

Whitepaper

Autonomous Care: Provider's Roadmap Into The Future

Transitioning from legacy-burdened systems to a future-agnostic ecosystem of autonomous orchestration, clinical intelligence, and interoperable standards.



Executive Summary

The healthcare delivery model is undergoing a fundamental shift, decoupling from its historical physical and manual constraints. By 2029, providers will pivot toward Autonomous Health Orchestration, where intelligent agents manage 80% of administrative friction and proactively coordinate clinical workflows. This whitepaper outlines the strategic shift from a "Legacy-Burdened" state to an "Agentic" future. We analyze the automation potential across the provider value chain, from revenue cycles to clinical documentation, and provide a maturity roadmap for adopting future-agnostic infrastructure.

We introduce the Tech Mahindra CARE+ framework, which harmonizes Clinical, Administrative, Revenue, and Experience Pillars, and the Orion Enterprise AI Platform as the agentic orchestration fabric that enables providers to operationalize autonomous workflows at scale, returning the clinician's focus to the patient through "AI Delivered Right".



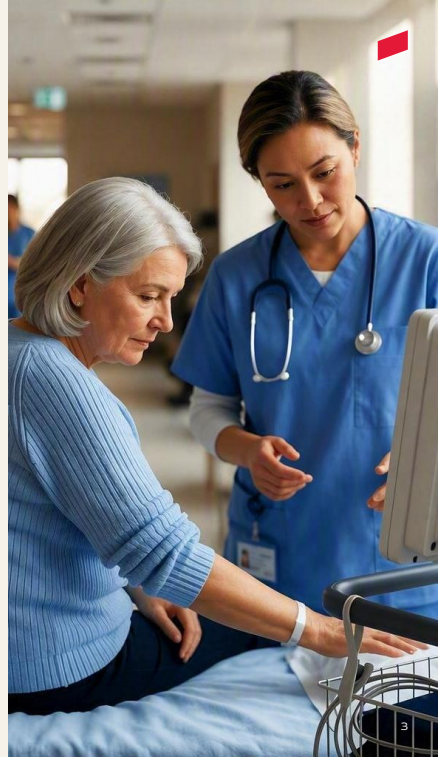
Introduction

The healthcare industry is currently navigating a structural migration of value, a \$1 trillion shift away from labor-intensive, fragmented models toward autonomous, digital-first ecosystems (PwC, 2025). For CXOs and healthcare leaders, the challenge is no longer about simple "digital transformation". It is about surviving the Realization Cycle Crisis, where legacy technical debt and administrative friction impede the delivery of mission-critical care.

Current provider landscapes are saturated with technical debt, where up to 80% of IT budgets are consumed by maintaining static, siloed systems (Accesscorp, 2025). This "Legacy Burden" has decoupled clinicians from their primary purpose, resulting in record-high burnout and systemic operational fragility. To remain resilient, providers must embrace the "Great Decoupling", the separation of clinical care from physical and manual constraints.

This whitepaper outlines a strategic blueprint for providers. We argue that the industry is moving beyond passive tools toward Autonomous Health Orchestration. In this future state, Agentic AI and clinical-grade wearables serve as the primary drivers of a "Clinical Renaissance," transforming the hospital from an episodic intervention site into a continuous wellness hub.

Our goal is to provide a future-agnostic roadmap that leverages interoperable standards such as HL7 and FHIR, structured through the CARE+ transformation lens (Clinical, Administrative, Revenue, Experience), and enabled by an agentic orchestration fabric capable of executing multi-step workflows across disparate provider systems. By the end of this paper, leaders will have a clear view of the path to transition from legacy-burdened operations to an agentic ecosystem, returning the clinician's focus to the patient through "AI Delivered Right."



Industry Trends

The healthcare provider landscape is entering a period of "Uneven Recovery," characterized by a structural migration of value from labor-intensive services to software, analytics, and autonomous orchestration. Over the next three years, the industry will pivot from digital experimentation to large-scale value realization, driven by the following global trends.

Economic Transformation: Structural Migration to Software

- **Profit Pool Realignment:** McKinsey projects that while traditional hospitals face margin strain, the Health Services Technology (HST) segment will grow at 9% annually, with industry-wide EBITDA growth accelerating to 10% between 2027 and 2029.
- **The \$1 Trillion Shift:** PwC estimates that \$1 trillion in annual healthcare spending will shift away from infrastructure-heavy, fragmented models toward digital-first, proactive, and personalized systems.

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- **Operational Productivity Gains:** By 2027, the industry is predicted to save up to \$382 billion through the optimization of clinical and administrative workflows via intelligent automation.

