MEMS Studio overview

One desktop software solution for a 360° experience of ST's entire MEMS sensor portfolio

MEMS Studio

Experience a versatile **development environment**, enabling the **evaluation and programming** of all MEMS sensors

Develop embedded **AI features**, evaluate embedded **libraries**, **analyze data**, and design **no-code algorithms**
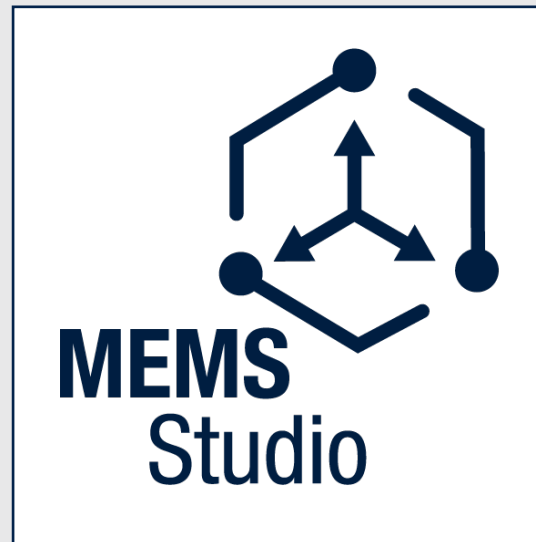
Discover the **all-in-one solution** that includes Unico-GUI, Unicleo-GUI and AlgoBuilder

life.augmented
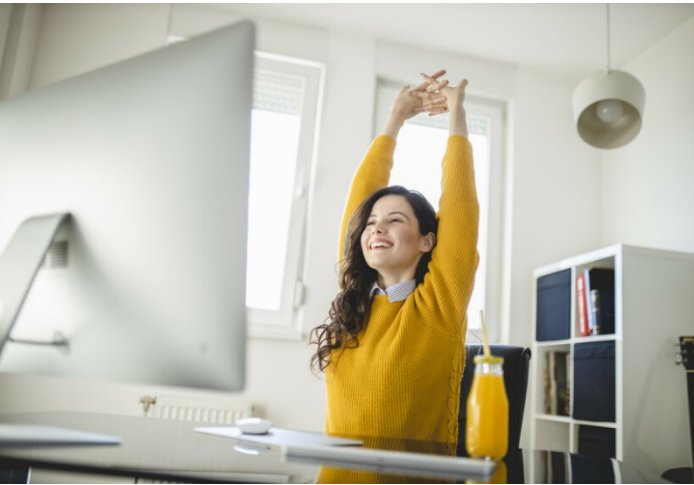
All-in-one software solution

From 3 different tools	To a single unified tool

All the functionalities of Unico-GUI, Unicleo-GUI & AlgoBuilder

Other **additional features**

Reduced effort

Single software download

Seamless experience from evaluation to programming

Single GUI

Scalable

Covers sensor programming, evaluation, and firmware generation

MEMS Studio

Improved functionalities
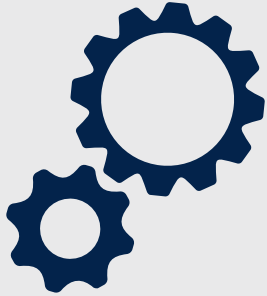
Runtime and offline data analysis

Wide support

Multiplatform operating systems (Windows, macOS, and Linux)

MEMS Studio journey

1 Sensor configuration

- Access to the full sensor register map
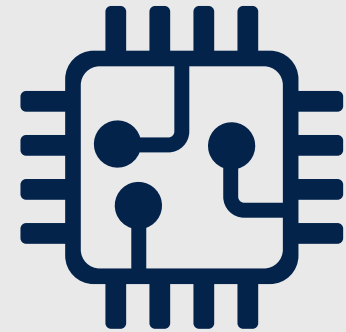- Interrupt status monitoring

2 Sensor data analysis

- Visualization charts of runtime sensor data (line charts, bar graphs, 3D plots)
- Data logging
- Time & frequency domain offline data visualization, data labeling, and editing
- Fast Fourier transform (FFT) analysis
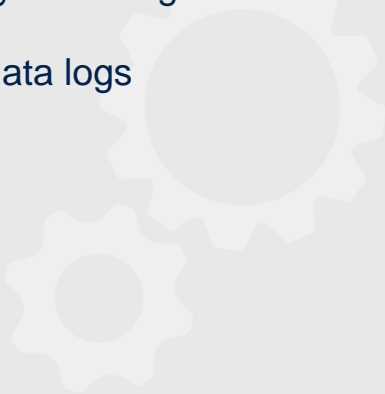- Spectrogram analysis

