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GLOBAL
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+Thinking
Doing
Columbia
Global

COLUMBIA
ENGINEERING

NATIONAL TECHNICAL
UNIVERSITY OF ATHENS

endeavor

HELLENIC INSTITUTE
of ADVANCED STUDIES

Columbia
Business
School

Lab to Market

Bridging Innovation and Entrepreneurship

Pitch Competition

Supported by

BLAVATNIK
FAMILY FOUNDATION

Judges

1. Vassilis Antoniadis

2. Valia Babis

3. Alex Eleftheriadis

4. Mania Samiotaki

5. Dimitris Tryfon





Vassilis Antoniadou

Managing Director and Senior Partner, Boston Consulting Group Greece (BCG)

Vassilis Antoniadou is a Managing Director and Senior Partner of BCG. He serves as BCG's Client Coordinating Officer for the European Union Institutions, covering the European Union Commission, European Investment Bank and European Central Bank in their efforts for a more innovative and competitive European Union. Vassilis has had a key role in the development of the Athens office since joining BCG in 2003, serving also as Head of BCG's Athens Office from 2010-18. He has also been a regional leader of the Financial Institutions practice at BCG in Central Europe, Middle East and Africa from 2014 to 2022.

Vassilis was a government-appointed board member of Greece's National Council for Research and Innovation (NCRI) and advises the Greek government on economic growth topics. He serves on the boards of the Bodossaki Philanthropic Foundation and the Benaki Museum. He is a founding member of ExcellenSeas, a Greek NGO granting scholarships for college to top high school graduates from remote Greek islands.

He holds an MBA from Harvard Business School and a B.Sc. magna cum laude in International Finance from Georgetown University.



Valia Babis

Advisor to the Governor, Bank of Greece

Valia Babis, PhD is Advisor to the Governor at the Bank of Greece, where she focuses on innovation and digital finance. Prior to joining the Bank of Greece, she served as Legal Counsel at the Bank of England and practiced banking and financial regulation law at Allen & Overy in London. She holds a PhD and an LL.M. in Law from the University of Cambridge, where she was also a Research Fellow, and an LL.B. from the National and Kapodistrian University of Athens. Valia is qualified as both a Solicitor of England and Wales and an Attorney-at-Law in Greece, with extensive expertise in financial regulation, banking supervision, and digital finance.



Alex Eleftheriadis

Founding Partner, Big Pi Ventures

Dr. Alexandros Eleftheriadis is a Partner at Big Pi Ventures, an early-stage deep tech venture capital fund that he co-founded in 2018. In 2005 he co-founded Vidy, a pioneering videoconferencing systems company that was acquired by Enghouse in 2019. He has been an active angel investor with exits to Meta and Dell. Prior to Vidy he was an Associate Professor of Electrical Engineering at Columbia University. He has also held an appointment as an Associate Professor at the University of Athens, in the Department of Informatics and Telecommunications. He is an award-winning researcher with more than 100 publications, holds more than 150 patents internationally, and his inventions are used in several international digital video standards (H.264 AVC, H.265 HEVC, Blu-ray DVD, ATSC US digital terrestrial TV, and ARIB Japan digital TV). He received his Ph.D. in Electrical Engineering from Columbia University in 1995 and his Diploma in Electrical Engineering from the National Technical University of Athens, Greece, in 1990.



Mania Samiotaki

Senior Product Manager for Strategic Development, Canon Medical Systems

Mania Samiotaki Ph.D. is a medical imaging, medical devices and AI product leader with expertise in product management, commercialization and product strategy. She has a multidisciplinary background spanning academic research and work in global healthcare organizations, focusing on medical imaging systems, therapeutic medical devices and AI integration.

Electrical and Computer Engineering, Diploma, NTUA, Athens, Greece, 2009. Biomedical Engineering, Ph.D., M.Phil., Columbia University, NY, USA, 2014



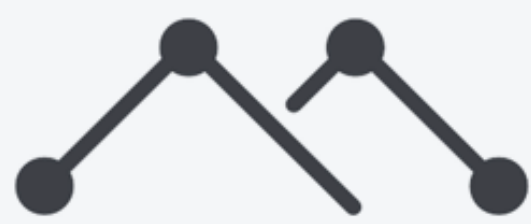
Dimitris Tryfon

Partner at T-Life Capital; President at WinMedica Pharmaceutical and Endeavor Ambassador

Dimitris Tryfon is the President of Winmedica, a Pharmaceutical Company in Greece with more than 170 employees, that specializes on the production and distribution of drugs in the Greek Market as well as abroad. Winmedica is an affiliate company that belongs to Elpen Group. This period Winmedica is building an advanced and modern oncological unit in Tripoli. He is also a partner at T-Life Capital (<https://tlifecapital.com>), an investment company that focuses on start-up & scale-up enterprises as well as on Real Estate. Furthermore he is a member of the Board of Directors of BLE KERDOS REIC, a Real Estate Investing co. which is located in Athens. Finally, he is a member of the Board of Directors of Athens Lifetech Park a start-up innovation park that is working around medical sciences.

