



seed studio

The AI Hardware Partner 2026 Product Catalog

www.seedstudio.com

V1.1

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Popular Platforms



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About Us

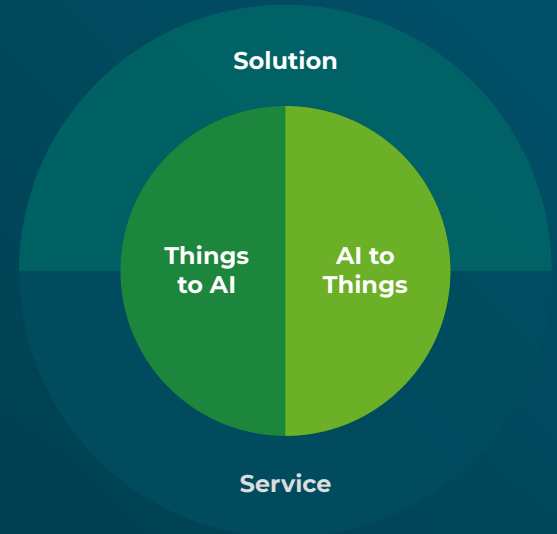
The AI Hardware Partner

Seeed Studio is an open-source hardware provider founded in 2009 and headquartered in Shenzhen. We focus on emerging technologies like edge AI, robotics, and smart sensor system, for technologists like makers, developers and scientists worldwide.

Leveraging an open-source hardware ecosystem, we accelerate the transformation of ideas into market-ready products and solutions to support diverse and emerging applications across industrial and commercial scenarios. We primarily provide edge computing, network communication, and smart sensing modules and devices, as well as spatial intelligence, wearable intelligence, and embodied intelligence solutions. We aim to become the world's most trusted hardware incubation platform, empowering every technologist to deliver digital transformation.

As an open-source hardware provider focused on emerging technologies, we have built a technology ecosystem based on open-source hardware, AI-driven capability and cross-domain co-creation. Our core technologies include edge AI computing, low-power communication and sensing, standardized modular design, and comprehensive edge AI application development platform.

Currently, Seeed Studio has established a comprehensive sales network covering both local and international markets, serving customers in over 160 countries and regions.



How it started 2009

From Possibility to
Productivity



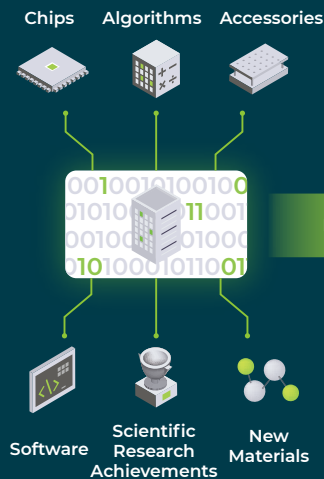
How it's going 2026

From Technology to Industry

Technologies

- Open Source Hardware
- Machine Learning
- Advanced Sensors
- Home Assistant
- Wireless. dePIN
- LLM

Emerging Technologies



Global Developer Communities

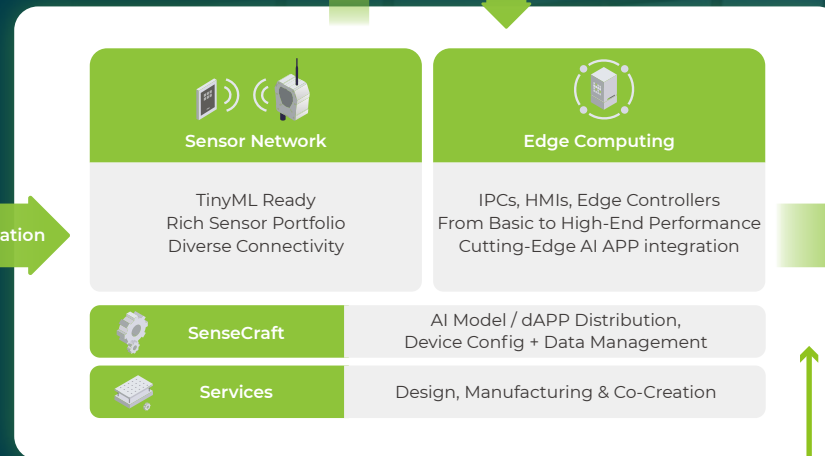


open source hardware

Collaborative Innovation

Applications

- Embodied Intelligence
- Smart Spaces
- Wearable Intelligence
- Asset Tracking
- Smart Agriculture
- Smart Energy
- Tech for good
- Open Science



Digital Economy



Traditional Industries

- Embodied Intelligence
- Smart Spaces
- Wearable Intelligence

Featured Product Lines



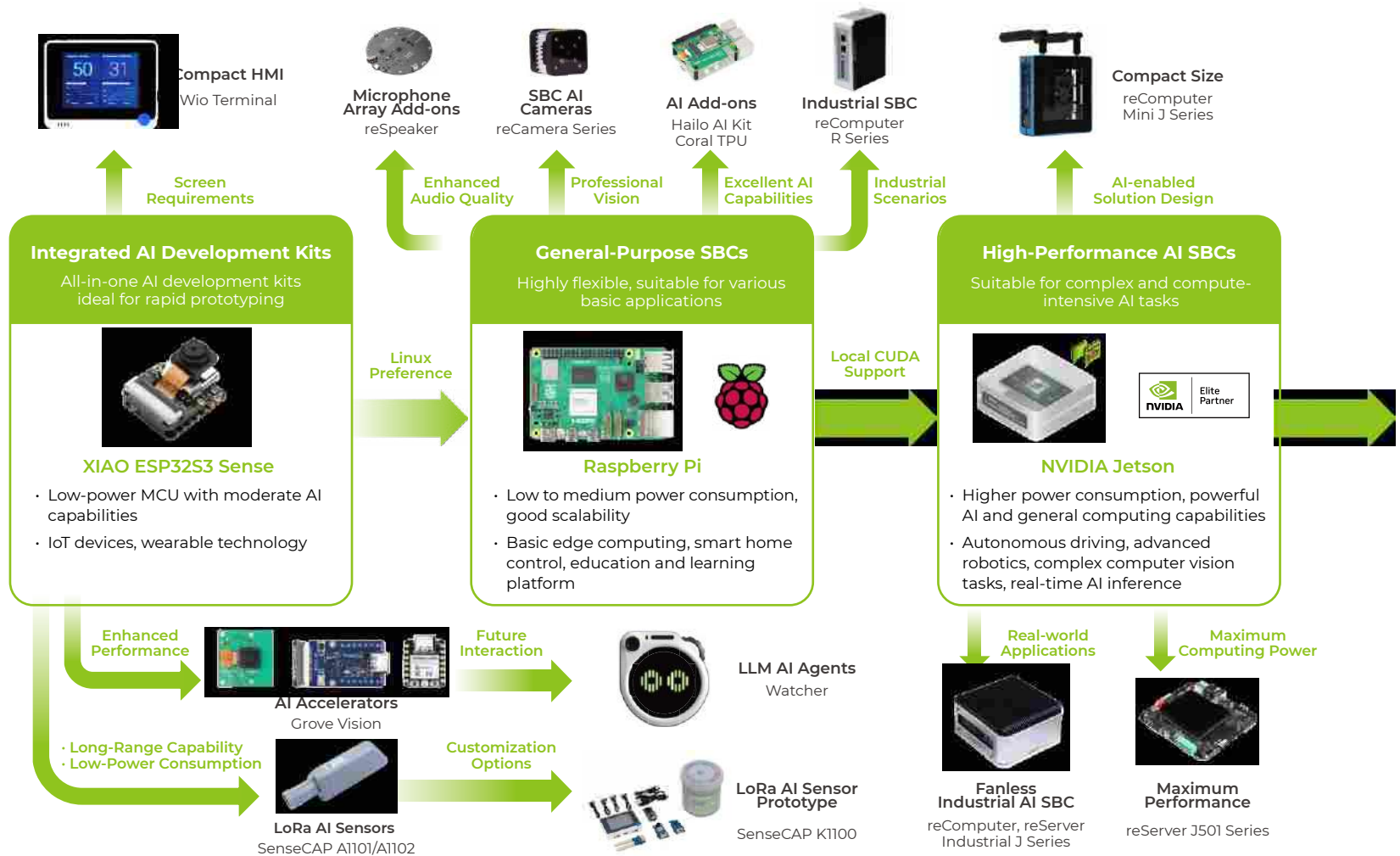
AI Hardware Portfolio

Build Apps in 1 Min with **SenseCraft**

Cover All Computing Needs

Custom Model

Open Source



Embodied Intelligence Hardware Portfolio

The Next Frontier of AI: General Robotics Is Just Around the Corner

Robot Brains



Humanoids



Manipulators



AMR



Visual AI Agents



Other Agents

34-275TOPS



AI Box



reComputer Super Orin
Orin Nano/ Orin NX

AMR



reComputer Robotics
J5012

Multimodal Perception



reComputer Robotics
Orin Nano Super/
Orin NX Super

Humanoid



reComputer Mini J501

Robotics Kit



LeRobot AI Arm kit
SO-ARM101 6DoF



StarAI Teleoperation
Arms 7DoF



reBot Arm B601 Series
for High-Precision



Reachy Mini
Companion Robot

More Open-source project kit...

Home Assistant Hardware Portfolio

Sensor Devices

seeed studio



Human Presence,
Breathing &
Heartbeat Sensor



Human Presence and
Fall Sensor



reCamera



SenseCAP Watcher



XIAO 2-CH AC Wi-Fi
Energy Meter



Home Assistant

Building your open source home automation
that puts local control and privacy first



Open Source



Local Control



Home Automation



Privacy First

Host Devices



Home Assistant Green / Yellow



Home Assistant
Connect ZBT-1



seeed studio

Raspberry Pi Powered Devices



Raspberry Pi
SBCs



reTerminal



reTerminal DM

Control Devices



Home Assistant Voice Preview Edition



seeed studio



XIAO 2-Channel Wi-
Fi AC Relay



reSpeaker Lite 2-Mic
Voice Assistant



SenseCAP Indicator



XIAO 6-CH Wi-Fi 5V
DC Relay



XIAO 7.5inch ePaper
Panel

AI Controllers

Streamlining Rapid AI Hardware Prototyping

Build AI hardware faster with our AI controllers — your streamlined prototyping platform. With TinyML-ready Seeed Studio XIAO MCUs and plug-and-play Grove sensor modules, we provide a scalable hardware foundation, comprehensive software support, and ready-to-run examples. Whether you're validating an AI model, deploying a sensor node, or creating an interactive interface, our modular ecosystem and active community help you move from idea to working prototype in record time.



Seeed Studio XIAO - Thumb-Sized Powerhouse for IoT and Edge AI

Add AI to Almost Everything

The Seeed Studio XIAO Series is a collection of thumb-sized, powerful microcontroller units (MCUs) tailor-made for space-conscious projects requiring high performance and wireless connectivity. Embodying the strengths of leading hardware brands such as Espressif, Nordic Semiconductor, Microchip, Renesas, and Silicon Labs, the Arduino-compatible XIAO series is the ideal toolset for TinyML at the edge.

Features



• Popular SoCs Integrated

nRF54 series, nRF52840, ESP32 series, RP2040, RP2350, RA4M1, SAMD21, and more to leverage your Embedded Machine Learning applications on MCUs.



• Thumb Size with SMD

Sized at 21×17.8 mm with single-sided surface mount design, ready to blend in space-constrained and tap-on designs.



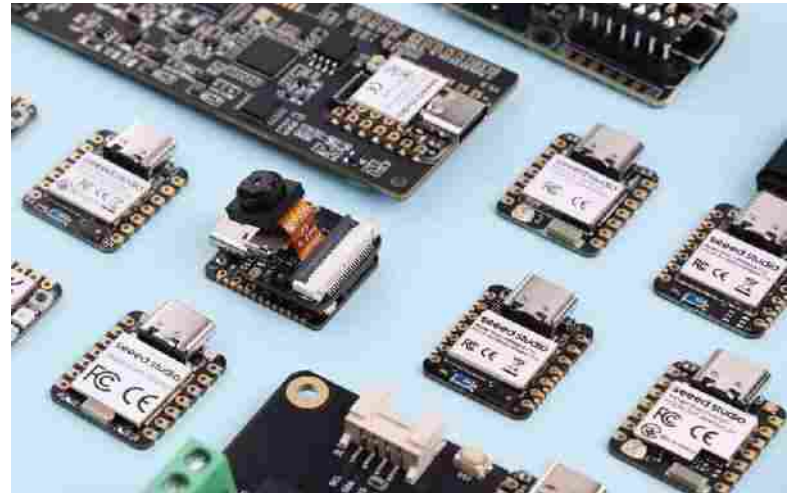
• TinyML / AI Native

Compatible with Seeed's no-code model training and deployment platform SenseCraft AI, making TinyML scalable on MCU.



• Developer-Friendly

Natively Arduino-compatible, with seamless support for PlatformIO, MicroPython, Zephyr, and many open-source GitHub projects.



21×17.8 mm
= Thumb-Size

500,000+
Developers' Choices

1,600,000+
Pieces Shipped Globally



Seeed Studio XIAO Dev Boards



XIAO ESP32-C5

SKU [100010048](#)

2.4 & 5GHz Wi-Fi 6, BLE 5.0, Zigbee, and Thread for Matter



XIAO nRF54LM20A Sense

SKU [100018440](#)

Low power BLE 6 with onboard microphone and 6-axis IMU



XIAO nRF54L15

SKU [101991421](#)

Ultra-low power consumption, perfect for BLE 6 applications



XIAO nRF54L15 Sense

SKU [101991422](#)

Low power BLE 6 with onboard microphone and 6-axis IMU



XIAO SAMD21

SKU [102010328](#)

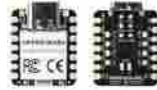
Classic for Arduino beginners, with courses



XIAO RP2040

SKU [102010428](#)

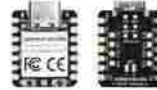
Raspberry Pi Ecosystem with great MicroPython support



XIAO RP2350

SKU [102010550](#)

MicroPython-ready based on Raspberry Pi RP2350



XIAO RA4M1

SKU [102010551](#)

Renesas 32-bit ARM Cortex -M4 MCU, compatible w/ Arduino IDE



XIAO nRF52840

SKU [102010448](#)

Ultra-low power consumption, perfect for BLE applications



XIAO nRF52840 Sense

SKU [102010469](#)

Low power BLE with onboard microphone and 6-axis IMU



XIAO MG24

SKU [102010590](#)

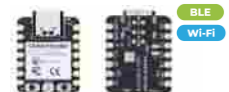
Super-low power for battery-powered Matter projects



XIAO MG24 Sense

SKU [102010610](#)

Super-low power board with microphone & 6-axis IMU



XIAO ESP32-C3

SKU [113991054](#)

Cost effective with Wi-Fi and BLE on board



XIAO ESP32-S3

SKU [113991114](#)

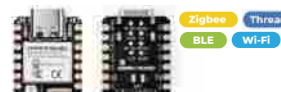
High-performance dev board with Wi-Fi and BLE



XIAO ESP32-S3 Sense

SKU [113991115](#)

Mini camera perfect for computer vision



XIAO ESP32-C6

SKU [113991254](#)

2.4GHz Wi-Fi 6, BLE 5.0, Zigbee, and Thread for Matter

Seeed Studio XIAO Variants



Seeed Studio XIAO Pre-Soldered

SKU [E2024042601](#)



Seeed Studio XIAO Plus

SKU [102010671](#), [102010694](#), [102010672](#)



Seeed Studio XIAO 3pcs Pack

SKU [E2024042601](#)



Seeed Studio XIAO Tape & Reel

SKU [101991467](#), [101991470](#), [100092361](#), [101991465](#), [101991463](#), [100045204](#)

Seeed Studio XIAO ESP32-C5 **NEW**

SKU [100010048](#), [100093057](#)(Pre-Soldered)

Features

- Dual-Band Wi-Fi 6 (2.4 GHz + 5 GHz)
- Bluetooth 5 LE + IEEE 802.15.4 (Thread/Zigbee/Matter)
- 240 MHz RISC-V CPU with 8 MB Flash + 8 MB PSRAM
- Integrated Battery Management (Deep Sleep ~15 μ A)



Seeed Studio XIAO nRF54LM20A/B **NEW**

SKU [100018440](#), Coming Soon

Features

- 128 MHz Arm Cortex-M33 with 2 MB NVM & 512 KB RAM
- Ultra-Low-Power Wireless: Bluetooth LE / Thread / Zigbee / Matter
- Integrated nPM1300 PMIC with Power Regulation & Battery Charging
- Built-In Microphone & IMU for Audio Sensing and Motion Events
- Architecture for Always-On Sensing



Seeed Studio XIAO Add-Ons

A growing collection of expansion boards, sensors, connectivity modules, and actuators with a socket where Seeed Studio XIAO dev boards (pre-soldered versions) clip right in.

Expansions



NEW

XIAO Debug Mate
SKU [109990585](#)



NEW

XIAO Machine Learning Kit
SKU [E2025080501](#)



Expansion Board
SKU [103030356](#)



Grove Base
SKU [103020312](#)



PowerBread
SKU [114993507](#)

Sensors



NEW

Logger HAT (Temp, Hum & Light)
SKU [114993446](#)



NEW

Sound Event Detection Module D1
SKU [100049596](#)



Grove Vision AI Module V2 w/ Camera
SKU [E23011220](#)



mmWave Human Presence Sensor
SKU [101010001](#)



Grove Smart IR Gesture Sensor
SKU [101991067](#)



Quectel L76K GNSS Add-On
SKU [109100021](#)

Connectivity Modules



Wio-SX1262 LoRa® Add-on
SKU [113010003](#)



Wi-Fi HaLow Transceiver
SKU [109100041](#)



RS-485 Breakout Board
SKU [113991354](#)



CAN-Bus Breakout Board
SKU [105100001](#)

Actuators



NEW

COB LED Driver Board
SKU [100079172](#)



NEW

LED Driver Board
SKU [105100021](#)



Servo Driver Board
SKU [105990190](#)



ePaper Driver Board
SKU [114993558](#)



1-Channel Relay
SKU [14993555](#)



6x10 RGB WS2812B LED MATRIX
SKU [104030107](#)



1.28' Round Display
SKU [104030087](#)



ePaper Breakout Board
SKU [105990172](#)

Seeed Studio XIAO Gadgets

A curated line of application-specific devices—powered by XIAO, featuring custom enclosures, and ready to explore out of the box.

ESPHome Native for Home Assistant



XIAO 2-Channel Wi-Fi AC Relay

SKU [114993526](#)



XIAO 60 GHz mmWave Sensor

SKU [114993387](#), [114993388](#)



XIAO Smart IR Mate

SKU [109990586](#)



ReSpeaker Lite Voice Assistant Kit

SKU [E24072601](#)



XIAO 6-Channel Wi-Fi 5 V DC Relay

SKU [114993588](#)



XIAO 7.5inch ePaper Panel

SKU [114993635](#)



XIAO 2-Channel AC Wi-Fi Energy Meter

SKU [E2025042701](#)



XIAO Smart Air Quality Monitor

SKU [107990333](#)



XIAO BUS Servo Adapter

SKU [114993612](#)



XIAO W5500 PoE Adapter V1.2

SKU [113100042](#)

LoRaWAN® & Meshtastic®



XIAO Soil Moisture Sensor

SKU [114993632](#)



1-Channel LoRaWAN® Gateway / Meshtastic® Node

SKU [113110064](#)



SenseCAP S2110 Sensor Builder

SKU [114992986](#)

RS-485

AI



OpenUC2 10x AI Microscope

SKU [114993409](#)



SenseCAP Watcher Physical AI Agent

SKU [113991315](#), [113991275](#), [100051523](#)

Grove Sensor Modules

Grove is an open modular interface standard with a universal 4-pin connector that links over 400 functional modules (sensors, networking modules, actuators, etc) to microcontrollers. Named for its branching expansion capability, Grove simplifies electronic design and is compatible with Arduino, Raspberry Pi, and other mainstream platforms, making it ideal for prototyping, education, and professional development.



Sensor



Actuators



Network



Accessories



Grove Kits Compatible with



XIAO Starter Kit
SKU [110010044](#)



Grove Beginner Kit for
Arduino
SKU [110061162](#)



Grove Inventor Kit for
micro:bit
SKU [110060762](#)



Grove Starter Kit
for Seed Studio
BeagleBone® Green
SKU [110060131](#)



Grove Starter Kit for
Raspberry Pi Pico
With Free Courses
SKU [110061283](#)

AI Sensors

Sensing multimodal edge AI with reCamera and reSpeaker

Give Embodied AI better eyes and ears with reCamera and reSpeaker, enabling devices to see, hear, and understand locally. Designed for developers, these sensors ensure data privacy and low latency, turning complex AI concepts into immediate reality.



reCamera 2002 Series

AI-Native

Open Source AI Camera with 1 TOPS on Device

SKU [102991896](#), [102991897](#), [102991894](#), [102991895](#)

Shortest pathway to build a market-ready AI camera

Features



• Modular Design

Quickly swap the parts (camera sensor board/base board) as your needs.



• Plug & Play

Shipped with reCamera OS, quickly setup with built-in Node-RED dashboard for low-code AI pipeline.



• Ultralytics YOLO Native Support

Pre-installed with Ultralytics YOLO11 models on-device, supporting direct deployment of Roboflow-exported models, suitable for any kind of vision AI applications and mass production.



• Seamless Integration to SenseCraft AI Platform

Continuously collect new data during deployment and retrain with Sensecraft AI platform, easily manage your application/reCamera devices in one workspace.

Supported by



Applications



reCamera RV1126B NEW

An Open, Standalone Linux AI Camera

An open, modular AI powerhouse built for the edge. Powered by the Rockchip RV1126B, it combines 3 TOPS local computing with flexible hardware expansion to deliver secure, real-time intelligence via a code-free Web workflow—turning complex vision applications into plug-and-play reality.

Features



- **High-Performance AI Core**

Powered by Rockchip RV1126B with 3 TOPS NPU. Delivers 4K@30FPS encoding and real-time YOLOv8 inference (20FPS) for demanding edge analytics.



- **Modular & Expandable Design**

Features a fanless metal chassis with flexible expansion for GPS, Wi-Fi HaLow, CAN, and RS485, adapting easily to diverse industrial scenarios.



- **100% Local Edge AI**

Guarantees data privacy with on-device processing. Delivers zero latency, eliminates cloud costs, and supports reliable offline operation.



- **Developer-Ready Platform**

Accelerate time-to-market with full open-source architecture, intuitive Web-based configuration, and standard HTTP APIs for easy integration.



