



ONOMONDO IOT TECH STACK

The infrastructure behind **every** connection.

How Onomondo builds, owns, and operates the connectivity layer that powers IoT at scale, globally.

onomondo

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Why Onomondo

We know this space

From the beginning, our purpose at Onomondo has been to clear the way for progress in IoT. We know this space intimately, and we know how unforgiving it can be. Devices go dark in the field, with no clear way to understand why. A dashboard shows a green light, but no one can say with certainty whether the device is truly connected. A roaming bill arrives 40% higher than expected, and the source of the cost is impossible to trace.

The old world treats this as normal. We do not.

The reality is that IoT teams are still forced to fight the same three battles every day: scaling globally, seeing the critical data points that determine whether their devices are still performing as they should, and staying in control of their cost.

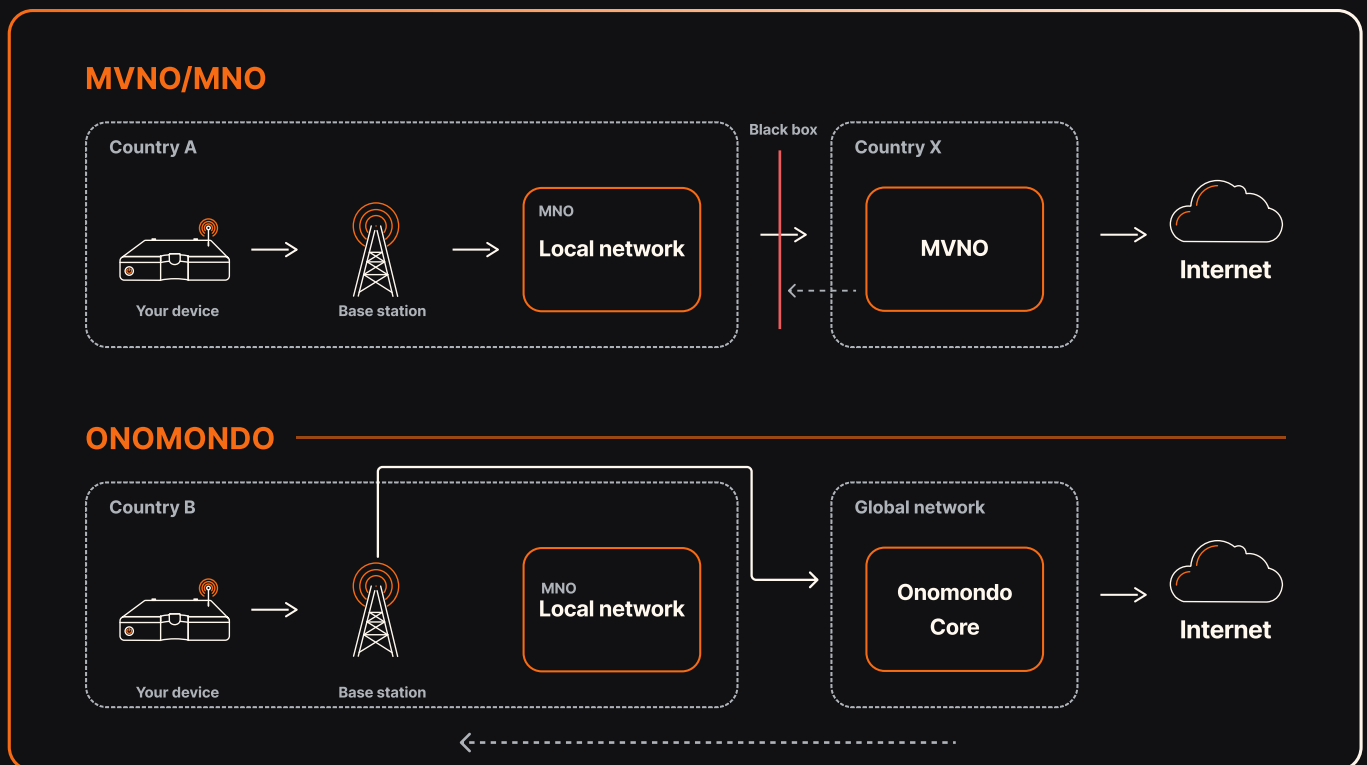
We built Onomondo to change that reality.