Teams Competing

1. Mediva RX
2. Vima
3. Pharos Maritime AI
4. UniWatt AI
5. FlareSense
6. GeoDamp
7. LumiJoint
8. TerraSense-AI
9. Iamus Photonics
10. Draco
11. Wastechain
12. Calmapulse
13. GrowApps
14. Kerberos
15. DiagnAll



Dimitrios Lempesis
Mechanical & Biomedical Engineer



Konstantinos Dalampekis
Software & AI Engineer



Stavros Papapanagiotou
Mechanical & Biomedical Engineer

The Adherence Issue in Oral Clinical Trials

>48%
>13%
>90%

of patients in Clinical Trials miss >1 dose
of patients in Clinical Trials miss >10% doses
of Clinical Trials still use Pill Counts + Diary

→

Extra Funding Needs
Trial Study Power
Delayed go-to Market

↑
↓
↑

\$33.5M-\$57.7M^{per high level study}
Up to - 60%
3-5 Months

DCT / Hybrid Clinical Trials

2025
\$9.39B → 2031
\$21.06B

DCT/Hybrid Clinical Trials move the trial closer to the patient but farther from adherence verification.
A pill can be counted, reported, but still not taken.

Mediva-RX

The first end-to-end adherence monitoring system for DCT/Hybrid Clinical Trials

Automatic Medication Dispenser



AI-Video Adherence Monitoring



Custom Reminder Interface



Log Database



For Who and Why buy

Contract Research Organisations(CROs)

- Competitive Market Advantage against other Trial operators
- Reduce manual monitoring time by 46-50%

Oral Pharma Companies

- Improve overall adherence in Phase II-III trials to >95%
- Reduce total costs due to non-adherence exclusions by up to 130k/excluded patient for CNS/Cardiometabolical Trials
- Minimizing time between adherence monitoring/need for intervention by providing per-dose verification

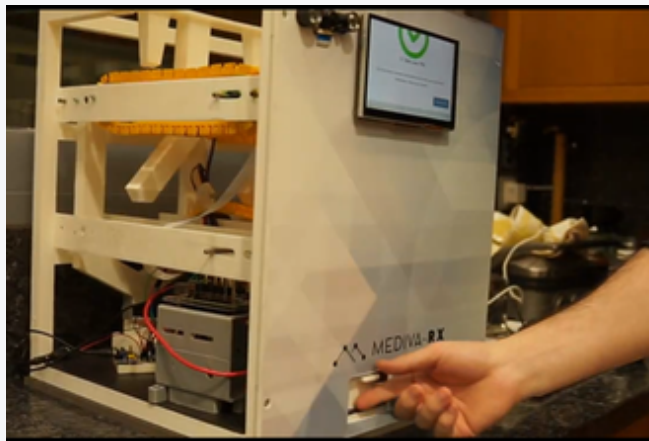
TAM
\$3.74B

SAM
\$252M

SOM
\$3.6M

04/2022

The Proof-of-Concept product version of MedivaRX wins the nationwide engineering competition preSFHMMY



12/2025 - 06/2026

Lab-To-Market
93 interviews completed
52 interviews in-person



06/2026

New York Tech Week
11 Clinical Trial stakeholders confirmed the problem
Columbia's Clinical Trial Office validated the problem and consulted for the next pilot and regulatory steps.
Interest from 2 healthtech pre-seed VCs.



06/2026

Granted Patent "Smart Medication Dispenser with Artificial Intelligence Capabilities" (ΔΕ 20250100266)



06/2026

3rd place in EBEAxΘEA BIOTECH national pitch competition
Interest from 2 seed Greek VCs



VIMA

Smart Gait. Free Movement.

An AI-powered cane that predicts **Freezing of Gait** before it happens — and automatically cues the patient to keep moving.