Supported by



Estimated Availability **Q2 2026**

reSpeaker Series

AI-powered Microphone Array

SKU	reSpeaker XMOS XVF3800	101991441
	reSpeaker XMOS XVF3800 With XIAO ESP32S3	114993700
	reSpeaker XMOS XVF3800 With Case	114993701
	reSpeaker XMOS XVF3800 with XIAO ESP32S3 & Case	114993702
	reSpeaker Lite	107990273
	reSpeaker Lite With XIAO ESP32S3	110061601
	reSpeaker 2-Mics Pi HAT	107100001
	Sound Event Detection Module D1	100049596

This professional voice front-end platform integrates modular hardware with AI acoustic algorithms. Built on an open-source ecosystem with various form factors, it enables developers, makers, and enterprises to quickly create scalable market-ready voice solutions for real-world deployment.

Features



• Professional Audio Capture

Wide-angle (180°–360°) far-field voice capture (up to 5 m), delivering clear audio even in noisy environments.



• Modular Hardware Design

Multiple array options from 2–4 microphones, including linear and circular layouts, various sizes, split or integrated designs, and customizable form factors.



• Open Acoustic Algorithms

Built on advanced audio chips with integrated AEC, AGC, DoA, beamforming, dereverberation, and noise suppression for high-quality audio input.



• Ecosystem Compatibility

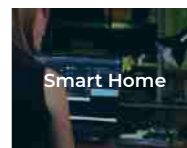
Flexible integration with KWS, STT, TTS, and LLMs such as LLaMA, enabling scalable and extensible voice AI architectures.



Powered by



Applications



reSpeaker Clip **NEW**

A fully open, programmable wearable built on the Nordic platform with dual PMD mics. It offers a complete SDK, allowing developers to bring their own LLMs and build custom vertical solutions without service lock-in.

Features

-  • **Pro Wearable Audio**
Dual PDM mics with noise reduction in a versatile <30g magnetic design
-  • **Dual-Mode Connectivity**
BLE 5.3 & Wi-Fi 6 for seamless control and high-speed transfer
-  • **18H+ Battery Life**
Nordic nRF-based architecture enables all-day continuous recording
-  • **Secure Local Storage**
Onboard independent storage ensures complete data privacy
-  • **Open SDK/Platform**
Full access to SDKs and reference apps for unrestricted customization

Powered by



Sensor Network

AI Data Substrate

Seeed Studio delivers reliable connectivity that transforms physical-world signals into high-quality data for intelligent systems. Built on LoRaWAN® and Meshtastic, our hardware forms a resilient edge data layer—collecting, transporting, and preparing real-world data from sensors to gateways, cloud platforms, and AI analytics pipelines for scalable, real-time, and trusted decision-making.

Sensor Network Portfolio

Seeed Studio delivers intelligent sensing and networking solutions through ready-to-use devices and open-source modules, enabling efficient real-world data collection and transmission with streamlined development.

Devices

LoRaWAN® Ecosystem

Low power, long range, low connectivity cost



Gateways



LoRaWAN® Sensors



SenseCAP ONE Sensors

Meshtastic® Ecosystem

Open source decentralized mesh networking



Tracker



Solar Node

Modules

Sensor Network Modules

Wio LoRa® / Wi-Fi HaLow Modules



Low-cost modules for sensor and gateway

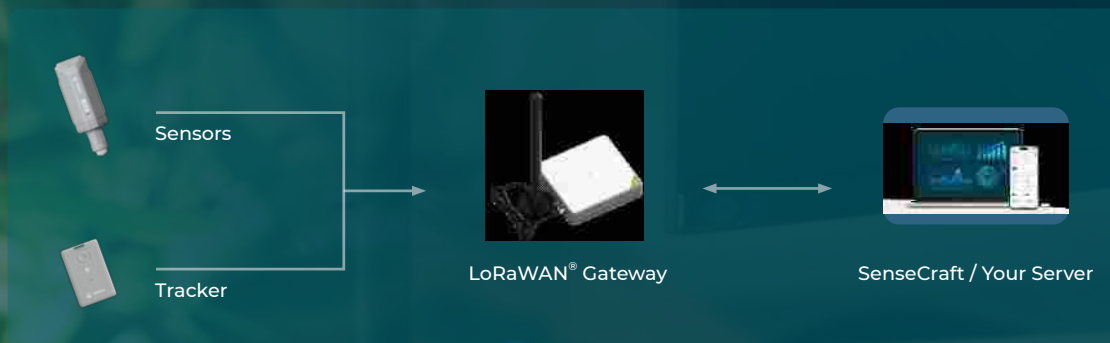
Wio LoRa® Dev Kits



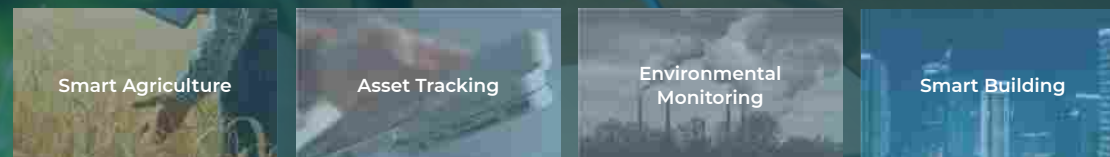
LoRaWAN® Ecosystem

Seeed Studio's LoRaWAN® architecture forms an end-to-end data pathway where sensors capture physical-world information, transmit it over LoRaWAN® to gateways, and seamlessly deliver it to cloud platforms for reliable, scalable, and intelligent data use.

Architecture



Application



SenseCAP LoRaWAN® Gateways

EU868 / US915 / AU915 / AS923 / IN865 / KR920 / RU864



SKU [102991155](#) (Outdoor IP66) / [114992982](#) (Indoor)

SenseCAP offers a collection of standard LoRaWAN® Gateways supporting connection to different LNS. It can seamlessly collect and transmit data to various platforms like SenseCAP, TTN, and Chirpstack via 4G or Ethernet.

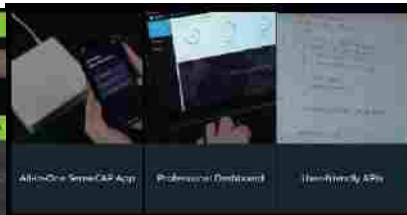
Features

- Power-over-Ethernet (PoE), Wi-Fi and 4G as backhaul.
- Supports Packet Forwarder mode, built-in Chirpstack Server, and SenseCAP Portal.
- Industrial-grade protection: IP66 enclosure, -40 to 70°C operating temperature.
- Certified by CE, FCC, TELEC, REACH, Verizon, RoHS.

Easy to Deploy



Easy to Manage



SenseCAP 4G Sensor Hub Rugged

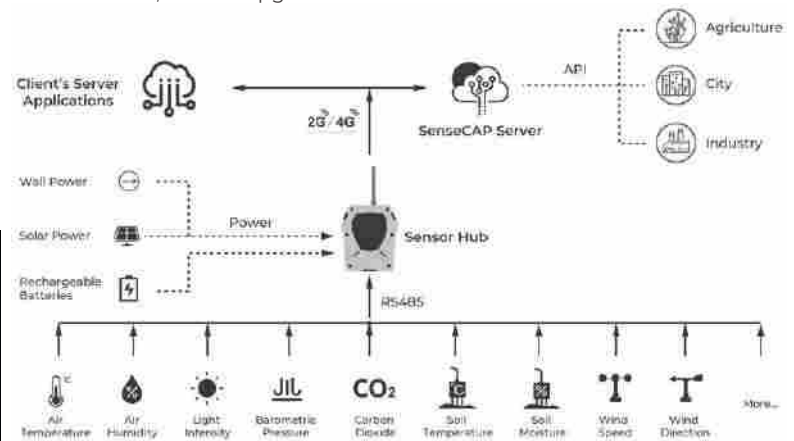


SKU [114992170](#), [114992171](#)

SenseCAP 4G Sensor Hub is a robust 4G data logger that connects up to 32 RS-485 sensors. Its IP66-rated, weatherproof design ensures reliable outdoor environmental monitoring.

Features

- Multi-sensor data collection via RS-485 probe.
- Local data storage with MQTT upload capability.
- Global LTE 4G/3G/2G network support.
- Built-in GPS, remote upgrades and maintenance.



SenseCAP LoRaWAN® Gateway & Industrial Controller R1225

NEW



The Most Adaptable LoRaWAN® Gateway for Smart Building & Industrial Landscapes.

SKU	US915-4G	100021896	US915	100030154
	EU868-4G	100006298	EU868	100079154

The SenseCAP R1225 is an open, reliable, high-performance and cost-effective LoRaWAN Gateway built on Raspberry Pi CM4 platform. It features dual Ethernet interfaces and three isolated RS485 interfaces, supporting Modbus UDP/TCP and BACnet protocols, which makes it a perfect fit for smart building and energy management. It has powerful IoT expansion capabilities with various wireless transmission capabilities such as 4G, LoRa®, Wi-Fi, and BLE.

Features

-  **Powerful Performance**
Raspberry Pi CM4, quad-core A72, up to 4GB RAM and 32GB eMMC.
-  **Multiple Industrial & AI Interfaces**
RS-485, Ethernet Port, HDMI, USB 2.0, Native M.2 Slot for AI accelerator.
-  **Versatile Protocol Options**
Support BACnet, Modbus RTU, Modbus TCP/IP and KNX protocol.
-  **Safety and Reliability**
TPM2.0/ATECC608A, Hardware Watch Dog, Metal Enclosure, EMC Protection, PoE, UPS.
-  **Open-source Software Sreed Gateway OS**
ChirpStack, Basics™ Station, Packet Forward build in. Supports customization and derivative development.

Powered by



Basics™ Station
Packet Forward

Applications



SenseCAP T1000-A/B

Low-Power

A Card-Size Tracker for LoRaWAN®, Helium, and Amazon Sidewalk

5+ Years Supply

SKU [114993073](#), [114993106](#)

SenseCAP T1000 is a compact GPS tracker using GNSS, Wi-Fi, and Bluetooth for precise indoor/outdoor positioning. Compatible with LoRaWAN®, Amazon Sidewalk, and Helium Networks, it features self-geo-adaptive functions, local data storage, and months-long battery life. Equipped with temperature, light, and motion sensors, it's ideal for asset tracking, logistics, and search & rescue.

GNSS Bluetooth Wi-Fi

3 positioning technology for both indoor & outdoor

Natively compatible with

LoRaWAN Helium Amazon Sidewalk

available in

160+ countries

Operating temperature

-20°C to 60°C

Live on **KICK STARTER** soon

Temperature accuracy

±0.5°C

IP65

Credit - card size with just

6.5 mm thickness

SenseCAP T1000

Get location in

4 easy steps

Status sensors

Temp Light Motion

Store data offline when out of connection

1000+ Records

Can be customized for

Personnel safety Wearable size Industrial use

SOS button & buzzer

Auto-switch Frequency

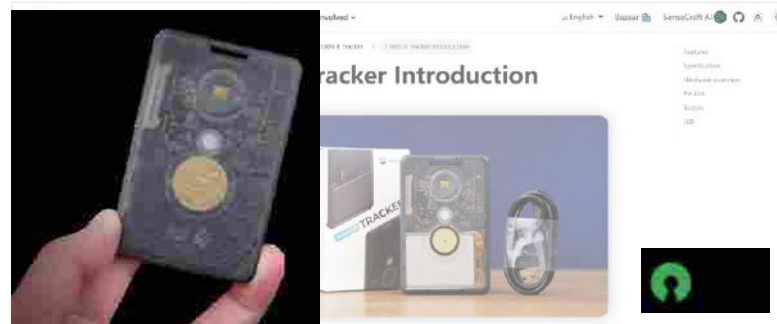
Months of battery life with a single charge

SenseCAP T1000-E for LoRaWAN®

An Open-Source, Card-Sized Tracker for LoRaWAN

SKU [114993591](#)

SenseCAP T1000-E for LoRaWAN is an open-source tracker that offers full source code, empowering developers to freely customize and extend its features.



Location Beacon

Bluetooth Positioning Solution Accessories

Indoor Bluetooth Beacon

SKU [113991194](#)

Outdoor Bluetooth Beacon

SKU [113991456](#)

Indoor Bluetooth Beacon

SKU [100085893](#)

NEW

Applications



SenseCAP T2000-A/B/C NEW

Industrial-grade LoRaWAN® Tracker with Ultra-long Battery Life,
Built for Valuable Assets

SKU [100082900](#), [100057727](#), [100087298](#)

SenseCAP T2000 Series is a rugged industrial asset tracker providing reliable indoor and outdoor positioning with long-range LoRaWAN® connectivity. Designed for harsh environments, it's ideal for smart agriculture, equipment management, and global logistics tracking.

LoRaWAN:
8~9 KM (Line-of-Sight)

**Long-Range
Communication**

Compact Design

117 x 65 x 30mm
180g

Smart Sensing



3-Axis
Accelerometer



Anti-Tamper
Button

SenseCAP Asset Tracker T2000-A/B/C



Multi-Mode Positioning



GNSS



Bluetooth Scan



WiFi Scan (T2000-B)

Dual power: solar + battery



Long Endurance
8000mAh
T2000-A/B



0.5 W Solar panel
T2000-C

**Industrial
Grade**



IP67



RoHS



Low-Power

5+ Years Supply



Tracker T2000-A/B

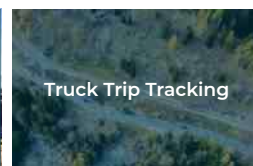


	SenseCAP T2000-A	T2000-B	T2000-C
Operating Temperature	-40°C to 85°C		-20°C to 60°C (Charging: 0-45°C)
Power Supply	Built-in Li / SOCL Battery		Built-in Rechargeable Battery + 0.5W Solar Panel
Battery Capacity	8000mAh		4000mAh
Positioning Mode	GNSS / BLE	GNSS / BLE / Wi-Fi	GNSS / BLE
IP Rating	IP67		

Applications



Logistics Center



Truck Trip Tracking



Large Livestock Farms

SenseCAP S210x LoRaWAN® Sensors

Reliable LoRaWAN® Sensors Capturing Diverse Environmental Data for Smart and Harsh Environments

Industrial-Grade

Rugged

Low-Power



SenseCAP S210x series is a LoRaWAN® sensor lineup that simultaneously collects multiple environmental data such as temperature, humidity, and air quality. With rugged IP66 protection and long battery life, it's ideal for smart agriculture, environmental monitoring, and industrial applications.

Features



• High accuracy sensor

Fast response and superior stability.



• Quick configuration

User-friendly set-up with built-in Bluetooth.



• Ultra-low power consumption

Battery life of up to 10 years with built-in 19Ah battery.



• Easy deployment

Easy to mount via brackets.



• Industrial design

-40 to 85°C operating temperature and IP66 rating.



• Efficient integration

SenseCAP cloud services with Open API support further development.



• Weather resistant

Suitable for indoor, outdoor and harsh environments such as high UV exposure, heavy rain, dusty conditions etc.



• Multi-platform

Compatible with multiple NS (Helium, TTN) and IoT platforms.

Designed for Mass Deployment

1. Onboard it with only 3 steps.

2. Update settings across fleets in 1 click.



Product Model							
	S2101/S2103	S2102	S2104/S2105	S2106	S2107	S2108	S2100
Product Name	Air Temperature & Humidity Sensor (and CO ₂)	Light Intensity Sensor	Soil Temperature and Moisture Sensor (and EC Sensor)	pH Sensor	PT100 Temperature Sensor	Soil Moisture, Temperature and Pore EC Sensor	LoRaWAN® Data Logger
SKU	114992867/ 114992869	114992868	114992870/ 114992871	101070001	114993078	101070021	114992872

Industrial Modbus RS-485 Sensor Probes

Rugged

Compatible with SenseCAP S2100 LoRaWAN® DTU and SenseCAP 4G Sensor Hub

Modbus RS485 Vision
AI Camera

SKU [110992084](#)



Industrial Turbidity
Sensor

SKU [101990793](#)



NEW

Multi-Depth Soil Moisture,
Temperature and EC Sensor

SKU [101990982](#)



NEW

Soil Temperature,
Moisture (and EC) Sensor

SKU [101990668](#), [101990667](#)



Leaf Temperature
and Humidity Sensor

SKU [314990737](#)



Solar Radiation Shield for
Outdoor Sensor Protection

SKU [114992222](#)



pH Sensor

SKU [101990666](#)



EC and TDS Sensor

SKU [314990634](#)



Substrate Temperature,
Moisture and EC Sensor

SKU [101991241](#)



Light Intensity Sensor

SKU [314990739](#)



PAR Sensor

SKU [314990733](#)



RS485 750cm Ultrasonic
Level Sensor

SKU [101991041](#)



NH₃/H₂S/CO₂ Sensor

SKU [101990862](#)



Air Temperature
and Humidity Sensor

SKU [101990881](#)



Water Leak Detector

SKU [314990618](#)



RS485 500cm Ultrasonic
Level Sensor

SKU [101991042](#)



Liquid Level Sensor

SKU [314990619](#)



Industrial Total Solar / UV
Radiation Sensor

SKU [101991047](#), [101991048](#)



And More...

SenseCAP All-in-One Weather Sensors

Compact all-in-one weather sensors measure multiple parameters



Consumer & User-friendly

 Agriculture  Education

Industrial & Maintenance-free

 Carbon Neutrality  Energy  Agriculture  Climate Change  Industry  Research

	SKU	Air Temperature	Humidity	Barometric Pressure	Light Intensity	Wind Speed	Wind Direction	Rainfall	PM2.5	PM10	CO ₂	Noise	Radiation	UV Index
Combo	114993124	●	●	●	●	/	/	/	/	/	●	/	/	/
S2120	101990961	●	●	●	●	●	●	●	/	/	/	/	/	●
S200	101991044	/	/	/	/	●	●	/	/	/	/	/	/	/
S500	101991021	●	●	●	/	●	●	/	/	/	/	/	/	/
S600	101991232	●	●	●	●	●	●	/	/	/	/	/	/	/
S700/ S700-A*	101991022/ 101991050	●	●	●	●	●	●	●	/	/	/	/	/	/
S700-B/C*	101991102/ 101991141	●	●	●	/	●	●	●	/	/	/	/	●	/
S800	101991023	●	●	●	/	●	●	/	●	●	/	●	/	/
S1000	101991024	●	●	●	●	●	●	●	●	●	●	/	/	/

* Radar-based rainfall measurement

SenseCAP Outdoor Combo NEW

Low-Power Rugged

A highly integrated autonomous environment sensor

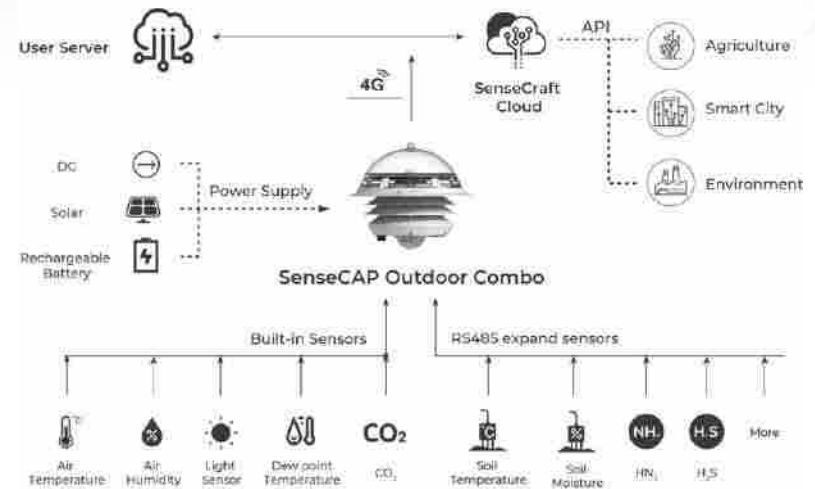
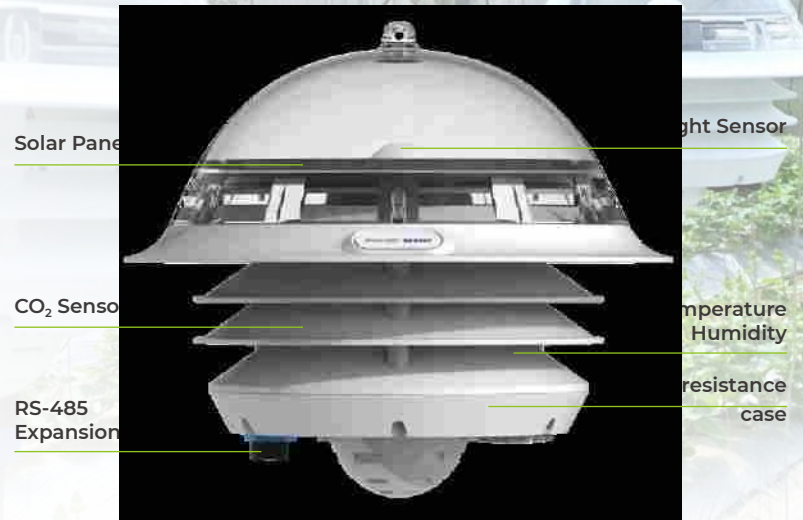
SKU [114993124](#)

SenseCAP Outdoor Combo is a versatile environmental sensor that measures temperature, humidity, dew point, light, and CO₂. It supports up to 10 Modbus RTU RS-485 sensors and uploads data via 4G MQTT. Powered by solar panel and backup battery, it ensures 2-week operation during outages. The waterproof, UV-resistant case allows easy deployment of hanging or pole mounting and suits harsh environments like greenhouses.

Features

- 
Compact Body
 Compact integrated body, containing various sensors and 4G communication.
- 
Accurate
 Sensors accurately measure environmental elements.
- 
Easy to deploy
 Ready to use out-of-box, with multiple installation methods.
- 
Long Battery Life
 Solar power, battery, and direct current supply options enable long-time operation even in rainy weather.

Applications



SenseCAP S2120 LoRaWAN® 8-in-1 Weather Station

Low-Power

SKU [101990961](#)

SenseCAP S2120 LoRaWAN® Weather Station provides you with hyperlocal weather data at your fingertips. It supports multi-scenario applications like backyards, gardens, agriculture, meteorology, urban environmental monitoring, and other applications. It enables low maintenance costs, thanks to its ultra-low power consumption, reliable performance, built-in Bluetooth for OTA configuration, and remote device management.

Features

• 8-in-1 Weather Station

Collects air temperature, humidity, wind speed/direction, rainfall, light intensity, UV index, and barometric pressure data.

• Bluetooth Configuration and Remote Management

Simple configurations to check out the latest and historical data.

• Ultra-Low Power Consumption, Easily Replaceable Battery & Expandable Capacity

Powered by a 0.5W solar panel and 3 standard 1.5V AA -sized dry batteries that can lasts up to 2 years of service life, while an external battery compartment can accommodate 6 batteries at maximum to double the service life.

