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Seeed Studio has been serving the Pi user community since 2013 and took the lead to join the approved reseller and design partner.

### Timeline:

- **2013.11**: Model B is our first Pi offering. We started our exploration in Pi field.
- **2018.03**: We offer the Pi community everything they need to start experimenting.
- **2021.04**: reTerminal, a Raspberry Pi CM4-powered HMI, marks the beginning of our Pi device adventure.
- **2021.07**: Recognized by the Pi official, we start handling industrial Pi design inquiries. Raspberry Pi CM4-powered reRouter was launched.
- **2022.10**: We keep exploring Pi in industrial applications, and launched our Edge Controller series.
- **2023.03**: reTerminal DM, a CM4-powered industrial-grade HMI was launched. Collaborate with over 35 million Pi users.

Seeed’s Pi–powered Standard Devices
Seeed’s Raspberry Pi–powered Edge Devices

Assist the Most Prosperous and the Largest Edge Maker Community to Serve Diverse IIoT/AIoT Needs
Success Cases

reTerminal DM in Smart Building/Energy Management

Industry: Smart Building

Product: reTerminal DM

Solution Introduction:
A system integrator specializing in smart buildings energy solutions over 15 years is deploying reTerminal DMs with their vertical software system in control room consoles for operator control, connect with external large-screen display.

Location: China

**Success Cases**

**reTerminal and reTerminal DM in Energy Management**

**Industry:** Energy Management  
**Product:** reTerminal, reTerminal DM  
**Solution Introduction:**  
An innovation solution provider specialized in energy management used reTerminal and reTerminal DM as additional safety controllers. They work as an additional redundant system to ensure the company's product is meeting safety and regulatory requirements. In these systems, reTerminals are also in charge of reporting relevant information to the cloud and using the LTE capabilities to report in events of power outages.  
**Location:** Germany
Success Cases

reTerminal DM in Manufacturing/AI Detection

**Industry:** Manufacturing/AI Detection

**Product:** reTerminal DM

**Solution Introduction:**
A solution provider designing and developing deep learning technologies-based inspection systems for manufacturers deploys reTerminal DM as the HMI for their AI vision system. The system is utilized for pattern manufacturing and inspection during the mass production process, with a particular focus on improving the efficiency of defect detection and assembly verification.

**Location:** Canada
Success Cases

reTerminal DM in Manufacturing

**Industry:** Manufacturing

**Product:** reTerminal DM

**Solution Introduction:**
A Canadian company specialized in manufacturing has deployed reTerminal DM in their telemetry system to assist the customers. In this system, reTerminal aggregates various sensor readings over BLE and works as an HMI. It records the sensor data and subsequently transmits the recorded data to the cloud through a cellular connection.

**Location:** Canada
reTerminal DM in Crane Production Industry

**Industry:** Crane Production Industry

**Product:** reTerminal DM

**Solution Introduction:**
A German company in crane production industry deployed reTerminal DM to update work stations in their plant. The reTerminal DM runs a Python application that connects to an MSSQL database and displays production information, even in industrial harsh conditions.

**Location:** Germany
Success Cases

**reTerminal DM in Mining Industry**

**Industry:** Mining Industry

**Product:** reTerminal DM

**Solution Introduction:**
A mining company is using reTerminal DM for safety distance detection and warning for mining trucks. When people or vehicles approach the mining trucks, the system alerts the drivers. The reTerminal DM serves as a LoRaWAN gateway, receiving UWB signals and mining truck GPS positioning to determine the distance between individuals and the trucks.

**Location:** Danmark
reTerminal DM in Healthcare

Industry: Healthcare

Product: reTerminal DM

Solution Introduction:
A system integrator in healthcare is using reTerminal DM as the tablet for healthcare staff to handle various operations such as registration, login verification, testing, and view health testing results, as well as manage health data by scanning the QR code.