TEAM 21

Lab to Market

Columbia – NTUA – 2026

Kyriaki Kolpetinou

Team Lead · AI/ML · Clinical Protocol

Nikolas Robotis

Hardware & Sensors · AI/ML



The Problem

Freezing of Gait (FoG) is the sudden, unpredictable loss of the brain's signal to walk. Patients freeze mid-step with no warning, fall, and many stop leaving home entirely.

Today's standard of care is **verbal coping tricks taught in a clinic** — but patients forget them in the moment and freeze anyway, while caregivers can only watch.

60%

of Parkinson's
patients affected for
life

#1

cause of falls in
Parkinson's

\$82B

annual burden (US)



Value Proposition

Who we serve: people living with FoG — Parkinson's patients and those with related disorders — reached through the clinicians who guide their care.

PD patients (cane users)

MSA · PSP disorders

Neurologists

Physiotherapists

Caregivers

Private insurers

The value we create: we give patients back **safe, independent mobility and dignity**, cut fall risk, and hand clinicians an objective tool — building on the rhythm-based recovery patients already use instinctively.



Our Solution

A discreet **smart cane** with embedded IMU sensors that read gait in real time and **predict a freeze before it happens**. The instant one is detected, the cane fires a **laser cue on the floor** plus a **rhythmic audio cue** — the patient steps over the line and walks.

- **Predicts, not reacts** — intervenes before the freeze, not after the fall
- **Adaptive cues** — personalized to each patient, not one-size-fits-all
- **All-in-one** — no wearable body sensors to attach or charge
- **Dignity by design** — looks like modern tech, not a medical aid



Key Highlights

51 customer-discovery interviews · 24 in person

22 PD patients

10 neurologists

8 researchers

7 industry / insurers

4 physiotherapists

VALIDATION

GO decision — business model validated through discovery

PARTNERSHIPS

NTUA Sensors Lab · Oxford Neurology · PD Neurotechnology · rehab centers

MARKET

FoG reaches beyond PD (MSA, PSP) → market **2-3x larger** than first assumed

NEXT MILESTONES

Ethics approval → **clinical study** → CE-marking pathway

Contact

Kyriaki Kolpetinou · kkolpetinou@biomed.ntua.gr

Nikolas Robotis · nrobotis@biomed.ntua.gr

VIMA · Team 21 — Lab to Market (Columbia-NTUA)

Stop arriving fast, just to wait.

Pharos predicts port congestion using real-time and historical AIS data, giving operators optimal speed and arrival recommendations — so vessels turn congestion to their advantage instead of suffering from it. Built for ops managers and chartering teams who need certainty before a vessel ever leaves port, Pharos turns scattered AIS signals into one clear, defensible arrival window.

THE PROBLEM

Dry bulk vessels spend ~10% of operating time at anchor — the industry default is “Sail Fast, Then Wait.” Ops teams rely on local agents for information that arrives hours late and is often wrong, leaving zero visibility before arrival. That blind spot costs operators up to \$1M per vessel, per year in wasted fuel, lost hire days, and avoidable demurrage disputes.

10%

of operating time spent at anchor
(UCL/UMAS, 2024)

\$15k–50k

cost per idle day — charter + fuel
+ anchorage

~\$1M

avoidable loss per vessel, per
year

\$10B+

global cost of anchorage waiting,
per year

HOW IT WORKS

- 01 Read the fleet.** Track every vessel approaching in real time — speed, position, declared ETA, drawn directly from live AIS broadcasts.
- 02 Model the queue.** Build a live picture of the anchorage — vessels waiting, queue movement, and the next likely berth window.
- 03 Forecast position.** Calculate queue position from live AIS data plus historical port patterns — service times, berth turnover, congestion cycles.
- 04 Deliver the recommendation.** The ops team receives a clear arrival window and the data to instruct optimal speed. The decision always stays with them.

AIS data only. No port integration. No on-board installation. No IT project. Pilots go live in weeks.

MVP RESULTS: RICHARDS BAY

Modeled against 50 real Richards Bay voyages, comparing Pharos's recommended speed to what actually happened. The model never slows a vessel past the speed it needs to arrive exactly as the berth opens, so short-wait voyages save little and long-wait voyages save substantially — exactly as expected.

