ASSET CONTROL

Our Solutions Guide

Data is everywhere. We're here to help you make sense of it.

Since inception our goal at Asset Control has been to provide expertise, solutions and support to help accelerate customer productivity through easy integration, mastering, distribution and exploration of financial data.

Our adaptable platform provides solutions for ever-expanding industry requirements, while keeping costs under control. That means solutions for all data types and specific industry applications.

From security master and market data to the most complex risk and stress testing requirements, we're constantly evolving to stay on top of what our clients need now – and what they will need next.

Reference Data Management Solutions:

- Security setup and post-trade processing
- Performance management
- Portfolio accounting

Market Data Management Solutions:

- Portfolio valuation (e.g. NAV and IPV)
- Sensitivity measures
- Scenario analysis

Risk Data Management Solutions:

- Stress testing
- FRTB market data management
- Back testing

We are here to help

Delivered through managed services, cloud or on-premise deployment, our highly scalable products help the world's most successful financial institutions meet their risk management, valuation, security master and operational needs with mission critical reliability.

Solutions

Our proven solutions are able to meet even the most complex financial data management challenges with unrivalled adaptability, reliability and efficiency.

Services

Our managed services solutions provide both complete outsourcing as well as infrastructure augmentation on a use case by use case basis. For clients opting for in-house implementation, our experts are ready to help.

Sectors

We solve data management challenges for banks and asset managers as well as for insurers, central banks, clearing houses and other market infrastructure firms.
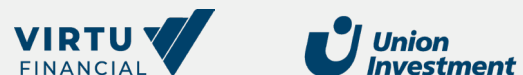
Solving industry challenges for

Banking

BBVA HSBC Bayern LB Scotiabank® MIZUHO

UniCredit Group ING ANZ Standard Chartered COMMERZBANK

Insurance

VENERABLE VOYA FINANCIAL ZURICH AEGON

Investment Management

VIRTU FINANCIAL Union Investment

Here to support your data management journey - at any stage

Our solutions, delivered off-the-shelf, guide data management projects to the correct data flight path for maximum return on investment and superior data quality.

Trusted Partner

Our clients know they can rely on us, and that they can continue to broaden the use of our systems as they grow and expand. Our solutions and service models ensure we deliver a lower total cost of ownership and provide a superior return on investment, and allow you, to focus on your core competencies while relying on us for ours. Our pricing models are designed to match your business value drivers, based on metrics that accurately reflect the scale of your operations and the value you will receive from our solutions.

Throughout our relationship with you, a dedicated support specialist will be responsible for looking after your technical needs whilst a regional account manager will maintain a long-term relationship. They will be your champion within Asset Control, making sure that any issues are resolved, and your business needs are represented.

Continue for a full overview of our Data Quality Management solution, Managed Services, and Consulting.
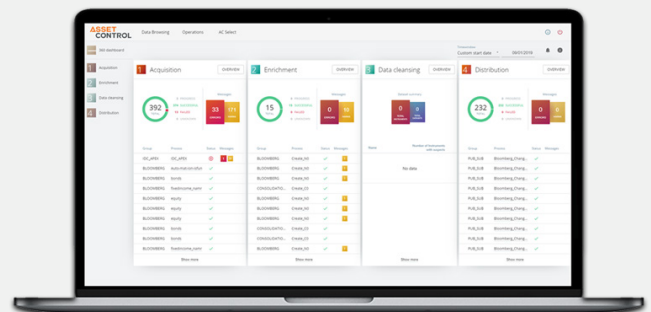
Data Quality Management

Leverage our software and technology solutions to expedite your data management transformation

Our full range of data quality management and technology solutions service the entire data management lifecycle, spanning structured data types such as, reference data, market data and corporate actions data to unstructured business intelligence data.

The main objective behind our product innovation is to enable both business and IT users across the enterprise, in front, middle and back office make the most of their data assets by providing easy data acquisition, data cleansing and validation, data distribution, data discovery, and data monitoring.

Our adaptable platform provides solutions for ever expanding industry requirements, improving workflow efficiency while also keeping costs under control. This means solutions for your entire enterprise.

