PharmaceuTech R&D

Engineering the future of intelligent healthcare.

A New Age PharmaTech

Pharmaceutech Ltd is a UK-based med-tech company developing advanced, AI-powered healthcare and research technologies. Our flagship innovation, OpiBud, is an implantable biosensor designed to predict and prevent opioid overdoses before they happen.

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Problem

Opioid addiction is one of the most urgent public health challenges of our time.Opioid overdoses cause over 600,000 deaths globally every year, with current monitoring solutions limited to external wearables and post-event treatment.Specifically in the UK,Over 300,000 people aged 15–64 are estimated to use opioids or crack cocaine with around 87,000 injecting drugs [UKHSA, 2023], not to mention those who become addicted after long term prescription use.There is no existing implantable solution that continuously tracks physiological and emotional markers predictive of overdose risk. This results in preventable fatalities, hospital readmissions, and billions in healthcare costs annually.

Current monitoring systems are reactive, not predictive.

Existing overdose management tools (such as pulse oximeters and wearables) detect physiological collapse after hypoxia or respiratory depression has already occurred. They lack continuous, systems capable of forecasting overdose risk through biochemical or neurochemical pattern recognition.

Biochemical markers are underutilised.

Most current technologies focus on vital signs rather than the underlying biochemical changes that precede overdose, such as fluctuations in oxygen saturation, pH, or neurochemical signalling. This represents a critical gap between behavioural monitoring and biochemical insight, limiting early intervention opportunities.

Absence of integrated biosensor-AI frameworks.

here is no clinically deployed system that combines implantable biosensors with artificial intelligence to provide real-time, adaptive overdose prediction. Data remains siloed between monitoring devices, healthcare systems, and research platforms, restricting the development of intelligent, responsive care pathways.

Solution

Introducing OpiBud: the world's first AI-powered implant for overdose prevention & monitoring.

OpiBud is a miniaturised implantable biosensor that monitors physiological and neurochemical markers in real time. Using AI algorithms, it analyses subtle changes in the body to identify overdose risk patterns, triggering early alerts to carers or healthcare providers. This transforms overdose response from reaction to prevention, offering safety, dignity, and independence for patients in recovery.

Continuous Monitoring

Real-time acquisition of physiological and neurochemical data.

OpiBud employs a miniaturised, implantable biosensor array capable of detecting multi-parameter signals, including oxygen saturation, interstitial pH, electrochemical activity, and microvascular perfusion.
This enables continuous, high-fidelity monitoring of systemic biomarkers directly within tissue, providing data resolution impossible to achieve through surface wearables.

insightful Data Collection & Predictive Analytics

Designing an AI-driven framework for intelligent addiction monitoring.

The OpiBud system is proposed to collect, process, and interpret multidimensional biosensor data to generate actionable insights.
This would include detecting poly-drug use, screening for lethal compounds such as fentanyl analogues, and using historical usage patterns to model individual tolerance thresholds. Through longitudinal data analysis, the AI could begin to predict risk trajectories, supporting proactive clinical intervention before crisis events occur.

Clinical Interface and Safety Network

Real-time clinical insight and emergency communication

OpiBud's companion application is being designed to translate biosensor data into simplified clinical dashboards for healthcare providers.
The system would automatically alert clinicians, emergency services, and approved family members when concerning trends are detected, such as relapse risk or physiological instability.
Patients would also receive feedback and personalised notifications to promote engagement, awareness, and adherence to treatment.

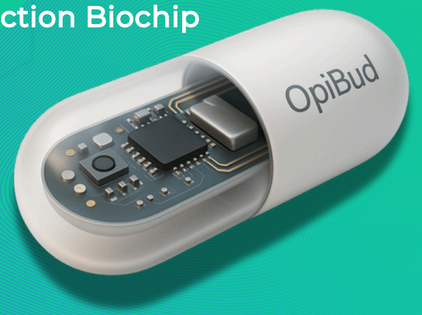
Integrated Therapeutic Response

Pharmaceutech's long-term vision is to collaborate with naloxone developers to integrate a micro-reservoir antidote delivery mechanism within future OpiBud iterations.
In such a model, the system could automatically release naloxone in response to confirmed overdose signals while simultaneously notifying emergency responders.
This forward-looking feature aims to transition OpiBud from a purely monitoring system into a predictive and responsive therapeutic device.