100%

of voyages with positive savings
vs. the actual outcome

\$6.57M

total savings across the 50-voyage
sample

\$131,465

average savings per voyage
(median \$88,650)

\$10.5M/yr

annualized across a 40-vessel fleet
at 2 voyages/yr

9,066 t

bunker fuel saved across the sample

28,233 t

CO₂ avoided — 565 t/voyage; 45,000 t/yr fleet-wide

\$25.2k–\$435.7k

range of savings, voyage to voyage

TEAM

Alex Spandonidis
Founder • NTUA

Ioannis Gousios
Co-founder • NTUA

Spiros Skarmoutsos
Co-founder • NTUA

Iraklis Stivaktakis
Co-founder • NTUA

VALUE PRODUCED

- Queue Position Intelligence**
Know what's waiting before you depart, not after you arrive.
- Optimal Speed Recommendation**
Best strategy for time charter, voyage charter, or ballast leg.
- Save Hire Days & Fuel**
Recover ~\$1M/year in avoidable losses per vessel.
- CII Protection**
Racing to an occupied berth wastes fuel and worsens your Carbon Intensity Indicator (CII) rating.
- Negotiate Fixtures With Data**
Weeks of congestion history available before signing a charter.
- Demurrage Dispute Resolution**
Timestamped, objective evidence of port conditions for clean settlements.

WAYS TO WORK WITH US

STREAM 1
Optimal Arrival Strategy
For operations teams.
Subscription priced per vessel,
per year. High ROI and fast
payback, driven directly by
every idle day avoided.

STREAM 2
Port Congestion Intelligence
For chartering teams. Monthly
subscription tiered by ports
covered — from key chokepoint
ports to unlimited global
coverage.

TRACTION

- ✓ 60+ customer discovery interviews completed with dry bulk operators across the USA, Europe, and Greece
- ✓ Active pilot discussions underway with shipping companies in the USA, Greece, and Europe
- ✓ Presented Pharos at New York City Tech Week and Columbia University
- ✓ MVP in active development, with the port queue model already running on real-time AIS data



UniWattAI

THE OPERATING SYSTEM FOR ENERGY

AI software that forecasts energy demand, prices, and asset behavior — then optimizes batteries, EV charging, renewables, and market bids to **cut costs and grow revenue**.

01 · PROBLEM

Energy operations have outgrown their tools

- Exploding data from EVs, PVs, batteries, smart meters, and IoT — fragmented tools and manual analysis no longer scale.
- No unified view across assets, sites, and portfolios; savings, ROI, and ESG impact are hard to verify.
- Generic AI isn't an energy-domain expert and can't deliver regulation-aware decisions. Dashboards report the past — they don't act on it.

Result: higher costs, hidden risk, grid instability, and billions in missed revenue.

02 · SOLUTION

A cognitive operating system for energy

01

The Calculator · PRECISION

Forecasting & optimization models power energy disaggregation and digital twins for real-time asset valuation and ROI.

02

The Brain · REASONING

Energy-adapted models understand grid, markets, and regulation. **Ampy**, our advisor, turns data into ESG reporting and cost-reduction strategies.

03

The Hands · ACTION

Plug-and-play agents run 24/7: a **Billing** agent flags anomalies, a **Trading** agent runs aggregator strategies, a **Grid** agent manages stability.

Bidding across every Greek electricity market — stacked revenue

DAM

Day-Ahead

IDM

Intraday

aFRR/mFRR

Balancing

STACKED

Co-optimized

07 · VALIDATED IMPACT

▼47%

Lower energy cost

▼31%

Lower carbon

▲17%

Better grid use

500k+ m²

Land managed

PILOT DEPLOYMENTS

- **ACG** — The American College of Greece
- Public-sector activity & deployments
- Backed by Microsoft for Startups & Google Cloud

08 · PLATFORM

One platform connecting data intelligence to real-world energy operations

Demand & production forecasting

Battery & load scheduling

Market-bidding optimization

EVs

Self-consumption maximization

Multi-site coordination

Anomaly detection & insights

09 · CO-FOUNDERS



Konstantinos Kechagias
Co-Founder

PhD, Univ. of Athens · Google Developer Expert in AI · Forbes 30 Under 30 · Founder & Lead of Google DSC & ACM Student Chapter.



Anastasios R. Varvarigos
Co-Founder · AI Engineer

Researcher at Yale · MEng, Imperial College London · Community Manager, Google Developer Group UoA · Ex-ARM.



Dr. Aristotelis Kretsis
Co-Founder · Systems Engineer

PhD, Univ. of Patras · Researcher at ICCS, NTUA · 40+ scientific publications.

03 · VALUE

Who we serve & the value we create

We empower **Energy Service Providers, Utilities, and commercial battery & PV operators** to optimize flexibility, maximize revenue, and decarbonize the grid.

