562	18.34%	5,937	27.76%	1,815	2011
Unknown	4,778,505	8.13%	2,439	11.41%	1,959	1988
<b>United States Of America</b>	<b>5,442,402</b>	<b>9.26%</b>	<b>1,454</b>	<b>6.80%</b>	<b>3,743</b>	<b>1988</b>
Japan	2,702,925	4.60%	725	3.39%	3,728	2008
Korea, South	1,858,163	3.16%	590	2.76%	3,149	1997
Russia	1,475,089	2.51%	527	2.46%	2,799	1996
Malaysia	1,212,708	2.06%	525	2.46%	2,310	2007
India	1,447,551	2.46%	497	2.32%	2,913	2002
Singapore	1,205,651	2.05%	423	1.98%	2,850	2012

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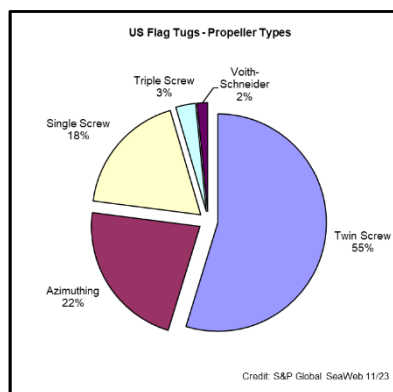
## Tug Boat Market Report – November 2023

### Breakdown of U.S. “Sea-Going” Fleet

According to **S&P Global Sea-web Online Ship Register**, as of November 9, 2023, the U.S. domestic tug fleet consisted of 1,454 “sea-going” tugs totaling 5,442,402BHP. The U.S. flag fleet decreased by 29 or 1.96%, total horsepower decreased by 136,781BHP or 2.45% and average age increased by about five months to 35.5 years, compared to one year ago. The U.S. fleet over 100GRT decreased by 84 or 5.46% but only decreased by 25,105BHP or 0.46% since November 2018. Average age increased by six months. The fleet data supports what we have witnessed in the market with older, lower horsepower units being scrapped and replaced with higher horsepower units. We continue to see units scrapped or offered for sale outside the U.S. due to post-merger fleet consolidations and the uneven economic conditions. Unfortunately, we do see many that should be scrapped being offered for sale.

**U.S. Sea-Going Tug Fleet Over 100GRT By BHP According to S&P Global Sea-web Online Ship Register as of November 2023**

	Unknown BHP	Under 999	1000-1999	2000-2999	3000-3999	4000-4999	5000-5999	6000-6999	7000-7999	8000-8999	9000 Plus	Total
<b>Total #</b>	102	38	196	187	274	274	139	145	34	14	51	1,454
<b>Avg. BHP</b>		795	1,508	2,355	3,407	4,352	5,374	6,482	7,206	8,225	11,354	
<b>Avg. LOA</b>	87	77	84	95	104	105	106	108	134	135	142	
<b>Avg. Beam</b>	28	23	26	29	32	35	36	39	40	42	47	
<b>Avg. Depth</b>	11	9	11	13	15	16	17	18	20	21	24	
<b>Avg. Year Built</b>	1978	1958	1969	1978	1983	1997	2003	2010	1990	2007	2007	1988



Of the 1,454 U.S. tugs in Sea-web, 173 have unknown engines. 515, or 35% where type is known, are powered by CATs, 409 (28%) by EMDs, 72 (5%) by General Motors / Detroit Diesels, Cummins 4%, Alcos and M.T.U.s (Rolls Royce) with 3% each, and Fairbanks Morse, GE Marine and Wartsila have 2% each of the market share. Five years ago, of 1,538 U.S. flag tugs, 492 or 32% were powered by EMDs, 465 (30%) by CATs and 103 (7%) by GM / DD. Comparing November 2023 against November 2018, EMDs lost four percentage points, GM / DD lost two percentage points, CATs gained five percentage points. In the current fleet, 268 (18%) and 796 (55%) are conventional single and twin screw, respectively. 324 azimuthing (22%), 43 triple screw (3%) and 23 Voith tractor tugs (2%) make up the remaining 27%. Compared to November 2018, today there are 90 fewer single screw, 26 fewer twin screw and 26 more azimuthing tugs in the U.S. tug fleet where over 100GT.

### Worldwide Articulated Push Tugs Fleet

According to **S&P Global Sea-web Online Ship Register**, as of November 9, 2023, there are 249 articulated push tugs above 100GT worldwide. 67.07% or 167 are U.S.-flagged with average 6,349BHP and average age of 25 years - with many older units being conversions of conventional tugs. The second largest fleet with 17 ATB tugs is attributed to “unknown flag”, followed by seven flagged in Liberia and six each in Canada, Indonesia and South Korea. The remaining 39 are spread among 20 countries. The average age of non-U.S. flagged articulated push tugs is 33 years with average 4,372BHP. Of total tugs worldwide, ATB tugs make up 1.16%. However, in the U.S., articulated push tugs account for 11.49% of all tugs. Since November 2022, there was only a one unit increase in foreign-flagged ATB tugs. Average age in the U.S. increased from 24 to 25 years old, with outside the U.S., also increasing one year to 33 years old. The youngest ATB fleets sail under Liberian and Russian flags; Russia with a 2020-built, 3,400BHP ATB and Liberia with seven average 2020-built ATBs. Bahamas has the oldest ATB, a 1,923BHP 1966-built unit. Compared to November 2018, the worldwide ATB tug fleet grew by 30 vessels, 13 in the U.S. and 17 elsewhere. Average age then was 19 years for U.S. vessels and 31 years old for non-U.S. Average BHP was slightly higher at 6,627BHP for U.S. and 4,586BHP for non-U.S.

**Sea-web Articulated Push Tugs Summary as of 9 November 2023**

	Total BHP	%	# Tugs	%	Avg BHP	Avg Age	Age in Years
US	1,060,343	74.73%	167	67.07%	6,349	1999	25
Foreign	358,476	25.27%	82	32.93%	4,372	1990	34

Marcon is currently tracking 128 ATB tugs worldwide with five currently for sale, ranging in age from five to 49 years old. All five ATB tugs for sale are located in the U.S.

# Marcon International, Inc.

## Tug Boat Market Report – November 2023

### Vessel & Shipyard News

According to the **U.S. Coast Guard Merchant Vessels of the U.S.** database updated January 10, 2024, 92 towing vessels are listed with 2023 build dates. These range from 24' to 157' LOA, 660BHP to 7,725BHP (where BHP given) vessels. In 2022, 83 towing vessels were built or completed; following 107 built or completed in 2021, 128 in 2020 and 113 in 2019.

**S&P Global Sea-web Online Ship Register** as of November 9, 2023 reports 1,038 towing vessels, all over 99GT, built or to be built in 2023 or later. The 1,038 towing vessels represent 3,518,478HP (average 3,390HP). 391 are on order for Indonesia, 127 for St Vincent & The Grenadines, 102 for Turkey, 57 for Singapore, 31 for Egypt, 27 for Japan, Bangladesh 25, 23 for the U.S. and 20 India. The remaining 235 are being built for 55 other countries. Looking at average BHP for each country's newbuilds is interesting as Sweden has the lowest with an average 1,183BHP compared to the U.S. with average 4,769BHP. Hong Kong with three tugs under construction averaging 8,301BHP ranks the highest for average BHP under construction.



The **Robert Allan** design ASD 3280 tug which **Royal Wagenborg** purchased in mid-June is renamed "*Waterland*" and arrived in Eemshaven. Together with her sister ship "*Waterlines*" purchased from **UZMAR** in 2022, the "*Waterland*" with her 80mt bollard pull is the largest tugboat in the fleet of Wagenborg Towing, which now consists of ten tugs. The newly acquired "*Waterland*" was built in 2020 by the UZMAR Shipyard in Turkey and delivered to UZMAR fleet to operate at Istanbul Ambarli Port. The ASD 3280 Tug is highly maneuverable and has high performance with her unique and modern design. With her exceptional operational flexibility, the tugboat is utilized for port and terminal towing operations, escort operations,

firefighting operations, and coastal and offshore towing operations. Wagenborg aims to further strengthen its position in the towing services market in Northwest Europe with "*Waterland*", the second tugboat purchased from UZMAR Shipyard in the last year. UZMAR Shipyard stands as a distinguished builder of cutting-edge tugboats, workboats, and tailor-made, high performance vessels. Positioned as the pioneer of shipbuilding excellence, sustainability, and the integration of high-end innovations, the shipyard has lately incorporated methanol-powered and electric-driven tugboats into its portfolio.