The Foundation: Our Own Core Network

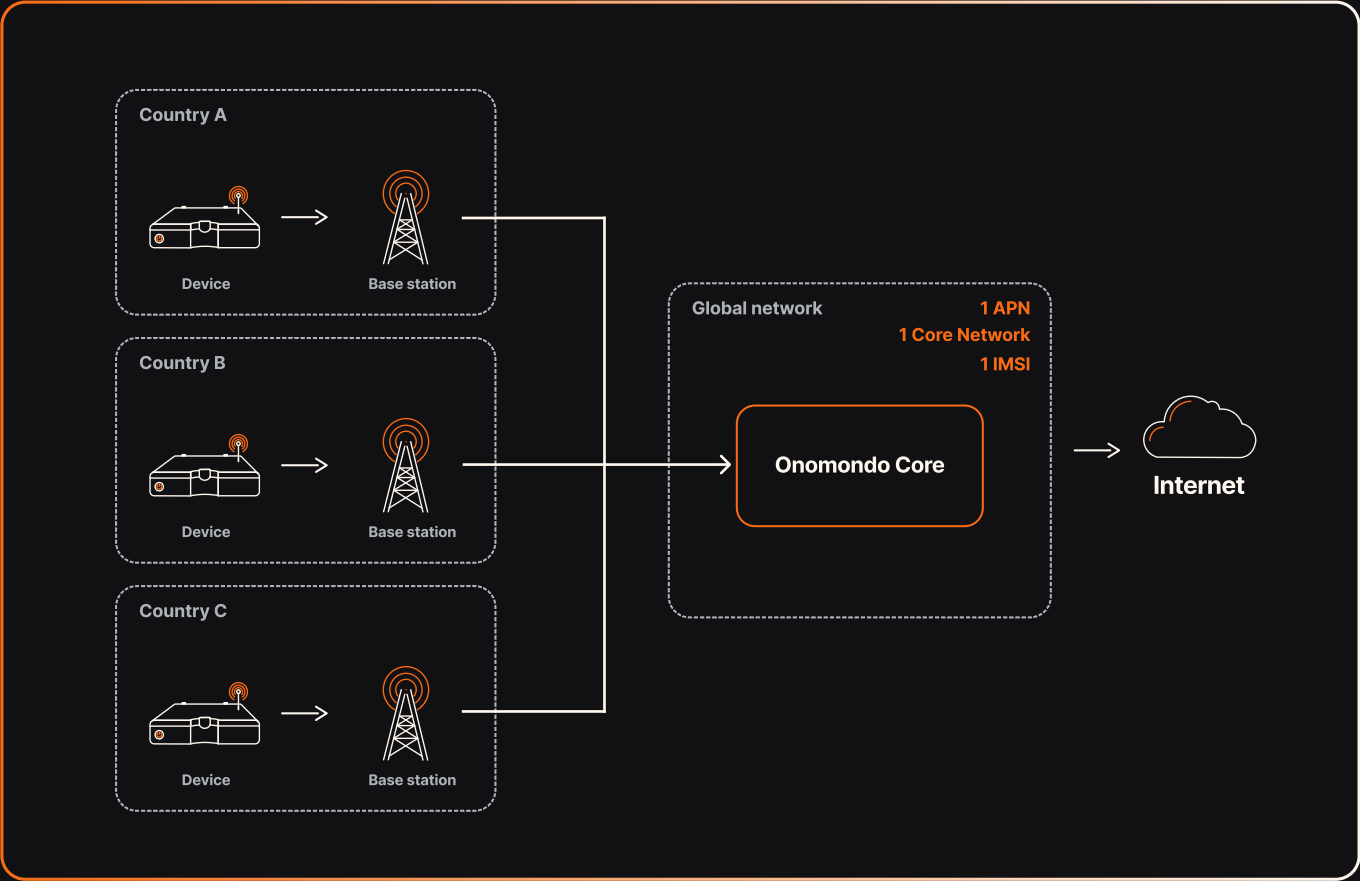
Most connectivity providers, whether a global MNO or a reseller, share one thing in common: they keep the network to themselves. You get connectivity. They keep the data, the visibility, and the control.

Every limitation our customers have ever hit traced back to the same root cause. The network was a black box, and they were not able to opening it up.

We decided to fix that at the source. As a full MVNO, we built and operate our own private core network. We control every signal, every data packet, and every point of failure. No waiting for a third party to tell you what happened. No tickets, no delays, no reports three days later.



The core runs redundant gateways and routers in parallel with active-active failover and capacity provisioned well above peak load, so if any single component drops, traffic reroutes automatically. That is what gives us 99.99% uptime and what gives you real-time access to everything that matters. Because radio access networks (RANs) feed directly into our core, every Onomondo SIM operates on a single global APN. All logic lives in the network, not the hardware. Your SIM keys belong to you. Always.



