![Cloudnet.ai logo]

AI-Powered BSS, Private 5G & Network Automation

Powerful AI, Next-Gen Connectivity & Solutions

Company Overview

Headquarters

Singapore

With offices in Europe & North America

Subsidiary

CloudRAN.AI — specializing in AI-driven Private 5G solutions

Founded

2023

Acquired

AsiaInfo International

2024

Vision & Mission

- Future networks are open, automated, and cloud-native - built for data production at scale.

- We are committed to delivering highly competitive, easy-to-deploy, AI-native enterprise networks and applications built for the next generation.
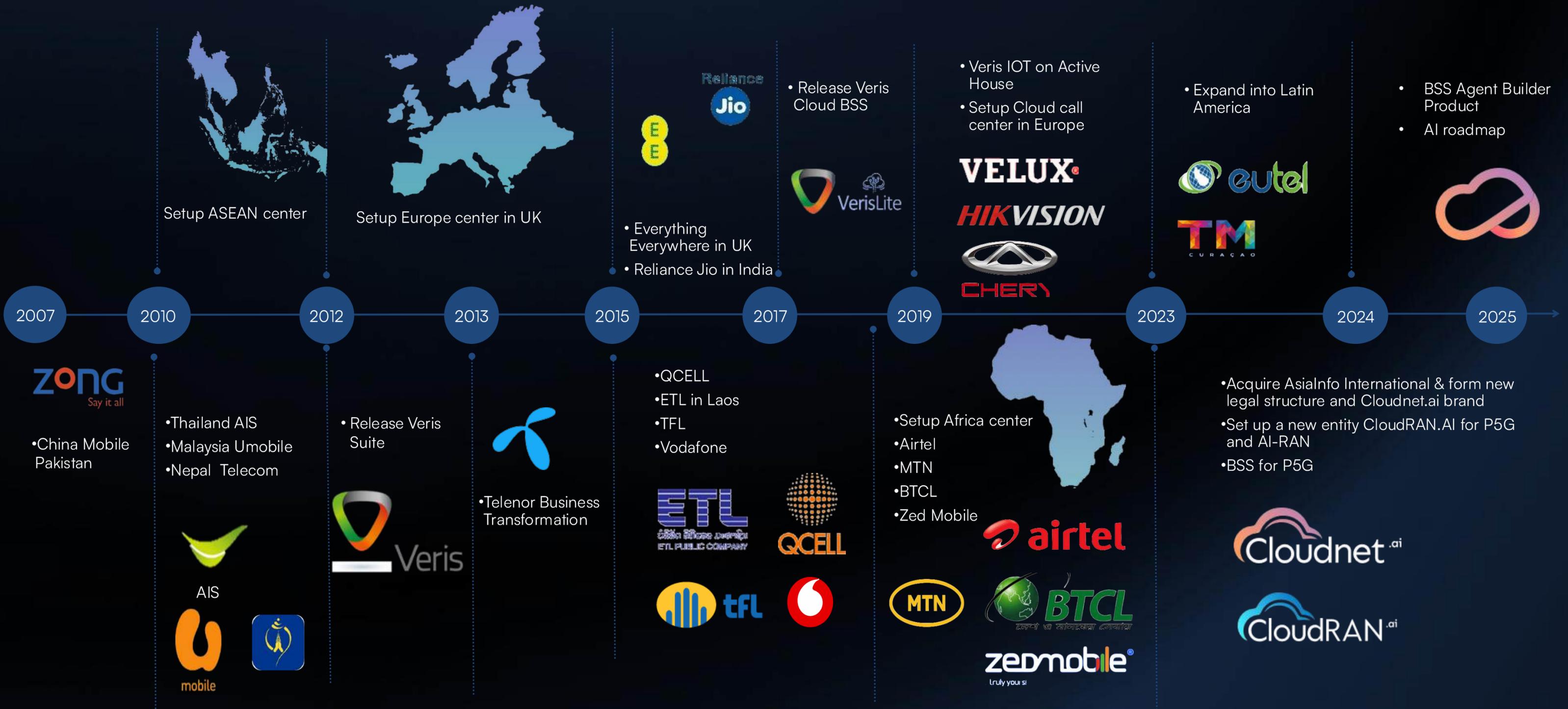
At Cloudnet.ai, we envision a world where connectivity is **seamless, intelligent, and adaptable.**

Our Vision
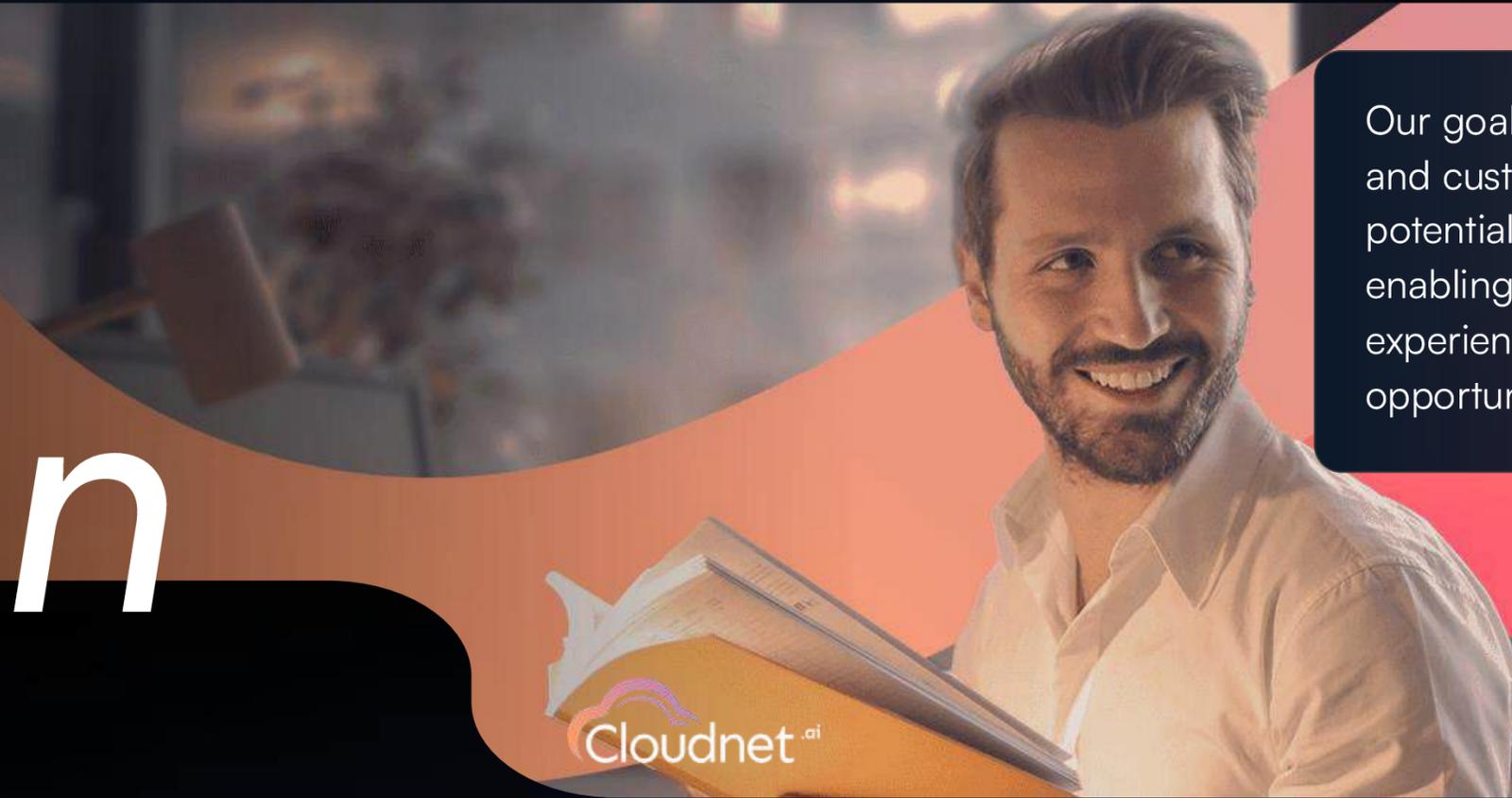
Our goal is to empower partners and customers to harness the full potential of **AI-driven networks**, enabling transformative experiences and unlocking new opportunities in the digital era.

Cloudnet.ai's Internationalization Journey

Setup ASEAN center

Setup Europe center in UK

- Everything Everywhere in UK
- Reliance Jio in India

- Release Veris Cloud BSS

- Veris IOT on Active House
- Setup Cloud call center in Europe

- Expand into Latin America

- BSS Agent Builder Product
- AI roadmap

Timeline

2007 — 2010 — 2012 — 2013 — 2015 — 2017 — 2019 — 2023 — 2024 — 2025

- China Mobile Pakistan

- Thailand AIS
- Malaysia Umobile
- Nepal Telecom

- Release Veris Suite

- Telenor Business Transformation

- QCELL
- ETL in Laos
- TFL
- Vodafone

- Setup Africa center
- Airtel
- MTN
- BTCL
- Zed Mobile

- Acquire AsiaInfo International & form new legal structure and Cloudnet.ai brand
- Set up a new entity CloudRAN.AI for P5G and AI-RAN
- BSS for P5G

AIS

Products and Solutions

Veris BSS

Features

- Cloud-native, modular architecture.
- AI-driven automation for billing, CRM, and product catalog.
- TM Forum Open API compliant.

Benefits

- Accelerates time-to-market for new services.
- Enhances customer experience with intelligent CRM.
- Reduces operational costs through automation.

Private 5G Stack

Components

- Cloud-native OpenRAN infrastructure.
- AI-enhanced network management system.
- Seamless integration with Veris BSS.

Use Cases

- Industrial automation.
- Smart cities.
- Healthcare facilities.
- Transportation hubs.

Megrez AI
AI-RAN & Agent BSS

Capabilities

- AI-driven network design and optimization.
- Enable quick configuration and deploy agent to omni-channels
- Operate as customer service 24/7

Impact

- Cuts planning time by over 60%.
- Unified online management across omni-channels, with efficiency improved by 50%.
- Improve user satisfaction and reduce costs by over 30%

Challenges in Modern Connectivity

Complex Network Deployments

Traditional network planning is time-consuming and resource-intensive.
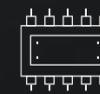
Rigid BSS Systems

Legacy systems lack flexibility, hindering rapid service innovation.

