

REAL-TIME DATA QUALITY MONITORING AND SENSOR CALIBRATION AT SCALE

SensorQC

SensorQC is a real-time data quality monitor for space domain awareness (SDA) data. It automatically verifies data and generates performance metrics for sensor observations, TLEs, satellite state vectors, data rates, satellite custody, sensor calibration status, and more. SensorQC's data stream processing architecture performs assessments in real time, allowing immediate operator response to errant conditions. Alerts and supporting data are exportable via an API, enabling external analysis or AI/ML integration.

- ▶ Sensor calibration
- ▶ Independent quality control assessment
- ▶ Sensor characterization and comparison

SensorQC was developed for commercial, military, civil, and academic use cases. It is compatible with the USSF Unified Data Library (UDL) and has ensured data quality for the Joint Commercial Operations (JCO) organization since March 2023.

KEY FEATURES & BENEFITS

- ▶ Monitors data in real time, enabling quick incident response
- ▶ Fully supports the Unified Data Library (UDL)
- ▶ Scales to monitor data from 500+ sensors simultaneously
- ▶ Customizable dashboard for easy monitoring and control
- ▶ Supports a variety of data types and formats
- ▶ Available as a managed service

SENSORQC OVERVIEW

SensorQC accepts data from a variety of sources including the Unified Data Library (UDL), pub/sub systems, file drops, and its API. The system can be configured to monitor many types of input data including sensor metadata, observations, sensor tasking information, TLEs, SP state vectors, and ephemerides. The system automatically ingests reference data (e.g., precision satellite ephemerides) to support verification tasks.

Once the data is received, SensorQC executes a variety of processing tasks specific to each data type. These include consistency checks, accuracy measurements, and adherence to data standards. Alerts are generated for any errant behavior. The system also calculates metrics like data rates, latencies, target custody, and error counts. SensorQC's optimized data processing pipeline means that hundreds of SDA sensors and their related data streams can be processed simultaneously in real time.

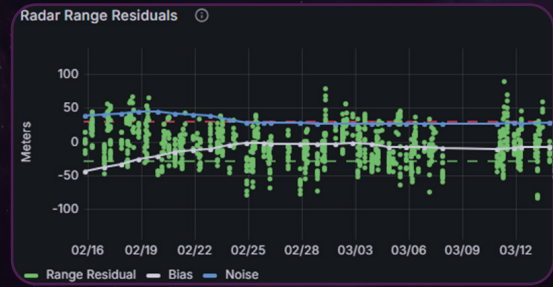
Alerts, metrics, supporting data, and system performance characteristics are presented to the user via a customizable dashboard. SensorQC's API can be integrated into existing tool suites, data pipelines, and user workflows.

FIND OUT MORE

The a.i. solutions SensorQC service is available as a managed service subscription. Each subscription allows a user to monitor multiple data sources, receive quality monitoring alerts, and push and pull data via the API.

Users with an active subscription that want to deploy additional instances of SensorQC in a closed network can do so for an additional annual fee.

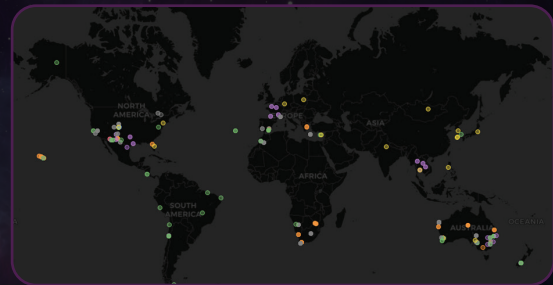
Contact us at sales@ai-solutions.com for a customized demonstration and see what SensorQC can do for you.



Radar Range Residuals



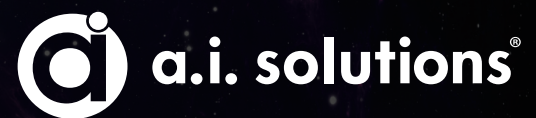
EO Right Ascension Residuals



Global Sensor Locations



Available today on the UDL



8910 Astronaut Blvd.
Suite 212
Cape Canaveral, FL 32920
(321) 200-1526