

Join the Movement: Aduna and the Future of Programmable Networks





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Who we are and what we aim to achieve

Launched in September 2024, Aduna is set to revolutionize the 5G Network API market by combining and selling APIs worldwide. A joint venture between leading Network Providers and Ericsson, Aduna brings together and sells standardized APIs on a global scale — unlocking a new era of application innovation. With a focus on ease of use and interoperability, developers can now build experiences that work seamlessly across any network, dramatically accelerating time-to-market and simplifying global deployment.

Built on CAMARA industry-standard APIs, Aduna provides a unified platform that fosters collaboration, fuels innovation, and drives growth across the ecosystem. It's more than just a marketplace — it's a movement to industrialize and commercialize network capabilities for the digital age.

The network API market within the network provider sector is projected to unlock significant revenue streams over the next five to seven years. According to McKinsey's January 2025 report, "Definitely, Maybe... State of the NW API Market", direct monetization from APIs is expected to contribute around \$10 billion and enhanced connectivity services \$70 billion by 2030.

Aduna represents a powerful convergence of players who traditionally operate independently. By aggregating APIs and aligning incentives across the ecosystem, Aduna is positioned to play a pivotal role in realizing the full commercial potential of 5G.

Who we are and what we aim to achieve

Aduna, defined

Revolutionize telecom accessibility

Our aim is to democratize access to advanced network capabilities — making them globally available to developers and simplifying integration across industries.

- **Simplify integration & drive efficiency**

By aggregating APIs from multiple Network Providers, we streamline operations, reduce complexity, and enable seamless innovation — unlocking new levels of efficiency across the telecom ecosystem.

- **Unlock new revenue streams**

We are building a powerful innovation platform designed to fuel societal progress and open up new revenue opportunities for telecom operators.

- **Foster (5G) innovation**

Through Network APIs, we tap into the full potential of 5G — driving next-generation use cases and accelerating industry-wide transformation.

- **Cultivate a global ecosystem**

We're bringing together hyperscalers, CPaaS providers, global system integrators (GSIs), large digital natives (LDNs) and independent software vendors (ISVs) to create a global platform for collaboration, growth, and adoption.

- **Expand developer reach**

Our vision is to connect with over ten million developers by 2028 — empowering them to build transformative applications that leverage 5G and Network APIs.

- **A blueprint for future**

The telecom industry has struggled to hyperscale or successfully collaborate. Aduna represents a new model — learning from the past to lay the foundation for future, thriving Telco joint ventures.

Unlocking the full potential of Network APIs requires a global effort

We will only realize the full potential of the 5G Network API market through coordinated global collaboration. While multiple leading network providers, technology partners, and developers have already joined Aduna, scaling this opportunity requires continued momentum — expanding our standardized, global supply of APIs and bringing even more partners, including enterprises, into the fold.

Today's challenges demand a new approach

Outside of Aduna, businesses and developers alike still face significant friction when trying to access advanced 5G network capabilities. The current landscape — fragmented by one-to-one integrations with individual operators — is inefficient, complex, and costly. Enterprises are burdened with region-specific technical differences, bespoke contracts, and limited reach. Developers face inconsistent standards and unclear pathways to scale. Sub-scale aggregators add further confusion without delivering global consistency or enterprise-grade reliability.

Aduna solves this by aggregating network capabilities globally

Aduna eliminates this fragmentation by aggregating network APIs from multiple operators around the world into a single, standardized platform. This dramatically simplifies access — not just for developers, but for global businesses seeking to unlock new capabilities such as Quality on Demand, low-latency services, or location-based intelligence.

Operators retain control and visibility by exposing their APIs through the GSMA Open Gateway framework, built on CAMARA-defined, industry-standard APIs. This harmonization ensures a consistent technical and commercial foundation across markets. Aduna complements this by aggregating those APIs globally bringing them together into a unified experience for developers and enterprises, with simplified onboarding, consistent commercial models, and developer-ready tooling.

Aduna allows integration once, and scale everywhere. Enterprises no longer need to broker deals country by country. They gain a single interface and commercial model to access the global network fabric — reducing complexity, lowering operational overhead, and accelerating deployment timelines.

Unlocking the full potential of Network APIs requires a global effort

Aduna provides more than technical access. It offers a complete ecosystem for innovation: developer tools, onboarding support, documentation, enterprise-grade service guarantees, and a growing partner community. It is the launchpad for entirely new categories of applications.

