10 Advantages
to Commercial Off-the-Shelf Software

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AQUARIUS Is the World's Leading Commercial Off-the-Shelf (COTS) Platform for Water Data Management

"Since purchasing AQUARIUS Time-Series in 2008, we have dramatically increased the accuracy and quality of our stream gauging network statewide. All records are collected and reduced to USGS standards now. With over 400 gauging sites collecting data in all corners of Wyoming, the time savings in records reduction have been well worth the investment. Field staff must reduce the collected data to publishable form and by employing AQUARIUS, we have realized about a 50% time savings across the board, freeing up valuable, limited staff time for other important work."

Loren Smith
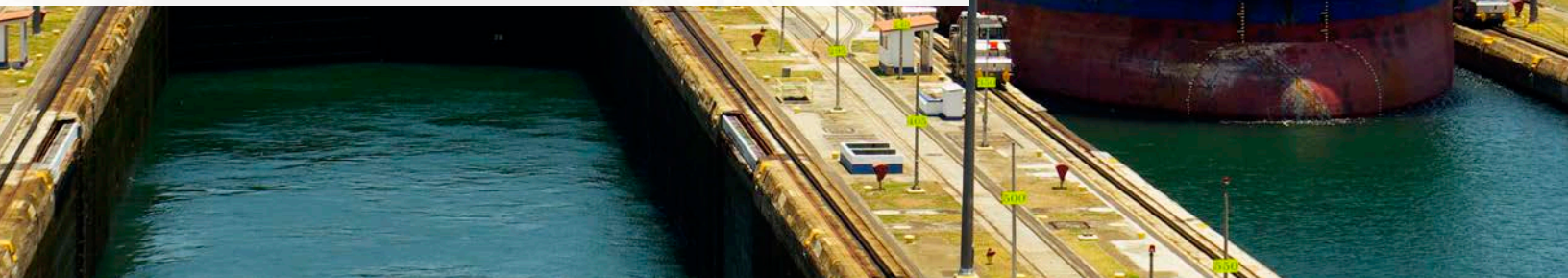Superintendent of Water Division III

Wyoming™

The world is changing. As environmental instrumentation has evolved and water monitoring programs have modernized to leverage the latest technological advancements, water data have grown in both complexity and volume. Still, many leading monitoring organizations rely on inadequately-designed data management systems to produce the timely, accurate, and defensible environmental information required for the effective management of water resources today.

If your water professionals are relying on a customized water data management system that is showing its age, you want the right answer to the question **"upgrade versus buy?"** On the other hand, if your water professions are using a hodgepodge of dispersed spreadsheets and instrument vendor software, you need an answer to the question "**build versus buy?**" Commercial off-the-shelf (COTS) systems have been designed to meet the unique requirements of your water professionals. This document explores 10 advantages to choosing a COTS platform.

Proven Global Platform

1

AQUARIUS reflects the collective wisdom of the world's most forward-thinking environmental monitoring organizations. Today, over 500 organizations of all sizes globally – including the USGS, WSC, NIWA, BC Hydro, Alcoa, TasWater, PAGASA, and PUB Singapore – trust AQUARIUS to efficiently turn their water data into insight! Every day, our global customers ensure that AQUARIUS serves the evolving needs of their water professionals and remains the industry standard for environmental data management. Choosing AQUARIUS is making a safe investment in a tested and trusted solution.