Transparently monitor the status of your data through our Ops360° Dashboard
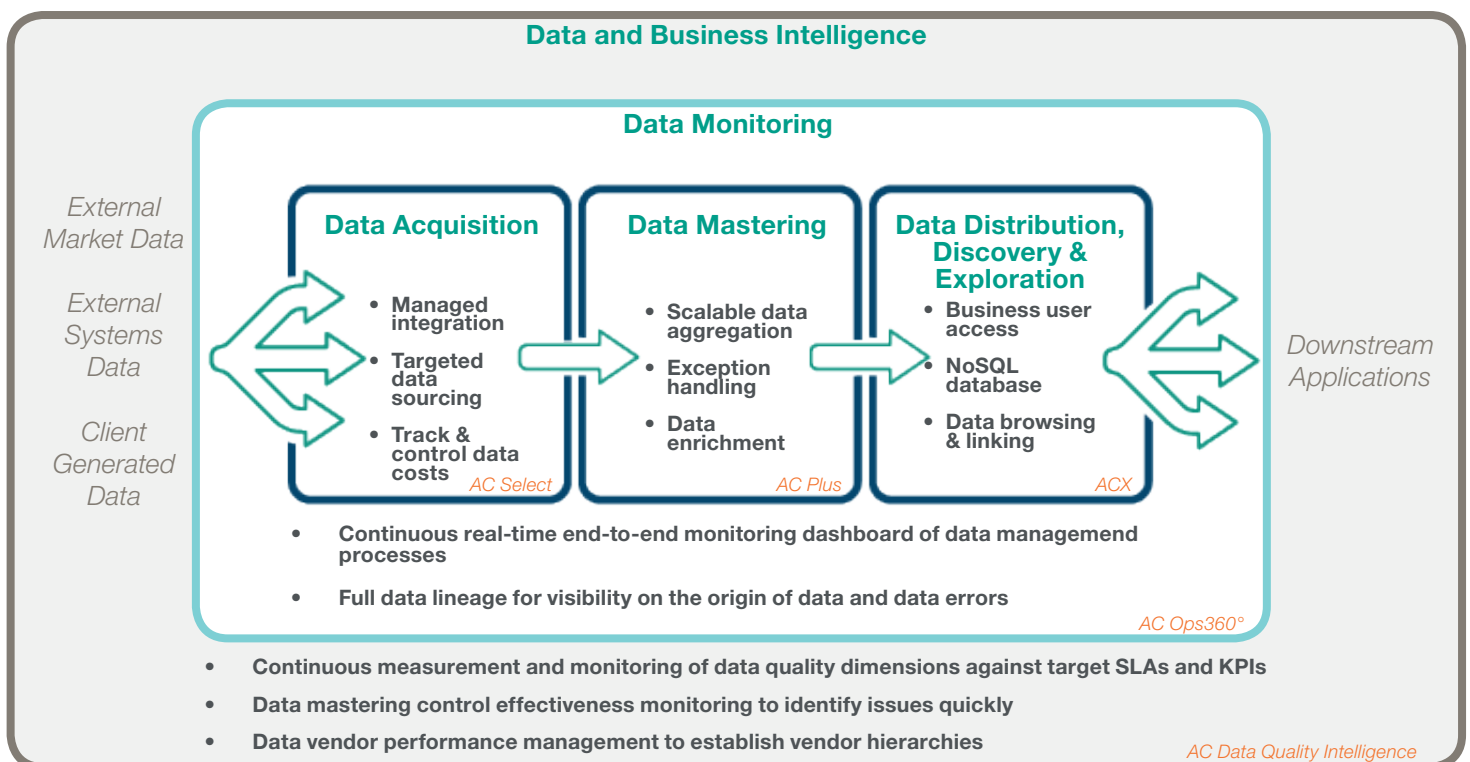
End-to-End Financial Data Management Products

Our data management solutions track the data life-cycle from point of capture, through to normalization, consolidation, derivation to final delivery. All while having the ability to see complete data lineage to know which sources led to certain values or prices - and when they changed.

Whether you are concerned about responding to increased regulation, looking to manage risk more effectively, or want to improve the efficiency of your operations and cut costs. The solutions highlighted throughout this guide describe just some of the many ways in which Asset Controls can deliver significant value. Our solutions are designed to allow you to achieve quick wins through predictable and rapid implementation, while offering complete flexibility, high performance and easy integration.

360-Degree Solutions - Plus More

The following process image represents the various operations that our solutions enhance via their respective product modules, which are implemented out-of-the-box for a cohesive and superior data management infrastructure.

