

# Choosing a Platform

Comparing MeshCore and Meshtastic to help you decide which to use.

- [MeshCore vs Meshtastic](#)
- [MeshCore vs Meshtastic: Quick Decision Guide](#)

# MeshCore vs Meshtastic

Two open-source protocols dominate the LoRa mesh networking space: **MeshCore** and **Meshtastic**. Both run on similar hardware, both are free, and both accomplish the same basic goal - but they make different design choices that affect performance, battery life, and network behavior. Both firmwares are free and open source; the official MeshCore phone app is freemium, with some optional features (such as certain T-Deck capabilities) behind a paid unlock.

## Side-by-side comparison

Characteristic	MeshCore	Meshtastic
<b>Message routing</b>	Path discovery (targeted delivery)	Managed flooding for broadcasts (nodes suppress redundant rebroadcasts); since v2.6, direct messages use next-hop routing
<b>Battery life</b>	Depends mostly on the board (nRF52 boards last far longer than ESP32) and settings; both firmwares support low-power operation	
<b>Private messages</b>	End-to-end encrypted by default	Channel messages AES-256-CTR encrypted (shared PSK); per-pair public-key (PKI) direct messages available since v2.5
<b>Network load</b>	Low - messages go where needed	Higher - broadcasts are rebroadcast by multiple nodes (with suppression of redundant rebroadcasts)
<b>High-traffic behavior</b>	Path-based routing generates fewer rebroadcasts per message than flooding, which can help under heavy traffic	
<b>Community size</b>	Growing	Very large, well-established
<b>App maturity</b>	Actively developed	Mature, polished apps
<b>Interoperability</b>	MeshCore devices only	Meshtastic devices only

## Which should you choose?

There is no universally correct answer - it depends on your situation:

- Choose **MeshCore** if you prioritize battery efficiency, privacy by default, and intelligent routing that scales better as the network grows.

- Choose **Meshtastic** if you want a large existing community, more polished apps, more device support, and easier initial setup for beginners.

MeshCore and Meshtastic devices **cannot communicate with each other** - they use different protocols. If you want to connect with others in your area, find out which platform your local community uses first.

## Compatibility note

Most popular LoRa hardware (Heltec, LilyGo, RAK, etc.) can run either firmware. You are not locked in by hardware - you can reflash a device to switch platforms if you change your mind.

# MeshCore vs Meshtastic: Quick Decision Guide

The two dominant LoRa mesh platforms - MeshCore and Meshtastic - are both excellent but designed for different priorities. Here's a quick guide to choosing the right one for your situation.

## Choose Meshtastic If...

- **You're new to mesh networking** - Meshtastic has a larger community, more documentation, and a more polished smartphone app experience for beginners.
- **You want the largest existing community** - Meshtastic nodes are deployed in many major North American cities - check a community node map for your area before assuming coverage. If people near you are already on mesh, they're probably on Meshtastic.
- **You have mixed hardware** - Meshtastic supports SX1276 and SX1262 chips. MeshCore primarily targets SX1262-based boards, but also supports several SX1276 boards (e.g., T-Beam SX1276, Heltec V2, T3-S3 SX1276) - check the MeshCore flasher device list. Some older boards have better support on Meshtastic; very old boards (such as the T-Beam v0.7) may be unsupported by both.
- **You want smartphone-centric operation** - The Meshtastic Android and iOS apps are polished and full-featured. Direct messaging, position sharing, and node management are all handled from your phone.
- **You want IoT sensor integration** - Meshtastic's Telemetry module has broad sensor support and MQTT bridge capability for home automation integration.

## Choose MeshCore If...

- **You're building a private, managed community network** - MeshCore room servers store posts and deliver up to the last 32 unseen messages when a client logs in - something Meshtastic channels do not offer. Recent firmware also adds access control (ACLs).
- **Scalability and routing efficiency matter** - MeshCore's path-based routing uses fewer rebroadcasts per delivered message than Meshtastic's flooding, which can reduce airtime congestion as networks grow denser.

- **You want strong encryption by default** - MeshCore uses ECDH key agreement between node identity keys to derive a pairwise shared secret for direct messages. Each conversation pair has its own encryption key derived from the two nodes' identity keys.
- **You're deploying emergency communications infrastructure** - MeshCore room servers store messages so intermittently-offline users can retrieve recent history (up to the last 32 unseen messages) when they reconnect. Note there is no end-to-end delivery guarantee over LoRa.
- **You have nRF52840-based hardware** - nRF52840-based boards (RAK4631, Heltec T114, T1000-E) are popular MeshCore choices because of their low power draw.

## The Honest Reality

Both platforms work well for basic mesh communication. The differences matter most at scale and in specific use cases. Some communities run both - Meshtastic for public-facing nodes and community discovery, MeshCore for private infrastructure coordination.

If you're unsure, start with Meshtastic. You can run MeshCore on additional nodes as a separate network alongside (not joined to) your Meshtastic mesh - the two protocols do not interoperate on the same mesh. The hardware investment for a second node is modest (\$30-50).