

The AI Hardware Partner

seeed studio
since 2008

Seeed specializes in **Edge AI** and **IoT**, offering a comprehensive range of products including **sensor network** and **edge computing**.

Customized services and solutions are provided to meet specific needs in different scenarios.

Seeed envisions to serve **global developers, independent software vendors & system integrators**. Currently, Seeed is serving **200K+** customers across verticals like Smart City, Smart Agriculture, Smart Building and Smart Energy, to mention a few.

Featured Product Lines



Our Valued Partners



500k+
Developers

200+
Distributors

150+
Countries

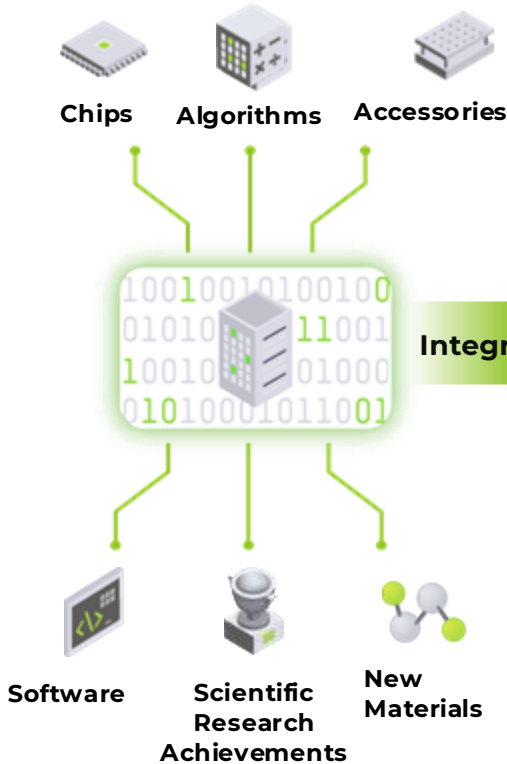
300+
Employees

From Technology to Industry

Technologies

- Open source hardware
- Machine learning
- Advanced sensing
- Home assistant
- Wireless, DePIN
- LLM


Emerging Technologies



Global Developer Communities




Collaborative Innovation



Smart Sensor Network

tinyML Ready
Rich Sensor Portfolio
Diverse Connectivity



Edge Computing

IPCs, HMIs, Edge Controllers
From Basic to High-End Performance
Cutting-Edge AI APP integration



SenseCraft

AI Model / dAPP Distribution,
Device Config + Data Management



Services

Co-Create: Design + Manufacture + Promote

Applications

- Asset Tracking
- Smart Building
- Industrial Space
- Smart City
- Smart Agriculture
- Smart Energy
- Tech for Good
- Open Science

Digital Economy



Traditional Industries

Solution

Digital Infrastructure

Smart Agriculture

Smart Environment

Smart Energy

Sensor Network

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fetch extensive real-time data from physical world

Smart sensing and network coverage capabilities.

- Low-power + efficient + intelligent
- Ready to use devices + easy to develop open source modules

Devices

AI Sensors

Smarter sensors, to see, to hear, to understand



LoRaWAN Devices

Low power, long range
Low connectivity cost



LoRaWAN Sensors

Gateways

Weather Sensors

All-in-one with multi parameter
Easy to integrate



Modules

XIAO tinyML MCUs



10+

Arduino, ESP32, tinyML,
Diverse connectivities

Sensor and Peripheral Modules

Grove Open Source Plug & Play Modules



400+

Vision, environmental sensors, actuators,
Various kits with rich tutorials

Wio Communication Modules



Low-cost LoRa modules for sensor & gateway

Edge Computing

push intelligence to new frontiers

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from development boards to industrial- grade devices.

