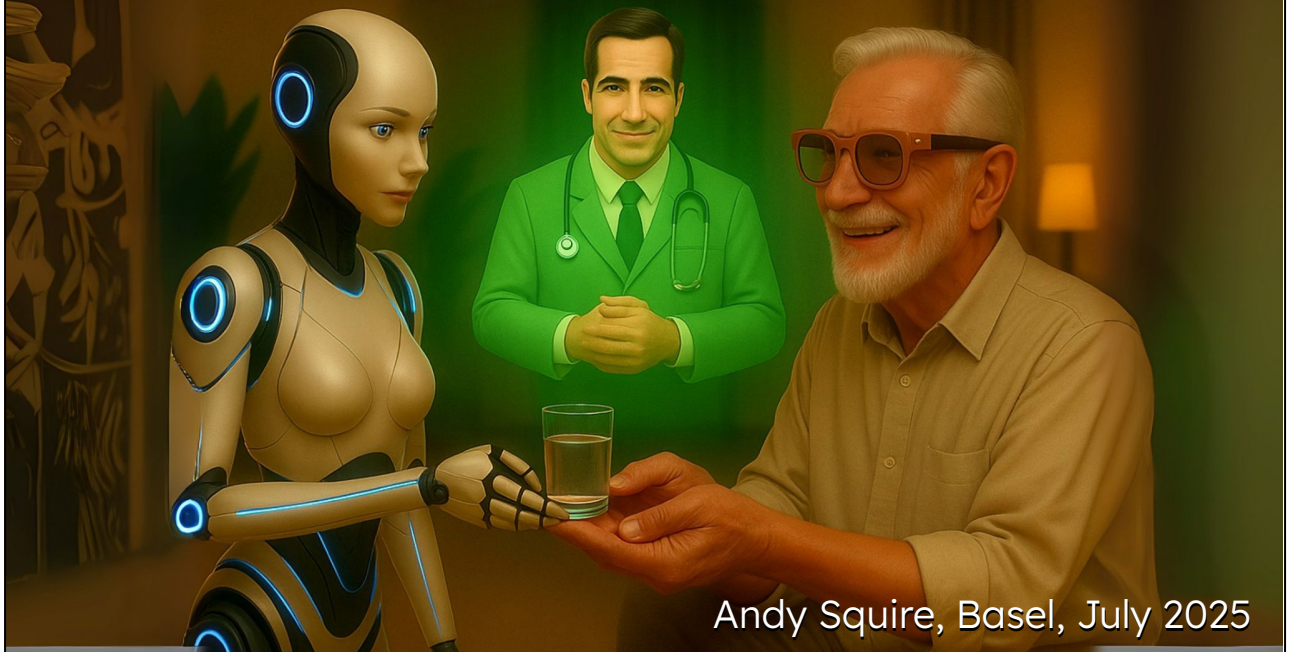


# Humanoid Healthcare: a Connected Ecosystem



Andy Squire, Basel, July 2025

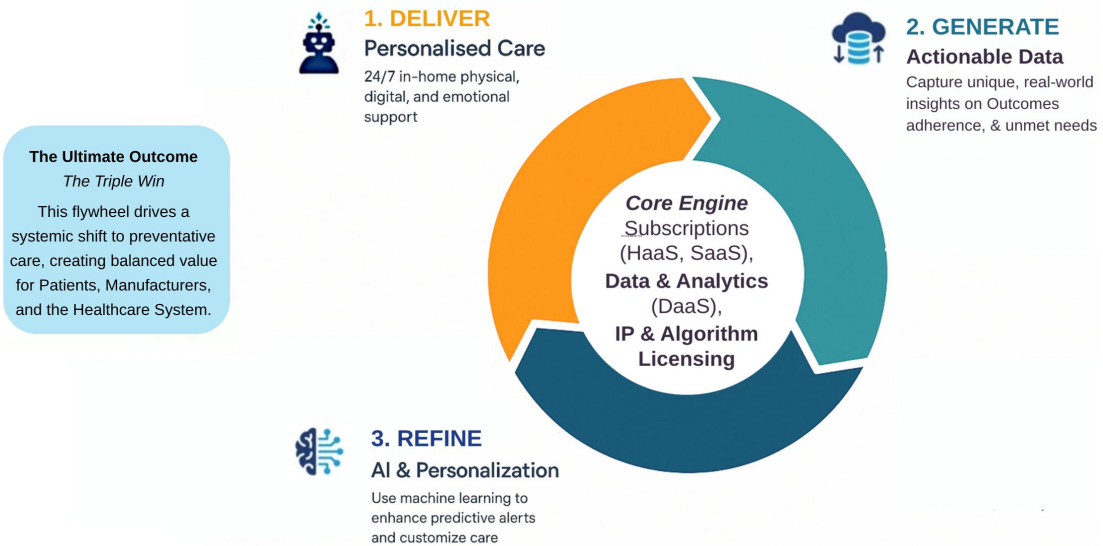
Good morning/afternoon. Today, we're going to talk about the future of healthcare, which is arriving faster than we think.

