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Water and wastewater analytical instrumentation market: United States

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www.verifymarkets.com

+1 210.595.9687

info@verifymarkets.com

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Water and wastewater analytical instrumentation market: Research scope, United States

The U.S. water and wastewater analytical instrumentation market is mature and highly saturated. With more than sixty companies competing, the market is dominated by a few players holding significant market shares in each analytical instrument type covered in this report. The market is projected to experience a growth rate of 2.9 percent over the next seven years. The growth is expected to be driven by the need for customers to meet regulatory compliance, outstanding after sales service support, increasing need for automating processes, and the availability of products equipped with smart features.

The key segments making up the total market size include both portable and continuous/online instruments for measuring pH, conductivity, turbidity, and dissolved oxygen (DO). Instruments for measuring total organic carbon (TOC), total nitrogen (TN), and total phosphorus (TP) have also been included. The base year for the study is 2019 and the forecast period is from 2019 until 2026.

This report captures the following information;

- Market size, growth rate, revenue forecasts (2019-2026)
- Growth drivers and restraints
- Market data
- Market share analysis
- Market trends
- Quotes by key industry participants

Water and wastewater analytical instrumentation market: Definitions

Online instrumentation: Online instrumentation is defined as process instruments installed at a fixed point on the process line that provide continuous measurement of the parameter. Some instruments can feature an inbuilt controller, or an alarm system, based on the process requirement. Data-logging systems/data acquisition systems, control systems (PLC, DCS), external controllers, and software are excluded from the study.

Portable instrumentation: These include battery powered pocket-sized, handheld, and large box sized portable instruments.

pH instrumentation: These include portable or online instrumentation used to measure pH or oxidation reduction potential (ORP) in water. The instruments use electrochemical based glass electrode sensors or solid-state ion-sensitive field-effect transistor (ISFET) based non-glass pH sensors. Replacement sensors, accessories, bench top Ion Specific (ISE) pH meters, colorimeters/titrators (non-electrochemical instruments), and sensors directly connected to computers are excluded from the study.

DO instrumentation: These include portable or online instrumentation that indicate the amount of oxygen dissolved in a sample. These instruments use electrochemical and luminescent based methods for measurement. Spectrophotometers, which measure more than one parameter, replacement sensors, and accessories, are excluded from the analyses.

Conductivity instrumentation: These are portable or online instrumentation that measure water's capability to pass electrical flow which is directly related to the concentration of ions in the water. There are two types of conductivity measurements: contacting and inductive. Sensor selection depends on the amount of conductivity, the corrosiveness of the liquid, and the amount of suspended solids. Generally, the inductive method is better when the conductivity is high, the liquid is corrosive, or suspended solids are present. Sensors directly connected to computers, replacement sensors, and accessories are excluded from the study. Total dissolved solids (TDS) measuring instruments, which also measure conductivity, are included in the study.

Water and wastewater analytical instrumentation market: Definitions

Turbidity instrumentation: Portable or online instrumentation that measures intensity of light scattered as a beam of light passes through a water sample. The Environmental Protection Agency (EPA) outlines use of nephelometer (turbidimeter) that measures light scattered at a 90-degree angle since that angle is regarded as least sensitive to variations in particle. Turbidity measurements help estimate the presence of undissolved solids or suspended solids in water. Total Suspended Solids (TSS) analyzers are used to measure the high proportion of suspended solids in water, for example, in applications such as wastewater. TSS instruments are excluded from this study.

Turbidity can be measured by using standard methods prescribed by the EPA or International Organization for Standardization (ISO). Based on the methods used, they can be expressed in various units such as Nephelometric Turbidity Units (NTU's) (method outlined by EPA) or Formazin Nephelometric Units (FNU) (method outlined in ISO 7027). Turbidity measurement through visual methods using instruments such as Secchi disk or Jackson candle turbidimeter are excluded from this study.

TN instrumentation: Online instrumentation that is used to measure the total nitrogen which is the sum of total Kjeldahl nitrogen (ammonia, organic, and reduced nitrogen) and nitrate-nitrite.

TP instrumentation: Online instrumentation that indicates the amount of phosphates in the water sample. The two common colorimetric methods of measuring orthophosphate are Ascorbic Acid/"Blue" method and Molybdovanadate/"Yellow" method. Both methods combine orthophosphate with molybdate in an acidic environment but differ in how they form the final compound, which creates the blue or yellow color.

TOC instrumentation: Online instrumentation that measures the amount of CO2 produced when the organic carbon in the water sample is oxidized. The produced CO2 is proportional to the organic carbon in the sample. Various methods are used to oxidize the carbon in the sample and detect the CO2. Ultraviolet (UV) persulfate oxidation, ultraviolet oxidation, and high-temperature combustion are the oxidation methods. Non-dispersive infrared (NDIR), non-selective/direct conducmetric and membrane/selective conductometric detection are the various CO2 detection methods.

About Verify Markets

About us: Expert advice and strategy consulting

Verify Markets is a Research Firm specializing in Industrial, Environmental, Energy and Water markets. Our Research & Consulting practice provides global industry analysis, custom engagements, end-user analysis, strategy consulting, strategic market intelligence, and forecasts that are designed to facilitate strategic decision-making. Our team of consultants, industry experts and analysts continually monitor and evaluate information to create insights for your business needs. We are comprised of a group of analysts that have been tracking their respective markets for a number of years.

Our goal is to help you reach yours.

METHODOLOGY

The methodology when formulating market trend projection is outlined below. Historical trends were determined through secondary research and Verify Markets in-house database.