Network and Developer Partner Platforms gain more than reach

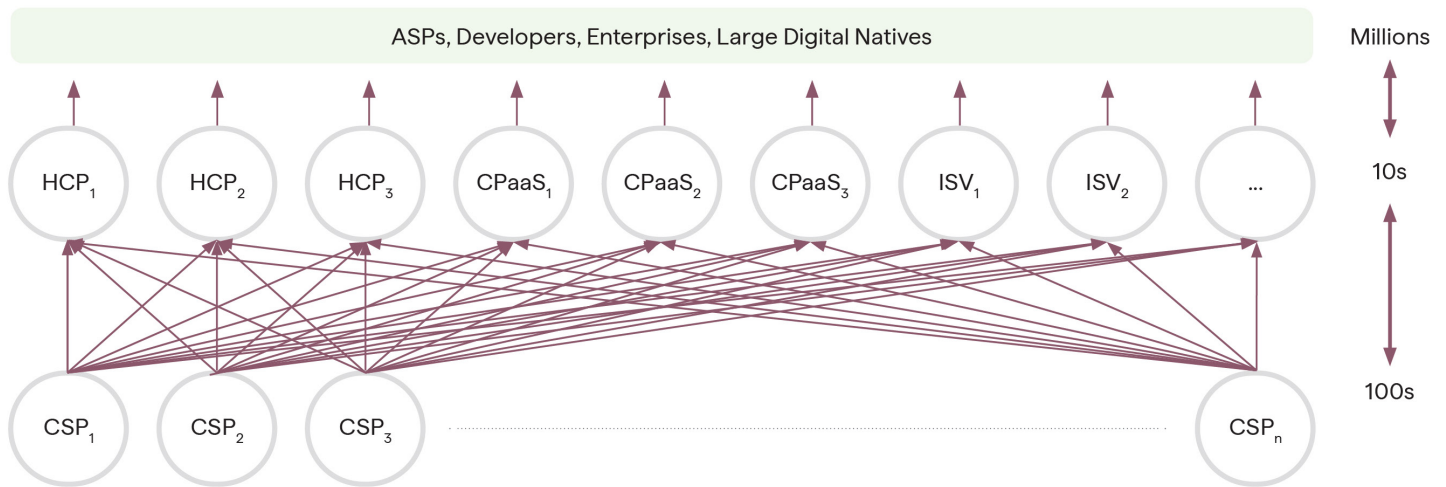
For network providers, Aduna unlocks monetization at scale by connecting their CAMARA-standard APIs to a global developer and enterprise audience. For developer partner platforms such as hyperscalers, CPaaS, GSIs, ISVs, and digital natives: Aduna provides a gateway to differentiated network capabilities that can be embedded directly into digital products and services. By joining Aduna, business leaders gain access to a curated set of powerful APIs across markets — without the cost or complexity of building those relationships independently.

History shows the power of industry-wide alignment

We have seen this story before. The breakthrough of 4G was only possible once global standards aligned enabling seamless roaming through unified frameworks and interconnects. Mobile Connect struggled to scale because it was not standardized on a global scale. Early 4G networks lacked the capabilities to fully support it. The lesson is clear; when industry moves together, transformation becomes possible.

From:

Every developer platform needs to engage with individual CSPs one by one to procure Network APIs, which is slow and complex.



Current ecosystem is suboptimal:

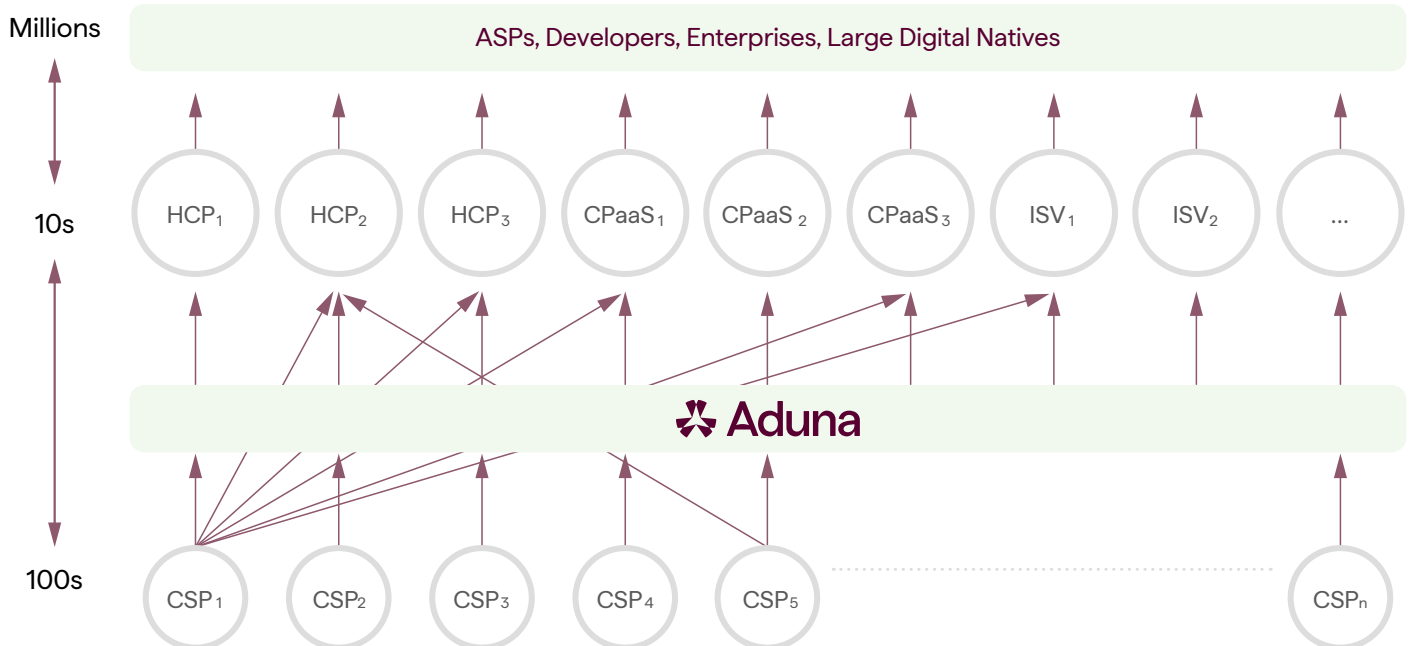
Every developer platform needs to build its own combined layer.