Unified platform

Privacy-first

Insight → action

04 · MARKET

TAM **\$95–110B** global energy management & AI

SAM **\$1.1–1.4B** Greece & near-term EU

SOM **B2B & Utilities** ESPs, TSOs, operators

05 · TRACTION

Secured contracts · ≈ 2.8× growth



06 · BUSINESS MODEL

- SaaS** **Subscriptions** — recurring platform fees (stable base).
- %** **Shared revenue** — commission on savings & market revenue (upside).
- B2G** **Enterprise & B2G** — custom deployments for municipalities & TSOs.

RECOGNITION

Columbia–NTUA Lab-to-Market 2025 · Google Ideathon · Google Partners · Green Tech Challenge 1st Place · GAEA Accelerator 1st Place · Microsoft for Startups · IEEE-published science

EMAIL info@uniwattai.com WEB uniwattai.com

FLARESENSE

Flare-ups warning and tracking system for patients with Rheumatoid Arthritis (RA)

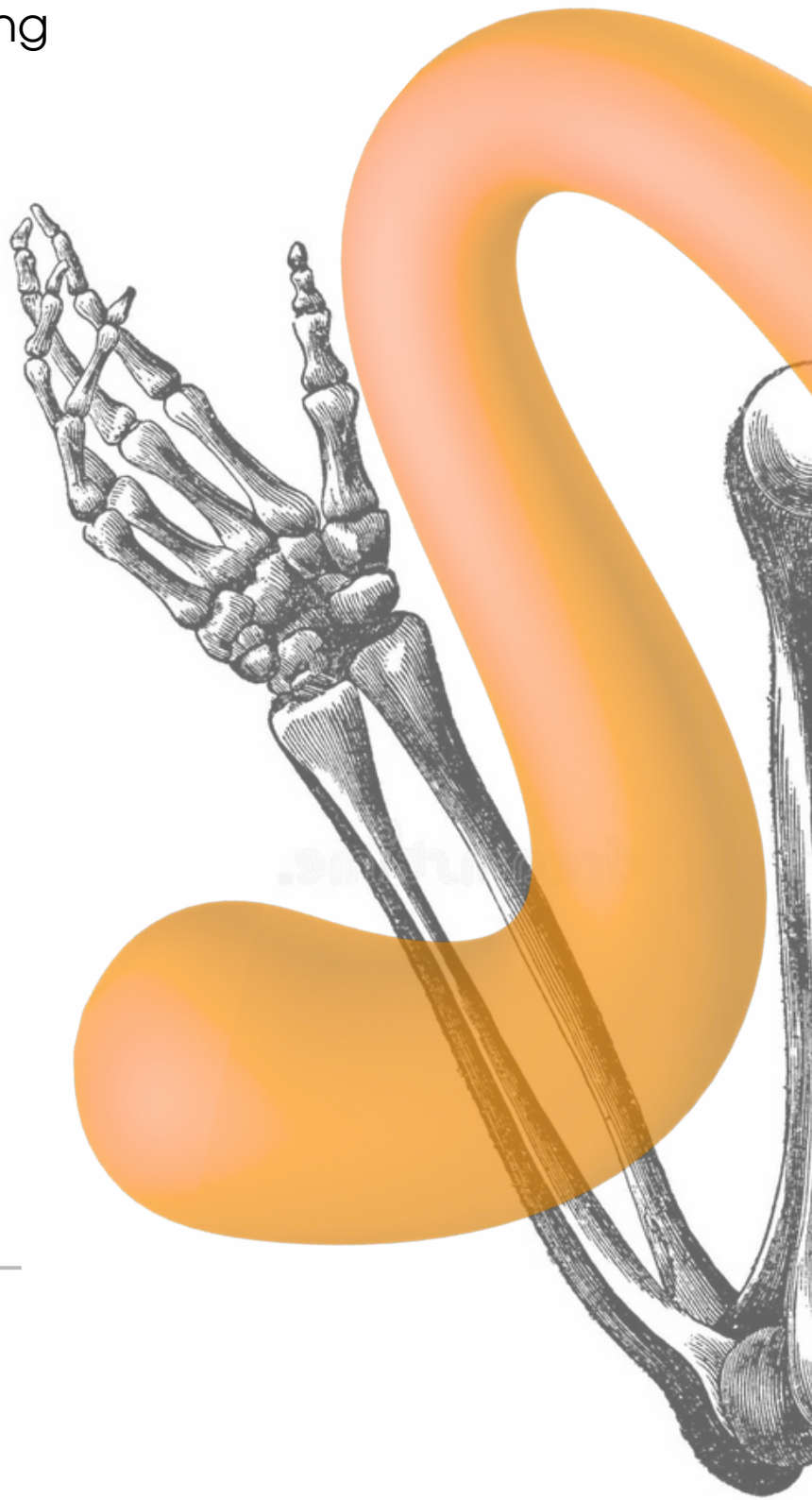
Living with an autoimmune disease can be quite challenging. Unexpected flare-ups can shift your whole schedule and influence your life in every aspect.