2

Cost Control

Building a new customized water data management system or modernizing an outdated one is costly, both in terms of time and money. Significant resources and multi-disciplinary experts are needed for project planning, development, and ongoing maintenance. Environmental data are highly complex. The scope of such customized software projects is almost always larger than anticipated – making these projects inherently risky and prone to delays and cost overruns.
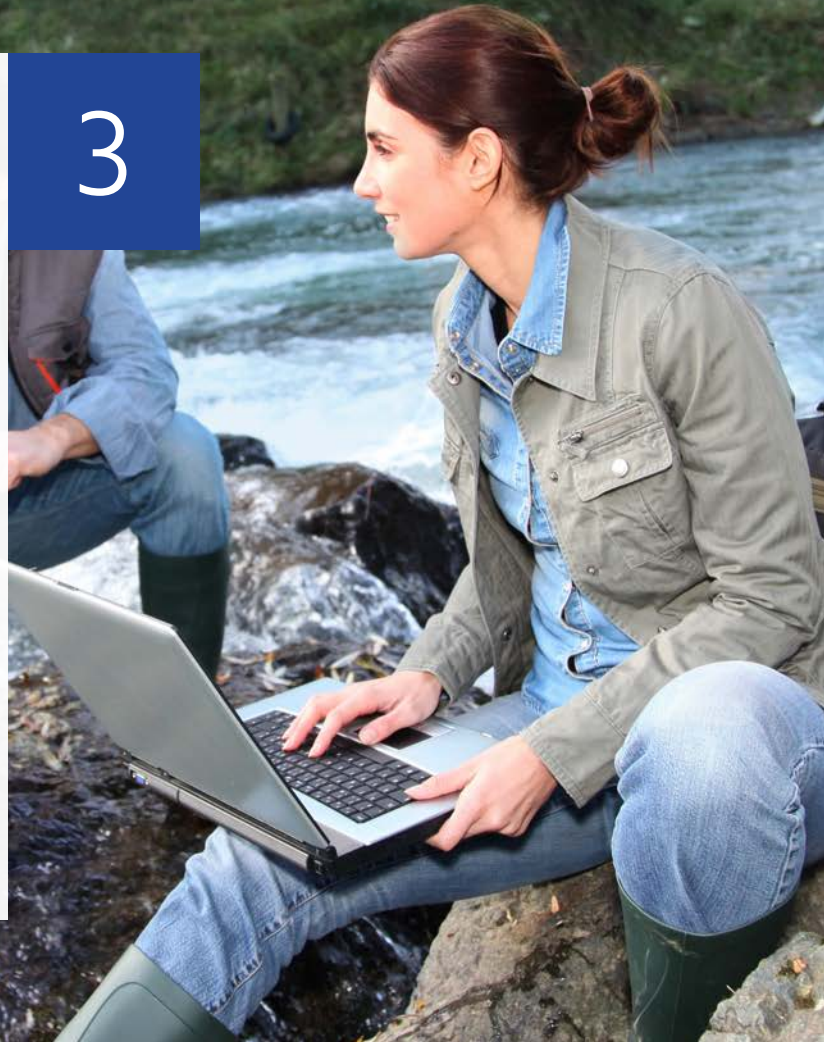
AQUARIUS is the most modern COTS platform to manage your water data. It is built on a scalable Relational Database

Management System with RESTful API interconnected applications designed by experienced teams of software developers, user interface designers, testers, product managers, and subject matter experts intimately familiar with the complexities of water science. AQUARIUS reflects the latest architecture and programing practices, including Agile development and open source code. AQUARIUS solutions are typically available within a day of ordering to speed deployment while significantly reducing startup costs.

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Regular Upgrades

3

As industry standards and best practices evolve, the needs of water professionals can quickly outpace customized system capabilities, resulting in frustration with speed, control, and functionality. AQUARIUS is keeping pace with the rapid transformation of science and technology. Quarterly upgrades support the latest industry best practices, evolving standards, and technological advancements with a powerful, easy-to-use set of tools that centralize data management, simplify analysis, automate consistent workflows, and facilitate sharing. A support and maintenance agreement ensures that active customers get regular access to the latest innovations to meet the evolving expectations of their water professionals. AQUARIUS is an investment for the future.

4

Industry Standards

International standards developed and published by the International Organization for Standardization (ISO), the World Meteorological Organization (WMO), and the U.S. Geological Survey (USGS) have been deeply ingrained into AQUARIUS to support industry best practices for water data management. At Aquatic Informatics, we not only continuously upgrade our software to follow evolving standards, but we also serve as industry experts on technical committees with the very organizations responsible for setting the standards. We follow guidelines of member technical associations such as the ISO/TC 113 Hydrometry advisory committee.

