

Superpower
validator
nodes with a
custom radio
interface



Ethereum Lora



SUPPORTED BY:

**ETHEREUM
FOUNDATION**

Run a Node Grants
Round 2023



2.6 billion people/33%
global population
without access to the
internet (ITU '23 report)

**Rural areas of the
world are still
excluded from
internet access**

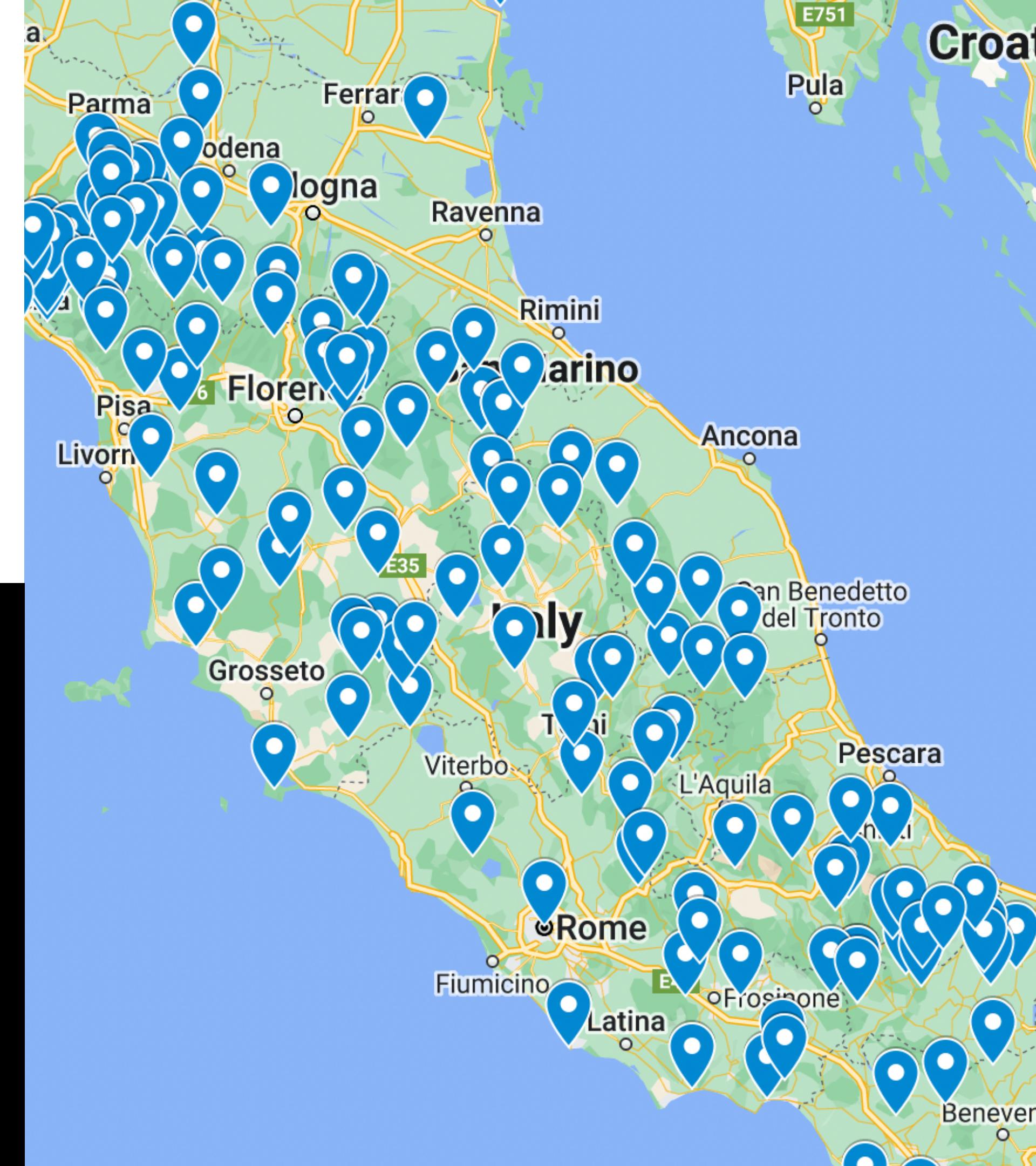
France

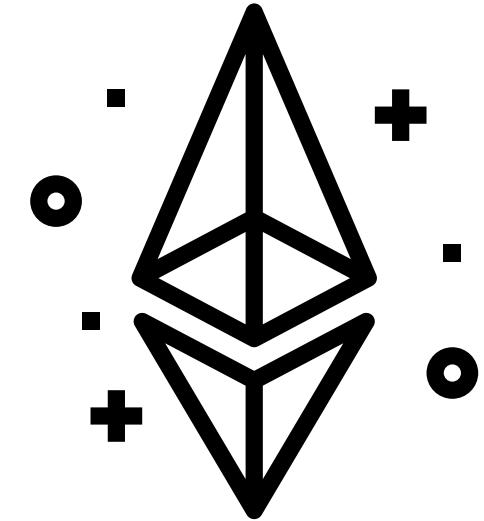
GSM and Internet connectivity are still a major issue



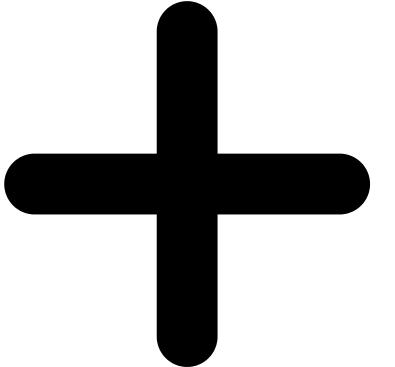
Italy

GSM and Internet connectivity are still a major issue

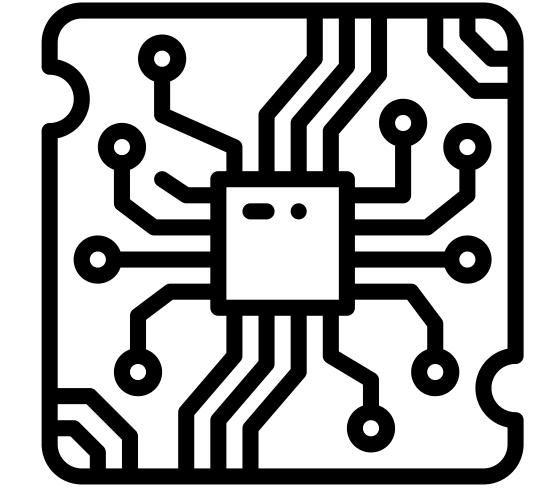
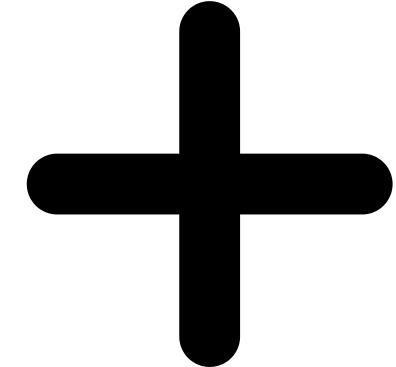




