



**International
Convention**

June 22-25, 2026 | San Diego, CA

palm firm

**AI-Powered
Meal Detection
Solution**

MEAL TRACKER

About palm firm

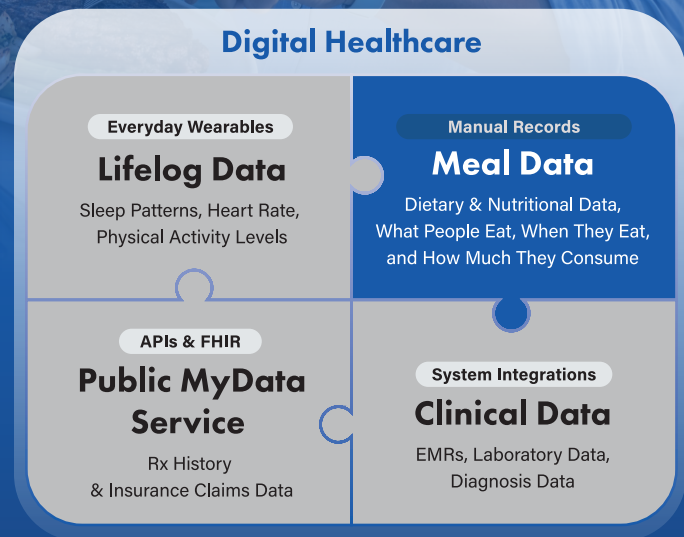
Why do we focus on "meal data" among biosignal and lifelog data?

Today's digital healthcare industry has successfully connected everyday lifelog data—such as sleep patterns, heart rate, and physical activity levels—with precise clinical data from hospitals.

However, data on eating habits—when, what, and how much people eat—remains one of the major drivers of chronic disease and obesity, yet it still relies on cumbersome and often unreliable manual user input.

No matter how sophisticated medical data becomes, healthcare management remains incomplete without accurate meal data.

MealTracker begins by filling in the final missing piece.



Our Capabilities

Our vertically integrated infrastructure across medicine and technology forms the foundation for building a comprehensive healthcare solution that others cannot easily replicate.

Medical



Clinical Validation and Medical Network

- Practicing medical experts: Family Medicine and Sports Medicine specialists
- Academic society and hospital network
- Medical platform technology that seamlessly integrates app data with hospital EMR systems in real time

AI



Unrivaled Core Technology Capability

- World-first meal detection powered by AI triple-ensemble technology
- In-house form-factor manufacturing led by design experts
- Registered patent for AI-based meal detection (10-2945481)

