



Tiarni Networks

SOLUTIONS **CATALOG**

Networks That See.

The Infrastructure Layer for
Integrated Sensing &
Communications

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About Us



Tiami Networks is a California-based deep technology company advancing the future of Integrated Sensing and Communications (ISAC).

We develop AI-driven sensing solutions that transform existing wireless infrastructure into real-time intelligence platforms. By leveraging ambient 4G, 5G, and Wi-Fi waveforms, Tiami enables networks to detect, localize, and interpret physical activity without additional transmitters or intrusive sensors.

Our portfolio spans edge-based sensing with PolyEdge and network-embedded sensing through PolyRAN, an ISAC application layer designed for O-RAN and AI-RAN architectures.

Demonstrated at Mobile World Congress in collaboration with the AI-RAN Alliance, Tiami showcased base station-based ISAC using 5G waveforms to detect non-UE targets while simultaneously serving mobile users. This marked a meaningful step toward sensing-native networks aligned with the evolution toward 6G.

Tiami's mission is to make sensing a native capability of wireless infrastructure that is scalable, privacy-conscious, and deployable today.

The ISAC Opportunity

Wireless networks are evolving beyond connectivity.

Integrated Sensing and Communications allows 5G infrastructure to use the same waveforms that deliver data to also detect movement, track objects, and interpret environmental activity. Base stations become perception platforms, not just communication endpoints.

For mobile operators, ISAC introduces new sensing-based services and revenue opportunities. For cities, enterprises, and defense, it enables real-time situational awareness without cameras or additional spectrum.

As the industry advances toward 6G, sensing-native networks are becoming foundational to next-generation wireless infrastructure. Tiami is building the architecture that enables this transition today.



PolyEdge

The Edge Node of a Sensing-Native Network

PolyEdge leverages ambient 4G, 5G, and Wi-Fi waveforms to detect and track people, vehicles, and drones in real time.

No additional transmitters. No cameras.

Edge-based AI processing enables low-latency, secure sensing that deploys today and scales toward network-embedded ISAC through PolyRAN.



PolyRAN

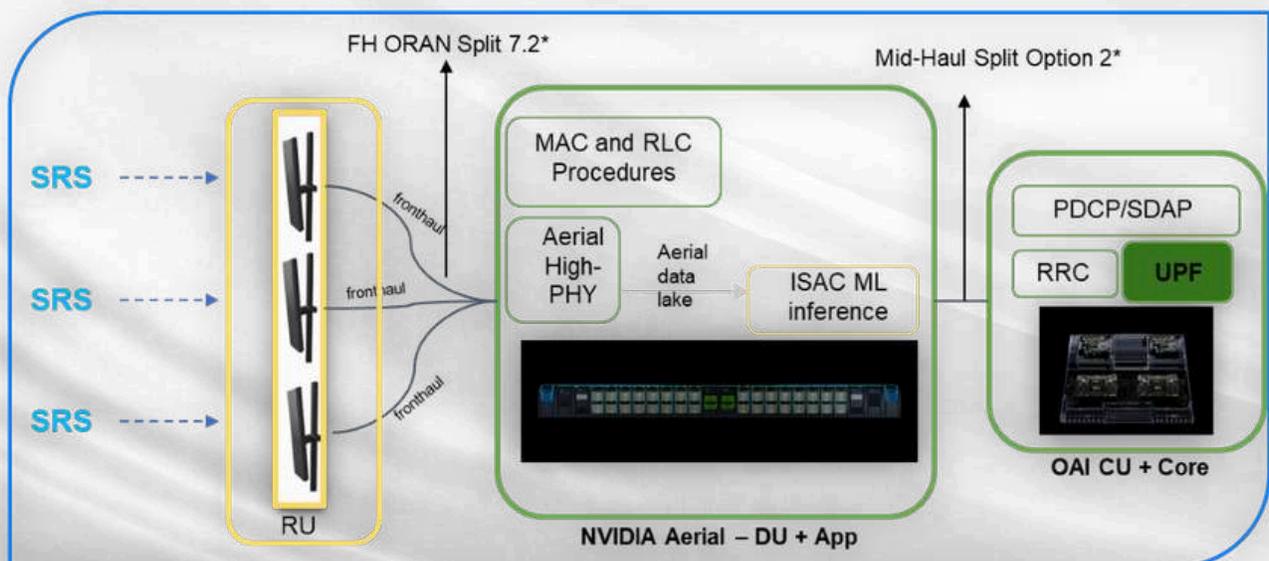
ISAC Inside the Network

PolyRAN extends Tiami's ISAC innovation from the edge to the entire network. By linking multiple base stations into a shared sensing framework, PolyRAN enables cooperative ISAC where communication nodes exchange and fuse signal reflections to perceive the environment collectively.

