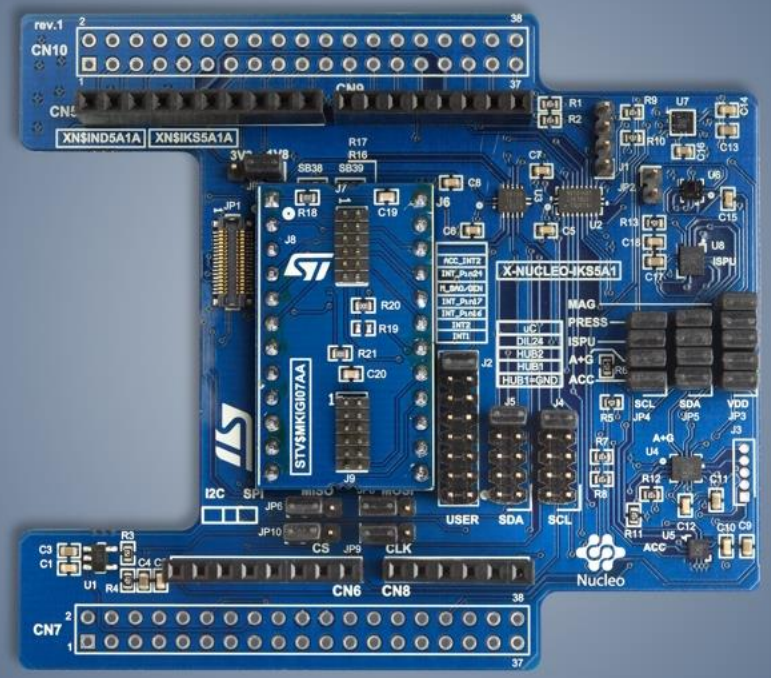


X-NUCLEO-IKS5A1

Intelligent motion and environmental sensing platform

What is X-NUCLEO-IKS5A1?

Expansion board
for development with ST MEMS industrial sensors

Easy **development** with ST MEMS industrial sensors

Supported by **STM32Cube** hardware and software ecosystem

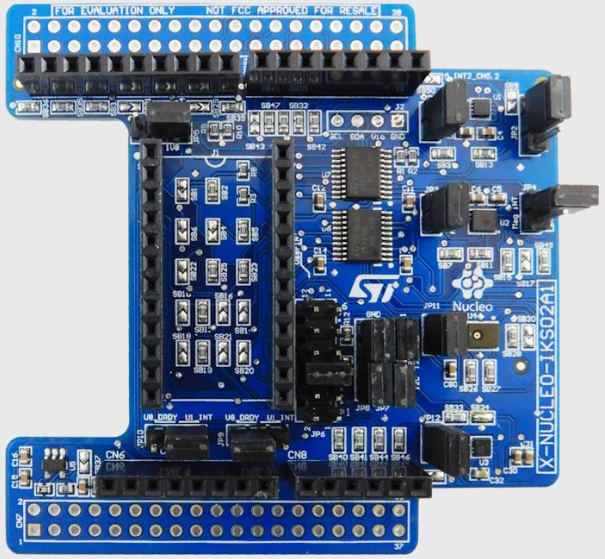
Compatible with ST MEMS **adapter kits**

Supported by **MEMS Studio** and **X-CUBE-MEMS1** software to communicate with STM32 Nucleo boards, manage and analyze sensor data, evaluate libraries, and generate firmware