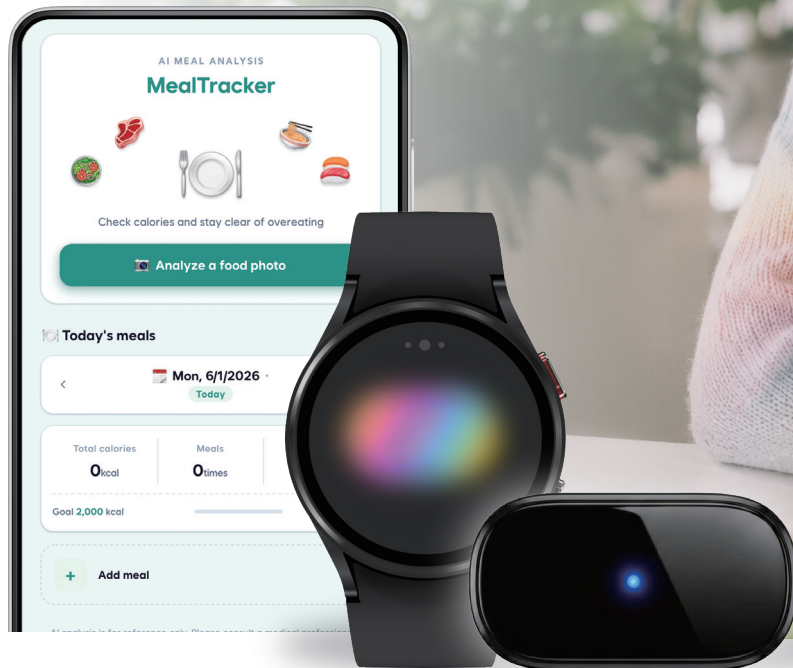
Manufacturing



Global Healthcare Infrastructure and Collaboration

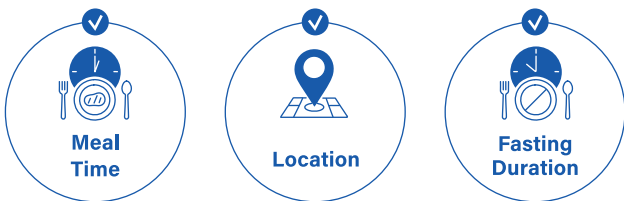
- Established clinical validation infrastructure designed for commercialization at scale
- Joint research and application development with a professor of Family Medicine
- Collaboration with Samsung Health (Samsung Electronics)

Adding AI-Powered Lifestyle Care



MealTracker

Automatic Meal Detection System



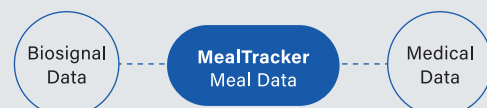
MealTracker is an automatic meal-detection platform that recognizes eating events without requiring users to manually log their meals.

By simply wearing or carrying everyday devices like smartwatches and smartphones, users have their eating behavior tracked continuously in the background—no app launch or manual entry required.

Today's digital healthcare ecosystem has successfully connected lifelog data, such as sleep patterns and physical activity levels, with highly accurate clinical data from hospitals. However, eating habit data—the primary driver of obesity and chronic diseases—still depends heavily on unreliable manual food logging, leaving a critical gap in comprehensive healthcare management.

MealTracker bridges this gap by capturing the “missing piece” of meal data that has long been absent from digital healthcare.

It seamlessly connects biosignal data with medical data through continuous, passive meal detection.



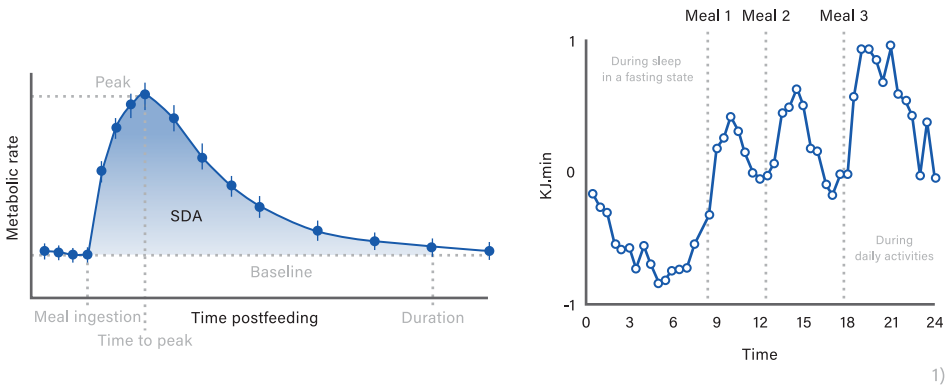
Our Core Theory

Reverse-Tracing Post-Meal Biosignal Changes

DIT (Diet-Induced Thermogenesis)

DIT accounts for approximately 5–15% of total daily energy expenditure and can be understood as the body's "digestion tax"—more formally known as the Thermic Effect of Food (TEF). During digestion, body temperature typically rises by 0.3–1.0°C, while heart rate increases by approximately 10–20%.