Evolving Customer Expectations
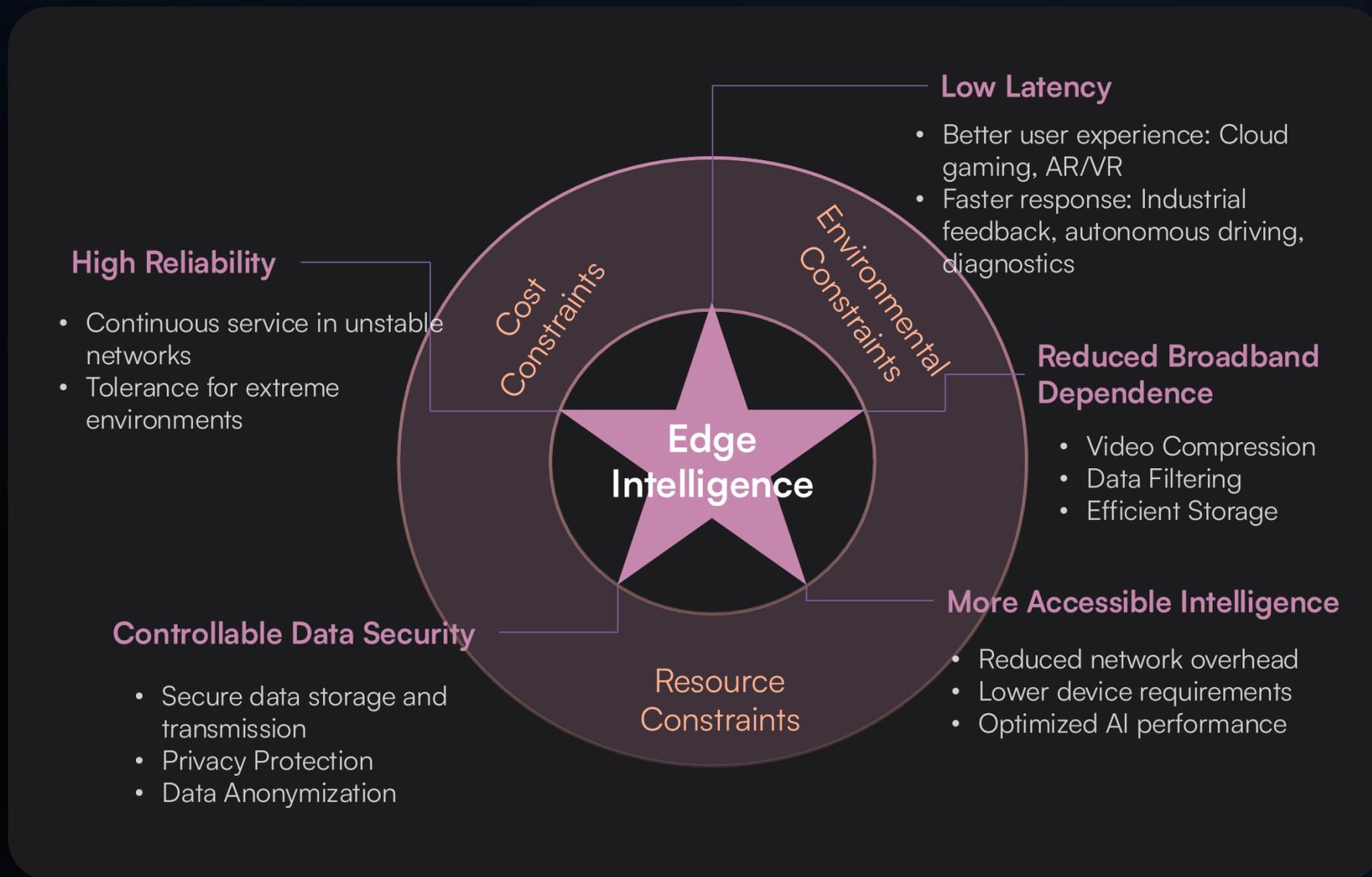
Demand for personalized, real-time services is growing.

Integration Difficulties

Ensuring seamless interoperability between diverse systems remains a challenge.
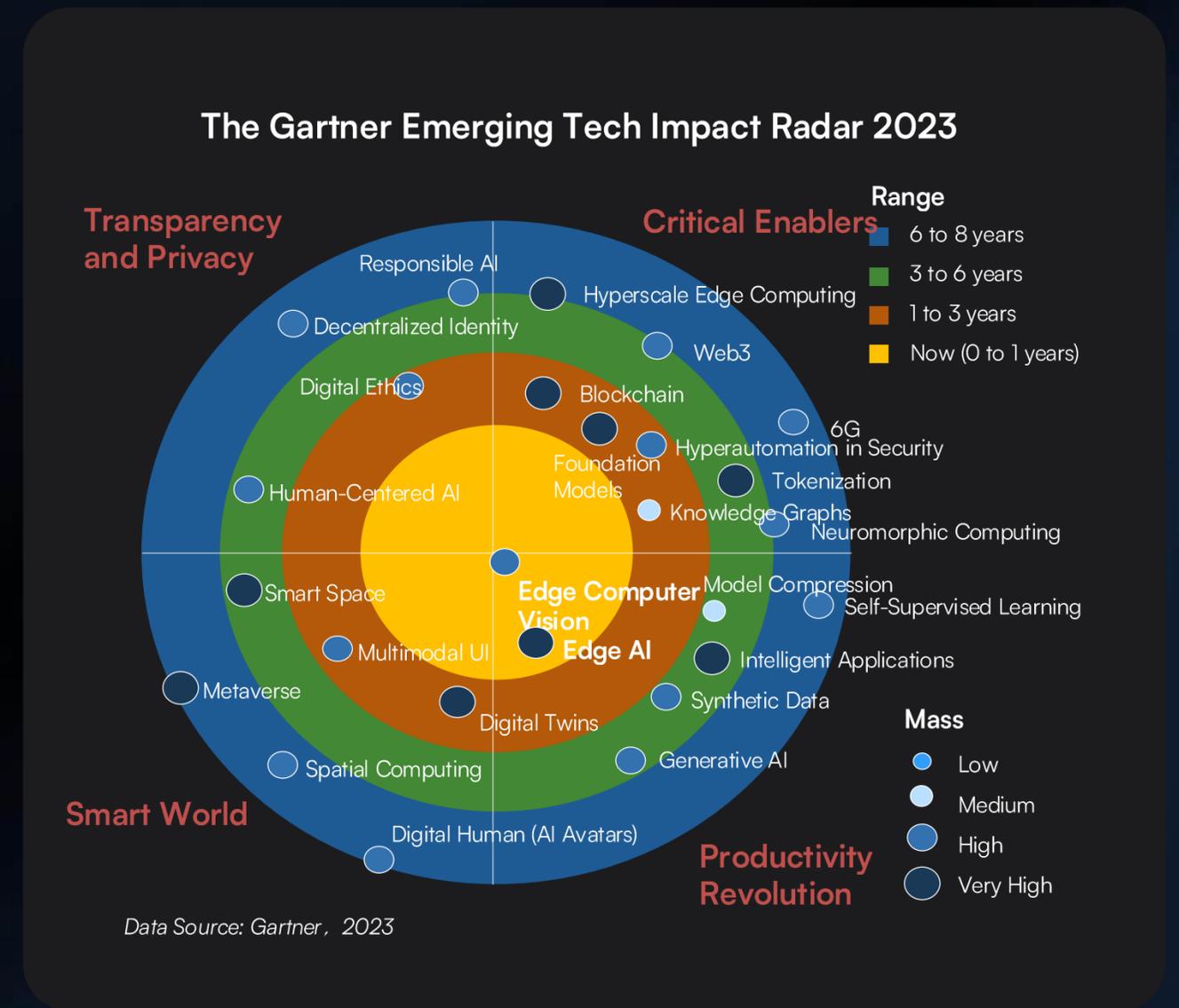
Tech and Product Trends

As edge computing develops rapidly, AI applications are shifting from centralized systems to the edge, closer to data sources and customer needs. Edge AI, with its low bandwidth usage, low latency, and strong privacy features, is becoming a key driver of productivity with broad potential across industries.

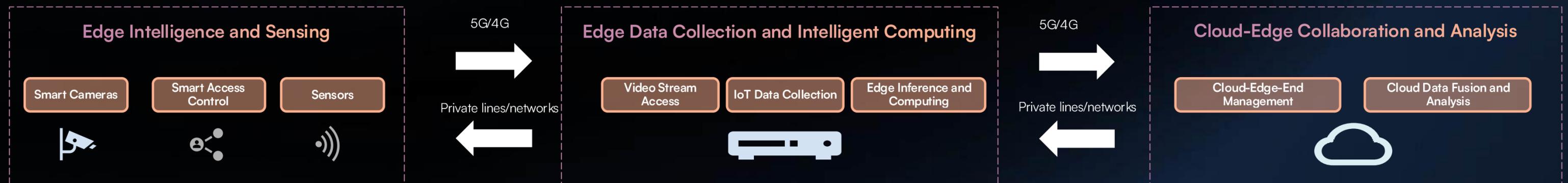## Edge AI as a Catalyst for Enterprise Transformation

Low Latency
- Better user experience: Cloud gaming, AR/VR
- Faster response: Industrial feedback, autonomous driving, diagnostics

High Reliability
- Continuous service in unstable networks
- Tolerance for extreme environments

Reduced Broadband Dependence
- Video Compression
- Data Filtering
- Efficient Storage

Controllable Data Security
- Secure data storage and transmission
- Privacy Protection
- Data Anonymization

More Accessible Intelligence
- Reduced network overhead
- Lower device requirements
- Optimized AI performance

Environmental Constraints

Cost Constraints

Resource Constraints

Edge Intelligence

Edge AI as a Pioneering Driver of Productivity

The Gartner Emerging Tech Impact Radar 2023

Transparency and Privacy

Critical Enablers

Range
- 6 to 8 years
- 3 to 6 years
- 1 to 3 years
- Now (0 to 1 years)

Responsible AI
Decentralized Identity
Digital Ethics
Human-Centered AI
Smart Space
Multimodal UI
Metaverse
Spatial Computing

Hyperscale Edge Computing
Web3
Blockchain
Hyperautomation in Security
6G
Foundation Models
Tokenization
Knowledge Graphs
Neuromorphic Computing
Edge Computer Vision
Model Compression
Self-Supervised Learning
Edge AI
Intelligent Applications
Synthetic Data
Digital Twins
Generative AI
Digital Human (AI Avatars)

Mass
- Low
- Medium
- High
- Very High

Smart World

Productivity Revolution
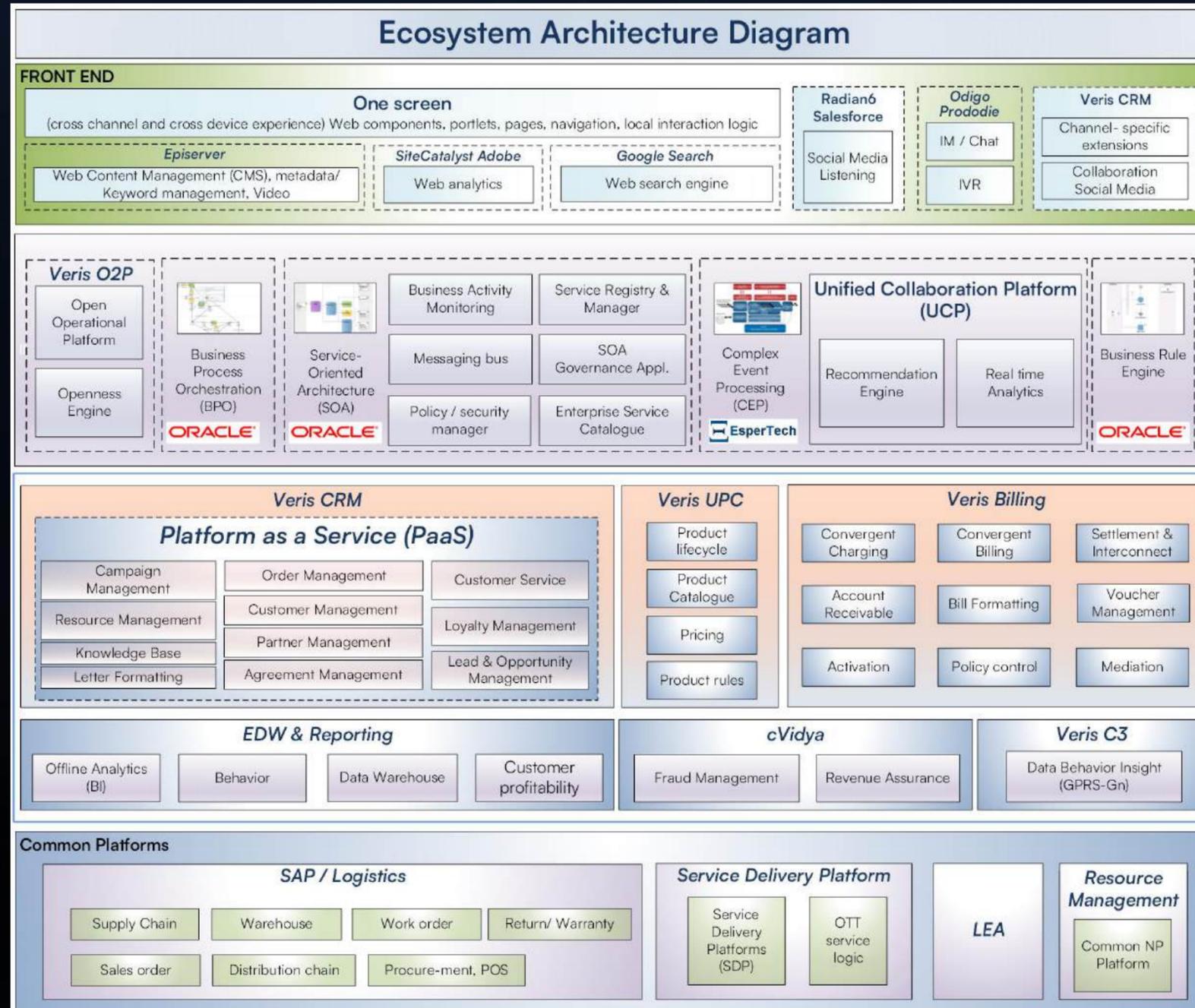
Data Source: Gartner，2023