**Svitzer Europe**, a leading global towing provider and part of **A.P Moller-Maersk**, has announced the successful delivery of "*Svitzer Estelle*", the second tug built as part of the company's ongoing partnership with **UZMAR Shipyards** based in Turkey. The newly built, Robert Allan Ltd. designed RAstar 3200W will be deployed by Svitzer on the River Thames and the River Medway, bolstering the company's operations in the busy Port of London. The first tug delivered by UZMAR Shipyards in May 2023, "*Svitzer Elizabeth*", is currently in service in the Port of Liverpool. "*Svitzer Estelle*" has a bollard pull of 80mt, and has an LOA of 32m, with a beam of 13.2m and a depth of 5.5m. The RAstar 3200W series tug has a 199m<sup>3</sup> fuel capacity and 40m<sup>3</sup> freshwater capacity, with Escort Tug and Firefighting1 notation. The vessel is powered by two Caterpillar 3516E main engines rated at 2,525kW at 1,800rpm, with IMO III certified after treatment, and has two Kongsberg US255 Z-drives with 2.8m FP propellers. As "*Svitzer Estelle*" is UK-based, the vessel will be able to fall under Svitzer's EcoTow net-zero carbon harbour towing solution. As part of EcoTow, Svitzer deploys sustainable marine biofuel across its UK fleet to reduce the carbon impact of towing for its customers.



**Med Marine** successfully delivered "*Celtic Treaty*" to **Mainport** (Celtic Tugs) in June 2023. The contract for the supply and delivery of the Azimuth Stern Drive Tugboat was signed at the end of 2021. The vessel belongs to the MED-A2885 RAstar 2800 series and was designed by Canadian Naval Architects Robert Allan exclusively for Med Marine. Tugboat was chosen for its versatile, compact, and modern design. The vessel offers efficient ship handling, coastal towing, general-purpose towing, and escort capabilities. The tugboat will be operated in Foynes in Ireland to cater to the growing marine service requirements of Celtic Tugs Limited. The tugboat's specifications: Length overall: 28m; Beam, moulded: 13.0m; Depth: 5.10m; Draft

maximum: 5.70m; Gross tonnage: <500; Bollard pull: 50mt; Speed: 12.5 knot; Main engine: Caterpillar 3512C; Total power: 2 x 1,500kW @ 1,600rpm; Emission standard: IMO Tier I; Azimuthing Stern Drive: Schottel / SRP 360; Propeller: 2,100mm diameter; Shafting: Composite Shaft; Accommodation: 8 people.



# Marcon International, Inc.

## Tug Boat Market Report – November 2023

**Boluda Towage**, a leading towage operator in the world, chooses **Med Marine's** MED-A2885 series RAStar 2800 design. Med Marine's unit was chosen by Boluda due to its wide range of operational capacities such as daily ship towage, salvage and emergency response, with fire-fighting systems and equipment for preventing pollution. The vessel was named as "VB *Magnum*" and set sail to her home port Hamburg on 21st April. The tugboat's specifications: Length overall: 28.40m; Beam, moulded: 13m; Depth: 5.40m; Draft maximum: 5.70m; Gross tonnage: <500; Bollard pull: 75mt; Speed: 12 knots; Main engine: Caterpillar 3516E; Total power: 2 x 2,100kW @ 1,600rpm; Emission standard: IMO Tier III Ready; Azimuthing stern drive: Kongsberg US 255S P30 FP; Propeller: 2,800mm diameter; Shafting: Composite shaft; Accommodation: 10 people.



**Med Marine** is pleased to announce the successful delivery of a cutting-edge 25m, 75mt bollard pull tugboat to **Vernicos Scafi**, marking a significant milestone in ongoing partnership. The contract for this remarkable vessel was signed in June, and in September, Med Marine proudly unveiled it to meet the growing marine demands of Vernicos at the busy port of Piraeus. The MED-A2575 series Ramparts 2500w series tug was named "Vernicos Scafi III". "Vernicos Scafi III" represents efficiency and reliability in harbor operations. It is equipped to handle the most challenging maritime tasks, ensuring seamless port operations for Vernicos Scafi. The tugboat's Specifications: Length: 25.2m; Breadth: 12m; Depth: 4.6m; Draft: 5.75m; GRT: <400; Bollard Pull: 70; Speed: 11 knots; Main Engine: MTU / 16V4000M63; Total Power: 2 x 2,000kW @ 1,800rpm; Emissions Standard: IMO TIER II; Azimuth Stern Drive: Kongsberg / US 205S P20 FP; Propeller: 2,800mm; Shafting: Composite Shaft; Accommodation: 7.

**Med Marine**, a leading shipbuilding company, is proud to announce the successful launch of MEDA2575 RAmparts 2500-W Series Harbour Tug at its group-owned Ereğli Shipyard on October 30th, 2023. Renamed as "VB *Ahmoose*", the vessel is a RAmparts 2500-W Series Harbour Tug designed by Robert Allan Ltd. Med Marine and Spain's **Boluda Towage** signed the sales contract of the vessel back in the summer of 2023. The high-quality Harbour Tug delivering 75mt of Bollard Pull, is equipped to meet Class FIFI-E requirements. It is a multipurpose tug, working off a forward winch and an aft winch for ship handling, towing, pushing, mooring, firefighting facilities and also equipped with an aft towing hook. She has a length of 25.2m, the beam of 12m and the depth of 4.6m.



**Med Marine**, a leader in tugboat production, has successfully delivered three cutting-edge RAStar 2800 tugboats to **Svitzer** in one single day. The triple delivery, a first, marks a milestone for both companies, underscores a strong commitment to flexibility and commitment to the client throughout all production processes. This achievement reaffirms Med Marine's position as a leader in the field, setting a new standard for the maritime industry. The delivered tugboats, all designed by the Canadian Naval Architect Robert Allan, are RAStar 2800 models specifically selected by Svitzer for their outstanding efficiency in harbor operations. The vessels boast state-of-the-art features, embodying the latest advancements in tugboat technology. The design and quality of the vessels will ensure optimal performance in diverse and demanding maritime environments. All three tugs will be deployed in Greece to serve Gastrade's Alexandroupolis Independent Natural Gas System LNG terminal.

**Med Marine** is proud to announce the signing of a significant contract in November 2023 with **OMMP** for the construction of six state-of-the-art azimuth stern drive tugs. The six azimuth stern drive tugs, each boasting a substantial 28m length and an impressive 60mt traction force, are designed by the renowned Robert Allan design team belonging to RAStar 2800 series. These vessels represent the cutting edge of maritime technology, offering powerful and reliable performance in various towing and harbor operations for OMMP.



# Marcon International, Inc.

## Tug Boat Market Report – November 2023



A third 'Tug of the Future' built by **Sanmar Shipyards** in Türkiye has been delivered to **HaiSea Marine**, Canada to join the most environmentally friendly tugboat fleet in the world. "*Haisea Brave*" will work in Vancouver alongside its sisters "*Haisea Wamis*" and "*Haisea Wee'git*" (delivered earlier in 2023) before all three – along with two Sanmar-built LNG-fuelled tugs – are transferred to LNG Canada's new export facility in Kitimat, British Columbia. HaiSea Marine is a joint venture majority owned by the Haisla Nation in

partnership with Seaspan ULC, that will provide tug harbour and escort services in the extremely environmentally-sensitive region. Based on the exclusive-to-Sanmar ElectRA 2800 SX design by Canadian naval architects Robert Allan Ltd, "*Haisea Brave*", "*Haisea Wamis*" and "*Haisea Wee'git*" measure 28.4m LOA, with a 13.0m beam and 5.9m draft and have 6,000kWh battery capacity. They can achieve 70mt bollard pull and will perform all ship-berthing and unberthing missions on battery power alone. With ample clean hydroelectric power available in Kitimat, the harbour tugs will be able to recharge from dedicated shore charging facilities at their berths between jobs, effectively resulting in zero emissions. HaiSea's green tug fleet is expected to reduce emissions of CO<sub>2</sub> by approximately 10,000mt per annum compared to diesel powered alternatives, with major reductions of NO<sub>x</sub>, SO<sub>x</sub>, CO, and particulate matter as well. The electric tugs are also exceptionally quiet, both onboard and in terms of underwater radiated noise, further enhancing the protection of both marine and wildlife in the area. "*Haisea Brave*", "*Haisea Wamis*" and "*Haisea Wee'git*" will be working at Kitimat with the two LNG-fuelled Sanmar-built tugs "*Haisea Kermodé*" and "*Haisea Warrior*".