Technological Maturity: The Emergence of Agentic AI

- **From Copilots to Agents:** Gartner predicts that "Agentic AI" systems capable of planning and taking autonomous action on behalf of users will reach mainstream adoption by 2027–2028. This shifts the focus from simple summarization to end-to-end task execution in revenue cycles and clinical scheduling.
- **Scaling Digital Twins:** Large healthcare providers are expected to scale the adoption of Patient Digital Twins by 60% by 2029 (IDC, 2025). These twins will transform medical education and enable "in-silico" testing of personalized care protocols to enhance safety and cost-effectiveness.
- **AI-First Cybersecurity:** As cyber threats grow more sophisticated, 40% of healthcare organizations will adopt AI-based threat intelligence by 2027 to ensure care continuity and neutralize lateral movement within clinical networks (IDC, 2025).



Industry Trends

The Site-of-Care Shift: Decentralized & Site-Neutral Delivery

- **The Home as the Primary Hub:** PwC and McKinsey both highlight a permanent shift toward non-acute settings, with ambulatory surgery centers (ASCs), home-infusion, and hospital-at-home programs outperforming traditional inpatient settings.
- **Wearable Synergy:** Clinical-grade wearables will move from tracking to "continuous monitoring," feeding real-time biometrics into AI engines that detect deterioration before a hospital visit is required.
- **Site-Neutral Reimbursement:** Regulatory pressure is mounting for site-neutral pricing, forcing providers to realign their portfolios and cost structures to remain competitive in a decentralized market.

Consumerism: The Rise of the "Super Consumer"

- **Expectation for Instant Guidance:** Forrester identifies a trend where consumers are growing indifferent to the source of health information, often trusting "public AI tools" as much as traditional insurer platforms.
- **Answer Engine Optimization:** Providers must modernize their digital strategies to compete with external "answer engines," ensuring they remain the authoritative voice in the patient's care journey.
- **Convenience-Led Care:** Deloitte reports that 64% of consumers now prioritize convenience over in-person visits, driving a surge in demand for virtual care and alternative sites that offer services outside traditional "9-to-5" hours.

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These converging forces, economic restructuring, agentic AI maturity, decentralized care delivery, and consumer-driven demand are not independent trends. They compound, and each amplifies the others. Addressing them in isolation fragments investment and dilutes returns. Providers who unify them within a structured transformation model, aligning clinical, administrative, revenue, and experience outcomes through a single orchestration fabric, will convert compounding pressure into compounding advantage.



Current State and Strategic Challenges: The Crisis of Complexity

The healthcare provider landscape has reached a point of Technical Debt Saturation. While front-end digital tools have advanced, the underlying infrastructure remains a fragmented patchwork of legacy systems that consume the majority of organizational resources while actively impeding the clinical mission. This section outlines the structural and operational hurdles defining the current environment.

Economic Fragility and Technical Debt Saturation

Providers are operating on a foundation where the cost of maintaining the past prevents investment in the future.

- **The Innovation Gap:** Between **60% and 80% of hospital IT budgets** are currently consumed by the maintenance of legacy infrastructure, leaving minimal capital for the adoption of agentic technologies (HIMSS, 2025).
- **Budgetary Constraints:** Reflecting a tightening market, only **22% of hospitals** plan to increase their operating budgets in 2026, a significant drop from 66% in 2025 (Alexander group, 2026).
- **The Maintenance Trap:** A staggering **73% of providers** still rely on legacy systems for mission-critical applications that lack the API-first design required for modern autonomous orchestration (Bennett, 2026).

The Human Crisis: Burnout and the "Documentation Tax"

The digital environment has inadvertently created a cognitive crisis for clinicians, where technology serves as an administrative barrier rather than an enabler.

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Current State and Strategic Challenges: The Crisis of Complexity

- **Administrative Overload:** Physicians currently spend approximately two hours on paperwork for every one hour of direct patient care (AMA, 2024).
- **The Burnout Tipping Point:** Burnout rates remain critically high, with 55% of healthcare workers reporting they are considering leaving their roles due to administrative friction and technical fatigue (Hirequest, 2025).
- **Cognitive Maze:** Clinicians must navigate over 1,300 unique data points per patient across disconnected screens, increasing the risk of diagnostic errors and decision fatigue (Chandrasekaran and Patel, 2025).
- **The Integration Gap:** On average, only 28% of applications in a healthcare organization are integrated, creating significant gaps in the patient record (Salesforce/Mulesoft, 2026).
- **The Quality Bottleneck:** Even when data moves, it is often unusable; research indicates that up to 50% of data in certain clinical databases contains errors or inconsistencies that prevent automated analysis (IMAT Solutions, 2026).
- **Semantic Friction:** Variability in how standards are implemented across different EHR vendors continues to require costly, custom "bridge" integrations (Maruti Techlabs, 2026).