Product Positioning

AISWare AI^2 Edge Intelligence is designed for edge AI across various industries. By integrating hardware and software, it enables sectors such as telecom, energy, government, and transportation to undergo intelligent transformation.
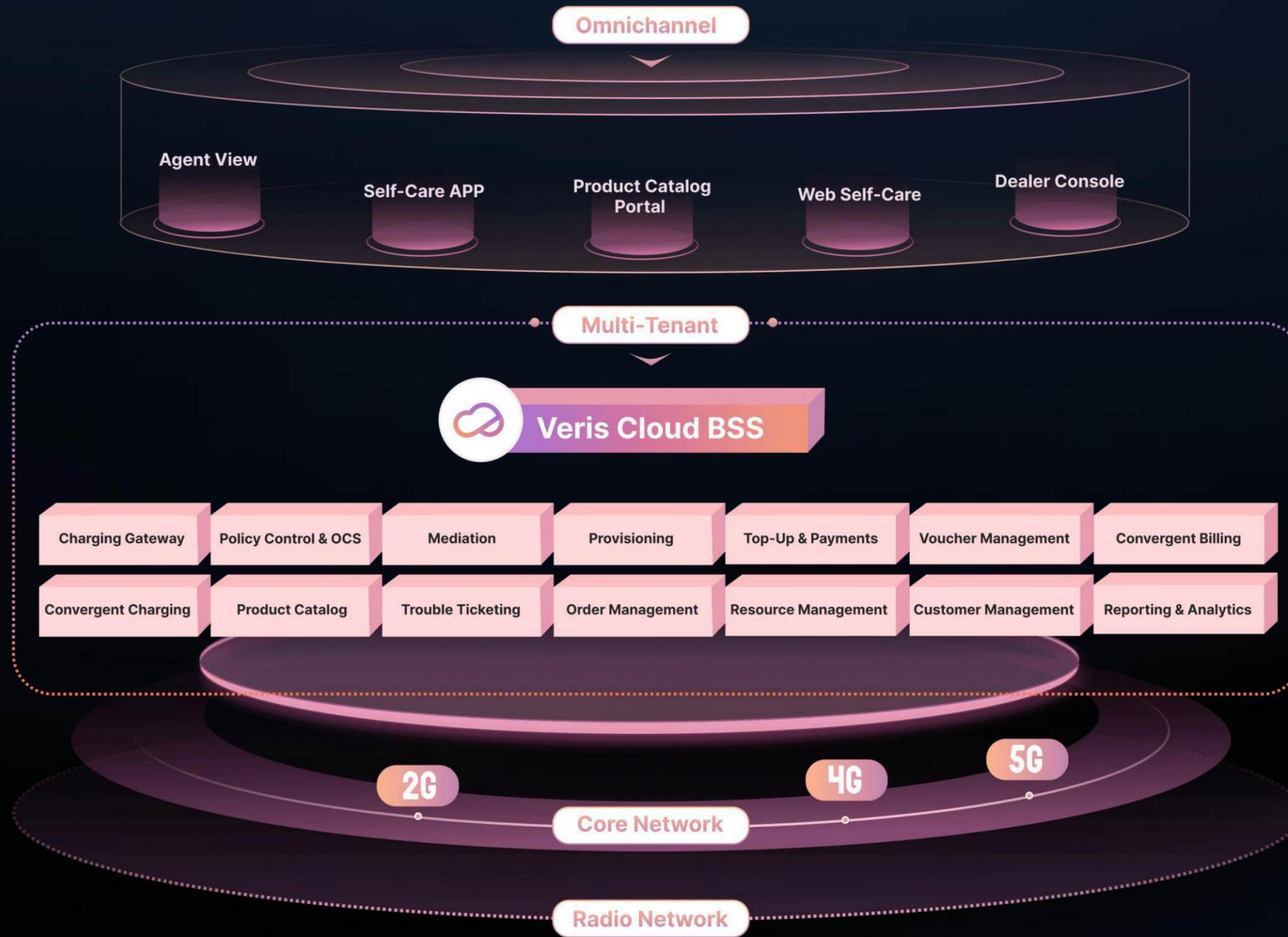
Smart Construction Site	Smart Campus	Smart Power Plant	Smart Community	Smart School	Smart Data Center	Smart Mining	Smart Factory	Rural Development	Rail Transit

General Security (Productized, cost-effective, industry-leading)

Security Surveillance   Fire And Epidemic Prevention   ......

Safety Production (Industry-specific, fast implementation)

Site Monitoring   Mine Operations   ......

Industry Challenges (Advanced algorithms, unique capabilities)

Significant Efficiency Improvements   Life Safety Protection   ......

Edge Intelligence and Sensing

Smart Cameras   Smart Access Control   Sensors

5G/4G

Private lines/networks

Edge Data Collection and Intelligent Computing

Video Stream Access   IoT Data Collection   Edge Inference and Computing

5G/4G

Private lines/networks

Cloud-Edge Collaboration and Analysis

Cloud-Edge-End Management   Cloud Data Fusion and Analysis

Digital Transformation for Large Telecom Operators

Telenor DK

- New BSS stack built with Veris CRM, Billing, UPC and O2P

- 124 legacy system replaced, including Amdocs billing system

- Fixed, mobile and wholesale business covered

Lightweight Cloud-Native BSS Solution

Omnichannel

- Agent View
- Self-Care APP
- Product Catalog Portal
- Web Self-Care
- Dealer Console

Multi-Tenant

Veris Cloud BSS

Charging Gateway	Policy Control & OCS	Mediation	Provisioning	Top-Up & Payments	Voucher Management	Convergent Billing
Convergent Charging	Product Catalog	Trouble Ticketing	Order Management	Resource Management	Customer Management	Reporting & Analytics

2G 4G 5G

Core Network

Radio Network

Veris Lite E2E Solution：

- **OMNI-CHANNEL:** Simple and convenient channels for customer to access their data
- **CUSTOMER CARE:** Customer Profile management and order handling providing create, modify and delete functions for Customer, Account, User and Subscription
- **RESOURCE MANAGEMENT:** Resource management provides SIM ordering process management and MSISDN, IMSI management.
- **BILLING ENGINE:** Convergent Billing function supports the typical prepay and postpaid business. Standard API provides the convenient integration with mainstream CRM vendors and Network elements providers.

Core Advantages and Application Scenarios of BSS

Cloudnet ᴬᴵ

Key Features of Veris Cloud BSS

- ‣ Cloud-Native Architecture
- ‣ Omni-Channel Experience
- ‣ Convergent Charging Engine
- ‣ Revenue Management
- ‣ Standard Open API

Cloud Native Framework

- ‣ Modern Microservice & Container Technologies
- ‣ Enhanced DevOps & Open APIs
- ‣ Pay-As-You-Go Model

Dynamic Product Catalog

Customer Care & Order Handling

Customer Self-Care

Convergent Charging Engine

Voucher and Top Up

Billing & Payment

Key Subscription Metrics

Standard Open API

Our operating model and business scope

Cloudnet ai

Veris Cloud BSS benefits a wide range of clients, including telecommunication operators of all scales and enterprises who operate on a subscription model.

CSP/ Network Provider
- Host network service
- Host BSS service

Light/Full MVNO
- Host Mobile service
- Operate the business

Brand new Operator
- Host service
- Operate the business

- Deploy **Veris Cloud BSS** in private/public cloud
- Connect to core network and local payment agencies
- Deliver network and BSS services to light/full MVNOs

- Easily apply **Veris Cloud BSS**
- Configure a dedicated tenant for the operator
- Offer mobile subscriptions plus self-care, billing, and payment tools

- Provide a turnkey solution via Veris Cloud BSS
- Set up and configure the enterprise tenant
- Deliver subscription management, self-care, billing, and payment for customers

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End Customer/ MVNO   End Customer   End Customer

What We Do

Digital Transformation:

Reinvent the customer experience with a full revenue management suite powered by GenAI and analytics. Automate real-time feedback loops, personalize user journeys, and reduce operating costs

Greenfield E2E Solution:

A turnkey approach to launching a brand-new CSP. Seamlessly introduce 2G/4G/5G services and OTT offerings using pre-integrated Cloud BSS and CloudRAN—covering network planning, deployment, and go-to-market readiness..

P5G:

Unlock the full potential of 5G monetization by leveraging agile, cloud-native capabilities that intelligently manage and optimize your network. Deliver innovative services to both customers and partners.

Digital Brand:

Launch a new digital brand in weeks. Enable swift digital onboarding and multi-touchpoint self-care (apps, web, chatbots, etc.), improving NPS at a lower cost of service.

Key Features & Use Cases

Veris Lite AI Agent Builder

Channel...

WhatsAPP

Channel...

Agent Builder

Action Skill

Agent

Agent Test

OPENAI

DS

Qwen

Modular Architecture

Low-Code Design

LLM-Agnostic Integration

Cross-Platform Deployment

Automated Testing

Telecom-Ready

Self-Care Agent

Enable customers to manage accounts, order services, and change plans through conversational interfaces. The agent effectively replaces the traditional point-and-click self-service interface with a natural dialogue.

Plan Change Agent

Assist users in reviewing and modifying service plans, providing personalized recommendations based on user profiles.

Customer Support Agent

Handle common inquiries and troubleshooting, integrating with knowledge bases and support systems for efficient issue resolution. Operating 24/7, it boosts responsiveness while alleviating load on call centers..

Veris Cloud BSS

Empowering CSP Businesses

Features

➤ Compliance with TM Forum Open APIs for seamless integration.

➤ Cloud-native, modular architecture for scalability.

➤ AI-driven automation enhancing billing, CRM, and product catalog functionalities.

Benefits

➤ Accelerated time-to-market for new services.

➤ Reduced operational costs through intelligent automation.

➤ Enhanced customer experiences with personalized services.

Megrez AI

Revolutionizing Network Planning

Capabilities

➤ AI-driven network design and optimization.

➤ Utilizes extensive data points for precise planning.

➤ Achieves high planning accuracy, reducing manual efforts.

Impact

➤ Cuts planning time significantly.

➤ Empowers in-house teams to manage network planning without external dependencies.

➤ Facilitates rapid deployment of private 5G networks.

Cloudnet ᴬᴵ

Private 5G Stack

Tailored Connectivity Solutions

Components

➤ Cloud-native OpenRAN infrastructure ensuring flexibility.

➤ AI-enhanced network management system for efficient operations.

➤ Seamless integration with Veris BSS for unified management.

Use Cases

➤ Industrial automation.

➤ Smart cities.

➤ Healthcare facilities.

➤ Transportation hubs.

Cloudnet ai

Our Solutions at a Glance

Gen-AI Product Catalog

Accelerating Service Innovation

Advantages

➤ Speeds up service deployment.

