



Unlock the Power
of Your Data

AI-Powered
Data Reliability for Insurers



In today's data-driven world, enterprise face issues like these



Issues faced in real world

- In 2024 Citigroup was fined \$136Mn by regulators for inaccurately reporting loan details which were caused by data inaccuracies.
- Metro Bank faced penalty of GBP 16.7Mn for failing to monitor potential money laundering activities due poor data quality issues.
- Equifax experience massive data breach affecting 147Mn individuals. The breach was attributed to poor data quality and security practices.



Opportunity Cost

Missed opportunities

- 45% of leads are filtered as bad leads due to poor quality.

Lost Revenue

- It is estimated that an average company loses \$15M per year.

Sub-optimal Decisions

- 84% CEO's are concerned quality of data with which they are taking decisions.

Lack of Compliance

- Risk of supplying wrong reports to regulatory authorities.

Operational Cost

- IBM Estimates cost of managing poor data being upwards of \$1T in US alone.

It's no different for insurance enterprises, they are increasingly relying on data to make critical business decisions, adopt AI/ML technologies, and enhance customer experiences. However, the value of data is only as good as its reliability. Inaccurate, incomplete, or inconsistent data can lead to flawed insights, operational inefficiencies, regulatory compliance issues, and ultimately, erode trust. Each data platform implementation carries inherent data quality risks:

Inaccurate Data
Incomplete or incorrect migrated data affects decision-making and reporting.

Unnoticed Null Value
Missing critical data impacts workflows and decision-making.

Broken Functionality
Migrated data fails to work as intended in the new system, disrupting processes.

Regulatory Violations
Non-compliance with data protection regulations like GDPR and HIPAA results in legal and financial penalties.



Inconsistent Data Formats

System errors and incorrect data displays lead to operational inefficiencies.

Data Integrity Issues

Corrupted or altered data during migration leads to discrepancies.

Security Issues

Sensitive data is exposed or improperly handled, violating privacy laws.

Poor Data Governance

Inconsistent data quality leads to ineffective data management.

We offer comprehensive data testing, data quality, and data observability solutions to help insurers build a foundation of trust in their data. Our AI-powered platform ensures your data is timely, complete, accurate, consistent, and fresh, empowering you to achieve your business goals with confidence.

QKTech's Solution



QKTech provides a comprehensive suite of services to address these challenges, enabling insurers to:

- Implement AI-powered data quality testing to ensure accuracy and consistency.
- Proactively monitor data health to detect and resolve issues before they impact the business.
- Optimize data pipelines for reliable data delivery.
- Support AI/ML adoption with high-quality training data.
- Make data-driven decisions with confidence.

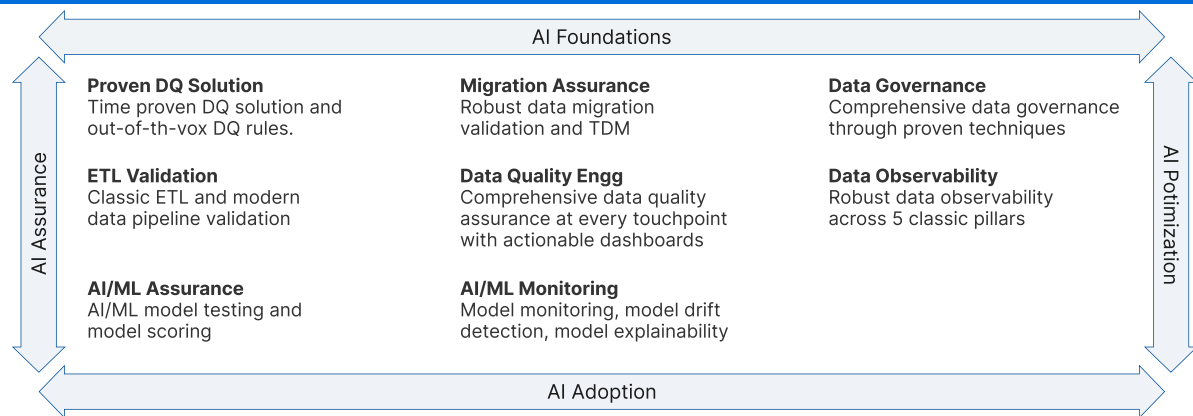


Our services cover the five pillars of data quality:

- **Timeliness:** Ensuring data is available when needed.
- **Completeness:** Ensuring all required data elements are present.
- **Accuracy:** Ensuring data is correct and free from errors.
- **Consistency:** Ensuring data is uniform across all systems.
- **Freshness:** Ensuring data is up-to-date and relevant.

End-to-end solution for managing enterprise data quality for better AI adoption

AI powered platform

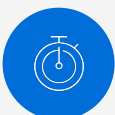


Our Capabilities

QKTech's comprehensive offerings

- **Test Data Management:** Robust solutions for creating and managing test data.
- **Data Profiling:** Understanding the structure and characteristics of data.
- **Data Diff Testing:** Comparing data sets to identify discrepancies.
- **Test Data Generation:** Creating realistic and compliant test data.
- **Data Lineage Mapping:** Tracing data flow from source to destination.
- **ETL Testing:** Validating the extraction, transformation, and loading of data.
- **Data Pipeline Testing:** Ensuring reliable data delivery through pipelines.
- **Data Quality Assurance:** Monitoring and improving data quality across systems.
- **Compliance Testing:** Ensuring adherence to data privacy regulations.
- **Report and Analytics Testing:** Validating the accuracy of reports and analytics.
- **Data CI/CD Testing:** Automating data testing as part of the CI/CD pipeline.
- **Data Migration & Schema Testing:** Ensuring successful data migration.
- **Time Series Testing:** Validating time-based data patterns.
- **Data Observability:** Providing insights into data health and performance.
- **Data Pipeline Reliability Testing:** Ensuring the reliable operation of data pipelines.
- **MLOps Optimization & Recalibration:** Optimizing machine learning operations with reliable data.
- **End-to-End Journey Analytics:** Providing insights into the complete data journey.

