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Ballast Water Treatment: Technologies and Global Markets

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NEW YORK, Dec. 12, 2013 /PRNewswire/ -- Reportlinker.com announces that a new market research report is available in its catalogue:

Ballast Water Treatment: Technologies and Global Markets

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STUDY GOALS AND OBJECTIVES

This BCC Research report is designed to provide the reader with an understanding of the ballast water treatment equipment industry and the market forces that affect it. The report begins with an overview of the global shipping industry and the problems associated with the transfer of invasive species from port to port in ballast water. Pending and existing regulations at the global, regional and local levels are described, along with their numerical standards and implementation schedules. Vessels affected by these rulings are identified and categorized by type, country, size and age.

The report presents estimates of the current market value and forecast values for the year 2018 by calculating the compound annual growth rate (CAGR) for a five-year period. Market size and growth are assessed for four world regions: North America, Europe, the Asia-Pacific region and the "rest of world". Within each world region, the countries forecast to make the largest system purchases are broken out of the total.

The markets are further analyzed by a number of other parameters including technology type, vessel type and vessel size. Values for each of these markets are presented for 2013 and 2018, and CAGRs are provided for the five-year time frame.

A patent analysis covering both U.S. and world patent activity is included to show technology trends and identify companies with the largest intellectual property portfolios. Number of patents and percentage share of the total are broken down by technology, assignee or inventor, and country.

A section on industry structure looks at the firms involved in ballast water treatment and categorizes them by type of company, i.e., diversified multinational corporation, water treatment specialist and base of operation. Brief profiles describe each company's core activities and ballast water treatment systems.

REASONS FOR DOING THE STUDY

Shipping is used to move more than 80% of the world's commodities and transfers three to five billion metric tons of ballast water every year. Ballast water is essential to the safe and efficient operation of shipping, but also poses serious ecological, economic and health threats due to the inadvertent transfer of invasive aquatic species.

The introduction of invasive marine species into new environments through ballast water transfer has been identified as one of the major threats to the world's oceans. In response, the 1992 United Nations Conference on Environment and Development (UNCED) called on the International Maritime Organization (IMO) and other international bodies to take action to solve the problem.

By this time, the IMO had been seeking a solution for more than a decade. In 1991, the organization published Guidelines for Preventing the Introduction of Unwanted Organisms and Pathogens from Ship's Ballast Waters and Sediment Discharges. This publication was updated in 1993. In 1997, the IMO published Guidelines for Control and Management of Ships' Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens (Resolution A.868 (20)).

In February 2004, the International Convention for the Control and Management of Ships' Ballast Water and Sediments (also known as the Ballast Water Management or BWM Convention) was adopted by the IMO. To complement the Convention, the IMO adopted over 15 sets of guidelines and other documents contained in various resolutions and circulars. In addition to the international regulations, federal laws, such as those implemented in the U.S., as well as state and local regulations, impact market dynamics.

Prior studies analyzing the ballast water treatment equipment market have based their calculations on the IMO's original schedule for system implementation. The timetable is now expected to change, so the market needs to be reassessed. Instead of requiring that the entire global fleet be in compliance within three years, the new schedule would spread the annual installation workload more evenly over the five-year period from 2017 to 2021.

Regardless of the implementation schedule, there is a massive global market for ballast water treatment systems, as many as 10,000 units per year or 30 installations per day, for multiple years. However, the market is unusual in that once all existing ships are in compliance, only newly-built ships will require system installation, shrinking the market to 2,000 to 3,000 ships per year, or about five installations per day.

INTENDED AUDIENCE

Global interest in ballast water treatment has been rising steadily since the early 1990s. The transfer of invasive aquatic species affects many global regions, including both developing and developed countries. These invasive species compete with and negatively impact the survival of native organisms. The outcome of this can be economic and health-related.

This study is designed to be useful to a wide range of readers: industry players, researchers, corporations and others who have stakes in shipping and ballast water treatment technologies, as well as those who are considering expanding into these markets. This study provides critical information to decision makers regarding global, national and regional investment

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strategies, along with the level of anticipated return that will result from continued market development.

SCOPE AND FORMAT

This report is focused on the market for ballast water treatment equipment for four world regions: North America, Europe, the Asia-Pacific region, and the "rest of world". The study begins with a discussion of problems associated with ballast water, and continues with a discussion of existing and pending regulations regarding its treatment and an overview of the various types of treatment technologies.

The report includes current and projected market value, market drivers, trends and opportunities, top-selling products and suppliers, and a general market outlook. The report contains roughly 100 market tables and figures that provide a comprehensive insight into the market, along with nearly 80 company profiles. Market tables are presented for a range of parameters including geographic region, vessel size and type, supplier and product type.

All market data pertains to sales at the manufacturer level. Data are expressed in current U.S. dollars. The base year of the report is 2013, with historical data provided for 2008 and 2010 and forecast data provided through 2018. Historical, base year and forecast data are provided for each market segment of the report. Competitor market shares are provided for the year 2012.

METHODOLOGY AND INFORMATION SOURCES

Both primary and secondary sources were used in the compilation of this report. Research began with an examination of existing and pending regulations that drive the industry, and a review of their implementation schedules, if the standards were not yet in effect. Data were gathered regarding the number of ships in the global fleet, categorized by age, type and world region of ownership. A review of treatment technologies was also conducted and systems were categorized according to treatment type.

Regulatory information was collected from the IMO and the IMO's Marine Environmental Protection Committee (MEPC), the U.S. Coast Guard (USCG), the U.S. Environmental Protection Agency (EPA), the Federal Register, the State of California and the Australian Environmental Protection Authority.

For global vessel numbers, sizes, and types, a variety of sources were used including Lloyd's Register, Equasis, the Central Intelligence Agency (CIA) Factbook, American Bureau of Shipping (ABS), the United Nations Conference on Trade and Development (UNCTAD), the Norwegian Ordinary Ship Register and the Shipbuilder's Association of Japan.

The IMO, MEPC, company presentations and product literature provided system information. Other sources included the Aquatic Nuisance Species Task Force, Safety 4 Sea, company annual reports, trade associations, industry journals, and the U.S. and world patent databases.

ANALYST CREDENTIALS

During the past 17 years, Susan Hanft has authored more than 30 market research reports for BCC Research in the fields of membrane technology, water and wastewater treatment, and separations used in food and beverage manufacture, medicine, biotechnology, and the oil and gas industry.

REPORT HIGHLIGHTS

The global ballast water treatment equipment market reached nearly \$1.4 billion in 2012. This market is expected to grow to nearly \$2.1 billion in 2013 and \$8.5 billion in 2018 with a compound annual growth rate (CAGR) of 32.9% for the five-year period 2013 to 2018.

This report provides:

- An overview of the global market for ballast treatment technologies, including solid-liquid separations, with and without coagulation and flocculation; chemical treatment, such as chlorination and ozonation; and physical treatment such as ultraviolet irradiation, gas injection, and ultrasonic processes
- Analyses of market trends for four world regions, with data from 2012, estimates for 2013, and projections of compound annual growth rates (CAGRs) for the five year period, 2013 to 2018
- A presentation of legislative and other drivers by region and a discussion of pending International Maritime Organization regulations
- A listing of the categories of seagoing vessels, i.e. cargo ships, cruise ships, ferries, tankers, affected by recent and expected rulings and the types of treatment equipment each will require
- A patent analysis that reveals technical developments and firms with leading intellectual property portfolios
- A discussion of industry structure
- Comprehensive company profiles of more than 40 key players in the market.

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