➤ Reduces errors and manual intervention.

➤ Empowers teams to innovate without extensive technical expertise.

Functionality

➤ Natural language interface for intuitive product creation.

➤ Automates lifecycle management of telecom services.

Recognition & Awards

GSMA Foundry Excellence Award 2025

Outstanding Industry Vertical Use Case.

The Fast Mode Awards 2025

Recognized for innovation.

NVIDIA Inception Program

Recognized for AI innovation.

Global Deployments

Successful projects in Europe, LATAM, Africa, and APAC.

Partnerships

AI-RAN Alliance

Strategic partnership to advance artificial intelligence within telecom networks.

AWS

Leveraging AWS infrastructure for scalable and secure deployments.

NVIDIA

Integrating NVIDIA's AI capabilities for enhanced performance.

TM Forum

Aligning with industry standards for interoperability and best practices.

Collaborative Opportunities for Partners

Integration Support

Our solutions are designed for seamless integration with existing systems, facilitating collaborative ventures.

Joint Innovation

We welcome co-development initiatives to tailor solutions for specific market needs.

Training & Resources

Partners gain access to comprehensive training and support resources.

Market Expansion

Collaborate with us to explore new markets and customer segments.

ZedMobile Launch with Veris Cloud BSS

Challenge

ZedMobile aimed at becoming Zambia's fourth mobile network operator, requiring a robust and scalable BSS solution to support rapid subscriber growth.

Solution

Implemented Veris Cloud BSS, a cloud-native platform offering comprehensive business support solutions.

Outcome

➤ Successfully launched services, achieving significant market penetration.

➤ Enabled efficient subscriber management and billing processes.

➤ Provided scalability to accommodate future growth.

Case Studies
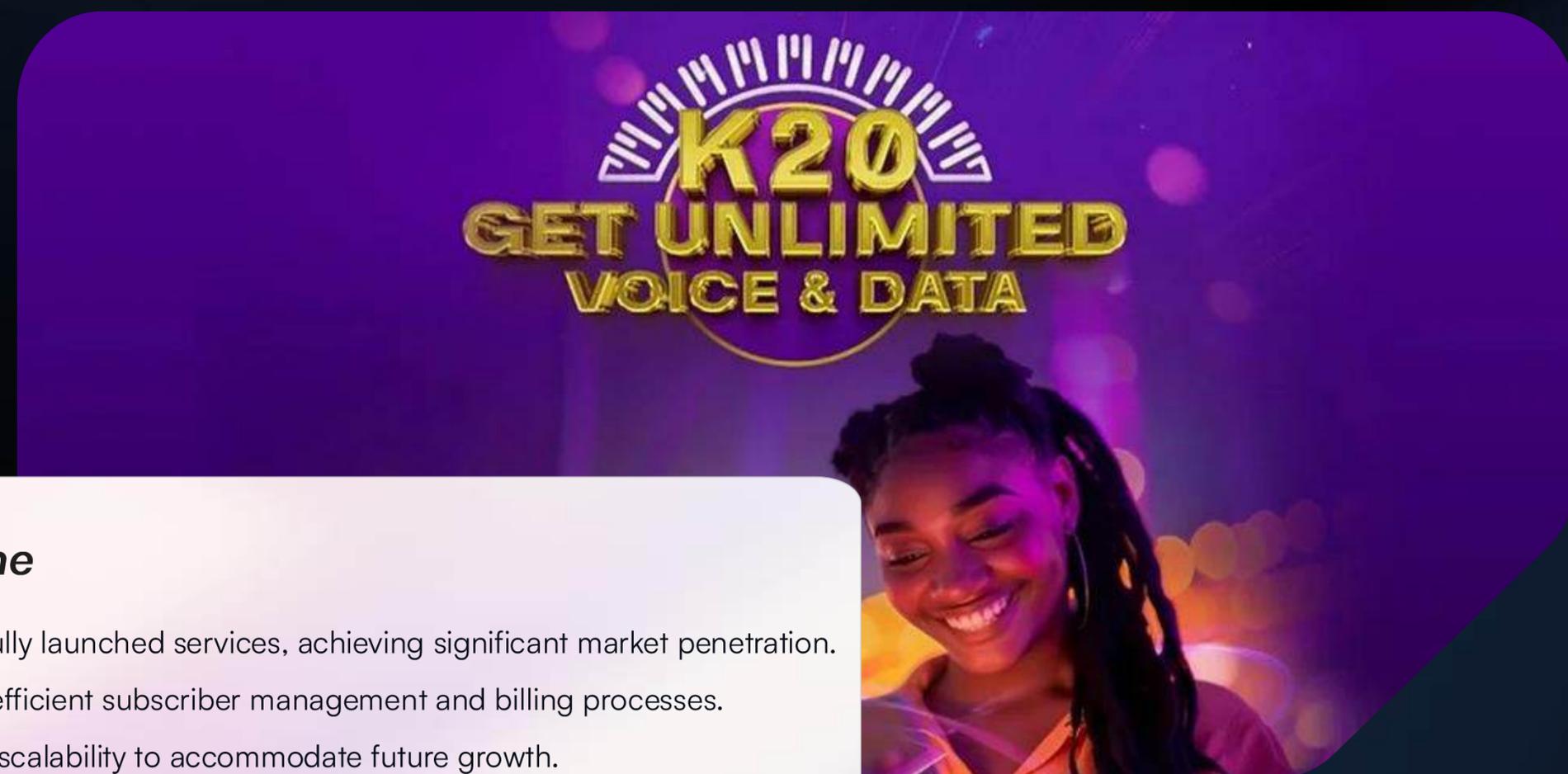
Cloud Contact Center for a Leading Smart Car Manufacturer

Challenge

The client required a scalable, multilingual contact center to support its expanding European customer base.
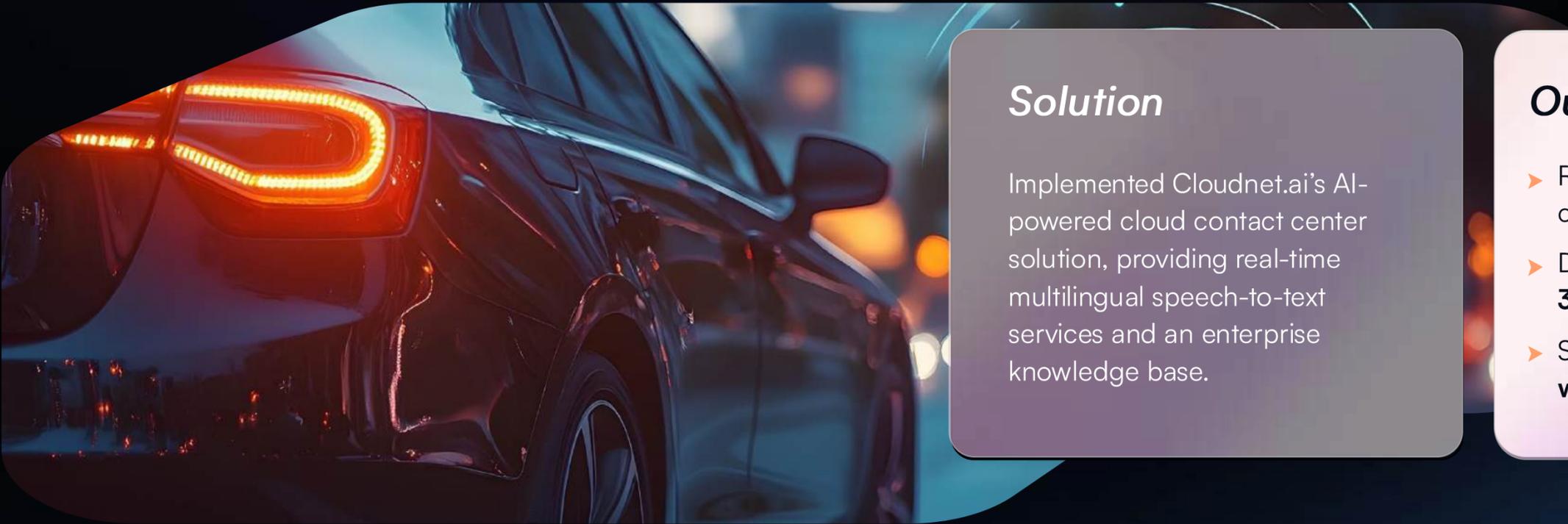
Solution

Implemented Cloudnet.ai's AI-powered cloud contact center solution, providing real-time multilingual speech-to-text services and an enterprise knowledge base.

Outcome

➤ Reduced seat demand, saving **30%** in operational costs.

➤ Decreased average response time from two minutes to **30 seconds**

➤ Shortened training cycles from three weeks **to one week**, enhancing agent efficiency.

Case Studies

Digital Transformation for a Leading Nordic Operator

Challenge

Modernize legacy systems to improve agility and customer experience.

Solution

Deployed Veris Cloud BSS and Megrez AI for seamless integration and intelligent network planning.