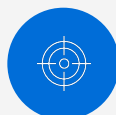
We Deliver



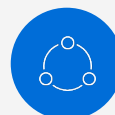
Timeliness
>95%



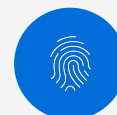
Completeness
90-95%



Accuracy
99%



Consistency
>99%



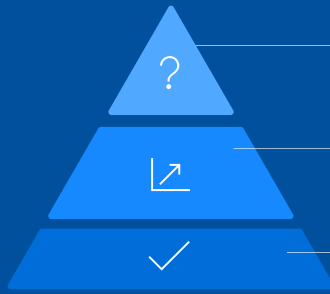
Uniqueness
>99%



Trust and
Adoption

QKTech's Approach for Data Reliability

Having helped numerous clients, QKTech has developed a standard and time-proven data quality implementation lifecycle utilizing reusable assets, industry-standard data quality rules, and third-party products. Each data platform implementation has various data quality risks.



Unknown risk

Unknown problem, not expected by data users (e.g., missing drift, new or missing microsegment) E.g., Recognize if a calling plan is discontinued for a specific group of customers.

Advanced risk

Known problem, multi run analysis needed (e.g. time dependent) E.g., What is an acceptable revenue from a customer for a specific region, for a specific month?

Simple risk

Known problem, single run analysis is sufficient E.g., Customer act number cannot be null; Insurance claim date must be between policy start and end dates.

We address three types of checks as against different risks

01

Basic Essential Checks:

- Disruptions in daily operations due to incorrect, incomplete, or misformatted data.
- Loss of decision-making accuracy, leading to operational inefficiencies.
- Customer dissatisfaction if data inconsistencies impact customer interactions.

02

Complex Integrity and Validity Checks:

- Damage to business functionality due to incorrect or incomplete data.
- Financial losses from transaction errors, broken business processes, or system failures.
- Security and privacy risks if sensitive data is not properly encrypted or protected.

03

Compliance and Governance Checks:

- Legal and financial consequences due to non-compliance with regulations like GDPR and HIPAA.
- Loss of customer trust and reputation from data privacy breaches or mishandling.
- Operational inefficiencies from poor data governance and inability to comply with data retention policies.

Category	Checks covered by implementation partner	Data checks covered by QKTech
Data Quality & Accuracy	• Basic data type and length checks. • Basic data profiling for data type and null value checks. • Manual review of ETL mappings and transformation logic. • Unit testing of individual rules based on limited test data.	• Implemented fuzzy matching algorithms (e.g., levenshtein distance). • Utilize advanced statistical techniques (e.g., clustering, regression analysis). • Implement automated data lineage tracing tools. • Develop a comprehensive suite of scenario-based test cases.
Performance & Scalability	• Basic load testing with synthetic data and limited concurrency. • Load testing with a fixed data volume.	• Simulate realistic user workloads based on historical usage. • Gradually increase data volumes to stress the system. Established scalability benchmarks.
Security & Compliance	• Basic RBAC testing with limited user roles. • Verification of encryption settings and masking rules.	• Simulate privilege escalation attempts. • Simulate data leakage scenario (e.g., unauthorized data exports, SQL injection attacks).
ETL Process	• Basic testing of incremental loads with limited data changes. • Basic error handling testing with failure scenarios	• Implement change data capture (CDC) verification techniques. • Simulate various failure scenarios (e.g., network outages, data corruption, data format errors).
Downstream Systems & Reporting	• Limited testing of key downstream systems. • Basic testing of a sample of reports with limited test data.	• Conduct comprehensive regression testing of all downstream system. Use automated testing tools to compare data outputs before and after the modernization. • Conduct thorough validation of all reports (data accuracy, business logic, connectivity, usability). Conduct regression testing of reports that are newly upgraded or migrated.

DataChecks: Our AI-Powered Data Quality Automation Platform

DataChecks is a comprehensive platform that supports organizations in ensuring data quality, enhancing data observability, managing test data, and addressing select aspects of data governance and compliance. It prioritizes scalability, minimizes manual intervention, and employs adaptive data quality testing that dynamically adjusts to evolving data patterns.

• Auto generation of DQ rules

Leverages GenAI to automatically generate data quality rules to increase productivity by 50%.

• Auto anomaly detection

AI-powered auto anomaly detection, finds data patterns and irregularities on an ongoing basis and alerts the concerned stakeholder.

• Data fingerprint and multi-stage checks

Comprehensive scan of each table to come up with fingerprint consisting of dozens of rules. Besides that DQ module can perform DQ checks at multiple points in data pipeline from ingestion, transformation and curation.

• Standard data quality and profiling reports

Data quality and profiling dashboards with actionable insights. Highlights source wise, format wise, application wise issues and enables business stakeholder to take corrective actions.

• Data quality chatbot

Natural language-based navigation and assistance through chatbot. Helps data analysis to keep tab on data quality and generate new from textual business description of the rule.

• Auto data profiling

Automatically does data profiling, time-series analysis on various entities. Detects if the data profile is deviating beyond threshold and alerts stakeholders.