The Interoperability Paradox and Data Quality

Despite the widespread adoption of standards like FHIR, data remains functionally trapped in "Information Siloes," preventing a truly longitudinal view of the patient.

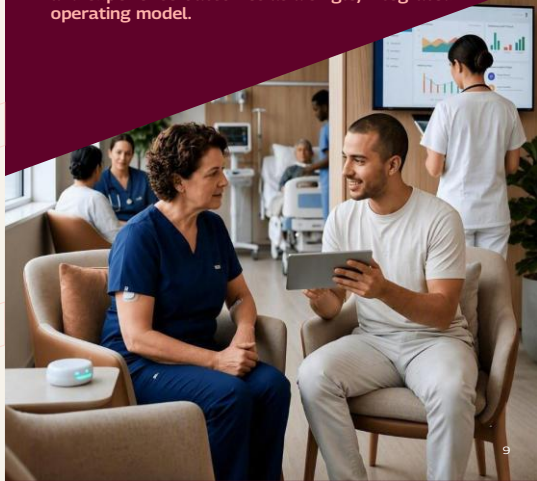
Current State and Strategic Challenges: The Crisis of Complexity

Cyber-Physical Risk: When Downtime Equals Mortality

Cybersecurity has transitioned from a back-office IT concern to a direct threat to patient safety and financial viability.

- **Escalating Costs:** Healthcare remains the most targeted industry, with the average cost of a data breach reaching an all-time high of \$10.93 million in early 2026 (IBM Corporation, 2025).
- **Patient Safety Impact:** Research indicates that hospitals suffering from ransomware-linked downtime experience a 21% increase in mortality rates due to delayed treatments and diverted care (Institute, 2023).
- **Vulnerability Saturation:** Approximately 99% of hospitals manage at least one device with a known exploited vulnerability, providing "soft targets" for lateral movement (Trellix, 2026).

Each crisis reinforces the others: legacy debt starves innovation budgets, entrenching manual workflows that burn out clinicians, widening data gaps, and exposing new attack surfaces. Breaking this cycle requires more than incremental fixes. It demands an architectural reset that treats clinical, administrative, revenue, and experience outcomes as a single, integrated operating model.





The Digital Bridge: Engineering the Clinical Renaissance

The current crisis of complexity is not a failure of technology, but a failure of integration. The opportunity for providers lies in the transition from **passive digital cores** to agentic ecosystems to achieve **"AI Delivered Right"**.

Agentic Orchestration: Moving Beyond the "Scribe"

The most significant opportunity is the shift from GenAI as a writing tool to **Agentic AI** as an operational partner. While ambient scribes reduced documentation time by 31%, Agentic AI moves into the realm of end-to-end task execution (Sigel, 2025).

- **The Agentic Edge:** Gartner predicts that by 2028, autonomous agents will handle 80% of multi-step administrative sequences, such as cross-referencing payer policy, clinical notes, and patient history to autonomously secure prior authorizations.
- **Orchestration via Agentic Fabric:** Enterprise-grade platforms such as **TechM Orion** provide the orchestration fabric, including the Agent Cube necessary to build and govern these autonomous actors, ensuring they operate within clinical guardrails while navigating disparate legacy EMR systems.

Mapping Hyper Automation Potential

Not all healthcare processes are equally ready for autonomy. A strategic opportunity lies in targeting the **"High Automation Potential"** zones identified in the Provider Reference Architecture to fund higher-order clinical innovations.

High Potential (Immediate ROI):

- **The Digital Front Door:** Patient registration, scheduling, and benefit eligibility verification can be 90% automated (Sigel, 2025), removing the primary friction point for "Super Consumers".
- **Autonomous Revenue Cycles:** Payment posting and medical billing represent the "low-hanging fruit" where agentic systems can reduce denial rates to under 5% (Shubham et al, 2025).

Medium Potential (Clinical Support):

- **Diagnostic Imaging & Records:** Leveraging Vision AI and RAG (Retrieval-Augmented Generation) to summarize complex pathology reports, allowing specialists to move directly to prescriptive action.



The Digital Bridge: Engineering the Clinical Renaissance

Wearables: Turning "The Home" into a Clinical Edge

The opportunity to extend the hospital's reach into patients' living rooms is now a technical reality. With the clinical-grade wearable market reaching \$358B, the "Home-as-a-Hub" model is the new standard (RBC Capital, 2021; Research and Markets, 2026).

- **Continuous Vital Streams:** By integrating wearable data directly into the FHIR-compliant **semantic layer**, providers can move from reactive "episodes" to continuous "life-long orchestration." (Fortune Business Insights, 2026).
- **Proactive Crisis Detection:** AI agents monitoring these streams can identify sub-clinical deterioration in heart failure or COPD patients, triggering remote interventions before an ER visit becomes necessary (Markets and Markets, 2025).