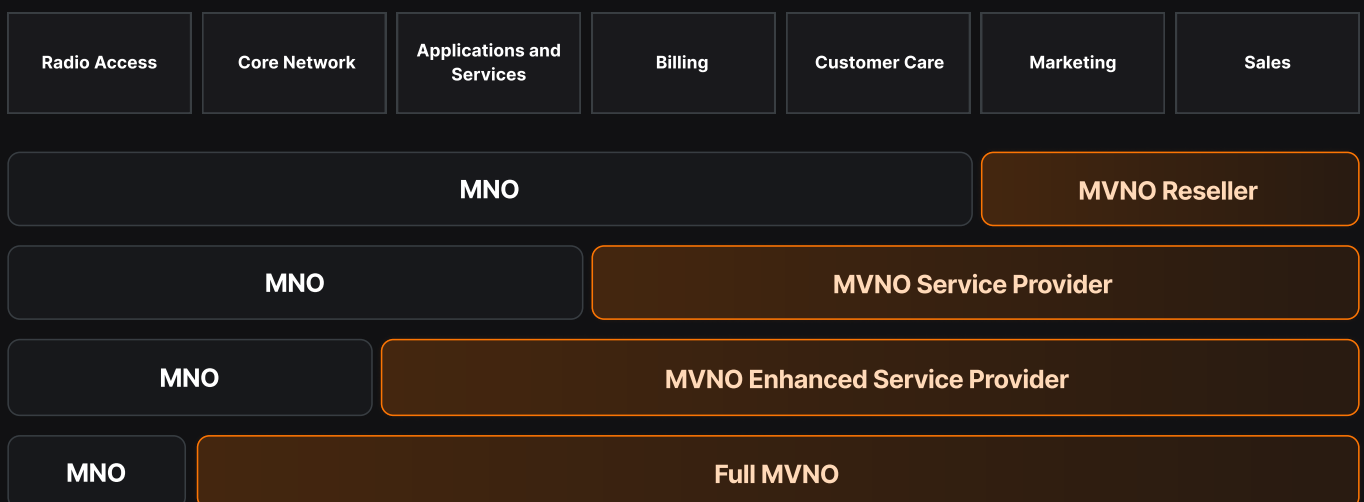
From there, we have built direct integrations with 680+ public network operators across 180+ countries. Not reselling. Everything flows through a network you can see into and trust. This is not just infrastructure. It is the reason everything else in this document is possible.

What we own and operate:

- **ITU-approved Mobile Network Operator (MNO)** managing its own Mobile Country Code (MCC 238) and Mobile Network Code (MNC 73).
- **RIPE-approved Internet Service Provider (ISP)** managing its own IPv4 and IPv6 subnets, which is what lets us give every device a private, static IP off the public internet.
- **A full mobile core network:** GSM/2G/3G (STP, HLR/AuC, SMSC, GGSN) and LTE/4G (DRA/DEA, HSS, PGW), interfacing directly with existing infrastructure.
- **Direct integrations** with 680+ networks across 180+ countries. Not reselling.

Supported by default across the footprint: 2G, 3G, 4G, LTE-M, and NB-IoT, plus 5G NSA (non-standalone).

Because every RAN feeds one globally distributed core, devices attach as "always roaming," so roaming is enabled even within a single country.



THE STACK AT A GLANCE

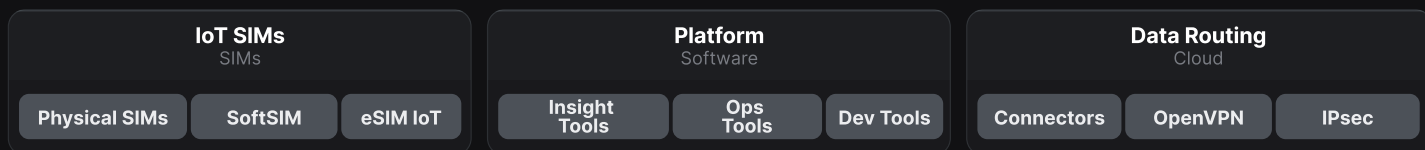
Built to clear the way
for **progress.**

Everything sits on the Core Network and falls into three areas: Our IoT SIMs get a device online anywhere, our platform gives you control and visibility over your data, and data routing capabilities gets the data securely to where it needs to go.

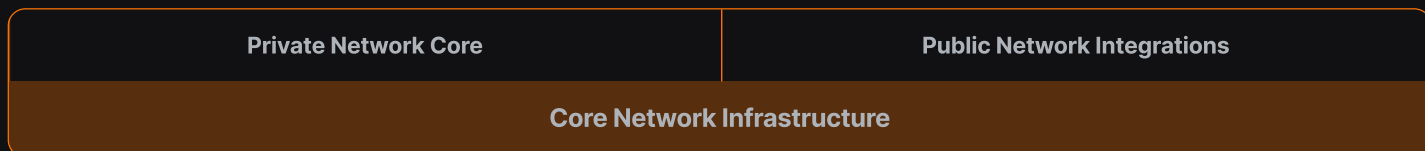
At Onomondo, everything we build is guided by one north star: to make IoT connectivity infrastructure transparent, programmable, and easier to control. So builders can design, deploy, and operate connected products with confidence.

Our Stack

Our Products



Our Infrastructure



A. IoT SIMs

One SIM. One network. One partner.