Every developer platform needs to commercially engage with hundreds of CSPs.

Each developer platform needs to manage hundreds of technical integrations, support agreements, billing integrations, and SLAs.

To:

Combined global Network APIs that can strip out the complexity and accelerate innovation.



Aduna will be responsible for:

Engaging as many CSPs as possible and securing APIs.

Combining them into common APIs (CAMARA).

Making APIs readily available to all entities running developer platforms including CPaaS vendors, HCPs, ISVs, SIs, and CSPs.

Nonexclusive and open setup.

Unlocking the full potential of Network APIs requires a global effort

The cycle of innovation: Connecting networks to the next wave of digital experiences

At the heart of today's innovation lies a new class of capabilities known as Network APIs — interfaces that allow applications to directly access and control advanced features within the network. These include services such as Number Verification, Device Location Verification, Quality on Demand and more.

By exposing these APIs, network providers (mobile and fixed-line operators who own and operate the world's connectivity infrastructure) unlock new possibilities for developers and enterprises to build smarter, faster, and more responsive digital services.

As developers leverage these APIs to power new use cases — whether it is seamless video conferencing, dynamic cloud gaming, or industrial automation — demand increases for consistent, high-performance access to these capabilities across networks and regions. This usage signals where and how network providers should invest in additional coverage, latency improvements, edge computing, and service innovation.

This creates a virtuous cycle:

- Network providers expose APIs
- Developers build innovative applications
- Demand grows for advanced network services
- Operators invest in and enhance capabilities
- More powerful APIs become available
- Developers build even more sophisticated experiences

Aduna sits at the center of this loop, enabling the scale and simplicity needed to accelerate innovation. By aggregating standardized APIs from network providers around the globe and making them available through a single platform, Aduna connects the infrastructure layer with the application layer — driving both demand and supply.

