

# Global Electrodialysis System Market to Double by 2034, Reaching USD 2.0 Billion

electrodialysis system market is set for strong growth, projected to reach USD 1.0 billion in 2024

VANCOUVER, BRITISH COLUMBIA, CANADA, September 10, 2025 /EINPresswire.com/ -- The global electrodialysis system market is set for strong growth, projected to reach USD 1.0 billion in 2024 and expand to USD



2.0 billion by 2034. This represents a steady compound annual growth rate (CAGR) of 7.20%, driven by rising demand for sustainable and efficient water treatment solutions.

Electrodialysis systems are increasingly being used in municipal water treatment, industrial wastewater management, and desalination projects. Among these, industrial water treatment remains the largest segment, while desalination applications are expected to grow at the fastest pace due to rising water shortages in arid regions. The market is also supported by the growing need for cleaner water worldwide, with the World Health Organization predicting a 55% increase in global water demand by 2050.

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### Regional Outlook

North America is expected to remain the leading market, supported by advanced infrastructure, regulatory initiatives, and early adoption of new technologies. Meanwhile, Asia Pacific is set to record the fastest growth rate as rapid industrialization and urbanization increase pressure on water resources, pushing demand for advanced treatment systems.

#### **Key Drivers**

The main factor behind this market's expansion is the need for sustainable water treatment. According to the United Nations, over 2 billion people already live in countries facing high water

stress. Electrodialysis systems, which consume less energy and chemicals compared to conventional methods, are emerging as an attractive solution. Government policies are also driving adoption. For example, the European Union's Water Framework Directive requires improved water management, while the U.S. Environmental Protection Agency enforces strict limits on wastewater discharge.

Electrodialysis System Market Segmentation

By Product Type Continuous Electrodialysis Systems Batch Electrodialysis Systems Hybrid Electrodialysis Systems By Application **Industrial Water Treatment** Municipal Water Treatment Desalination **Laboratory Applications** By End User **Industrial Sector Municipal Sector** Research and Academic Institutions By Technology Conventional Electrodialysis Electrodialysis Reversal

Bipolar Electrodialysis

By Distribution Channel

**Direct Sales** 

**Distributors** 

Online Platforms

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Technology advancements are further boosting the market. IoT-enabled electrodialysis systems now offer real-time monitoring and system optimization, which can cut operational costs by up to 20%. Companies are also investing in modular systems that reduce installation costs by nearly 30%, making the technology more accessible. In 2024, Evoqua Water Technologies introduced modular electrodialysis systems that lower operating costs by 25% and improve water recovery by 15%, marking a key step in market innovation.

#### Market Challenges

Despite its potential, the market faces some hurdles. The upfront investment for installing electrodialysis systems is about 30% higher than traditional treatment methods, which can discourage adoption by smaller companies. Regulatory requirements, especially in regions like Europe, often demand extensive documentation and compliance checks, adding time and cost to projects.

Another challenge is the shortage of skilled workers. With systems becoming more advanced through IoT and AI integration, facilities need specialized technicians. However, more than 60% of water treatment operators report difficulties in hiring qualified staff. Integrating new systems into older infrastructures also creates challenges, sometimes leading to costly delays.

## **Market Segmentation**

Electrodialysis systems are available in continuous, batch, and hybrid types. In terms of applications, the market spans industrial water treatment, municipal water treatment, desalination, and laboratory uses. End users include industrial facilities, municipalities, and research institutions. Technology options include conventional electrodialysis, electrodialysis reversal, and bipolar electrodialysis. Systems are distributed through direct sales, distributors, and online platforms.

Top 10 Companies GE Water & Process Technologies

**Evoqua Water Technologies** 

**SUEZ Water Technologies & Solutions** 

Veolia Water Technologies

Pall Corporation

Hitachi Zosen Corporation

**Toray Industries** 

Asahi Kasei Corporation

**Dow Water & Process Solutions** 

Lenntech

Looking Ahead

The electrodialysis system market is positioned for long-term growth, fueled by rising water scarcity, stricter environmental policies, and increasing investment in sustainable technologies. As demand for clean water continues to rise, electrodialysis systems are expected to play a critical role in addressing one of the world's most pressing challenges.

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