• Reliable Performance

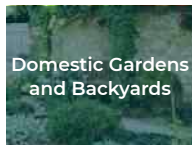
Suitable for outdoor harsh environments outdoors such as a high level of UV exposure, heavy rain, dusty conditions, etc.

• One-Stop Deployment & Flexible Layout

Accessories include poles, mounting stand, among other things, for quick installation to be set up at almost any locations.



Applications



SenseCAP ONE Weather Sensors

Industrial-Grade

5+ Years Supply

Compact All-in-one Weather Sensors for Multi-parameter Measurement

SenseCAP ONE is an industrial-grade weather sensor series that accurately measures multiple localized weather parameters, including temperature, humidity, pressure, rainfall, particulate matter, wind, CO₂, and radiation. Built with rugged IP66 protection and ultrasonic wind sensors, it's designed for reliable, low-maintenance outdoor monitoring.

Features

- 
High Wind Speed and Standard Gas Calibrated
 Calibrated in wind tunnel up to 80 m/s CO₂ accuracy: 1% of MV.
- 
Industrial Grade Design
 IP66, working on -40°C to 85°C, RS-485/SD-12 Integrated heaters; Embedded with electronic compass/magnetometer.
- 
Accurate, Real-time Weather Information
 Powerful sensor chip and algorithm embedded to improve accuracy and reliability.
- 
Maintenance-free, Easy Installation
 Compact, no moving parts, Long-term availability.
- 
Customization Service
 Support sensor customization White labeling.

Applications

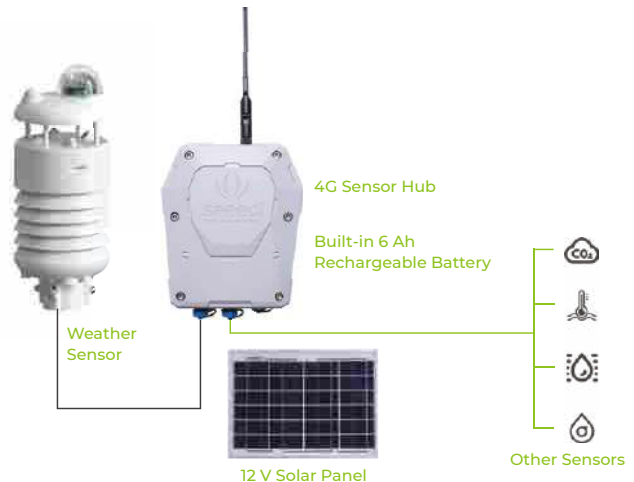


Get the Weather Data via SenseCAP Data Logger

- Data transmit via LoRa[®] Network



- Data transmit via Cellular (4G/3G/2G) Network



In-House Wind Tunnel Laboratory

To ensure SenseCAP weather sensors meet industry standards, Seeed Studio operates an advanced in-house wind tunnel laboratory. Our facility features precision auto-calibration instruments capable of 360° direction control and wind speeds from 0.1 to 80 m/s. Each weather sensor undergoes rigorous testing and calibration in simulated natural wind conditions, guaranteeing accuracy, reliability, and durability before delivery.

Sensor Calibration



Wind Tunnel Control System



Sensor Network Modules

Wio LoRa® / Wi-Fi HaLow Modules

Powered by STM Microelectronics, Semtech, and Quectel chipsets, the Wio Series is a collection of low-cost, compact, low-power, long-range communication devices and development kits for developers to design LoRa®, LoRaWAN®, or Wi-Fi HaLow sensor nodes and gateways.

LoRa® Sensor & Gateway Module



Wio-SX1262

SKU [114993390](#)

Tiny sized LoRa® Module Based on Semtech SX1262.

- 6×11×2.95 mm @12 pins SMT.
- 862 - 930 MHz global LoRa® & LoRaWAN® frequency plan.
- Low-power consumption: 62 µA sleep current.
- Onboard IPEX antenna connector.

Wio-SX1262 LoRa® Add-on for Seeed Studio XIAO

SKU [113010003](#)



LoRa® Sensor Module



Wio-LR1121 LoRa® Module

SKU [113991415](#)

Ultra-low-power multi-band LoRa® Module based on Semtech's LR1121 enabling both terrestrial and satellite communication.

- 12×17×1.0 mm.
- Worldwide ISM frequency bands 150 - 960 MHz (sub-GHz) and 2.4 GHz, as well as 2.1 GHz S-Band.
- Fully compatible SX126X + SX128X.
- Onboard IPEX antenna connector.

Wio-LR2021 LoRa® Module

SKU Available Soon



Wi-Fi HaLow AP & STA Module



Wio-WM6180 Wi-Fi HaLow Mini-PCle Module

SKU [109990565](#)

Wi-Fi HaLow AP and STA Module Based on Quectel FGH100M-H.

- 50×30 mm, Mini-PCle form factor with 52-pin Golden Finger.
- IEEE 802.11 ah 902-928 MHz.
- Onboard IPEX antenna connector.

Wio-WM6180 Wi-Fi HaLow Module for XIAO

SKU [109100041](#)



Wio LoRa® Dev Kits

LoRa® Sensor Modules



Wio-E5 | Wio-E5-LE

SKU [317990829](#), [114993120](#)

Powered by STM32WLE5JC, the World's First Combination of LoRa® RF and MCU on One Chip.

- 12×12 mm, 28 pins SMS with rich interfaces for expansion.
- Ultra-low power consumption of 2.1 µA in sleep mode.
- Easy to use with LoRaWAN® AT commands.

Grove Wio-E5 Wireless Module

SKU [113020091](#)



Wio-E5/Wio-E5-LE Mini Dev Board

SKU [113990939](#), [113991156](#)



Wio-E5/Wio-E5-LE Dev Kit

SKU [113990934](#), [113991157](#)



LoRa® Sensor Modules



Wio-WM1110 LoRa® Tracker Module

SKU [114992865](#)

Low-cost indoor and outdoor tracker module.

- 20×20 mm, 80 pins LGA.
- Semtech LR1110 and Nordic nRF52840.
- GNSS, Wi-Fi, Bluetooth for outdoor and indoor positioning.
- Low-power consumption: 6 µA in sleep mode.

Wio Tracker Dev Board

SKU [114993186](#)



Wio-WM1110 Dev Kit

SKU [114993082](#)



LoRa® Gateway Modules



Wio-WM1302 / Wio-WM1303

SKU [114992969](#), [114993268](#), [114992628](#), [114992991](#)

LoRaWAN® Gateway Module in Mini-PCIe Form Factor Based on Semtech SX1302.

- 50×30 mm, Mini PCIe form factor with 52 pin Golden Finger.
- Ultra-low operating temperature, no additional heat dissipation needed.
- Low-power consumption: down to 7.5 mA in standby mode.

Wio-WM1110 Raspberry Pi Hat

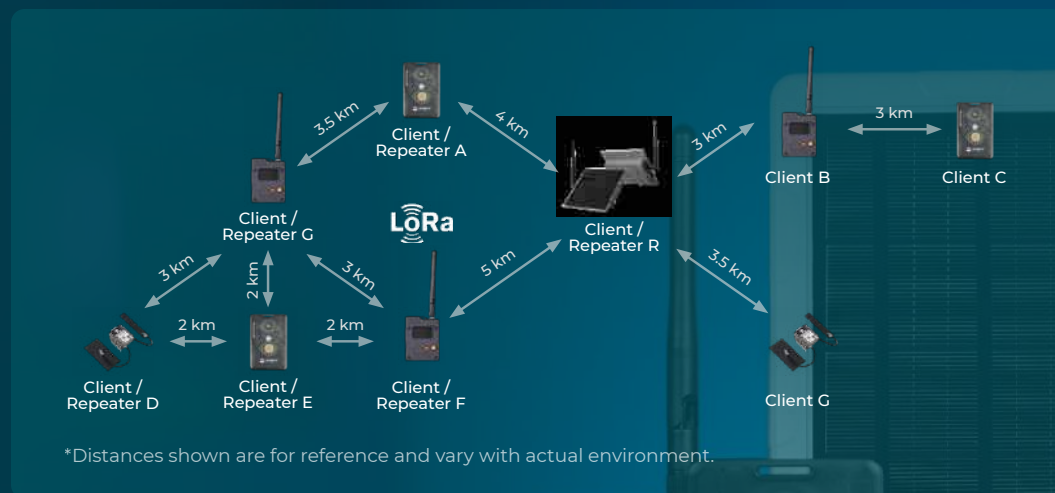
SKU [113100022](#)



Meshtastic® Ecosystem

Seeed Studio's Meshtastic-compatible devices form a decentralized mesh network enabling long-range, infrastructure-free communication. Nodes relay messages peer-to-peer, ensuring resilient connectivity for tracking, messaging, and situational awareness without relying on cellular or internet networks.

Architecture



Application



SenseCAP T1000-E

A GPS Tracker with Long-Range Decentralized Mesh Networking and Messaging

Low-Power

5+ Years Supply

SKU [114993369](#)

The SenseCAP Card Tracker T1000-E is a compact, credit card-sized high-performance tracker designed for Meshtastic®. It provides precise, low-power positioning and communication without relying on cellular networks. With an IP65 rugged rating, it is suitable for outdoor activities such as hiking, skiing, and emergency use.

The World's First IP65-Rated Meshtastic® Device



IP65



No Communication Fee

\$0

Encrypted Communication



Open-Source



LoRa® Mesh



No 4G/5G Required



-20°C ~ 60°C Operating Temperature



Rechargeable Battery

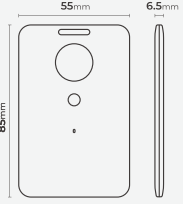
2 Days+



Credit - Card Size

6.5 mm Thickness

32 g Lightweight



SenseCAP Card Tracker T1000-E for Meshtastic



Can be Customized for

Personnel Safety Wearable Size Industrial Use



Onboard Sensors

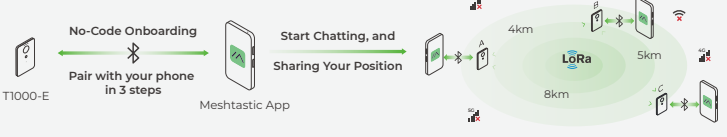
Temperature GPS Light



Frequency **863-928 MHz**

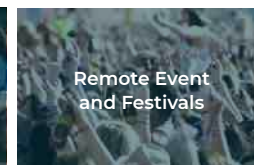
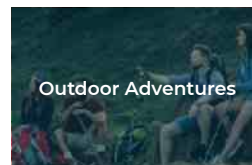


Works Anywhere Even Without Any Network Infrastructure





Applications



Wio Tracker L1 Pro

Low-Power

All-In-One Off-Grid Communication & Tracking Node

SKU [114993649](#)

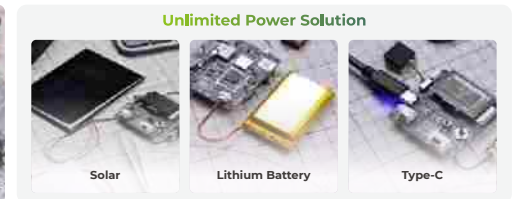
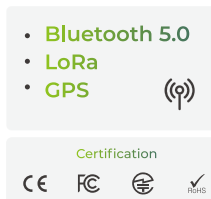
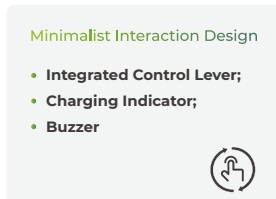
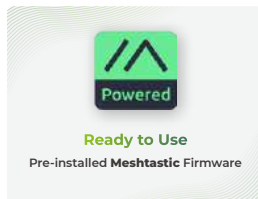
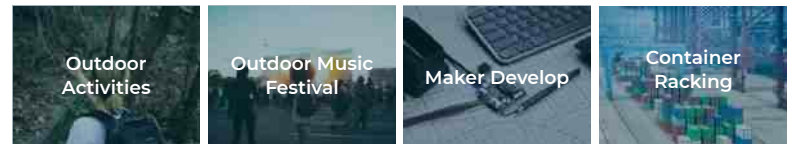
The first Meshtastic® handheld device featuring a 4-way joystick. Equipped with high-precision GNSS and a 1.3-inch OLED display, it enables real-time messaging, precise positioning control, and movement tracking—even in remote areas without cellular coverage.

Features

- 
nRF52840 Ultra-Low Power Consumption
 Lower power than ESP32, robust processing for long-lasting handheld use.
- 
Real-Time Interaction
 Built-in 2.13-inch OLED screen, off-grid status at a glance.
- 
Precise Positioning
 Integrated high-performance GNSS, real-time location & track sharing.
- 
Long-Lasting Battery Life
 2000mAh built-in lithium battery, weeks of standby time.
- 
Easy Operation
 Dedicated 4-way rocker button, one-handed menu navigation.
- 
Extended Coverage
 Stable 5KM communication range, cuts through outdoor obstacles effortlessly.



Applications



SenseCAP Solar Node P1

Low-Power

Reliable Solar-Powered Repeater for Outdoor Meshtastic® Networks

SKU [114993643](#), [114993633\(Pro\)](#)

Built specifically for permanent Meshtastic® backbone networks, this is the first industrial-grade, solar-powered Meshtastic® router designed to extend network coverage. With an external antenna, high-efficiency solar panel, and large-capacity rechargeable battery, it delivers continuous 24/7 off-grid connectivity without requiring an external power supply.

Features

- 5W solar panel for sustainable power.
- Over four weeks of battery life on a single charge.
- Supports GPS and additional sensor integration.
- Offers 5-10 km Long-range communication.
- Rugged protective casing, ideal for outdoor use.

Core Hardware Configuration

High integration, plug & play

Bluetooth 5.0
Low-power MCU



LoRa chip



Supports precise
positioning



Modular expansion
(IIC/UART/GPIO)



Dual power: solar + battery

Off-grid forever, zero maintenance cost



5 W
Solar Panel



Fully charged battery lasts
2 Months

Mesh Communication



Dynamic network
coverage expansion



Covers 8-9km (open area)
Multi-hop, 90% cost reduction

Industrial durability

Lightweight, Easy to Use



Waterproof



Pole/Wall Mountable

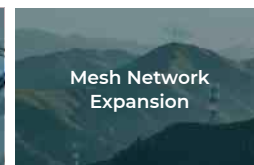


	12000mHA Battery	L76K GNSS Module
Solar Node P1	/	/
Solar Node P1 Pro	●	●

Applications



For Maker Developers



Mesh Network
Expansion



Outdoor Client Node
Deployment

XIAO Dev Kits for Meshtastic®

Affordable Kits for Rapid Verification and Deployment of Free, Off-grid, and Portable Mesh Networks

XIAO ESP32S3 & Wio- SX1262 Kit

SKU [102010611](#)

Powered by the ESP32-S3's dual-core processor, this kit handles complex Mesh protocol stacks smoothly. Plus, when combined with the XIAO expansion board, it can easily run displays and all kinds of Grove sensors. It's an affordable testing platform for developing high-performance terminals or multi-functional gateways.

XIAO nRF52840 & Wio-SX1262 Kit

SKU [102010710](#)

Designed for ultra-low-power applications, this kit is built around the nRF52840 and excels in long-term, battery-powered Meshtastic deployments. With excellent Bluetooth LE performance and weeks of battery life, it's ideal for hidden trackers, wearable devices, and outdoor monitoring nodes.

DIY Show



Features

- Compact design for space-limited projects
- User-friendly & plug-and-play
- Firmware pre-flashed & ready-to-use
- Supports LoRa®, BLE or Wi-Fi for versatile communication needs



AI Computers

Edge Computing is rapidly evolving, driven by the growing need for data processing closer to its source. Modern solutions embrace open architectures, seamless integration, and cloud-native approaches, powered by advances in computing, communication, and storage technologies. Seeed Studio provides comprehensive Edge Computing solutions, from development boards to industrial-grade devices, enabling real-time processing and operational efficiency across industries.

Single Board Computers (SBCs)

Through partnerships with leading chip manufacturers and developer communities, we deliver powerful SBCs and hundreds of compatible products. This comprehensive ecosystem helps developers bring their AIoT and robotics projects to life quickly and efficiently.



Raspberry Pi offers a rich collection of credit card-sized, single-board computers offering high performance and extensive I/O capabilities at an affordable price. Its robust software ecosystem attracts users from students to professional engineers.



NVIDIA Jetson is the leading platform for autonomous machines and embedded AI applications, providing a scalable software framework, modern AI stack, and specialized workflows to accelerate AI products' time-to-market.



BeagleBoard® is an open-source, industrial single-board computer powered by Texas Instruments' ARM Cortex-A processors, offering extensive expandability.



Rockchip Electronics Co., Ltd. is a leading intelligent IoT-focused fabless IC design company that delivers chip design, full solutions and technological support for consumer electronics, intelligent hardware and related industries.

seeed studio



Raspberry Pi
Approved Reseller



Raspberry Pi
Design Partner

Raspberry Pi Approved Design Partner and Reseller

Seeed Studio is a leading provider of Raspberry Pi products, offering a wide range of official boards, kits and devices for various domains tailored to your needs.



reComputer Industrial R Series

Reliable and Powerful Raspberry Pi Edge AI/IoT Controller

NEW

Industrial-Grade

Low-Power

10+ Years Supply



SKU	reComputer R20	reComputer R21
	100080766 , 100026042 , 100045506 , 100020831	100097052 , 100091962 , 100061305 , 100099044
	reComputer R22	
	100079040 , 100077451	

Hailo AI Accelerator
Up to **26 TOPS**

Price from
\$325

Features

-  **Powerful Performance**
Raspberry Pi CM5, quad-core A76, up to 16GB RAM and 32GB eMMC optional with Hailo-8 (26TOPS) AI accelerator.
-  **Rich Industrial Interfaces**
RS485, RS232, CANbus, PoE, HDMI, USB, and more.
-  **Versatile Wireless connectivity**
On-chip Wi-Fi, BLE. PCIe for flexible expansion with LTE, LoRa®, Zigbee, M.2 B-Key for 4G/5G.
-  **Enhanced Reliability**
Fanless cooling to ensure stable operation from -20°C to 65°C. Delivery until at least Dec 2036.

Applications



reComputer
Industrial R20



3x RS485, 1x RS232
8x DI, 8x DO

2x RS485, 2x RS232
2x CAN FD
4x DI, 4x DO

2x RS485, 1x RS232
1x CAN FD
4x DI, 4x DO

reComputer AI R Series

Powerful Raspberry Pi Edge AI Computer

Low-Power

10+ Years Supply



SKU	reComputer AI R	reComputer AI Industrial R
	114993560 , 114993627	114993595 , 103990763

The reComputer AI R series features a commercial version with Raspberry Pi 5 and an industrial version with CM5, both equipped with a **26 TOPS** Hailo 8 acceleration module, and a **ready-to-use model zoo and tool chain**.

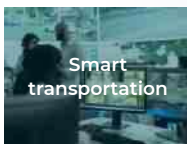
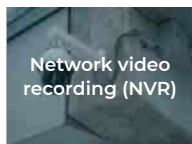
Price from

\$249

Features

-  **Powerful Performance**
Up to 16GB RAM with M.2 slot, enhanced high-speed SSD storage and performance.
-  **Advanced Video Processing**
4K 60fps H.265 decoder supporting 2-8 real-time (720p) multi-stream inferences for object detection and tracking.
-  **Rich Connectivity**
2×HDMI, 1×Gigabit Ethernet, USB 3.2/3.0/2.0.
-  **Enhanced Reliability**
Industrial version includes additional PoE, 4G/Lora®, TPM, and RTC.

Applications



Commercial Grade
8/16GB RPI 5

Industrial Grade
8/16GB RPI CM5

reComputer R Series

Low-Power

10+ Years Supply



Adaptable Edge AIoT Gateway for Diverse Industrial Landscapes

SKU reComputer R10
[113991314](#), [113991274](#),
[113991294](#), [113991295](#)

reComputer R11
[113991334](#), [113991374](#),
[113991375](#)

Price from
\$169

Features



• Powerful Performance

Raspberry Pi CM4, quad-core A72, up to 8GB RAM and 32GB eMMC.



• Multiple Industrial&AI Interfaces

RS485, RS232, DI/DO, Ethernet Port, HDMI, USB 2.0, Native M.2 Slot for AI accelerator.



• Versatile Wireless Options

Support Wi-Fi, BLE, LoRaWAN®, Zigbee, and 4G LTE.



• Safety and Reliability

TPM2.0/ATECC608A, Hardware Watch Dog, Metal Enclosure, EMC Protection, PoE, UPS.

Applications



Smart Building



Energy Management



Remote Device Management



Facility Management

reComputer R11XX

reComputer R10XX



2x RS485, 2x RS232,
2x DI, 2x DO

3x RS-485

Your One-Stop Provider for Raspberry Pi Ecosystem

SBCs and MCUs



Raspberry Pi 5

16GB SKU [102111098](#)
8GB SKU [102110919](#)
4GB SKU [102110918](#)



Raspberry Pi 4

8GB SKU [102110421](#)
4GB SKU [102110301](#)
2GB SKU [102991317](#)
1GB SKU [102110299](#)



Raspberry Pi 3 Model A+

SKU [102110207](#)



Raspberry Pi Zero

W SKU [102110358](#)
WH SKU [102110359](#)
2W SKU [102110617](#)



Raspberry Pi Pico

SKU [102110537](#)

Cameras



Raspberry Pi AI Camera

SKU [102111006](#)



Raspberry Pi Camera Module 3

SKU [114993028](#)



Raspberry Pi Camera Module 3 NoIR

SKU [114993029](#)



Raspberry Pi Camera Module 3 Wide

SKU [114993030](#)



Raspberry Pi Camera Module V2

SKU [113990214](#)

Computing Modules



Raspberry Pi Compute Module 5

Part Number	SKU	Part Number	SKU	Part Number	SKU
CM5002000	102111058	CM5102016	102111075	Compute Module 5 Development Kit (US)	110061661
CM5002032	102111060	CM5102032	102111076	Compute Module 5 Development Kit (EU)	110061662
CM5004032	102111064	CM5104000	102111078	Compute Module 5 IO Case	114993531
CM5008032	102111068	CM5104016	102111038	Compute Module 5 IO Board	103990723
CM5102000	102111074	CM5104032	101110141	Compute Module 5 Passive Cooler	114993565

Accessories



Raspberry Pi AI HAT+ 20TOPS

SKU [100063300](#)



Raspberry Pi AI HAT 26TOPS

SKU [103990703](#)

AI Kit & HAT



PCIe3.0 Switch to dual M.2 hat for Raspberry Pi 5

SKU [103110065](#)



PCIe2.0 to dual M.2 hat for Raspberry Pi 5

SKU [103110064](#)



PCIe to M.2 hat for Raspberry Pi 5

SKU [103110063](#)

Elite Partner in NVIDIA® Jetson™ Ecosystem

Seeed Studio plays a pivotal role in contributing AI at the edge with a comprehensive selection of compatible carrier boards, accessories, and full systems. We commit to simplify access to cutting-edge technology, accelerating the development of intelligent devices and applications, and facilitating the creation of smarter, more efficient solutions across diverse industries.