No matter where your devices are deployed, they connect through a single global network. No juggling carriers, no roaming complexity, no fragmented portals.

Our SIMs are non-steered, meaning your device always finds the strongest available signal automatically, anywhere in the world. .

Physical SIMs

The Onomondo IoT SIM ships pre-personalised with an Onomondo connectivity profile, ready to connect out of the box. No setup, no activation step, no regional customization. It comes in two architectures, so you can match the SIM to the deployment:

UICC is the traditional SIM architecture, and the standard. Credentials are fixed at manufacture, while parameters such as the IMSI can still be updated over the air.

eUICC is an embedded SIM that holds multiple profiles on a single chip (typically 10) which can be downloaded, switched, or deleted after deployment,

Both come in standard form factors: plastic (triple-cut: 2FF / 3FF / 4FF) for devices with a SIM slot, and MFF2, a soldered 5×6 mm chip for permanent PCB integration. Available in standard and industrial grades.

Onomondo SIMs carry no custom applets and no PLMN steering lists. All the logic lives in the network, not the SIM card. Your SIM keys are generated and managed by Onomondo, but they belong to you.

SoftSIM

SoftSIM is a 100% software SIM, and a form factor Onomondo has been paving the way in. There's no chip and no physical card. It's a software implementation of the SIM file system that runs on the device's existing radio module, behaving exactly like a traditional SIM but living entirely in software. Because there's no card, it also removes a breakable component and makes the SIM tamper-resistant.

Why it exists.

The physical SIM is one of the last unnecessary constraints in IoT. It adds a line to the bill of materials, creates logistics and inventory complexity, generates plastic waste, and slows provisioning to the speed of a supply chain. SoftSIM removes all of that.

Open source by design.

The SoftSIM client is an **open-source, C-based UICC implementation**, published so module and device makers can integrate it directly into their firmware. The integration is maintained in a public repository:

github.com/onomondo/onomondo-uicc

The implementation is open source and free to explore and build on. If you want to run it in production, we offer commercial licensing.

Module and silicon partners.

SoftSIM is integrated with leading cellular module vendors so it works as a plug-and-play part of the module rather than a bolt-on

Explore modules and partners: <https://onomondo.com/product/softsim/>

Nordic Semiconductor

Quectel

SIMcom

How it's provisioned.

The profile is flashed onto the module over UART using the SoftSIM CLI tool: github.com/onomondo/onomondo-softsim-cli

Secure by design

A software SIM doesn't mean a softer one. SoftSIM keys are generated and held in the module's secure element (such as a Key Management Unit or ARM TrustZone) that the main processor can't read, and an IMEI lock binds them to the specific radio module, so extracted keys are useless in any other device

Why Onomondo SIMs

One APN

The APN is always onomondo and never customized per device or region. The network selection is then controlled centrally from the platform or API rather than on the device.

Non-steered SIMs

SIMs ship with a blank PLMN preference list, so the modem auto-selects the best available network. That means faster registration and lower power draw. Need to influence selection? Set a Network Preference List, or clear the forbidden-network (FPLMN) list via AT commands.

Pay-as-you-go

You pay only for data your devices actually use, at transparent per-MB rates. No prepaid bundles, no oversized regional plans, no minimums. Cost tracks real usage from test to scale

One SKU

One SIM profile works across the entire footprint. No regional inventory variants, no differentiating devices at manufacture for connectivity. Coverage is shaped via Network Lists in the web app, not by stocking region-specific SIMs.

Magic Mode

SIM activation management is a hidden cost at fleet scale. Magic Mode removes it: SIMs arrive active, but you're only charged when they send data. For fleets active half the time, that's roughly half off per-SIM access fees. No idle fees, no status monitoring.

Freedom to Leave

Your IoT products last years; your connectivity shouldn't be locked in. You own every SIM and its keys, and can switch to any GSMA-certified entity over the air. No swaps, no penalties, no lock-in.

One last thing

You did not get into IoT to manage networks.

You got into it to build something that works, scales, and delivers value. Devices going dark, costs you cannot explain, networks you cannot see into. None of that should be part of your story.

We built Onomondo so it does not have to be. And we stay in the room to make sure it is not. Every product we ship, every feature we build, every customer we work with comes back to one commitment: making sure you get the full benefit of what we have built together.

IoT is hard. With Onomondo, the infrastructure gets out of your way.

The fastest way to understand Onomondo is to put a SIM in your device and open the platform.

- **Request test SIMs / a technical walkthrough:** onomondo.com/contact
- **Technical documentation:** docs.onomondo.com
- **Knowledge base:** help.onomondo.com
- **General:** hello@onomondo.com · onomondo.com

Onomondo is the programmable IoT connectivity infrastructure that clears the way for teams to build, deploy, and operate connected products. Headquartered in Copenhagen, Denmark.