3 Application development

- Testing of advanced embedded features (FIFO, pedometer, free fall, …)
- In-sensor AI & ML algorithm design and programming
- Visualization and data logging of the output of the embedded libraries
- Development of no-code algorithms for data processing in STM32 MCUs
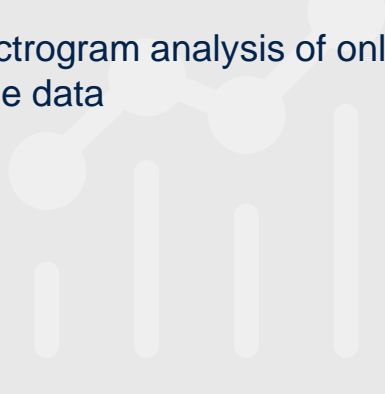
How to get start quickly with MEMS Studio

1 Sensor configuration

- ☐ **Connect** your board
- ☐ **Configure** the sensors
- ☐ **Access** the advanced sensor features
- ☐ **Evaluate** your configuration
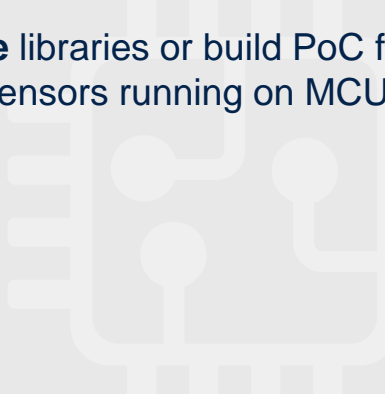- ☐ **Acquire** data logs

2 Sensor data analysis

- ☐ **Export** sensor data log to a .csv file
- ☐ **Analyze the** data: visualization, labeling, preprocessing, and editing
- ☐ **Run** fast Fourier transform (FFT) analysis of online & offline data
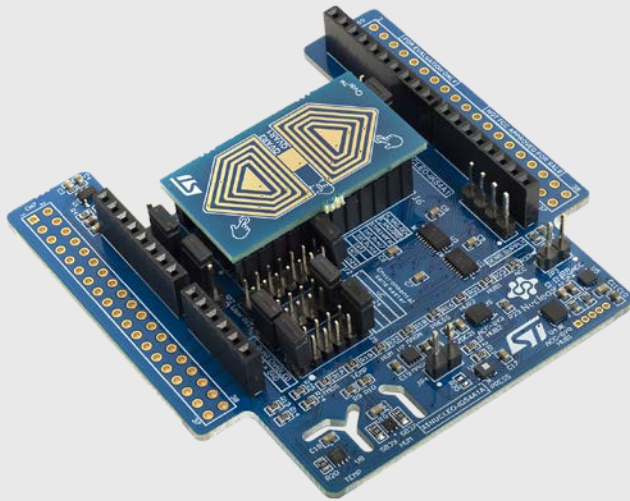- ☐ **Run** spectrogram analysis of online and offline data

3 Application development

- ☐ **Generate** firmware code for your board through a graphical tool
- ☐ **Build** the generated code and program on a target board
- ☐ **Visualize** data on the GUI
- ☐ **Evaluate** libraries or build PoC for MEMS sensors running on MCU

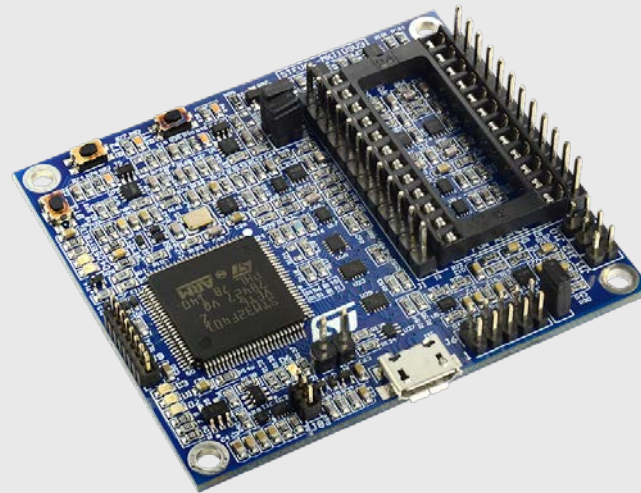# ST hardware supported by MEMS Studio

STM32 open development environment

Motion MEMS and environmental sensor expansion boards

(X-NUCLEO-IKS01A3, -IKS02A1, -IKS4A1)

Professional MEMS tool

MEMS adapters mother board based on STM32F401V1

Compatible with all ST MEMS adapter boards

SensorTile.box PRO

All-in one sensor node

Socket for DIL24 sensor adapters

Resources for MEMS Studio

One user-friendly tool for all sensors and ST ecosystem boards

MEMS Studio

Get the **tool** now!

Download

Discover the databrief

Read our user manual

Find answers in ST's MEMS & sensors community

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🌐 Find out more at www.st.com/MEMSstudio

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