WORLD
METEOROLOGICAL
ORGANIZATION

USGS
science for a changing world

ISO

Data Quality & Audit Trail

5

Environmental monitoring records usually contain some anomalous or erroneous data, like sensor drifts. AQUARIUS provides an easy-to-use and rigorous graphical data correction and editing environment, enabling both manual and automated quality controls, to ensure the highest quality final data. AQUARIUS also safeguards your valuable environmental data by always maintaining a permanent record of original data points. The audit log automatically tracks corrections, processing, notes, and remarks, making it easy to defend decisions as data can be rolled back in time to show exactly what changes were applied at any point in history. Audit control is a critical reason organizations move away from spreadsheets and into a COTS solution to mitigate risk associated with data management errors.

6

Data Access & System Security

AQUARIUS facilitates secure access. The platform is designed to be deployed behind your firewall or in a private cloud. AQUARIUS can be accessed by thousands of concurrent users to boost productivity and collaboration while users access common data sets. User access permissions and rights are centrally controlled by the application administrator.

Aquatic Informatics tests its web software against the OWASP top 10 most critical web application security risks, and your data are encrypted in transit when TLS/SSL or VPN communications are used. With AQUARIUS, you can stay confident that your data are safe and secure. Are your current spreadsheets or internal archives managed with these security and data access precautions?

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Scalability & Configurability

7

An enterprise-class platform, AQUARIUS is highly scalable, configurable, and extensible to meet your specific needs.

It is today's most powerful platform for managing massive volumes of environmental information to ensure your success as we move into the era of "Big Water" data. It is engineered to scale, providing the same tools and processing power to small and large organizations alike.
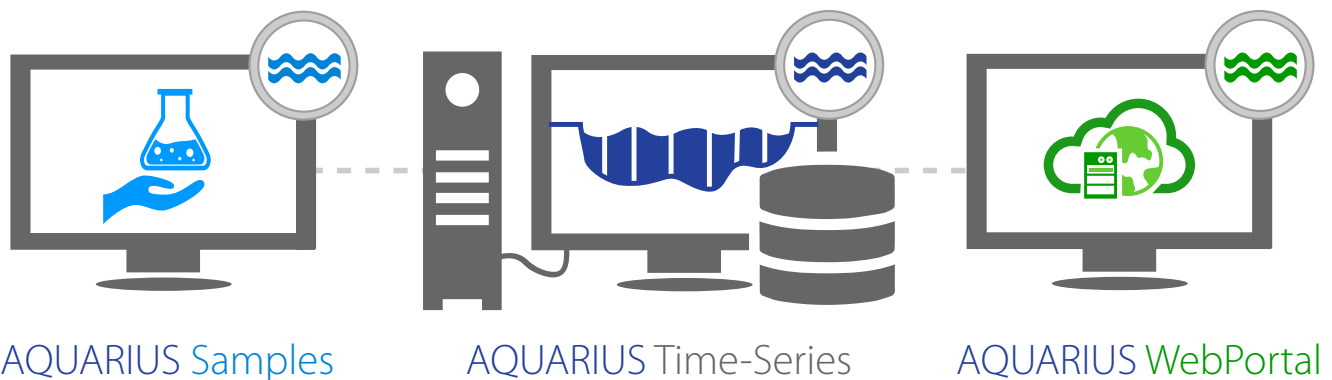
You can trust that AQUARIUS will support your monitoring network as it grows. Small organizations typically install all AQUARIUS components on a single machine, and the Aquatic Informatics patented lossless data compression ensures data fidelity as the database grows. The trend towards higher temporal and special data frequencies are incorporated into the AQUARIUS architecture. Is your existing solution designed to handle these growing data needs?