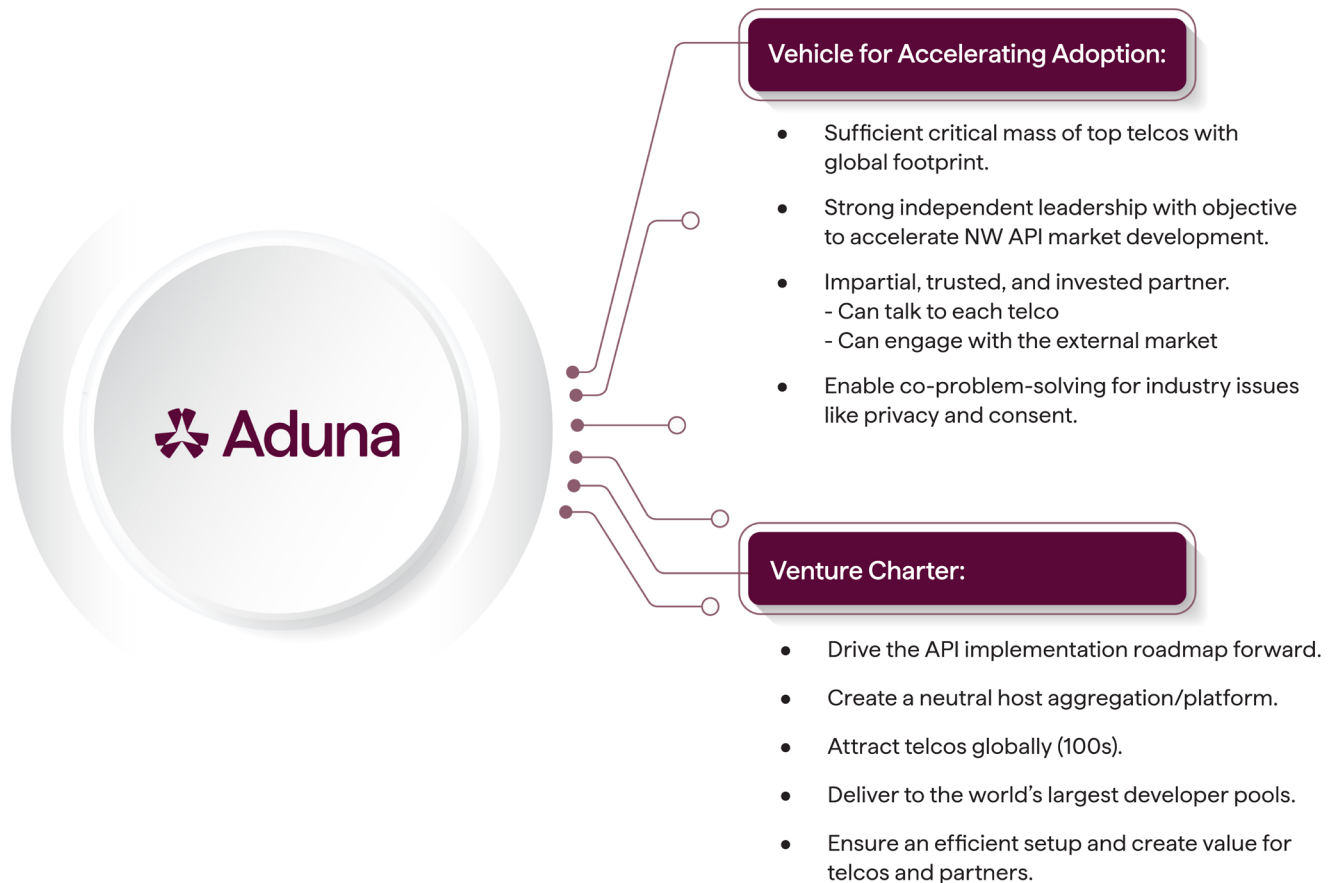
This feedback loop not only strengthens individual players but advances the entire ecosystem, ensuring continuous innovation, broader adoption, and deeper commercial impact.

What we have accomplished since launch

Aduna has made remarkable progress, firmly establishing itself as the global wholesale leader in 5G Network APIs. Key milestones include:

Network Partnerships

The world's leading network providers have already joined the Aduna mission — collectively representing 75-80% of global mobile market coverage (GSMA). This early momentum reflects growing industry alignment and confidence in Aduna's role as the aggregator of choice for standardized network APIs.