Data and Business Intelligence

Data Monitoring

External Market Data

External Systems Data

Client Generated Data

Data Acquisition
- Managed integration
- Targeted data sourcing
- Track & control data costs

AC Select

Data Mastering
- Scalable data aggregation
- Exception handling
- Data enrichment

AC Plus

Data Distribution, Discovery & Exploration
- Business user access
- NoSQL database
- Data browsing & linking

ACX

Downstream Applications

- Continuous real-time end-to-end monitoring dashboard of data managemend processes
- Full data lineage for visibility on the origin of data and data errors

AC Ops360°

- Continuous measurement and monitoring of data quality dimensions against target SLAs and KPIs
- Data mastering control effectiveness monitoring to identify issues quickly
- Data vendor performance management to establish vendor hierarchies

AC Data Quality Intelligence

● Data Management Operation
● AC Product Module
● AC Product Module Benefit Overview

Data Acquisition

Whether data is obtained from internal or external sources, it must be captured, validated, categorized and prepared for integration quickly. Asset Control's Data Acquisition solution, AC Select provides a wide range of benefits.

AC Select

Reduced costs through targeted intra-day and real-time data

Avoid unnecessary costs associated with data sourcing by preventing data duplication within the enterprise. Our intelligent lookup mechanism, AC Select, captures requests from consuming downstream systems and intercepts the data vendor call to first check whether the data exists within your security master solution. If the requested data is found it undergoes, what we like to call data freshness. Data freshness is applied to ensure you are not sharing outdated data.

To learn more about AC Select please contact:
info@asset-control.com

Real-time and intra-day sourcing of pricing and reference data

Faced with requirements for shorter cycle times and optimal data sourcing, banks, asset managers and insurers require faster processes to get required data to business users and consuming systems and to quickly refresh when needed. At the same time, they need to reduce costs and prevent the unnecessary acquisition of data or duplicated data.

AC Select is a centralized market data acquisition product enabling users to define the universe of instruments and attributes needed from market data vendors on an intra-day and real-time basis through managed feeds. AC Select captures requests from consuming systems, for example from trading systems when a new instrument is onboarded, and then either services this from the security master solution AC Plus, or, when required, goes out to external data sources to retrieve the required information. Customers can define where AC Select could go and avoid unnecessary external requests and costs.

Why choose AC Select?

- **Fast turnaround** to source the data immediately after it is required for example enhancing trade enablement
- **Tightly track and control costs** associated with data sourcing to prevent duplicated costs
- **Regulatory reporting** for MiFID II compliance and security onboarding through direct integration with Derivatives Service Bureau (DSB) for OTC derivatives ISIN codes
- **Centralization of market data** enabling users to define the universe of instruments and attributes needed on an intra-day and real-time basis

AC Data Feed Library

Providing the industry's largest selection of fully maintained data feed handlers

Our dynamic interface selection gives customers optimum choice and flexibility to ensure the best result for their business. Clients are systematically protected from product updates and changes to feeds by vendors.

Any feed handler can integrate with our standard financial data model through mapping rules, enabling you to cross-reference and integrate with your internal data sets, and giving you complete data lineage.

To learn more about AC Data Feed Library please contact:
info@asset-control.com

Access to our fully maintained data feed library

Our dynamic feed handler collection covers raw, normalized, and consolidated data models for over 35 global data vendors – offering you the flexibility to pick and choose the data feed you need. As a fully maintained service our data feed library systematically protects you from product updates and changes to feeds by vendors, whether this be regulatory or market developments, or vendor format updates.

Why choose AC Data Feed Library?

- **Connectivity** to the industry's largest range of maintained data feed interfaces to tailor your consumption of data

- **Access** real-time data feed interfaces from Bloomberg B-PIPE and Refinitiv TREP for timely data processing and event-driven workflows

- **Reliability** of data feed maintenance to insulate your operations from the effects of continual changes made to feeds by data vendors.

- **Data Compliance** with ISO 15022 data dictionary for normalized attribute definitions to ensure consistency with industry standards.

- **Traceability** of data through full historical data storage. Providing complete transparency of the raw data obtained from all sources in the original form in which it was delivered from those sources.