Interoperability Standards: Semantic Connectivity

The "Interoperability Paradox" is resolved through the rigorous adoption of global standards that act as the connective tissue for the future-agnostic ecosystem.

- **HL7 & FHIR Mastery:** The shift toward **FHIR-based APIs** allows for real-time data exchange that legacy HL7 v2.x batches could never support. This enables the "site-neutral" care models demanded by 64% of consumers (Sigel, 2025).
- **DICOM & Imaging Cloud:** Moving imaging data to cloud-based, DICOM-compliant repositories allows for the use of "in-silico" digital twins, enabling surgeons to rehearse procedures on a virtual replica of the patient's actual anatomy.

The Digital Bridge: Engineering the Clinical Renaissance

Reflexive Cybersecurity: Safety as a Service

In an era where downtime equals mortality, the opportunity lies in **Reflexive Cyber Safety**.

- **Self-Healing Infrastructure:** Utilizing AI-driven threat intelligence to autonomously neutralize lateral movement within the network. This ensures that even if a legacy endpoint is compromised, the clinical core remains sovereign and operational.

Every automation opportunity identified above, the front-office scheduling, revenue cycles, diagnostic imaging, and wearable integration maps to a distinct transformation pillar. Structuring investments along these pillars, with interoperability and cybersecurity as cross-cutting enablers, converts isolated pilots into a self-funding architecture that underwrites near-term administrative savings and long-term clinical innovation.





Future State: The Era of Autonomous Health Orchestration

The future state of healthcare is defined by a fundamental shift from "Care Intervals" to **Autonomous Health Orchestration**. By 2029, the distinction between "at home" and "at the hospital" will vanish, replaced by a continuous, data-driven wellness presence that is boundaryless, proactive, and future-agnostic (Poon et al., 2025; Shubham et al., 2025).

The Agentic Care Team: AI as an Operational Partner

In this future state, AI transitions from a passive tool (GenAI) to an active, autonomous member of the clinical and administrative team.

- **Touchless Operations:** Agentic AI will autonomously resolve **80% of administrative friction**, including prior authorizations, eligibility verification, and complex multi-party scheduling.
- **Zero-Documentation Clinics:** Ambient intelligence will render manual documentation obsolete. Physicians will maintain 100% eye contact with patients, while "Agentic Scribes" capture data, suggest CPT codes in real-time, and trigger follow-up workflows without human prompts.
- **Precision Orchestration:** Clinical decision support will move from "alerts" to "prescriptions," where AI agents pull from a FHIR-compliant semantic layer to suggest personalized care protocols based on a patient's unique "in-silico" digital twin.

The Home as the "Primary Site" of Care

By 2029, the "Great Decoupling" will be complete for providers advancing with technologies. The hospital will be reserved for acute interventions, while the home becomes the primary hub for chronic management and recovery (Lee et al., 2024; Insightace analytics, 2025; PwC, 2025; Zanoletti et al., 2026).

- **Continuous Life Monitoring:** Clinical-grade wearables will serve as a "**Sixth Vital Sign**," feeding real-time biometric streams directly into the provider's orchestration brain.
- **Predictive Intervention:** AI agents monitoring these streams will detect sub-clinical deterioration—such as a 2% change in heart-rate variability—and autonomously adjust medication or schedule a virtual intervention before a crisis occurs.
- **Site-Neutrality:** Providers will deliver a consistent quality of care regardless of location, supported by an elastic infrastructure that moves data at the speed of the patient.



Future State: The Era of Autonomous Health Orchestration

The Future-Agnostic Infrastructure

A successful future state is one where the technical foundation is invisible and invincible. Providers will no longer be "vendor-locked" to a specific EHR or AI model.

- **Modular Resilience:** Using platforms like TechM Orion, providers will swap underlying Large Language Models (LLMs) or diagnostic engines as easily as updating an app, ensuring they always utilize the best-in-class technology without re-architecting their core.
- **Reflexive Cyber Safety:** Cybersecurity will be "self-healing." Autonomous security agents will identify and neutralize lateral threats in real-time, ensuring that patient data remains sovereign and care remains uninterrupted.
- **Seamless Interoperability:** Data will flow through FHIR-based "Liquid Records," ensuring that labs, pharmacies, and other providers are always in perfect sync, eliminating the "Interoperability Paradox".

Outcome-Based Economics: From Volume to Value

The financial state of the provider will move from "Fee-for-Service" to "Value-Based Orchestration."

- **Autonomous Revenue Cycles:** Billing and payment posting will occur in real-time. Denial rates will drop below 5% as AI agents verify every claim against payer-specific "Machine Contracts" before submission (Plutus Health, 2026).
- **Mission Alignment:** Financial success will be directly linked to longitudinal patient outcomes, incentivizing the provider to keep the patient healthy at home rather than filling beds.