Outcome

➤ Accelerated service rollout by **50%.**

➤ Enhanced customer satisfaction scores by **25%.**

➤ Reduced operational costs through automation and AI-driven insights.
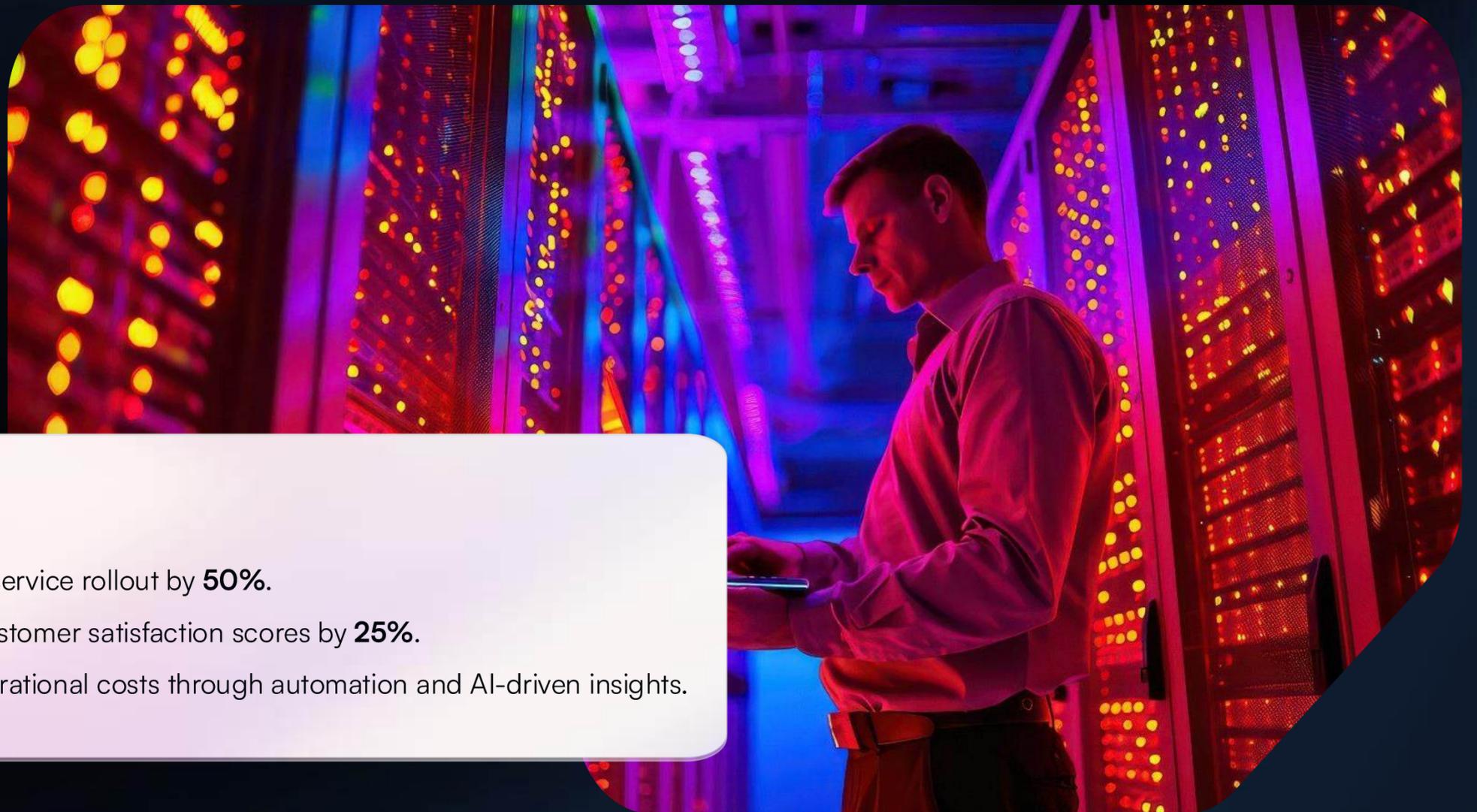
Veris P5G — Cloudnet.ai's Integrated Private 5G & BSS Solution
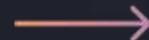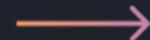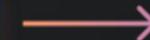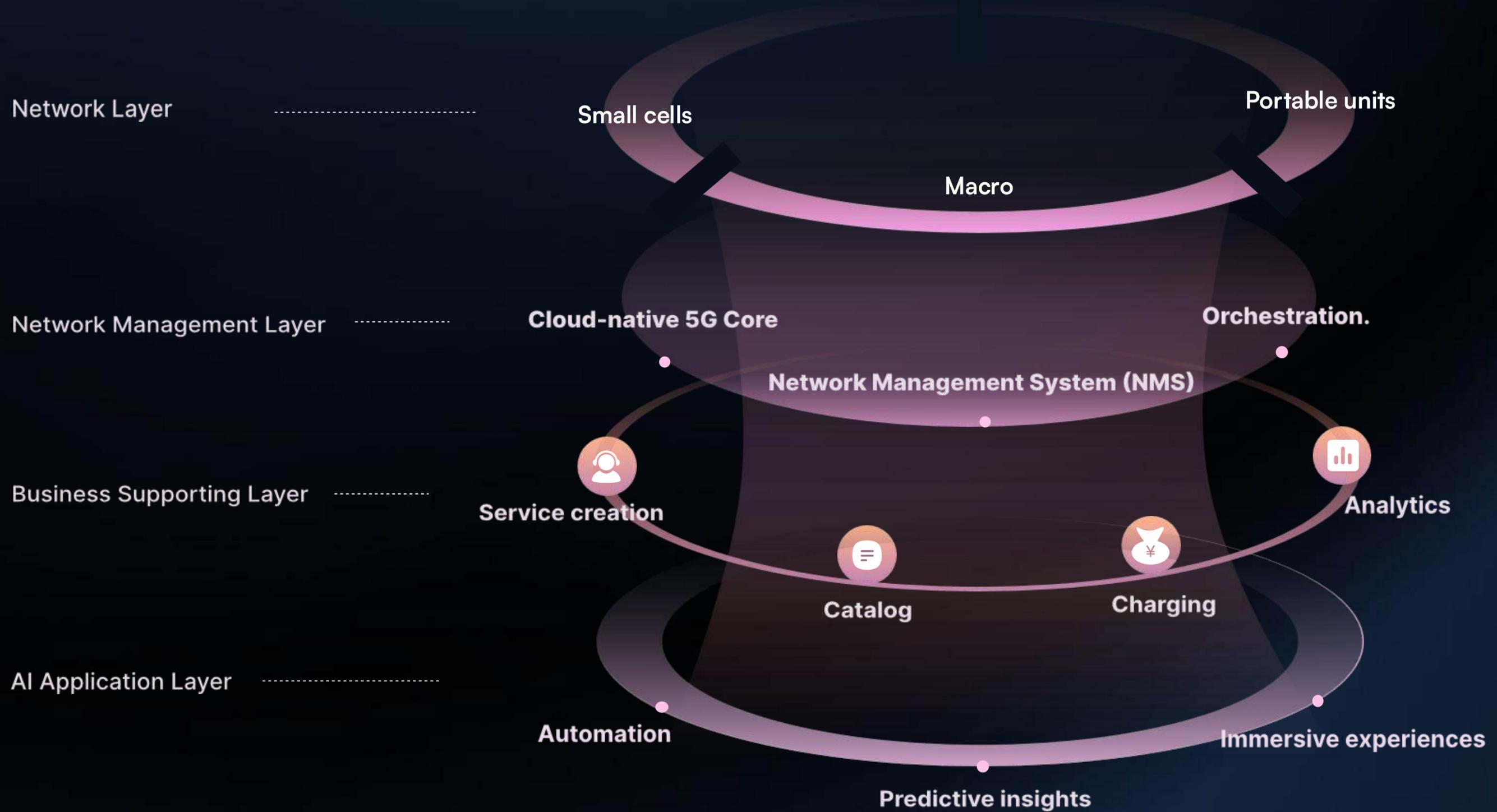
Overall Architecture

Cloudnet .ai

Network Layer

Small cells

Portable units

Macro

Network Management Layer

Cloud-native 5G Core

Orchestration.

Network Management System (NMS)

Business Supporting Layer

Service creation

Analytics

Catalog

Charging

AI Application Layer

Automation

Immersive experiences

Predictive insights

Core Network (4G/5G)

CloudRAN.ai

Switch
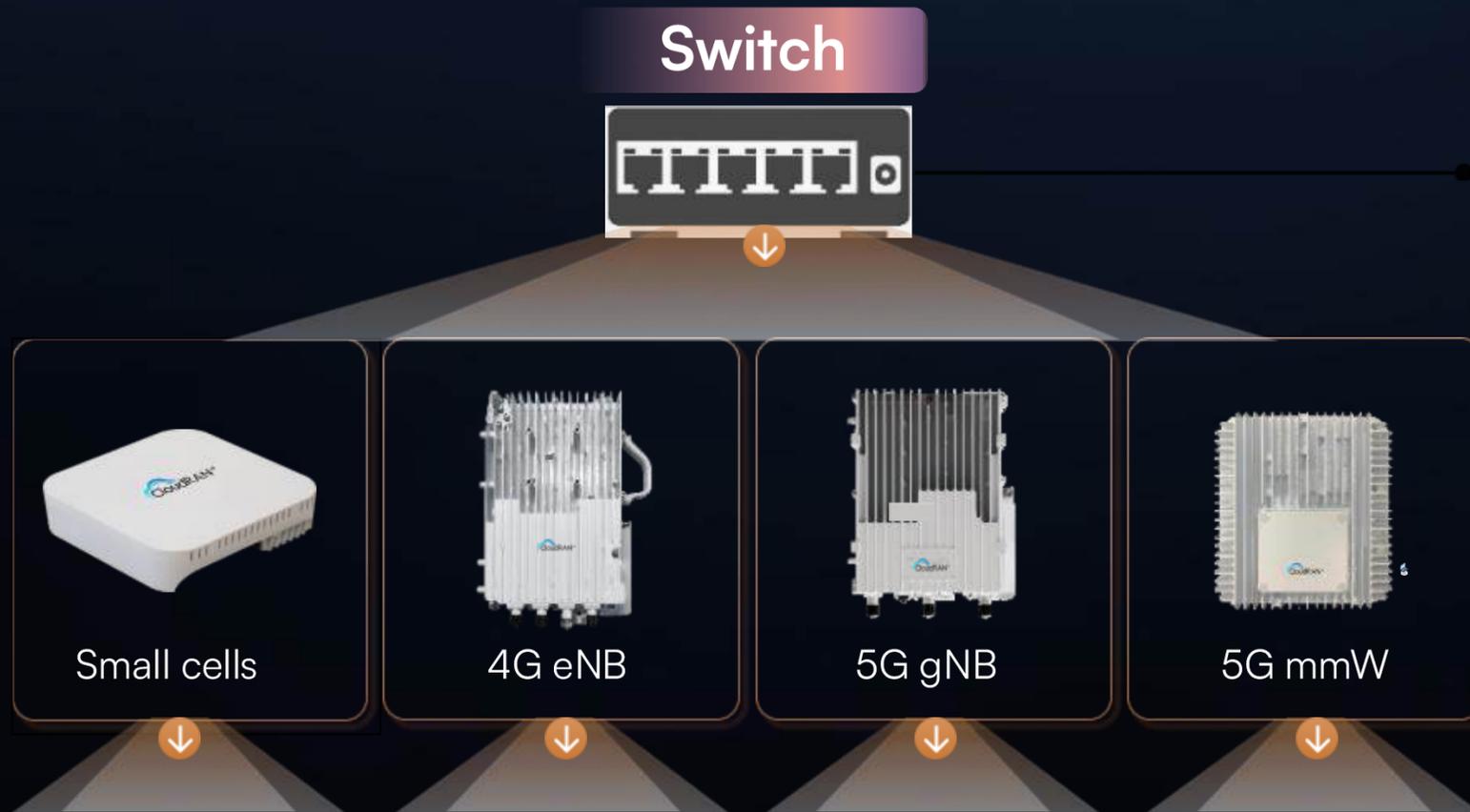
NB-IoT/EPC/5GC/IMS

Internet

Cloud

20Gbps+
Max throughput

Small cells

4G eNB

5G gNB

5G mmW

PBX
Private Branch Exchange

2K+
4G/5G base stations

50K+
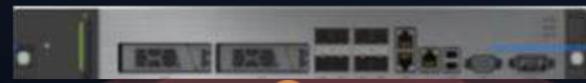Online users

1M+
Subscriber users

Highlights

- Multi-platform: EPC, 5GC, IMS, NB-IoT core functions.
- 4G&5G&NB-IoT data, VoLTE, VoNR, 4G&5G SMS
- Mobility, Multi-APN, 4G&5G roaming, billing, emergency call.
- Interfacing with PBX.
- Up to 1 Million subscriber and 50,000 online users, with 2,000 eNB/gNB 20Gbps per server

