The PFAS filtration market is projected to reach USD 2.80 billion by 2029, at a CAGR of 7.1% from USD 1.99 billion in 2024. The PFAS filtration market growth is driven by increasing regulatory scrutiny and tightening of environmental regulations regarding PFAS contamination and growing public awareness of the health risks associated with PFAS exposure. The PFAS filtration market is driven by several factors, including technological advancements, shifting consumer behaviors, favorable economic conditions, expanding applications in various industries, and growing demand. The increasing use of PFAS filtration in various end-use industries, such as chemical, oil & gas, semiconductoris a significant driver for market growth.

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"RO membrane and nanofiltration is projected to be the fastest growing remediation technology type of PFAS filtration, in terms of value, during the forecast period."

Nanofiltration (NF) and Reverse Osmosis (RO) membranes are pivotal in the remediation of PFAS (per- and polyfluoroalkyl substances) from water sources. NF membranes operate on the principle of size exclusion and charge interactions, effectively removing PFAS based on their molecular size and charge characteristics. This technology is particularly adept at treating water with lower PFAS concentrations and offers advantages such as lower energy consumption and selective removal of divalent ions. In contrast, RO membranes utilize high pressure to force water through a semipermeable membrane with very small pores, achieving exceptional removal efficiencies for PFAS, often exceeding 99%. However, RO systems require significant energy inputs due to the pressure needed to overcome osmotic forces. Both NF and RO technologies are critical in addressing PFAS contamination, providing robust solutions for ensuring water quality and meeting regulatory standards in various industrial and municipal applications

"Industrial PFAS treatment is the fastest growing end-use industry of the PFAS filtration, in terms of value."

The treatment of per- and polyfluoroalkyl substances (PFAS) in industrial wastewater is essential across diverse sectors such as chemical manufacturing, oil and gas extraction, pharmaceutical production, and mining operations. These industries encounter PFAS contamination from various sources, including manufacturing processes, product formulations, and equipment maintenance. To mitigate environmental impact and adhere to regulatory standards, industrial facilities employ advanced treatment technologies. Common methods include activated carbon filtration, which effectively adsorbs PFAS compounds from water, and ion exchange resins that swap PFAS ions for less harmful substances. Additionally, membrane filtration and advanced oxidation processes (AOPs) like UV oxidation or ozonation are utilized to degrade or separate PFAS molecules.

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"North America captures the largest share in the PFAS filtration market during the forecast period, in terms of value."

North America's dominant position in PFAS filtration stems from several key factors. The region hosts a substantial number of industries historically reliant on PFAS, such as chemical manufacturing, electronics, and aerospace, which generate significant volumes of contaminated wastewater. Stringent environmental regulations in countries like the United States and Canada impose strict limits on PFAS discharge, compelling industries to invest in advanced filtration technologies to achieve compliance. Moreover, North America boasts a robust market for environmental technologies, fostering continuous innovation in PFAS filtration methods. This combination of industrial demand, regulatory pressure, and

technological advancement ensures that North America remains a leader in addressing PFAS contamination, striving to safeguard water quality and public health effectively.

PFAS Filtration Companies

The key global players in the PFAS filtration market include Veolia (France), AECOM (US), WSP (Canada), Clean Earth (US), Wood (UK), Xylem (US), TRC Companies, Inc. (US), Jacobs (US), Battelle Memorial Institute (US), Cyclopure, Inc. (US) are the key players in the PFAS filtration market. These companies are strong in their home region and explore geographic diversification alternatives to grow their businesses. They focus on increasing their market share through new product launches, partnerships and other expansions. Stringent government regulations stricter PFAS limits in drinking water, industrial discharge, and consumer products offers good opportunities for these companies to grow in the PFAS filtration market.