The result is large-scale spatial awareness that strengthens security, improves traffic management, and enhances smart infrastructure.

Built to align with emerging 6G and O-RAN standards, PolyRAN operates on GPU-accelerated edge compute platforms, including NVIDIA Jetson, enabling streamlined AI integration and rapid deployment.

PolyRAN turns the radio access network into a sensing-native grid.



PolyBase

Deployable 5G with Integrated Sensing

PolyBase is a sensing-enabled private 5G platform designed for rapid deployment in critical environments.

Combining base station infrastructure with integrated ISAC capability, PolyBase delivers secure connectivity and environmental awareness from a single system.

Ideal for defense installations, temporary operations, industrial sites, and critical infrastructure, PolyBase enables perimeter monitoring, airspace awareness, and localized sensing without additional radar systems.

Private 5G. Built-in sensing. Rapid deployment.



Passive Radar

Intelligence from Existing Signals

Traditional radar transmits energy and measures reflections.

Passive radar reuses existing 4G, 5G, and Wi-Fi waveforms, analyzing their reflections to detect movement and position without emitting new signals.

Undetectable. Spectrum-efficient. Jam-resistant.

Sensing without additional infrastructure.



-
- No new spectrum required
 - No additional transmitters
 - Invisible to traditional radar search
 - Resistant to jamming and interference
 - Operates in rain, fog, and darkness
 - Privacy-native sensing without cameras
 - Low power, infrastructure-aligned deployment
 - Sensing that works where optical systems fail.

Use Cases: Public Safety & Airspace

Drone and UAS Detection

Detect and track unauthorized aerial systems using ambient 5G-based sensing. No active emissions. No additional radar infrastructure.

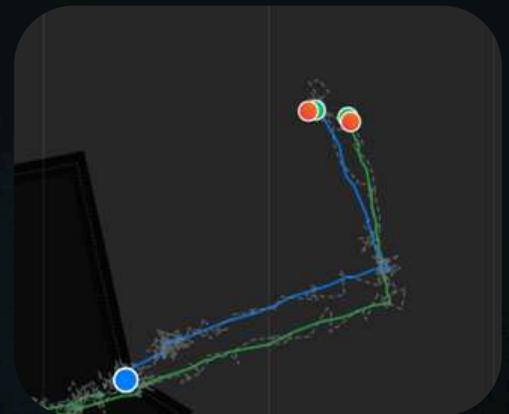


Critical Infrastructure Protection

Monitor sensitive facilities, airports, and energy sites with passive, jam-resistant detection.

Perimeter & Airspace Awareness

Provide real-time situational awareness in contested or high-security environments.



Use Cases: Smart Infrastructure

Occupancy and Space Utilization

Detect presence and movement without cameras to optimize buildings, campuses, and public venues.

Traffic and Urban Analytics

Measure pedestrian and vehicle flow using existing wireless infrastructure.

Energy and Automation

Enable adaptive lighting, HVAC optimization, and environment-aware systems.

Retail and Commercial Insights

Deliver real-time movement analytics for smarter operations and planning.

Monetization Opportunity

Network Revenue Expansion

ISAC enables operators to offer sensing-enabled services to enterprises, municipalities, and public agencies without deploying new spectrum or hardware infrastructure.

- Smart city sensing services
- Airspace and drone monitoring
- Infrastructure occupancy analytics
- Industrial and logistics monitoring

The same physical network supports both connectivity and sensing monetization.

Sensing-as-a-Service

Operators can deliver environmental intelligence as a subscription-based service. Sensing outputs can be packaged as APIs, dashboards, or managed services for enterprise customers.

This creates recurring revenue streams aligned with existing enterprise 5G strategies.

Data Monetization and Licensing

ISAC transforms wireless infrastructure into a source of real-time environmental intelligence. Aggregated and anonymized sensing outputs can be licensed as datasets or delivered through APIs to municipalities, enterprises, and analytics providers.