RPC Node



Radio



Adapter

how

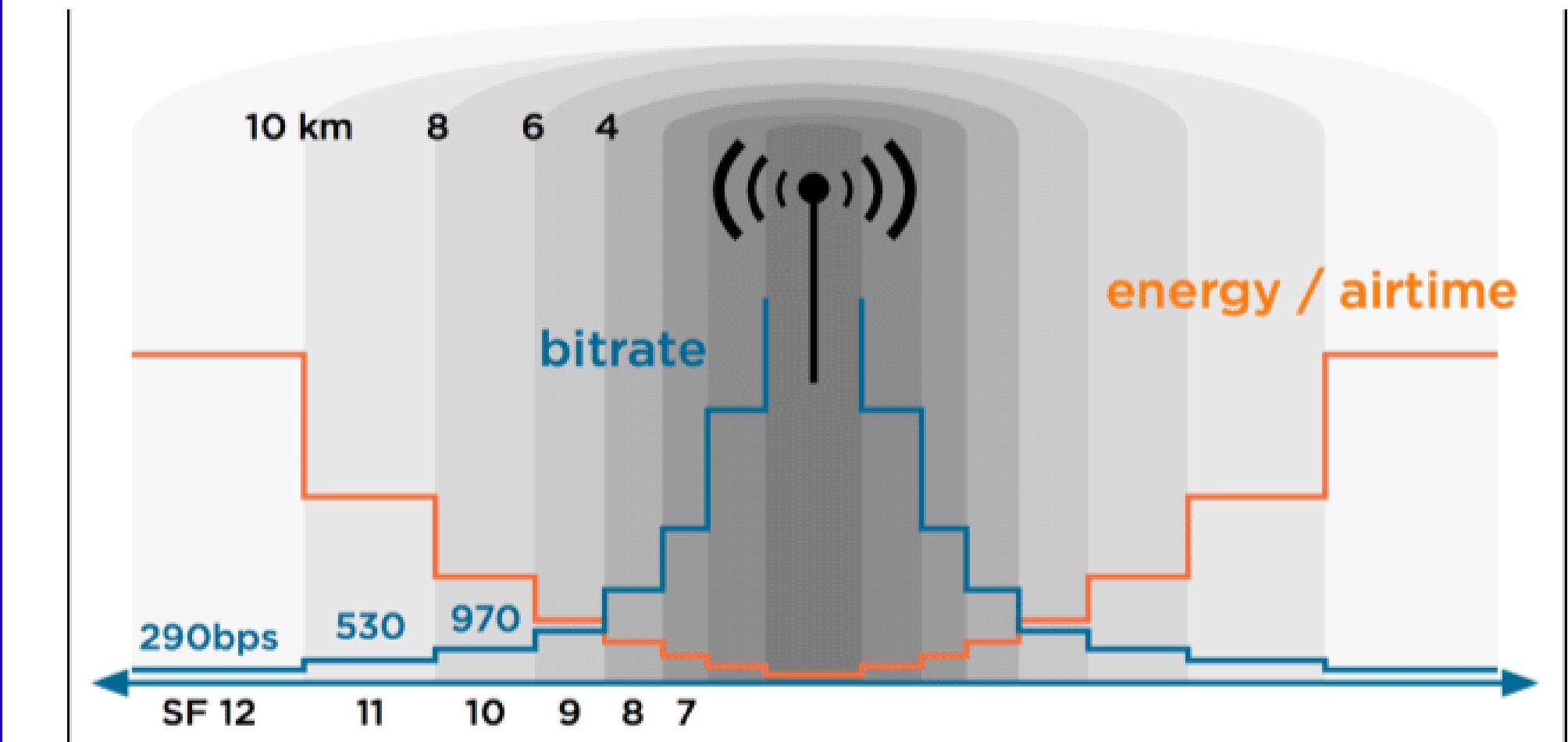
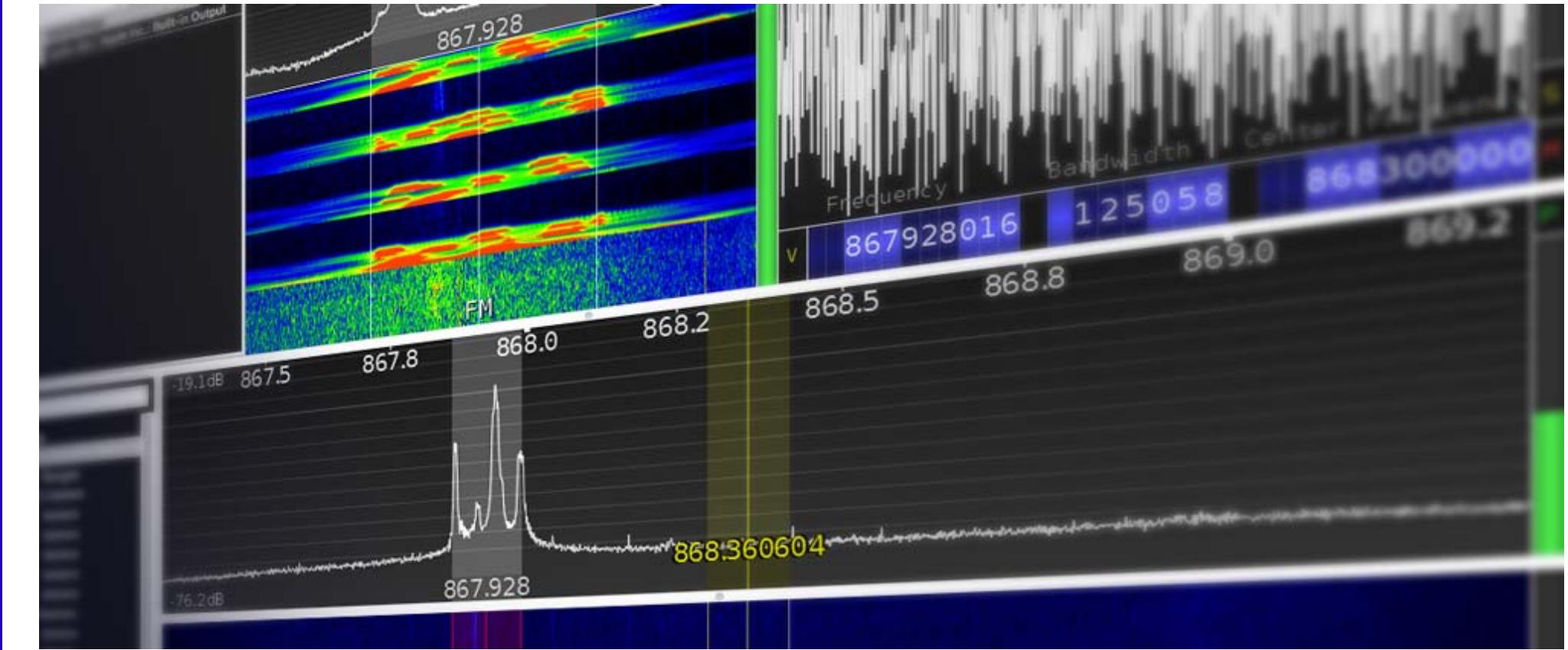
Connecting Ethereum light
and full nodes to users for
under \$30 without the need
for a ham radio license

