

FSME LOGIC

Sensor Telemetry Export Guide

Preparing Your Data for a Predictive Integrity Audit

This guide explains how to export clean sensor data from your existing monitoring system for submission to FSME Logic. No new sensors or hardware are required. You use your existing SCADA, BMS, or data logger exports exactly as they are.

Supported Input Formats

.csv | .tsv | .h5 / .hdf5 | .tdms | .nc (NetCDF) | .mat (MATLAB) | .xlsx |
.json | .sqlite / .db | .parquet

Section 1 — What Data to Export

Time range: A minimum of 30 days of continuous sensor data is required. 60–90 days is ideal. For the \$999 Single-Asset Viability Assessment, include the full period leading up to and including the historical failure event you want tested.

Channel selection: Include all available sensor channels for the asset being audited. Do not pre-filter or remove channels you think are irrelevant — the analysis examines cross-channel relationships that may not be obvious from a single signal.

Do not interpolate or smooth: Export the raw sensor values as recorded. Do not apply moving averages, gap-filling, or any pre-processing. We handle missing data and gaps internally.

Section 2 — Exporting from Common Systems

System / Platform Export Method Recommended Format		
Wonderware / AVEVA Historian	Data Export Wizard → select channels → CSV with timestamp column	.csv
OSIsoft PI / PI Vision	PI DataLink (Excel add-in) → Export Data → select archive values	.csv or .xlsx
LabVIEW / NI DAQmx	TDMS File Viewer → File → Export → CSV; or send raw .tdms directly	.tdms or .csv
Siemens WinCC	WinCC Audit Trail or Tag Logging → Export to CSV / Excel	.csv or .xlsx
Allen-Bradley / RSLogix	RSView Studio → Datalog → Export historical tag data	.csv
Generic SCADA / BMS	Most systems include an Export or Report function. Export as CSV with a timestamp column as the first field.	.csv

Portable data loggers (Fluke, Kistler, PCB Piezotronics)	Use manufacturer software to export recorded data. Most support direct CSV or MATLAB format export.	.csv or .mat
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Section 3 — File Format Requirements

For CSV files, the following structure ensures clean ingestion:

Required Element Specification Example		
Timestamp column	First column. ISO 8601 or Unix epoch format preferred. Date/time accepted.	2025-03-01 08:00:00
Column headers	First row should be column names. Sensor channel names or IDs.	timestamp,vibration_x,temp_c,rpm
Delimiter	Comma (,) preferred. Tab-delimited (.tsv) also accepted.	, (comma)
Encoding	UTF-8 preferred. ASCII acceptable. Avoid Excel auto-formatted currency symbols.	UTF-8
Missing values	Leave blank or use NaN. Do not use 0 as a substitute for missing data — this affects analysis accuracy.	(empty cell) or NaN
Duplicate rows	Duplicate timestamps are handled automatically. You do not need to de-duplicate before sending.	n/a

Section 4 — HDF5 / TDMS Files (Large Industrial Datasets)

If your system produces .h5, .hdf5, or .tdms files, send them as-is. Do not attempt to convert them manually — these formats often lose metadata during manual conversion that is critical for accurate timestamp reconstruction.

The FSME Data Ingestion Desktop Client (available at fsmelogic.ca/store.html) is specifically designed to handle these formats on your own machine if you prefer to pre-convert before submission.

Section 5 — Transfer Instructions

Transfer Method Instructions Security Note		
Encrypted Email (Recommended)	Compress your export to a .zip file. Send to alex-kalyniuk@fsmelogic.ca. Files under 25MB can be sent directly. Larger files use WeTransfer or equivalent.	TLS encrypted in transit. SHA-256 receipt provided at intake.

WeTransfer / SendGB	Upload your file at wetransfer.com or sendgb.com. Send the download link to alex-kalyniuk@fsmelogic.ca	Files auto-deleted after 7 days on WeTransfer.
USB / Physical Media	For highly sensitive operations or air-gapped facilities, physical media transfer is available. Contact us to arrange.	No network transmission required.

Section 6 — What Happens After Transfer

Step 1: Intake & SHA-256 receipt — We generate and send you a SHA-256 hash of your file within 24 hours of receipt, confirming it arrived intact and unmodified.

Step 2: Air-gapped processing — Your file is transferred to an offline, air-gapped machine for analysis. No internet connection is used during processing.

Step 3: Forensic report delivery — The completed forensic PDF is delivered by encrypted email. Turnaround depends on file size and complexity — typically 3–7 business days for standard datasets.

Step 4: Data destruction — Your source file is securely deleted following report delivery, unless you request otherwise in writing.