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Achieving this requires an orchestration fabric that can coordinate agents across clinical, administrative, and revenue boundaries, an architectural intent behind a structured transformation model, and orchestration platforms such as Orion.



Logical Reference Architecture: The Blueprint for future agnostic Healthcare

To transition from a legacy-burdened state to one of **Autonomous Health Orchestration**, providers must adopt a modular, multi-layered logical architecture. This blueprint decouples the clinical mission from underlying technical volatility, ensuring that care delivery remains resilient regardless of the rapid evolution in AI models or infrastructure.

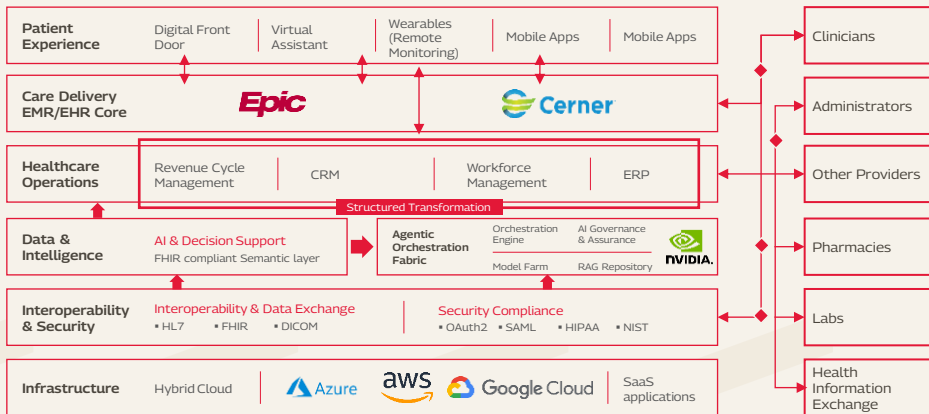


Figure 1: Autonomous Health Orchestration: Provider Reference Architecture



Logical Reference Architecture: The Blueprint for future agnostic Healthcare

The Layered Orchestration Framework

The reference architecture, as shown in the figure below, is organized into six functional layers that facilitate the flow of information from the patient's home to the clinical core and out to the broader health ecosystem.

- **Layer 1:** Patient Experience & Wearables (The Edge): This layer acts as the "Digital Front Door." It uniquely integrates clinical-grade wearables (e.g., bio-patches, smartwatches) as a primary data source. By ingestion of continuous biometric streams, it shifts the provider's perspective from reactive episodes to "Life-Long Orchestration".
- **Layer 2:** Care Delivery (The Clinical Core): This layer houses the foundational Electronic Medical Record (EMR) and Electronic Health Record (EHR) systems (e.g., Epic, Cerner). It serves as the primary workspace for clinicians and the system of record for all diagnostic and treatment data.
- **Layer 3:** Healthcare Operations (The Back Office): Manages the "Business of Care" including RCM, Workforce Management, and ERP. A structured transformation framework aligns this layer across four operational pillars, ensuring that revenue optimization, administrative automation, and experience normalization are orchestrated as a unified operating model.
- **Layer 4:** Data & Intelligence (The Intelligence Brain): Here, Raw data is normalized into a FHIR-compliant Semantic Layer. Powered by an Agentic Orchestration fabric (e.g., TechM Orion), autonomous agents plan, execute, and self-govern multi-step workflows, monitored continuously by an AI governance and assurance layer.
- **Layer 5:** Interoperability & Security (The Language): This layer acts as the "Universal Translator" and manages the secure exchange of Standardized Data Payloads (depicted as rectangular blocks in the architecture) between disparate systems like labs, pharmacies, and payers. It enforces global standards (HL7, FHIR, DICOM) and security protocols (OAuth2, SAML) to ensure data sovereignty.
- **Layer 6:** Infrastructure (The Foundation): The hybrid-cloud foundation, leveraging hyperscalers (Azure, AWS, GCP), provides the elasticity required to process massive datasets from wearables and imaging at scale.



Logical Reference Architecture: The Blueprint for future agnostic Healthcare

Architecture in Action: Example Journeys

Journey A: Proactive Remote Patient Monitoring (Clinical Focus)

- **Sense (Experience):** A patient's wearable at home detects a sub-clinical arrhythmia.
- **Translate (Interoperability):** The biometrics stream via FHIR APIs into the cloud.
- **Analyze (Data & Intelligence):** The AI model compares the stream against the patient's historical baseline and identifies a 90% risk of a cardiac event.
- **Act:** An Autonomous Orchestration Agent (e.g., Orion Agent Cube) creates an urgent task in Epic (Care Delivery) for the doctor and triggers a "Safety Nudge" to the patient's Mobile App preventing escalation.
- **Outcome:** The patient is treated remotely, preventing a \$20,000 emergency admission.