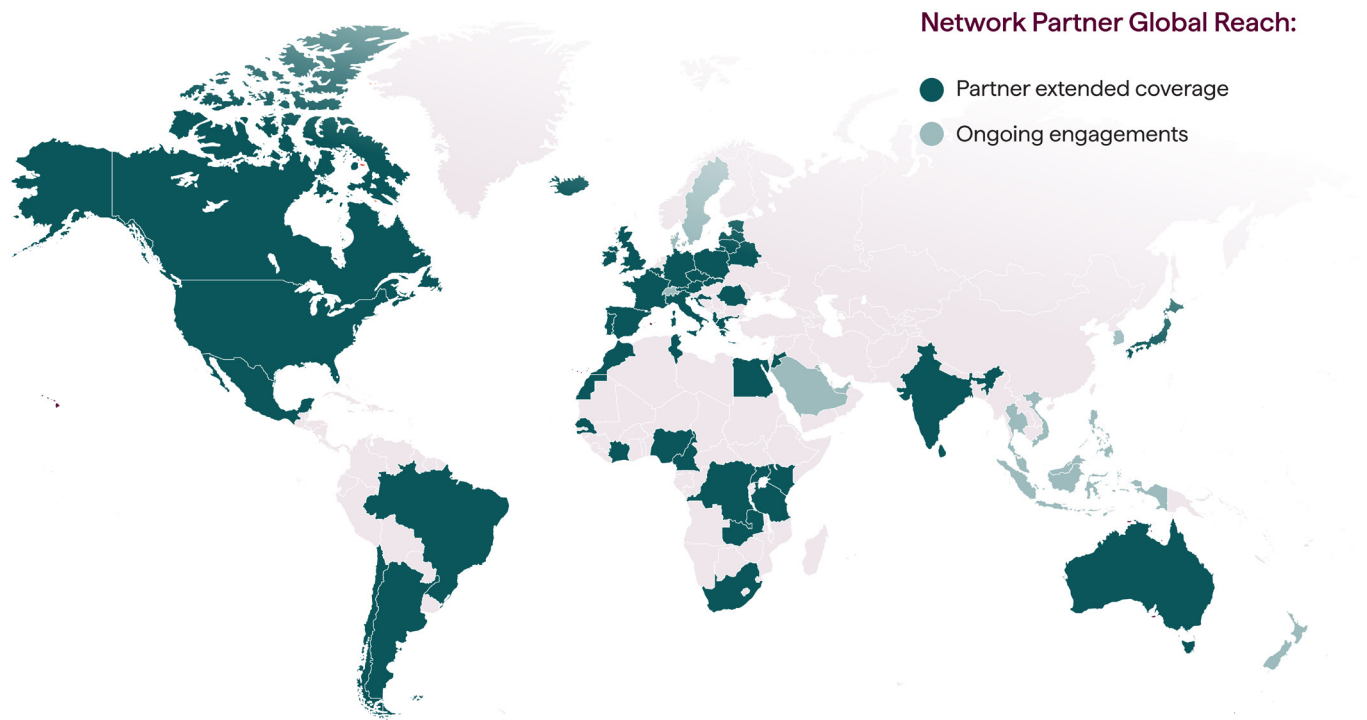


Available 5G Network APIs

We have successfully launched our first commercial use cases in authentication and fraud prevention, demonstrating how telecom networks can deliver high-value, easy-to-integrate services for real-world business needs. These foundational APIs are designed to be accessible for developers and impactful for enterprises — helping improve security, user experience, and operational efficiency.

- **Number Verification:** Validates the accuracy of phone numbers in real time, offering a secure and seamless alternative to traditional SMS-based OTPs for user authentication and transaction approval.
- **SIM Swap Detection:** Identifies recent SIM card changes to help prevent fraud and account takeovers — especially critical in banking, fintech, and identity-sensitive services.

These APIs are now live in Germany and Spain, with plans to expand to more than 20 markets by the end of 2025.