A portable radio interface
for Ethereum nodes to
provide a radio
connection where
cellular or wifi are not
available

diy

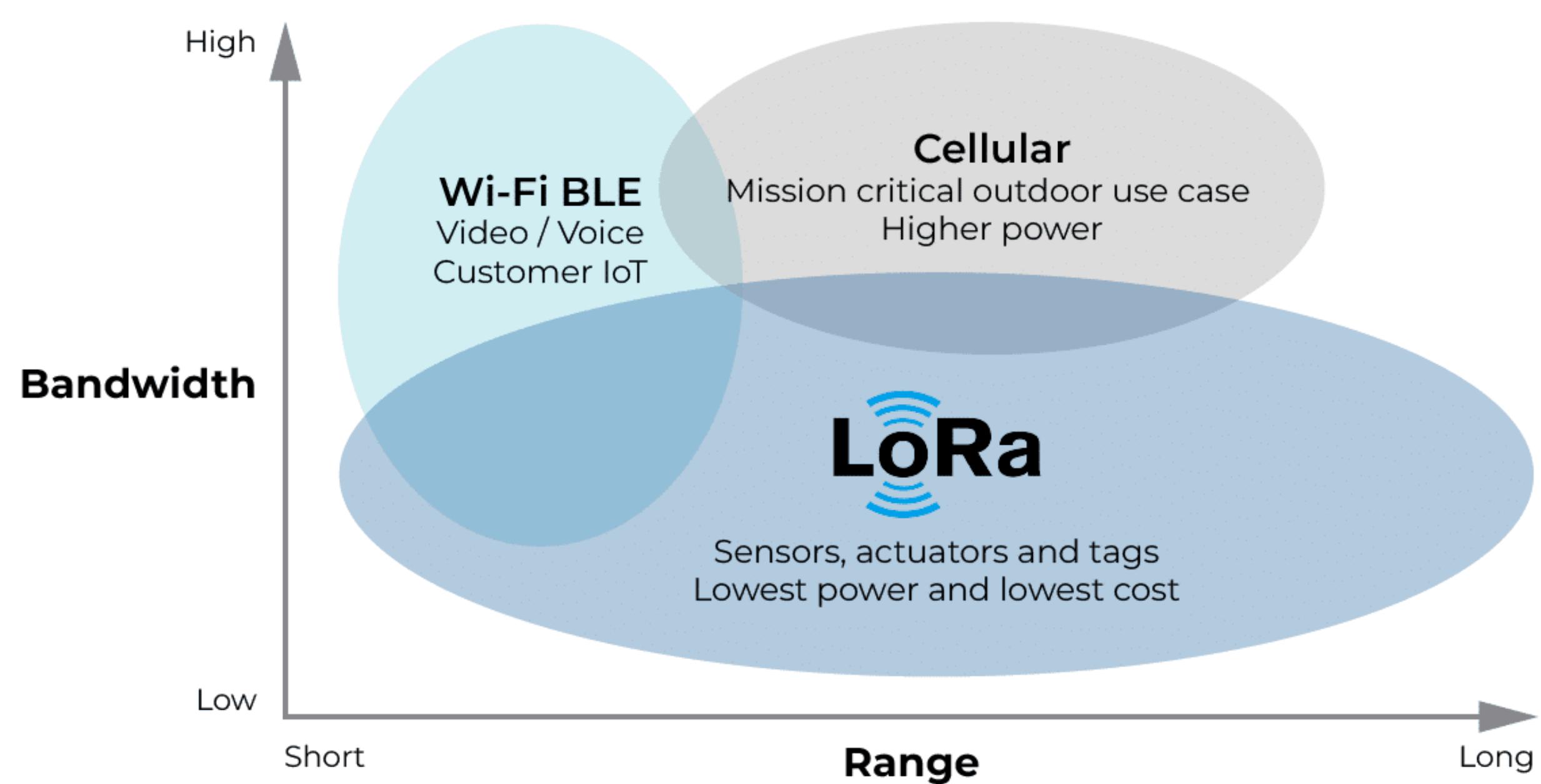


Using LoRa, a long-range and low-power communication protocol, the module can achieve **up to 100km** (in rural areas) or 5km (in urban areas) and 2.4kbps in uplink **with 100mW** or less of transmitted power



