Ensuring sustainability & intelligence

An overview of ST MEMS & Sensors products to help you understand the use cases and the benefits they bring to people's lives.



FOLLOW OUR JOURNEY TO A SUSTAINABLE ONLIFE ERA

With the increasing fusion of technology in our daily lives, sensors are essential for improving our interactions with the world around us. Now, in a world facing new environmental challenges, people have even greater expectations. More than just making our lives better, these devices must be efficient and help protect the planet, while remaining centered on humans.

ST is enabling the transition to a **sustainable Onlife era** with an extensive MEMS sensor portfolio based on more than 25 years of experience and innovation. Our MEMS sensors are smart, open, accurate, and designed to help you build human-centric solutions that boost user creativity and interaction with the world, while optimizing energy efficiency in embedded systems.



SMART

Sensors are capable of directly processing the data they capture and delivering meaningful insights to the host device. By processing data locally, smart sensors reduce transmitted data and cloud processing requirements, thus lowering power consumption at the system level.

Our unique offers: machine learning core (MLC) and intelligent sensor processing unit (ISPU).



OPE

Sensors that can interface with other sensors. This allows third parties to benefit from ST on-sensor processing innovations, while contributing to an ecosystem that creates value for customers.

Our unique offers: ST MEMS sensor hub and ST MEMS sensor ecosystem.



ACCURATE

Sensors can provide high-precision data that allows better quality decisions and smoother and more natural user interactions. These sensors also reduce factory calibration time and resources to reduce energy requirements even further.

Our unique offers: sensor fusion low power (SFLP), adaptive self-configuration (ASC).

At STMicroelectronics
we create
technology that
starts with You



Order code: BR2503MEMSSENSQR









MEMS and Sensors Quick Reference Guide



OUR MEMS SUSTAINABLE SOLUTIONS MATCH YOUR NEEDS

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MEMS sensors in your hands (AXL, PS, IMU)*

- Smartphones, tablets, foldable phones
- Personal trackers
- Gaming devices
- Remote control
- Notebooks, laptops
- Cameras



MEMS sensors in your home (AXL, PS, IMU, IR)*

- Home alarm systems and car garages
- White goods
- Smart speakers
- Smart home automation control
- Electric, gas/water meters



MEMS sensors in smart manufacturing (AXL, PS, IMU, IR)*

- Industrial IoT and connected devices
- Robotics, automation, and drones
- Precision inclinometers and leveling instruments
- Weather station equipment
- Smart filters, and gas and water meters
- Equipment condition monitoring
- Power tools
- Asset trackers





MEMS sensors in your training (AXL, PS, IMU)*

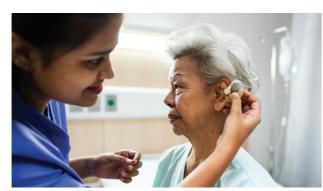
- Watches, rings, smart band
- True wireless stereo (TWS)
- Pedometers
- Treadmills and barbells





MEMS sensors in your car (AXL, IMU)*

- Telematic boxes and security systems (car alarms)
- Body applications
- In-dash car navigation, precise positioning, ADAS
- Vehicle dynamics, stability and roll control systems and active suspensions
- Smart keys and road noise canceling systems



MEMS sensors in healthcare (AXL, IMU, Biosensors)*

- Helmets
- Earning aids
- Vital signs monitoring
- Rehabilitation devices
- Healthcare mobility
- Implantable medical devices
- Biopotential signals

*AXL: accelerometers, PS: pressure sensors, IMU: inertial measurement units, IR: infrared sensors

A UNIQUE OFFERING BRINGING INTELLIGENCE TO THE EDGE

ST smart sensors allow developers to maximize the functionality of their application while improving overall system efficiency. By leveraging machine learning techniques, we enable true edge processing to improve accuracy and reduce power consumption.



- Extremely low-power sensors
- Increased accuracy with better context detectability
- Offloading the main processor and improving system efficiency



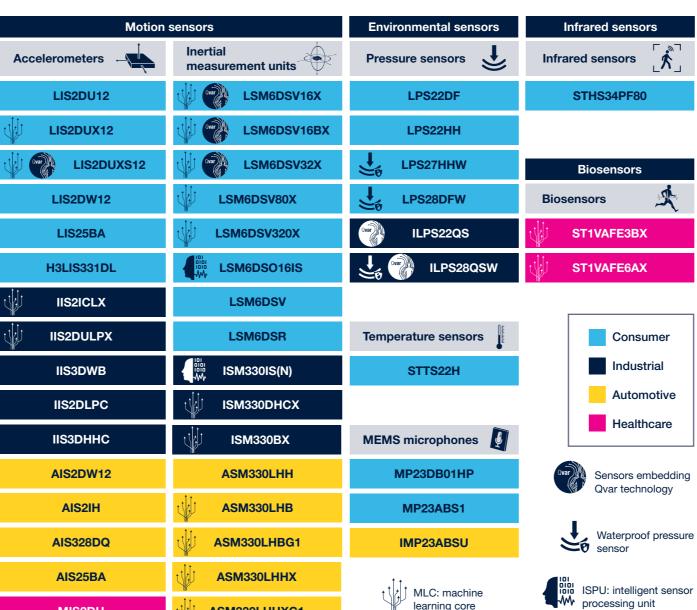
Intelligent sensor processing unit

Highly specialized DSP for machine learning and processing

- Ultralow power consumption at system level thanks to optimized data transfer
- High processing capability with Al-enabled programmable core
- Comprehensive ecosystem

Sensor hub feature, enabling connection of external standard sensors

MEET OUR FEATURED PRODUCTS

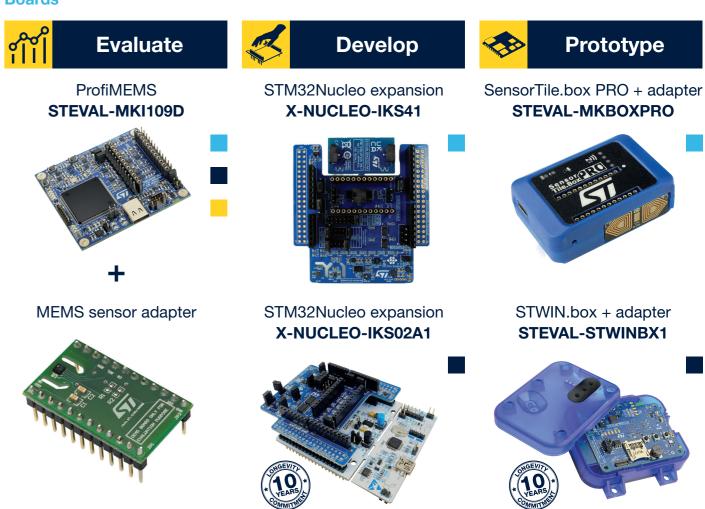


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MIS2DH

A COMPLETE AND USER-FRIENDLY ECOSYSTEM TO SUPPORT YOUR DESIGN:

Boards

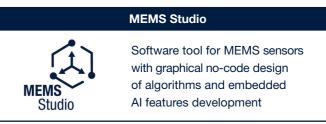


Software solutions

Consumer

For sensors and MLC:

Industrial



Additional tool for ISPU:





NanoEdge Al Studio

NANOEDGE AI STUDIO

FIND THE SENSOR YOU NEED IN ST.COM



Whether you're looking for motion sensors, environmental sensors, or any other MEMS & Sensors products, our portfolio offers a wide range of products that are designed to meet the highest standards of quality and reliability.

Visit our website to find the perfect sustainable solution for your needs.

Automotive

st.com/mems