- **Support** from our expert Data Services team

Browse our library:

- Bloomberg Data License
- Bloomberg Back-Office Derivatives Service Bureau (DSB)
- DBRS RatingsNow
- eMBS Mortgage-Backed Securities Online
- Fidelity Corporate Actions Solutions
- FinChina
- Finra Trace
- Fitch RDS
- ICAP Information Services
- ICE Data Services APEX
- ICE Data Services Fundrun
- ICE Data Services IDS
- ICE Data Services IDSI_320
- ICE Data Services Muniview
- ICE Data Services SIRS
- ISO 15022 MT564/MT568
- LSE Sedol Masterfile
- IHS Markit
- IHS Markit Corporate Actions
- Moody's RDS

- OCC Encore DDS
- Optionmetrics Ivy DB
- S&P BECRS
- S&P Cusip Global Services
- S&P GICRS
- S&P GICS
- S&P Xpressfeed
- SIX Financial Information VDF
- Swaps Monitor Holiday Calendar
- Refinitiv Datascope Equities
- Refinitiv Datascope Plus
- Refinitiv Datascope Select
- Refinitiv Datastream
- Refinitiv DataScope Onsite (GOVCORP)
- Refinitiv DataScope Onsite (MORT)
- Refinitiv DataScope Onsite (Municipal)
- Refinitiv DataScope Onsite (NEWCMO)
- Refinitiv TREP
- WM Datenfeed VF-1

Data Mastering

Now that you've successfully sourced and acquired market and reference data that meets your enterprise's needs, it's time to ensure mapping and validation can be performed in a like-for-like manner. Asset Control's Data Mastering solution, AC Plus, provides total control and transparency of your data for complete confidence in both your data and your decisions.

AC Plus

Bringing a single version of the truth to users everywhere

That means total control, each step of your data's journey from data vendors and internal sources through to downstream systems, helping you to stand behind the integrity of the data you send to clients, colleagues and regulators. With complete data lineage and unique bitemporality capabilities, AC Plus delivers total transparency over who did what and when.

To learn more about AC Plus please contact:
info@asset-control.com

AC Plus utilizes our centralized market data acquisition solution, AC Select to efficiently source market data from various data vendors – including internal data. Once the data has been acquired, the mastering process begins and undergoes normalization and consolidation to prepare the data for enrichment and/or distribution.

Data Normalization and Consolidation

Our fully maintained AC Normalized Data Model serves as the first step in the data mastering process whereby raw data, as provided by data vendors or internal feeds are translated into a like-for-like format. Facilitated by our off-the-shelf normalization mappings, which are available for our maintained interfaces within our AC Data Feed Library.

Once the data has been translated into a standardized format, it can then be matched, validated and consolidated – to fill

any gaps. The consolidation process includes the matching and arbitrating to combine one or more normalized sources to create a comprehensive consolidated golden copy version.

Enrich and derive data in a flexible manner using multi-dimensional structures

Easily select from our financial analytics library to define calculation parameters and then convert your data into curves, surfaces and matrices. Viewable in a 4D chart which allows the user to rotate, zoom, slice, scale and transpose data. AC Plus supports the construction and management of multi-dimension structures including:

- Zero curve construction based on money-market, bond and swap curves
- Interest rate par, forward and spread curves
- Deposits to FX forwards conversion and vice versa
- Commodity forwards
- Option volatility surface and smiles
- Correlation and variance-covariance matrices

AC Plus for Security Master Data

Our Security Master solution is a centralized and business oriented, exception and rules-based platform. It provides a simple to use and comprehensive, highly-scalable, end-to-end solution.

As part of the data mastering process, our solution infers links between legal entities, financial instruments and corporate actions and tracks links between sources and master data sets, cross references between different classification schemes for instruments and industries, as well as between different instrument identifiers.

An automatic matching process compares data values from different sources to spot inconsistencies. Organizations can set rules to nominate preferred security master data providers and set up source data hierarchies or preference. Exception management processes based on configurable validation rules ensure data accuracy. Validation rules and logic are combined with workflow to efficiently route issues for cleansing and remediation. Workflow can be organized by asset class, portfolio, consuming applications and so on.

AC Plus for Pricing Data

Our Pricemaster solution delivers one integrated, scalable platform for pricing, risk, and reference data. The Pricemaster workflow can be configured to set source hierarchies, aggregation and cleansing rules. It also includes configuration options on frequency, format and content selection that needs to be distributed to downstream consumers – so that users get the data they need in the format they require.