What we offer?

- A **highly structured diary** to keep track of the patient's symptoms while keeping the input simple.
- A **summary** of this info given to your rheumatologist on demand to ease his work.
- Make a customizable **predictive algorithm to alert** the patient beforehand for upcoming flare-ups.

Who is our target audience?

- **Patients with RA** who want to be more in control of their condition.
- **Doctors** who want to have consistent follow-ups with their patients.



GeoDamp

GEOMETRY – DRIVEN METALLIC SEISMIC DAMPING SYSTEM

Smarter seismic retrofitting through
lightweight, replaceable and **scalable**
solutions.



LIGHTWEIGHT



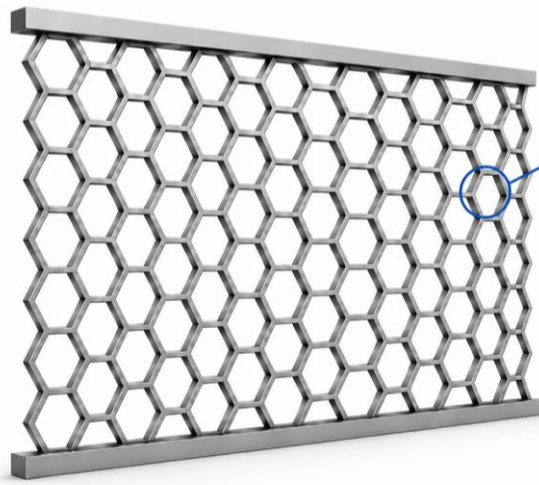
REPLACEABLE



SCALABLE



CODE COMPATIBLE



OUR TECHNOLOGY CELLULAR SHEAR WALL

- ✓ Geometry-driven.
- ✓ Performance-optimized.
- ✓ Code compatible.
- ✓ Easy to install & replace.
- ✓ Scalable for any project.



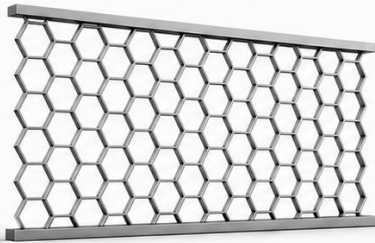
1. THE PROBLEM

- Buildings are designed to survive – **not** to remain functional.
- Modern seismic design allows **damage** – as long as collapse is avoided.
- After major earthquakes, **downtime** and **repair costs** triple critical facilities.
- Critical infrastructure cannot afford **operational interruption**.
- We start **internationally** to gain traction quicker.
- Early adopters are **NOT** in Greece.



2. OUR SOLUTION

Modular, scalable damping systems that **absorb seismic energy** and **protect structures** from damage.



- ✓ EASY TO INSTALL & REPLACE
- ✓ SIMPLE & LIGHTWEIGHT
- ✓ SCALABLE FOR ANY PROJECT



3. HOW IT WORKS



Seismic energy enters the structure



GeoDamp dampers deform and dissipate the energy



Reduced damage, controlled response, no collapse



Building remains operational after the earthquake

4. VALUE PROPOSITION



WHO WE SERVE

Owners and operators of critical facilities: hospitals, schools, data centers, museums, public buildings and infrastructures.



VALUE WE DELIVER

Minimize damage and downtime, enabling buildings to remain operational after earthquakes.



WHY WE ARE UNIQUE

- Independent tuning of stiffness & damping
- Minimal intervention
- Modular & replaceable
- Geometry-driven performance
- Code-compatible solution



CUSTOMER BENEFITS

- Business continuity
- Lower repair costs
- Faster recovery
- Long-term reliability
- Sustainability



MARKET OPPORTUNITY

- Rising demand for effective retrofit solutions
- Increasing seismic resilience requirements
- Push toward resilient cities & critical infrastructure

5. BUSINESS MODEL



MANUFACTURING & SUPPLY

Partnership with structural manufacturers
Device supply / licensing



DESIGN & ENGINEERING SUPPORT

Engineering design fees



RETROFIT PROJECT IMPLEMENTATION

Custom retrofit solutions

REVENUE STREAMS



Engineering design fees



Device supply / licensing & partnerships



Custom retrofit solutions & recurring projects

6. IMPACT



RESILIENCE

Stronger, safer communities



SUSTAINABILITY

Lower environmental footprint



SOCIAL IMPACT

No victims, no tragedies



ECONOMIC IMPACT

Protect value, reducing losses



45+
STAKEHOLDER
INTERVIEWS



PILOT PROJECT
IN DISCUSSION



INTERNATIONAL
MARKET ENTRY



OUR FOCUS

Retrofit projects with operational constraints
(e.g., schools, hospitals – cannot shut down)



OUR TARGET

We start internationally to gain traction quicker.

