

Lacuna Space Technology Partner Programme

September 2020

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Join our ecosystem

We work with the IoT ecosystem to extend their market reach, while seamlessly integrating with existing networks and technology.

Our primary focus is the provision of connectivity, transferring data from end user devices to their existing IoT servers, on the cloud or the customer's premise.

We work with partners on end user devices. Open sourcing the reference designs for devices on our network, based on the LoRaWAN® standard.

Why satellites?

Asset tracking, utilities, agriculture or environmental monitoring need continuous connectivity Everywhere!

Satellites provide global outdoor coverage, enabling business cases that are not possible with gateways or base stations on the ground.

Offering a single network wherever on the globe and across your territory. Recent advances in low cost and miniaturised satellite technology has made IoT service from low earth orbit accessible and affordable.



Lacuna Space: Key Benefits



Secure

Standard LoRaWAN
Encryption
Authentication

Use of Hardware Secure
Elements

Integration with private
cloud hosting

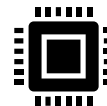


Easy Deployment

Small, battery powered
devices - running for years

Direct LoRa transmission
from device to satellites
Or small relay for indoor /
underground coverage

Works "out of the box"
No need to install and
maintain a Gateway



Easy Integration

Standard LoRa electronics
Small off-the-shelf antenna

Data delivered directly to
LoRaWAN servers

Seamless roaming
with terrestrial LoRaWAN
Same device

Constellation

Connection Frequency over the satellite network:

2025: every 5 minutes

2022: > 8 per day

2021: > 4 per day

**2020: > 2 per day
(evaluation service)**

A Lacuna device can also transmit over a public or private terrestrial network



Low Earth Orbit

Every satellite in the constellation rotates around the earth every 100 minutes, “revisiting” every location a couple of times per day.

During every connection with a satellite a device can send one or more LoRa® messages

The maximum message payload size (i.e. data excluding the headers) is 45B - 125B depending on local operational conditions



Devices

What do you need?

1) Small off-the-shelf right-hand polarized antenna.

Source from suppliers online or develop your own.

2) Device protocol stack.

We will open source our reference software libraries.

3) Standard LoRa components. Modules based on Semtech SX1261/2 or LR1110 recommended.



GitHub



Who is it for

Connectivity, Hardware and Software companies that will use or integrate with the Lacuna Space Network

Service Providers

IoT Integrators

Network Operators

IoT Solution Providers

(Cloud) Infrastructure Providers

Technology Developers

Device manufacturers

Antennas

Electronic Boards and Modules

Firmware

Software Interfaces

Machine Learning

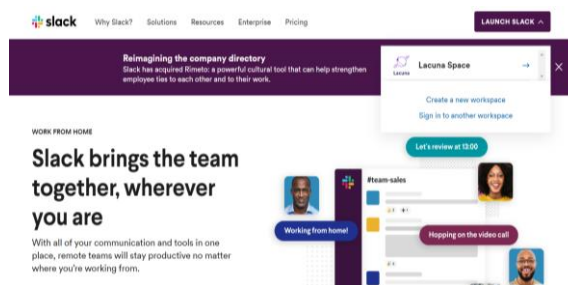
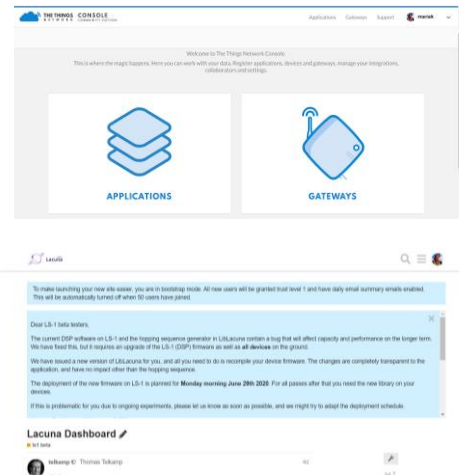
Makers

Benefits of the Lacuna TPP

- ✓ Development of LoRa based compatible products and services over satellite
- ✓ Early Access to Development Hardware and Reference designs
- ✓ Early access to Software Libraries and participation in their Development
- ✓ Free unlimited testing over the satellite network
- ✓ Technical Support during development and deployment
- ✓ Extend your marketing reach – demonstrate Leadership in your sector or territory by providing LoRaWAN Everywhere!
- ✓ Eligible for our Certification Programme and Distributor Partnership

Tools and Support during the TPP

- Device registration, traffic visualisation and application integrations over *The Things Network Console*
- Community support through our *community forum on Discourse*
- Direct Technical and Marketing support with your dedicated *company slack channel and/or email*
- Satellite network management over the Lacuna Space Dashboard (in beta release)



Partner role in the TPP

Our Technology Partner Programme is free to join!
We expect however a reciprocal support, development effort and promotion.
To grow our businesses and offer LoRa connectivity Everywhere, together!

- ✓ Develop products, use cases, case studies and deployments using the Lacuna Space Network
- ✓ Provide feedback and help us resolve any issues
- ✓ Contribute to our developers forum and share best practices
- ✓ Joint promotion of products and services through your sales networks

And Your ideas!!