Journey B: The "Touchless" Revenue Cycle (Administrative Focus)

- **Trigger (Care Delivery):** A cardiologist signs a discharge summary in Cerner.
- **Code:** An Autonomous coding agent (e.g., Orion Agent Cube) assigns ICD-10 codes by interpreting the discharge summary and referencing the RAG Repository for payer-specific rules.
- **Verify:** An AI governance agent (e.g., Orion VerifAI) audits the claim for compliance, clinical justification, and policy adherence before submission.
- **Submit (Healthcare Operations):** The Agent Cube autonomously submits the claim to the payer via the Interoperability Gateway.
- **Outcome:** The claim is paid in 14 days with a <5% denial rate, and no manual intervention from the billing staff.

Roadmap: A Strategic Path to Autonomous Health Orchestration

The transition from a legacy-burdened landscape to a future-agnostic, agentic ecosystem requires a phased approach that balances immediate operational ROI with long-term clinical transformation. This roadmap is designed to guide providers through four distinct horizons, aligning technology adoption with the **HIMSS Electronic Medical Record Adoption Model (EMRAM)** and **Infrastructure Adoption Model (INFRAM)** standards. The following figure provides an indicative roadmap towards Autonomous Care, which typically takes around 3 years, depending on the provider's current state.



Figure 2: Strategic Roadmap for Autonomous Health Orchestration



Roadmap: A Strategic Path to Autonomous Health Orchestration

Phase 0: The Discovery Horizon (First 90 Days)

The objective of Phase 0 is to baseline the current state and identify the "technical debt" that hinders agility.

- **Maturity Assessment:** Conduct a comprehensive audit using HIMSS EMRAM/AMAM benchmarks to identify gaps in data liquidity and infrastructure resilience.
- **Security Risk Assessment (SRA):** Perform a HIPAA and NIST-aligned security review to establish a zero-trust baseline for future AI and cloud deployments.
- **Process Mining:** Identify "High Automation Potential" candidates within Business Operations (e.g., Patient Registration, Benefit Eligibility) to prioritize the initial wave of agentic deployment.

Phase 1: The Digital Core (~6 months to ~18 months)

Focuses on stabilizing the infrastructure and deploying the "Invisible Scribe" to address the immediate crisis of clinician burnout.

- **Cloud-First Foundation:** Migration of non-core applications to hyperscalers (AWS, Azure, GCP) to achieve the elasticity required for Phase 2 data volumes.
- **Ambient Intelligence:** Implementation of ambient AI scribes to reduce the documentation tax by an average of 31%, returning focus to the patient encounter.
- **Front-Office Automation:** Deploying autonomous agents for **patient registration and scheduling** to streamline the "Digital Front Door" and reduce no-show rates.



Roadmap: A Strategic Path to Autonomous Health Orchestration

Phase 2: The Intelligent Enterprise (~12 months to ~24 months)

In this stage, the provider transitions from passive data capture to predictive clinical and financial intelligence.

- **The Wearable Edge:** Integration of clinical-grade wearables into the **FHIR-compliant semantic layer**, establishing the "Sixth Vital Sign" for continuous life monitoring.
- **Intelligent Revenue Cycles:** Transitioning from manual billing to predictive models that utilize Small Language Models (SLMs) for real-time coding and medical record summarization.
- **Clinical Decision Support (CDS):** Utilizing machine learning to provide real-time risk prediction at the point of care, particularly in medium-automation areas like **Pharmacy and Diagnostic Testing**.

Phase 3: The Agentic Ecosystem (~24 months to ~36 months)

The final horizon marks the achievement of Autonomous Health Orchestration, where care is site-neutral and administrative friction is virtually eliminated.

- **Agentic Orchestration:** Full activation of all four transformation pillars through **an enterprise agentic orchestration fabric** (e.g., TechM Orion Agent Cube), where autonomous agents manage end-to-end sequences with minimal human intervention.
- **Operational Digital Twins:** Scaling the use of digital twins for "in-silico" testing of care protocols and hospital-wide flow simulation, optimizing resource allocation by up to 30%.
- **Autonomous Revenue Cycles:** Achieving a state where billing and payment posting are managed by autonomous cycles, maintaining insurance denial rates consistently below 5%.

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The phasing is deliberate. Each horizon typically funds the next. Administrative automation in early phases generates the savings and data liquidity that enable predictive intelligence and, ultimately, autonomous orchestration. However, the journey is not uniform. Providers will enter at different starting points, and those with more mature ecosystems may accelerate or compress phases. Skipping foundational capabilities doesn't accelerate transformation, and it puts outcomes at risk.