OUR TEAM



Spyridoula
Papathanasiou



Sofia Dagli



Panagiota Syrimi



Panos Tsopelas

CONTACT



www.geodamp.com



GeoDamp

THE PROBLEM

Arthritis is still judged by hand; a doctor feels 28 joints for pain, swelling, and warmth (the DAS-28 exam). It's subjective, varies doctor to doctor, and leaves almost everything that matters unmeasured.

4-20_{yrs}

to a correct diagnosis. Only **19%** see a rheumatologist on their first visit.

60%+

have severe flares **between** their 3-6 month visits, never measured.

35-50%

can no longer work within **10 years** of onset.

€10-20k

per patient / year on biologic treatments, with **no** objective tracking.

THE SOLUTION

A non-invasive, home-use wearable that turns joint inflammation into **objective, continuous data** — moving care from reactive exams to proactive, early intervention before damage becomes permanent.

01 · WEAR

Optical sensing wearable, used at home.



02 · SCAN

Inflammation measured in **2-5 minutes**.



03 · TRACK

App: personalized reports + automatic flare alerts.



04 · SHARE

Data flows straight to the physician.

FOR RHEUMATOLOGISTS

Objective, quantified inflammation markers instead of subjective touch exams, enabling real-time treatment monitoring and precise *"treat-to-target"* adjustments.

FOR PATIENTS

Easy daily tracking at home, far fewer painful clinic trips, early flare prediction, and peace of mind, especially in remote regions or early-onset cases.

MARKET OPPORTUNITY

10M US **7.5M** Europe **200K** Greece

REVENUE MODEL

€300-€500 one-time device + monthly subscription for app analytics.

THE ASK €150,000

A **12-month runway** covering:

- Core engineering wages
- Prototype component manufacturing
- Pilot validation costs
- Early regulatory compliance mapping
- Corporate legal fees

FUTURE STEPS

R&D: finalizing the prototype, optical tracking components, the automated app, and AI software for results analysis in the app.

Validation & IP: preparing clinical pilot feasibility trials and initiating core patent filings (OBI/PCT).

50+ interviews over 4 months — clinicians from hospitals like Laiko General Hospital, patients from groups like the Rheumatic Patients Association of Western Attica, plus insurers.

New York trip insights: discussed with professionals from Columbia University and validated our core hypothesis.

TEAM

Anna Maria Papakonstantinou
Team Lead

Maximos Tryfonas
Product & Business Lead

Eleni Tsiovoulou
Engineer

Ioannis Tsalas
Engineer



TerraSense AI
Unlock Satellite Intelligence

AI Satellite Intelligence

for Climate Risk & Environmental Monitoring

Turning satellite data into clear, actionable decisions.

TerraSense AI is a unified AI platform that analyzes multi-source satellite imagery to help insurers and public agencies detect environmental risks early, monitor assets continuously, and assess disaster damage faster - without requiring hardware, proprietary datasets, or remote-sensing experts.

160M+

people affected by natural disasters each year

€45B+

annual climate-related insured losses in Europe

15%

potential improvement in risk pricing accuracy

Problem

Climate disasters are becoming more frequent and costly, while current monitoring and claims workflows remain slow, fragmented, and expert-dependent.

- Satellite data is abundant, but difficult to operationalize.
- Damage assessment is often delayed and manual.
- Insurers need faster, clearer climate-risk intelligence.

Solution

TerraSense AI converts raw satellite imagery into explainable alerts, risk signals, and post-event assessments.

- 24/7 monitoring of large geographic areas
- Early detection of environmental risks
- Rapid post-disaster damage assessment
- Cloud deployment with no hardware installation

Value Proposition

Primary customer: insurance companies, starting from Greece and expanding across Europe.