Carrier Board Family for the Full NVIDIA Jetson Module Portfolio



Jetson Xavier NX



reComputer J202

SKU [102991695](#)

- 1x HDMI
- 2x CSI



A203v2

SKU [103110043](#)

- 1x RJ-45 GbE
- 1x CSI



A205

SKU [114110048](#)

- 2x RJ-45 GbE
- 5x SATA



Jetson Orin Nano/Orin NX



reComputer Classic J401

SKU [102110769](#)

- 1x HDMI
- 2x CSI



reComputer Robotics J401

SKU [114110327](#)

- 5x CAN
- 1x 4 in 1 GMSL2 Expanded



reComputer Mini + Extension

SKU [114993592](#)

- UART
- 4x CAN (2x XT30 2+2)
- XT30 DC-IN
- 4x USB Type-A



Jetson AGX Orin



reServer Industrial J501

SKU [102991854](#)

- 1x 10G RJ-45 GbE
- 2x SATA
- 8x GMSL Expanded
- 1x Audio I/O
- 1x RS232/422/485



reComputer Mini J501

SKU [100020039](#)

- 1x 10G RJ-45 GbE
- 8x GMSL Expanded
- 2x USB Type-A
- 2x CAN-FD
- 4x DI/DO



Jetson AGX Thor



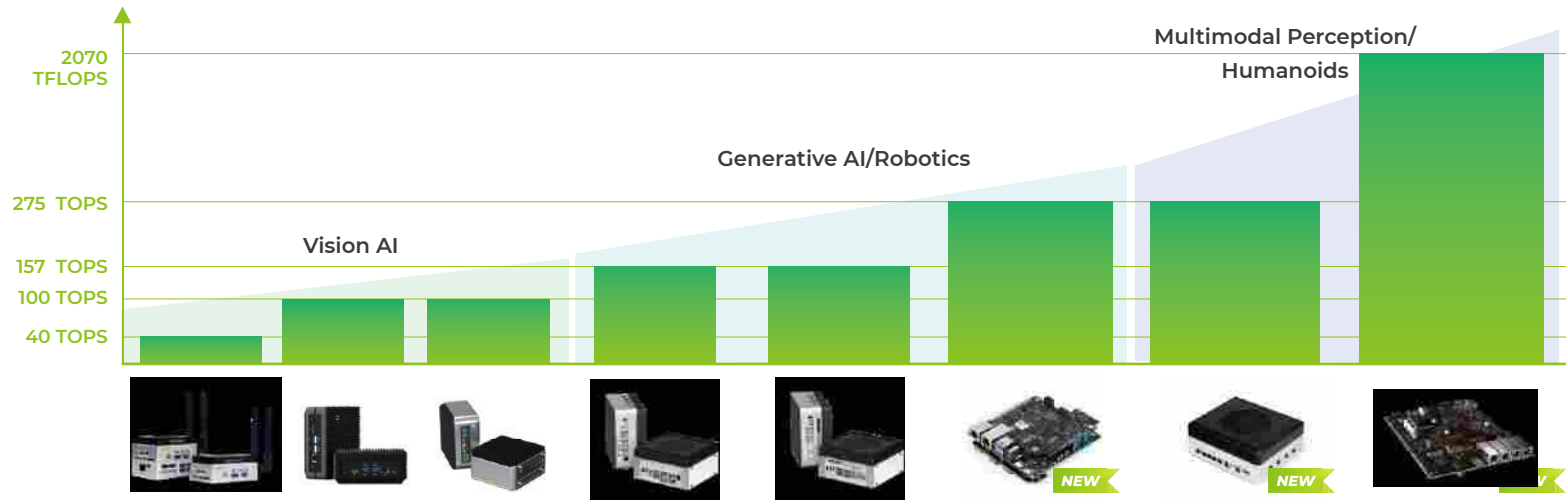
reComputer J601

- 4x 10G RJ-45 GbE
- 4x USB Type-A
- 4x CAN-FD
- 8x GMSL Expanded
- 4x DI/DO
- 1x RS-232/422/485

reComputer & reServer Jetson Series Selection Guide



AI Performance



Devices	reComputer Mini J301I Orin Nano 8GB	reComputer J4012B Orin NX 16GB	reServer Industrial J4012 Orin NX 16GB	reComputer Super J4012 Orin NX 16GB Super	reComputer Robotics J4012 Orin NX 16GB Super	reComputer Mini J501 Board AGX Orin 32/64GB	reComputer Robotics J50 Series AGX Orin 32/64GB	reComputer Thor J601 Board ACX Thor 128GB
Interface (USB + Network)	2×USB 3.2; 4×USB 3.0; 2×USB 2.0; 2×CAN; 1×Ethernet	1×mini-PCIe; 2×USB 3.2; 1×USB 2.0	4×USB 3.1; 2×USB 2.0; 1×DB9 (RS-232/422/485); 5×Ethernet	4×mipi CSI; 4×USB 3.2; 1×USB 2.0; 2×Ethernet	1×USB 3.0(DP); 6×USB 3.2; 1×(4 in 1)GMSL2; 2×Ethernet	2×USB 3.2; 2×CAN-FD(isolated); 2×(4 in 1)GMSL2; 2×Ethernet (1x 10GbE); 1x RS-485;	3×USB 3.0; 4×CAN-FD(isolated); 2x RS-232/422/485 (DB9); 2×(4 in 1) GMSL2; 5×Ethernet (1x 10GbE)	4×USB 3.2; 4×CAN-FD; 2×(4 in 1)GMSL2; 4×25GbE; 1×RS-232/422/485(DB9); 1×RS-485(JST 4-pin); 1×Audio; 1×Mic
Heat Dissipation	Fan	Fan	Fanless	Fan	Fan	Fan(additional)	Fan	Fan(additional)
Wireless Communication	Wi-Fi/BT	Wi-Fi/BT/4G/5G	Wi-Fi/BT/4G/5G	Wi-Fi/BT/4G/5G	Wi-Fi/BT/4G/5G	Wi-Fi/BT	Wi-Fi/BT/5G/GPS	Wi-Fi/BT/5G
Power	XT30 Connector (12-54 V DC)	DC 9-19 V (DC Barrel Jack 5525)	DC 12-36 V Terminal block 2 pin	DC 12-19 V (DC Barrel Jack 5525)	XT30 (2+2) 19-54 V DC	XT-30 19-48V DC	DC 19-48V (2-pin terminal)	XT-30 19-48V DC
Size(mm)	63×95×42/66.7	130×120×58.5	194.33×187×95.5	194.33×187×95.5	130×121×66	110×110×38	210×180×87	169×155×40

Enrich Perception & Precise Control at the Edge

Accelerate generative AI & robotics to the real-world with NVIDIA® Jetson™



Generative AI



Robotics



AMR

Mapping in depth, precise navigation and route optimization.



Humanoid Robot

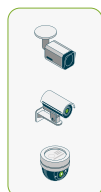
AI-driven gait control & balance, multimodal deployed for flexible human interaction.



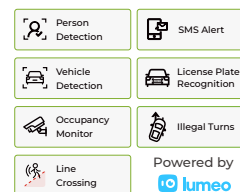
Manipulator

Accurate motion planning, real-time thinking strategy for adaptive tasks.

Video Analytics



Existing Sensor Infrastructure



Retail Waiting Time analysis



Parking Lot Management



Traffic Management



Edge AI Computers for Jetson Orin

20 - 100TOPS AI Performance



AI-Native

Stable Supply until January 2032

Linux BSP Ready

reComputer Jetson Classic Series

For Development & Deployment

SKU	Jetson Orin Nano	Jetson Orin NX
	Up to 40 TOPS	Up to 100 TOPS
	110110146 , 110110147	110110144 , 110110145

- Open-source carrier board
- 4×USB3.2, HDMI, GbE, M.2 Key M, M.2 Key E, GPIO, etc.
- Pre-installed Jetpack 5.1.3

Price from **\$499**



reComputer Jetson Mini Series

For Autonomous System

SKU	Jetson Orin Nano 8GB	Jetson Orin NX 16GB
	Up to 40 TOPS	Up to 100 TOPS
	102110999 , 114993551 (with extension)	102111001 , 114993553 (with extension)

- Tiny design
- 2x CAN, RJ-45 GbE, ~8x USB with expansion.
- 12-54V power input, Jetpack 6.0 Pre-installed.

Price from **\$599**



reComputer J401B Series

Support Wireless Communication

SKU	Jetson Orin Nano	Jetson Orin NX
	Up to 40 TOPS	Up to 100 TOPS
	114993486 , 114993487	114993488 , 114993489

- mini-PCIe for Wi-Fi /LTE connection
- Jetpack 5.1.3 Pre-installed

Price from **\$505**



reComputer Jetson Industrial Series

For Harsh Environment in Factory/Facility

SKU	Jetson Xavier NX	Jetson Orin Nano
	21 TOPS	Up to 40 TOPS
	110110188 , 110110189	110110192 , 110110193

Jetson Orin NX
Up to 100 TOPS
[110110190](#), [110110191](#)

Price from **\$799**

- Industrial interfaces: 2×RJ-45 GbE (1×PoE), RS-232/422/485
- Passive Heatsink: supporting -20°C to 60°C
- Flexible mounting as: Desk, DIN rail, wall-mounting, VESA.



reServer Jetson Industrial Series

For AI NVR Inferencing Server

SKU	Jetson Orin Nano	Jetson Orin NX
	Up to 40 TOPS	Up to 100 TOPS
	114110250 , 114110249	114110248 , 114110247

Price from **\$899**

- 4/5 PoE GbE for multi-streaming process
- Local Storage with 2×SATA SSD/HDD
- Hybrid Connectivity for 4G/5G/LoRaWAN



Super Mode AI Computers for Jetson Orin in MAXN

34 - 157 TOPS AI Performance



AI-Native

Stable Supply until January 2032

Linux BSP Ready

reComputer Jetson Super Series

Boost 1.7x Performance for Generative AI Deployment

SKU	Jetson Orin Nano	Jetson Orin NX	Price from
	114110311 , 114110312	114110313 , 114110314	\$499

Features



- **Design for Both Development and Production**

Rich interfaces including M.2 Key E/M, 2×Ethernet, Mini-PCIe, 4×USB 3.2, HDMI 2.1, 4×CSI, CAN.



- **Boost Your Application with MAXN Performance**

Deliver up to 157 TOPS AI performance, while efficiently handle 40W heat dissipation needs.



- **Immediately Go-to-Market**

Pre-installed Jetpack 6.2, Linux OS BSP ready.

reComputer Jetson Robotics Series

Build Up Robotics Brain for Robot Perception & Reasoning Logic

SKU	Jetson Orin Nano 8GB	Jetson Orin NX 16GB	Price from
	114110308 , 100001302 (with extension)	114110310 , 100026552 (with extension)	\$629

Features



- **Dedicated Design for Robotics**

Support 19-54 V range battery power input, rich set of I/Os including 6×USB, 2×CAN (1 with XT30 (2+2), 1 with JST connector), 1×GMSL, 2×I2C, etc.



- **Boost Your Application with MAXN Performance**

Delivering up to 157 TOPS AI performance, while efficiently handle 40 W heat dissipation needs.



- **Immediately Go-to-Market**

Pre-installed Jetpack 6.2, Linux OS BSP ready.



- **Long Lifetime Supply**

Available through 2032 for continuous production supply.



reComputer Jetson Rugged Series

NEW



AI-Native

Stable Supply until January 2032

Linux BSP Ready

Fanless

A Rugged, Vehicle-Level Powerhouse for Perception, Connectivity, And Control

SKU

Jetson Orin Nano 8GB

[100002634](#)

Jetson Orin NX 16GB

[100046979](#)

Price from

\$1099

Features



• In-Vehicle I/Os For Sensor Fusion And Real Time Control

Integrate 2x CAN-FD(isolated), RS232/422/485, 2x DI/DO, 4x Waterproof USB



• Ruggedized Multi-network Architecture For Mobile And Industrial System

5x RJ-45 GbE (including 4x PSE waterproof ports), provide 5G/ GPS/Wi-Fi/BT connectivity



• Industrial And Automotive-ready Power For Environmental Robustness

IP66 protection, wide 19-48V DC input, -20°C to 60°C operation, validated for vibration and EMC



AI Performance

67 TOPS



157 TOPS

reComputer Jetson Robotics J50 Series



AI-Native

Stable Supply until January 2032

Linux BSP Ready

For Humanoid Robotics Multimodal Perceive & Embodied Autonomy

SKU

Jetson AGX Orin 32GB

[100090853](#)

[100076722](#)(GMSL Extension)

Jetson AGX Orin 64GB

[100060802](#)

[100032662](#)(GMSL Extension)

Price from

\$1599

Features



- Support Complex Sensor Fusion for Multimodal Perception on Autonomous vehicles or mobile robots
8x GMSL2 (optional), 4x CAN, 2x RS232/422/485, 3x USB3.0, 4x DI/DO, 19-48V DC input



- High-Bandwidth Backbone for Density Data Transmission
5x RJ-45 GbE (1x 10GbE included)
2x M.2 Key M (1x 128G SSD included)



- Hybrid Communication Support
M.2 Key B and Key E for Wi-Fi/BT/5G/GPS



Applications



Autonomous Obstacle Avoidance



Humanoids Perception & Task Execution

AI Performance

200 TOPS



275 TOPS

Pioneering Embedded AI Partner

Support rich set of components for edge AI & next-gen robotics development



Jetson Developer Kits



NVIDIA® Jetson Orin™
Nano Super Developer Kit

SKU [102110839](#)



NVIDIA® Jetson AGX
Orin™ Developer Kit

SKU [110991725](#)



NVIDIA® Jetson AGX
Thor™ Developer Kit

SKU [100060965](#)

Lidar



12M Range 2D
Laser Scanner

SKU [114992561](#)



40M Range ToF
Laser Scanner

SKU [101090041](#)



12M Range 2.5D Multidimen-
sional Laser Scanner

SKU [101090061](#)

Joint Actuator



High Torque 10/16 N.m
Peak Torque Planetary
Actuator

SKU [114090072](#)



MyActuator 10/34 N.m
Peak Torque Planetary
Actuator

SKU [E2025081401](#)



RobStride Dynamics
5.5/6/14/17/36 N.m Peak
Torque QDD Actuator

SKU [100010715](#)



DAMIAO 4310/4340P
27 N.m Peak Torque
Actuator

SKU [316000001](#)



FeeTech Servo Motor
Series

SKU [100042780](#)



FashionStar Servo
Motor Series

SKU [114090079](#)

Camera Module



IMX219-77
8MP Camera

SKU [114992260](#)



IMX219-200
8MP Camera

SKU [114992265](#)



IMX219-1601R
8MP Camera

SKU [114992264](#)



Raspberry Pi
HQ Camera

SKU [114993032](#)



Orbbec
Gemini 335LG
3D Camera

SKU [100010971](#)



SLAMTEC
Aurora S3D
Spatial Camera

SKU [100035718](#)



Sensing
GMSL2-3MP

SKU [101090101](#)



IMX390 MIPI
CSI Camera

SKU [114993127](#)

Accessories



Aluminum Heatsink with Fan
for Jetson Orin NX/Orin Nano
Module in Super Mode

SKU [114992687](#)



Aluminum Heatsink with Fan
for Jetson Orin NX/Orin Nano/
Xavier NX Module

SKU [110991904](#)



Heatsink [60°C
ambient temperature]
for Jetson AGX Orin

SKU [100099421](#)



Quectel
RM520N Global
5G M.2 Module

SKU [100035145](#)



RTL8852BE Wi-
Fi Module M.2
Key E

SKU [100042928](#)



M.2 Key E Wi-Fi
Module

SKU [114993556](#)



Mini PCIe LTE
Cat 4 Module

SKU [113991134](#)



NVMe M.2 PCIe
Gen3x4 2280 SSD
128GB/ 256GB/
512GB/ 1TB/2TB

SKU [112990226](#)



NVMe M.2 PCIe Gen3
2230 SSD 256GB/
512GB

SKU [112990307](#)

Recommended Packages to Build up AI Applications Faster

Video Analytics



Your existing camera infrastructure - IP Camera



reComputer Industrial Jetson Orin NX 16GB

SKU [110110191](#)



512GB NVMe M.2 PCIe 2280 SSD

SKU [112990247](#)



LTE Cat EC25-EFA-mini-PCIe

SKU [113991214](#)

AI NAS



reComputer Super Jetson Orin NX 16GB

SKU [114110314](#)



reSpeaker XMOS 4-Mic Array

SKU [101991441](#)



512GB NVMe M.2 PCIe 2280 SSD

SKU [112990247](#)

Robotics

Robot Arm Manipulation



reComputer Mini Jetson Orin NX 16GB

SKU [114993553](#)



FashionStar StarAI 7DoF Robot Arm Kit

SKU [114090081](#)



USB 1080P Camera

SKU [114090066](#)

Autonomous Robot



Orbbec Gemini 335LG Camera

SKU [100010971](#)



reSpeaker XMOS 4-Mic Array

SKU [101991441](#)



reComputer Mini J501 Carrier Board for AGX Orin

SKU [E2025123101](#)



Mobile Robot Base

Humanoid Multimodal Perception



Reachy Mini

SKU [100025004](#)



reComputer Robotics Jetson AGX Orin 64GB

SKU [100032662](#)

Strategic Partner of BeagleBoard®

BeagleBoard®, designed by BeagleBoard.org Foundation, is a series of open-source, low-cost single board computers with high expandability, supported by a vibrant community through BeagleBoard.org. As BeagleBoard®'s strategic design partner, Seeed Studio actively contributes to hardware development and community building, making this powerful platform accessible to developers.



Seeed Studio BeagleBone® Green Series

Jointly developed by Seeed Studio and BeagleBoard.org

Seeed Studio BeagleBone® Green



SKU [102010027](#)

- Processor AM335x 1GHz ARM® Cortex-A8
- Based on BeagleBone® Black's open-source hardware design
- Built-in Grove connectors for fast prototyping
- Compatible with Debian, Android, Ubuntu, Cloud9 IDE on Node.js via BoneScript library

Seeed Studio BeagleBone® Green Wireless



SKU [102010048](#)

- First BeagleBone® board with Wi-Fi + BLE capabilities
- Based on BeagleBone® Black's open-source design
- Built-in TI WiLink™8 2.4GHz wireless module with dual antenna configuration
- Supports AP+STA communication mode
Includes MRAA library support

Seeed Studio BeagleBone® Green Eco



SKU [102111198](#)

- 1GHz ARM Cortex-A8 with NEON™ coprocessor and dual-core PRU-ICSS
- Advanced TI PMIC for optimized energy efficiency
- 6GB eMMC storage and Gigabit Ethernet for 4× storage capacity and up to 10× faster network speeds
- USB Type-C and built-in Grove connectors (I2C & UART) for faster dev

Official BeagleBoard® Series

Seeed Studio has been closely collaborating with BeagleBoard.org to help manufacture official BeagleBone® development boards to serve prosperous AIoT/IIoT needs.



BeagleBone® Black, Black Industrial

A low-cost, community-supported development platform. Features fast Linux boot (under 10 seconds) and quick setup via single USB cable. The Industrial variant offers extended temperature range for industrial applications.



PocketBeagle 2

SKU [102110780](#)

An ultra-compact single-board computer featuring TI's AM6232 SoC with dual A53 cores. It includes pre-soldered headers, USB-C, 512MB RAM, UART debug port, TI MSPM0L1105 MCU for ADC, and LiPo battery charging.



BeagleV® - Ahead

SKU [102991698](#)

A RISC-V SBC featuring 4 TOPS AI acceleration, Wi-Fi 2.4G, Bluetooth 5.2, and Gigabit Ethernet. The board includes mikroBUST™ socket, dual CSI cameras, HDMI, and DSI display interfaces, ideal for complex AI applications and embedded projects.



BeagleV® - Fire

SKU [102110898](#)

An open-source RISC-V single board computer with integrated FPGA fabric for custom applications. It features 2GB memory, 16GB eMMC storage, Gigabit Ethernet, M.2 Key E slot, CSI camera interface, microSD expansion, dual 46-pin BeagleBone® headers, and 12 user LEDs.



BeagleY®-AI

SKU [102991834](#)

A SBC featuring TI's AM67A AI vision processor with 4 TOPS deep learning performance. It offers comprehensive connectivity, including a 40-pin header, making it suitable for robotics, automation, and vision projects in an open-source design.

Design Partner in Rockchip Ecosystem

Rockchip Electronics Co., Ltd. is a leading intelligent IoT-focused fabless IC design company that delivers chip design, full solutions and technological support for consumer electronics, intelligent hardware and related industries. Seeed Studio provides a range of modules, development kits, and industrial devices for those in need of edge AI services, through close collaboration with Rockchip.



reComputer RK 35xx Series

The Most Powerful Rockchip AI Box for Embodied AI

NEW

Low-Power

10+ Years Supply

Features

- RK3576/RK3588 8-core 64-bit high-performance CPU
- 6 TOPS NPU for INT4/INT8/INT16/FP16 computing
- 8K@60HZ Video Codec for professional vision
- Modular PCIe Expansion for storage and AI compute
- One-click AI Deployment via Seeed reComputer AI Lab
- Onboard Wi-Fi 6 & BT5.4; supports 4G, LoRaWAN, and Wi-Fi HaLow



AI Robotics



Reachy Mini NEW

Open-Source Desktop Robot to Explore Expressive Human-Robot Interaction.

SKU

Lite Version (For Mac/Win/Linux)	Wireless Version (With Raspberry Pi)
100025004	100090917

Features

-  **Plug-and Play Behaviors**
Access 15+ ready-to-use behaviors on Hugging Face Hub, built-in integration with Hugging Face models
-  **Programmable in Reality & Simulation**
Develop with open-source Python SDK in a fully simulated environment
-  **Community-Driven Expansion**
Upload, share, and download new Apps through Hugging Face community to explore Reachy Mini rapid growth
-  **Expressive, Multimodal Interaction**
Motorized head/body movement, animated antennas, camera, and speaker for rich AI-powered audio-visual interaction

Apps & Behaviors From Dev Community



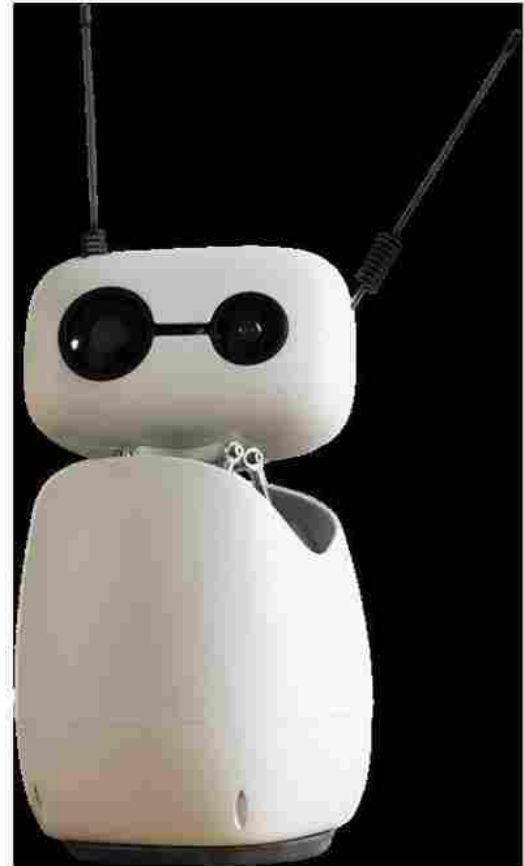
Hand Tracking



Play with Reachy -
Red Light Green Light



Companion with Rich
Emotions



Proudly Engineered &
Manufactured by Seed Studio

Hugging Face Official Robot Kits



SO-ARM101 Teleoperation Arms

Support by Hugging Face LeRobot Open-source platform, try imitation learning at your fingertips.

