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Gartner: Hype Cycle for Environmental Sustainability 2024

Adasa has been recognized year after year as a reference supplier in Gartner's Hype Cycle related to environmental sustainability and smart cities since 2014.

Introduction

Many organizations are finding it difficult to make adequate progress toward interim goals and targets, let alone long-term goals to 2030 and beyond.

Regulations are forcing several innovations to move along the innovation cycle path at a faster pace: carbon accounting software, for example, is being impacted by several regulatory requirements around the world that are driving the development and adoption of such solutions.

This creates a risky situation where vendors and end users may over-promise, but under-deliver. Managers should use this Hype Cycle to track key sustainability technology trends, distinguish between hype and reality, and establish a more effective sustainability strategy.

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In this way, sustainability technologies will be used more successfully and better aligned with the organization's objectives.

The Hype Cycle

The Hype Cycle for environmental sustainability includes 38 technologies, innovations and supporting capabilities essential for environmental sustainability.



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We have profiled high-impact technologies, catalysts and innovations that address disruptive sustainability issues.

Examples include Scope 3 greenhouse gas (GHG) emissions data, climate risk analysis and the circular economy in IT.

This Hype Cycle focuses on technologies that promote sustainability and innovations with potential and cross-sector implications.

Water Management Analytics. Definition

The Water Management Analytics section of this Hype Cycle divides water management analytics into two parts.

The first is freshwater monitoring for hydrologic management, which includes precipitation monitoring, groundwater monitoring, water quality review, and water supply and demand management.

The second is wastewater treatment, which includes water quality review and water loss analysis.

Business impact

Consolidating data points to manage and monitor water issues from regulation to reuse and recycling - enables water suppliers and municipalities to achieve cost-effective drinking water quality.

What is a Sample Vendor?

For Gartner, a Sample Vendor is a vendor actively involved in or leading the technology spaces described in the Hype Cycle. Improves interfaces between asset tools (for pumping stations), meters and monitors to improve customer services.

It also reduces supply failures and improves water quality.

Collaboration between IT and the will be needed to connect data and information sources.

Key factors

- Residential water needs will compete with those of businesses, and analytics will be needed to solve the competition. South Africa and the state of California are examples of this competition, where water shortages and erratic natural rainfall are leading to water rationing.
- Artificial intelligence (AI) is being used to solve infrastructure resilience problems. Its adoption is accelerating as water crises, such as droughts and floods, intensify in relation to changing weather patterns. Emergency response to these crises has captured the attention of local governments and utilities from a risk perspective.
- Water quality problems caused by agricultural fertilization and water availability are substantially raising urban water prices in countries such as Germany (see Water Sources in Germany: Increasingly Polluted and Regionally Overused, EconStar).

These issues are accelerating the deployment of new water management solutions and increasing the time to deliver water conservation to customers.

Climate change priorities are shifting towards sustainable water management, capturing the attention of industry players. Government initiatives and the evolution of water prices will also drive water management, once meters are installed to monitor actual consumption.



Key factors

 Water management is a growing field of application for industries and businesses, including tourist sites such as beaches and lakes.

For example, recurring red tides in Florida's coastal areas contribute to rising water temperatures. Water pollution, such as plastics, at tourist sites harms people and livestock.

Water management provides disaster recovery
information for water-related problems in manufacturing operations.

Cities are applying Internet of Things (IoT) sensors in
wastewater infrastructures to measure drug and medicine content and contamination, and provide epidemiological assessment through wastewater flows.

Why is it important?

Water management platforms enable effective management of water quality, quantity and distribution, including risk assessment.

As freshwater resources become increasingly scarce and extreme weather events continue to put pressure on existing infrastructure, improved water management will become more important.

Water management data will require more solution capabilities related to a complete management cycle including operations, user billing and monitoring, as well as forecasting

and monitoring, as well as demand and quality forecasting. demand and quality forecasting.

Obstacles

 Water management analytics is approaching the abyss of disillusionment as use cases become more complex.

What does it mean for Adasa?

Adasa has been part of Gartner's Hype Cycles for more than 10 years.

For Adasa, this recognition underlines the company's ability to provide advanced technological solutions and essential services in efficient water management and reinforces its commitment to environmental sustainability.

It also highlights the company's extensive experience in projects developed around the world in the efficient management of data and the extraction of information for decision making that help to solve essential aspects of the complete water cycle: operations, billing, user control, demand forecasting and quality. While water management is an increasingly mature discussion among stakeholders, the complexity of data sharing is expanding.

- While local utilities and freshwater supply are experiencing more water intelligence, weather-related shortages and natural disruptions are not priced into supply, thus keeping the cost of delivery artificially low.
- Capabilities to collect and manage data on water infrastructure and weather events vary across regions and countries. In some countries, households still have access to water intakes, while in others they take advantage of mature (but often old) infrastructure.
 These differences make it difficult to apply advanced analysis to drive efficiencies among stakeholders.

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Recommendations:

- Customers (industries and businesses) and suppliers (municipalities) must report or comply with increasingly stringent wastewater regulations.
- Management assessment and data analysis of their water quality and infrastructure should be used to improve efficiency, reduce losses and reduce disposal costs.
- Implement security standards in the water management process, critical physical infrastructure and consumer data privacy policy.
- Water management dashboards in municipal water utilities and water treatment plants should help provide real-time data on water quality.
- Develop an adaptive and flexible water management strategy, integrating new information technology with existing systems. Intelligence from environmental sensor networks and satellites, smart water meters and deep computing, as well as analytical engines, can help inform these strategies.

Conclusions

At Adasa, we believe that the integrated water cycle could implement, among other measures, the following actions to overcome the challenges of sustainability:

- Efficient collection and real-time analysis of data from the essential monitoring and automation of water facility operations.
- **Extracting valuable information** that enables informed decisions to be made quickly.

At Adasa we can help you overcome these problems. We have developed digital solutions such as **Dam360** for dam safety, virtual systems for water quality management with virtual sensors, and **opsCTRL** to support operations in treatment plants. We also support leak detection with artificial intelligence using **FIDO**. Adasa has been named a Sample Vendor alongside companies such as ABB, Atos, Kisters and Suez.

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