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8 Integrate Data Across Platforms

AQUARIUS is the leading platform to acquire, process, model, and publish water data. The platform includes a fully integrated suite of solutions that can work together or independently to solve complex environmental challenges.

It is time to eliminate time-wasting exporting, importing, and amalgamating environmental data from various systems. AQUARIUS solutions are designed to be deployed and integrated within your IT environment. The platform features comprehensive and well-documented Application Program Interfaces (APIs) to integrate with your existing systems, data acquisition tools, data repositories, or business intelligence (BI) tools. Organizations that adopt and integrate AQUARIUS are rewarded with upwards of 50% efficiency gains among their water professionals.

AQUARIUS Samples   AQUARIUS Time-Series   AQUARIUS WebPortal

AQUARIUS Samples streamlines the production and management of discrete environmental lab and field sample data, saving time while increasing the quality of final data.

AQUARIUS Time-Series is the most powerful software for managing water resources in real time. Continuous data from multiple sources are securely centralized, quality controlled, derived, and processed for real-time reporting.

AQUARIUS WebPortal is a simple and elegant solution for offering online access to quality-assured environmental data. It is easier than ever to impress stakeholders with dashboards, rich statistics, interactive maps, alerts, and live reports.

What if AQUARIUS does not meet your every need? The Aquatic Informatics Project Management Team and AQUARIUS Certified Integrator Partners can leverage the API's to customize additional functionality by extending commercial AQUARIUS solutions to meet your specific operational requirements.
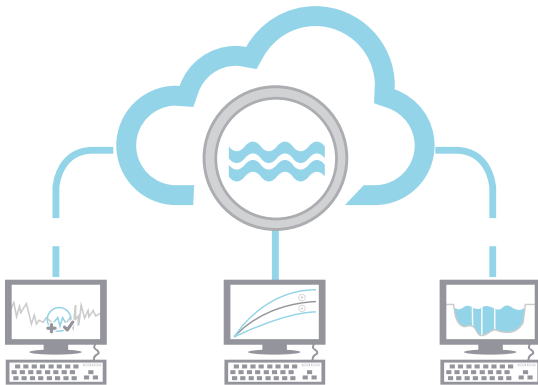
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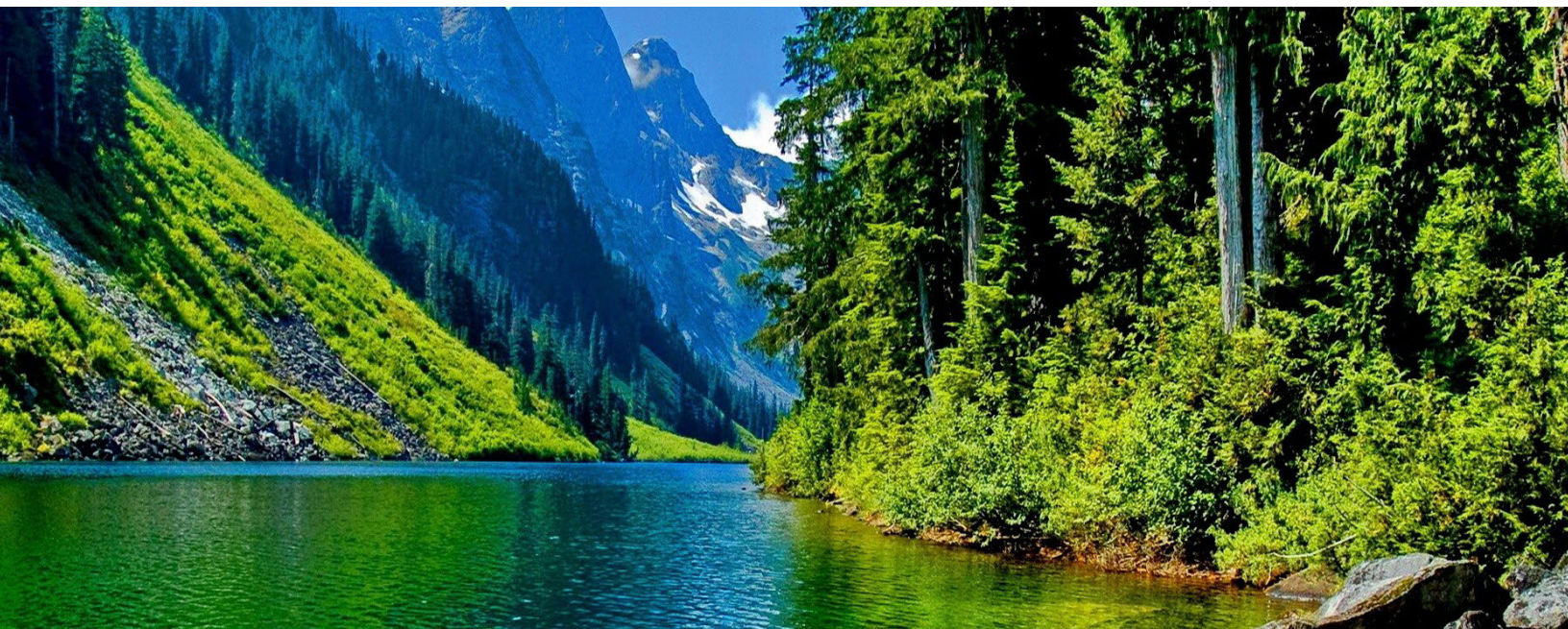Informatics

