

Global Water Treatment Market: Analysis By Application (Municipal and Industrial), By Product and Services (Chemicals, Equipment and Services), By Equipment Type (Membrane Separation, Biological, Sludge, Disinfection and Others), By Region Size and Trends with Impact of COVID-19 and Forecast up to 2028

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Abstracts

The global water treatment market was valued at US\$303.55 billion in 2022. The market value is forecasted to grow to US\$460.68 billion by 2028. People enjoy access to drinking water today, the future supply of clean water for human consumption, and industrial use, holds significant challenges. Ensuring adequate clean water supplies for ever growing populations would likely require increased investment in water treatment services, both to ensure that water quality meets ever tightening standards, and to support increased rates of reuse. Water treatment is a process of improving water quality and transforming it into an effluent that can be reused for specific end use like drinking, industrial water supply, irrigation, river flow maintenance, water recreation, etc., or safely returned to the nature with a minimized negative impact on the environment. Water treatment process is mainly associated with removal of contaminants and undesirable components, or reducing the concentration of harmful chemicals to improve water quality for the desired end-use.

Factors such as lack of fresh water resources, rapidly developing emerging economies, rising concerns associated with environment degradation, increasing investment by companies in advanced wastewater treatment technology and growing emphasis on water quality and public health are expected to drive the overall market growth in the forecasted period. Alongside these trends, there is increasing pressure upon water



intensive sectors to improve their efficiency, and increase reuse of wastewater. These factors drive the need for more effective pollutant removal from water, and is likely to drive continued investment in water treatment. The market is anticipated to grow at a CAGR of approx. 7% during the forecasted period of 2023-2028.

Market Segmentation Analysis:

By Application: The report provides the bifurcation of the market into two segments based on application: municipal and industrial. Municipal water treatment market holds the largest share of global water treatment market owing to increasing population growth, rapid urbanization, lack of freshwater resources, rising water demand in agricultural sector and increasing use of municipal water for amusement activities such as swimming pools and amusement parks. Also, municipal water companies are increasingly prioritising actions to address water quality and scarcity issues. For example: Veolia committed to diagnose water resources and develop solutions to optimize water management by 2023.

By Product and Services: The report provides the bifurcation of the market into three segments based on product and services: equipment, services and chemicals. Services water treatment market is both the largest and the fastest growing segment of global water treatment market owing to increasing manufacturing activities, rapid urbanization, increasing company focus on building technologically advanced water treatment facilities and growing need for maintenance of existing sewage treatment plants.

By Equipment Type: The report also provides the bifurcation of the water treatment equipment market into five segments: membrane separation, biological, sludge, disinfection and others. Membrane separation water treatment equipment market is the largest and fastest growing segment owing to rising adoption of membrane separation technology in dairy processing & beverages industry, increased population growth, rising environmental restrictions on untreated wastewater discharge by industries, accelerated depletion of ground & surface water resources and increasing implementation of the reverse osmosis (RO) pre-filtration process in various end user industries.

By Region: The report provides insight into the water treatment market based on the regions namely North America, Europe, Asia Pacific and rest of the world. The global water treatment market is well diversified globally, with significant markets in all regions. Market trends do, however, differ significantly by region. Asia Pacific water treatment market in the largest & fastest growing region of global water treatment market owing to

Global Water Treatment Market: Analysis By Application (Municipal and Industrial), By Product and Services (Ch...



increasing urban population, rising demand for municipal wastewater treatment facilities, rapidly growing manufacturing sector, rapid industrialization and rising government regulations for wastewater treatment. In Europe and North America, there is an established base of water processing infrastructure which was designed and installed in some cases many decades ago, which requires investment to meet modern water processing standards.

Asia Pacific water treatment market is divided into five regions on the basis of geographical operations, namely, China, Japan, India, South Korea and Rest of Asia Pacific, where China water treatment market held the largest share in Asia Pacific water treatment market owing to rapid industrialization, low freshwater availability and increasing number of stringent wastewater regulations to combat the rising pollution levels.