- **SBCs & accessories for developers**



- **Robust devices for industries**



Worldwide Deployment

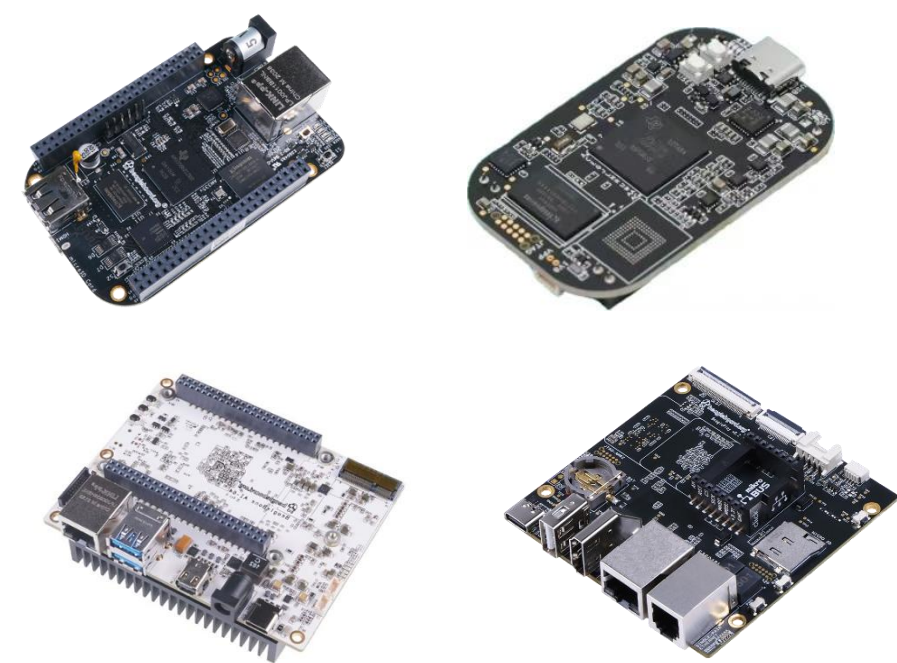
300,000+ Gateways

LoRaWAN Indoor and outdoor gateways built with Semtech LoRa chips



1,000,000+ SBCs

Standard & customized products based on Texas Instrument & Microchip microprocessor for industrial automation applications.



SenseCraft Edge Builder



deploy

LoRaWAN | 2G / 4G |
Bluetooth | Wi-Fi4G

SenseCraft Node Builder



deploy

Firmware Payloads

Edge AI



DePIN



Open Source Projects



SenseCraft

Mobile App / Web toolkit

- Enable 3 steps quick configuration and easy deployment. No code, No touch, No complexity.
- Fleet management.
- Secure device up to date, not just on the cloud, but also at edge locations.
- Flexible API.
- On-premise deployment support. Remote data access, visualization.

SenseCraft Model Assistant

- 3 steps to deploy AI models to devices.
- Build active community and model sharing mechanisms to maximize the value of models.
- Offline available, ensuring data privacy and security.

Design & Customization Services

17+ years experience & resources to meet diverse needs

Hardware Design

- rich library of hardware design
- 17+ years of experience

Mechanical/ Enclosure Design

- Mold design
- Plastic/ Aluminum/ Rubber/ Silicon

Certifications

- CE, FCC, MIC, TELEC, etc.
- RoHS, REACH, CA65, etc.

Embedded Software Design

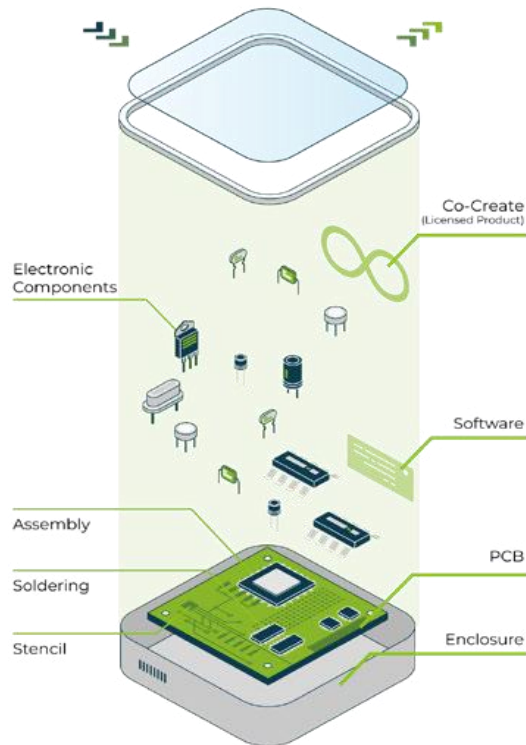
- Linux Kernel customization
- Firmware / driver

Packaging Design

- Graphic design
- Package design
- Reliability test

ISO9001 Quality Management System

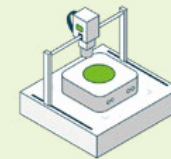
Manufacturing in multiple continents



Light Customization

Instant quotation & lead time | NO MOQ, starting from 1 unit | Quality assurance

Order online



Logo Customization
(3 ~ 14 days)



Packaging Customization
(3 ~ 29 days)



Firmware Flashing
(3 ~ 7 days)

Advanced Customization

Full-stack engineering support | Open reference design | DFM services | Professional project management

Talk with experts



Functions Adding & Trimming



Firmware Development



Robustness Improvement



Certifications

Contact us => Get quotation => Design verification => Golden samples => Pilot run => Mass production

Quality Management & Strict Testing

ensure high-performance: reliability, consistency and accuracy



- ISO9001 Certified
- Standard Quality Management System
- In-house Professional Quality Team
- In-house Wind Tunnel Lab
- Cooperated Professional Testing Labs