The first of two extremely powerful, yet environmentally-friendly, escort tugs built by **Sanmar Shipyards** in Türkiye for **HaiSea Marine** arrived in Vancouver, Canada, ahead of being transferred to LNG Canada's new export facility in Kitimat. "*Haisea Kermodé*" is Canada's first LNG-fuelled tugboat and will soon be joined by its sister tug "*Haisea Warrior*" to form a fleet of five with three Sanmar-built electric-powered emissions-free ElectRA harbour tugs. Based on the RAsstar 4000 DF design from Vancouver-based naval architects Robert Allan Ltd, the two Azimuth Stern Drive (ASD) tugboats rank among the world's highest performing escort tugs. At 40.2m length, with a 16.0m beam and maximum draft of 7.1m, and with more than 100mt bollard pull, these impressive tugs will generate indirect escort forces of approximately 200mt. Sanmar built the world's first LNG-powered tugboat around ten years ago and today is proud to be leading the way to a cleaner and greener environmentally-aware and sustainable no and low emission tug and towing industry. "*Haisea Kermodé*" can run on diesel or LNG, and features a diesel exhaust after-treatment system that complies with IMO Tier III emissions standards, the most stringent in the international marine industry. A major advance towards sustainability lies in the tug's ability to perform long-distance escort missions solely using LNG, significantly reducing emissions, especially CO<sub>2</sub>, compared to even Tier III standards. Operating primarily on natural gas, "*Haisea Kermodé*" achieves remarkable emissions reductions compared to conventional diesel tugs of the same power. LNG Canada will export 18mt of LNG annually from the first phase of the Kitimat project. That's US\$ 25 billion worth a year.

**Sanmar Shipyards** has delivered a powerful compact workhorse harbour tug to the **Port of Hirtshals** in Denmark where it will primarily assist increasingly large modern ferries to and from the quay in the port's often notoriously windy conditions. Formerly part of Sanmar's own fleet operating at Izmit Bay in Türkiye, the 2019-built tug "*Yeniçay X*" has been renamed "*Sibba*" by its new owners. It replaces the port's previous tug which was built in 1979 and has served at Hirtshals since 2005. Based on the exclusive RAscal 1800 design from Canadian naval architects Robert Allan Ltd developed to address the challenges of modern, high-performance Z-drive line-handling, "*Sibba*" has a LOA 18.7m, a moulded beam 9.2m and depth 3.5m. It is powered by two Caterpillar C32 main engines, each producing 970kW @ 1,800rpm to achieve a bollard pull of 32mt and a speed ahead of 12 knots. Port of Hirtshals CEO, Per Holm Norgaard said : "*The port's old tug was not strong enough to cope with the larger ferries now using the port and that this would become more of an issue in future as the port expanded.*" The RAscal 1800 is a twin Z-drive, diesel powered tug, designed for maximum efficiency in the performance of ship-handling duties for seagoing vessels, based on a wide array of previous successful tug designs, to ensure good sea-keeping, manoeuvrability, and stability in all modes of operation. Its robust, all-welded steel construction, with scantlings significantly in excess of minimums of any Classification Society. The vessel is equipped with heavy duty deck equipment and all-round fendering for all ship-handling operations.



# Marcon International, Inc.

## Tug Boat Market Report – November 2023

Two electric-powered emissionsfree electric “Tugs of the Future” built by **Sanmar Shipyards** in Türkiye are undergoing sea trials ahead of being delivered to major operator **SAAM Towage’s** Canadian fleet. The new generation, environmentallyfriendly tugs are based on the exclusive ElectRA 2300SX design from leading naval architects Robert Allan Ltd (RAL), and are the result of close co-operation between RAL, SAAM Towage and Sanmar at every stage of the project. They were launched on April 8 and September 9 after being completed at Sanmar’s purpose-built shipyards in the heart of Türkiye’s maritime sector. With a high level of automation in line with the operator’s needs, the compact electric tugs measuring 23.4m LOA, with an 11.9m beam and maximum draft of 5.5m, have an impressive bollard pull of 70mt based on a battery power of 3,616kWh. The tugs have Schottel SRP460 LE thrusters with 2,700mm diameter propellers, and can achieve a speed ahead of 11.5 knots. Their two CAT C32 back-up gen sets, each producing 940ekW at 1,800rpm, are IMO Tier III compliant. At full capacity, the new units will reduce 2,400mt of greenhouse gases each year. The signing and steel cutting ceremonies for both tugs now undergoing sea trials took place during the ITS Convention in Istanbul, in September 2022.



**Sanmar Shipyards** has delivered two powerful and technologicallyadvanced new-build tugs to longterm customer, **P&O Maritime Logistics**, which will operate in the Dominican Republic. “*P&O Carey*” and “*P&O Manati*”, which were delivered in October, bring the total number of Sanmar-built tugboats in the P&O Maritime a mutually Logistics fleet to seven, and continue beneficial commercial and technical relationship that started in 2013. “*P&O Carey*” is based on the exclusive-to-Sanmar RAparts 2400SX MKII design from Canadian naval architects Robert Allan Ltd, and is a versatile, multi-purpose tug representing the latest development in a long-running series that has proved popular around the world. Measuring 24.4 LOA with a 12m breadth and 4.5m depth and a 5.45 draft when fully loaded, “*P&O Carey*” has a large 80+mt bollard pull and can achieve a speed of 12.5 knots. The tug is designed for low-manning operations with a high level of mechanical automation and is currently Sanmar’s biggest selling tug design. “*P&O Manati*” is also based on an exclusive-to-Sanmar design from Robert Allan Ltd, the TRAKtor-Z 2500SX ATD, and is the latest and most technologically-advanced and environmentally-sound variant of a series specifically designed to offer the best possible ship-handling, escort, and terminal support. Measuring 25.3 LOA, with a 12m breadth and 4.55m depth, and 6.6m draft when fully loaded, “*P&O Manati*” also has a hefty 80+mt bollard pull and can achieve a speed of 12 knots. It is a highly efficient twin Z-drive tug.



**Sanmar** has delivered a compact general purpose harbour tug from its popular Bozçay Class to the **Seychelles Ports Authority**. Based on the exclusive-to-Sanmar RApport 1900SX design from Canadian naval architects Robert Allan Ltd, “*Mamelles*” is a diesel powered tug designed for maximum efficiency in the performance of ship-handling duties for seagoing ships. Port Victoria in the Seychelles is one of the most important industrial fishing, cruise ship and super yachts port destinations in the southwest Indian Ocean. It is visited by around 800 vessels a year. Measuring 19.3m LOA with an 8.2m beam and maximum draft of 2.9m, “*Mamelles*” has conventional twin screw propulsion with twin nozzles and four rudders providing a bollard pull of 33mt and excellent manoeuvrability. It has a free-running speed of 11.5 knots. Ideally suited to smaller ports and sometimes crowded harbour conditions, the tug is powered by twin high speed electronically-controlled Caterpillar C32 engines, each achieving 970kW at 1,800rpm, which are EPA Tier III and IMO Tier II compliant. The Bozçay hull form has been carefully developed, based on a wide array of previously successful tug designs, to ensure good seakeeping, manoeuvrability, and stability in all types of operation. “*Mamelles*” is capable of ship assist work, line-handling, general harbour service and coastal towing, and has overnight accommodation in the foc’sle for a crew of four, including two cabins, pantry, mess, washroom with shower. The design’s increased beam provides better stability and visibility from the wheelhouse is excellent in all directions. Tank capacities include 26,000ltrs fuel oil and 3,100ltrs fresh water. “*Mamelles*” is the second Sanmar-built tug to be delivered to Seychelles Ports Authority, joining the larger 60mt bollard pull tug “*Ste. Anne*”, based on the again exclusive-to-Sanmar RAparts 2400SX design from Robert Allan Ltd, that was delivered in 2020.



# Marcon International, Inc.

## Tug Boat Market Report – November 2023

**Damen Shipyards Cape Town (DSCT)**, has successfully delivered a new plough tug to the **Transnet National Ports Authority (TNPA)**. The plough tug, named “*Mohoma*”, is a versatile, seagoing workboat designed for both harbour and coastal services.