OpiBud

Opioid Overdose Detection Biochip

OpiBud™ is an innovative overdose prevention system that seamlessly integrates an implantable medical device, a predictive AI model, and a user-friendly digital interface. Designed to support individuals at high risk of opioid overdose, it delivers intelligent, real-time insights to both users and clinicians. By bridging physiological data with intuitive software, OpiBud transforms how we monitor, respond to, and ultimately prevent opioid-related harm.



Key Features

IMPLANTABLE SENSOR
Continuously monitors biomarker data under the skin.

REAL-TIME ALERT SYSTEM
Automatically notifies emergency services and contacts. GPS tracking included.

AI-POWERED MONITORING
Uses advanced algorithms to identify overdose events & analyse patient data.

INTEGRATION WITH NALOXONE
Planned autoinjector feature to deliver life-saving naloxone during overdose events.

PATIENT-CENTRIC DESIGN
Features a user friendly interface designed with patients, HCPs & support networks in mind.

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Our Journey So Far
OpiBud™ is currently in the early stages of development, with significant milestones already achieved. We've successfully bootstrapped our high-power computing setup, begun prototyping the chip, and are actively advancing R&D. Our initial patent has been filed and is now pending, while the OpiBud trademark has been secured. Software development is underway, laying the groundwork for our integrated overdose prevention system. As we continue building on this momentum, we aim to pursue venture capital funding and begin forging strategic relationships with key NHS trusts, public health organisations, and rehab clinics over the coming months.

INNOVATION FOR OVERDOSE PREVENTION

Over 300,000 people in the UK are estimated to use opioids or crack cocaine, with around 87,000 injecting drugs

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Market Size

The demand for predictive addiction-monitoring technology is accelerating as healthcare systems move from reactive care to prevention. Rising opioid deaths, government harm-reduction mandates, and reimbursement models for digital therapeutics are creating a gap for continuous, intelligent monitoring tools.

OpiBud addresses this by merging biochemical sensing, AI prediction, and clinical connectivity, providing real-time insight where no existing implantable solution exists.

With a projected £7 billion global market and a clear first-mover advantage, Pharmaceutech is positioned to capture early clinical and institutional adoption.

Serviceable Earnable Market

£13 Million

Projected 5-year revenue opportunity from early adoption in the UK and EU through clinical pilots, licensing partnerships, and integration into harm-reduction programmes.

Total Available Market

£7.3 Billion

The global addiction-treatment and monitoring sector, driven by demand for predictive healthcare, AI-enabled diagnostics, and continuous biosensing solutions.

Serviceable Available Market

£655 Million

Combined UK, EU, and US market for medical-device-based addiction monitoring and overdose-prevention systems, including digital therapeutics and AI-driven platforms.

Specifically in the UK,Over 300,000 people aged 15–64 are estimated to use opioids or crack cocaine with around 87,000 injecting drugs [UKHSA, 2023].

Revenue Model

Device Sales (Hardware): Revenue from the sale of OpiBud implant kits to healthcare providers, clinics, and hospitals.

Subscription & Monitoring (SaaS Model): Monthly subscription fees for continued access to the OpiBud Cloud Dashboard and patient monitoring platform. Charged to clinics, insurers, or rehabilitation programmes for each active patient.

Data Licensing & Research Partnerships: Aggregated, anonymised biosensor data can be licensed to pharmaceutical companies, research institutions, and AI drug discovery partners for use in pharmacovigilance and predictive modelling.