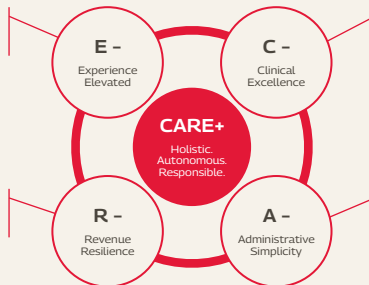


Tech Mahindra Accelerators: Engineering the Digital Bridge

To move from a legacy-burdened state to **Autonomous Health Orchestration**, providers require a structured transition that addresses both the strategic operating model and the technical delivery engine. Tech Mahindra facilitates this through the **CARE+ Framework** and the **Orion Enterprise AI Platform**, creating a "Digital Bridge" that decouples clinical missions from technical volatility.

AI-augmented care delivery, precision insights, and clinician empowerment to improve outcomes and safety.

Autonomous revenue cycle, optimized reimbursement, and financial sustainability at scale.



Intelligent automation of administrative workflows to eliminate friction and reduce operational load.

Personalized, seamless and proactive experiences for patients, providers and partners.

Powered by Orion Agentic Orchestration Fabric

Contextual
Intelligence

Autonomous
Agents

Open &
Interoperable
Ecosystem

Trust, Security &
Compliance

Continuous
Learning

Figure 3: CARE+ ensures value realization across the enterprise, with Orion making it autonomous



Tech Mahindra Accelerators: Engineering the Digital Bridge

The CARE+ Framework: A Strategic Transformation Engine

The CARE+ Transformation framework is designed to harmonize the four critical pillars of provider operations, **Clinical**, **Administrative**, **Revenue**, and **Experience**, within a **Future-Agnostic** ecosystem.

- **Clinical:** Focuses on returning the "Clinical Renaissance" by deploying ambient intelligence and predictive diagnostics. Automating documentation reduces the "Documentation Tax" and mitigates clinician burnout.
- **Administrative:** Utilizes agentic orchestrators to manage complex, multi-step workflows such as physician credentialing and patient scheduling, which traditionally have high manual friction.
- **Revenue:** Transitioning toward autonomous revenue cycles. By leveraging advanced NLP and machine learning for clinical coding (e.g., RapidCode) and predictive denial management (e.g., RapidScrub), providers can achieve up to 99% accuracy in denial handling.
- **Experience:** Normalizes data from clinical-grade wearables and digital touchpoints into a unified patient-centric stream. This enables proactive engagement and longitudinal care management that extends beyond hospital walls.



Tech Mahindra Accelerators: Engineering the Digital Bridge

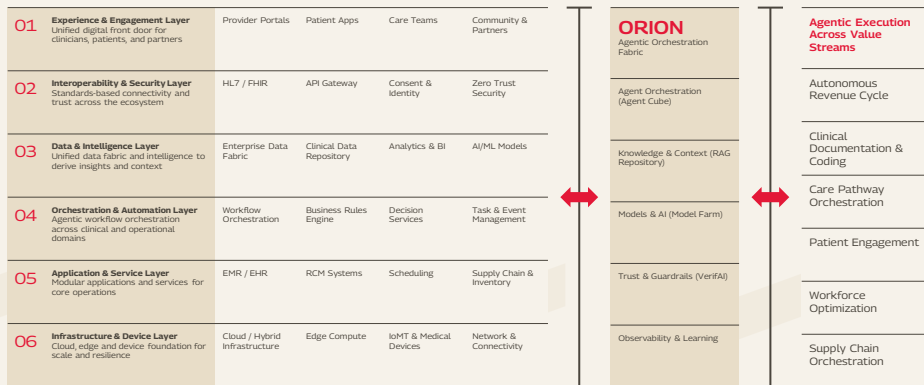
The structured transformation framework referenced in Layer 3 of the Reference Architecture is operationalized here as the CARE+ model, aligning each pillar with specific automation zones, orchestration capabilities, measurable KPIs, and roadmap phases.