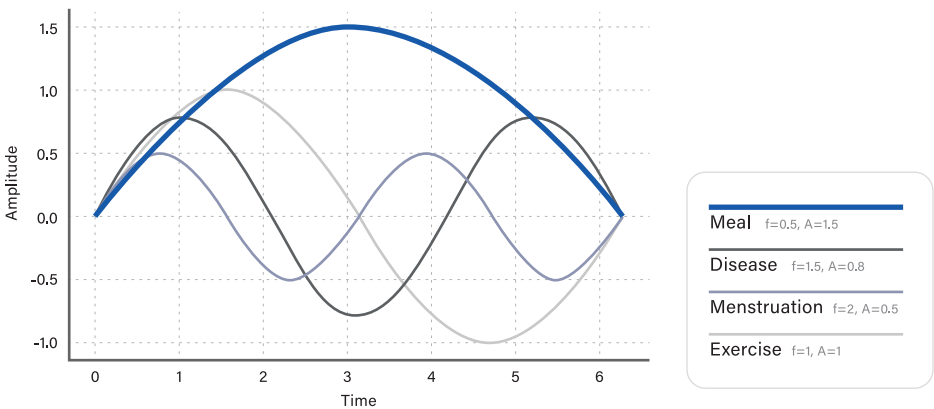
Meal size, eating speed, and nutrient composition are treated as independent variables, while factors such as food temperature, dining environment, and spiciness are considered noise variables.



Biosignal Discrimination

Biosignal changes have many medically recognized causes—exercise, illness, menstruation, and meals—each producing a distinct pattern.

Our technology is designed to identify only the biosignal patterns associated with meals as meaningful signals, while classifying all other biosignal changes as noise.