As we all know, our current healthcare system is at a breaking point. We face a critical and growing **shortage of caregivers**, especially for our aging population who need support at home. The **costs** of the current hospital-centric model are becoming unsustainable. And most importantly, there's a massive **personalized care gap**—a lack of 24/7, tailored support that can proactively keep people healthy.

The image you see here isn't science fiction anymore. It represents the convergence of three powerful forces—humanoid robotics, augmented reality, and AI-driven data exchange—that together, create an entirely new, connected ecosystem for preventative healthcare.

## Our Data-Driven Flywheel

From Personalised Care to Predictive / Preventative Medicine



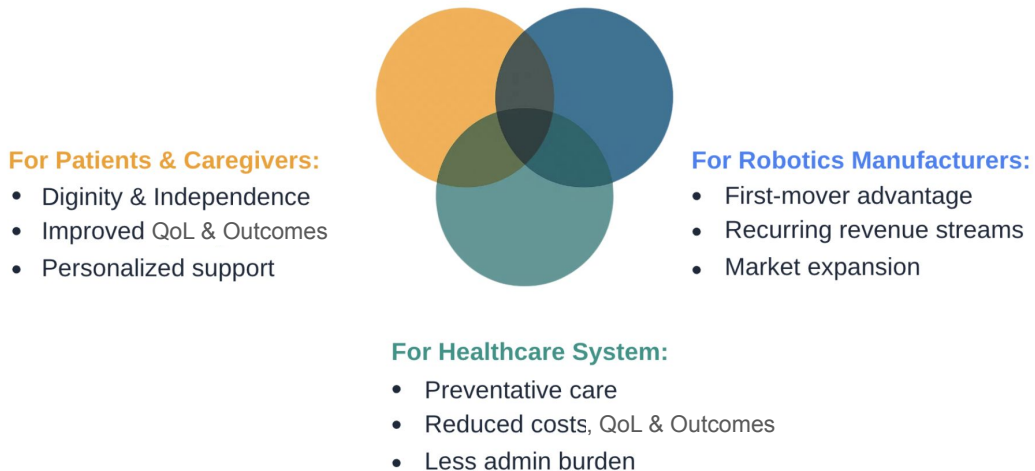
Our solution is built on a powerful, data-driven flywheel. It's a simple, three-step process: We **DELIVER** personalized care in the home, which allows us to **GENERATE** unique, real-world data. We then use AI to **REFINE** that data into predictive insights, which in turn allows us to deliver even better, more personalized care. Each cycle makes the system smarter.

Now, you might be thinking this sounds incredibly expensive. And in the past, it was. But what unlocks this flywheel *today* is a fundamental market shift: **the commoditization of advanced humanoid hardware**. With incredible platforms like the Unitree R1 now available for \$5,900, the barrier to entry has collapsed.

This allows us to focus on what truly matters: the **Core Engine**. Our value, our intellectual property, and our business moat are not in building the robot; they are in the **SaaS, DaaS, and IP Licensing** of the AI brain that powers it.

## Triple Win Value to improve Patient Outcomes & Healthcare Sustainability

Patients/Caregivers - Healthcare System/Doctors - Robotics Manufacturers



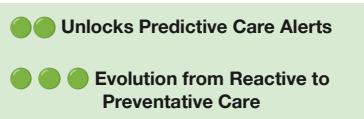
This software-first, hardware-agnostic model creates a 'Triple Win' for the entire ecosystem.

- **For Patients & Families**, it means empowerment. It delivers the dignity of independence at home, reduces the stress on caregivers, and leads to measurably better health outcomes.
- **For Healthcare Providers and the System**, it drives a monumental shift from reactive to preventative care. Real-time monitoring and predictive alerts increase efficiency, lower long-term costs, and provide a scalable solution to address health equity.
- **And for us, the Robotics Manufacturer and Orchestrator**, this model provides recurring software revenue streams. More importantly, it positions us as the trusted leader of a next-generation health platform, moving beyond simple hardware to become the central nervous system of a new market.