Its powerful time series engine can cope with large volumes of historical price data of any frequency and create derived data including new attributes, proxy values, shocks and scenarios, curves and smiles. This derivation process is easily configurable so that clients have full control.

Our Pricemaster solution is used to support risk data aggregation challenges, independent valuation, risk factor preparation, stress testing and other market data management needs in valuation, risk, product control and operations. These requirements further support the need for a configurable price data mastering platform.

AC Plus for Risk Data

Our Risk Data solution offers data derivation and data manipulation for risk and valuation.

Enabling efficient and effective risk data management through one central set of controls, allowing you to streamline the management and control of risk data and bring sound data governance to your operations, with coverage of data sets such as yield curves, volatility surfaces and stress test scenarios.

Our Risk Data solution addresses specific requirements of risk management and new regulation, helping you meet the challenges of BSBC 239, FRTB, MiFID II, Stress Testing and IPV.

Why choose AC Plus?

Cut costs and accelerate Return on Investment

Delivered in turnkey implementations and configured to your requirements, AC Plus delivers ROI by reducing manual processing and streamlining workflows.

Improve operational efficiency

Leverage our integrated suspect management tool and quickly configure automated business and technical rules and the events that should follow when those rules are executed.

Enhance governance & control of data access

Over many years of developing software solutions which are hosting and infrastructure agnostic we have built a strong internal team to counsel and guide customers to ensure service selection is fit-for-purpose.

Data Discovery, Exploration & Delivery

Your mastered data is ready! Let's put it to use by discovering and exploring the insights behind your data, and delivering it to the right place, in the right format, at the right time. Asset Control's Data Discovery, Exploration and Delivery solution, ACX, has been designed with business users in mind.
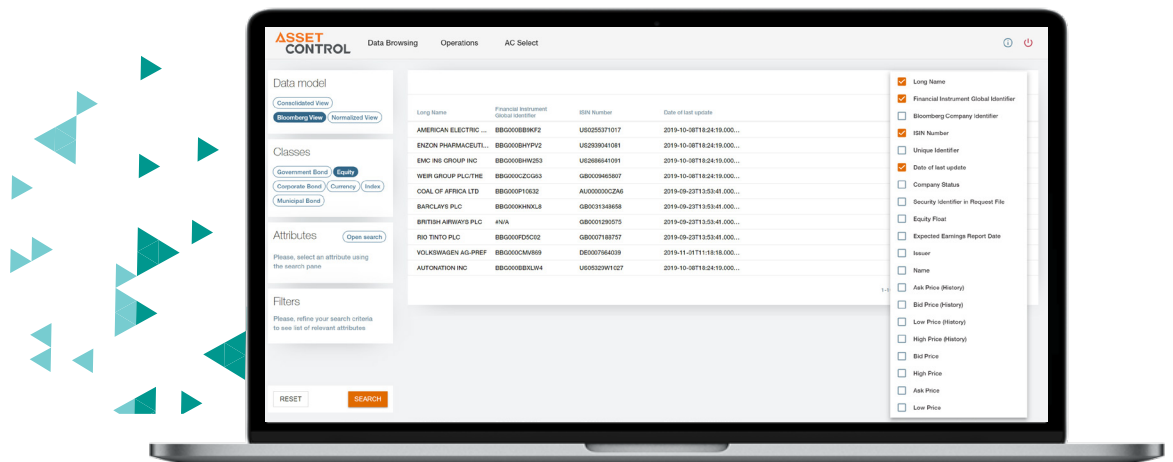

ACX

Empowering business users with easy access to quality financial data

ACX is a financial data store that ensures on-demand availability of high-quality data to all users and applications. This web enabled platform, using NoSQL database technology; Apache Cassandra and Spark, allows for data discovery, enterprise search and distribution. ACX is a highly scalable platform to meet the surging market data demands of businesses that provides native integration with commonly used data scientist languages such as Python and R as well as commercial analytics and business intelligence applications.

To learn more about ACX please contact:
info@asset-control.com

Seamlessly browse data by Data Model, Asset Class, and Attribute with ACX

Discover and explore your data for valuable insights

ACX, allows business users to easily browse via enterprise search capabilities and connect newly mastered AC Plus data with unstructured data sources for a complete depiction of the truth. Our web-enabled NoSQL database technology offers extensive advantages for quants and business users as it enables the building and deployment of financial models with direct access to fully versioned, production market data.