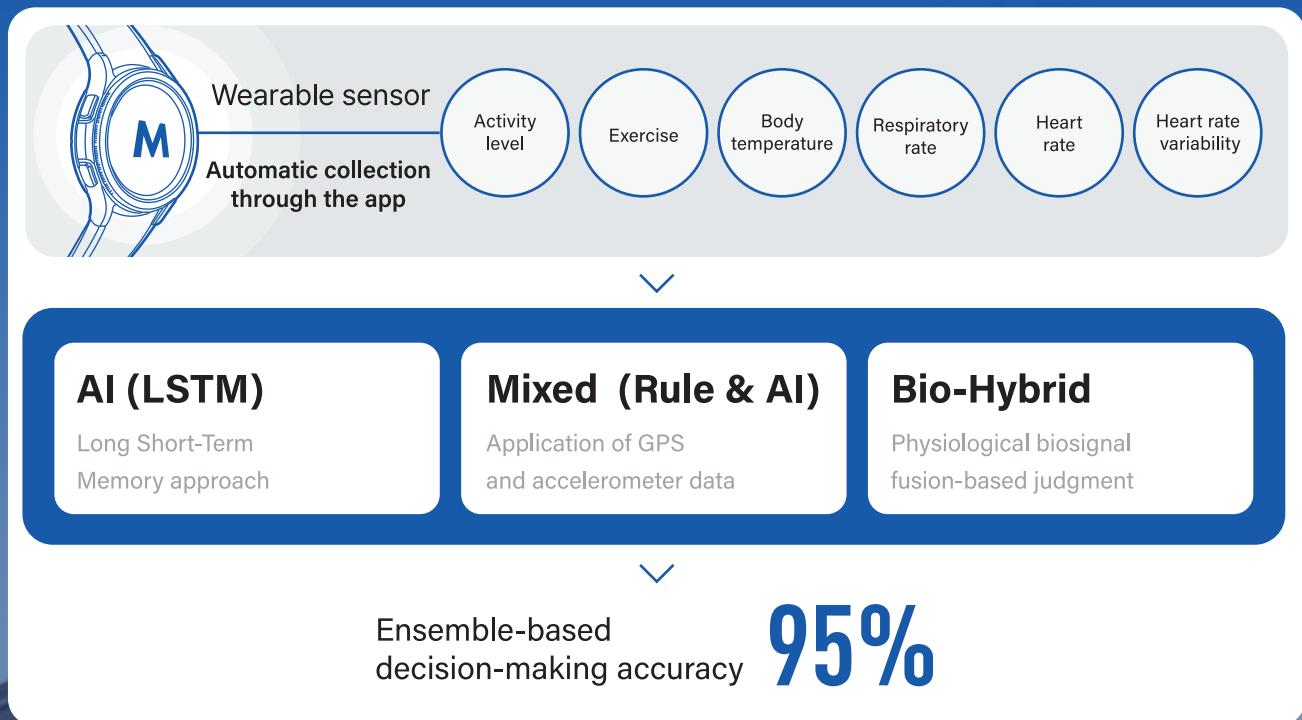


1) References
Klaas R Westerterp, "Diet induced thermogenesis," *Nutrition & Metabolism*, 2004
Secor SM, "Specific dynamic action: a review of the postprandial metabolic response," *Journal of Comparative Physiology B*, 2009

Our Core Technology

Three AI-driven core technologies cross-validate one another, rather than relying on a single model.

AI Triple-Ensemble Technology



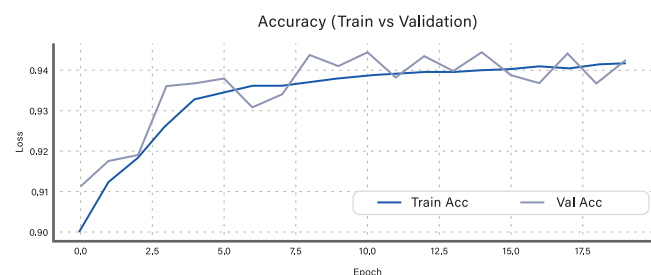
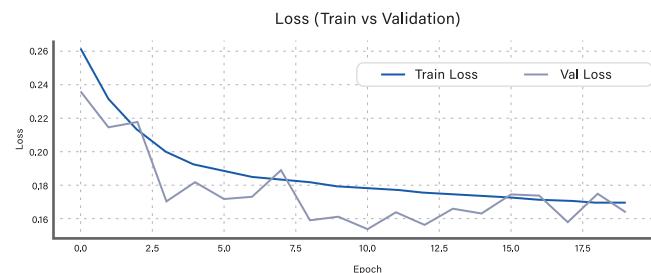
AI (LSTM) Full-Day Sequence Analysis

Uninterrupted Intelligence :
AI automatically records eating events even when the user is not consciously aware of them.

Meaning Beyond simple segment classification, the engine autonomously identifies when meals occur and how likely they are throughout the entire day

Core Data augmentation of more than 3,000 cases and deep learning training using time-series-specialized AI LSTM

Result Overall accuracy of 80%
Automatic extraction of meal segments from daily-life sequences