## The Ultimate Outcome: Transforming Healthcare

### Unlock AI driven Predictive Care Alerts & Evolution towards Preventative Care

Barrier (The Challenge)	Our Solution (The "How")	Driver (The "Why")
● <b>Data Security &amp; Privacy</b>	Centralized governance with <b>HIPAA, HITECH, &amp; GDPR</b> compliance. End-to-end encryption.	● Builds patient and caregiver trust through transparent and secure data handling, encouraging confident participation in their own care
● <b>System Reliability &amp; Technical Failures</b>	<b>Cloud-native architecture</b> (AWS/Azure/GCP) for high availability. Rigorous <b>Testing &amp; Monitoring</b>	● Provides peace of mind with reliable, uninterrupted 24/7 care, creating a foundation of trust and safety for patients at home
● <b>Interoperability</b>	Built on modern standards like <b>HL7 FHIR</b> for seamless <b>API integration</b> with <b>EHRs</b> and <b>3rd party apps</b> . <b>TOGAF</b> Enterprise Architecture.	● Delivers a seamless and unified care experience for the patient, ensuring their entire care team is connected and informed
● <b>Resource Priorities &amp; Cost</b>	Platform-first model ( <b>SaaS, DaaS</b> ) leveraging commoditized hardware ( <b>HaaS</b> ) to lower capital investment. Data ( <b>DaaS</b> ) & <b>IP &amp; Algorithm Licensing</b>	● Unlocks <b>New Revenue Streams</b> , to help fund upfront investment Enables a sustainable model that reinvests in better technology and services directly benefiting patients and their long-term care
● <b>Regulatory &amp; Compliance</b>	Rigorous <b>SaMD</b> (Software as a Medical Device) <b>validation, QMS, &amp; post-market surveillance</b> .	● Ensures patient <b>safety</b> and enables <b>market access &amp; reimbursement</b> to ensure the highest quality of care and support.
● <b>User Adoption &amp; Trust</b>	<b>Human-centric design, ethics &amp; consent training</b> , and demonstrating clear, tangible value for patients and HCPs.	● Leads to a <b>virtuous cycle</b> of engagement, data generation, <b>improved outcomes</b> .



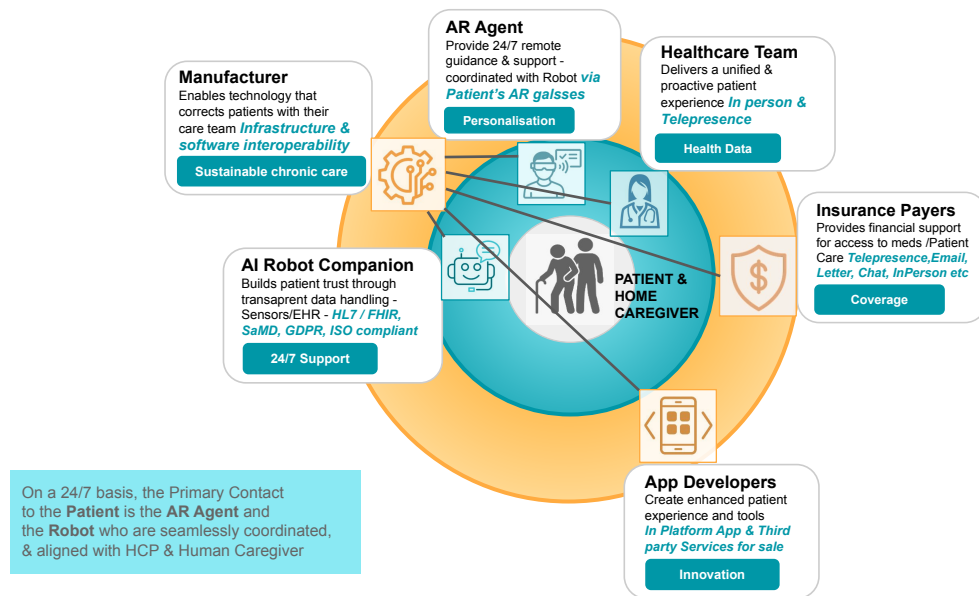
Of course, transforming healthcare isn't without its challenges. We've built our model to address them head-on.

We handle **Data Security** and **Reliability** with centralized governance and a cloud-native architecture. We ensure **Interoperability** by building on modern standards like HL7 FHIR and TOGAF principles. We meet **Regulatory & Compliance Hurdles** with a rigorous SaMD validation process. And we drive **User Adoption** through human-centric design.