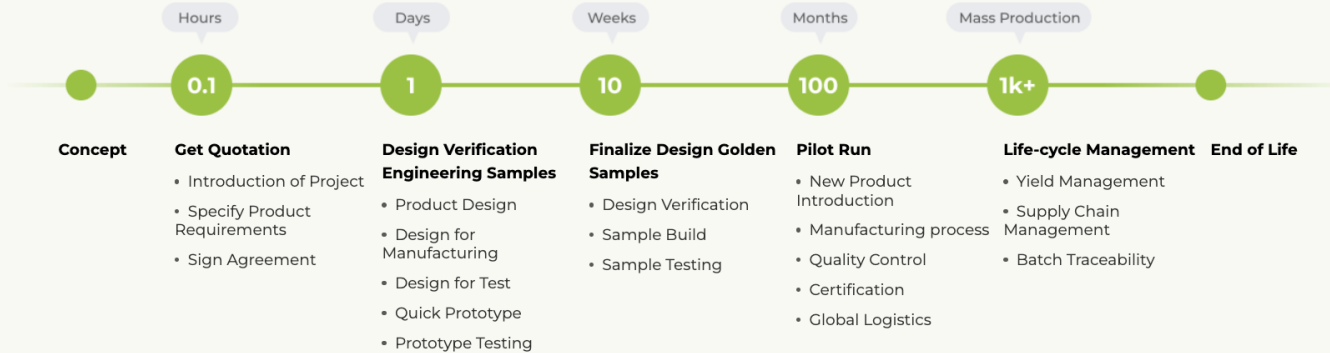
Strict Tests, in-house, in labs & in the field

- anti-aging
- consistency
- reliability
- vibration
- salt mist
- water-proof
- dust-proof
- drop tests
- high-low temperature
- long-range communication
- heat-sink performance
- structure strength



Manufacturing Services

Workflows



In-Process Quality Control

Material incoming inspecting

- Dimension - Cosmetic - Function - Packaging - RoHs

Product Control Plan

- Inspection plan - Acceptance spec. - QC sample checking - Measurement Tool

Manufacturing Operation Procedure

- SOP - PDCS - IPQC - Tool/Equipment Calibration & Maintenance

Burn-on test

- 24h full loaded running - Multiple devices/boards once a time

Ongoing Quality Control

- OOBA Check (Cosmetic & Function) - Traceability Management

Test Instruments



X-Ray Inspection machine



ICT TR8100LLV



High voltage tester



Air tightness test



Shielding box



WT-328 wireless connection tester

Certifications



Use Cases

in multiple industries, well recognized and trusted by customers



Energy



Food Logistics



Retail



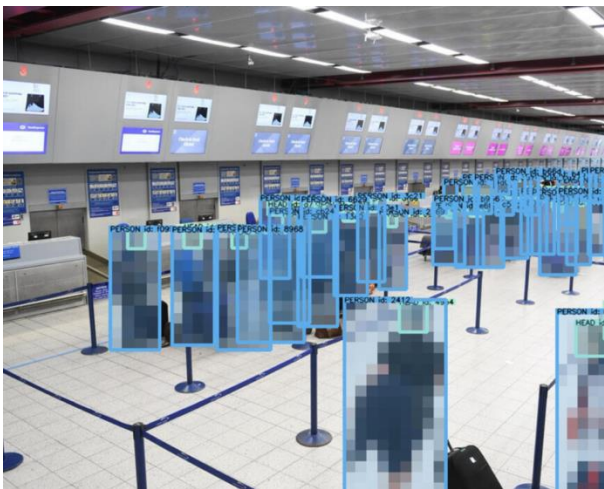
Wind Farm



Security



EV Charging



Airport



Warehouse

Smart Citizen

Deployed in: USA, Mexico, Brazil, Argentina, Chile, Puerto Rico, Colombia and more.

An open source hardware and software platform that enables local citizens to collect data in urban areas. This project contributes to SDG 3, 4, 5, 6, 9, 10, 11, 12, 13, 16, and 17.

FarmBeats for Student Program

Deployed in: Global
This program is to facilitate technological empowerment of young people to learn about AI, Machine learning, and IoT in agriculture. . This project contributes to SDG 2, 10, 4, 1, 5, 9, 8, 6, 7, 12, 11, 13 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.

Marine Litter Detective

Deployed in: Hong Kong
A GPS-tracking device for monitoring marine pollutants, such as plastics and oil spills. This project contributes to SDG 3, 4, 6, 9, 11, 12, 13, 14, 16, and 17.



Code Jumper Kit

Deployed in: USA, Canada, Australia, UK, India
Innovative educational tool designed for students with visual difficulties to enhance their computer coding and programming skills. This project contributes to SDG 1, 4, 5, 8, 9, 10, 16, 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.

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.

Protei - Open Source Ocean Cleaning Robot

Deployed in: Global
This is a wind-powered and automated sailing fleet robot designed to resolve the world's oil spill issues caused by the Deepwater Horizon Disaster in the Gulf of Mexico. This project contributes to SDG 6, 14, 11, 15, 3, 1, 7, 9, 8, 12, 13 and 17.



Thank you!

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