The Pharmaceutech revenue model is built on a foundation of clinical credibility and commercial scalability. By combining device sales, recurring digital subscriptions, and high-value research partnerships, the model ensures sustainable cash flow and diversified income streams. As adoption increases, integration with healthcare systems and pharmaceutical collaborations will further expand Pharmaceutech's reach, positioning OpiBud as a scalable, globally adaptable solution for intelligent healthcare innovation.

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Competitive Landscape

The current landscape of overdose prevention and remote monitoring is fragmented, existing technologies fall into three main categories : biosensor devices, digital therapeutics, and AI-based remote monitoring, yet none combine continuous biochemical tracking, predictive analytics, and clinical integration within a single implantable platform.

Where OpiBud Fits

OpiBud bridges the gap between biosensing, digital therapeutics, and predictive AI, offering a unified, clinically intelligent approach to addiction monitoring.

Key Differentiators:

- ***Combines implantable biochemical sensing with real-time predictive AI.***
- ***Detects poly-drug interactions and toxic adulterants (e.g. fentanyl analogues).***
- ***Models individual tolerance thresholds to anticipate overdose risk.***
- ***Integrates with a clinical and emergency alert network for immediate response.***
- ***Future development includes automated antidote delivery (naloxone integration) for closed-loop treatment.***

Result: OpiBud represents the first step toward truly intelligent, preventive addiction care, where monitoring, prediction, and intervention exist within one seamless system.

Medical Device & Biosensor Companies

Company	Focus Area	Why It's Relevant
Proteus Digital Health(acquired, valuation ~$1B)	Ingestible sensors that monitor medication adherence.	Pioneer of smart biosensing systems; showed commercial and regulatory pathway for bio-integrated tech.
Abbott (NeuroSphere / FreeStyle Libre)	Glucose and neural monitoring implants.	Major player in continuous biosensing; demonstrates scale and regulatory expertise.
Dexcom	Continuous glucose monitoring systems.	Leader in wearable biosensing — shows viability of real-time biochemical feedback in clinical use.
AliveCor	Portable ECG sensors with AI interpretation.	Proof of AI-driven clinical diagnostics; built trust with regulators and clinicians.
Biolinq	Micro-implant biosensors for multi-analyte tracking.	Closest parallel to OpiBud's technical concept — continuous biochemical monitoring at tissue level.

Digital Addiction & Behavioural Monitoring Tools

Company	Focus Area	Why It's Relevant
Pear Therapeutics (reSET / reSET-O)	FDA-approved digital therapeutics for substance use disorder.	Demonstrates market for tech-enabled addiction care; focuses on behavioural therapy rather than biosensing.
DynamiCare Health	Smartphone-based addiction recovery platform.	Uses behavioural tracking and incentives — no biochemical measurement.
Soberlink	Alcohol monitoring via breath sensors.	Single-parameter monitoring device; indicates appetite for continuous accountability tools.
Verisense (Shimmer Research)	Wearable motion and physiological trackers.	Demonstrates data pipeline potential but limited biochemical depth.

AI & Remote Monitoring Ecosystems

Company	Focus Area	Why It's Relevant
Current Health (acquired by Best Buy Health)	Remote patient monitoring platform.	Illustrates commercial scalability of AI-driven clinical dashboards.
BioIntelliSense (BioSticker / BioButton)	Continuous wearable vital-sign tracking with AI analytics.	Advanced physiological monitoring — lacks implantable or biochemical sensing, but strong
Neuralink (conceptual overlap)	Neural implants for brain–machine interfacing.	Shares long-term vision of internal biosignal capture and AI processing.
Empatica	FDA-cleared AI wearables for seizure and stress detection.	Focuses on autonomic data analysis — strong in emotional/neurological pattern recognition.