But the most critical barrier is **Cost**. Our biggest strategic advantage is our business model. By building our platform to run on increasingly affordable hardware, we sidestep the massive capital expenditure of traditional robotics. Our investment is focused on the high-margin, infinitely scalable asset: our AI engine and software platform

## A Patient-centric Care Ecosystem (Business view)

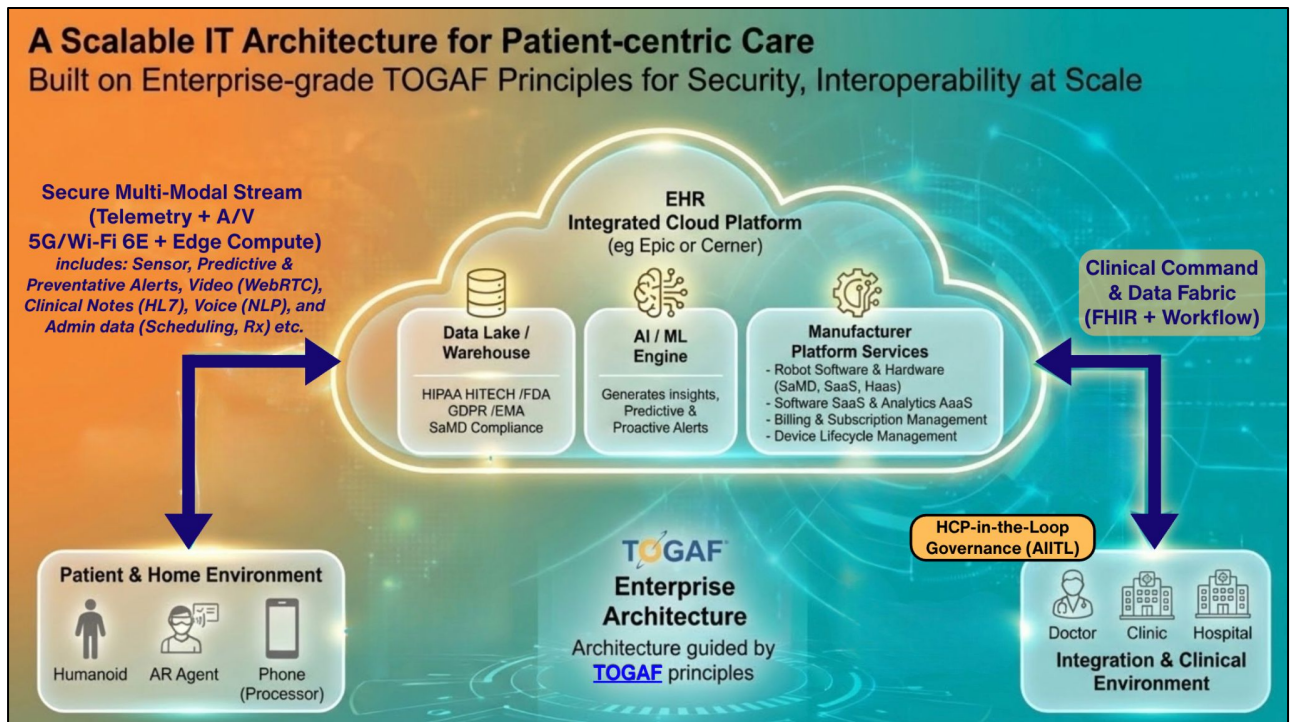
The Manufacturer orchestrates Patient Empowerment & Independence



This is how the ecosystem fits together. As you can see, the **Patient and their Home Caregiver are at the absolute center of everything we do.**

Our role, as the manufacturer, is to be the **Orchestrator** of this ecosystem—the orange layer that enables and connects all the other players. We are not just a robotics company; we are the central nervous system providing the core platform, the AI, and the secure integrations.

We connect the patient's immediate care team—the AI Companion, the remote AR Agent, and the human Healthcare Team—and create a standardized way for crucial partners like **Insurers** and **App Developers** to add value. It's a truly extensible and collaborative system where the value is shared by everyone, but always flows to the patient



Finally, here is the technical architecture that turns our vision into an enterprise-grade reality. This isn't just a standalone app; it is designed as a **native extension of the hospital's existing infrastructure**.

It begins on the left in the **Patient Home Environment**. We don't just capture simple sensor dots; we transmit a **Secure Multi-Modal Stream**—combining real-time telemetry, high-fidelity video (WebRTC), and voice—leveraging 5G and Edge Compute to ensure zero latency.

Crucially, this data does not flow into a siloed third-party cloud. It flows into our **EHR-Integrated Cloud Core**. By hosting our AI and Safety Engines within the trusted perimeter of the EHR provider (such as the Epic App Orchard or Oracle Health), we eliminate security friction and data fragmentation by structuring it natively as **HL7 FHIR** resources, ensuring the robot's telemetry is instantly readable as standard medical observations within the patient's chart.

This creates a unified **Clinical Command & Data Fabric**. Insights and alerts flow directly into the doctor's existing workflow, and clinical commands flow back to the robot.

Most importantly, look at the bottom right: **HCP-in-the-Loop Governance**. Our architecture guarantees that while the AI handles the minute-by-minute safety, the Human Clinician retains ultimate decision-making authority. Guided by **TOGAF Modular AI Enterprise Architecture principles**, this is the de facto standard for safe, scalable humanoid healthcare