Based on a standardised and successful Damen Design this vessel is well-suited to various maritime tasks, operating efficiently in shallow and deeper waters with unrestricted sailing capability. *“We are honoured to deliver this state-of-the-art plough tug to TNPA. This vessel has 45 tonnes of bollard pull, is 32 metres long and 9 metres wide, and can plough up to 25m deep. With a spacious working deck, this versatile workboat will serve as an asset for TNPA’s ports and dredging operations....”*

said Sefale Montsi, Director of Damen Shipyards Cape Town. The addition of the plough tug to TNPA’s Dredging Services fleet marks a significant enhancement of its infrastructure. The vessel was officially handed over during a ceremony held in Durban on 17 May 2023. This acquisition is part of TNPA’s ongoing fleet upgrade program, aimed at expanding port capacity to accommodate larger vessels and meet growing demand. Dr Popo Molefe, Chairperson of the Transnet Board of Directors, expressed his satisfaction at the handover ceremony. *“The demand for dredging services has increased in the region, and the addition of this plough tug will increase the berth capacity of the ports. Managing the demand is part of TNPA’s growth plan, which will see the continuous improvement of port infrastructure.”*



Just one month after the contract was signed, **Damen** has delivered a new Multi Cat 1908 SD (shallow draught) to the German energy infrastructure construction company **Bohlen & Doyen Bau GmbH**, a subsidiary of **Friedrich Vorwerk**. The vessel, named “*Scholle*”, is the first marine asset to be bought by the company in many years. The 19.4m vessel has been bought for use on a multi-year project supporting transmission system operator TenneT on its offshore grid connection systems in the North Sea. Bohlen & Doyen’s new acquisition will be used for a wide variety of support tasks in the coastal waters of Germany, including pushing and pulling barges, supplying fuel

and water, transporting equipment and personnel to and from the working areas, and utilizing its crane across multiple scenarios. Its minimum draught of just one metre will enable it to access waters that very few other vessels can safely reach. The German-flagged Multi Cat 1908 SD is specially designed to operate in shallow waters, with an operational draft between 1.0 and 1.2 meters. In addition to the standard specification, Bohlen & Doyen requested a towing hook, a wooden bulwark between the pushbows and additional lashing points. A cooling radiator has also been added to enable the generator to provide power while the vessel is beached. To further optimise the vessel for its role it has been equipped to use Panolin GreenMarine biodegradable hydraulic oil to allow it to operate in the Wadden Sea.

**Port Marlborough New Zealand (PMNZ)** and **Damen Shipyards** have signed a contract for the delivery of an Azimuth Stern Drive Tug 2111. Just 21m in length, the ASD Tug 2111 has a bollard pull of 50mt and its Twin Fin skeg and Azimuth thrusters ensure excellent manoeuvrability. PMNZ, situated at the top of New Zealand’s South Island, operates the region’s port and marinas, and facilitates the operation and growth of some of Marlborough’s most significant industries. These include recreational boating, forestry, wine, aquaculture and domestic and international tourism including cruise. Damen’s new ASD 2111 will provide an important boost in towage capability in Picton Harbour, from where the inter-island passenger and freight ferries operate. New ferries will soon link the nationally significant road and rail networks between the North and South Islands.



With exceptional power and agility for its size, the ASD Tug 2111 will be more than able to handle the next generation of larger ferries that need to be manoeuvred around PMNZ’s finger jetties. The ASD Tug 2111 features numerous safety features. Its 360° bridge maximizes situational awareness of the surrounding waters as well as the deck both fore and aft. High freeboard keeps water on deck to an absolute minimum and the ample tumblehome enables the ASD Tug 2111 to get safely up close to an assisted vessel. With the towing operations both fore and aft conducted with a single winch positioned in a sheltered location, the decks are free of obstacles. Low maintenance is in the ASD Tug 2111’s DNA. The design features the shipbuilder’s proven fresh water closed loop keel cooling system. Reducing the amount of onboard sea water systems to an absolute minimum, lowers the amount of corrosion-related maintenance. The ASD Tug 2111 is fitted with IMO Tier II compliant engines as standard. However, PMNZ has opted to upgrade them to IMO Tier-III compliance, and this can be achieved relatively quickly by the installation of a Damen Emission Reduction System, for which the ASD Tug 2111 is built preprepared. Other green technologies built into the Compact Tug range include a new electric power generation system that produces electricity by drawing on the ample power available from the main engines, reducing fuel consumption and emissions as a result.

# Marcon International, Inc.

## Tug Boat Market Report – November 2023



In October 2023 at the annual Damen Maritime Festival in the Netherlands, **Sri Lanka Shipping Company**, a subsidiary of **Advantis Group**, and **Damen Shipyards** signed a contract for the delivery of two new ASD Tug 2312 tugboats. Sri Lanka Shipping Company chose the ASD Tug 2312 based on its outstanding performance as the most versatile vessel in its class. Just 23m in length, it delivers up to 70mt bollard pull while the patented Twin Fin skeg plus twin Azimuth thrusters ensure excellent manoeuvrability. Sri Lanka Shipping Company has also opted for Damen's Triton remote monitoring system on both vessels. These deliver a wide range of real-time performance information

including fuel consumption and carbon emissions to the shore-side team as well as the ships' crew. The vessels will be delivered in mid-2024 as they are already under construction at Damen Song Cam Shipyard in Vietnam. They will join the company's existing three anchor handling tugs and the harbour tugs and will represent a significant increase in capability. They will operate primarily in the South Asian and South-East Asian regions. For Sri Lanka Shipping Company the contract was signed by Deputy Managing Director of Advantis Group Shano Sabar, and Director/CEO of Sri Lanka Shipping Company Surindha de Abrew, followed by Damen CEO Arnout Damen and Damen's Regional Sales Director Asia Pacific Rabien Bahadoer. Per Rabien Bahadoer: *"We are honoured to welcome Sri Lanka Shipping Company into the Damen family. They reviewed all the options available before choosing our successful ASD Tug 2312. As well as the patented Twin Fin skeg, the advanced design features a centralised double drum winch that can be operated over either the foredeck or the aft deck. In addition, the tugs also meet the latest standards for increased crew comfort during towage operations, with the COMFNOISE 3 and COMF-VIB 3 Class notation."* Once they are delivered, the tugs will have 24/7 access to Damen's comprehensive support services via Damen's South-East Asia's Service Hubs in Vietnam, Sharjah and Bangladesh.

**Hoa Phat Dung Quat Steel** received the first tugboat named *"Hai Au 3"* built by **Damen Group**, Netherlands to serve the Company's port system. According to Mr. Nguyen Quoc Trinh - Deputy Director of General Port Company, Hoa Phat Dung Quat Steel: Previously, the tugboat fleet was outsourced by the company. In order to tow the ship to the berth, the Company built a new fleet of towing ships with modern equipment with Azimuth technology with a large capacity of up to 5,000HP, actively bringing ships in and out and ensuring maritime safety. The purpose of investing in tugboats to support cargo ships to enter and leave the port for ships with a length of >80m. Support to respond to incidents and oil spills at sea at Dung Quat EZ. This tugboat fleet is invested by Hoa Phat Dung Quat Steel Company and assigned to General Port - Container with the task of managing, operating and exploiting. The service range of the vessel in charge of towing cargo ships into both Hoa Phat Dung Quat Specialized Port in operation and Container General Port will be put into operation in the near future to meet the demand for goods for Hoa Phat Dung Quat Iron and Steel Production Complex. After receiving, the ship is trained to operate and familiarize itself with the water surface. According to the plan in 2023, following the ship *"Hai Au 3"*, at the end of September, the Company will receive the tugboat *"Hai Au 04"* and put it into operation in December 2023. The ship will be in charge of towing cargo ships into both ports to meet the demand for goods serving the Complex.



**Crowley** has entered into its fourth long-term charter for its newest Tier IV ship assist tug, *"Artemis"*, with **Brusco Tug & Barge**. The powerful, state-of-the-art vessel reinforces the company's commitment to sustainability while providing high performance. The 77' tug will deliver 7,000HP with a bollard pull of 96 tons using two Caterpillar Marine 3516 Tier IV-compliant engines, meeting U.S. Environmental Protection Agency emission standards. *"Artemis"* will also feature advanced technology to enhance maneuverability and provide operators with remote monitoring of its performance, making it more efficient and highly versatile for various operations. Following its Tier IV sister vessels built by Diversified Marine – *"Athena"*, *"Apollo"* and *"Hercules"* – *"Artemis"* will join Crowley's established ship assist and escort fleet later this year and is expected to serve the ports of Los Angeles and Long Beach. *"We are proud of our Hercules Class tugs and pleased to continue our partnership with Crowley and Brusco Tug & Barge,"* said Frank Manning, president, Diversified Marine *"This will be the sixth DMI-built tug in Crowley's fleet and the 11th we have built for Brusco. Our company is based on relationships, and we are very thankful for the relationship we have with these forward-thinking operators."*