SKU

Basic Motor Kit

[114993666](#)

Pro Motor Kit

[114993667](#)

Arm Skeleton Kit

[114993668](#)

Price from

\$240

Features



- High-sensitivity motion control and synchronized teaching.



- Able to access NVIDIA Isaac Lab for data collection, training, and verification.



- Support deployment of large models such as Diffusion Policy/ACT/Pi 0.5/GROOT N1.



LeKiwi Mobile Manipulator

Make SO-ARM101 Move! Build up Agile Navigation & Manipulation for End-to-End Control with VLA Models.

SKU

Basic Mobile Base with 3D-Printed Parts

[114090065](#)

Price from

\$179

LeKiwi Bundle (Optional Raspberry Pi/Camera)

[E2025090401](#)

Features



- Omnidirectional drive for agile navigation



- Compatible with Raspberry Pi/ NVIDIA Jetson



Amazing Hand

Ideal Affordable Research & Education Platform for Motion Capture and Data Collection

SKU

Left Hand

[100062181](#)

Right Hand

[100063642](#)

Price from

\$99

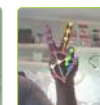
Features



- Support Raspberry Pi/NVIDIA Jetson compute



- Flexible Control: Strain-gauge glove/vision-based pose estimation control.



More Open-Source Robotics

Seed reBot - Arm

A High-Torque Brushless Robot Arm to Streamline Paper-to-Project Replication

100% Open-Source

Open-Source GitHub repo at github.com/Seed-Projects/reBot-DevArm



reBot Arm B601 Series

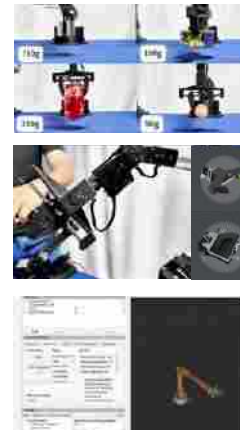
Compatible Motor	DAMIAO	RobStride Dynamics
Rated Payload		1.5 kg
Reach		650+ mm
Repeatability		±0.2 mm
Operating Voltage & Current		24V, 10A
Operating Temperature		-20°C to 50°C
Software & Framework Support		
ROS 1		●
MoveIt 1		●
ROS 2		●
MoveIt 2		●
Python API		●
LeRobot Framework		●
NVIDIA Isaac Sim		●
Pinocchio (Gravity Compensation)		●
Pinocchio (Forward/Inverse Kinematics)		●
Additional Features		
Comprehensive Safety *	Circuit Protection, E-Stop & Virtual Boundaries	
Open-Source	Full (HW/SW)	
Tutorials	Included	

StarAI Robot Arm

Accelerate Your AI Manipulation with Fluent & Seamless Control

SKU Cello(F)+Violin(L)
[114090080](#)
Viola(F)+Violin(L)
[114090081](#)
Cello
[100049805](#)
Viola
[100028196](#)
Violin
[100038899](#)

Features



- **Multi-Payload Adaptability**
Arm reach 670mm, handling a wide range of payloads from 50g to 750g(70% reach coverage)
- **Much More Precise Manipulation Enhancement**
Hold the arm to any position steadily by hover button; Modular end-effector gripper with precise force sensing.
- **Support ROS2, MoveIt2 & Isaac Sim**
Compatible with ROS2 Humble to read and control joint stats/poses; Able to simulate physical dynamics(gravity/collision), and test algorithms safely through virtual environment.

Mini Humanoid Robot **NEW**

An Open-Source Desktop Humanoid Robot
for Learning, Coding & Interaction

Features

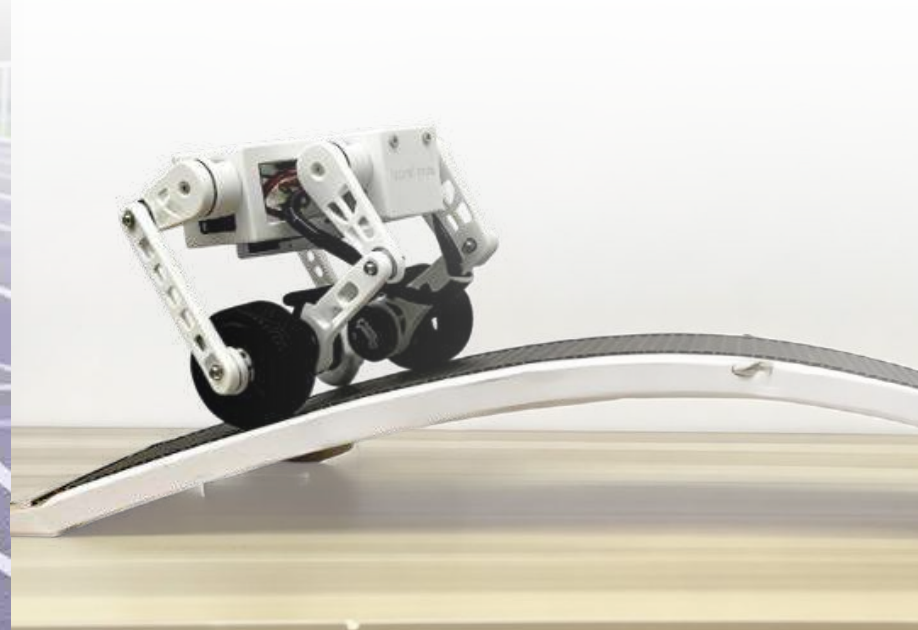
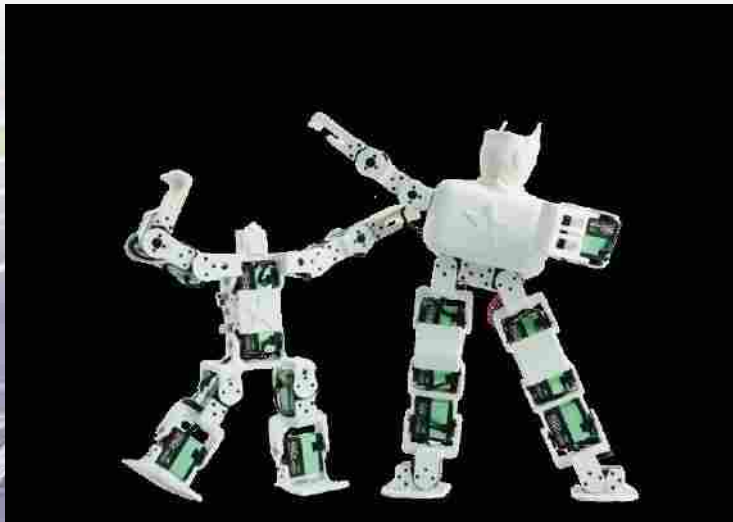
- High-precision micro-servo system with PID-based control: show smooth, stable, and expressive motion
- Modular mechanical design using 3D-printed structure to balance agility, durability, easy to customize
- Supports online motion sequence programming and mobile phone Bluetooth control

StackForce Mini Wheeled-Legged Robot **NEW**

Bipedal wheeled robot with Agile Balancing & Multi-Mode Control

Features

- Adaptive to complex terrain - self-balancing, high speed motion, attitude stabilization
- ESP32 main control, I2C, SPI, PWM enables flexible expansion, wireless control
- Provides a comprehensive set of free courses to study, modify and secondary development



Robot Components Collection



Joint Actuator			
DAMIAO		Damiao N4340P 100028898	27N.m peak torque
		Damiao 4310 316000001	7N.m peak torque
RobStride Dynamics		RobStride 00 QDD 100083284	14N.m peak torque
		RobStride 02 QDD 100064875	17N.m peak torque
		RobStride 05 QDD 100035437	5.5N.m peak torque
		RobStride 05 Edulite QDD 100060739	6N.m peak torque
		RobStride 06 QDD 100010715	36N.m peak torque
High Torque		HTDW-4438-30 114090071	10N.m peak torque
		HTDW-5047-36 114090072	16N.m peak torque
IMU			
Hexfellow		Y200 9-axis 101090143	60V XT30 CAN
LiDAR			
SLAMTEC		RPLiDAR C1M1-R2 101090061	0.05-12m range 0° - 15°angular resolution
		RPLiDAR S3 101090041	0.05-40m range 0.1125° angular resolution
		RPLiDAR AIM8-R6 114992561	0.15-12m range 360° omnidirectiona scan

Servo			
FeeTech		HL-3915-C00 1100042780	12V 14.2kg.cm
		ST3215 C001 108090023	7.4V 19.5kg.cm
		ST3215 C044 101090141	7.4V 27.4kg.cm
		ST3215 C046 101090142	7.4V 14.4kg.cm
		ST3215-C047 108090003	12V 30kg.cm
		SCS0009 100067882	6V 2.3kg.cm
FashionStar		RP6-U15H-M 114090073	12V 15kg.cm dual-shaft
		HP6-U15H-M 114090074	12V 15kg.cm single-shaft
		RA8-U25H-M 100069433	12V 25kg.cm dual-shaft
		HA8-U25H-M 100094864	12V 25kg.cm single-shaft
		RX8-U50H-M 114090077	12V 50kg.cm dual-shaft
		HX8-U50H-M 114090078	12V 50kg.cm single-shaft
		HX8-U51H-M 114090079	12V 50kg.cm D-shaft
Camera			
Orbbec		Gemini 336 Depth Cam 100000774	90° × 65° @ 2m (1280 × 800) active stereo IR
Sensing		SG3S-ISX031C-GMSL2F 101090101	190° × 154° GMSL2 serializer MAX96717F
SLAMTEC		Aurora S 100035718	6DoF spatial localization

2026 Robotics Development Map

Embodied AI Foundation To Advanced

Throughout 2026, we'll continuously release more and more open-source wikis and GitHub repositories, covering the full robotics stack

- from hardware foundational bring-up and system integration
- to large model/diffusion policies fine-tuning and on-device deployment

Accelerating robotics teams move from 0->1 faster and with less friction.



Q1

Core Software

ROS 1

BEGINNER

ROS 1 Basics for Beginners and DIY Your Own Mobile Robot

Learn About Nodes, Topics, Services, and Actions, and Program Robots Using Python

MoveIt 1/2

ARM BEGINNER

MoveIt 1/2

Import a Custom Manipulator into MoveIt 1/2 and Implement Forward and Inverse Kinematics

ROS 2

INTERMEDIATE

ROS 2 Humble Essentials

Master Nodes, Topics, Services, and Actions with Python.

Pinocchio

ARM INTERMEDIATE

Pinocchio

Learn the Pinocchio Robotics Framework and Develop Kinematics and Dynamics Tasks for Your Own Manipulator

Robot Application

Humanoid

BEGINNER

Small Servo Humanoid Robots Course

Hardware Driving, Motion & Dance Choreography, and Secondary Development for Small Humanoid Robots

Robot Arm

INTERMEDIATE

StarAI Arm System Course

StarAI 6+1 DOF Manipulator: Kinematics, Dynamics, Imitation Learning & Advanced VLA-based Reinforcement Learning

Wheel-Legged Robot

INTERMEDIATE

Stackforce Wheeled-Legged Robots Course

Balance control and LQR motion planning for hybrid robots.

Desktop Robot

ADVANCED

ReachyMini Course

Systematic Course on Basic Operation, Interface Tutorials and Secondary Development of ReachyMini

Q2

Core Software & Simulation

ISAAC

ADVANCED

NVIDIA Isaac Sim & Lab

Sim2Real workflows, USD pipelines, and environment creation.

MuJoCo

ADVANCED

MuJoCo Physics Engine

Model dynamics and simulation for agile robot control.

Robot Application

Mobile Robot

BEGINNER

Mobile Robotics (Lekiwi)

SLAM, Navigation 2, and autonomous patrolling.

Q3

Core Software

RL

HARD

Reinforcement Learning

PPO, DRL training pipelines, and deployment to Jetson.



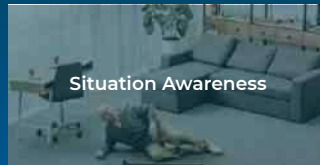
AI Native HMIs & Displays

Human-Machine Interfaces and Displays serve as essential bridges in AI hardware, transforming complex data into intuitive interaction. Our solutions offer two tailored approaches: Interactive HMIs built on LCDs for real-time, touch-enabled engagement with AI systems, and Always-on Dashboards using ePaper for energy-efficient, always-on information display. Together, they empower developers to create seamless, intelligent interfaces that connect users effortlessly to AI-driven insights.

Interactive HMs

Our LCD-based Interactive HMIs provide real-time, touch-enabled interfaces for dynamic AI interaction. Designed for responsiveness and visual clarity, they enable users to control, monitor, and engage with AI systems seamlessly. Perfect for applications where instant feedback and interactive control are essential.

Application



SenseCAP Watcher with Xiaozhi

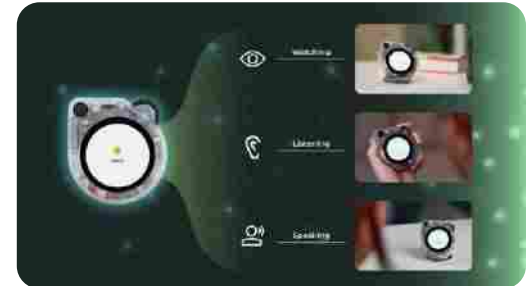
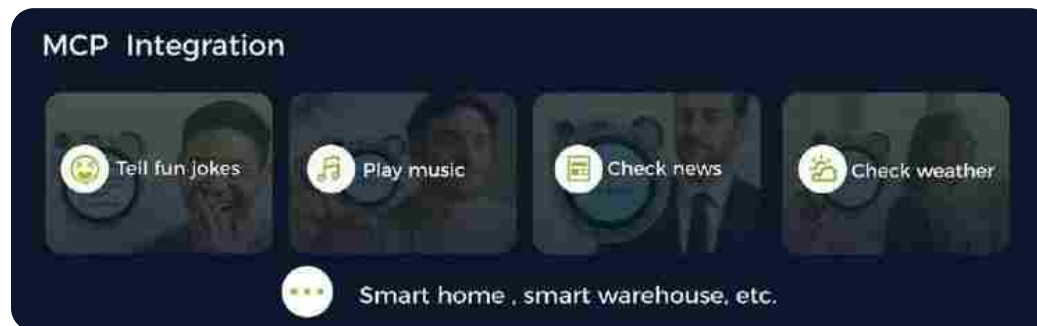
AI-Native

A physical AI agent for smarter space

SKU [100051523](#)

Price from **\$59**

SenseCAP Watcher, powered by Xiaozhi AI, is your smart interactive companion. It sees, hears, and speaks—using powerful LLMs to understand your intent and surroundings, recognizing you instantly through visual wake-up, and interacting naturally like a human. It handles daily reminders, manages home automation, and enables seamless multilingual communication worldwide. Built on MCP (Model Context Protocol) and open-source foundations, Watcher empowers makers and developers to customize, extend, and explore endless possibilities.



reTerminal D1001 NEW Developer Friendly

SKU [100058144](#)

The 8" Edge AI Terminal, Ready to Code. A fully-integrated platform powered by ESP32-P4, turning your next-generation AI concepts into deployable reality.

Price from

\$84.9

Features



• Next-Generation AI Engine

Powered by the ESP32-P4 with a dedicated NPU for substantial on-device processing.



• Fully Integrated, Ready to Deploy

Combines 8" touchscreen, 2MP camera, microphone, audio, and connectivity into one sleek unit to slash development time.



• Dual-Chip Wireless Architecture

Features a dedicated ESP32-C6 for robust Wi-Fi 6/BLE connectivity plus optional 4G LTE, ensuring reliable data transfer in any environment.



• Industrial-Grade Durability

Certified and built to perform in demanding real-world environments.

Supported Software

- Arduino IDE
- PlatformIO
- ESP-IDF
- SenseCraft HMI (in the future)

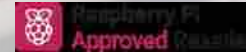
Applications



reTerminal

Low-Power

5+ Years Supply



A 5-inch Raspberry Pi CM4 Human-Machine Interface for DIY, education, and personal application

SKU [110070048](#), [110070108](#)

Price from

\$209

Features



• Raspberry Pi All in One Board

RPi CM4, IPS multi-touch screen, dual-band Wi-Fi & Bluetooth, pre-installed Linux.



• Modular Design

High-speed expansion interface, 40-Pin RPi header, expansion board.



• Rich Interfaces & Components

USB, Gigabit Ethernet, micro-HDMI, micro-SD, MIPI camera interface, light sensor, accelerometer, buzzer, RTC, programmable buttons.



• Neat Personal Assistance

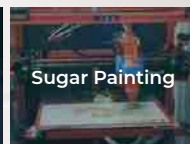
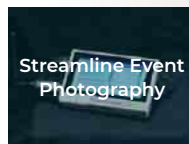
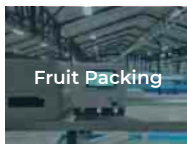
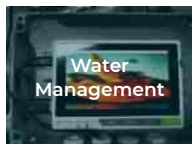
Enjoy yourself in multiple interested Dashboard or AI projects by Seeed and communities while utilizing built-in sensors and components.



Supported Software



Applications



reTerminal DM

Low-Power

5+ Years Supply

A rugged 10.1-inch all-in-one Raspberry Pi CM4 Panel PC for HMI and IIoT gateway applications

SKU [114070201](#), [114070221](#), [114070262](#)

Price from
\$364

Features

- **10.1" HMI, PLC, Panel PC and Gateway in one**
Perfect for distributed hub device with build-in camera.
- **Rugged design for harsh working environment**
IP65 front panel, -10 to 50°C Operating Temperature.
- **Hybrid Connectivity**
Support 5G, 4G LTE, LoRaWAN®, Wi-Fi, BLE, RS-485/232, CANBUS.
- **Open-source design in software and hardware**
Supports customization and derivative development.

Supported Software



Applications



SenseCAP Indicator

5+ Years Supply

An ESP32 LoRaWAN® Terminal with Touchscreen and Sensors

Price from

\$49

SKU [114993070](#), [114993071](#), [114993068](#), [114993069](#)

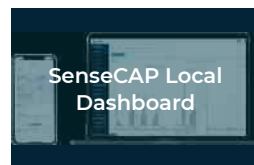
A 4-inch touch screen driven by ESP32-S3 and RP2040 dual-MCU supports Wi-Fi/BLE/LoRa® communication. It comes with 2 Type-C USB ports and Grove interfaces, supports ADC and IIC transmission protocols, and can easily connect to other peripherals with rich GPIOs.

Features

- Features dual MCUs (ESP32-S3, RP2040) and Grove GPIOs for expansion.
- Supports Meshtastic® and LoRaWAN® for versatile applications.
- 4-inch 480x480 RGB touchscreen for data visualization and control.
- Real-time air quality monitoring with tVOC, CO₂, and optional AHT20 sensor.
- Acts as a LoRa® IoT hub with optional SX1262 chip.
- Fully open source with ESP32 and Raspberry Pi compatibility.

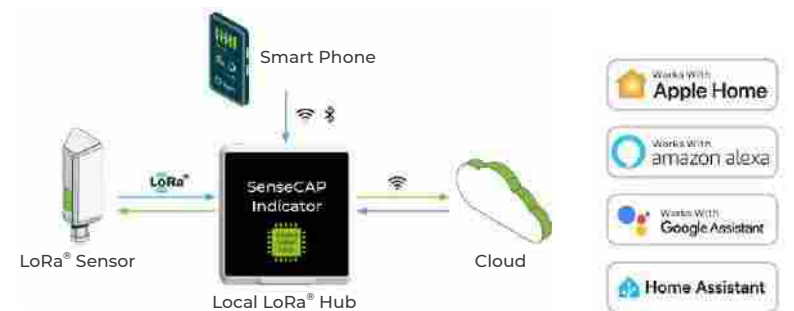
Model	D1	D1S	D1L	D1Pro
tVOC sensor	/	●	/	●
CO ₂ sensor	/	●	/	●
Grove TH sensor	/	●	/	●
Wi-Fi	●	●	●	●
Bluetooth	●	●	●	●
LoRa® Chipset (SX1262) for LoRaWAN® Applications	/	/	●	●

Applications



Scenarios under Spot Light

Use SenseCAP indicator as a LoRa® hub device to connect your LoRa® sensors to your smart home ecosystem.



