TECH OFFER

Healthcare Data Science Platform, Built to Prioritise Patient Privacy and Data Security

KEY INFORMATION

TECHNOLOGY CATEGORY:
Healthcare - Telehealth, Medical Software & Imaging
Healthcare - Medical Devices
Infocomm - Healthcare ICT

TECHNOLOGY READINESS LEVEL (TRL): TRL8
COUNTRY: SOUTH KOREA
ID NUMBER: TO175332

OVERVIEW

Reimagining how healthcare data is analyzed, this platform enables advanced data science without moving a single byte of patient data. Designed from the ground up to comply with global privacy regulations, it allows hospitals and research institutions to develop powerful AI models using real-world clinical data—while keeping that data entirely on-site under governance.

Powered by proprietary federated learning and a modular AI/ML development toolkit, the platform solves one of healthcare's biggest bottlenecks: secure access to data for innovation. With seamless integration into existing IT systems and end-to-end compliance with GDPR and HIPAA, this is the infrastructure for the future of privacy-first, multi-institutional healthcare data analytics and AI/ML.

The technology owner is actively seeking collaboration with healthcare providers, research institutions, clinical research organizations, and data-centric health-tech companies eager to scale innovation—without compromising privacy or control.

TECHNOLOGY FEATURES & SPECIFICATIONS

The platform is an advanced, modular software framework comprising secure data integration pipelines, federated learning capabilities and real-time analytics tools. Its key components include:

- Federated Learning Infrastructure: Enabling multi-centre data collaboration without transferring sensitive data.
- AI/ML Model Development Suite: Customizable tools for predictive analytics tailored to healthcare needs.
- Interoperability APIs: Seamless integration with existing health IT systems.
- Advanced Security Protocols: End-to-end encryption and compliance with global data protection standards.

POTENTIAL APPLICATIONS

The platform is a versatile platform purpose-built to power a broad spectrum of data-driven healthcare applications. It supports not only advanced medical research, but also the development of AI/ML solutions for diagnostics and clinical decision support across any medical domain, as well as AI-powered population health management and precision medicine initiatives. Its capabilities extend to clinical trial analytics—such as simulation, and optimization — and the integration of complex healthcare datasets, including genomic and real-world data.

With its privacy-first federated learning architecture, the platform enables secure, multi-institutional collaboration without transferring or centralizing sensitive data. This makes it especially valuable for high-impact use cases like rare disease research, where combining insights from multiple centers across the globe can overcome single center data limitations and drive meaningful discoveries.

The platform has been successfully deployed at Seoul National University Bundang Hospital (SNUBH) to support the development of real-world clinical AI models—demonstrating its readiness for mission-critical healthcare environments. One key application was in building an AI model to predict comorbidity risks in patients with type 2 diabetes, enabling proactive clinical intervention for conditions such as cardiovascular disease, kidney failure, and diabetic retinopathy.

In a separate initiative, the platform powered the development of an AI-based antibiotic stewardship model—replacing what is typically a manual, labor-intensive process. Traditionally, stewardship programs require clinicians to retrospectively review patient records to detect inappropriate antibiotic use. With the platform, diverse clinical datasets were securely integrated and analyzed on-site, allowing the AI to flag high-risk patients in near real time. The result was a significant reduction in manual workload, faster clinical decision-making, and improved program scalability. These real-world deployments underscore the platform's ability to accelerate healthcare innovation while maintaining full data privacy and governance.

UNIQUE VALUE PROPOSITION

- **Privacy-Preserving by Design:** Enables AI development and collaboration without transferring or centralizing patient data — ensuring full compliance and trust.
- **Built for Real-World Healthcare with Flexibility and Scalability:** Deployable on cloud or on-prem, Enobase adapts to diverse data environments and project needs — scaling effortlessly to support anything from single-site pilots to multi-institutional collaborations.
- **Accelerates Scalable Innovation:** Powers rapid development and deployment of AI for diagnostics, population health, and clinical decision support — across institutions and borders.

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