# Marcon International, Inc.

## Tug Boat Market Report – November 2023

After a rigorous and competitive process **KOTUG Canada** has selected Türkiye's **Sanmar Shipyards** to build two RAsalvor 4400-DFM dual fuel methanol escort tugs - Robert Allan Ltd. design to service the Trans Mountain Expansion Project (TMEP). These tugs will escort tankers from the harbour limits of the Port of Vancouver to the open Pacific Ocean through the commercial shipping lanes of the Salish Sea. To provide this service, KOTUG Canada has partnered with **Sc'ianew First Nation** from Beecher Bay, which is strategically located along the shipping route. These two innovative tugs, to be named "*SD Aisemaht*" and "*SD Qwii-Aan'c Sarah*" in honour of the Sc'ianew First Nation, are scheduled to be the world's first large purpose-built high bollard pull, methanol fuelled tugs when they enter service in 2025 and will provide significant environmental benefits to further reduce greenhouse gas (GHG) emissions and underwater radiated noise. Tugboat details The RAsalvor 4400-DFM escort tugs will measure 44m in length and are an evolution of Robert Allan Ltd.'s acclaimed escort tugs which operate in some of the harshest environments in the world. With over 115mt bollard pull they'll be Canada's most powerful escort tugs. Both vessels will be equipped with a mechanical cross link system between the azimuth thrusters to enable a single engine to drive both propellers. They will also be equipped with main engine driven shaft generators to satisfy the vessel's normal electrical needs. These features will allow the crews to optimize engine loading and significantly reduce fuel consumption and running hours of the main engines and gensets. Combined, these features will reduce the tugs underwater radiated noise, mitigating the effects of shipping on the Salish Sea's Southern Resident Killer Whales. Additionally, KOTUG is having the hulls of both tugs coated with a graphene paint to reduce biofouling and enhance hull-smoothness which reduces underwater radiated noise and makes the vessels more fuel efficient. The escort tugs are equipped with firefighting equipment meeting the requirements of American Bureau of Shipping's FFV 1 notation and will have the largest spill response capabilities of any tugs on the BC coast to mitigate the risk of marine spills to the Salish Sea and communities from laden tankers as well as other commercial marine traffic. High quality onboard equipment will include heavy duty electric winches fit fore and aft for reduced noise and to significantly reduce the risk of a hydraulic oil spill into the environment. The forward escort system has been customized to suit the requirements of the local pilots for tankers utilizing the TMEP. The aft towing system with a dual drum winch with 2 x 1,000m of steel wire is among the largest fit to an escort tug and combined with the vessel's exceptional manoeuvrability provides the capability to perform emergency towage of vessels along the route that may find themselves in distress. Inside, the accommodation will include spacious dedicated cabins and ensuites for all regular crew, all with natural light, and well in excess of regulatory standards. To facilitate training and additional response capability, extra berths will be provided for use by Western Canada Marine Response Corporation spill response technicians. Particular attention has been paid to minimize noise and vibration aboard the vessels, with a crew comfort class notation to be assigned by ABS along with ENVIRO and SUSTAIN notations demonstrating the projects reduced environmental impact.



In an intimate christening ceremony set against the backdrop of the **Seacontractors** Headquarters, **Neptune Marine** joyfully welcomed the first Neptune Marine-built EuroCarrier 2611, named "*Sea Eidum*", to its esteemed fleet at Seacontractors. This momentous occasion was graced by Anne Janisse, the wife of its Middle East Director, Maarten Brassers. The EuroCarrier 2611 is purpose-built to tackle a wide range of offshore operations with unmatched performance. Equipped with state-of-the-art technology and innovative design features, this vessel sets new standards in the industry. Whether it's supporting offshore construction, subsea operations, or

transportation logistics, the "*Sea Eidum*" delivers outstanding capabilities that ensure seamless execution of projects in any environment. Designed for optimal functionality, the "*Sea Eidum*" is equipped with two powerful HEILA deck cranes, has a Bollard Pull of 33.9mt and can operate in shallow waters with a draft of 2.61 meters. "*Sea Eidum*" boasts an impressive deck space, allowing for efficient cargo handling, equipment storage, and various offshore activities. Its advanced propulsion system guarantees enhanced maneuverability and stability, enabling precise positioning even in challenging conditions. The "*Sea Eidum*" is powered by Tier III main engines, ensuring compliance with stringent emissions standards while maintaining exceptional performance. This ecofriendly feature underscores its commitment to sustainability, reducing environmental impact during the vessel's operations. This robust, efficient and flexible design of the EuroCarrier makes it one of the best vessels for anchor handling, dredging support and survey activities. The EuroCarrier 2611 can be adapted to perfectly fit any project within a short time. She has a Length o.a of 26.48m, a moulded beam of 11.00m, a depth at sides of 3.50/3.70m and a draft of 2.93m. (Photo: Mario Rentmeester (top) & Ruud Zegwaard)



# Marcon International, Inc.

## Tug Boat Market Report – November 2023



**Robert Allan Ltd.** is pleased to announce that “*Cao Gang 30*” and “*Cao Gang 31*” were successfully delivered to the owner **Caofeidian Port**, in the northern part of China in July 2023. The newly completed RAmports 3500 tugs were built by **Zhenjiang Shipyard (Group) Co., Ltd.** The new vessels were designed by Robert Allan Ltd. for operation in Bohai Bay for towing, vessel assistance, and fire-fighting purposes. The vessels were designed based on a well-proven RAmports hull form. With the required 34.8m vessel length, bollard pull of 80mt, and a gross tonnage not greater than 500, which was up to the limit, the design was quite challenging.

Substantial but well-worthwhile efforts were spent in the development of hull form and arrangement to provide sufficient displacement; single cabins for 10 crew members as per Chinese Statutory requirement; machinery arrangement for the large equipment of the propulsion system, as well as a fire-fighting system of Fi-Fi 1 Class notation. The owner was highly impressed and very satisfied with the performance, including speed, bollard pull, and the manoeuvrability demonstrated by the tugs during sea trials. Key particulars of the “*Cao Gang 30*” and “*Cao Gang 31*” are: Length, overall (excluding fenders): 34.7m; Beam, moulded: 11.1m; Depth, least moulded: 5.19m; Maximum draft (navigational): 4.94m; Gross Tonnage: < 500; Main tank capacities are: Fuel oil: 85m<sup>3</sup>; Potable water: 30m<sup>3</sup>; Ballast: 110m<sup>3</sup>; Fire-fighting foam: 10m<sup>3</sup>. The tugs were designed and constructed to the following CCS Class Notation: ★ CSA, Tug, R1, Fire Fighting Ship 1, Water Spraying; ★ CSM, AUT-0. Propulsion machinery consists of two Yanmar main engines of 8EY26W 2,390kW at 750rpm and a pair of Schottel Z-drive SRP 460FP, Ø2700, FP. Each of the multi-purpose tugs is equipped with deck machinery, including a hawser winch two individual windlasses at the bow; a towing winch on the aft deck. Deck machinery equipment is provided by Karmøy Winch AS, Norway. Fenders for ship-handling at the bow consist of an upper row of cylindrical fenders and a lower course of W-fender. Sheer line fendering consists of “D” rubbers and a W fendering at the stern. The accommodations have been outfitted for a crew of ten including two cabins with a living room for the master and chief engineer, mess, and a galley arranged in the deckhouse, eight other crew cabins located on the lower accommodation deck. The wheelhouse is designed with a split-type control station which provides maximum all-round visibility with exceptional visibility to the bow and side fendering, as well as operation on the aft deck. Trial results were as follows: Bollard pull, ahead: 81.5mt; Free running speed, ahead: 13.1 knots.



A selection of tug launchings and deliveries by **Jiangsu Zhenjiang Shipyard** include the following. On 26th September 2023, one unit of 3,236kW ASD Tugboat built for **Qinhuangdao Port Co. Ltd** and named “*Qin Gang Tuo 28*” was launched successfully. The ASD tugboat is a dual-fuel (diesel and electricity) driven vessel with basis of globally advanced DC grid. The vessel is registered in CCS with BRC notation.

On 11th October, 2023, one unit of 2 x 1,838kW ASD tugboat, which was built for **Taizhou Hongqiang** and named “*Hai Yu Tuo 16*”, was delivered. The vessel has total length of 40.63m, breadth of 38m, depth of 4.7m, BP (ahead) of 62mt, BP (astern) of 56mt, endurance of 700nm and speed of 13.6kn.



On 20th October, 2023, two units of ASD smart tugboats- “*Jing Gang Lun 36*” and “*Jing Gang Lun 37*” have been launched successfully, which carried national key special self-navigation technology and test research. The function of the vessel is the first research cooperation project implemented since the framework signing of the Memorandum of Understanding on Technical Cooperation between China and Finland Smart Ships & Ports. This project can promote further research and wide application in a wider scope, leading a new smart tugboat's technical development, further improving ship & port's safety and efficiency and opening up the first unmanned ASD tugboat in China. Leaders of owner company, CCS headquarters and design company attended the launching ceremony.

On 20th November, 2023, one unit of 2 x 1,618kW ASD tugboat, which was built for **Qin Huangdao** and named “*Qin Gang 27*”, has been delivered. The vessel has total length of 38.37m, breadth of 37m, depth of 4.5m, BP (ahead) of 52mt, endurance of 700nm and speed of 12.65kn.



