### Accelerating Healthcare Innovation with Private & Hybrid 5G Networks:

A Strategic Guide for Healthcare IT Decision-Makers



## Introduction

With the growing demand for secure and reliable connectivity in healthcare, private and hybrid 5G networks have emerged as transformative solutions. By enabling lowlatency connectivity, seamless device integration, and high data security, these networks empower healthcare organizations to improve operations, enhance patient care, reduce costs, and drive innovation.

This market brief explores how healthcare organizations can adopt private and hybrid 5G networks to solve for their technology, operational, and business outcome requirements.

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### The Case for Private & 5G in Healthcare

### 3 Key Challenges in Healthcare Connectivity

Healthcare organizations face significant challenges that limit the performance of traditional networks.

#### 1. Data Security

Increasingly stringent privacy laws (e.g., HIPAA/HITRUST, GDPR, CCPA, etc.) require the highest levels of data protection.

#### 2. Device Density

Hospitals operate with thousands of connected medical devices, from infusion pumps to wearables.

#### 3. Real-Time Data Requirements

Applications like AI diagnostics, telehealth, and robotic surgeries need ultra-low latency.



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### How Hybrid 5G Meets These Needs

Hybrid 5G combines private networks (for missioncritical workloads) with public cellular networks (for scalability and mobility). This model provides:

#### **Reliable Connectivity**

Guaranteed performance for life-saving systems with no network interruptions.

#### Flexibility

Secure data exchange across cloud platforms while maintaining control over sensitive on-premises applications.

#### **Operational Scalability**

Support for an expanding number of IoT devices and mobile clinicians, both inside and outside the hospital.



# 4 Use Cases for Private & Hybrid 5G in Healthcare

#### Use Case #1 REMOTE PATIENT MONITORING

<u>Capabilities</u>: IoT-enabled wearables transmit real-time vitals like heart rate and glucose levels directly to healthcare providers.

**Business Impact:** Reduces readmissions, improves caregiving efficiency, and aligns with value-based care initiatives.

#### Use Case #2 AI-POWERED DIAGNOSTICS

<u>Capabilities:</u> 5G-enabled edge computing accelerates image analysis (e.g., MRI scans) and clinical decision-making.

**Business Impact:** Faster diagnostics improve patient outcomes and reduce costs associated with delayed treatments.



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#### Use Case #3 TELEHEALTH & HOME-BASED CARE

<u>Capabilities</u>: Enables clinicians to securely perform virtual consultations and oversee post-discharge care.

**Business Impact:** Expands access to underserved populations while improving continuity of care.

#### Use Case #4 SMART HOSPITAL OPERATIONS

<u>Capabilities:</u> IoT connectivity powers asset tracking, predictive maintenance, and smart building management.

**Business Impact:** Increases resource utilization and reduces downtime for critical equipment.





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Solving for Technology & Operational Requirements with Vendor-Agnostic MSPs

Healthcare organizations often lack the internal expertise, resources, and time to design, implement, and manage transformative 5G deployments. This is where vendor-agnostic Managed Services Providers (MSPs) bring value.

### 5 KEY BENEFITS OF WORKING WITH VENDOR-AGNOSTIC MSPS

#### **1. TAILORED NETWORK DESIGN**

MSPs work with clients to design hybrid 5G networks that meet specific operational needs, whether for critical IoT systems, telehealth platforms, or secure data exchange. By remaining vendor-agnostic, they recommend the best combination of hardware, software, and cloud solutions for each use case.



#### **2. ALIGNMENT WITH BUSINESS OUTCOMES**

MSPs focus on the bigger picture—improving patient satisfaction, reducing operational costs, and meeting compliance standards. They assess how 5G can deliver measurable ROI, such as reducing care delivery delays and enabling value-based care initiatives.

#### **3. OPERATIONAL RESILIENCE**

Experienced MSPs ensure that healthcare networks are built for long-term reliability and security. They implement zerotrust architectures, network slicing for prioritization, and redundancy planning to keep critical systems online even during disruptions.

#### STREAMLINED DEPLOYMENT & INTEGRATION

Many healthcare organizations already operate legacy systems and complex IT ecosystems. MSPs specialize in the seamless integration of 5G with existing technologies like EHRs, PACS, and IoT analytics platforms, avoiding costly downtime.



#### **5.** SCALABILITY & FUTURE-READINESS

MSPs design networks with the flexibility to scale as operational demands grow, such as adding more IoT devices or enabling new AI-powered applications. They also futureproof the network for emerging technologies like augmented reality (AR) in surgical training.

**Rather than simply** advocating for specific vendor solutions, these MSPs focus on aligning technology with operational requirements and desired business outcomes.







### Real-World Impact: Boston Children's Hospital

A case study highlighted in the IDC report illustrates how Boston Children's Hospital leveraged a hybrid 5G network powered by T-Mobile to improve care delivery:

#### **Reduced Complexity**

By integrating public and private 5G, the hospital achieved seamless connectivity across its main campus, satellite clinics, and patients' homes.

#### **Enhanced Mobility**

Physicians gained real-time access to electronic health records (EHRs) and medical imaging across devices, improving productivity.

#### Scalability

The hybrid infrastructure laid the foundation for advanced use cases, such as augmented reality (AR) for surgical planning and IoTenabled monitoring of critical equipment. This case demonstrates the value of designing a hybrid 5G network that addresses both clinical workflows and broader operational goals, with business outcomes like reduced costs and better patient experiences.





### Overcoming Challenges in Deployment

### 3 Critical Solutions Offered By MSPs

#### <u>1. Spectrum Licensing</u>

MSPs assist with navigating regulatory frameworks, such as obtaining CBRS licenses for private networks.

#### <u>2. Cost Management</u>

Hybrid models balance upfront infrastructure costs with long-term operating expenses, ensuring high ROI.

#### <u>3. Compliance</u>

MSPs help implement robust cybersecurity measures, ensuring adherence to HIPAA and other regulatory requirements.



# Conclusion

Private and hybrid 5G networks are driving transformative change in healthcare—allowing for better patient care, optimized hospital operations, and groundbreaking medical innovations.

However, leveraging these networks effectively requires going beyond just adopting new technology; it requires a deliberate focus on operational alignment and business outcomes.

By partnering with vendor-agnostic MSPs, healthcare organizations can ensure that their 5G deployments are designed to address their unique challenges, integrate with existing systems, and scale for future needs.

> WITH THE RIGHT STRATEGIES, HEALTHCARE LEADERS CAN HARNESS HYBRID 5G TO IMPROVE EFFICIENCY, ENHANCE PATIENT OUTCOMES, AND DELIVER ON THE PROMISE OF NEXT-GENERATION HEALTHCARE.



# Interested?

#### **REACH OUT TO ADVANTAGE TO:**

- Conduct an internal assessment of network readiness and business priorities.
- Identify key use cases where 5G can address operational challenges (e.g. remote monitoring or smart hospital systems).
- Engage a vendor-agnostic approach to design and implement a hybrid 5G network aligned with your organization's existing IT infrastructure, financial considerations, and operational goals.

Authored by Sam Riegel