Key Competitive Advantages

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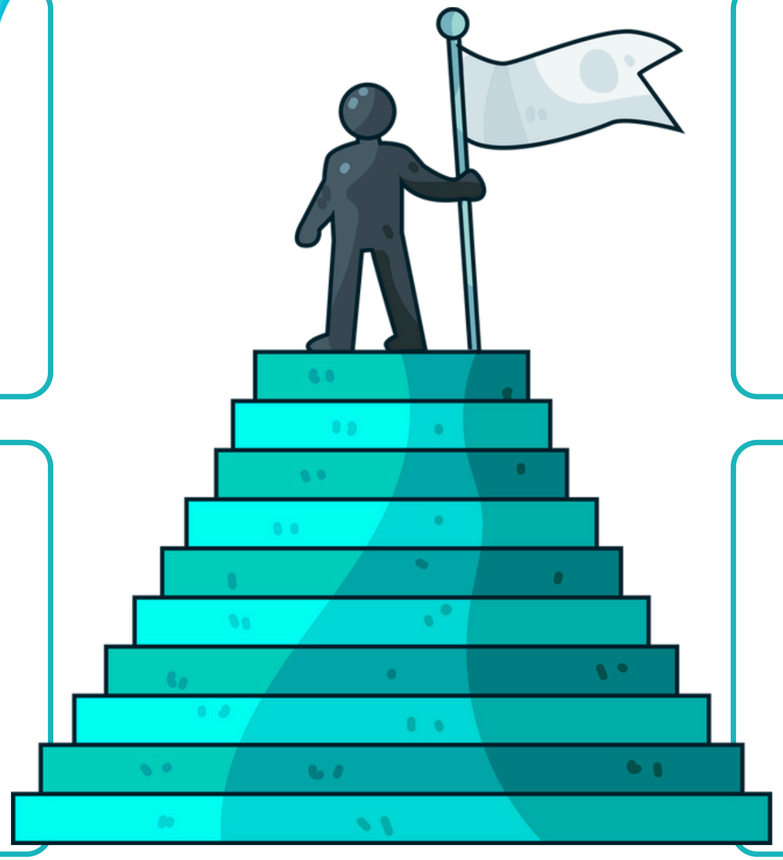
Advanced Biosensing Integration

OpiBud combines implantable biochemical, physiological, and neurochemical monitoring within a single device, offering a level of clinical insight no current wearable or digital solution can match.



Closed-Loop Clinical Ecosystem

The platform integrates clinician dashboards, patient interfaces, and safety networks — ensuring rapid communication between patients, healthcare providers, and emergency services, with the potential for automated therapeutic response in future iterations.

Predictive & Adaptive AI Modelling

Pharmaceutech's proprietary AI framework is designed to analyse real-time biosignals, detect poly-drug interactions, and model individual tolerance thresholds, shifting addiction monitoring from reactive observation to true prediction and prevention.

Scalable Platform for Research & Expansion

Built as a modular biosensing architecture, OpiBud supports expansion into other healthcare verticals, including mental health, neurodegeneration, and precision drug development enabling both clinical and commercial scalability across multiple markets.

Traction

Pharmaceutech has achieved significant early momentum through a series of competitive wins and institutional recognitions. The company was accepted into the University of Hertfordshire Accelerator, won the UH Flare Award, and later secured additional Fast Track funding, totalling approximately £10,000 in non-dilutive capital. These funds were strategically invested in high-performance computing for AI development, IP protection, and technical feasibility studies to validate the OpiBud concept. Pharmaceutech has also been shortlisted for the Tata Varsity Pitch(potential award up to £15,000) and has entered the Co-Create Pitch, where prizes range between £20,000 and £200,000. Together, these milestones demonstrate strong early traction, external validation, and clear progress toward prototype development and commercial readiness.

£10k

Awarded just under £10K in entrepreneurial grants, reflecting strong market confidence in the concept's potential.