Private 5G Products

5GC With VoLTE

Network Management System

Vega250

2*250mw

Polaris10

2*10w
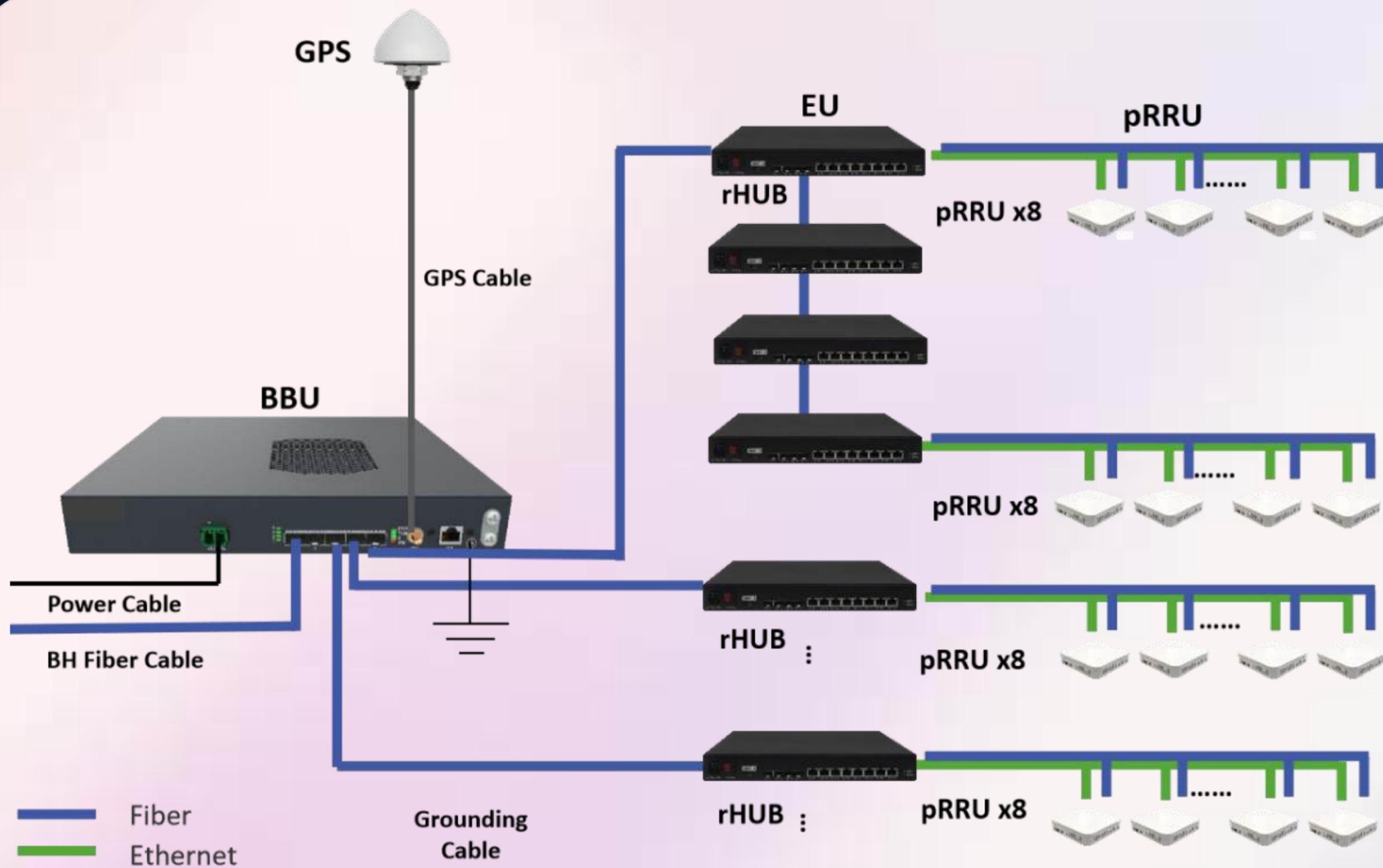(2*3W with CE)

Polaris40

2*40w

Polaris440

4*40w

Polaris40m

64*500mw

Power UP!

N77, N78, N79

Distributed RAN Architecture (Indoor)

Solution 1

▸Private 5G

Solution 2

▸Private 5G + Private 4G

Solution3 (Open Topics)

▸Private 5G + MNO coverage

CloudRAN.AI P5G Solution Framework

Smart Manufacturing (Industry 4.0)

Smart City

Intelligent Medical Care

Smart Campus

CRAI Cloud OMC

CRAI 5G core

CloudRAN.AI All-In-One gNB

5G

5G OT application as ecosystem
- CRAI supports E2E optimization of the application
- Supports multiple P5G scenarios

Cloud-based OMC system
- Supports core network interfacing
- Support for customized optimization of product performance
- High Quality-Price ratio
- Flexible deployment
- Easy IT Setup
- Zero touch deployment
- Support for customized optimization of product performance

Terminals in various scenarios

Provided by CRAI   Provided by partner

Market Context: Why Private 5G, Why Now

Cloudnet.ai

Wired

- Weeks to deploy
- Expensive cabling
- Low flexibility

Private 5G advantage

- Dedicated spectrum
- Secure
- Ultra-low latency
- Customizable

Public 5G

- Shared spectrum
- Variable QoS
- Limited control.

Wi-Fi

- Coverage gaps
- Poor performance in dense or irregular venues

Industries driving adoption

Manufacturing   Healthcare   Transportation   Live events   Mining   Logistics

Veris P5G Solution Overview

End-to-end Private 5G platform with integrated BSS and AI capabilities.

⠿ Modular adoption

choose specific layers or deploy the full stack.

⚡ Rapid deployment

operational in hours, not weeks.

🤖 **Future-ready – AI**

powered network optimization and monetization.

⚙ Flexible spectrum & architecture

tailored to enterprise needs.

Network Layer: Advanced RAN

Cloudnet .ai

➤ Multi-band, carrier-grade RAN supporting high-density environments.

Flexible deployment

➤ Indoor/outdoor

➤ Fixed/mobile

➤ Temporary/permanent

➤ High throughput & ultra-low latency for real-time applications.

➤ Seamless integration with 5G Core & NMS.

Business Supporting Layer: Veris BSS

- Integrated with P5G to enable service monetization.

- AI-driven service catalog creation and lifecycle management.

- Real-time charging
- Billing
- revenue assurance.

- Analytics-driven customer experience optimization.

AI Application Layer: Edge AI

➤ Real-time video
analytics

➤ AR/VR overlays

➤ Immersive media

➤ Predictive
maintenance

➤ Operational
automation.

➤ AI-based Quality of
Experience (QoE)
monitoring &
optimization.

➤ Integration with IoT,
ERP, and industry-
specific
applications.

Collaborative Opportunities for Partners

Integration Support

Our solutions are designed for seamless integration with existing systems, facilitating collaborative ventures.

Joint Innovation

We welcome co-development initiatives to tailor solutions for specific market needs.

Training & Resources

Partners gain access to comprehensive training and support resources.

Market Expansion

Collaborate with us to explore new markets and customer segments.

Enterprise 5G Network with Megrez

Challenge

Enterprises face significant challenges in designing private 5G networks, including high costs, time-consuming processes, and lack of specialized expertise.

Solution

Deployed Megrez, an AI-powered automation platform transforming complex network planning, optimization, and maintenance tasks from weeks of manual effort to AI-driven decisions in minutes

Outcome

➤ Reduced network planning and optimization time by over **60%.**

➤ Enabled in-house IT teams to manage network planning without external vendors.

➤ Achieved over 92% planning accuracy utilizing a hybrid AI and ray-tracing engine.
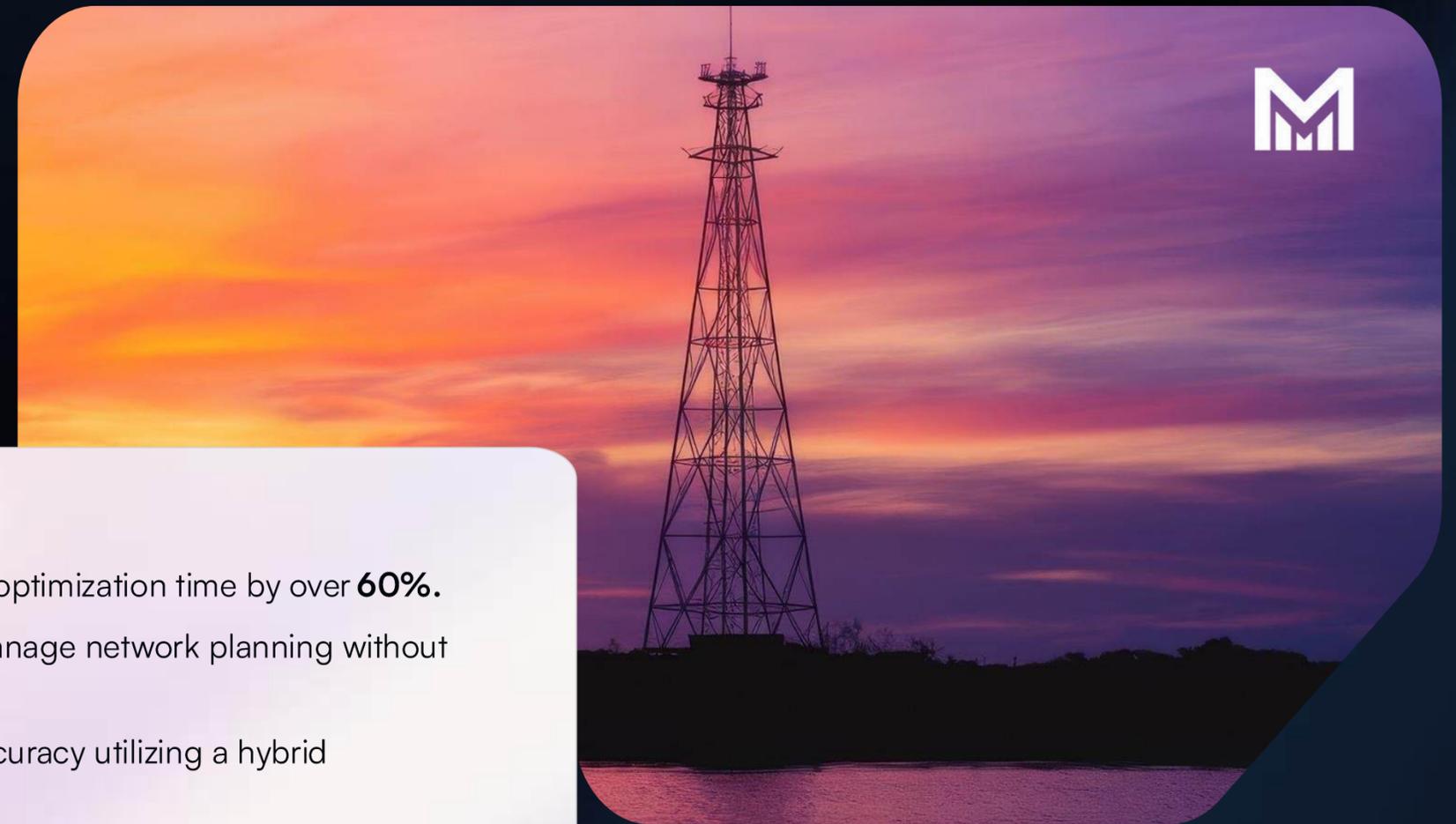
Reference Cases

Racetrack Case Study: Record-Setting P5G at 250 km/h

Challenge :

- Major live events overwhelm public cellular networks with spectators and media traffic.
- Racecars at 250 km/h need seamless video and telemetry connectivity—traditional handoffs cause video freezes.
- Doppler effect and rapid deployment requirements added complexity.
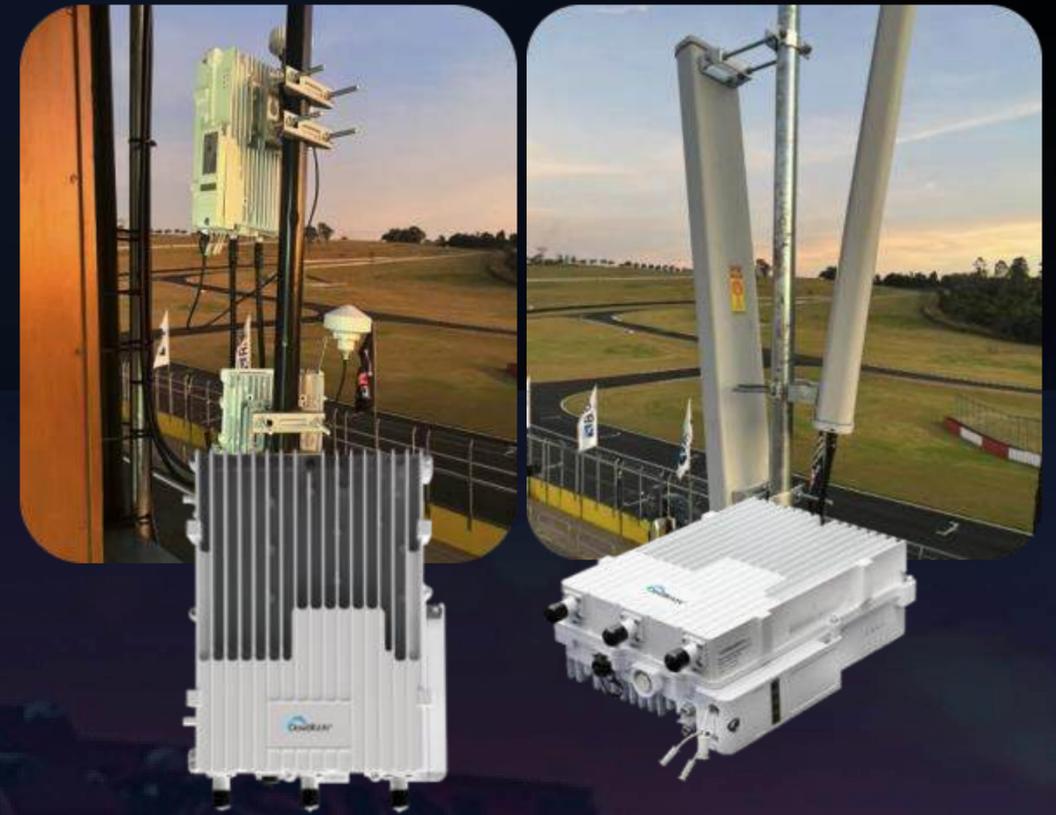
Solutions:

- Deployed CNAI's **Single-Cell Architecture** - a unified 5G cell spanning the ~4 km track using three synchronized base stations.
- Enabled **360° HD video from 8 racecars** plus telemetry - no stuttering or dropouts.
- Provided **spectator relief** via **multi-operator core (MOCN)**, offloading traffic for 60,000 fans.
- Achieved full setup in **~1 hour** using cloud-native, plug-and-play base stations.