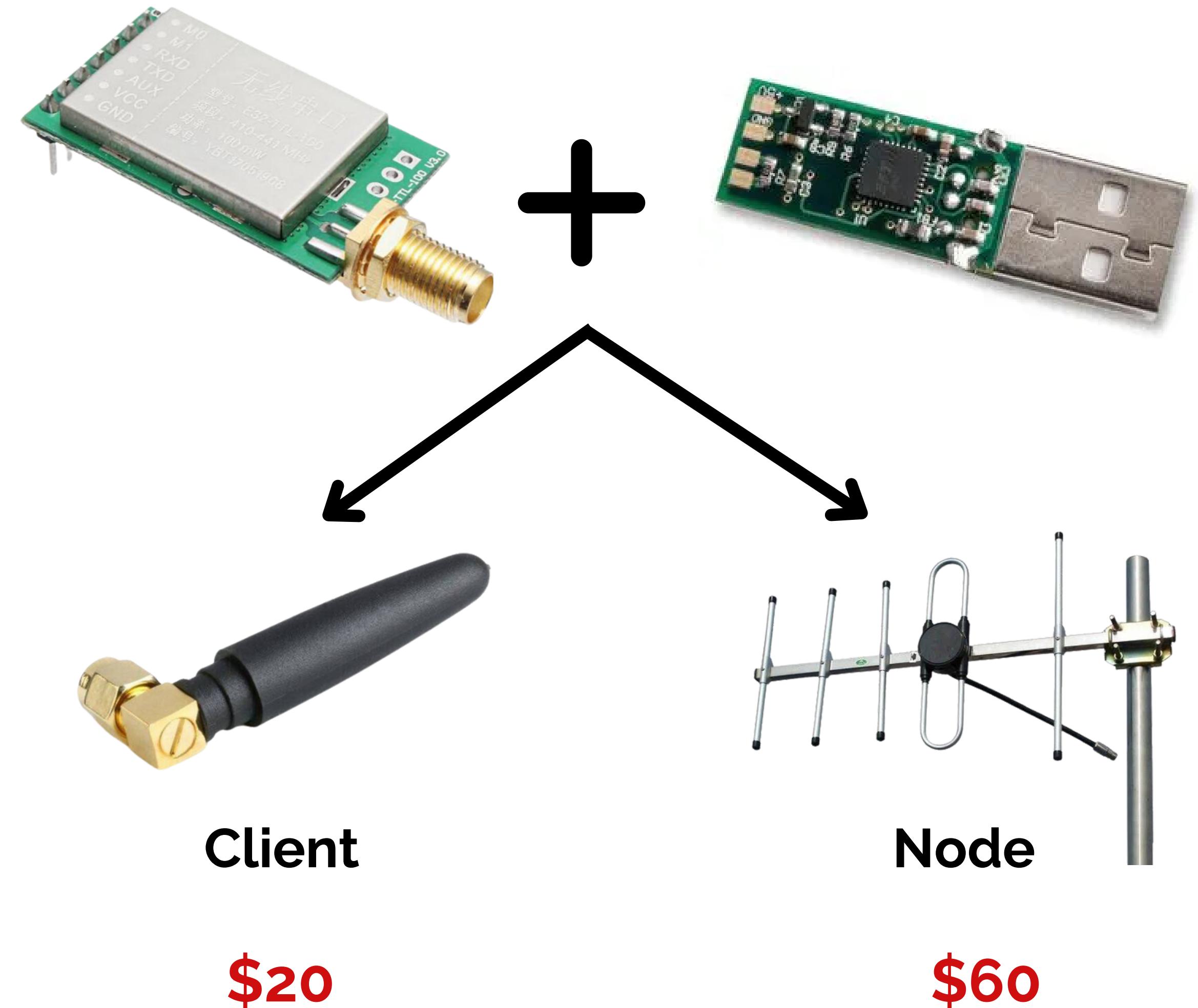
Uses the legal
and free ISM
band, one
node can
cover a small
town

| Region | Frequency (MHz) |
|---|------------------|
| Asia | 433 |
| Europe, Russia, India, Africa (parts) | 863-870 |
| US | 902-928 |
| Australia | 915-928 |
| Canada | 779-787 |
| China | 779-787, 470-510 |



Minimal costs for
the user and for
the node operator

The fiberglass or
a Yagi antenna
(8dbi gain) are
recommended for
outdoor usage.



Thank You



Build your own
or peek into
the codebase