Always-on ePaper Dashboard

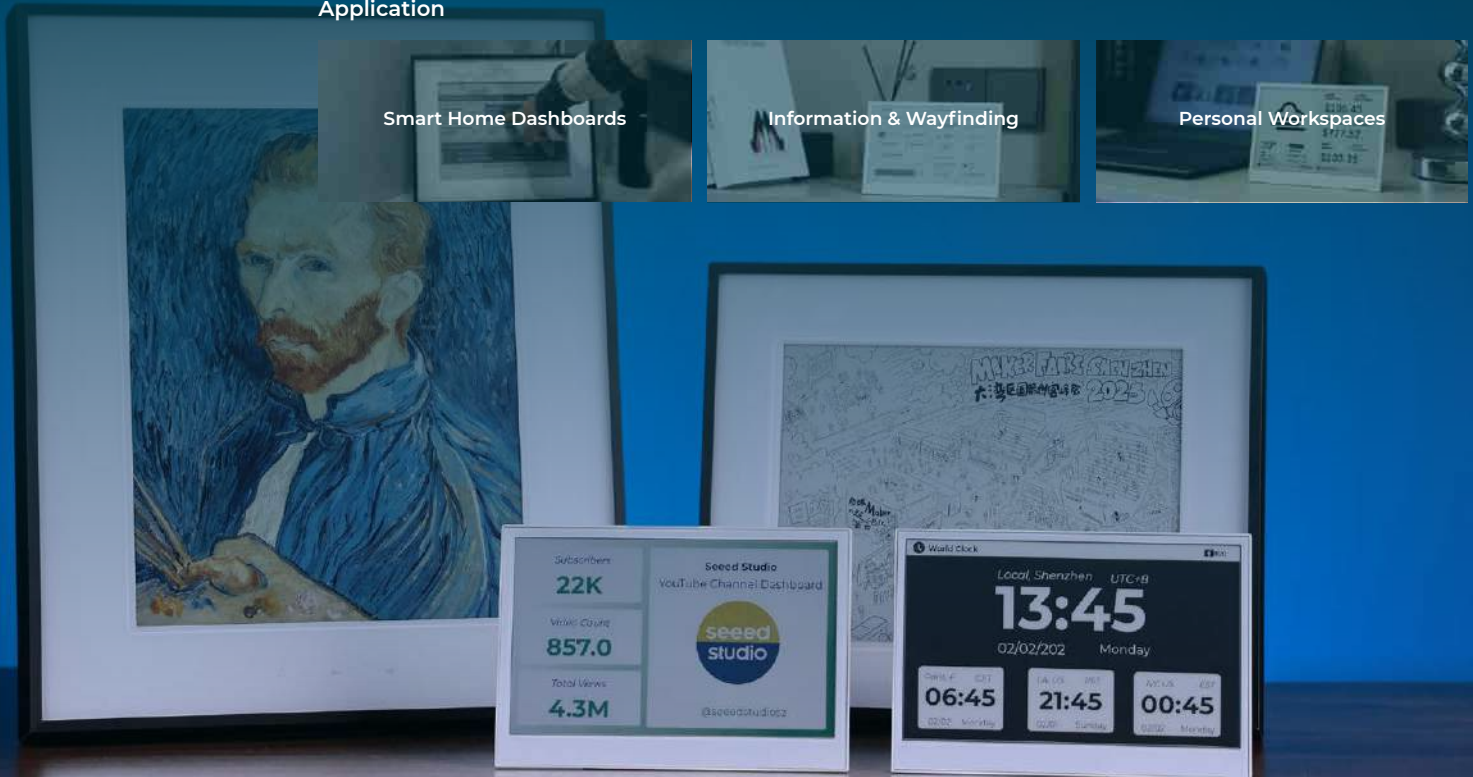
Our ePaper Static Dashboards deliver always-on, energy-efficient information displays for persistent AI data visualization. Ideal for low-power environments, they provide clear, glanceable updates without constant refreshing. Suited for dashboards, status panels, or any scenario where reliable, ambient display is key.

Application

Smart Home Dashboards

Information & Wayfinding

Personal Workspaces



reTerminal E1001 & E1002

Your smart ePaper interfaces for effortless information

SKU [100073581](#), [100017057](#)

Powered by ESP32-S3, the reTerminal E Series natively supports our SenseCraft HMI no-code UI platform for effortless dashboard creation, while also being compatible with Home Assistant, TRMNL E-ink dashboard, Arduino, and ESP-IDF for advanced development. Whether for smart home dashboards, office information displays, or educational projects, this ready-to-use HMI device delivers beautiful visuals and flexible customization in one elegant package.

reTerminal E Series ePaper Display



E1001 E1002

Displays

7.5" monochrome & 7.3" full color ePaper
Resolution : 800*480

Built-in Sensors

Temperature
Humidity

Interactions

Button
Mic
Buzzer

Interfaces

USB Type-C
MicroSD Card Slot
Expansion Port

Open for Customization

Concept to Market

8-24 Weeks
Hardware and Software

 **Open Source**

Compatible Softwares



SenseCraft HMI



Home Assistant ESPHome



TRMNL



Arduino PlatformIO



Price from **\$79**

MCU ESP32-S3

WIFI/BLE

Power Efficiency

Up to **3 Month Battery Life**
• 2000mAh • Visible Battery Status

Sensecraft HMI

No Code UI Design

- Drag&Drop Canvas
- AI Generation
- Templates
- Gallery



AI-Driven UI Creation

- AI Image Generation
- Tuning with AI Chat



Visualize Any Data

Web API
Local Data



One Click UI Deployment

- Design & Deploy on 1 platform



Applications



reTerminal E1003 **NEW**

Always-on clarity for your smart home control

SKU [100090602](#)

reTerminal E1003 is a 10.3-inch high-resolution monochrome ePaper display, designed as a centralized, low-power control panel for the modern smart home. Powered by ESP32-S3 with Wi-Fi/Bluetooth connectivity, it provides an always-on, energy-efficient interface to manage lighting, climate, security, and IoT devices. Equipped with an intuitive touch panel, physical buttons, and a built-in microphone for voice interaction, it supports both no-code UI creation via SenseCraft HMI, Home Assistant integration, and custom development with Arduino. Whether as a smart home dashboard, information display, or interactive panel, the E1003 seamlessly integrates into your living space with clarity and effortless control.

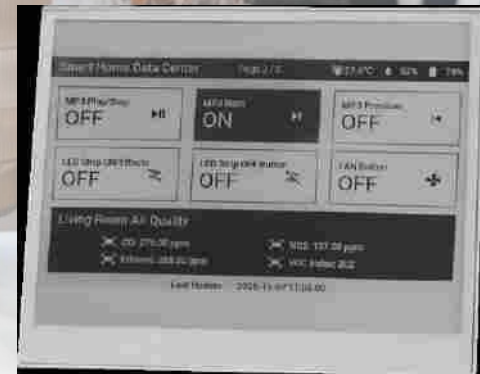
Price from

\$159.9

Features

-  • 10.3-inch monochrome ePaper touch display with 16-level grayscale and 1404×1872 resolution
-  • Optimized power design with 3000mAh battery supporting months of operation
-  • Smart Home-ready controls including touch panel, temperature/humidity sensor, navigation buttons, and microphone
-  • A backlight-free display that blends naturally into your home — cord-free, place it anywhere you want.

Compatible Software



Applications



**The black frame is not included.*

reTerminal E1004 **NEW**

Paper-like color, months of view — your wireless digital frame

SKU [100064156](#)

Presenting a 13.3-inch color ePaper digital frame designed to bring art to life, elegantly and effortlessly. Powered by ESP32-S3 and featuring a vibrant, low-power display, it offers a gallery-like viewing experience that blends naturally into any space. With a large 5000mAh battery, it runs for months on a single charge—cord-free and truly always-on. Update your artwork, personal photos, or curated collections wirelessly via app, or use the built-in microSD and intuitive touch controls. Beautiful, simple, and designed to disappear into your home, this frame turns any wall into a seamless window for creativity.

Price from

\$279.9

Features



• Vibrant 13.3-inch E-Ink Spectra™ 6 Color ePaper Display

Offers paper-like viewing with vivid color rendering and wide viewing angles for true gallery-grade visuals.



• Months-Long Cord-Free Operation

Powered by a 5000mAh battery and ultra-low-power design, enabling continuous display without constant charging.



• Seamless Wireless Art Management

Update and curate your gallery remotely via companion app, or load content locally via microSD card.



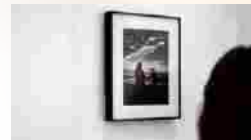
• Designed to Disappear into Your Space

Slim, frameless aesthetic with optional wall-mount or stand placement — made to complement, not distract.

Compatible Software



Applications



ePaper DIY Kits for Custom Builds

A range of developer-friendly kits for building custom ePaper projects from the ground up.

Each ePaper DIY Kit includes both a driver board and an ePaper display, providing a complete hardware foundation. Developers can choose to code with Arduino or ESPHome, or design interfaces using SenseCraft HMI—a no-code UI platform for rapid prototyping and deployment.



Flexible MCU & Display Pairing

Choose between ESP32-S3 and nRF52840-based controllers, and pair with a variety of ePaper screens.



Multi-Platform Development

Whether you prefer coding or no-code tools, we support your workflow.



Ready-to-Use & Well-Documented

Pre-configured firmware, clear pinouts, and comprehensive tutorials.



Open-Source & Community-Backed

Full wiki docs, driver libraries, and active developer community support.



ePaper DIY Kit-EE02

SKU [E26010501](#)

ePaper Driver Board

- Built in XIAO ESP32-S3 Plus
- BAT Connector with Switch
- User-Friendly Buttons

Supported Display

- 13.3" Spectra™ 6 E-Ink Full Color (1200×1600)

Compatible Software

- SenseCraft HMI Firmware Pre-Flashed



ePaper DIY Kit-EE03

SKU [E26012301](#)

ePaper Driver Board

- Built in XIAO ESP32-S3 Plus
- Support High-Speed Refresh
- BAT Connector with Switch
- User-Friendly Buttons

Supported Display

- 10.3" Monochrome (1404×1872)

Compatible Software

- SenseCraft HMI Firmware Pre-Flashed



ePaper DIY Kit-EE04

SKU [E25102101](#)

ePaper Driver Board

- Powered by XIAO ESP32-S3 Plus
- BAT Connector with Switch
- User-Friendly Buttons

Supported Display

- 1.54"–7.5" displays with 24/50-pin FPC connectors
- Monochrome and color ePaper options

Compatible Software

- SenseCraft HMI
- Arduino
- ESPHome/Home Assistant



ePaper DIY Kit-EN04

SKU [E25120101](#)

ePaper Driver Board

- Powered by XIAO nRF52840 Plus
- Bluetooth-capable & low-power
- BAT Connector with Switch
- User-Friendly Buttons

Supported Display

- 1.54"–7.5" displays with 24/50-pin FPC connectors
- Monochrome and color ePaper options

Compatible Software

- Open Display
- Arduino
- Home Assistant



TRMNL 7.5" (OG) DIY Kit

SKU [104991005](#)

ePaper Driver Board

- Powered by XIAO ESP32-S3 Plus
- BAT Connector with Switch
- User-Friendly Buttons

Supported Display

- 7.5" monochrome (800×480)

Compatible Software

- TRMNL
- Arduino
- ESPHome/Home Assistant



Software Suites

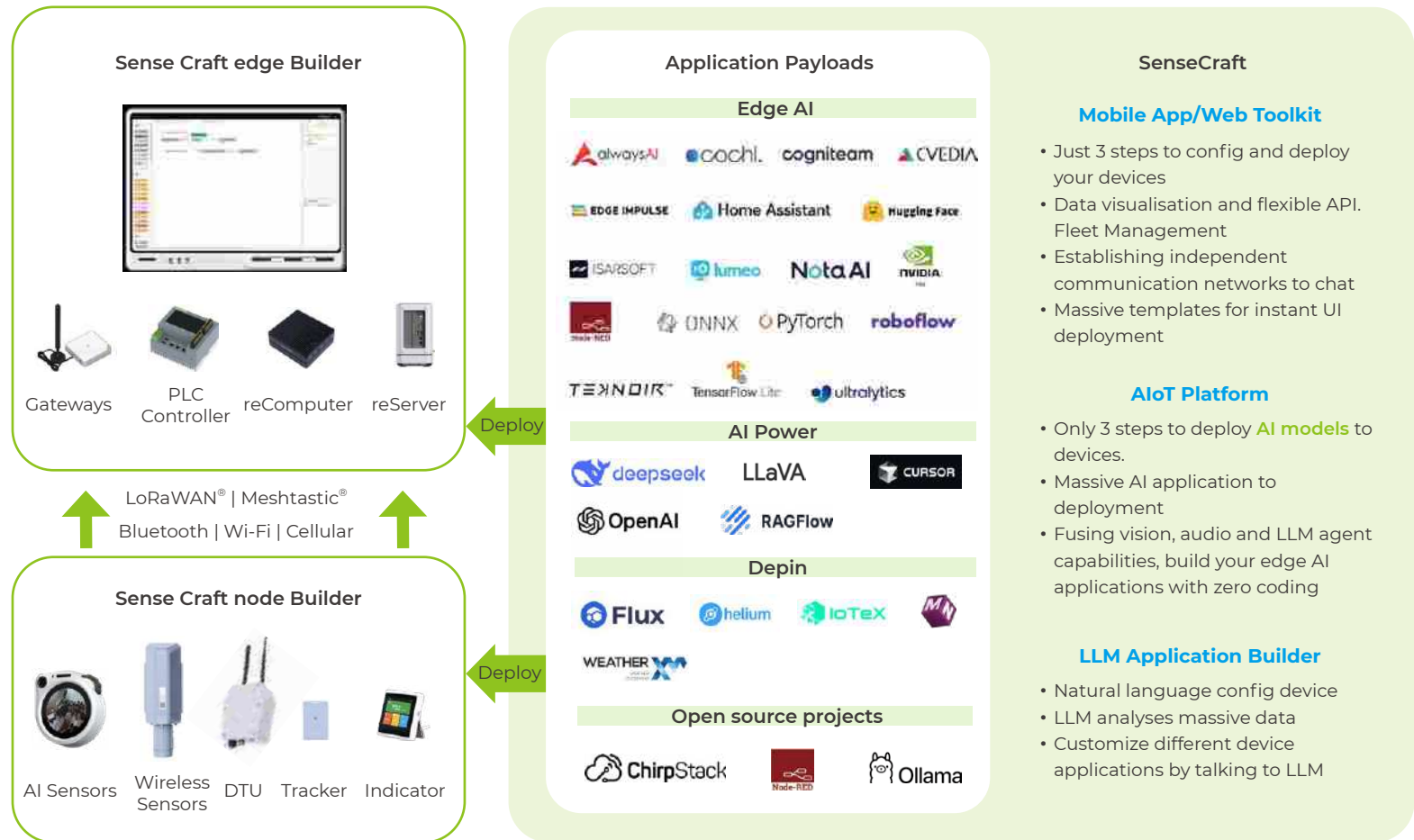
Integrated no code tools to orchestrate them all.

No-code AIoT platform, enabling users to build and manage AI applications and devices without writing a single line of code through a unified toolchain.

SenseCraft

<https://sensecraft.seeed.cc/>

Automate device deployment and MLops in the field



SenseCraft Ecosystem

The easiest way to build and deploy your AI application. We empower industries to turn AI vision into real-world impact with seamless, accessible solutions.

User Access And Intergration

Mobile App



Data App



HMI App



Hotspot App

Open Intergration



HTTP

Core Software Engines

Creation Engines

Define intelligence & interface

SenseCraft AI

Massive AI Apps. Easily Realizing
Physical Scene intelligence



AI Applications



One-Click App
Distribution



AI Model Zoo



Custom Models and
Applications

SenseCraft HMI

Diverse Templates, Easily Customizing
Screen Interfaces



Drag-and-drop
interface



Real-time interface
preview



Ready-to-use
templates



LLM-generated
interface

Service Engines

SenseCraft Data

Cloud platform for IoT data collection
and visualization



Data Visualization



Alert Mangement



Data Storage



Custom Dashboard

SenseCraft Device Management

Easy and hassle-free management of
massive edge devices



Massive Device
Access



Remote Control



Device OTA



Device Monitoring

Hardware Infrastructure Layer

Powered by Edge computing Hardware

Learn more about edge computing products(Tracker, Watcher, Sensors, ...)

SenseCraft Core Competencies

Empowering Edge Intelligence:

A Full-Stack AI Capability Matrix from Multimodal Perception to Intelligent Agents



AI Object Recognition

Ready-to-use models, 3-step configuration



Smart Classification

Understand scenes and detect anomalies...



Vibration Perception

Capture tiny vibrations and predict potenti...



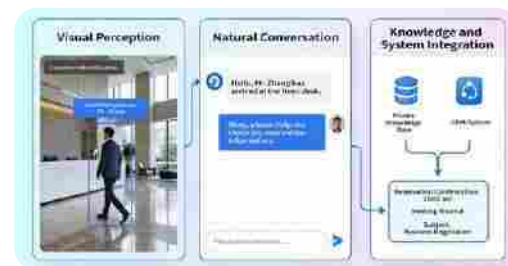
Sound Recognition

Listen, analyze, and identify abnormal noise...



HMI Configuration

Zero-code HMI customization for smart devices.



Watcher Agent

Multimodal perception and natural...

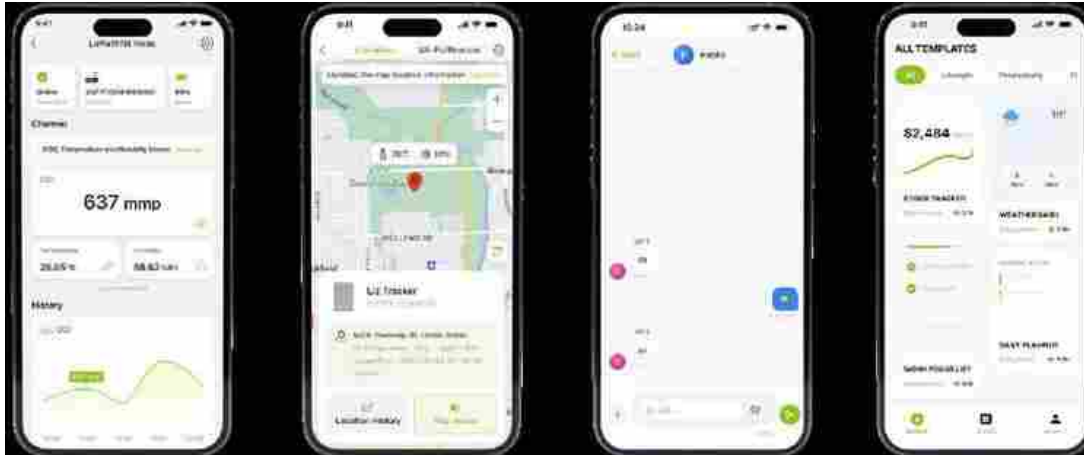
SenseCraft™ has been widely applied in over **40,000+** intelligent hardware products and has expanded support for **10+** hardware platforms.



SenseCraft Mobile App / Web Toolkits

One-stop management tool available in mobile and web extensibility

SenseCraft empowers users with a versatile application matrix designed for the full AIoT lifecycle. It includes the **SenseCraft App** for robust data management and visualization, **SenseCraft HMI** with massive templates for instant UI deployment, and SenseCraft Meshlink to establish independent, off-grid communication networks without relying on cellular operators.



Data Visualization

Tracker Location

Offline Chat

Interface Templates



Download Center QR Code

Customized services



Source Code: <https://github.com/Seeed-Studio/SenseCraft-Web-Toolkit>

White label your own platform and app. Build your brand.



SenseCraft AI

<https://sensecraft.seeed.cc/ai/>

Fusing vision, audio and LLM agent capabilities, build your edge AI applications with zero coding

SenseCraft AI is a next-generation edge AI application platform. We integrate vision, audio, vibration and LLM Agent capabilities, enabling developers to rapidly build AI applications without coding; simultaneously providing users with a rich one-click deployment application marketplace. From model training to application deployment, SenseCraft AI helps you effortlessly bridge the "last mile" of AI application implementation.

Key Functions



App Square distribution

Deploy apps with one click



No-code create AI apps

Ship ideas fast with guided builder



Multi-modal sensing

Vision, audio, vibration in one workflow



Model zoo

Use pre-trained models



Training models

Collect, train, version, improve



Live device preview

Real-time preview, tuning and logs

Build Your Own AI Solutions



1 Choose Capability

Vision / Audio / Vibration / Classic CV



2 Pick/Train Model

Use pre-trained or train quickly



3 Compose Logic

Triggers, processing, notify & control



4 Hardware options

Prepare devices and finish wiring



5 Deploy & Verify

Live preview, tuning, logs



6 Publish & Share

Hosting & one-click distribution

SenseCraft HMI

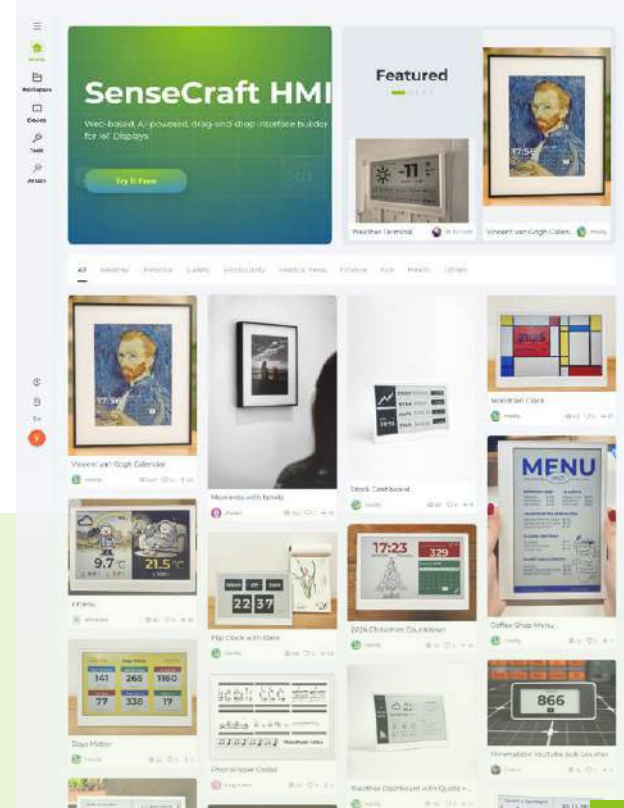
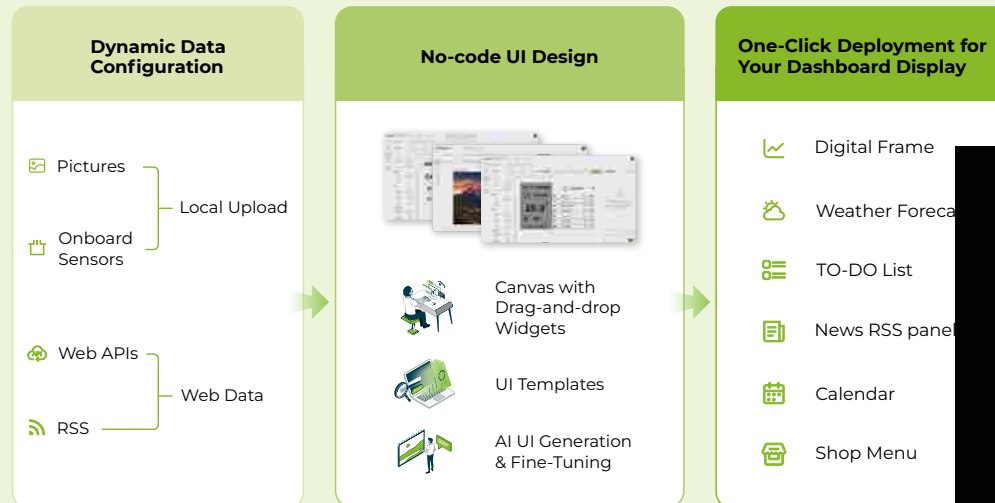
<https://sensecraft.seeed.cc/hmi>

Design Smart Displays. No Code Required.