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**Macduff Ship Design** is announced that the 21m ASD tug /service vessel, “*River Pearl 10*”, was delivered to its owners **Knowledge Marine & Engineering Works Limited**. The vessel was completed by **Synergy Shipbuilders** at their yard in Goa and recently completed successful trials exceeding the contract requirements of 10 knots speed and 10mt bollard pull. The vessel is a landmark design for Macduff Ship Design being the first vessel designed for an Indian owner and built by an Indian shipyard. “*River Pearl 10*” is designed as a multirole tug / service vessel with large open working deck aft, forward focsle and wheelhouse. The layout will allow for

the vessel to complete a wide range of harbour operations including docking and undocking of vessels, marine services to anchored vessels including crew transfer, delivery of supplies and work with customs officers. The vessel will operate on charter at Deendayal Port in Gujarat India and was delivered following a year-long construction period which followed a detailed design process involving the owners, the shipyard and Macduff Ship Design. “*River Pearl 10*” is constructed entirely from steel to a hard-chine, hull form. The design was a development of an existing proven hull which was further developed to provide the vessel with the required performance characteristics whilst maintaining the operational specification and owner requirements. The main propulsion is provided by twin Cummins KTA19 M3 engines delivering 500HP @ 1,800rpm through twin Hydromaster Z drive ASD units all supplied by Parikh Power. On deck there is a main aft towing bollard fitted with tow hook. The vessel has ‘D’ fendering all around the vessel and ‘W’ style fenders around the bow to assist with pushing operations. These are complemented by a further D fender positioned down the vertical bow. The vessel is designed around a maximum complement of 10 with separate cabins for the Captain and Chief Engineer below the focsle deck and an 8 man crew cabin below the main deck casing. The main deck casing houses a large galley mess area with seating for crew or up to 10 passengers. The forward compact wheelhouse offers commanding views all round with main steering console and a small crew seating area. Vessel particulars LOA: 21.0m; Breadth: 7.2m; Depth: 3.0m; Maximum draft: 2.0m; Fuel Capacity: 23,500ltr; Fresh Water Capacity: 7,500ltr.

**Macduff Ship Design** announced two recent completions. First is the 25m ASD harbour tug “*PNT Bholu*”. The vessel was built by **Karachi Shipyard and Engineering Works** in partnership with Tor Group who provided a comprehensive design, material and supervisory support package. Following successful trials, the vessel has now been delivered to the **Pakistan Navy** where it has started service. The vessel is a 48mt bollard pull harbour tug and is powered by twin Cummins QSK50-M1 marine engines delivering 1,529kW @ 1,800rpm. These each drive a Schottel SRP 360 FP azimuth thruster fitted with a 2,200mm fixed pitch propeller. The vessel is fitted with a forward towing winches supplied by DMT and an aft towing bollard fitted with tow hook, and is fully FiFi equipped.



Following was the completion of the 30m ASD harbour tug “*Abdul 11*”. The vessel was built by **Tor Group** and following successful trials has now been delivered to the owner **The Urban Region of the Future**, in Saudi Arabia. The vessel is a 65mt bollard pull harbour and anchor handling tug and is powered by twin Cat 3516 marine engines delivering 2,000kW @ 1,600rpm. These each drive a Kongsberg 205S azimuth thruster fitted with 2,500mm fixed pitch propellers. The vessel is fitted with forward and aft towing winches supplied by DMT Marine Equipment who also supplied the small winches, capstans and chain stopper. The vessel is also designed to complete anchor handling duties with a stern roller and shark jaws, and is fully FiFi equipped.

Further to these new vessel deliveries Macduff Ship Design has spent the past several months working closely within a consortium of companies including **Harland and Wolff**, **Kongsberg** and **Echandia** to develop the concept for a 25.5m 65mt bollard pull **ASD battery electric harbour tug**. The aim of the concept is to develop a vessel that will meet the needs of most in harbour tug operations within the UK in full electric mode. The vessel will be supplemented by two HVO driven generators for unusual operations including longer coastal voyages and tows to ensure a fully green solution to the requirements of this sector. It is hoped that this concept can be developed into a working demonstrator and onto a product that Harland and Wolff can market to the shipping industry. Beyond this exciting project Macduff Ship Design hopes to further develop the concept to apply to smaller and larger tugs and onto other vessel types.



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**Svitzer**, a leading global towage provider and part of **A.P. Moller-Maersk**, recently announced the launch of the second phase of its project to design the world's first **methanol hybrid fuel cell (MHFC) tug**. Svitzer has conducted technical studies to establish the feasibility of this type of vessel accommodating the real-world operational requirements of a tug. Work will now begin between Svitzer and leading naval architect company, **Robert Allan Ltd.** to design the world's first methanol hybrid fuel cell (MHFC) tug. The next phase will include work to complete the vessel design, scope considerations for vessel construction, and onboard equipment selection necessary to build the vessel. The MHFC tug will use an electrical propulsion system with methanol fuel cells and batteries delivering a self-sustained tug with longer endurance and fewer operational constraints than a purely battery-powered vessel. Secondary methanol fuelled generators will provide backup power if required without the need for a secondary fuel. Calculations indicate that the MHFC tug running on green methanol would prevent approximately 1,300mt of CO2 annually from being emitted into the atmosphere, compared to fossil-fuel-based vessels of the same dimensions within Svitzer's global fleet. The design of the MHFC tug will be a joint project between Svitzer and Robert Allan Ltd. using Svitzer's TRAnsvErse tug design as the platform. Svitzer will look to forge partnerships with other companies to finalise the selection of onboard equipment, such as the batteries and fuel cell system, and to support construction once the design phase is complete. Gareth Prowse, Head of Decarbonisation at Svitzer, said: *"We're excited to enter the next phase of delivering the world's first methanol hybrid fuel cell tug. This project is a major milestone in Svitzer's commitment to the decarbonisation of our global fleet and demonstrates our ability to harness new technologies and alternative fuels to deliver innovations that will have a significant, positive impact on shipping's road to net zero. The combination of fuel cell technology and green methanol will result in improved operational efficiencies, resulting in less fuel consumption and lower emissions. We're delighted to be collaborating with Robert Allan Ltd. to design the MHFC tug and look forward to bringing on new partners to construct the vessel which will operate at the Port of Gothenburg in Sweden."* The MHFC is expected to enter operations in the second half of 2025 at the **Port of Gothenburg** in Sweden, where methanol is the low-carbon alternative fuel of choice. Göran Eriksson, Port of Gothenburg CEO, said: *"The Port of Gothenburg has set ambitious targets to reduce shipping emissions within the port area by 70% by 2030. To deliver on that ambition, the transition of shipping lines from fossil fuels to more sustainable fuels such as green methanol is critically important. Svitzer's decision to design and construct the world's first methanol hybrid fuel cell tug is a major milestone which sets the example for the long-term decarbonisation of global towage services. We're excited to welcome this pioneering new vessel to the Port of Gothenburg when it enters into operation in 2025."* Mathias Jonasson, Managing Director for Scandinavia & Germany at Svitzer, said: *"Svitzer has been delivering safe and efficient towage services to customers in the Port of Gothenburg for decades. In addition to its ambitious emission reduction targets, the Port of Gothenburg has already gathered valuable experiences regarding the safe and convenient bunkering of methanol. The port's experience and position as an emerging methanol bunker hub, combined with our long-standing collaboration and relationship, makes the Port of Gothenburg an obvious location for us to deploy the world's first methanol hybrid fuel cell tug."* Jim Hyslop Director, Project Development Principle at Robert Allan Ltd., said: *"Robert Allan Ltd. is excited to be working with Svitzer to develop the world's first Methanol Hybrid Fuel Cell Tug. Based on the award-winning TRAnsvErse design, the innovative propulsion system on this new tug will enable operation completely free of fossil fuels. This is a major step forward in the path to decarbonising the tug industry, and we are extremely proud to be at the forefront of developments in these new technologies."*



**Med Marine** has signed a significant contract with **Svitzer** for the construction of three advanced new tugs. These tugs, which are part of the MED-A2885 series, are each 28m in length and boast an impressive bollard pull of 80mt. Two of the three tugs will be deployed in Greece, where Svitzer currently is setting its operation up to service Gastrade's Alexandroupolis Independent Natural Gas System LNG terminal. The deployment of the third tug has not yet been finally decided. Designed by the Canadian Naval Architect Robert Allan, the tugs belong to RAsTar

2800 series. This design showcases their exceptional efficiency and remarkable terminal and escort capabilities, making them the perfect choice for Svitzer's demanding operations. The delivery of these three state-of-the-art tugs is scheduled for the end of 2023. The tugboat's specifications: Length: 28.40m; Width: 13m; Depth: 5.40m; Draft: 5.70m; Gross Tonnage: <500; Bollard Pull: 80mt; Speed: 12.5 knots; Crew: 10 people.