Pillar	Automation Zones	Orchestration Capabilities	Target KPIs	Roadmap Phase
C – Clinical Excellence	- Ambient clinical documentation - Diagnostic imaging (Vision AI) - Clinical decision support - Predictive deterioration alerts	- AI scribes eliminating documentation tax - RAG-powered clinical summarization - Digital twin-based risk prediction - Wearable integration for monitoring	31% reduction in documentation time 90% clinician satisfaction 20% improvement in early detection 15% reduction in readmissions	Phase 1-2 (6-24 months)
A – Administrative Simplicity	- Patient registration & scheduling - Physician credentialing - Prior authorization - Eligibility verification	- Autonomous front-office agents - Multi-step orchestration (Epic/Cerner) - Intelligent task routing & balancing - Process mining for optimization	90% automation of front-office tasks 80% reduction in manual scheduling 60% faster credentialing cycles 50% reduction in wait times	Phase 1 (6-18 months)
R – Revenue Resilience	- Medical coding (ICD-10) - Claims submission & scrubbing - Payment posting - Denial management	- Autonomous coding agents (RapidCode) - AI claim scrubbing (RapidScrub) - Payer-specific rule engine via RAG - Governance agent auditing compliance	<5% denial rate 99% coding accuracy 14-day average payment cycle 25% reduction in revenue leakage	Phase 1-2 (6-24 months)
E – Experience Elevated	- Remote patient monitoring - Digital front door - Proactive outreach - Longitudinal care coordination	- Wearable-to-FHIR data integration - Predictive crisis detection agents - Patient-facing safety nudges - Unified patient experience stream	40% increase in patient engagement 30% reduction in ER visits - NPS improvement ≥15 points 64% convenience-led care delivery	Phase 2-3 (12-36 months)

Tech Mahindra Accelerators: Engineering the Digital Bridge

TechM Orion: The Agentic AI Platform

While CARE+ provides the roadmap, the **TechM Orion Platform** provides the execution engine. Built on the **NVIDIA AI Enterprise** stack, Orion is a modular, model-agnostic framework. Unlike point solutions that address individual layers, Orion operates as a cross-cutting orchestration fabric, spanning all six layers of the reference architecture, from the Experience & Engagement Layer through Infrastructure & Devices. Every Orion component serves every layer, enabling a unified execution model rather than siloed automation.



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Tech Mahindra Accelerators: Engineering the Digital Bridge

Core Architectural Components:

- **Agent Cube:** Orchestration environment where autonomous agents reason, plan, and execute multi-step sequences across Epic, Cerner, and SAP.
- **Model Farm:** Dedicated space for fine-tuning Small Language Models (SLMs) and Foundation Models for clinical-grade intelligence.
- **RAG (Retrieval-Augmented Generation) Repository:** Centralized enterprise knowledge base enabling grounded, evidence-based responses from unstructured datasets.
- **TechM VerifAI:** Proprietary governance layer continuously monitoring for hallucinations, bias, and PII breaches, ensuring HIPAA compliance.
- **Observability & Learning:** Continuous monitoring, telemetry, and feedback loops across all layers — enabling self-tuning agents and real-time performance optimization.

Agentic Execution Across Value Streams:

Through this cross-cutting fabric, Orion activates autonomous execution across six core provider value streams: Autonomous Revenue Cycle, Clinical Documentation & Coding, Care Pathway Orchestration, Patient Engagement, Workforce Optimization, and Supply Chain Orchestration. Each value stream draws on multiple Orion components simultaneously, ensuring no value stream is dependent on a single capability.

Through the Orion Marketplace, providers gain access to over 200 production-ready agents, allowing them to "Agentify" their enterprise with significantly reduced time-to-value.





Conclusion: The Path to Autonomous Health Orchestration

The healthcare industry has reached a state of **"Technical Debt Saturation."** The weight of legacy systems and fragmented data is a direct barrier to patient safety and clinician well-being. The solution is a fundamental shift toward **Autonomous Health Orchestration.**

By decoupling the clinical mission from technical volatility, providers can move beyond the "Documentation Tax" and reclaim the heart of medicine.

The Reference Architecture (The Digital Bridge)

A six-layer standardized framework that ensures data liquidity and security. It separates the "System of Record" (EHR) from the "System of Intelligence," enabling a boundaryless flow of information among clinicians, patients, and operations.

The Strategic Blueprint for Transformation

The four-phase roadmap outlined in this whitepaper spans from the **Discovery Horizon** to a fully realized **Agentic Ecosystem**, providing the pragmatic blueprint necessary for this evolution:

- **Architectural Decoupling:** Establishing a **FHIR-compliant Semantic Layer** to ensure data liquidity across all siloed applications.
- **Operational Intelligence:** Utilizing **Small Language Models (SLMs)** and specialized engines like **RapidCode** and **RapidScrub** to turn raw data into financial velocity.
- **Agentic Execution:** Deploying an **Agentic Workforce** to manage the "how" of multi-step workflows, allowing clinicians to focus entirely on the "why" of patient care.

The CARE+ framework provides a strategic compass, ensuring every investment is aligned across Clinical, Administrative, Revenue, and Experience outcomes. The agentic orchestration fabric provides the execution capability. Together, they form the "Digital Bridge" that this whitepaper advocates.

Providers who embrace **Autonomous Health Orchestration** today will lead the industry into a new era of **Quality, Access, and Affordability.**



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