9 Flexible Deployment Options

AQUARIUS can be managed on-premise or hosted in the cloud. You can choose your preferred server architecture, including virtual machines. The same solution will scale to high availability in a cloud cluster environment if appropriate for your organization. You have options.

Virtual Server – The AQUARIUS suite can be installed on a Windows Server in a virtual environment. A single server can be used to deploy AQUARIUS WebPortal, AQUARIUS Time-Series, and the Relational Database Management System (RDBMS) to minimize upfront hardware costs.

Physical Server – For larger deployments, the requirements for the AQUARIUS Time-Series server, AQUARIUS WebPortal server, and the selected RDBMS server will depend on several factors, including the volume of data to be stored, the frequency of automated data collection, the number of derived statistics, and the number of concurrent users. Where high availability requirements are mission critical, AQUARIUS servers can be deployed in a cluster using a load balancer. Yet, for most installations, typical modern server hardware already in place in your IT environmental will support excellent performance.

Cloud – AQUARIUS Cloud is software as a service (SaaS). Instead of owning and operating AQUARIUS on your servers, you can subscribe to any AQUARIUS solution hosted in a secure, private cloud – without up-front capital or IT labour costs. The entire platform can be securely hosted in a private cloud on an Amazon Web Services (AWS) infrastructure and fully managed by Aquatic Informatics. Deployment is faster, data are safer, and system health remains optimal because we set up and operate AQUARIUS for you.