Results:

- Delivered **230 Mbps uplink per car**, ensuring flawless broadcast quality.
- Elevated fan experience with uninterrupted streams.
- Won the **GSMA Foundry Excellence Award** at MWC 2025.
- Validated a repeatable model for **stadiums, venues, and industrial sites**.

30+ concurrent 4K cameras, mobile coverage, ultra-low latency.

Hong Kong International Airport — Private 5G Case Study

✈ Challenge:

Legacy BSS was built on Oracle Forms, limiting scalability, flexibility, and integration with 4G/5G core network. Needed modernization to support airport-wide telecom services and new business models.

Solution:

- Deployed **Veris Cloud BSS**, a microservices-based, cloud-native platform.
- Unified product catalog and convergent billing for 4G/5G services.
- Real-time customer management, order handling, and resource administration.
- Seamless provisioning with HKIA's core network (UDM, PCF, SPG).

Results:

- **Agile service rollout** — faster time-to-market for new offers.
- **High scalability** — from thousands to millions of subscribers.
- **Reliability** — active-active deployment with daily backup.
- **Enhanced customer experience** — 360° customer view, self-care options, faster order-to-activation cycle.

Secure, high-speed connectivity for passengers, operations, and security.

Cloudnet .ai

Reference Cases

Private 5G for Smart Hospitals

Customer Profile: Hospitals - Netherlands

Overview:

Hospitals face increasing demands for reliable connectivity to support mobile apps, communications, and integrated digital workflows. A Netherlands-based customer partnered with CloudRAN.AI to deploy a 4G+5G hybrid indoor network solution across hospitals and care facilities, delivering stable coverage, seamless handovers, and voice-grade call quality — with cost-effective scalability.

The distributed small cell solution reduces co-frequency interference and supports smooth capacity expansion, all while simplifying deployment and integration with existing systems.

Service Requirements

- Seamless indoor mobility and handover
- HD voice call quality
- Easy scalability across buildings and floors
- Reduced interference in high-density environments

Solution Advantages:

- Integrated 4G+5G baseband (no handover interruptions)
- Distributed RRU network for wall-to-wall indoor coverage
- Lower O&M and deployment costs
- Supports integration with hospital intranet and systems

Private 5G for critical care comms, imaging, and telemedicine.

Cloudnet.ai

Reference Cases

CRAI P5G at FISU2025

CloudRAN.AI delivered on-site Private 5G connectivity for the 2025 FISU World University Games, powering live broadcasts across multiple sports and venues.

Fast to Air
Fully operational Private 5G broadcast network deployed on-site in just 1—2 hours.

4K Freedom in Motion
Live broadcast coverage of basketball, volleyball, and a 3 km half-marathon, with mobile 4K cameras capturing every angle — all cable-free for full mobility.

Unmatched Capacity
Polaris10 powered 30+ simultaneous 4K camera feeds for uninterrupted multi-angle sports coverage.

One Fiber, Complete Coverage
A single fiber connection powered the entire Private 5G network, ensuring consistent, high-quality connectivity.

Impact
Delivered uninterrupted, broadcast-grade coverage across multiple venues and outdoor routes, creating richer viewer experiences while bringing fans closer to the action.

RHINE-RUHR 2025

Warehouse P5G Deployment

Customer Profile:
A leading Swedish manufacturing plant

Overview

To improve operational efficiency and logistics coordination, the customer deployed a Private 5G (P5G) network across its outdoor warehouse.

The goal: enable remote scheduling of forklifts and Automated Guided Vehicles (AGVs) to boost safety, flexibility, and automation in daily operations.

Performance Comparison

Indicator	Before P5G	After P5G	Improvement
Network Coverage	60%	100%	↑40%
Data Transmission Delay	50-100ms	8-15ms	↓80%-92%
Mean Time to Failure Response (MTTR)	4 hours	25 mins	↓90%
Security	Wi-Fi Wap3	AES-256 encryption with dynamic authentication	↑
O&M Cost	High AP and high upgrade cost	Coverage achieved with 3 units	↓50%-60%

Service Requirements

- Ultra-Low latency
- High reliability
- Flexible, scalable networking

Solution Benefits:

Lightweight Deployment:
- All-in-one base station with integrated power and backhaul
- Compact form factor for both indoor and outdoor use
- Panel antenna base station for streamlined installation

Cost Optimization:
- Fewer units needed with integrated hardware
- Network-in-Radio reduces complexity

AI-Driven Site Planning
- Efficient placement and coverage via AI-based design (Megrez)

Private 5G for Car Dealerships

Customer Profile:

A leading automotive dealership in the UK

Overview

A UK car dealer deployed a private 5G (P5G) network using 2×40W / 4×40W base stations and CPEs for Wi-Fi access.

The solution ensures secure, full-area coverage - supporting P4G/P5G for operations and Wi-Fi for public zones - enabling fast service apps, connected test drives, and customer connectivity indoors and outdoors.

Service Requirements

- Reliable coverage across large showroom + lot
- Seamless user mobility indoors/outdoors
- Combined P4G/P5G and Wi-Fi integration

Performance Comparison

Feature	Wi-Fi	P4G / P5G	Impact
Coverage Range	Limited indoor coverage, weak outdoor range	Broad indoor + outdoor coverage	Significantly improved footprint
Mobility Support	Better suited for static users	Seamless handover; mobile-friendly	Improved mobility by 80%
Data Speed	Inconsistent, often slower	Stable, high-speed connectivity	↑ 50% - 100% speed gain
User Capacity	Limited concurrent users	High concurrent user support	↑ 60% increase in capacity

Solution Benefits:

Compact Deployment
- All-in-one base station with power & backhaul in one cable
- Dynamic power control via software
- Outdoor CPEs use P4G/P5G backhaul for public Wi-Fi

Lower Costs
- Fewer base stations via integrated, high-power radios
- "Network-in-Radio" architecture minimizes hardware and deployment cost

Outdoor Live Streaming with P5G

Customer Profile:

Sport broadcasting company, Germany

Overview

To support live outdoor coverage of a half-marathon event, the customer deployed CloudRAN.AI's private 5G (P5G) solution. By leveraging a dedicated 100MHz frequency band and high-QoS customization, the network delivered stable, low-latency (5—10 ms) performance throughout the race route.

This enabled uninterrupted streaming of real-time video, audio, and data to global audiences. The deployment improved network reliability, coverage, and service quality—critical for large-scale live events.

Service Requirements

- Robust uplink for uninterrupted video feeds
- Low latency to support smooth streaming
- High-bandwidth links for HD content delivery
- Reliable coverage across extended outdoor areas

Performance Comparison

Feature	Operator 5G	CRAI P5G	Improvement
Exclusive Frequency Band	No	100Mhz	↑80% Dedicated spectrum avoids interference
Latency	20 - 30 ms	5 - 10 ms	Reduced by 50% - 83%
Customization for Streaming	Limited	High-QoS tailored for live events	Significant improvement in quality

Solution Advantage:

Quick Deployment:
- All-in-one base station design with simplified cabling
- Plug & Play setup

Cost Efficiency:
- High-power units reduce site count
- Network-in-Radio simplifies operations

Optimized for Broadcast:
- Stable mobility across multiple base stations
- Dedicated 100MHz private band for interference-free performance

Teleoperation with Private 5G: Mixed Reality in Action

Customer Profile:

Teleoperation Robotics Demonstration — Spain

Overview

A Spanish customer conducted a real-world demo using our private 5G (P5G) base station to remotely control a mobile robot via mixed reality.

The setup enabled real-time teleoperation while streaming RGB, thermal, and point cloud data from the robot's sensors - all transmitted seamlessly over the cellular network.

The deployment highlighted the strength of P5G in handling precision robotics and data-heavy workloads with ultra-low latency and stable signal quality.

Service Requirements

- Low-latency network for accurate robotic control
- Stable uplink to handle real-time sensor data
- Wide-area coverage for mobile operation zones

Performance Comparison

Feature	Wi-Fi	P5G	Improvement
Latency	50 - 100 ms	5 - 15 ms	Reduced by 70% - 95%
Bandwidth for Multiple Streams	Limited, poor concurrency	High-speed, supports simultaneous data streams	Bandwidth improved by 200%—300%
Signal Stability	Frequent drops, prone to interference	High signal stability, interference-resistant	Improved by 150%—200%
Remote Control Precision	Poor due to lag and jitter	High-precision control via low latency	Precision improved by 120%—180%

Solution Advantages:

Quick Deployment:
- All-in-one base station with simplified power and backhaul cabling
- Plug & Play setup for rapid trials or permanent installs

Cost Efficiency:
- Integrated architecture reduces the number of base stations needed
- Network-in-Radio simplifies operations

Optimized for Robotics:
- Seamless handover across coverage zones
- Ultra-low latency improves real-time control and safety
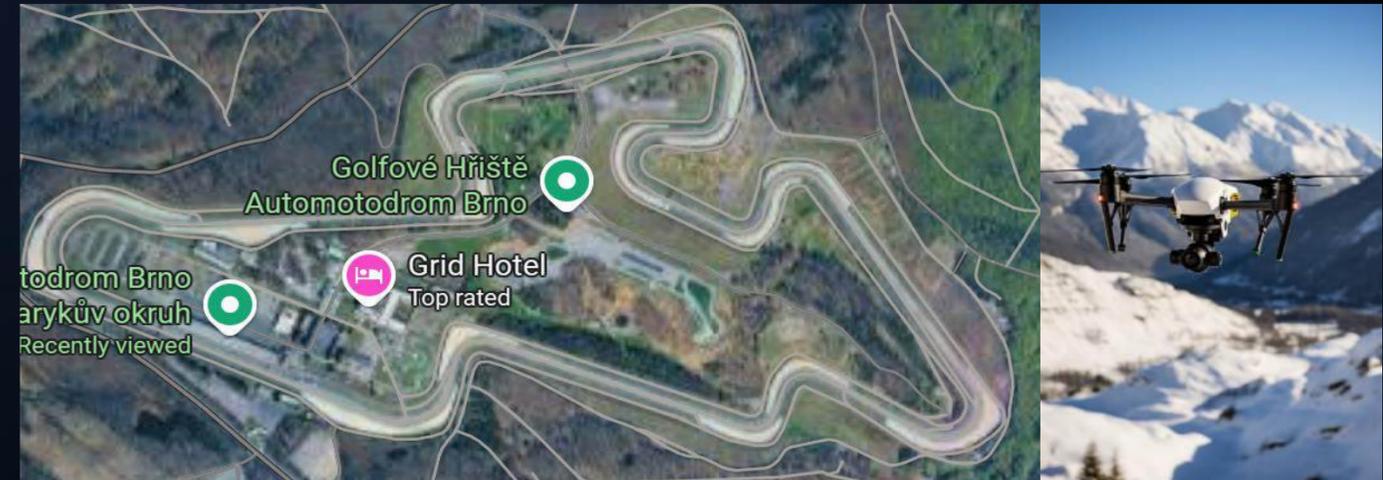
Private 5G for Live Drone Streaming

Customer Profile:

Drone Video Company - Czech Republic

Overview

To support live F1 racing broadcasts, a Czech drone media provider deployed a private 5G (P5G) network powered by CloudRAN.AI.