Examples include: urban mobility trends, airspace activity monitoring, infrastructure occupancy analytics, industrial movement data

ISAC Application Ecosystem

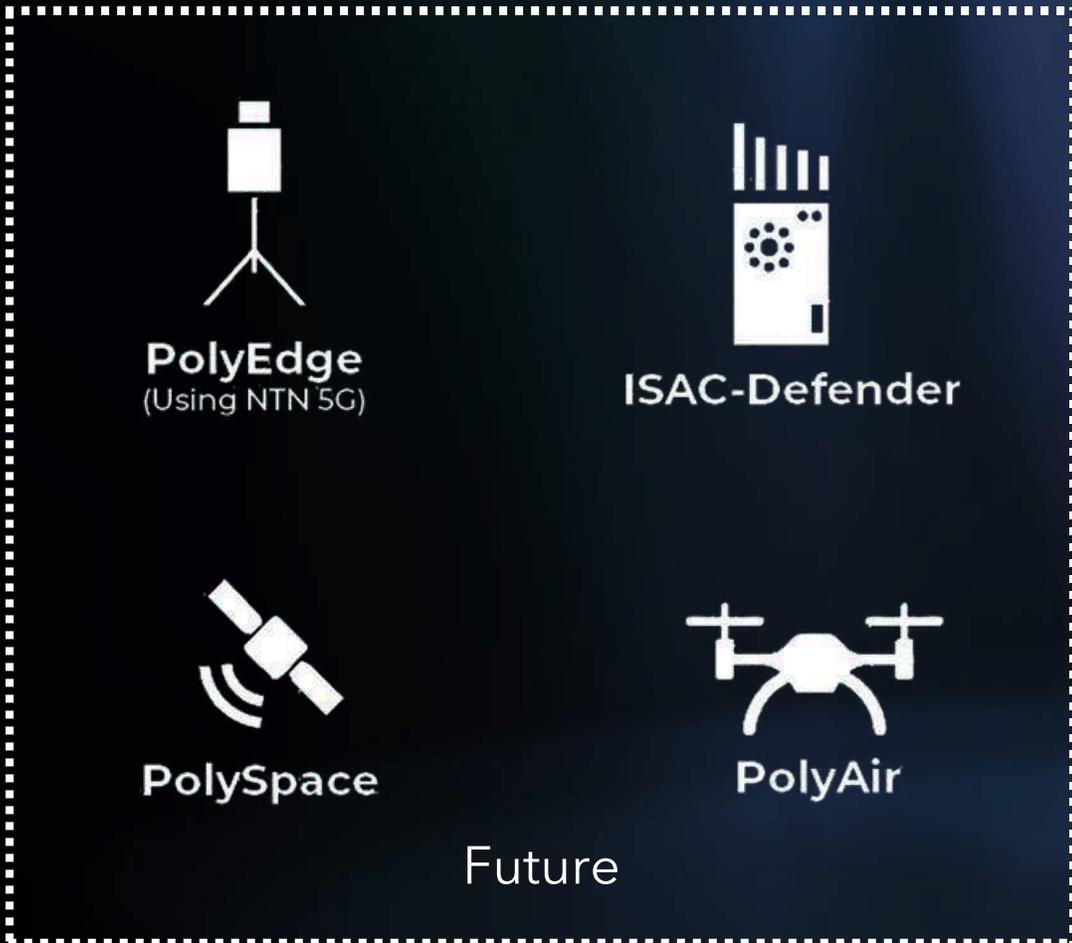
PolyRAN enables sensing to operate as an application layer within O-RAN and AI-RAN environments. This supports the development of sensing applications that can integrate directly into network infrastructure.

As ISAC adoption grows, application-layer sensing becomes a platform opportunity

Enterprise Licensing

PolyEdge and network-based sensing can be deployed in private networks, industrial campuses, airports, and logistics hubs. Enterprise customers gain real-time environmental intelligence without intrusive sensors or new spectrum requirements.

Product Roadmap



PolySpace: Space-based RF sensing for object detection and tracking

PolyAir: Airborne RF sensing payloads for ISR and situational awareness

PolyRAN (Open RAN): Cooperative ISAC that turns RAN radios into radar without new hardware

PolyEdge (5G): Standalone ISAC edge sensor for indoor and outdoor detection

PolyEdge (NTN): Non-terrestrial ISAC sensing for beyond-line-of-sight coverage

PolyBase: 5G-in-a-box platform with embedded sensing for tactical and remote deployments

ISAC Defender: Detects non-cooperative sensing activities on commercial or private networks



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