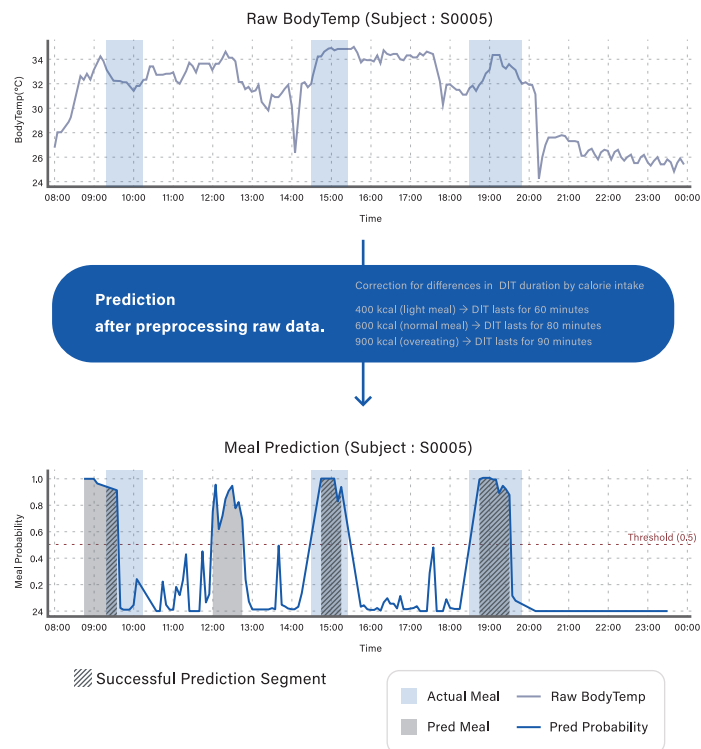


Mixed (Rule & AI) + Bio-Hybrid Technology

Adaptive Context Awareness

Real-world Robustness:
An accurate solution that works not only with indoor data, but also in real-world environments.

- Meaning** Securing commercialization-level reliability by integrating “medical digestive mechanisms” into AI computation, making the solution resilient to real-world environmental variables
- Core** Combining “pattern normalization” to block environmental noise, “GPS and accelerometer-based mitigation” of environmental confounders, and “physiological rule-based post-processing” to correct digestion time based on calorie intake. Achieving technical maturity suitable for commercial service launch
- Result** Overall accuracy of 90%
Reduction of false detection rates and correction of prediction failure segments
Completion of the “Bio-Hybrid AI Pipeline”

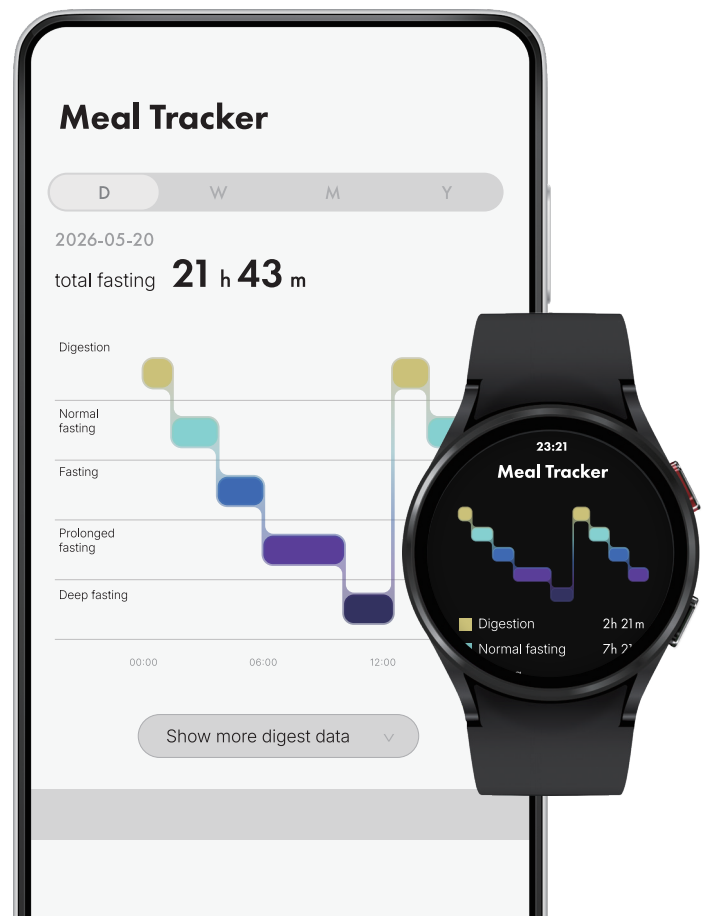


Bio-Hybrid Expansion

Multimodal Biosignal Fusion

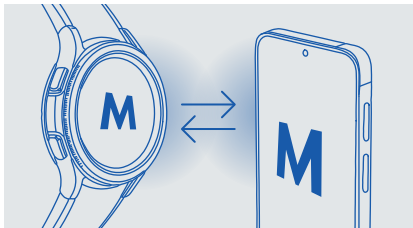
Tertiary screening by applying medical thresholds through multi-sensor integration