SenseCraft HMI is a no-code, web-based, AI-powered interface builder that makes designing IoT displays surprisingly simple. With its drag-and-drop canvas and ready-to-deploy user interface templates, you can create functional dashboards in minutes—complete with live data from integrated sources like weather APIs, crypto trackers, stock profilers, calendar, to-do list, and many more. The platform integrates LLM-powered tools to generate custom images and UI layouts on demand, while built-in device management lets you deploy and monitor your displays from anywhere.

Create Your Own Dashboards with SenseCraft HMI Effortlessly

Drag-and-drop templates, AI-powered tools, and live data—all in one platform



SenseCraft - DePIN Suite

Deploy Web3 hardware and diagnosis with ease

SenseCAP Hotspot App



APP Store



Google Play



APP Center

Decentralized Sensors



Community powered
weather network



Helium WXM Weather
Station



Decentralized IoT
Platform



DePIN Dev Kit

Decentralized Gateways



People-Powered LoRaWAN® Network

~200K



SenseCAP M1
Hotspot



SenseCAP M2
Hotspot



SenseCAP M4
Square



Decentralized VPN
Network



SenseCAP M1
Hotspot

Decentralized Computing



SenseCAP M4 Square

Power By



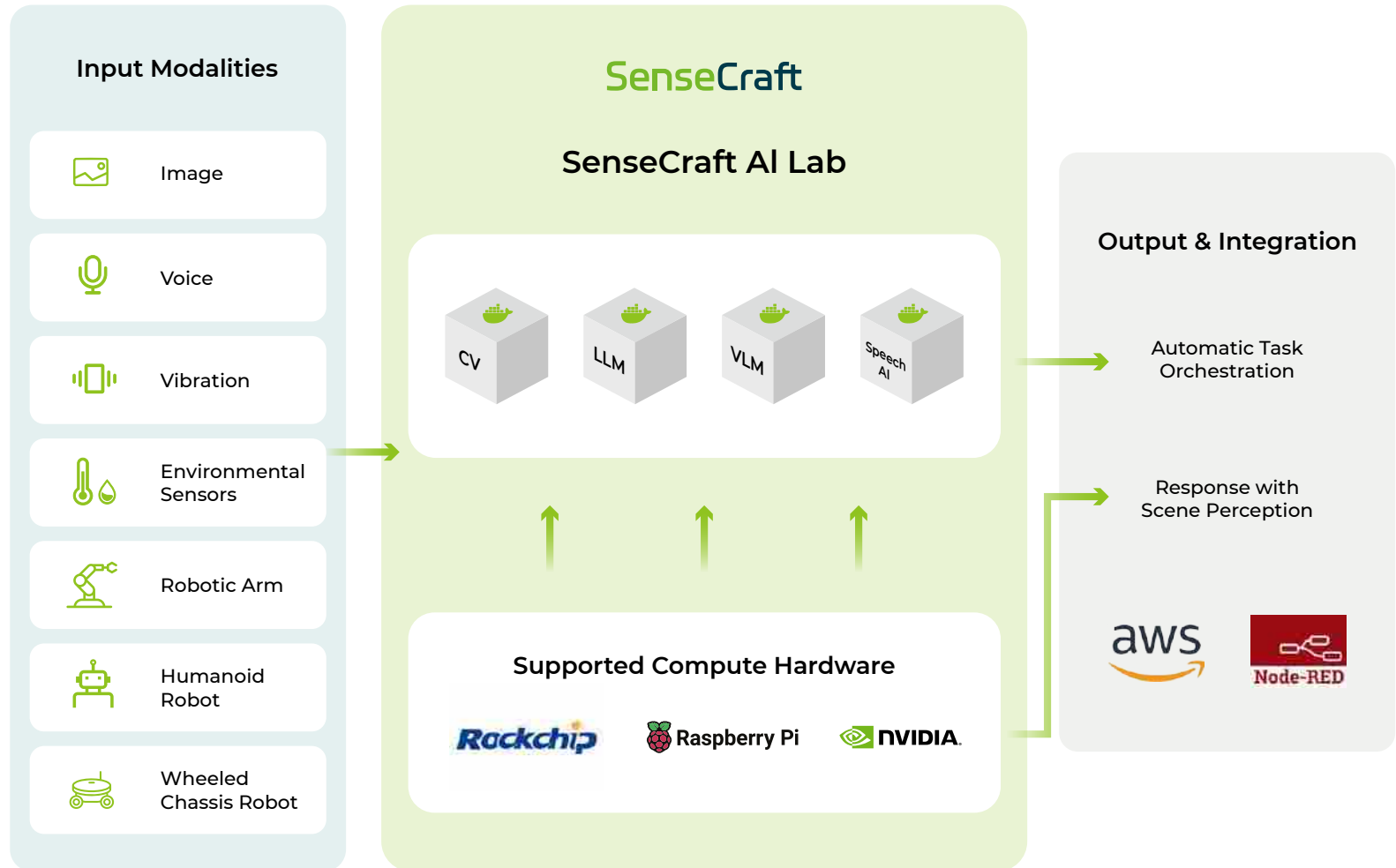
SenseCAP Hotspot App / Dashboard



SenseCraft Device Management

SenseCraft AI Lab

Upgrade no-code system with generative AI interaction, simplify your Edge AI development process



Firmware Payloads: Growing ISV Partnerships

<https://www.seeedstudio.com/blog/ecosystem>

AI ISV partners specialize in training models, designing applications, and scaling for deployment, thereby accelerating project development and implementation. Solution partners deliver comprehensive, integrated hardware and software solutions to end customers.



Ultralytics offers advanced object detection, classification, and segmentation models trained on COCO and ImageNet, with exports to ONNX, Core ML, and TFLite. It also provides Ultralytics HUB for easy AI model training and deployment without coding.

Application:

Object Detection, instance segmentation, image classification, pose estimation.

roboflow

Roboflow is an all-in-one computer vision platform that simplifies data labeling, custom model training, and deployment to any edge device or server. It also offers the Roboflow Inference Server for easy deployment of computer vision models for object detection, classification, and instance segmentation, using foundation models like CLIP and SAM.

Application:

Computer Vision.



Balena offers a complete technology stack for developing, deploying, and managing IoT fleets at scale. Its balena cloud provides cloud-based infrastructure for deploying and managing containerized AI/ML applications on a fleet of devices.

Application:

Container-based AI application deployment, fleet management.



Lumeo is a flexible, no-code video analytics platform that uses vision AI to bring intelligence and automation to various industries. It allows clients to leverage their existing cameras and infrastructure to analyze video data for applications like alarm monitoring, customer experience, marketing, compliance, and security.

Application:

Video Analytics.

Nota AI

Nota AI is a tech startup focused on optimizing AI models for edge devices using Python. Its platform, NetsPresso, streamlines the process of model training, compression, framework transition, and benchmarking.

Application:

Hardware-aware AI model optimization and edge AI.



Solutions and Case Studies

Based on years of implementation, we provide deployable solutions across industries. Each solution includes hardware, connectivity, edge computing, and data integration, designed to work under real-world constraints such as unstable networks, limited power, and minimal on-site maintenance. You can check our deployment guides and code on our [GitHub](#) ..

Ready-to-Deploy Solutions

Seed delivers a complete end-to-end capability — from sensors, edge computing and networking to AI models and platforms — enabling system integrators and enterprises to transform traditional industries into intelligent systems that can sense, analyze and act.



Scan for Detail



Livestock Farming



Smart Agriculture



Building Energy Management



Hazard Response



Smart Spatial Interaction



Campus Safety



Smart Perception

Understand scenes and detect anomalies



Fast Deployment

Validated architecture + guides + demo



Lower Operating Cost

Low power, less wiring, less maintenance



Modular & Open

Flexible modules, open integration

From Components to Complete Systems

We help partners win projects by packaging products into a proven, repeatable solution.

System Architecture



CORE VALUE

Reference Design and Technical Support

From demo to deployment, we make your solution real and repeatable. Comprehensive architectural guidance included.



Reference Design
CONFIGURATION



Integration Support
CONNECTION



Deployment Enablement
LAUNCH READY

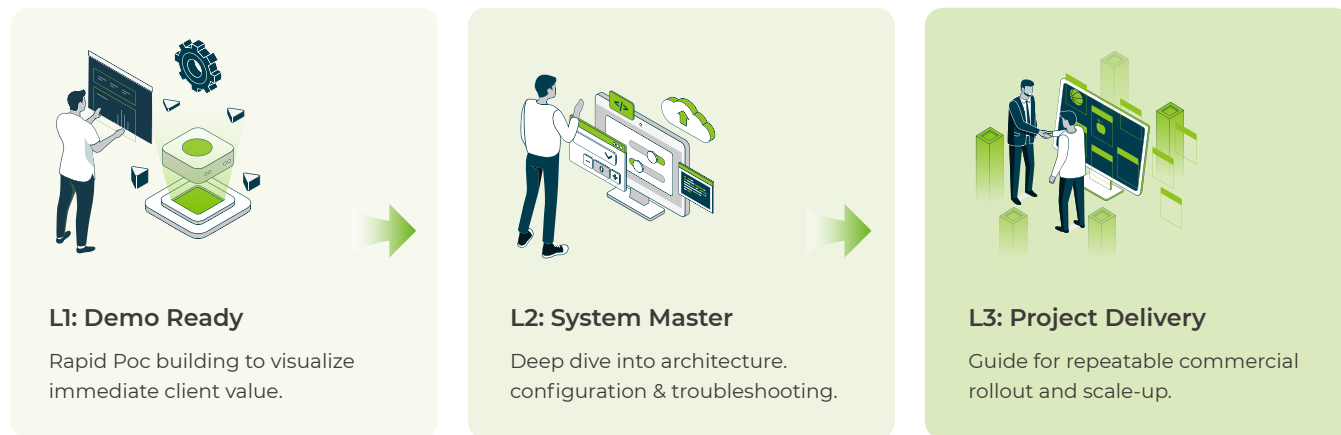
Confidential - For Partner Use Only

*Docs, sample code, and engineering guidance included.

Enhanced Partner Training & Delivery

From initial demonstration to commercial project delivery

The Partner Journey



Delivery Methods

-  Online Course
-  Offline Bootcamp
-  On-site support

Detailed Course Matrix

 Spatial Intelligence & Energy Management Integrate HVAC, lighting, and sensors into a local automation hub.	 Interactive AI Agent for Spaces Deploy local LLMs and voice interfaces for responsive environments.	 Off-grid Communication & Resilience Master LoRa Mesh for remote data transmission.
 Visual AI Security & Alerting Implement edge computer vision for real-time threat detection.	 Smart City & Outdoor Sensing Deploy ruggedized sensor networks for urban monitoring and assets.	 Classic Starter Workshops Foundations in microcontroller programming and basic IoT protocols.

How AI-driven on-premise automation reduces energy waste and peak demand?

Local sensors, industrial protocols and AI forecasting — working together to cut energy cost automatically



Scan for Detail



Our solution

Unified Device Access & Automation

- Works with existing infrastructure (no rip-and-replace)
- One control panel for all equipment
- Real-time monitoring and automatic control



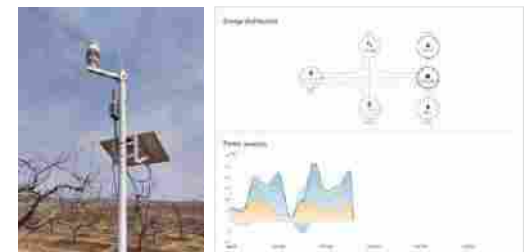
What we Deliver

Reliable Gateway to low code connecting all the devices and AI driven HMI



AI-Driven Energy Management

- Predictive energy demand
- Smarter use of batteries and renewable energy
- Peak shaving and load shifting

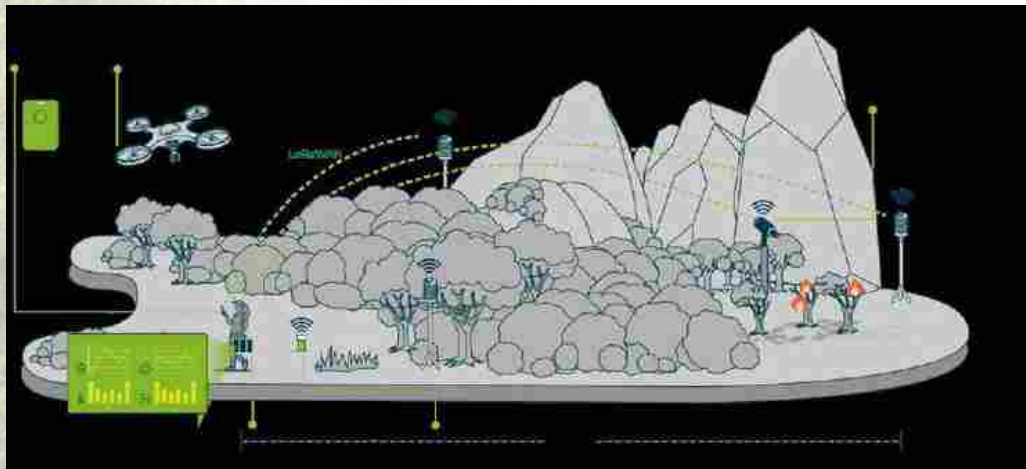


How Do You Detect Fire Risk Before It Becomes a Disaster?

AI sensors and long distance wireless networks provide real time wildfire risk signals and early alerts.



Scan for Detail



What we Deliver

A network of environmental sensors and AI cameras deployed across forests to continuously monitor fire risk and ignition signs.

Our solution

Reliable Sensor

Rugged environmental and fire sensors built for long-term outdoor deployment.



Long-Range Wireless Network

LoRa and mesh networking enable kilometer-level data transmission across mountains and forests.



AI Fire Intelligence

AI analyzes sensor data and camera feeds to assess fire risk, detect ignition points, and generate early warnings.



How Do You Make Every Field Block Measurable and Comparable?



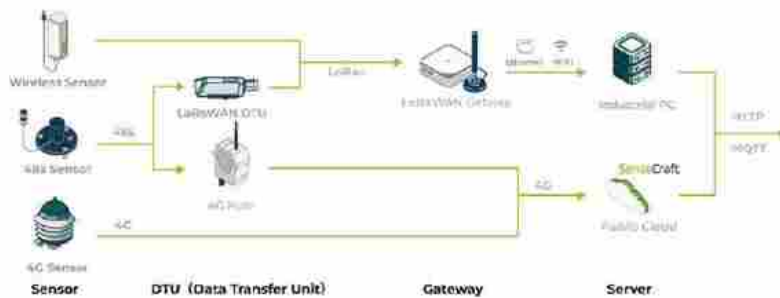
Scan for Detail

Monitor microclimate and soil conditions in real time, and respond before stress becomes yield loss.



What we Deliver

A complete stack from sensor to dashboard and control.



Our solution

Wireless Environmental Sensor

LoRaWAN® sensors track temperature, humidity, rainfall, solar and soil moisture, built for long term outdoor use.



Unified Data Platform

Gateways consolidate data into one dashboard for alerts, trends, and block comparison.



Automation & AI-ready Expansion

Connect irrigation, ventilation, and shading controls, and add edge AI vision when needed.

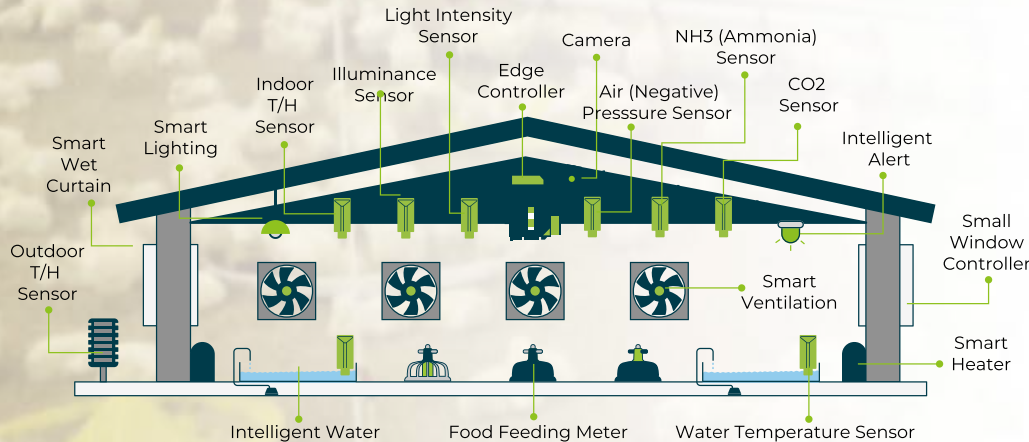


How Do You Keep More Chicks Alive in the First Critical Days?

Maintain perfect temperature, humidity, air quality and lighting — without manual guesswork.



Scan for Detail



What we Deliver

A complete, automated chick-rearing system—from environment control to health alerts..

Our solution

Wireless Environmental Sensor

Industrial-grade sensors can operate for several years on battery alone and area without cellular network coverage.



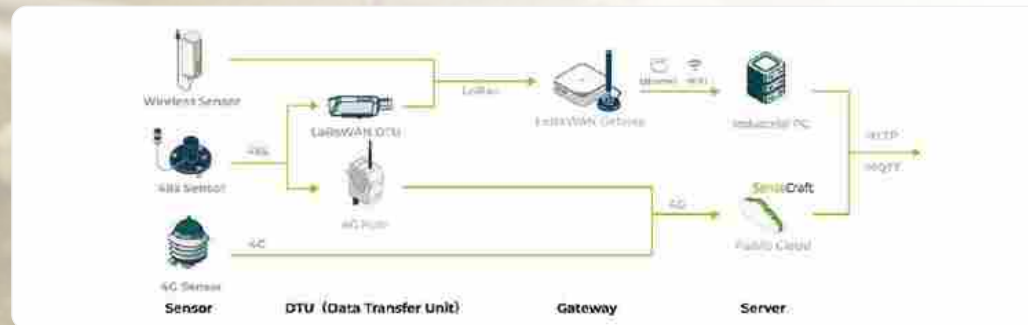
Automated Control

Automated control of ventilation and shading systems adjusts temperature and indoor lighting to create the optimal environment for chicken growth.



AI-based Health Detection

By integrating vision AI, unhealthy animals can be automatically identified, reducing the time spent on manual inspections.



On device vision and edge agents run locally to detect visitors, respond instantly and integrate with your systems.



 **<0.5w Low-Power AI Inference**
 **One-click Model Deployment**
 **Local Inference with No Fees**

Three examples of smart alarm clocks are shown: a white one with a pig face, a brown one with a bear face, and a green one with a frog face.

How Do You Deploy a Field Ready Intelligence Hub in One Box?

A complete sensing, communication and computing stack that runs the moment it arrives.

Customisable Solution in a Box

The Mission Pack is a self-contained, field-deployable system that combines sensing, wireless communication and edge computing into one ready-to-use platform.

Just power it on, connect the sensors, and it starts working.

One box, Many missions.

Mission Pack supports a wide range of sensors and controllers through built-in RS485, USB, LoRaWAN®, Meshtastic and Wi-Fi.

You can easily customize each pack for different missions — from wildfire detection to energy monitoring and environmental sensing.



Industrial Sensors



Long-Range
Wireless Sensors



AI Vision Sensor



Open Tech for a Sustainable Future

We believe in leveraging open-source technology to drive real-world solutions for the UN Sustainable Development Goals (SDGs). Our solution and technologies have empowered developers, researchers, and organizations to create SDG-focused innovations that address global challenges.

Learn more: <https://www.seeedstudio.com/blog/sdg/>

Carbon Sequestration Monitoring

Deployed in: Liberia

Monitor climate and greenhouse gas data in rainforests for climate research.

This project contributes to SDG 4, 9, 11, 13, 15, and 17.



Animal Behavior Analysis & Habit Pattern Tracking

Deployed in: US, Australia

Leverages computer vision AI models to optimize zoo management, identify and tracks animals within their enclosures.

This project contributes to SDG 9, 11, 13, 15, and 17.



Smart Black Soldier Fly Farming

Deployed in: Tanzania

A resource-efficient and low-cost protein production method by monitoring and optimizing BSFs' living environment.

This project contributes to SDG 1, 2, 9, 11, 12, 13, 15, and 17.



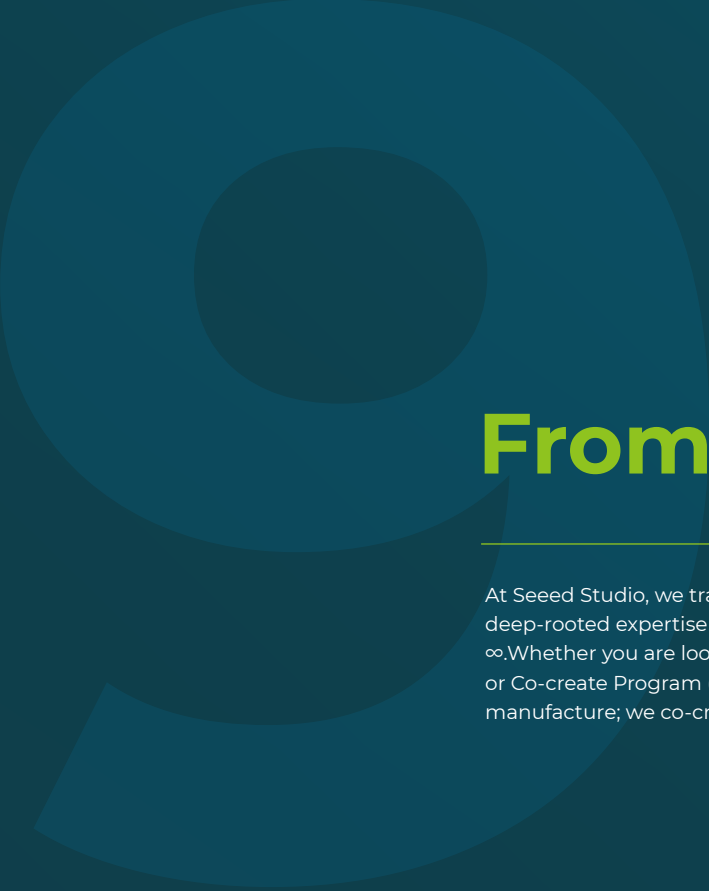
Open Science: OpenUC2 10x AI Microscope

Deployed in: Global

A collaborative innovation between openUC2 and Seeed that brings advanced, accessible microscopy to everyone. It is easy to assemble, customizable, and part of a broader initiative to democratize sophisticated scientific tools.

This project contributes to SDG 3, 4, 5, 6, 9, 10, 11, 15, 17.