- Secondary research was conducted. A list of key industry participants was put together.
- Telephonic interviews were conducted. Most of the leading participants across China were contacted.
- Bottom up methodology was used to calculate the market size.
- Market drivers and restraints were built into the forecasting model to estimate the revenue growth and market size figures.

METHODOLOGY

Profiles of Interviewees: Vice President, Marketing Manager, Business Development Manager, Brand Manager, CEO (for smaller companies).

Most of the primary interview data was captured through telephonic interviews. Pictures, company contacts, preliminary data was captured through secondary research. Images are derived from company websites and other web sources.

Disclaimer

Despite Verify Markets' best efforts, certain challenges were encountered and certain assumptions had to be made. The extremely competitive nature of the analytical instrumentation market for water and wastewater often results in an increased reluctance on the part of several competitors to discuss their market position, future plans, or market trends. Verify Markets used its skills and experience to extract the relevant data in order to complete the analysis.

Verify Markets is not responsible for any incorrect information supplied to us by companies during our primary research process.

Verify Markets report is for customers' internal use and not for general publication. This research cannot be given, disclosed, or sold to non-customers or third parties. Since most of the data is based on company personnel views, it is subject to fluctuation.

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Market Coverage

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Air Treatment

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Power Supplies & Batteries

Oil & Gas

Building Technologies & Efficiency

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Services

Competitive Intelligence

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Custom Consulting

Strategic Planning

White Papers

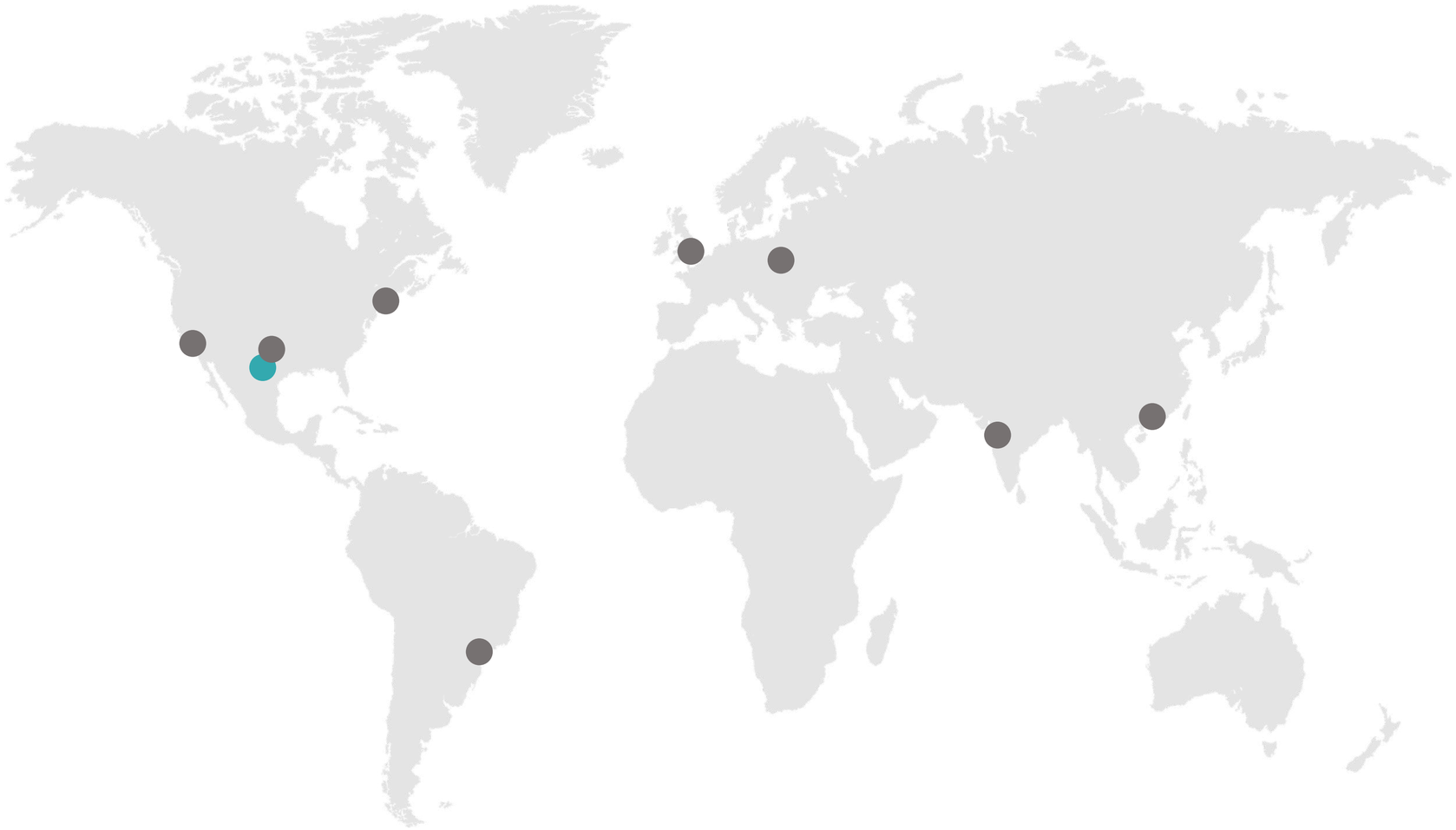
Verified Leader Awards

Claim Validation

Strategy Workshops

Customized Monthly Newsletters

Locations: Global presence



ANY QUESTIONS?
CONTACT US AND SET UP A TIME TO SPEAK WITH OUR ANALYSTS.

Contact us: We're social

+1.210.595.9687

INFO@VERIFYMARKETS.COM

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TWITTER/VERIFY_MARKETS

LINKEDIN/COMPANY/VERIFY-MARKETS