Evolution of the industrial expansion board

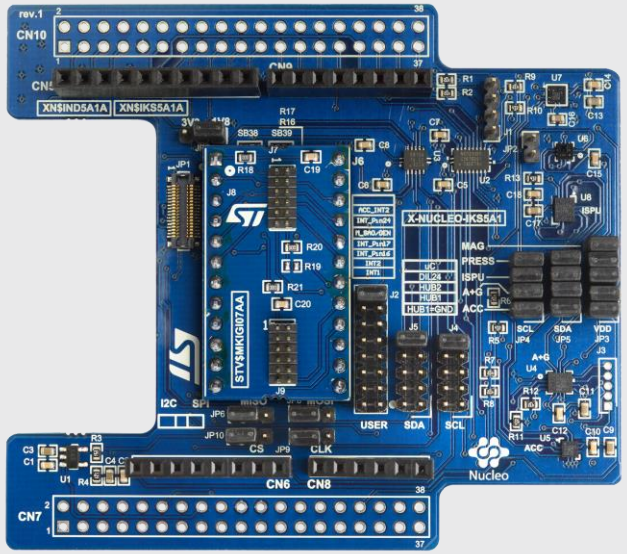
X-NUCLEO-IKS02A1

- In production since 2019



X-NUCLEO-IKS5A1

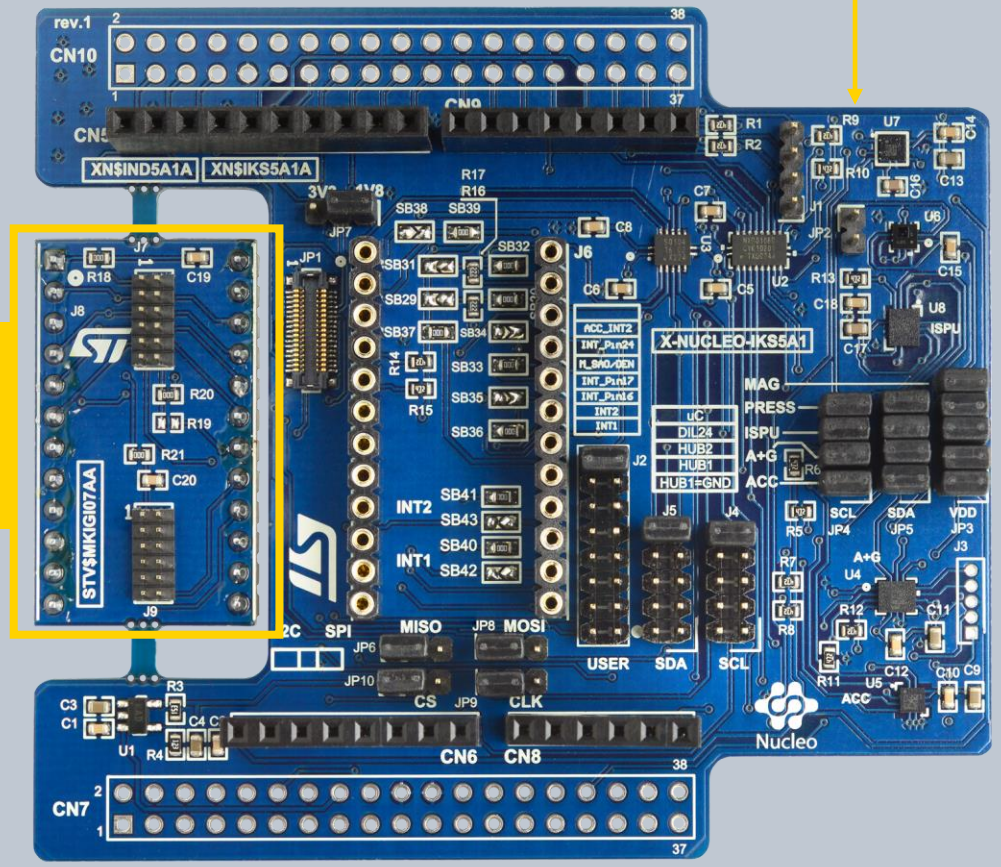
- **Available from November 2025**
- **New industrial MEMS sensors (IMUs, accelerometers, etc.)**
- **Additional connectors for external MEMS sensors**



