

# Intelligent fleet monitoring

Satellite manufacturers and operators can leverage Calian for all their needs in designing, testing, and managing their satellite fleet

Calian can provide an intelligent window into the health of your space asset. Integrated with your existing network or bundled with other Calian space offerings, this system operates continuously to identify anomalous signatures in satellite telemetry.

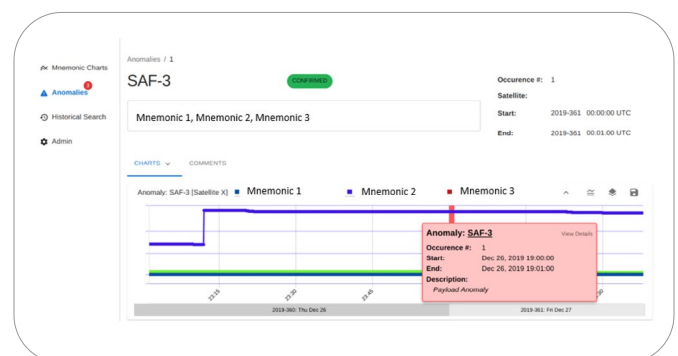
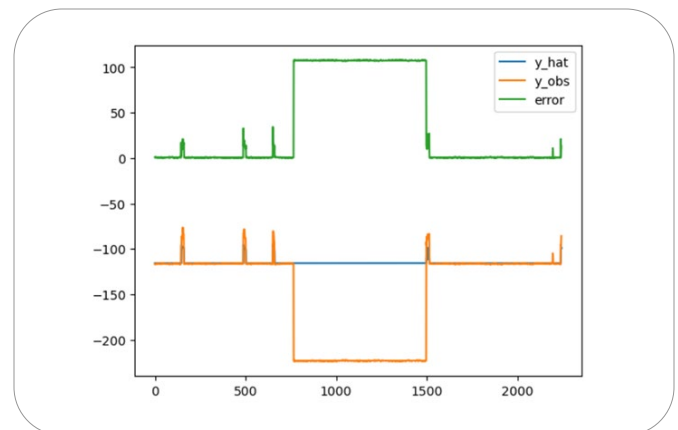
Machine learning (ML) models developed exclusively by Calian yield fast and accurate results. Client requirements are customized for various monitoring levels. The user interface makes configuring and operating intuitive and user-friendly.

## System overview

An operator accesses the system via a web-based user interface installed on your network. Accessing the various telemetry databases, the status of your fleet is automatically evaluated and reported to all stakeholders. Starting with the AI&T campaign you can monitor performance results, providing instant feedback throughout the process and establishing a performance baseline before launch.

During the Launch and Early Operations (LEOP) and Commissioning phases, the system builds on the performance baseline by ingesting and evaluating the flight data. With both automated and manual modes, system watchdogs produce results immediately following the reception of new data. ML model re-training can be initiated with the identification of new anomaly signatures and can be propagated throughout the fleet.

Our experienced and capable SatDevOps engineers are available to provide support services to assist in monitoring your fleet.



## Advanced situational awareness

Proprietary models provide advanced insights into fleet performance, historical comparisons, and insights into end-of-life (EOL) failure predictions for more informed management decisions. Leveraging custom algorithms and high-performance processing, collaboration is a click away as default or custom reports can be shared easily within the team. Ensure your fleet is operating to its maximum capability with advanced fleet monitoring from Calian.

### Anomalies

Year: 2021 Day of Year: 136 Time: 00:00:00 To Year: 2024 Day of Year: 137 Tin: 00

UNCONFIRMED CONFIRMED FALSE POSITIVE ALL

SAF	Start Time ↑	End Time	Status
SAF-3	2019-361 00:00:00	2019-361 00:01:00	CONFIRMED
SAF-3	2019-361 00:00:00	2019-361 00:01:00	UNCONFIRMED
SAF-3	2019-361 00:00:00	2019-361 00:01:00	FALSE POSITIVE
SAF-54	2021-133 18:09:06	2021-133 23:59:01	CONFIRMED
SAF-34	2021-133 18:09:06	2021-133 23:59:01	UNCONFIRMED
SAF-34	2021-134 00:20:51	2021-134 12:29:38	CONFIRMED
SAF-34	2021-134 00:20:51	2021-134 12:29:38	CONFIRMED
SAF-34	2021-134 17:53:55	2021-134 23:59:00	FALSE POSITIVE
SAF-34	2021-134 17:53:55	2021-134 23:59:00	UNCONFIRMED

## Stay informed

- Telemetry visualization
  - Mnemonic, packet and sub-system filters
  - CCSDS or custom packet formats
- Meta-data visualization layers
  - Correlate against expected events
- Identified and new anomaly configurations
- Model re-training
- High-performance processing (cloud options)
- Robust backup and archiving strategies
- Operator override controls
- User administration
- Stakeholder reporting
- Scalable to large constellations
- Web-based standards
- Secure mobile options
- Anomaly recovery recommendations\*

\* Custom development

For more information, visit [calian.com/products/fleet-monitoring](https://calian.com/products/fleet-monitoring) or contact at [opservices@calian.com](mailto:opservices@calian.com)



Calian® helps people communicate, innovate, learn and lead safe and healthy lives. Every day, our team embodies our core principles of unwavering customer commitment, integrity, innovation, respect and teamwork, to engineer reliable solutions that solve complex challenges. That's Confidence. Engineered.

We are a growing company headquartered in Ottawa with offices and projects spanning North American, European and international markets with a focus on innovative healthcare, communications, learning and cybersecurity solutions.