ACX is developed in and for the cloud and has been designed for portability, so that customers are able to select alternative hosting providers or private IT infrastructure for future deployments.

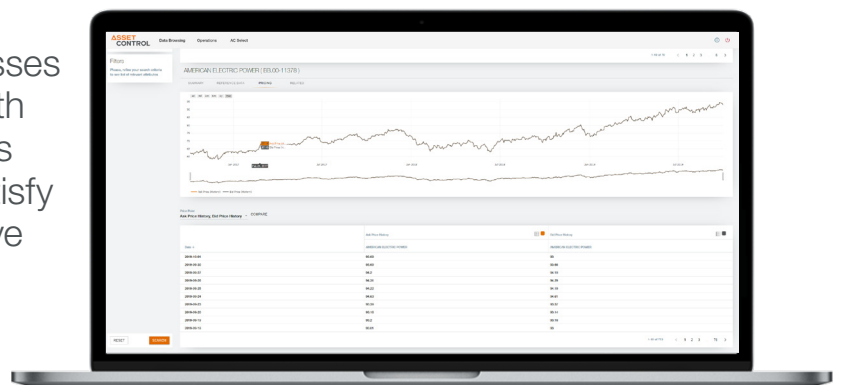## Selection of delivery mechanisms for defined data extracts

- Web Services Request / Response
- Publish and Subscribe
- Bulk Delivery

Never miss the latest updates to data and derived data

Instantaneously stream and publish data and derived data when terms and conditions, time series and dependent data changes are made. All updates are published to consumers with the full picture of changes to source data as well as changes to dependent data.

Future Proof your Data Demand

The volumes and diversity of data will continue to grow quickly, and the success of firms depends on empowering their users and processes with quality data of sufficient breadth and depth. Data consistency across departments is needed, both to satisfy regulators but also to avoid repetitive effort and the cost from multiple stores. ACX is the next generation data services platform for any firm that looks to better service their business with financial data and at the same time streamline and control infrastructure.

Drill down by data object to view Summary detail of Reference and Pricing Data with ACX

Why choose ACX?

- **Easy access for business users** via enterprise search capabilities
- **Fully time versioned store** of large sets of financial and unstructured data
- **Native integration** with Python and R
- **Flexible** cloud or on-premise deployment
- **Cost-effective and highly scalable** data discovery, exploration and delivery solution via NoSQL database technology

Data Monitoring

Now let's take your data life-cycle to the next level with continuous real-time monitoring of end-to-end daily data preparation processes to improve data quality and enhance operational efficiency. Asset Control's Data Monitoring solution, AC Ops360°, offers full transparency and control of daily data management processes at a single glance. Allowing the operations team to effectively monitor and improve data acquisition, derivation, cleansing and distribution.

AC Ops360°

Take data quality to the next level by bringing transparency to financial data management

Operations users need to ensure that data is acquired, mastered and delivered on time. AC Ops360° is your 360-degree view, offering a user-friendly control layer so users can identify bottlenecks and take corrective action right away.

The AC Ops360° dashboard provides easy access for data analysts, supervisors and other stakeholders to monitor the status of arrival and processing of data feeds, distribution of vetted data sets, and overall insights into data preparation processes.

To learn more about AC Ops360° please contact: info@asset-control.com
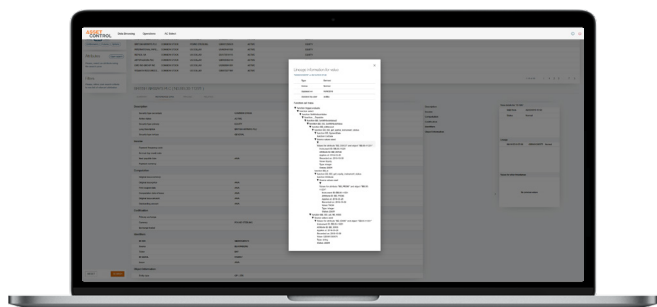
AC Ops360° and Data Lineage

To know if the data can be trusted in the first place, users need visibility into the origin of the data. AC Data Lineage within AC Ops360° provides transparency throughout the data processing such as; derived data and which input values were used, validated data and which validation rules were applied, manually entered or changed data and who changed the data and why, data loading and which sources and files were loaded, proxy data and how much data was proxied and which algorithm was used to fill the gaps.

