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Open gateway to the immersive future

Unlocking telco monetization in the next internet era.



The spatial web over open gateway

Unlocking telco monetization in the next internet era

Open Gateway, an initiative led by the GSMA, is designed to help telcos unlock new revenue streams by exposing their network capabilities—such as identity, location, and quality of service—through standardized APIs. This shift allows operators to move beyond traditional connectivity and participate in new digital value chains. By transforming core network functions into programmable services, Open Gateway enables telcos to become active players in the broader digital ecosystem, fostering innovation and monetization at scale



At the same time, we are entering the era of the Spatial Web—a new phase of the internet where digital and physical environments converge. This evolution is powered by the convergence of technologies like AI, AR/VR, IoT, and 5G, and enables real-time, context-aware experiences that adapt to users' identity, location, time, and intent. Unlike Web 3.0, which focuses on decentralized infrastructure, the Spatial Web emphasizes immersive, user-centric experiences. It presents a major opportunity for telcos to become foundational enablers of this new paradigm by providing the contextual intelligence and infrastructure needed to support dynamic, spatially aware applications.

To fully realize this potential, telcos must not only expose their capabilities but also automate how they are delivered and monetized. This is where Operate APIs come into play. These APIs automate the full lifecycle of service APIs from onboarding and catalog sharing to usage tracking and billing—removing the operational bottlenecks that currently limit scale. By integrating Operate APIs with Open Gateway, telcos can industrialize the delivery of Spatial Web services, enabling real-time monetization, seamless partner integration, and scalable ecosystem growth.

Key pillars



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The open gateway bottleneck

Progress is real—but scale requires automation

While Open Gateway has gained strong industry traction with over 70 operators and 250+ APIs launched across global markets—its operational foundation remains largely manual. This progress proves the concept, but scaling it into a robust, monetizable ecosystem requires more than exposure alone.

Key processes such as product onboarding, catalog sharing, and billing are still handled manually, creating friction for both telcos and partners. Without automation, monetization is constrained to basic event metering, and the ecosystem cannot support more dynamic, usage-based pricing models or multi-party revenue sharing.

To unlock the full potential of Open Gateway, telcos must industrialize how APIs are managed and delivered. Automating these processes is essential to move from pilot projects to scalable, commercial deployments—enabling the ecosystem to grow sustainably and support the demands of the Spatial Web.



GSMA 2025

Mobile operator revenues from API monetization by 2030 LOW MID HIGH

\$34B

The spatial web needs programmable infrastructure:

Telcos have it. Open gateway unlocks it.

Spatial web enablement



Which services do I have access to around me?

What devices around me can I interact with?

Who is near me or my business?

The Spatial Web marks a shift toward immersive, real-time digital experiences that adapt to users' identity, location, and intent. Enabled by technologies like AI, AR/VR, IoT, and 5G, it requires infrastructure that is not only connected but context-aware. Telcos are uniquely positioned to support this evolution—if their capabilities can be exposed and

orchestrated programmatically. Yet today, there is no standard way to manage spatial context across services, limiting the delivery of consistent, intelligent applications. Open Gateway provides the foundation, but programmable infrastructure is essential to bring the Spatial Web to life. To meet this demand, telcos must evolve from passive connectivity providers to active participants in digital experience delivery. This means enabling real-time access to network functions—such as geolocation, identity verification, and quality-of-service controls—through APIs that developers can easily integrate into spatial applications. Without this shift, the Spatial Web will remain fragmented and fail to reach its full potential. With it, telcos can become the backbone of a new, immersive internet era.

- Spatial Web applications demand real-time access to telco capabilities
- No standard way to manage spatial context across services, limiting the ability to deliver immersive, context-aware experiences





Size of Spatial Web market in 2030 (CAGR 20.4%)

Unlocking telco value through open gateway APIs

From underused assets to scalable innovation

Ecosystem-Driven Monetization



To fully capitalize on the opportunities presented by the Spatial Web, telcos must rethink how they expose, manage, and monetize their network capabilities. Open Gateway provides the foundation, but realizing its full potential requires a holistic approach—one that connects technical enablers with business outcomes.

This Catalyst is built around four strategic pillars that

together define a scalable, monetizable model for telco innovation:

Expose

Make advanced network functions—such as identity, location, and QoS—accessible to developers via CAMARA APIs.

Camara APIs

Monetize

Shift from flat-rate connectivity to usage-based and value-driven pricing models, unlocking new revenue streams.

> Network Monetization

These pillars form the blueprint for how telcos can evolve from infrastructure providers to orchestrators of immersive, context-aware digital services—positioning themselves at the center of the Spatial Web economy.

Connect

APIs.

Build an interoperable ecosystem

that links telcos, developers, and

Operate APIs

Use Operate APIs to automate

onboarding, catalog sharing, and

usage tracking, enabling scalable

Spatial Web

Operate

service delivery.

partners through standardized

Spatial web ecosystem stakeholders

The next era of the internet meets the open gateway



Catalyst outcome

Technical innovations to unlock the challenge

Challenges we addressed Technologies we advanced First implementation of TMF936 Operate API to Operationalized Open Gateway with automated exchange product catalog information catalog sharing TMF937 API standardizing usage data exchange Enhanced monetization with real-time, usage-based charging models for multi-party revenue streams for billing and settlement Demonstrated flexible CAMARA API pricing models Ecosystem enablement of commercial product design with flexibility and scalability with broad developer appeal Implemented DSSP to orchestrate real-time, Spatial Web integration with a protocol layer context-aware interactions with Open enabling immersive digital experiences and agentic applications Gateway APIs



Spatial web conclusions & CTAs

Staying ahead of the spatial web curve

What are the next steps for TM forum and the wider industry?

- Advance the Operate API roadmap to support full lifecycle automation.
- Enable collaboration between Spatial Web and Open Gateway to accelerate ecosystem growth.

Will this lead to another catalyst? Is this ready for commercial deployment?

- Commercial deployment is feasible with TMF936 and for TMF937 we are bringing concepts and data models that should be formalized with TMF937.
- The next phase will strengthen third-party integration, and enable scalable automation to support Spatial Web use cases.

What organizations are needed to achieve the next phase?

- Champion CSPs
- Marketplace channel partners
- Developer ecosystem enablers
- SDOs to work together to bring the standards to life



Visit our catalyst project in the innovation zone, kiosk i 3.18