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A new tugboat hailed as the next generation of multi-purpose tugs, was launched at **Sanmar Shipyards** Tuzla in Türkiye. With an overall length of 25.8m, moulded beam of 12.0m, moulded depth of 4.5m and a maximum draft of 6.3m the **TRAnverse tug** can generate higher steering forces than most designs of similar dimensions and comes with an innovative staple design and unique ability to push, pull and maneuver in all directions. The new design was designed by **Robert Allan Ltd** in accordance to the requirements of **Svitzer**, and with contribution from Sanmar Shipyards. With omnidirectional hull form and propulsion, steering forces over the full range of speeds and maneuvers, and a unique towing arrangement, the compact, more fuel-efficient TRAnverse tug is scalable and suitable for all types of harbor and terminal towage operations. Its two main engines further enhance the tug's green credentials by complying with Tier III emissions regulations while driving two ASD fixed pitch propellers. It can achieve a bollard pull of 60mt. In addition to its innovative design emphasis was put on ease of operation for the onboard crew of up to six. Sanmar is pioneering new technology tugboats through innovation, technological advances and alternative fuels. The TRAnverse Tug joins the wide product portfolio of Sanmar's Electric-powered ElectRA Tugs, along with LNG-fueled, hybrid, methanol and autonomous tugs.



**Rolls-Royce** and global towage operator **Svitzer** have successfully demonstrated the world's first **remotely operated commercial vessel** in Copenhagen harbour, Denmark. Earlier this year, one of Svitzer's tugs, the 28m long "Svitzer Hermod", built in Türkiye at one of Sanmar's custom built, modern tug building yards, safely conducted a number of remotely controlled manoeuvres. From the quay side in Copenhagen harbour the vessel's captain, stationed at the vessel's remote base at Svitzer headquarters, berthed the vessel alongside the quay, undocked, turned 360°, and piloted it to the Svitzer HQ, before docking again. "Svitzer Hermod", is of the highly successful Robert Allan Ltd RAstar 2800 series design, nominated by

Sanmar as its Terminal class. However, a number of modifications to the standard class were incorporated to meet this customer's operational needs and other preferences. These include changes to the propulsion equipment, tank capacities, air-conditioning/heating, external fire-fighting arrangements and the addition of IHM (Inventory of Hazardous Materials) notation. Special care was also given to resilient mounting of all engines and essential equipment including hydraulic pipes and insulation of all zones. Sound level measurements have been made in all areas and are well below the contract limit. Mikael Makinen, Rolls-Royce, President – Marine who witnessed the event said; *"It was an honour to be present at what I believe was a world first and a genuinely historic moment for the maritime industry. We've been saying for a couple of years that a remotely operated commercial vessel would be in operation by the end of the decade. Thanks to a unique combination of Svitzer's operational knowledge and our technological expertise, we have made that vision a reality much sooner than we anticipated."* "Svitzer Hermod", a Robert Allan ship design, was built in Türkiye at the Sanmar yard in 2016. It is equipped with a Rolls-Royce Dynamic Positioning System, which is the key link to the remote controlled system. The vessel is also equipped with a pair of MTU 16V4000 M63 diesel engines from RollsRoyce, each rated 2,000kW at 1,800rpm and giving the vessel a bollard pull of 70mt. It was the first of a six vessel order which brings the total number of Robert Allan designs built by Sanmar to well in excess of 150. The vessel also features a range of sensors which combine different data inputs using advanced software to give the captain an enhanced understanding of the vessel and its surroundings. The data is transmitted reliably and securely to a Remote Operating Centre (ROC) from where the Captain controls the vessel.

Mid August the Christening Ceremony of tugboat "En Avant 25" and pushboat "Zodiac" took place at the **Merwekade** in Dordrecht. The highlight of the evening was the announcement and contract signing of a new tugboat, also an ASD 3212 and built by **Damen**, the "En Avant 26"! In April next year **Muller** will christen this newest tug. The "En Avant 25" is built at **Damen** in Vietnam and with her 85mt bollard pull she can operate offshore as well as in port. Her deck lay-out is outfitted for offshore operations such as towing pins, tuggers, wooden deck and crash rails. She is also outfitted for firefighting (FIFI-1) with 2,400m<sup>3</sup>/hr. Furthermore equipped with the latest technical gadgets, whereby the engine room is outfitted regarding the latest environmental terms. Because of her ASD propulsion, her maneuverability is excellent for operating also in port. She is able to assist over the stern as well as her forecastle. She will be rented out in the beginning of next year for a timespan of minimum three years for towing and assisting services during the construction of a tunnel between Denmark and Germany.



# Marcon International, Inc.

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**Damen Shipyards Group** has delivered a new Shoalbuster 3209 to **SAFEEN Group**, a subsidiary of **AD Ports Group**. The vessel was named “*Al Mirfa*”, after a coastal community located in the Al Dhafra region of Abu Dhabi, in a ceremony that took place at Damen Shipyards Gorinchem in the Netherlands. The primary purpose of the “*Al Mirfa*” will be buoy maintenance, a role for which the Shoalbuster 3209 is ideally suited given its standard specification. This includes its shallow draught, extensive unobstructed deck, a heavy-duty deck crane, waterfall winch and towing pins, stern roller and a FiFi-1 fire-fighting system. Additional buoy clamps and chain stoppers have

been added. The vessel will also be utilized for towing activities, with a bollard pull of over 45mt, as well as other support activities both in the ports and offshore. SAFEEN Group already operates a Damen Shoalbuster 2609 model that was delivered in 2016, and in 2019 the group took delivery of two Damen ASD Tugs 2411.

McAllister Towing is proud to announce the arrival of the tug “*Jane McAllister*”. The “*Jane*” is equipped with 3516E Tier IV Caterpillar engines powering twin Schottel SRP 490 Z-drive units. Packed into her 93’ x 38’ hull producing 6,770 horsepower, the “*Jane*” achieved over 91 short tons during her ABS bollard pull certification. Combining her eco-friendly CAT engines with Markey winches on the bow and stern makes the “*Jane*” one of the most advanced and powerful shipdocking tractor tugs serving the port of Virginia. The “*Jane McAllister*” was delivered from

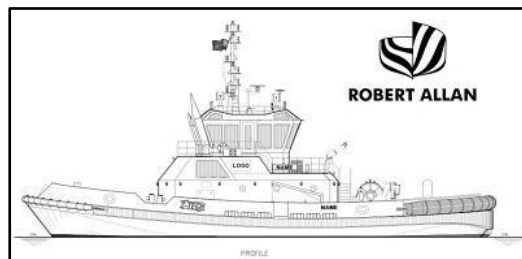
**Washburn & Doughty**. Captain J. Elliott Westall, McAllister Towing of Virginia’s Vice President and General Manager, is excited by the tug’s arrival. “*The JANE will not only meet, but exceed the needs, handling the ever-increasing size of vessels calling Virginia. This tug is joining our fleet of six other tractor tugs, and will enable us to continue safely handling the gentle giants calling the Port of Virginia. Having exceptional control and power, the JANE is the new “Queen of Hampton Roads” and everyone that works on or with her can be confident in her abilities to deliver unsurpassed service for our customers.*” McAllister President & CEO B. Buckley McAllister added, “*We are proud that the Jane is the 10th tug in our fleet with over 80 metric tons of bollard pull and escort capability, making our fleet one of the best in the country for the larger ships entering into service.*” The “*Jane McAllister*” was christened at her launch by Jane Woodfield Morin, daughter of Alexandra McAllister Woodfield. Both Jane and Alexandra are direct descendants of James McAllister, who founded McAllister Towing in 1864.



**Robert Allan Ltd.** is pleased to announce the award of a significant new contract with **South Red Sea Shipyard (SRSS)** in Egypt for the design of ten (10) RAstar 3200-W ASD tugs to be built for the **Suez Canal Authority**. These new vessels build on the success of the RAstar 3200W platform, of which there are over 20 vessels in service worldwide. On completion of this contract, the Suez Canal Authority will own and operate over 20 Robert Allan Ltd. designed tugs, all of which are high-performance ASD tugs. These new vessels will complement the existing eight Robert Allan Ltd. designed tugs currently working in Egypt for commercial operators.