- Meaning** An advanced screening process that comprehensively collects and analyzes multiple biosignal data streams to overcome the limitations of a single sensor.
- Core** Fusion of multi-sensor data obtainable from wearable devices, such as heart rate, oxygen saturation, body temperature, blood pressure, and electrocardiogram signals. The collected data is further screened for abnormal signs based on medical thresholds.
- Result** Overall accuracy of 95%
Reduction of false alarms and early identification of users with a high likelihood of health abnormalities
Personalized management based on risk signals and potential integration with medical care

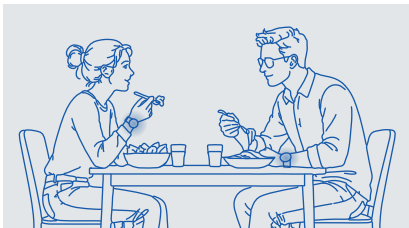


Clinic Integration System

User Scenario



01 Install the MealTracker app on a smartphone and smartwatch.



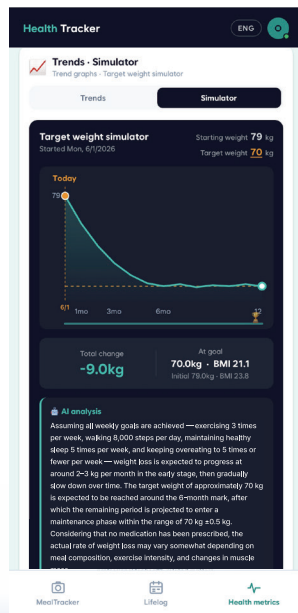
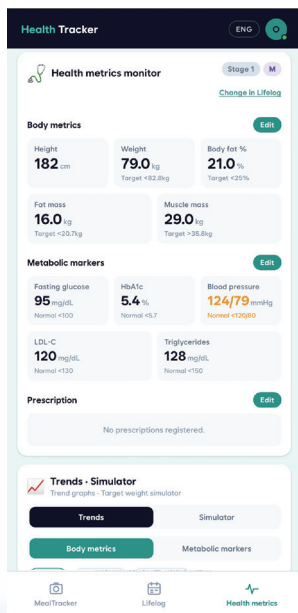
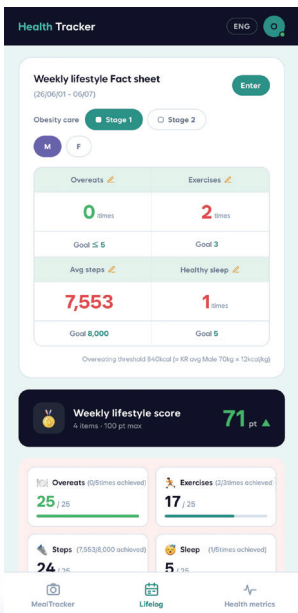
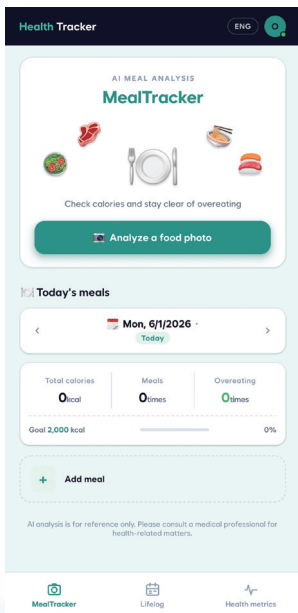
02 Automatically collected during a busy daily routine.



03 Analyze various clinical data collected around eating data.



UI Preview



Expansion Opportunities

Insurance Companies

Hotels & Resorts

Care Facilities

Various other business applications are also possible.

We are shaping the “next generation” of healthcare.

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