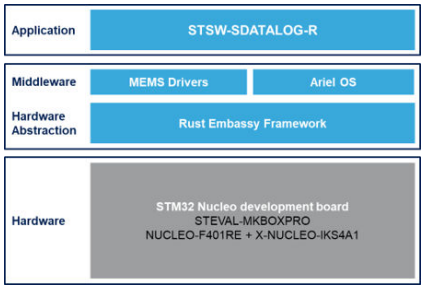
STSW-SDATALOG-R

Data brief

Rust serial datalogger for STAIoTCraft



Product summary	
Rust serial datalogger for STAIoTCraft	STSW-SDATALOG-R
Motion MEMS and environmental sensor expansion board for STM32 Nucleo	X-NUCLEO-IKS4A1
SensorTile.box PRO with multi-sensors and wireless connectivity for any intelligent IoT node	STEVAL-MKBOXPRO
STM32 Nucleo-64 development board with STM32F401RE MCU	NUCLEO-F401RE
Applications	Condition monitoring / predictive maintenance/Sensing

Features

- Complete software to acquire data from environmental and motion MEMS sensors and to stream continuously the data over a serial connection
- Compatible with ST serial datalog protocol used to interface with the STAIoTCraft web application to build, train, and deploy artificial intelligence models for sensor data classification
- Compatible with sensors STTS22H, LSM6DSV16X, LIS2DU12, LIS2MDL, and LPS22DF on STEVAL-MKBOXPRO
- Compatible with sensors LSM6DSO16IS, LIS2MDL, LIS2DUXS12, LPS22DF, STTS22H, and LSM6DSV16X on NUCLEO-F401RE with X-NUCLEO-IKS4A1
- Easy portability across different MCU families, thanks to embassy framework and Ariel OS
- Free, user-friendly license terms

Description

The STSW-SDATALOG-R is an application that implements the ST serial datalog protocol.

The ST serial datalog protocol streams sensor data over serial communication. The data interface with the STAIoTCraft web application.

In STAIoTCraft web application the data, train and validate AI models for sensor data classification.

The software integrates Rust drivers for MEMS sensors, to acquire sensor data from environmental and motion sensors.

The software is built over Ariel OS, an operating system for secure, memory-safe, low-power internet of things (IoT).

The software is written in Rust, a system programming language providing memory safety and thread safety by design.

Revision history

Table 1. **Document revision history**

Date	Revision	Changes
20-Jul-2026	1	Initial release.
23-Jul-2026	2	Updated Product summary.

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