800k

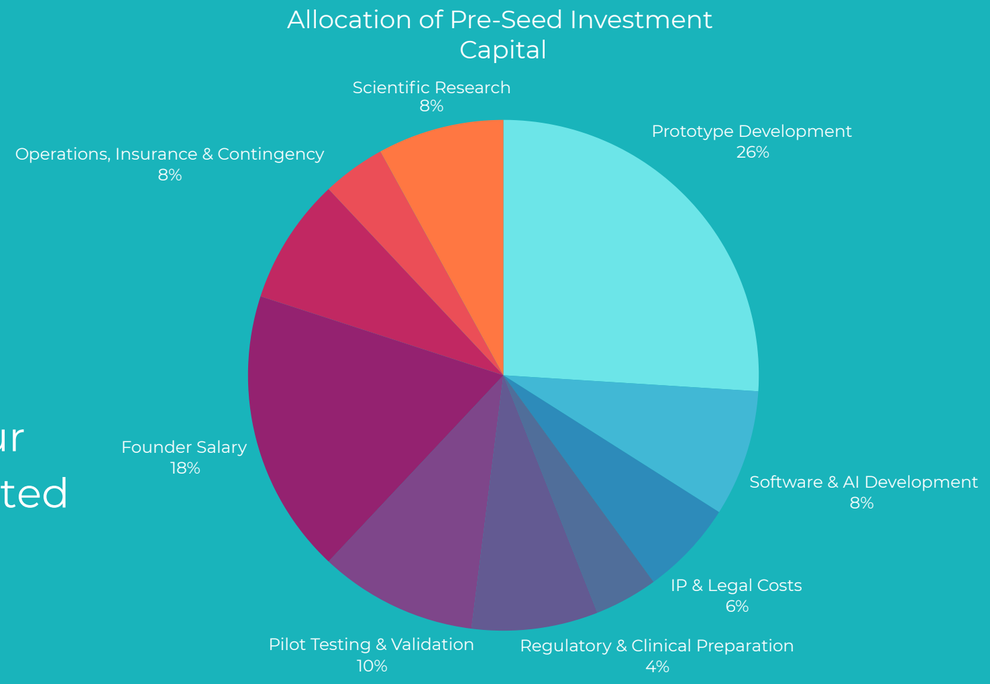
Feasibility studies confirm a global market of 800K–3M potential users, validated by clinical specialists.

Patent Pending

trademarked "OpiBud" and submitted initial patent, ensuring exclusive ownership of the concept

Funding Ask

Pharmaceutech is seeking £250,000 in pre-seed investment to accelerate the development of its flagship product, OpiBud. The funds will support prototype development, AI model training, IP advancement, and regulatory preparation in collaboration with our R&D partner, CPI. This investment will enable us to deliver a validated prototype, strengthen our data infrastructur.



Milestone Outcomes

Prototype & Software (v1)

Development of the first integrated OpiBud prototype and companion software platform, enabling biosensor data collection, analysis, and early AI functionality.

Testing & Regulatory Preparation

Establish early-stage testing partnerships, generate pilot data, and engage with MHRA for compliance mapping and pre-clinical pathway definition.

Seed Readiness & Growth Preparation

Strengthen IP portfolio, finalise feasibility validation, and prepare for team expansion, Innovate UK grant applications, and seed/Series A fundraising to scale development and commercial readiness.

Team Overview

Pharmaceutech is founded and led by Abimbola Odushoga, a multidisciplinary professional with over eight years of experience in clinical and pharmaceutical settings. Abimbola holds a BSc in Pharmaceutical Science and an MSc in Data Science & Artificial Intelligence, combining technical expertise with deep sector knowledge.

Having worked within pharmacy and clinical environments, she has seen firsthand the limitations of current opioid recovery programmes such as methadone treatment and the growing need for smarter, data-led interventions. Her experience collaborating with high-ranking pharmaceutical stakeholders, including WEB, Amryt, Chiesi, and Britannia Pharmaceuticals & has provided strong insight into drug regulation, patient safety, and the innovation pipeline.

At this pre-seed stage, Pharmaceutech operates lean, ensuring all funds are directed toward R&D and prototype development. Hardware is managed through trusted engineering partners, with additional expertise outsourced strategically to maintain flexibility and efficiency. As the company achieves its six key milestones, the team will expand to include specialists in AI engineering, R&D, and regulatory affairs to support clinical trials and market entry.