Veolia

Veolia is a leader in environmental services. It provides complete range of solutions for managing water, waste, and energy. The company offers PFAS remediation through its subsidiary, Veolia Water Technologies. The company operates through three business segments: water, energy, and waste management. It has developed and introduced a range of treatment and PFAS remediation technologies to address contamination in industrial, military, and municipal applications. The company has developed three technologies, namely, carbon adsorption, specialty anion ion exchange resin, and reverse osmosis or nanofiltration. The company holds the top position in municipal water treatment across several regions, including Europe, the United States, Spain, Chile, Australia, and the Czech Republic, showcasing its expertise in providing safe and efficient water services. In the United States, Veolia is a key player in municipal water operations and maintenance (O&M), ensuring reliable water distribution and infrastructure management. In China, Veolia leads the way in industrial water treatment, offering sustainable solutions to support various industries. Additionally, the company ranks joint No. 1 in municipal water treatment in the Middle East, emphasizing its role in providing critical water services in arid regions. With a strong presence in regulated water, hospital waste, and hazardous waste management, Veolia is committed to advancing water sustainability and technology on a global scale. The company offers its products and solutions in 52 countries across North America, the Middle East & Africa, Latin America, Asia Pacific, Europe, and Australia.

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AECOM

AECOM stands as a globally respected infrastructure consulting firm. The company is offering comprehensive professional services across the entirety of project development phases. The company is second largest general architectural and engineering design firm in the world, ranked by 2022 design revenue and also organization is the number one ranked transportation design, facilities design, environmental engineering, environmental consulting and environmental science firm in the world The company offers various services such as architecture & design, construction management, engineering, environmental services, IT & cybersecurity, planning and consulting, program management, industrial & commercial operations and maintenance, remediation, restoration, and redevelopment and program management and others. The company has developed DE-FLUORO technology, a viable PFAS destruction technology. DE-FLUORO is a proven-on site PFAS destruction technology for industrial wastewater, concentrated waste derived from separation technologies, landfill leachate, and reverse osmosis brine concentrates. Currently, the company has now over 1,200 successful PFAS projects at more than 600 locations globally. The company has global presence, operates in North America, Europe, Middle East & Africa, India, Asia pacific, and South America.

WSP

WSP is the leading engineering and professional services firm. The company operates through four business segments: transportation & infrastructure, earth & environment, property & building, and power, energy & industry. It provides PFAS treatment services through the earth & environment business segment. It provides technical practical solutions with groundbreaking technologies for PFAS destruction. The company also supports its clients through project life cycle—from design, permitting, planning, and operations to decommissioning and asset remediation. It provides various advanced technologies for PFAS destruction, namely, electro-oxidation, ball milling, modified clay for reactive treatment, and superior sorption.

The company boasts an extensive network of over 500 PFAS specialists spread across 200+ office locations. With a wealth of knowledge and strong experience in addressing PFAS challenges, the company caters to a range of industries, including, government, transportation and infrastructure, manufacturing, waste management, utilities, power generation, oil & gas, and mining. The company has a global presence, operating in North America, South America, Asia Pacific, the Middle East & Africa, and Europe.

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Xylem

Xylem is a leading water technology company. The company provides highly engineered products and solutions across a wide variety of critical applications in the water and energy sectors. The company runs its operations through four business segments: water infrastructure, applied water, integrated solution & services, and measurement & control solutions. The company offers PFAS treatment solutions through the water infrastructure segment. It is a leading provider of PFAS technologies. It provides granular activated carbon (GAC) and single-pass ion exchange resin technology for PFAS treatment. Xylem production facilities are present in Europe, North America, Latin America, Asia Pacific, and the Middle East. The company has a strong global distribution network which serves its customers in 150 countries.

Jacobs

Jacobs offers a full spectrum of professional services, including consulting, technical, scientific, and project delivery for the government and private sectors. The company is known for its expertise in project management, engineering solutions, and sustainable development practices across its diverse portfolio of services. The company offers its products and services to advanced manufacturing, cities & places, energy & power, environment, health & life sciences, infrastructure, national security, and space. The company leads the PFAS treatment industry with PFAS assessment, characterization, treatment, and research. The company offers various PFAS treatment methods such as GAC, ion exchange resin, and low temperature thermal desorption (LTTD) and is currently developing a bioremediation approach. The company's technologists have been supporting municipal, federal, and commercial clients with PFAS assessment and treatment around the globe. It has been working on multiple US defense research projects for PFAS characterization, treatment, and remediation. The company operates in 40 countries across North America, Asia Pacific, Middle East & Africa, and Europe.