The X-NUCLEO-IKS5A1 intelligent sensing kit

Main board
X-NUCLEO-IND5A1

Detachable add-on board
STEVAL-MKIGI07A



Intelligent **motion** and **environmental** sensing platform

What is inside X-NUCLEO-IKS5A1

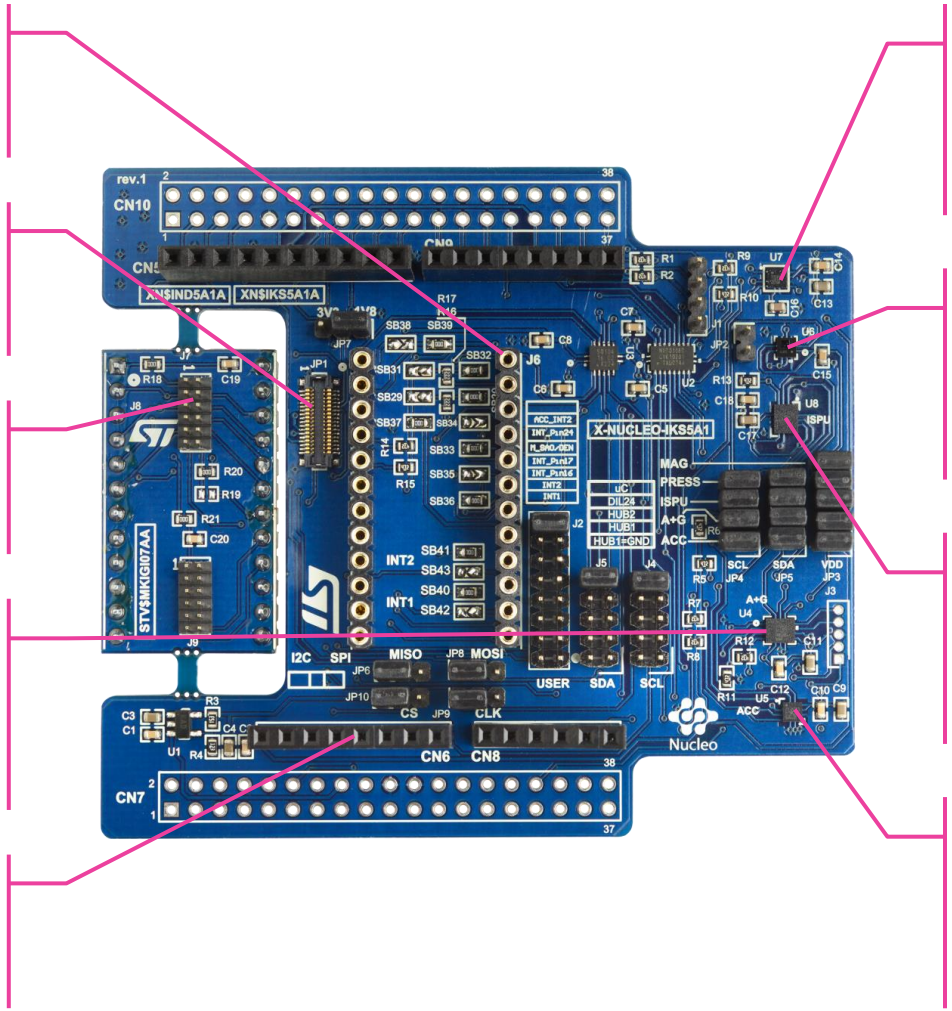
DIL24 socket for **external sensor**

Flex PCB connector for **external sensor**

Ribbon flat cable for **external sensor**

Intelligent IMU with simultaneous **low-g & high-g acceleration** detection - ISM6GH256X

