UK–SINGAPORE CO-INNOVATION PROGRAMME (CIP)

Modular ‘Smart Substrate’ for Remote Frailty & Hydration Care



Bilateral R&D Partnership:
Biorithm (Singapore) × YouDiagnose (UK)

- Consumable Smart Biomaterials
- Reusable Edge-AI Pod
- Live NHS & ASEAN Deployment Pathways

The Bottleneck in Continuous Frailty Monitoring

High recurring costs and fragile skin prevent RPM from scaling into community care

The Problem

Current Monolithic Patches

- **Prohibitive unit cost:** Discarding microchips every 3–7 days drains care budgets
- **Skin breakdown:** Traditional wet adhesives tear fragile, elderly skin
- **Environmental waste:** High volume of single-use electronic waste (violates Net Zero)

The Architectural Shift

The Modular Solution

- **Two-piece architecture:** Reusable pod + low-cost disposable adhesive
- **Skin-safe hydrogels:** Long-wear conductive biomaterials designed for elderly skin
- **Scalable unit economics:** Viable for care homes, virtual wards, and community care

Balanced Co-Development & Work Packages

Symmetrical technological contribution with zero IP friction

Singapore
Lead: Consumable Substrate

- Advanced skin-safe conductive hydrogels for hydration/impedance sensing
- Roll-to-roll printed flexible electronic circuitry
- Micro-docking mechanical interface & consumable manufacturing



UK
Lead: Reusable Pod & AI

- Durable hardware pod (microcontroller, motion accelerometer, temperature)
- Multi-agent clinical reasoning engine (HHBA / Veritas-RPM false-alarm suppression)
- NHS clinical trial pathways, regulatory governance, and UKCA dossier

Standalone, highly defensible IP for both partners post-completion

Commercial gain

Biorithm (Consumable IP)

- Owns proprietary conductive biomaterial & printed electronics IP
- High-margin recurring revenue manufacturing weekly replacement substrates
- First-mover distribution across ASEAN healthcare systems

Joint IP



Commercial gain

YouDiagnose (Clinical AI IP)

- Owns edge-computing pod design & multi-agent clinical decision IP
- Pod hardware sales paired with annual clinical SaaS licensing
- Direct procurement adoption across NHS Virtual Wards and Care Homes

Joint Foreground IP: Proprietary electro-mechanical docking interface & secure telemetry protocol

Market Opportunity & Rapid 12-Month Delivery

A lean, de-risked R&D plan built for immediate bilateral grant approval

$68B+

Global Wearable MedTech Market (2026)

Rapidly expanding toward $330B by 2033

430,000+

UK Care Home Beds & Virtual Wards

Immediate high-volume deployment focus

£500k / S$850k

Target Bilateral Grant Budget

Lean scope: Working prototype & phase-1 clinical safety validation

Q1: Architecture Freeze → Q2: Benchtop Pod-Substrate Integration → Q3: Pilot Usability Usability Testing → Q4: Bilateral Grant Completion & Commercial Launch