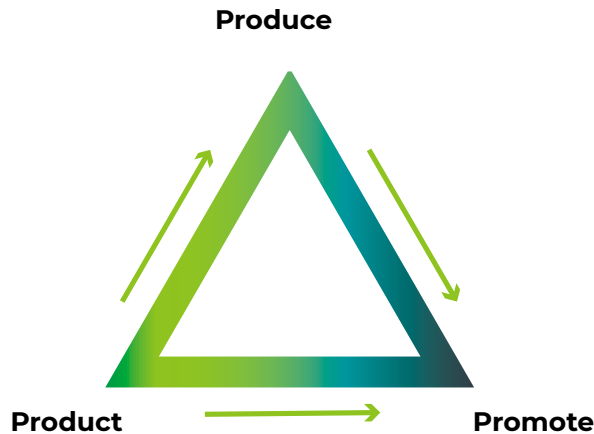
A large, stylized number '9' in a dark teal color, positioned on the left side of the slide, partially overlapping the title.

From Concept to Scale

At Seeed Studio, we transform your visionary ideas into market-ready solutions. With over 16 years of deep-rooted expertise in the open-source hardware ecosystem, we provide a seamless bridge from 0 to ∞ . Whether you are looking for OEM (for finalized designs), ODM (for comprehensive support from design), or Co-create Program (to leverage Seeed's brand and channels), we are your agile partner. We don't just manufacture; we co-create, ensuring your product is built with reliability and delivered with speed.

Empowering Your Innovation Journey

Seeed Fusion is your **trusted partner in innovation**, navigating the entire product lifecycle with you. From **expert R&D and design to agile manufacturing**, we bridge the gap between a brilliant idea and a market-ready solution. With our **Co-create program**, we don't just build your hardware—we provide the global logistics and distribution network to help you reach hundreds of thousands of customers worldwide.



100+

Market-ready products
as reference design



8-24 Weeks
to Customize a
NEW Product



16+ Years

Expertise in
AI Hardware Design



660-700k+
Reach Users Globally



Product

Design and Customization from Proven Concept

Transform your vision into a functional reality through our comprehensive R&D expertise, spanning full-stack engineering, industrial design, and rigorous pre-certification testing.



Produce

Professional Engineering and Agile Manufacture

Scale with confidence using our agile manufacturing infrastructure, offering everything from rapid PCBA prototyping, small-batch production to large-scale production with MES-tracked quality control and global supply chain resilience.



Promote

Scale Sales and Expand Reach

By tapping into our global logistics and distribution network, you can rapidly scale your sales and broaden your customer reach.

Fusion Product

Design and Customization from Proven Concept

Seeed's Core Engineering Capabilities & Compliance



Full-Stack Development

End-to-end R&D from PoC validation to multi-disciplinary design (PCBA, Industrial Design, and Mechanical Engineering).



Software & Cloud

Turnkey firmware, mobile apps, and seamless API/Cloud integration.



Testing & Certification

Rigorous verification (Wireless, IP-rating) and global compliance support (CE/FCC/RoHS and so on).

By integrating strict quality gates and countermeasures at every milestone, we resolve design flaws and optimize manufacturability, ensuring every output meets the highest industrial standards.

	0.1 Proof of Concept Prototype Validate core technologies and functions via prototype.	1 Engineering Sample EVT Build engineering prototype and confirm performance compliance.	10 Design Sample DVT Optimize design and verify overall manufacturability.	100+ Small Batch NPI PVT Run pilot production to validate process and quality.
Countermeasures	Verify with "Minimum PRD 10 Key Questions" checklist and check dual sources / lead time for key components	Add per "Test Coverage Map" and 3D overlap check	Verify with "Certification Checklist" and full-Scale Environmental & Stress Testing	Monitor key process CPK and critical Component Inventory
Time	min 3 days	min 14 days	min 6 days	min 7 days
Quality	Quality Plan	DFMEA	Test Plan	PFMEA
You provide (Inputs)	PRD · Key BOM · Concept Design	BOM v0.9 · PCB · 3D · Interface/Test Req.	BOM v1.0 · Final Design · Firmware List	Packaging · Label · Quality Criteria
Vendor Deliver (Outputs)	Feasibility · Prototype · DFM & Risks	DFMEA · Process Review · EVT Sample & Report	Test Plan · Fixture/Calibration · DVT Report	PFMEA · SOP · FAI · NPI Report · Traceability

Leveraging Proven Platforms for Rapid Customization



Diverse Modules for Rapid Prototyping

Seeed continuously integrates the latest technological advancements into high-performance, ready-to-use **modules**. With a vast library of specialized modules, we enable the swift assembly of complex solutions.



Testing & Certification

By serving different global clients, Seeed has built an extensive portfolio of finished **devices** designed for real-world applications, allowing users to easily find a solution that fits their needs and reach the market faster.

Seeed's Solution



Edge computing



Vision processor device



Voice processor device



Display panel device



LoRa/Zigbee/BLE/Wi-Fi
wireless transmission device



Sensor perception device



Controller module



Wireless module



Sensor module

Hardware Platform



Fusion Produce

Professional Engineering and Agile Manufacture

Scaling 10 to 10,000+. From electronics to mechanical engineering, we transform designs into industrial-grade products. With expert manufacturing and supply chain management, we ensure top-tier quality and efficient global fulfillment for any production scale.

Robust Engineering Preparation



Design for Manufacturing (DFM) Feedback

Detailed analysis of PCB layout and mechanical assembly to minimize production defects and reduce cycle times.



Design for Testing (DFT)

Development of customized PCBA functional test fixtures and automated testing scripts to ensure 100% coverage of core features.



BOM Optimization & Alternative Suggestion

Proactive sourcing strategies to identify long-lead-time components and suggest reliable alternatives to ensure supply chain resilience.

Digitalized Quality Control



Standardized Quality Gates

Implementation of strict SOP and SIP to eliminate human error.



Advanced QA Infrastructure

Utilization of AOI (Automated Optical Inspection), X-Ray for BGA components, and ICT (In-Circuit Testing) for industrial-grade reliability.



MES Life-cycle Tracking

Every unit is assigned a unique identifier, with production data logged at every stage - from SMT to final assembly.

Flexible Production Scalability



Low-Volume Manufacture (10-100 units)

Optimized for market validation and pilot runs with NPI-level support.



Large-Scale Production (100-100,000+ units)

High speed automated lines capable of handling complex, high density assemblies at competitive costs.

Global Supply Chain & Manufacturing Network

To support our clients' diverse product portfolios and scaling requirements, Seeed Fusion has built a highly flexible and far-reaching supplier network. By expanding our manufacturing footprint and strategically positioning global logistics hubs, we provide the infrastructure necessary to take your product from a local concept to a global success.



Extensive Supply Chain Resources

Network of 600+ qualified Suppliers



Diversified Global Manufacturing

Shenzhen, Vietnam, Japan



Strategic Global Warehouse and Logistics

US & Europe Overseas Warehouse



At Seede, we bridge the gap between design and market. By tapping into our global logistics and distribution network, you can rapidly scale your sales and broaden your customer reach. Together, we turn your product into global success stories.



Fusion Case

Neobotics, from Concept to Approved Prototype in 60 Days

Neobotics is an educational platform powered by an NVIDIA Jetson controller and dedicated microcontrollers for real-time chassis and motor management. It utilizes industrial-grade LiDAR and cameras to achieve precise autonomous navigation.

Engineering & Project Management



• Rapid R&D Mobilization

Seed's engineering team intervened at the earliest design stage. It took only 2 months from the start of R&D involvement to finalize the product definition, core functions, and obtain formal client approval, ensuring a solid foundation for mass production.



• Professional Integrated Design

Seed provided expert PCBA and mechanical structure design based on client's concept. By seamlessly integrating complex electronics with robust hardware, we delivered a reliable, "ready-to-deploy" solution that meets industrial standards.



Scaling Reachy Mini from Prototype to Global Reach in 5 months

SKU

Lite Version
(For Mac/Win/Linux)

[100025004](#)

Wireless Version
(With Raspberry Pi)

[114993609](#)

Reachy Mini, an open-source AI robot by Hugging Face and Pollen Robotics, faced a sudden surge of 3,000+ orders in one week. Seeed was tasked with transforming a 3D-printed prototype into a globally shippable industrial product within 5 months.

The Challenges



• Tight Timeline

Accelerating the leap from an open-source concept to mass production.

Seeed's Solutions



• Agile Engineering

Acted as an R&D extension to optimize mechanical and electronic designs for mass production.



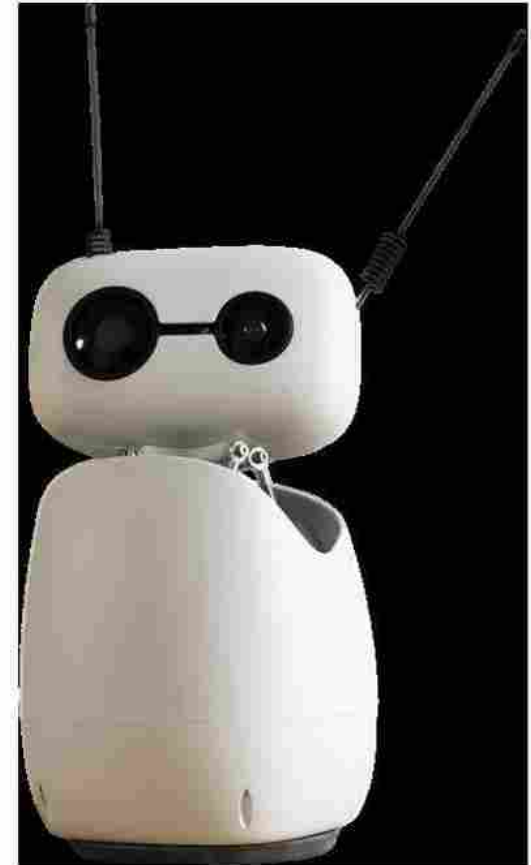
• High-precision Mass Assembly

To accelerate time-to-market, we established multiple dedicated production lines, successfully completing the complex assembly and rigorous testing of 3,000 units within 20 days, while maintaining an exceptional 99.9% yield rate.



• Global Logistics

Completed a final sprint to ship 3,000 units in just 3 days to users worldwide.



Minichord, from Launch to 3,000 Units Sold in 7 months

SKU [114993647](#)

Minichord is an innovative, open-source synthesizer designed for intuitive music creation. It features 21 chord selector buttons and a unique harp touch zone for expressive note triggering. Functioning as a versatile USB MIDI instrument, it supports custom presets and unlimited creative possibilities. Co-created with Benjamin Poilve, this fully open-source device allows musicians to modify and share its source code freely.

Sales & Global Warehouse Support

Since our partnership began in April 2025, the project has already reached over 3,000 units sold across our global e-commerce platforms and extensive distribution network. To ensure a superior customer experience, we maintain strategic inventory in both our U.S. and European warehouses.

"I designed the minichord by myself, but when the time came to think about a potential commercialisation of the project, I was lost. However, the co-create program offered by SeeedStudio was helpful! During the whole process, SeeedStudio's team were kind and helpful, and offered me a generous profit sharing scheme."

— Benjamin Poilve



Co-Create Program

From Community, for community

With years of deep roots in the community, we believe that the best products are born from and driven by the **community**. However, many community innovators struggle to turn their designs into mass-produced products due to a lack of support in design, manufacturing, sales, and funding. To bridge this gap, Seeed launched the **Co-create Program** aims to collaborate with community innovators to ensure that brilliant ideas don't just stay as prototypes, but glow as fatastic products.

Have a complete prototype on hand? Contact us today and let's bring your vision to life through the Co-create Program!

Apply Now: https://docs.google.com/forms/d/e/1FAIpQLSe3A7_r1bn2OLO4JyJd_poGZodItCaRy6M6-3FtdqL3xG1Usg/viewform



TO

Community Driven, Ecosystem Builder

At Sseed Studio, we're dedicated to catalyzing digital transformation across industries through collaborative AIoT solutions with our vibrant community and partners. Within this dynamic ecosystem, we collaborate with chip providers, embedded software partners, ML/CV experts, cloud and network partners, and a global community of enthusiasts and innovators. But our commitment doesn't stop there. We're passionately engaged in driving positive global impact, addressing diverse challenges such as climate action, education, agriculture, etc. Together, we're making a difference that matters.

Growing Partnerships

Chip Providers



Embedded SW



ML / CV



Cloud and Network



Community



Vibrant Community



Hackster:

3,272 Published Projects

23,842 Members

<https://www.hackster.io/seed/>



GitHub:

1,200 Followers

487 Repositories

<https://github.com/Seed-Studio>



Seed Studio Discord:

14,625 Members

<https://discord.com/invite/QqMgVwHT3X>



SenseCAP Discord:

27,565 Members

<https://discord.gg/4mKVXNNrgY>

At Seeed Studio, we believe in community-driven innovation. Our vibrant community **connects** developers, industry professionals, and mentors worldwide to share knowledge, projects, and ideas. Through our Seeed Ranger program, we expand this collaborative ecosystem by organizing workshops, exhibitions, and creating engaging content.



Instagram:

52,944 Followers

<https://www.instagram.com/seedstudio/>



Threads:

4,960 Followers

<https://www.threads.net/@seedstudio>



Bluesky:

563 Followers

<https://bsky.app/profile/seedstudio.com>



YouTube:

22,100 Followers 846 Videos

<https://www.youtube.com/@SeedStudioSZ>



X:

71,219 Followers

<https://x.com/seedstudio>



Facebook:

48,506 Followers

<https://www.facebook.com/seedstudiosz>



LinkedIn:

59,867 Followers

<https://www.linkedin.com/company/seedstudio/>

by 2026/1/30

115

Innovate with Shenzhen

— From Bay to Bay, From Idea to Impact



Maker Camp in Shenzhen

Delve into Shenzhen's thriving tech ecosystem, understand the intricacies of manufacturing processes and supply chain management, learn how to harness these resources to create innovative projects, and share knowledge.

- 150+ Researchers, Engineers, and Students from
- 30+ Globally Recognized Institutions 20+ Research Backgrounds
- 8 Countries and Regions

Register now: <https://github.com/Seeed-Studio/MakerCamp>



Agile Manufacturing Center

Experience Shenzhen's vibrant manufacturing and supply chain ecosystem—home to rapid prototyping, global logistics, and cutting-edge production. Seeed's Agile Manufacturing Center (AMC) is your gateway to this ecosystem:

- 8000+ SKUs
- 20+ Types of Test Items
- 3000+ Functional Test Plans
- 50M+ Units Shipped



Chaihuo Makerspace

The first makerspace in Shenzhen and the second in China, a vibrant community hub where makers come together to share projects, connect with leaders in various fields, improve skills, and participate in community activities.

- 61,819 Followers
- 970 Innovative Projects
- 1,611 Community Events
- 32 Countries Members

Become a member: <https://www.seeedstudio.com/chaihuo-makerspace>



Maker Faire Shenzhen

Showcase your innovative ideas, meet like-minded makers, and explore the specific applications of cutting-edge technologies in various industries at one of the largest maker innovation events in the world.

- 593,900 Visitors
- 115 Country Participants
- 692 Global Exhibitors Top
- 7 Globally Recognized

Get on board: <https://www.shenzhenmakerfaire.com/>

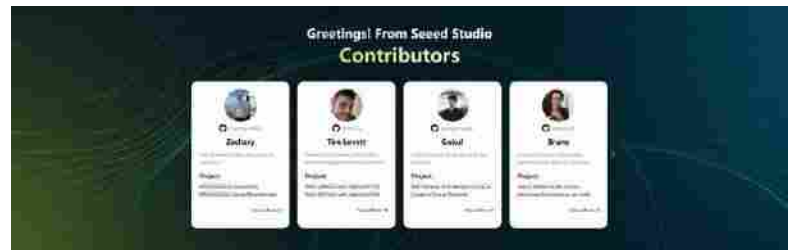
Open Wiki Platform & Contributor Program



Introducing Seeed Studio Wiki Platform

wiki.seeedstudio.com

- Preserve - Complete archive of Seeed Studio technical documentation with clear categorization.
- Interact - Multiple ways to engage with content and contribute to the community.
- Discover - Enhanced search functionality for quick access to specific information.
- Navigate - Intuitive documentation structure for seamless browsing experience.
- Contribute - Everyone is invited to report bugs, edit pages, and docs anytime via GitHub.



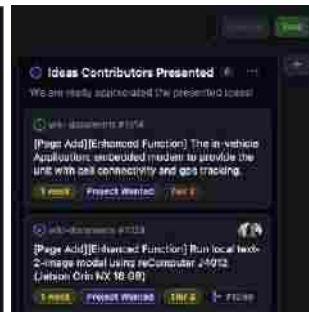
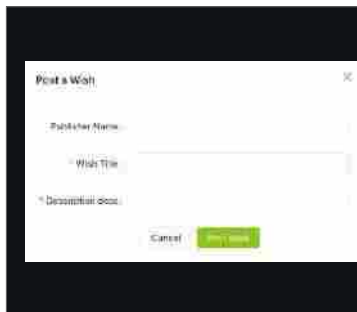
Join our Contributor Program

<https://wiki.seeedstudio.com/Contributor/>

- Reward with cash bonus.
- Our honor to have you and your work on our official platform.
- **Welcome everyone to the Open Calls.**

Share Ideas - Achieve It - Get Rewarded!

1. Share the ideas with us.
2. Anyone can achieve it as one assignment on GitHub.
3. Both get rewarded.



Academic Support

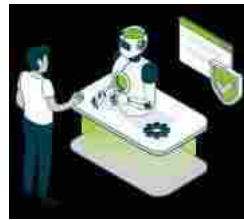
Seed Studio partners with academic institutions worldwide to equip students, educators, and researchers with educational hardware, curated curricula, research-grade co-create service, and exclusive sponsorships & discounts—bridging theory with hands-on innovation.

Learn more: <https://academic.seeed.cc/>



Educational Hardware & Curriculum

Empower individuals and organizations to learn and adopt AI, IoT, and digital transformation.



Research-Grade Co-Crete Service

By collaborating with researchers, we co-create and help bring their innovations to market.



Hackathons & Workshops

Bridge technology and education through immersive, project-based learning.

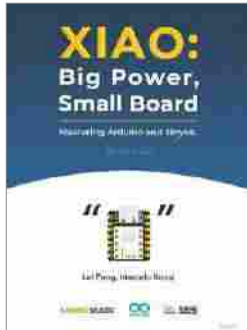


Sponsorship & Discounts

Hardware sponsorships, exclusive discounts and funding opportunities to make technology accessible for all.



Open Source Courses



XIAO: Big Power, Small Board. Mastering Arduino and TinyML

TinyML Arduino Seed Studio XIAO 21 Lessons

“XIAO: Big Power, Small Board” guides readers from the basics of Arduino to intricate miniaturized projects using Seeed Studio XIAO boards and Grove Sensors. Whether you want to illuminate an LED or delve into Embedded Machine Learning (TinyML), this book covers them. This book takes a hands-on, project-based approach, ensuring readers grasp the concepts while implementing them. By the end, they will be adept with XIAO and inspired by many user-created projects showcasing the endless possibilities these tiny boards offer.

https://mjrovai.github.io/XIAO_Big_Power_Small_Board-ebook



Grove Beginner Kit for Arduino Courses

Arduino Grove 12+16 Lessons No-Code

To better support the educators and students to get started with the kit, our EDU team created pdf courses with project-based lessons. In each lesson, you can be guided to build projects with step-by-step tutorials. And all the programming is available in both our graphical programming platform Codecraft and Arduino C.

<https://files.seeedstudio.com/wiki/Grove-Beginner-Kit-For-Arduino/res/Grove-Beginner-Kit-For-ArduinoPDF.pdf>

<https://make2learn.tinkergen.com/course/?sku=604182009>



No-Code Programming to Get Started With TinyML

No-Code Arduino Grove Wio Terminal
TinyML 5 Lessons

The No-code Programming TinyML course introduces beginners to Embedded Machine Learning using Wio Terminal and Codecraft. Through seven step-by-step projects, students learn to train and deploy neural network models on microcontrollers for motion recognition, gesture recognition, wake-up words, smell detection, and more, without requiring prior programming or electronics knowledge.

<https://tinkergen.github.io/No-code-Programming-to-Get-Started-with-TinyML/#/>

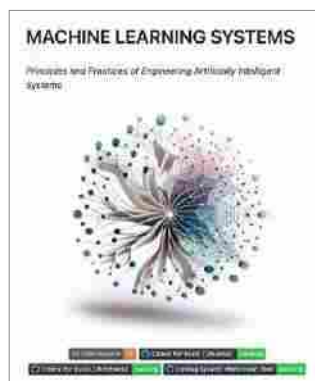


Microsoft IoT for Beginners Curriculum

IoT Arduino Raspberry Pi Grove 24 Lessons

Azure Cloud Advocates at Microsoft are pleased to offer a 12-week, 24-lesson curriculum all about IoT basics. Each lesson includes pre- and post-lesson quizzes, written instructions to complete the lesson, a solution, an assignment and more. Our project-based pedagogy allows you to learn while building, a proven way for new skills to 'stick'. The projects cover the journey of food from farm to table. This includes farming, logistics, manufacturing, retail and consumer - all popular industry areas for IoT devices.

<https://microsoft.github.io/IoT-For-Beginners>



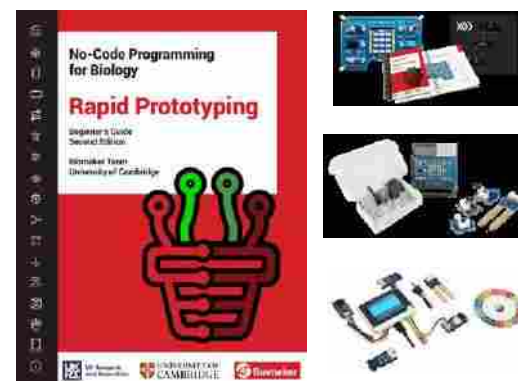
Machine Learning Systems

Principles and Practices of Engineering Artificially Intelligent Systems

TinyML Seede Studio XIAO Arduino 21 Lessons

Engineering Machine Learning Systems by Harvard University's Prof. Vijay Janapa Reddi bridges ML theory with practical implementation through hands-on labs. The book features Seede Studio XIAO ESP32S3 Sense for real-world exercises in image classification, object detection, keyword spotting, motion classification, and anomaly detection.

<https://mlsysbook.ai/>



No-Code Programming for Biology Rapid Prototyping Beginner's Guide

Biology Grove Arduino Wio Terminal No-Code Arduino 5 Lessons

Developed by Biomaker, University of Cambridge, and UK Research and Innovation, this guide teaches prototyping with Arduino and Seede Studio Grove Beginner Kit using XOD's no-code environment. Based on the Kit, it provides comprehensive information on hardware integration and compatible external devices with their corresponding XOD libraries.

<https://www.biomaker.org/training-programme>

Seed Studio

2026 Product Catalog V1.1

March 2026

This catalog is for promotional purposes only. Specifications and availability are subject to change without notice. Refer to our official website for the most current information.

CONTACT US



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