At STMicroelectronics we create technology that starts with You
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).

OPEN

Sensors that can interface with other sensors. This allows third parties to benefit from ST’s 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).

Ensuring sustainability & intelligence

At STMicroelectronics we create technology that starts with You
**OUR MEMS SUSTAINABLE SOLUTIONS MATCH YOUR NEEDS**

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

MEMS sensors in your home (AXL, PS, IMU, IR)
- Home alarm systems and car garages
- White goods
- Smart spaces
- Motion and air direction control
- Electric, gas/heat meters

MEMS sensors in smart manufacturing (AXL, PS, IMU, IR)
- Industrial IoT and connected devices
- Robotics, automation, and drones
- Precision instruments and leveling instruments
- Weather station equipment
- Smart filters, and gas and water meters
- Equipment condition monitoring
- Power tools
- Asset trackers

MEMS sensors in healthcare (AXL, IMU, IR)
- Hospitals
- Earning aids
- Life sign monitors
- Rehabilitation devices
- Healthcare mobility
- Implantable medical devices

Our MEMS sustainable solutions match your needs. A unique offering bringing intelligence to the edge.

Find the sensor you need in st.com

Meet our featured products

A complete and user-friendly ecosystem to support your design:
- Boards
- Evaluate
- Develop
- Prototype
- SensorTile.box PRO + adapter
- MEMS sensor adapter
- MEMS32Nuclio expansion
- X-NUCLEO-IKS4A1
- STM32Nucleo expansion
- X-NUCLEO-IK041S02
- STM32Nucleo expansion
- X-NUCLEO-IK041S01
- SensorTile.box PRO + adapter
- STEVAL-MKBOXPRO
- STWIN.box + adapter
- STEVAL-STWINBX1

Software solutions

M3ID Studio
M3ID Studio
M3ID Studio
Nanosensor 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.
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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
  - Smart homes
  - Automatic irrigation systems
  - Electric, gas/water meters
  - Smart thermostats
  - Electric car chargers

- **MEMS sensors in smart manufacturing** (AXL, PS, IMU, IR)
  - Industrial IoT and connected devices
  - Robotics, automation, and drones
  - Precision instruments and leveling instruments
  - Weather station equipment
  - Smart filters, and gas and water meters
  - Equipment condition monitoring
  - Power tools
  - Asset trackers

- **MEMS sensors in healthcare** (AXL, IMU)
  - Helmets
  - Hearing aids
  - Life support monitors
  - Rehabilitation devices
  - Healthcare mobility
  - Implantable medical devices

- **MEMS sensors in training** (AXL, PS, IMU)
  - Watches, rings, smart bands
  - 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-car navigation, precise positioning, ADAS
  - Fault detection and fault control systems
  - Smart keys and road noise canceling systems

**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.

**MEET OUR FEATURED PRODUCTS**

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MEMS sensor adapter</strong></td>
<td>STMicroelectronics expansion board for MEMS sensors, supporting various MEMS sensor types</td>
</tr>
<tr>
<td><strong>SensorTile.box PRO + adapter</strong></td>
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</tr>
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**A COMPLETE AND USER-FRIENDLY ECOSYSTEM TO SUPPORT YOUR DESIGN:**

- **Boards**
  - Evaluate
  - Develop
  - Prototype

- **Software solutions**
  - For MEMS sensors and MLC:
  - For ISPU programming:

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  - Body applications
  - In-dash car navigation, precise positioning, ADAS
  - Vehicle dynamics, stability and roll control systems
  - Smart keys and road noise canceling systems

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ST.com/mems
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