Arduino® UNO R3 connector



High accuracy, ultralow power, 3-axis digital **magnetometer** - IIS2MDC

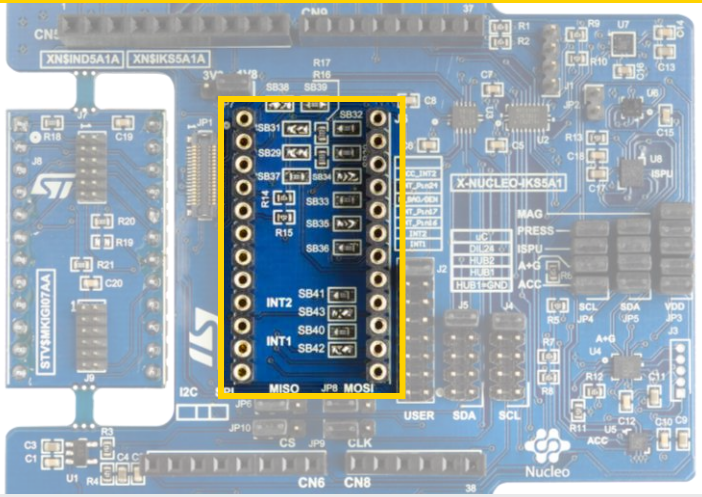
Dual full-scale, 1260 hPa and 4060 hPa, absolute **digital output barometer** - ILPS22QS

6-axis IMU, always-on 3-axis accelerometer and 3-axis gyroscope **with ISPU** - ISM330IS

Intelligent ultralow power accelerometer for industrial applications - IIS2DULPX

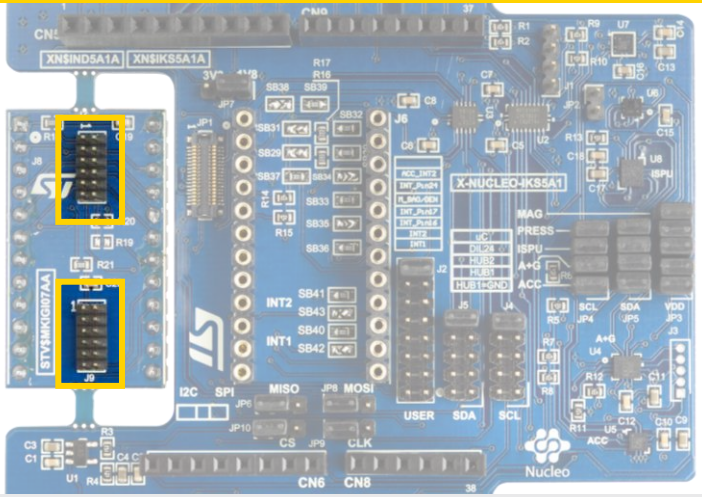
External sensor connections for X-NUCLEO-IKS5A1

DIL24 adapter



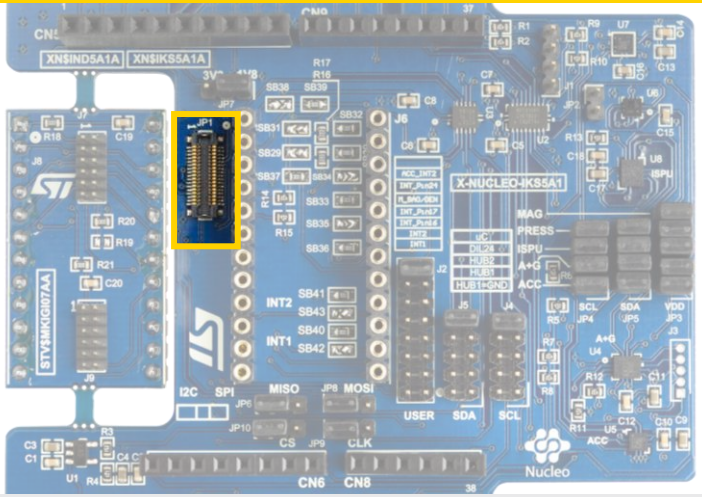
- One connector is available in the main board of X-NUCLEO-IKS5A1
- Standard DIL24 adapter for connecting add-on sensor boards directly to the main board

Ribbon flat cable



- 2 connectors available on the detachable add-on board STEVAL-MKIGI07A
- Allows placing the sensor in a different position compared to being plugged into the main board
- Suitable for many industrial applications

Flex PCB connection



- One connector is available in the main board of X-NUCLEO-IKS5A1
- Allows placing the sensor in a different position compared to being plugged into the main board
- Suitable for many industrial applications

Which benefits?