With AC Data Lineage, you not only visualize the processes, you can view the linkages between these processes. Allowing for a full picture of your data ecosystem. Lineage will help you explain the values of your data and will help with regulatory and vendor audits. You can show what data you used and explain why the data you used has certain values.

Why choose AC Ops360°?

- **Single web-based viewing application** to display the status of daily data management processes such as data acquisition, derivation, cleansing, and delivery

- **Drill down capabilities** for investigating and appropriately handling data discrepancies and detecting concentrations and patterns of data issues

- **Operational overview** of distribution and delivery schedules

View full data lineage on data objects via ACX

Data and Business Intelligence

Finally, you are ready to complete your data journey and accelerate data driven decisions. Asset Control's Data and Business Intelligence solution, AC Data Quality Intelligence (DQI), has been designed just for that. DQI captures performance and data risk metrics at each stage of the data journey.

AC Data Quality Intelligence

Improve data quality, manage data risks and increase services levels with data quality intelligence

DQI leverages our visualization layer to provide users with a complete dashboard view of data processes. DQI strengthens the overall data quality standard by exposing data suspect detection, user workload predictions and KPI/KRI threshold breaches, anomaly detection in data ownership, user comment quality assessments, and data cleanser and data vendor performance.
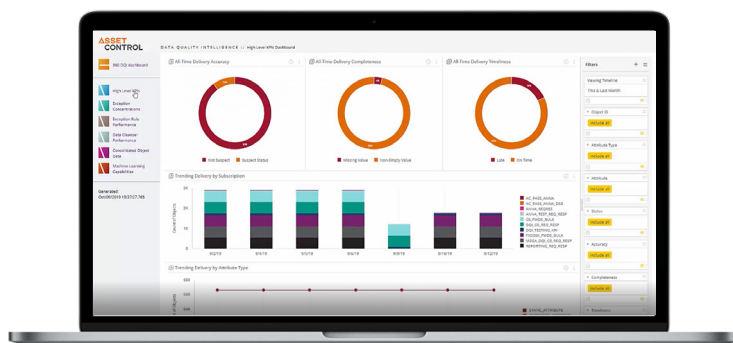
With DQI organizations can become data driven and lower their overall total cost of ownership through the utilization of analytics to identify and resolve inconsistencies. DQI enhances reporting on data quality policy compliance, data risks, historical analysis, SLAs and service level agreements provided by data vendors through scheduled or ad-hoc reporting options.

To learn more about AC DQI please contact: info@asset-control.com

Why choose AC Data Quality Intelligence?

- **Track and monitor data vendor performance** statistics visually to establish vendor hierarchies based on data timeliness, completeness, and accuracy.

- **Continuous improvement** monitoring of key performance indicators and key risk indicators to monitor against data quality targets and effectiveness of controls through alert customization

- **Easy web access** for business users

- **Collaborative portal** for organizing, personalizing and sharing dashboards, reports and analytics

- **Simply explore** content through visualizations, as well as the ability to slice and dice the underlying data

- **Perform detailed checks** using advanced analytics with machine learning

- **Schedule reports** and send alerts when thresholds are reached

High level KPI dashboard through DQI

Managed Services

As an expert in financial data management, Asset Control understands the unique data management challenges that financial organizations face, therefore we have developed our managed services solution, Asset Control Platform as a Scalable Managed Service (AC PaSS), with these challenges in mind.

Load

Host

Change

Run

Test

AC PaSS Managed Services

A managed services solution designed specifically for financial institutions

AC PaSS Managed Services has been designed specifically to overcome modern data challenges and give back valuable time for firms to focus on their core revenue-generating activities by outsourcing data management challenges to a financial data specialist. AC PaSS is a fully comprehensive data platform service that supports the entire data life-cycle. Focused on the needs of the end user.

Through an a la carte menu of service offerings, AC PaSS can be used both for wholesale data management outsourcing or for infrastructure augmentation on a use case by use case basis.

Delivering peace of mind through a unique SLA-driven model, AC PaSS can help financial institutions achieve their strategic objectives by ensuring that they are making the most out of their data assets.

