Product factsheet

WaterStrategy

Software solution



Description

WaterStrategy is an online collaborative water-system modelling platform that supports infrastructure investment and operational decision-making. It enables teams to jointly build, edit, and assess water system simulations from any location, using a single shared, professionally maintained digital twin.

WaterStrategy allows simultaneous online editing of digital twins, or models, while connecting these models to cloud-based, AI-driven algorithms. The platform automates and simplifies the use of high-performance simulation engines, particularly Pywr, the world's most advanced water-resources simulator. Although Pywr itself requires Python coding expertise, WaterStrategy removes this barrier through a map-based interface and automated model-building tools, making sophisticated modelling accessible to engineers and planners without coding skills.

Because the platform scales computing automatically, users can run large scenario sets and undertake uncertainty analyses within hours, tasks that would take weeks on a laptop or require a supercomputer. This capacity for rapid, rigorous scenario evaluation underpins modern planning approaches such as 'adaptive planning' and enables organizations to make, defend, and communicate better-supported water investment and operating decisions.

Nexsys Analytics also develops web-based dashboards to manage water resource system data on behalf of clients, automate analyses, and provide data dissemination services to the public.

Target audience

Water utilities, governments, development agencies, multi-lateral donor organisations, regulators, river basin agencies, and NGOs. Our clients, are typically considering infrastructure investments and/or management policy changes. They aim to rigorously assess or optimise their options.

Actors, their roles and interactions

WaterStrategy has been designed with and for water utilities and water regulators. It is used by water utilities to develop their water investment plans, with four UK water companies using it for their regulated 5-year Water Resources Management Plans (WRMPs). It can also be used by water regulators to audit water company plans. For instance, WaterStrategy has been used to create a national water model for the UK's Environment Agency to help them independently check and interrogate the WRMP plans of UK water companies and potentially provide alternative options that would be missed at a company level.

WaterStrategy is powerful enough for experts, yet simple enough for internal teams to handle routine tasks and data integration. This transition significantly reduces outsourcing costs and time delays, allowing utilities to respond more efficiently to the challenges of water scarcity and unpredictable rainfall.

Unique selling points

1. Fully online, collaborative, cloud-scalable architecture
WaterStrategy is the only water-resources modelling system built entirely for the cloud and for simultaneous multi-user model editing. Teams across institutions can work on a single up-to-date digital twin, removing version-control issues and enabling collaborative planning. The platform's interface automates complex model construction, making powerful tools accessible to non-programmers and expanding the global community capable of building and maintaining high-quality digital twins.

2. Integration of advanced, flexible simulation engines
WaterStrategy's modular architecture can deploy multiple modelling engines, giving users transparency, lower long-term risk, and compatibility with academic state-of-the-art, consulting, and regulatory workflows. It can be connected directly to AI methods such as evolutionary optimization, machine learning, emulation, and language-model-based assistants. This creates a pathway to deploy automated system optimization, adaptive planning, and faster decision-support cycles, capabilities not achievable with existing desktop-based platforms.

3. Computational Performance

Cloud-scaling allows rapid evaluation of large model scenario sets without owning high-performance computing infrastructure. Our integrated Python Water Resources "Pywr" engine is 10-100 times faster than competing models, with over 750 users globally.

Technical requirements

WaterStrategy is web-based and so no installation is required. WaterStrategy is free to use from any computer with an internet connection, with limitations on cloud usage in the free tier. Once the relevant commercial license has been obtained, paid users can avail of additional cloud capabilities, depending on the tier, with no additional configuration or setup. Tiers include additional functionality, more model running the capacity, and greater levels of support.

Software data

- Version: V1.0.1 (Last update: 2026-05-05)
- Initial release: 2020
- Operating environments:
  - SaaS - Web application
- License type: Commercial
- License: WaterStrategy requires a license to use it for commercial purposes. We offer tiered pricing plans based on usage and organisational needs.

Publications

- *A water resource simulator in Python -- J.E. Tomlinson, J.H. Arnott, J.J. Harou*

https://www.sciencedirect.com/science/article/pii/S1364815219307133

- *An open-source data manager for network models -- Stephen Knox, James Tomlinson, Julien J. Harou, Philipp Meier, David E. Rosenberg, Jay R. Lund, David E. Rheinheimer*

https://www.sciencedirect.com/science/article/pii/S1364815219301975

URL

http://www.waterstrategy.org

Technologies applied by the product

- **Cloud-based systems**
- **Data Analysis and Modeling**
- **Database Management Systems**
- **Data Collection and Aggregation**
- **Data harmonization, synchronization, integration, and analysis**
- **Data Science and Analytics**
- **Data Visualization and Rendering**
- **Decision Support Systems**
- **Digital Twin**
- **Multi-criteria Evaluation and Scoring Algorithms**
- **Risk Assessment and Management**
- **Scenario Generation and Evaluation**

Costs

We offer tiered pricing plans based on usage and organisational needs. Detailed pricing is available upon request.
Last update: 2026-05-05

WaterStrategy

Published in the Water Europe Marketplace

Related tags

water management | investment assessment | Data analysis | water system modelling | climate change adaptation | risk assessment | water demand forecasting | Digital Twin | water digital solutions | Data Visualization Dashboard | Data-Driven Water Governance | Decision Support System

Downloads

The following file can be downloaded from the online page of the product: https://mp.watereurope.eu/d/product/218

- WaterStrategy
  Nexsys Analytics - Presenting WaterStrategy