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World-Class Team

10

By choosing Aquatic Informatics, you gain access to a cross-functional team of professional service analysts, training experts, and support specialists – all 100% dedicated to ensuring your successful deployment and adoption of AQUARIUS.
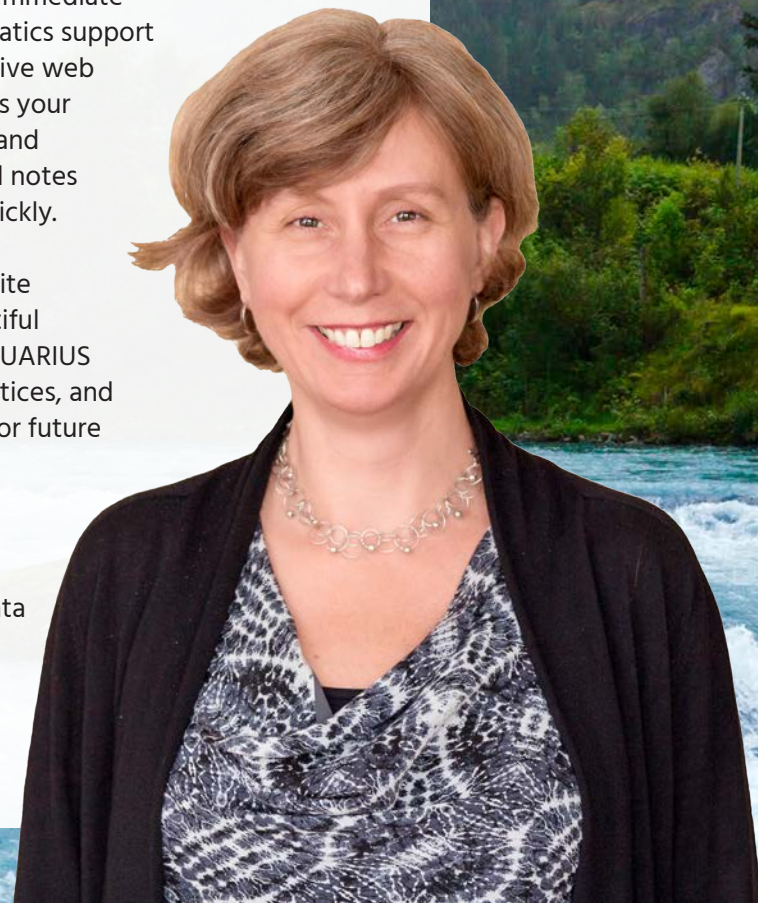
Support – Your IT department and water professionals gain immediate access to the responsive and knowledgeable Aquatic Informatics support specialists. Support is available by phone, email, and interactive web meetings. The AQUARIUS 360° Support Portal further reduces your IT support burden by offering 24/7 access to training videos and tutorials, a knowledge database, help manuals, and technical notes to get users up-to-speed and productive with AQUARIUS quickly.

Training – AQUARIUS experts offer web-based training, on-site classes at the location of your choice, and programs in beautiful Vancouver, BC. The popular annual user group meeting – AQUARIUS Insider – helps you stay current with new features, best practices, and industry trends, and it offers a chance to make suggestions for future releases.

Professional Services – A customer success team can be engaged to ensure a smooth transition to AQUARIUS as you migrate data from legacy systems, integrate with existing data sources, automate workflows, or customize reporting.

"We take pride in delivering the best customer service and highest level of support in the industry."
– AJ Leitch, VP Customer Success

Award-Winning Company

By choosing Aquatic Informatics, your organization is partnering with great people dedicated to delivering award-winning solutions. You are making a safe investment in a company that is continually growing and innovating to meet your evolving needs.

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Need more information?

Read the AQUARIUS Executive Guide – 5 Reasons to Modernize Water Data Management – which outlines how a modern platform can empower today's decision makers.

GET FREE EBOOK

"In reality, what often passes as a 'system' would be better described as a 'collection' of disparate applications held together by the heroic efforts of passionate and dedicated experts. The retirements of these experts make it difficult to maintain such systems. Deferment of critical decisions has led to many such systems being pushed to the point of imminent failure. It is time to look forward and consider a modern water data management system."

– Stu Hamilton, Senior Hydrologist

Ready to talk?

Book a FREE consultation today! We would like to learn about your water monitoring program and discuss the advantages of AQUARIUS COTS solutions.

BOOK CONSULTATION

Aquatic Informatics Inc.
2400 – 1111 West Georgia St, Vancouver, BC
1.877.870.2782 | +1.604.873.2782

Aquatic Informatics USA Inc.
1999 Broadway, Suite 830, Denver, CO
80202 | 1.877.870.2782

Aquatic Informatics Australia Pty Ltd.
Level 5 / 18 Elizabeth Street, Hobart, TAS
+61.3.6272.2229

info@aquaticinformatics.com
www.aquaticinformatics.com