Construction contracts for four new tugs have been awarded by **Gulf LNG Tugs** of Brownsville, Texas to serve the Rio Grande LNG export facility (RGLNG). **Master Boat Builders**, Coden, Ala. and Sterling Shipyard, Port Neches, Texas will each build two of the Robert Allan Ltd. designed Z-Tech 30-80. These new tugs are sisters to ten tugs that are currently operating in US Gulf Coast ports. The design has proven to provide exceptional escort performance in combination with superior seakeeping by the blending of two Robert Allan Ltd.

innovations: the Z-Tech configuration and the RAstar’s sponsons. The Z-Tech 3080 tugs will be classed by ABS for Escort Tug, Low Emissions Vessel (US) and Fire Fighting – Class 1, in compliance with the ABS Marine Vessel Rules, 2023. The tugs are also in compliance with USCG Subchapter-M regulation requirements for towing vessels. The Z-Tech 30-80 tugs have an overall length of 98’-6”, a breadth of 42’-8” and are expected to reach a bollard pull of approximately 87mt, with a pair of Schottel SRP 510FP thrusters, 2.8m fixed pitch propellers, driven by two EPA Tier IV compliant Caterpillar 3516E main engines, delivering 3,500BHP at 1,800rpm. A Markey DEF-48A, Class III – 100HP winch is fitted on the forward deck for escort operations. Gulf LNG Tugs of Brownsville, Texas is a joint venture formed between **Bay-Houston Towing Co.**, **Moran Towing Corporation**, and **Suderman & Young Towing Company**.



# Marcon International, Inc.

## Tug Boat Market Report – November 2023



**Port of Antwerp-Bruges** is purchasing six new tugboats, including one electric - a European first. This expansion is part of the renewal and greening of the fleet, with an emphasis on sustainable and energy-efficient vessels. The purchase includes five diesel-powered RSD tugboats that will replace existing tugboats. But the real game changer is the electric version, the RSD-E, which is expected in the autumn of 2024. The diesel versions will follow shortly afterwards, in the spring of 2025. **Damen Shipyards** is responsible for the delivery of these sustainable ships. With the RSD-E, Port of Antwerp-Bruges becomes the first European port with a

fully electric tugboat with 70mt of bollard pull in its fleet. An impressive 1.5MW charging station will be installed at the NOC (Nautical Operational Cluster) operational headquarters, allowing the 2,782MWh batteries to be fully charged in just two hours. The tugboat is designed according to the double bow principle and is equipped with a patented double Twin Fin skeg, which ensures improved sailing characteristics. This allows her to be used dynamically as a fore and aft tug. In addition, the tugboat is more energy efficient thanks to its specific design and is equipped with a nitrogen oxide filter. In September 2020, Port of Antwerp-Bruges purchased its first RSD tugboat, after which two more followed. In addition to the use of this technology, the Hydrotug and Metthatug, the first tugboats in the world to run on hydrogen and methanol respectively, are also making an appearance. These projects are part of an integral greening program for the fleet and emphasize the ambition to be a climate-neutral port by 2050.

**SAAM Towage**, the leading provider of towage services in the Americas, received two new vessels in Brazil, giving it one of the most competitive and modern fleets in the country. The new vessels are the last two of the 21 tugs acquired from **Starnav** this year. This brings SAAM Towage's fleet in Brazil to 65 vessels operating at 19 ports. Built by **Detroit**, a Chilean shipyard founded in 1990, these tugs feature azimuth propellers powered by a mechanical hybrid system that allows them to connect them at will and sail with a single engine, which makes for more efficient use of fuel on extended trips. At the regional level, the company has 211 tugs operating at more than 100 ports, performing more than 140,000 maneuvers for 40,000 vessels each year.



**NYK** has concluded a contract with **Keihin Dock Co., Ltd.**, an NYK Group company, to modify a tugboat to ammonia-fuel specifications. "*Sakigake*", a tugboat currently fueled by liquefied natural gas (LNG) and operated in Tokyo Bay by NYK Group company **ShinNippon Kaiyosha Corporation** will be converted to operate on ammonia fuel by a target completion year of 2024. This initiative is part of the development of vessels equipped with a domestically produced ammonia-fueled engine, which was initiated in October 2021 by NYK and IHI Power Systems Co., Ltd. (IPS) as part of the Green Innovation Fund Project of the New Energy and Industrial Technology Development

Organization (NEDO). Since carbon dioxide (CO<sub>2</sub>) is not emitted when ammonia is combusted, ammonia is viewed to have promise as a next-generation fuel that could mitigate shipping's impact on global warming. In addition, it is said that zero emissions can be realized throughout the fuel life cycle by utilizing CO<sub>2</sub>-free hydrogen as a raw material for ammonia. By using ammonia as a fuel for ships, it will be possible to significantly reduce greenhouse gas (GHG) emissions during voyages. Therefore, NYK and IPS are proceeding with research and development aiming for early social implementation. In the development process, there were various design challenges in using ammonia as fuel, but the two companies overcame these challenges without changing the size of the conventional tugboat and received Approval in Principle (AiP) from Nippon Kaiji Kyokai (ClassNK) in July 2022. NYK will begin modification in fiscal 2023 with the aim of realizing demonstration operations in the port of Yokohama in fiscal 2024. Outline of "*Sakigake*": LOA: 37.2m; Breadth: 10.2m; Moulded depth: 4.4m; GRT: 272 tons; Shipowner: NYK; Flag: Japan.

In order to ensure more infrastructure for the Northern Region of Brazil, the acquisition of the new tugboat "*José Guilherme XI*" was carried out, which will be part of the fleet of tugboats of the **Chibatão Group**. The Azimuthals Tugboats have a great importance in the process of docking and unberthing of ships arriving in the Amazon. In addition to performing manoeuvres to support vessels, they are essential for better performance of port operations.



# Marcon International, Inc.

## Tug Boat Market Report – November 2023

### Company News

In June 2023, **Boluda Towing** announced its strategic investment in **Hongkong Salvage and Towing Services Limited (HKSTS)**, a new joint venture formed as a member of **CK Hutchison Holdings**. HKSTS' principal services include salvage and towage and marine project management business. Through this collaboration, Boluda will be able



to expand its business portfolio into Asia and enhance HKSTS service offerings of salvage and towage services, benefiting both companies, business customers and the maritime industry. A signing ceremony was held to commemorate the special occasion and attended by the senior management teams of Boluda and Hutchison Ports. Vicente Boluda said:

*“Boluda’s entry into the Hongkong Salvage and Towing Services Limited partnership was a unique and formidable opportunity to strengthen Boluda Towing in the Asian continent and especially in one of its main ports, Hong*

*Kong. We thank our new partners for the trust they have placed in the Boluda family to be associated with the towage business in Hong Kong.”* The collaboration signifies both companies will join forces to develop business opportunities with innovative solutions, supported by Boluda’s fleet of over 700 vessels and Hutchison Ports’ network of 54 ports in 25 countries.



**SAAM** finalized the sale of its port terminals and logistics operations to **Hapag-Lloyd** for approximately US\$ 995 million. The sale will allow SAAM to focus on expanding its towage business and becoming a global leader in the industry. The transfer of assets from SAAM to Hapag-Lloyd was signed at a ceremony in Santiago that senior executives of the German company attended. *“SAAM is beginning a new stage focused on two business areas where we see growth opportunities. We will strengthen our towage business to grow in new markets and become a world leader. We also want to expand*

*Aerosan’s regional presence,”* said Macario Valdés, Chief Executive Officer of SAAM. The company transferred ten port terminals in Chile, the United States, Mexico, Costa Rica, Colombia and Ecuador, as well as its bonded warehouses and logistics operations in Chile. SAAM leads the towage industry in the Americas, with over 210 vessels operating at more than 90 ports in 13 countries. The sustained growth strategy the company has deployed in recent years has strengthened its position on the continent. Aerosan provides air logistics services at eight airports in Chile, Colombia and Ecuador and has also expanded operations in Latin America through an acquisition plan.

Global maritime and logistics leaders **Crowley** and **SEACOR Holdings**, through its subsidiary **Seabulk Tankers, Inc.**, recently announced an agreement to form a joint venture that will integrate their liquid energy and chemical transportation vessels, operations and related services into a new, independent U.S. Jones Act service provider, **Fairwater Holdings LLC**. Fairwater will leverage and scale both entities’ unique operational and safety-focused capabilities to serve the U.S. domestic market with vessels and marine transportation solutions across the petroleum and chemical trades, as well as related third-party ship management services. It will include 20 ocean-going, articulated tug-barges and 11 tankers, many under long-term charter. The joint venture will provide crewing and technical management for an additional 21 third-party owned vessels. Daniel Thorogood, CEO of Seabulk, will assume the CEO role at Fairwater at closing. The joint venture will be based in Fort Lauderdale with offices in Fairfield, Conn.; Houston, Jacksonville and Seattle. Through a shared commitment to deliver on and exceed the needs of the day, the new company will offer a unified, seamless transition for customers and partners to continue the reliable, uninterrupted support for their energy supply chain and related activities. In the coming months, both companies will complete activities to support the integration of the assets and services into the new entity. The joint venture transaction is expected to close in the first quarter of 2024 and begin operations following the satisfaction of customary closing conditions and regulatory approval. Vinson & Elkins LLP acted as legal advisor to Crowley. Milbank LLP and Watson Farley & Williams LLP acted as legal advisors to SEACOR.