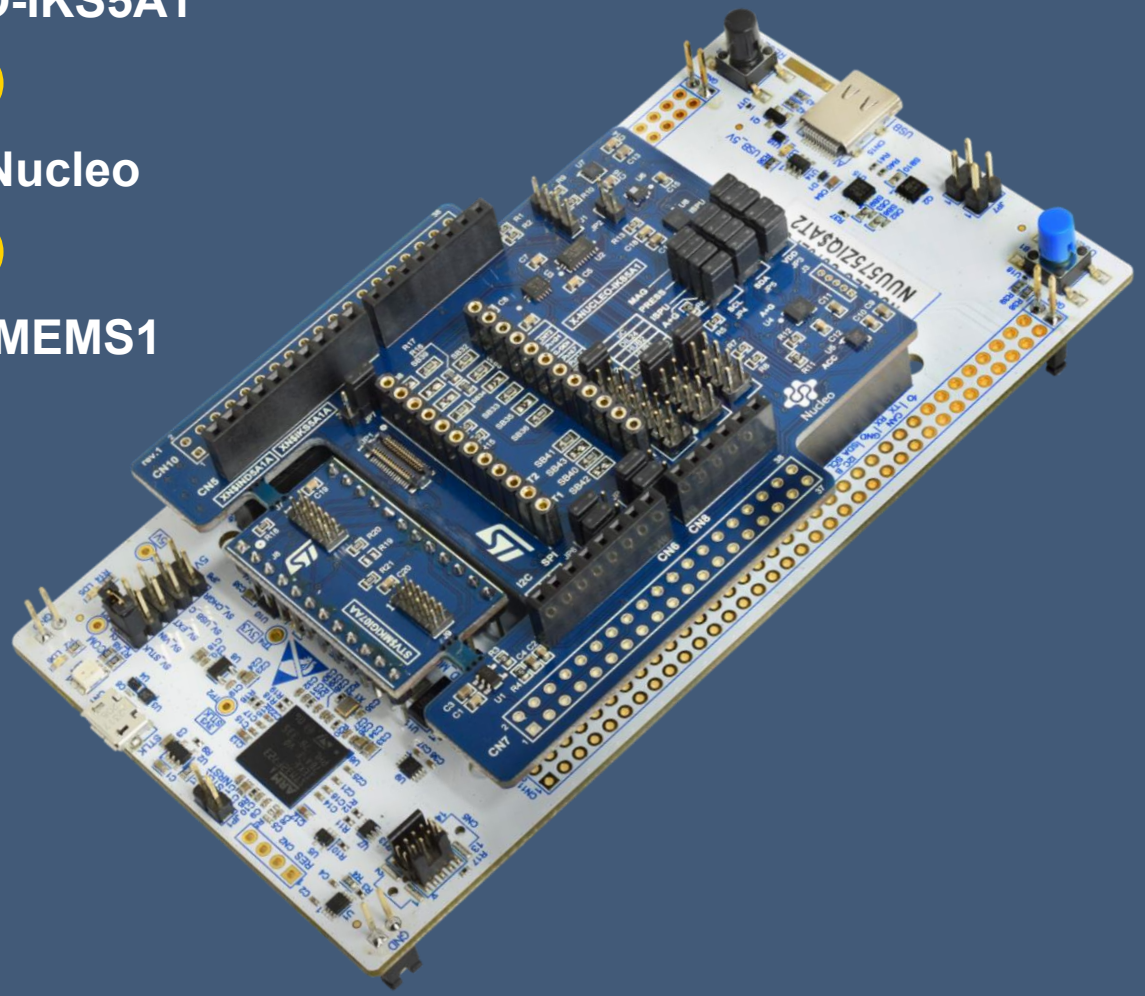
X-NUCLEO-IKS5A1

+

STM32 Nucleo

+

X-CUBE-MEMS1



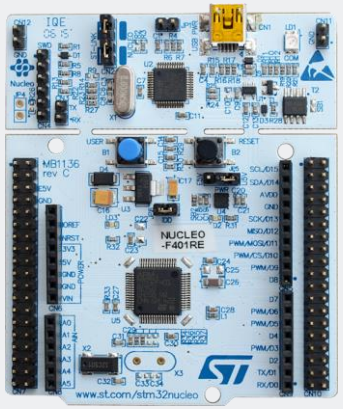
Enable development with the latest industrial sensors

Reduce your development effort

Seamless experience

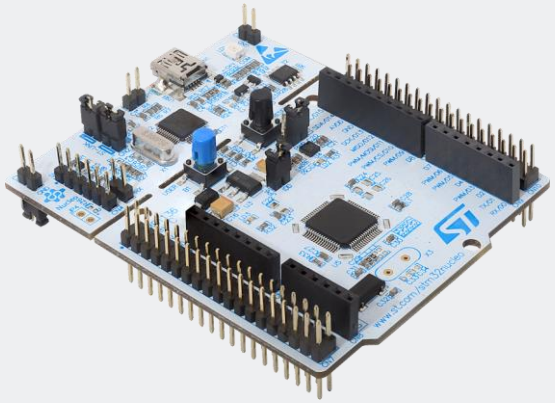
Speed up time-to-market

STM32 Nucleo boards supported by X-CUBE-MEMS1



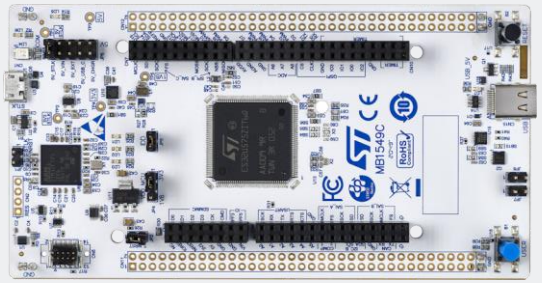
STM32F4
NUCLEO-F401RE

STM32L0
NUCLEO-L073RZ



STM32L1
NUCLEO-L152RE

STM32U5
NUCLEO-U575ZI-Q



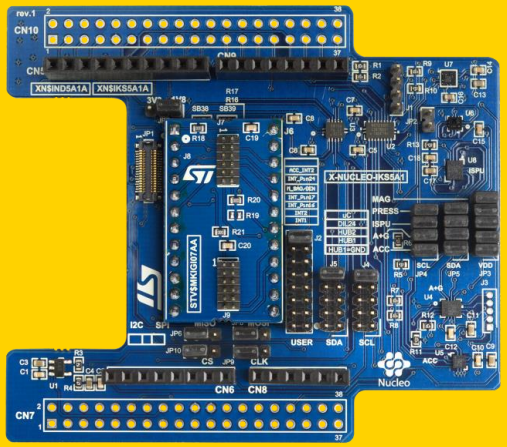
Example code and binary provided

Start your development journey

1. Plug the **X-NUCLEO-IKS5A1 board** into a compatible STM32 Nucleo board
2. Choose which sensors to use, they can be embedded on the board or plugged through an external connection
3. Explore the software package **X-CUBE-MEMS1**
4. Connect the board to the PC through a **USB** cable and launch **MEMS Studio**
5. Explore the **advanced features** of ST MEMS sensors and **develop** your application

Resources for X-NUCLEO-IKS5A1

X-NUCLEO-IKS5A1
The development platform for ST MEMS industrial sensors



Get the **board** now!

eStore

Get the data brief and user manual

Download the software
MEMS Studio and X-CUBE-MEMS1

Find answers in ST's MEMS & Sensors community

Our technology starts with You

Find out more at www.st.com