To learn more about AC PaSS please contact: info@asset-control.com

The advantages of outsourcing data management

- Improves data quality and provides enhanced capabilities

- Provides greater control and transparency over data

- Insulates an organization from technological and regulatory change

- Reduces the risks associated with poor data quality and project implementation

- Provides more predictability over costs due to post-project continuity

Why choose AC PaSS?

- **Offload day-to-day functions** and focus on core business priorities.

- **Make the best data-driven decisions** and assure economic success

- **Reduce BAU and change costs** all while increasing efficiency in performance and scalability

- **Gain access to industry experts** and avoid the need to train or expand internal support teams

- **Eliminate unnecessary risks** and improve your overall business

Managed Data Services

Building off our AC PaSS Managed Services, PaSSPort has been created to deliver use-case focused, managed data acquisition, storage and distribution to eliminate complexity and reduce data costs.

PaSSPort Managed Data Services

A managed data service that collects and connects data sources to consumers

PaSSPort is a cloud-based data repository for anyone needing an easily accessible, dedicated store of data from one or more enterprise providers - targeted at businesses that are looking for a simpler, lower-cost approach to managed services.

Onboarding PaSSPort simply requires firms to specify their desired data sources and distribution needs using our web UI. This targeted approach to data sourcing means that clients can pick and choose sources per asset class, thereby reducing market data duplication and optimizing data budgets. PaSSPort not only allows for targeted data sourcing but, for users to manage their data requests through dashboards which transparently monitor the status of their data preparation, loading, and processing.

To learn more about PaSSPort please contact: info@asset-control.com

Why choose PaSSPort?

- **Easily-accessible**, cloud-based data repository
- **One or more maintained interfaces** to data vendors
- **Management of data request lists** to control sourcing
- **Seamless integration** with downstream systems

AC Consulting Services

Tap Into Expert Financial Data Management Knowledge

Our consulting services have been developed to help you navigate the complexities of financial data management. Whether you're embarking on new data management initiatives, responsible for transforming existing legacy systems or searching for data-driven innovation to accelerate strategic decision making. We're here to help guide you're journey.

Why choose AC Consulting?

Our customers choose AC Consulting for our far-reaching global access to highly skilled personnel that work closely with you to identify, design, develop, grow, and realize your data management aspirations.

Best Practices: Our team of data management professionals with practical know-how gained from over 60 client implementations in 25 countries can help you solve the most complex problems.

Data Services: Our experienced data services team work with customers to advise, develop, and integrate inbound data feeds to increase time-to-market, reduce unnecessary data costs, and improve overall data quality practices.

Hosting and Infrastructure provider agnostic: Over many years of developing software solutions which are hosting and infrastructure agnostic we have built a strong internal team to counsel and guide customers to ensure service selection is fit-for-purpose.

About Asset Control

Asset Control is the market leader in data quality software solutions for financial data. Focused on business user enablement, we help clients simplify complexity and ensure users across buy and sell side make the most of their data assets by providing easy data integration, data cleansing, distribution and data discovery solutions.

We service a blue-chip client base globally and our award-winning solutions provide rigorous processes to secure high-quality data, easy integration into business user workflows and a trusted environment for advanced analytics. Delivered through managed services, cloud or on-premise deployment, our highly scalable products help the world's most successful financial institutions meet their risk management, valuation, security master and operational needs with mission critical reliability.

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" **We are constantly looking for new technology and ways to meet our unique business demands. We know that as our business evolves, we can rely on Asset Control to handle our changing needs and look forward to deploying its solutions in 2019.** "

Chief Risk Officer, Venerable

" **A solid market data acquisition and mastering process is essential in satisfying prudent valuation rules from the European Banking Authority and the FCA but also provides us with broader opportunities. We are very pleased with the Asset Control solution and how the team implemented it.** "

Head of Front Office IT, Mizuho

" **Asset Control ensures the quality, timeliness and flexibility in risk data management that today's financial markets demand.** "

VP Market Data, Commerzbank

RiskTech 100 2020
Top 100

RegTech Insight Awards 2019 — WINNER — Asset Control — Best Software Solution for FRTB

Inside Market Data & Inside Reference Data Awards Winner 2019 — Best Reference Data Integration Vendor — Asset Control

DataManagement Insight Awards 2019 From A-Team Group — WINNER — Asset Control — Best Sell-Side Data Management Platform