Location: China

Success Cases

reTerminal and reTerminal DM in Event Photograph

**Industry:** Event Photograph

**Product:** reTerminal, reTerminal DM

**Solution Introduction:**
PhotoNodes from the USA uses the reTerminal and reTerminal DM as mobile and stationary kiosk/print servers separately at live events. Photos that have been taken by the photographers are available for viewing and printing on kiosks connected to the reTerminal servers on site. The reTerminals act as both a local access point for the camera to connect to and also connects to the web application where the photos are ultimately stored.

**Location:** United States

reTerminal DM in Smart Office/Access Control

**Industry:** Smart office/Access Control

**Product:** reTerminal DM

**Solution Introduction:**
A system integrator operates in the smart office industry over 20 years is using reTerminal DM for Biometric time and attendance record and access control at office. And in the next cooperation phase would integrate the fingerprint scanner and also touch keyboard there in reTerminal DM as the customization solution.

**Location:** Australia

**Industry:** Smart Building/ Energy Management

**Product:** EdgeBox–RPI–200

**Solution Introduction:**
A Chinese company has employed EdgeBox–RPI–200, gateways, and field sensors to overcome the challenge of managing lighting and temperature in an energy–efficient way. The system has been implemented in approximately 10 classrooms in China and has had a positive impact on the health of students.

**Location:** China

Seeed's Pi-powered ODM Service
Seeed’s ODM Services based Raspberry Pi–powered Devices

We are ready and have had successful experiences to bring product concept to market with our industrial capabilities from design, manufacturing, testing, certification, global distribution and marketplace.

### From Product Concept to Market

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### Featured Product Design Reference

**reTerminal DM**

Open Block Diagram

A Panel PC, HMI, PLC, IoT Gateway all-in-one device powered by Raspberry Pi CM4, with "10" IDES: front panel and e DI Industrial Interface, natively integrated with Node-RED

- Buy reTerminal DM for Prototype
- Customize reTerminal DM

**Custom Design reTerminal DM, Powered by Raspberry Pi CM4**
Industry: Smart Packing

Product: reTerminal

Solution Introduction:
Our client has been operating end-to-end packing systems at several large fruit packhouses in South Africa, customizing packaging and labeling semi-robots. They have been using customized reTerminals as the smart labeling HMI at large fruit packhouses.

Location: South Africa

Learn More: https://www.seeedstudio.com/blog/2022/10/08/odm-services-for-smart-packing-the-reterminal-for-semi-automated-packhouse/
Industry: Water Management

Product: reTerminal

Solution Introduction:
A system integrator in SCADA and automation solutions is using reTerminals as the HMI and embedded serve in Remote Terminal Unit (RTU) system for flood mitigation and pump control systems.

Location: Malaysia

[ODM SERVICE] reRouter in Security

**Industry:** Security

**Product:** reRouter

**Solution Introduction:**
A US-based company Patrolio deployed a reRouter–powered security solution together with its active deterrence IP Camera and security monitoring service, ensuring a more intelligent and responsive neighborhood.

**Location:** USA

[Learn More](https://www.seeedstudio.com/blog/2023/06/08/a-safer-tomorrow-rerouter-is-enhancing-security-monitoring-solution/)
Industry: Forest Monitoring

Product: reRouter

Solution Introduction:
A data security-focused software system integrator utilized reTerminal and our Raspberry Pi-based ODM service to enhance their forest management software for end customers. With the help of reTerminal, rangers are able to remotely control cameras, capture photos, and receive image transmissions. These images are then stored on the reTerminal's SD card or eMMC for later analysis at the data center.

Location: Indonesia
More Explorations and Innovations
More Pi–based Co–create Partnerships

Creator: Flavio Ansovini – an enthusiast of electronics
Solution: Stunning Öchin CM4 board based on Raspberry Pi CM4

Creator: Villmer – the founder of POP
Solution: DIY Portable 360 ° virtual reality camera based on Raspberry Pi CM4