The solution enabled drones equipped with 4K/8K cameras to transmit high-definition video feeds in real time - even during high-speed aerial maneuvers.

With strong uplink capacity and low latency, the P5G system delivered seamless, uninterrupted coverage of the race from dynamic angles above the track.

Performance Improvement

Indicator	Before P5G	After P5G	Improvement
Video Latency	200 - 300 ms	10 - 30 ms	Reduced by 85% - 96.7%
Resolution Support	1080p	4K/8K	Increased by 400% - 1600%
Bandwidth per Drone	10 - 20 Mbps	100 - 200 Mbps	Increased by 1000%
Concurrent Drone Support	2 - 3	8 - 10	Capacity increased by 300% - 400%
Signal Dropout Rate	15% - 20%	1% - 3%	Reduced by 85% - 95%

Service Requirements

- Reliable network coverage over large event areas
- High uplink capacity for video backhaul
- Minimal latency for uninterrupted 4K/8K live feeds
- Stable signal during fast, unpredictable drone movement

Solution Advantages:

Rapid Deployment:
- All-in-one base station design
- Single power + backhaul cable
- Plug & Play setup

High Performance:
- N77 band (100 MHz) for dedicated high-bandwidth streaming
- Seamless handover between cells during flight
- Optimized for low-latency, high-definition applications

TV Broadcasting with P5G FWA in Japan

Low Latency, High throughput, Low maintenance

Customer Profile:

CATV Operator — Japan

Overview

In Japan, CATV operators are using private wireless technology to transmit TV content to their customers. These operators previously relied on traditional 4G, but growing capacity demands and the high complexity of 4G systems made them increasingly costly to maintain.

CRAI's private 5G solution enables high-definition, real-time, and stable-speed video streaming for households in rural areas of Japan. It significantly reduces time, cost, and effort compared to laying cable or fiber to the home.

There's no need to install physical wiring or modify existing buildings — the low-cost private 5G setup supports reliable HD video services across rural Japan.

Service Requirements

- Low latency and consistent high throughput to support HD video
- Low maintenance cost for the whole system
- Good coverage performance to transmit the signal into the household
- Distributed core network reducing transmission cost and complexity

Solution Advantages:

- **Decentralized Core Network:** remove the expensive central core, also remove the potential bottleneck for the latency performance.
- **Cost Efficiency:** All-In-ONE 5G gNB require much less site footprint and easy to maintain. Virtualized core network require much less space and facility to install.
- **Stability:** CRAI 5G provides consistent speed for the video, which is considered as mandatory requirement for TV service.
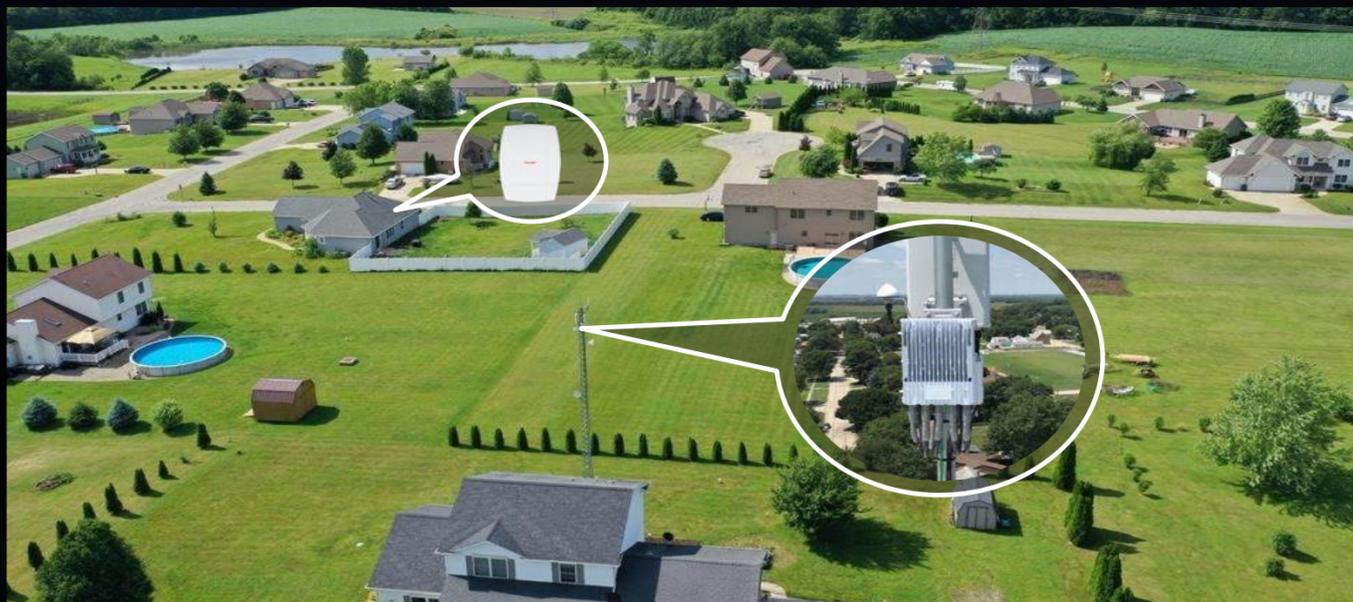
Local 5G for Smart Manufacturing in Japan

Fast. Stable. Scalable.

Customer Profile:

Major Japanese manufacturer of industrial wiring systems

Overview

The customer deployed a CloudRAN.AI Private 5G (P5G) network to power smart manufacturing capabilities, combining Fixed Wireless Access (FWA) with indoor wireless coverage across their production and logistics areas.

The solution enables reliable wireless connectivity for factory automation, data-driven quality control, and remote equipment monitoring.

Performance Comparison

Indicator	Legacy Network	After P5G	Impact
Coverage	Limited indoor Wi-Fi	Full indoor + FWA coverage	↑Improved operational range
Network Flexibility	Wired connections	Wireless, reconfigurable	↑Greater layout agility
Reliability	Unstable in dense areas	Industrial-grade stability	↑Fewer interruptions
Deployment Cost	Extensive cabling	Simplified infra (FWA + P5G)	↓Reduced setup and O&M cost

Service Requirements

- Consistent indoor wireless coverage
- Fixed Wireless Access (FWA) to replace legacy cabling
- Support for automated production equipment and sensors

Solution Benefits:

Reliable Coverage:
- Industrial-grade P5G network across factory floor
- Enhanced uptime and mobility for connected devices

Cost Efficiency:
- Reduced reliance on cabling
- Scalable coverage using FWA and compact base stations

Future-Ready Platform:
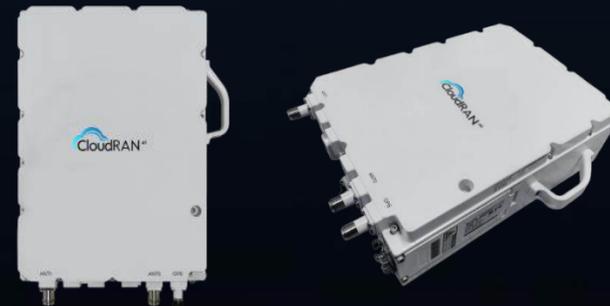- Supports automation, IoT integration, and remote diagnostics

Smart Mining with Private 5G

Simple & Easy coverage

Customer Profile:
Open-Pit Mining Operation — Ordos, China

Overview

Located in Ordos City, this coal mine spans 6.25 km² and has scaled its annual production capacity from 1.2 million to 2.4 million tons in line with national policy. To support this growth, CloudRAN.AI deployed a private 5G (P5G) network, enabling remote operation of mining trucks, high-bandwidth multi-camera monitoring, and enhanced safety analytics.

The solution delivers ultra-low latency, broad device connectivity, and intelligent automation - turning the mine into a data-driven, remotely operable smart site.

Automatic Driving (Video)

Service Requirements

- Remote truck and equipment control
- Driver fatigue detection via multi-angle cameras
- Flexible, reconfigurable network coverage
- Rapid on-site deployment

Performance Comparison

Indicator	Before P5G	After P5G	Improvement
Remote Control Latency	50 - 100 ms	5 - 15 ms	Reduced by 70% - 95%
Bandwidth	10 - 50 Mbps	500 Mbps - 1 Gbps	Increased by 1000% - 10000%
Concurrent Devices	50 - 100	500 - 1000	Improved by 1000%
Safety Monitoring Accuracy	70% - 80%	95% - 98%	Enhanced by 35.7% - 22.5%
Mining Efficiency	N/A	Increased productivity by 30% - 40%	30% - 40% improvement

Solution Advantages:

Quick Deployment:
- Compact, all-in-one base station design
- Single cable for power and backhaul
- Plug & play installation

High Scalability:
- Vehicle-mounted CPE supports multi-camera inputs
- Mobility across multiple base stations
- Seamless coverage across shifting terrain

Cost Savings:
- Fewer base stations due to extended coverage radius
- Network-in-Radio for simplified infrastructure

Summary

Veris P5G

| Private 5G | + | BSS | + | AI |

One integrated platform.

- ➤ Rapid deployment
- ➤ Dedicated performance
- ➤ Modular flexibility.

- ➤ Proven in large-scale, high-demand environments.

Contact Us:

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![Cloudnet AI logo]

Our Solutions at a Glance

Gen-AI Product Catalog

Enables swift creation and deployment of new services using natural language interfaces.

Veris Cloud BSS

A modular, AI-native platform streamlining business support systems.

Megrez AI

An intelligent tool for rapid and accurate network planning.

Private 5G Stack

End-to-end solutions for deploying and managing private 5G networks.

Solutions Overview

Veris Cloud BSS

Features

- Cloud-native, modular architecture.
- AI-driven automation for billing, CRM, and product catalog.
- TM Forum Open API compliant.

Benefits

- Accelerates time-to-market for new services.
- Enhances customer experience with intelligent CRM.
- Reduces operational costs through automation.

Megrez AI

Capabilities

- AI-driven network design and optimization.
- Utilizes over 560 million ray path data points.
- Achieves over 92% planning accuracy.

Impact

- Cuts planning time by over 60%.
- Reduces reliance on specialized engineering resources.
- Enables rapid deployment of private 5G networks.

Private 5G Stack

Components

- Cloud-native OpenRAN infrastructure.
- AI-enhanced network management system.
- Seamless integration with Veris BSS.

Use Cases

- Industrial automation.
- Smart cities.
- Healthcare facilities.
- Transportation hubs.

Engagement Models

Direct Collaboration

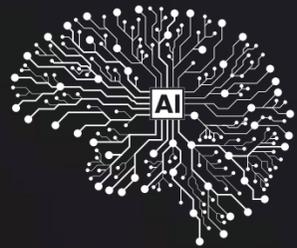Working closely with partners and customers to tailor solutions.

Managed Services

Offering end-to-end management for deployed solutions.

Joint Ventures

Collaborating on innovative projects to explore new markets.

Cloudnet.ai

Let's Collaborate

Join us in shaping the future of connectivity.

Whether you're looking to enhance your network capabilities, explore
new service offerings, or embark on a digital transformation journey,
Cloudnet.ai is here to partner with you every step of the way.

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