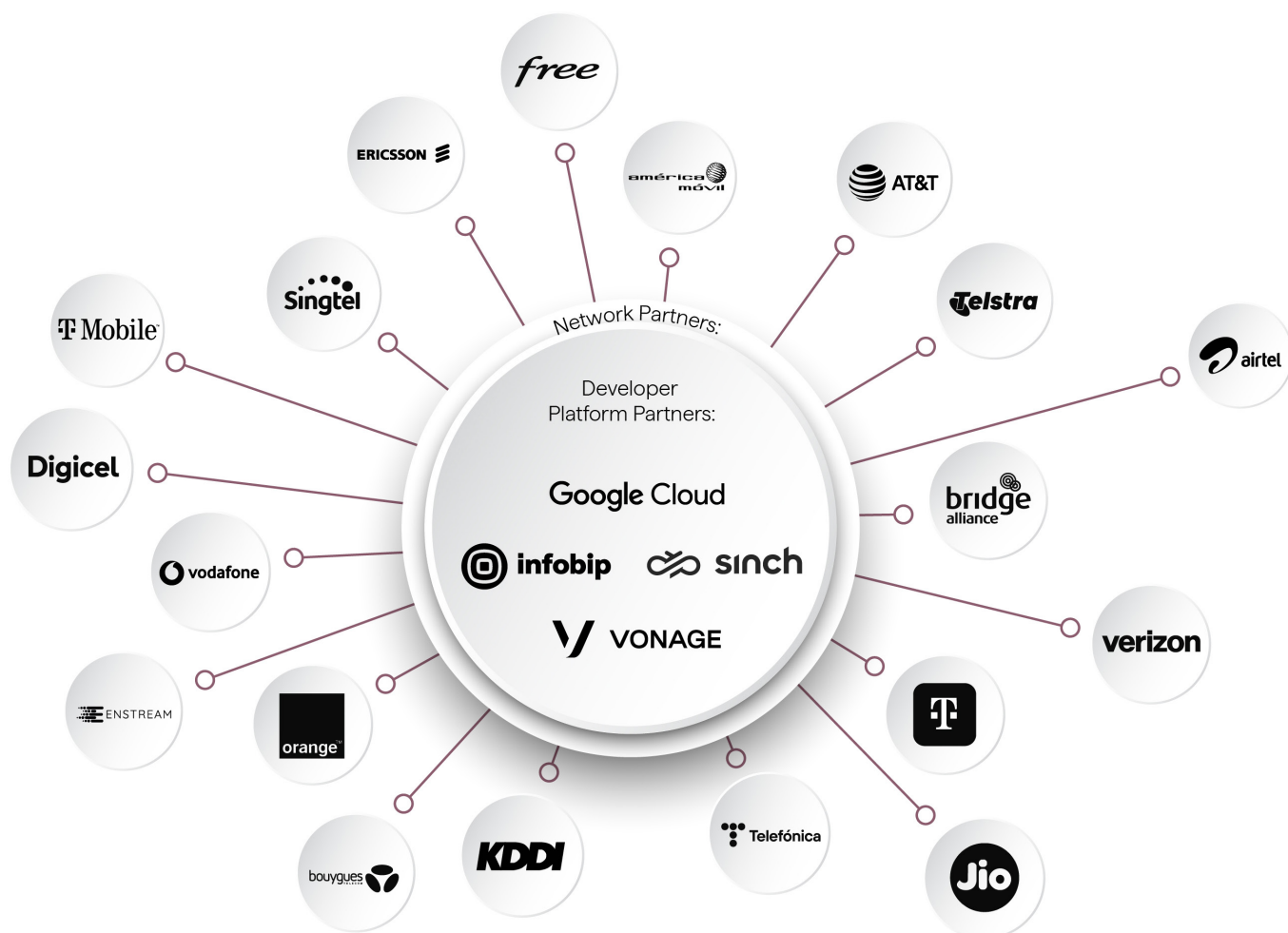


What we have accomplished since launch

Developer Platform Partners: meeting developers where they are

Aduna remains neutral and forms strategic alliances with key industry players to foster innovation and reach. By partnering with organizations that provide access to millions of developers and robust partner ecosystems, Aduna ensures that network APIs are integrated into the everyday workflows of software builders worldwide.

These alliances are not just about distribution — they are about creating shared momentum and real-world solutions. Hyperscalers and CPaaS partners bring network APIs into cloud-native development environments and CI/CD (continuous integration and continuous deployment or delivery) pipelines, while GSIs play a pivotal role in integrating those APIs into enterprise IT stacks, legacy systems, and vertical-specific platforms. From smart manufacturing to connected healthcare, SIs are instrumental in helping enterprises realize the full potential of programmable networks at scale.



Aduna's 2025 goals and roadmap

Aduna has set bold goals for 2025, with a strong focus on security, trust, and service quality. Key telecom APIs that will be made available this year include:

- **Number Verification** (Fintech, E-commerce): Frictionless user authentication without SMS OTP
- **SIM Swap Detection** (Banking, Insurance, Identity Verification): Real-time fraud prevention
- **Know Your Customer (KYC)** (Fintech, Healthcare, Government): Mobile network-verified identity
- **Device Location** (Logistics, Ride-hailing, Emergency Services): Consent-based, real-time tracking
- **Device Status & Reachability** (IoT, Smart Home, Critical Infrastructure): Check if a device is on, roaming, or reachable
- **Quality on Demand** (Gaming, AR/VR, Remote Surgery, Live Streaming): Instant, time-bound performance enhancement

Aduna's 2025 goals and roadmap

Developer interest in Network API capabilities

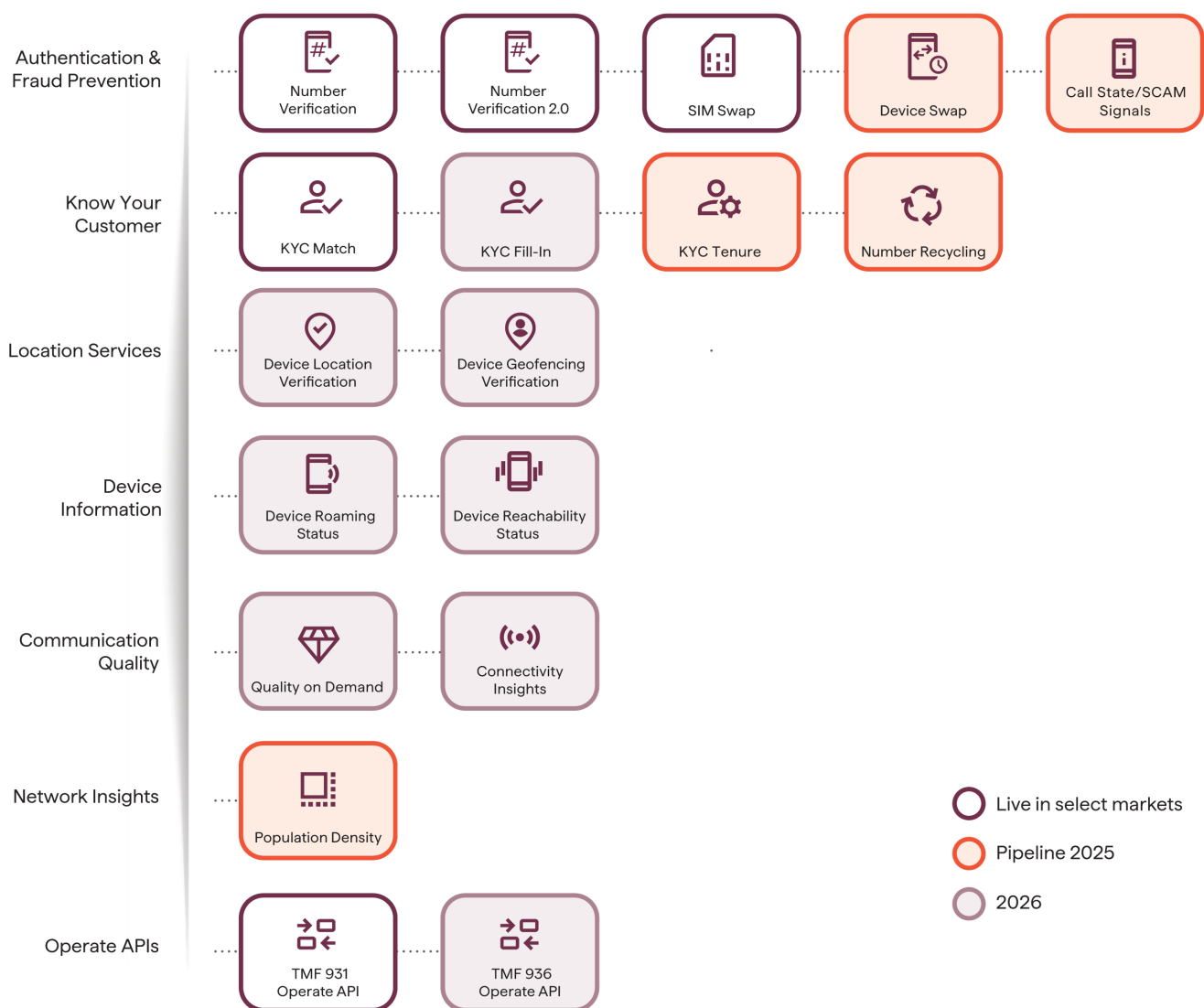
STL's research further reinforces the market need:

- **54%** of developers want access to real-time network performance metrics like latency and jitter
- **50%** seek visibility into device status and reachability
- **44%** are interested in guaranteed, on-demand performance for critical applications

Preferred access channels: Embedding telecom into the cloud-native stack

Today's developers prefer to consume APIs through the platforms and tools they already use. Aduna is meeting them there — through integrations with hyperscalers, cloud marketplaces, global system integrators, and development platforms. By embedding telecom capabilities into these familiar environments, Aduna ensures that network APIs are as accessible, discoverable, and usable as any other class of digital API.

This is how Aduna transforms telecom from a behind-the-scenes enabler into a programmable asset — fully embedded in the software-defined future.



5G Network APIs consumption and industry impacts

How 5G Network APIs are consumed

Aduna provides network APIs to different developer platforms, including CPaaS providers, Hyperscalers (HCPs), Independent Software Vendors (ISVs), and Global System Integrators (GSIs). These platforms then offer the APIs to consumers such as Application Service Providers (ASPs), developers, enterprises, and other large digital natives. Solutions are tailored to the customer's technical expertise, ranging from developer-friendly tools, Software Development Kits (SDKs), and documentation to high-value customized digital service applications.

5G Network APIs consumption and industry impacts

50%

Implementing KYC match and fill-in APIs can validate user age at account creation, preventing underage access and reducing fines by over 50%.

2.5x

Faster page load speeds can lead to a 10–15% better bounce rate on desktop compared to mobile webpages, with potential improvements of 2.5x in load speed and a reduction in mobile webpage load times by up to six seconds.

Example use cases of 5G Network APIs

Aduna's offerings are highly relevant to a wide range of industries. Early use cases are found within authentication & fraud prevention and data connectivity applicable across industries including banking & finance, media & entertainment, mobility and retail & e-commerce.

According to McKinsey & Company reports:

Authentication & Fraud prevention

- **Number Verification:** A fintech provider with over 8 million users invested €100 million to scale its banking division and improve compliance. However, the user onboarding experience was suboptimal due to slow processes, excessive personal information requests, and security risks with OTP verification. Implementing the number verification API resulted in a 3x-5x improvement in authentication conversion rate and higher security standards.
- **KYC:** Underage access to social media platforms is a significant issue, with annual fines in the US exceeding \$700 million for major social media companies. Implementing KYC match/fill-in APIs can help validate user age at account creation, mitigating underage access and reducing fines by over 50%.
- **Number Verification/SIM Swap:** In Brazil, \$500 million in mobile consumer scams have affected 20% of the population. By enabling number verification combined with SIM Swap and location APIs, Brazilian operators help financial services fight fraud with over 3 million monthly API calls.

Data connectivity

- **QoD can help mitigate user churn rates by providing enhanced connectivity in e-commerce user journey:** Enhanced connectivity can improve page load speeds by 50-60%, reducing bounce rates and increasing customer conversion rates by 10-15%. Faster page load speeds can lead to a 10-15% better bounce rate on desktop compared to mobile webpages, with potential improvements of 2.5x in load speed, reducing mobile webpage load times by up to 6 seconds.
- **QoD can help accelerate robotaxi widespread adoption:** Automated vehicles like robotaxis require high-quality continuous connectivity, which is currently hindered by bandwidth constraints. QoD can ensure continuous connectivity during peak usage periods, accelerating industry roll-out by providing connectivity assurance and MEC support.