Market Dynamics:

Growth Drivers: The global water treatment market has been growing over the past few years, due to factors such as rapid urbanization, increasing demand from end user industries, rising health awareness, water scarcity, climate change, stringent wastewater government regulations, etc. Effluents from companies processing chemicals, pesticides, rare materials & other harmful materials are proven to hazardous if not adequately treated before dumping into the fresh water resources. Governments of various countries are increasingly implementing stringent wastewater regulations along with punishments for perpetrators in terms of increased jail time & hefty fines, incentivizing many industries to build their own water treatment plants or employ wastewater treatment solutions & services, provided by wastewater treatment companies. Thus, rising stringent regulations requiring industrial producers to either recycle or clean wastewater before discharging in order to achieve sustainability goals will continue to increase the demand for wastewater treatments, boosting the growth of global water treatment market.

Challenges: However, the market growth would be negatively impacted by various challenges such as lack of infrastructure facilities, high installation, equipment and operations cost, etc. High cost of equipment and its operation act as a restraining factor in the water treatment market. Disinfection technologies, desalination equipment and Ozonation and UV equipment are very costly for developing and underdeveloped countries and requires considerable amount of energy to be operated, resulting in high overall equipment and energy consumption costs. So, absence of basic infrastructure and equipment that are required for distribution and storage of water in both developing



and underdeveloped economies will continue to impend the growth of global water treatment market.

Trends: The market is projected to grow at a fast pace during the forecasted period, due to various latest trends such as increasing integration of artificial intelligence (AI), growing demand for internet of things (IoT) solutions, rapid advancements in water treatment technologies, increasing adoption of nanotechnology, thermal hydrolysis, etc. Artificial intelligence in water treatment processes is associated with higher automation, reduced operational cost, low occurrence of human error and optimizing use of chemicals with AI models successfully predicting the performance of different absorbents for the removal of pollutants from water. AI also helps in getting real-time data on the quality of water, predicting emergency events by observing data patters, optimizing energy use, meeting effluent compliance standards and detecting the amount and composition of toxic contaminants present in the effluent, and increasing the effectiveness & efficiency of providing wastewater treatment solutions. Therefore, increasing integration of AI in water treatment processes is expected to boost the growth of global water treatment market in the forecasted period.

Impact Analysis of COVID-19 and Way Forward:

COVID-19 brought in many changes in the world in terms of reduced productivity, loss of life, business closures, closing down of factories and organizations, and shift to an online mode of work. Lockdown policies, imposed by the government to prevent the spread of virus forced various end user industries to either shut down or run low on production capacity, resulting in lower production and manufacturing activities by various end user industries and since end user industries including oil & gas, power plant, mining, pulp & paper, etc., demand water treatment solutions to remove impurities and chemical contaminants from effluent before releasing it into the environment in order to comply to stringent wastewater government regulations and achieve sustainability goals, there was a sudden fall in the demand for water treatment solutions as result of reduced production activities, having negative impact on the global water treatment market during the period, 2019-2020.

Competitive Landscape:

The market for water treatment has been fragmented due to the presence of numerous international, regional and local players in the market. The main objective of key players operating in the market is to adopt technologies such as AI, advanced diagnostics and nanotechnology to build an effective water treatment process for treating all the



impurities present in a water resource.

The key players of the market are:

Veolia Environnement SA

DuPont de Nemours, Inc.

Xylem, Inc.

3M Company

Pentair PLC

Ecolab Inc.

Kemira Oyj

BASF SE

DOW Inc.

Kurita Water Industries Ltd.

United Utilities Group PLC

Kingspan Group PLC (Kingspan Water & Energy)

SNF

Hydro International UK Ltd.

BioMicrobics, Inc

Product launches, mergers & acquisitions and partnership & collaborations are the main strategies adopted by water treatment players to expand market share and gain competitive advantage. For instance, on January 23, 2023, Xylem, Inc., and Evoqua announced that they have entered into a definitive agreement under which Xylem would



acquire Evoqua in an all-stock transaction that reflects an implied enterprise value of approximately US\$7.5 billion.



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