Why join us

Creating the foundation for global, scalable, and trusted network API consumption

The telecommunications industry stands at a critical inflection point. As demand for programmable network capabilities grows, the ability to expose and consume network APIs securely, efficiently, and at scale — while meeting global standards and regulatory requirements — has never been more important.

Aduna was created to solve this challenge

By joining Aduna, you become part of a global ecosystem where network providers, developers, and enterprises come together under a shared commitment to openness, interoperability, and privacy-by-design.

One Contract. One Price. Global Reach

For Network Providers

Transform your network into a platform for growth

Network providers have made significant investments in 4G, 5G, and edge infrastructure. However, capturing the full value of these investments requires a standardized, scalable path to monetization.

Aduna offers that path:

- **Monetize with scale:** Expose network capabilities — such as Quality on Demand, Device Status, Location Verification, or SIM Swap — through standardized APIs to a global market of trusted developers and enterprises.
- **Standardize connectivity worldwide:** Built on CAMARA and other industry standards, Aduna ensures your APIs can be adopted consistently across borders, reducing fragmentation and enabling cross-market innovation.
- **Enhance trust and compliance:** Aduna embeds privacy, consent, and compliance controls at the platform level, allowing you to meet regulatory obligations.
- **Reduce operational complexity:** Standard onboarding, provisioning, and commercial workflows eliminate duplication and increase agility across your API lifecycle.
- **Up-to-date standards roadmap:** Aduna keeps current with the NW API standards bodies roadmaps and aligns with Network Providers who by regulations cannot directly engage with one another.
- **Enterprise-grade API access:** Integrate features like secure user authentication, device status, and adaptive connectivity directly into your business applications.
- **Security and compliance at the core:** Aduna is built with the enterprise in mind, ensuring all API interactions meet high standards for security, data protection, and regulatory alignment.

Why join us

The platform layer for network innovation

Access next-gen network capabilities — with minimal friction

Today's digital platforms and developers need fast, reliable, and secure access to telecom-grade capabilities — without the burden of telecom complexity. As enterprises race to deliver smarter, real-time digital services, network intelligence is becoming a key differentiator. Aduna removes the barriers, enabling seamless integration of advanced network features into applications at scale.

- **One integration, many networks:** A single API gateway connects developers to multiple operator networks around the world — simplifying access, scaling reach.
- **Developer-first experience:** From comprehensive documentation and SDKs to test environments and support, Aduna is designed to accelerate development and reduce time-to-value.
- **Built-in commercial frameworks:** Developers benefit from pre-configured business models, making it easier to commercialize applications without separate negotiations with each operator.
- **Innovation without constraint:** Aduna enables experimentation with low-latency connectivity, identity APIs, or location-based services — paving the way for breakthrough use cases in fintech, logistics, healthcare, and beyond.
- **Cross-operator reach:** With Aduna, enterprises no longer need to establish separate relationships with each telecom operator — simplifying deployment across multiple geographies and networks.
- **Accelerated go-to-market:** Streamlined onboarding and access to a ready-made ecosystem of partners, network providers, and tools reduce launch timelines and extend market reach.

How to join us

It's simple to join — visit adunaglobal.com to contact us.

Equity is not required.

Aduna offers comprehensive support to new partners, including technical assistance, marketing resources, and access to industry experts, ensuring you have everything you need to succeed.

If you are interested in consuming Network APIs, please get in touch so we can connect you with our trusted channel partners.

We are dedicated to your success and look forward to partnering with you.

Building the Organization

Aduna has strengthened its team with several key hires who bring a wealth of experience and expertise to our organization.



Anthony Bartolo
CEO

A veteran tech executive with over 30 years of experience, previously COO at Vonage and Bandwidth.



Christine Dye
CFO

A disciplined financial professional with CFO expertise in tech startups and public companies (NASDAQ).



Claudiu Pasa
CPO/CTO

A builder with pedigree and a key contributor to the wider technical community with extensive experience leading Cloud Engineering & Prototyping at AWS in EMEA.



Peter Arbitter
CCO

An expert in the IT high-tech sector who previously led Deutsche Telekom's Magenta API Capability Exposure (MACE).



Kristin Crossman
CHRO

A practical HR leader with 20+ years of global experience aligning people strategy with business goals across Fortune 500, public, and private companies.

Sources:

STL Partners, "Introduction to the Telecom Network API Developer Survey," 2024.

McKinsey & Company, "Definitely, Maybe... State of the NW API Market," January 2025.



How to contact Aduna or competent supervisory authorities

If you have any questions or a complaint pertaining to your personal data you can contact us by mail at Privacy, 6300 Legacy Drive, Plano, Texas 75024, United States of America, or you can send an e-mail to privacy@adunaglobal.com.

You may also contact or submit complaints to your applicable data protection supervisory authority where you live or work in relation to your privacy rights.