TAM Europe: €36B — Greece: €1.3B

Customer benefits:

- Better climate-risk assessment
- Faster claims processing
- Lower compensation costs
- More accurate risk pricing

Why TerraSense

- 24/7 operational alert system
- Multi-satellite real-time monitoring
- Explainable and interpretable AI outputs
- Interactive map with conversational AI interface
- No proprietary hardware required
- No remote-sensing expertise required
- Fast, scalable, and cost-effective platform

The problem is not lack of data - it is lack of clarity.

Team

Andreas Varvarigos || Elec. Eng. PhD @ Yale
AI Architecture, ML, Computer Vision

Apostolos Dalianis || Env. Sci. MSc @ NTUA
Product Strategy, Geospatial Intelligence

Lampros Zormpas || Env. Sci. MSc @ NTUA
Business Development, Climate Risk Assessment

Contact

Website: terrasense-ai.com — **Email:** info@terrasense-ai.com —

LinkedIn: TerraSense AI



Scan for website

Climate change does not wait. Neither should we.

Iamus Photonics

Reliable sensing for harsh environment

Iamus Photonics is an NTUA / ICCS spin-off developing optical sensing systems for critical infrastructure, energy, industrial and aerospace environments.



PROBLEM / OPPORTUNITY

Critical assets are under-monitored.

Infrastructure operators and structural assets often rely on sparse data, manual inspection or conservative assumptions as electronics are difficult to deploy directly at the asset. This is especially true for grid routes, pipelines, substations, refineries, data-centre power routes and aerostructures.

What is at stake:

- Existing assets may operate below useful capacity because real conditions are not known.
- Dynamic-rating use cases show **15–20% capacity upside** when real operating conditions are available.
- Remote asset downtime can be extremely costly; offshore Oil&Gas downtime exposure has been estimated around **\$38M/year**.
- Significant data-centre outages often exceed **\$100k**, with **1 in 5** exceeding **\$1M**.

SOLUTION

Reliable and accurate sensing using photonics

Iamus combines optical sensing hardware, fibre-compatible readout and software analytics into an installed monitoring workflow.

Long-range fibre sensing

Distributed sensing for long assets using deployed or newly installed optical fibre.

Target assets: grid routes, power cables, pipelines, refineries and data-centre power infrastructure.

Local / PIC sensing

Integrated photonic sensors for compact, passive measurements at critical local points.

Target assets: aerostructures, embedded structures, joints, harsh industrial points and future smart components.

Software layer

Dashboards, calibration records, anomaly detection and monitoring reports turn sensor signals into decisions.

TECHNICAL APPROACH

TECHNICAL APPROACH

Iamus combines passive optical sensing, fibre-compatible readout and monitoring software for harsh-environment assets.

Sensing layer: distributed fibre sensing for long routes and PIC sensors for critical local points

Readout: optical interrogation hardware keeps electronics away from the sensing point

Calibration: calibration files and asset-specific baselines

Software: dashboard, data logging, anomaly detection and monitoring reports

Deployment: start with one asset / grid route, validate value, then scale to more routes and local PIC measurements

Initial product discipline: monitoring first, analytics later

Expansion path : Grid beachhead → distributed fibre sensing → PIC-based local measurement.

VALUE PROPOSITION

We turn blind infrastructure into smart assets.

For customers, Iamus creates:

- continuous visibility of hidden thermal, strain and condition changes
- earlier anomaly detection before failures escalate
- no powered electronics along the sensing path or at harsh sensing points
- better asset utilisation, maintenance prioritisation and availability
- a data foundation for future predictive analytics

Expansion path: wind blades, shipbuilding, energy assets, pipelines and harsh-environment industrial monitoring.

PROOF & NEXT MILESTONES

PROOF & NEXT MILESTONES

- Prototype basis in optical sensing, interrogation and PIC development
- First validation target: grid / energy infrastructure pilot
- 24-month target: **1–3 paid pilots or signed pilot test plans**
- Build portable interrogation, dashboard, calibration workflow and PIC roadmap

Funding unlocks fabrication, packaging, calibration, software v1 and first pilot integration.

TEAM / SPIN-OFF MEMBERS

- Harry Zervos - product, commercialisation & funding strategy
- Giannis Pouloupoulos - photonic systems architecture & sensor readout
- Georgios Syriopoulos - sensor technology, composite applications & customer discovery
- Thenia Prousalidi - PIC design, validation & calibration
- Panagiotis Toumasis - Software, data model & monitoring dashboard

Contact

Harry Zervos
hzervos@mail.ntua.gr
NTUA / ICCS photonics research

Funding converts demonstrated research into a pilot-ready industrial monitoring kit.

Draco

By Jade Ledger Technologies

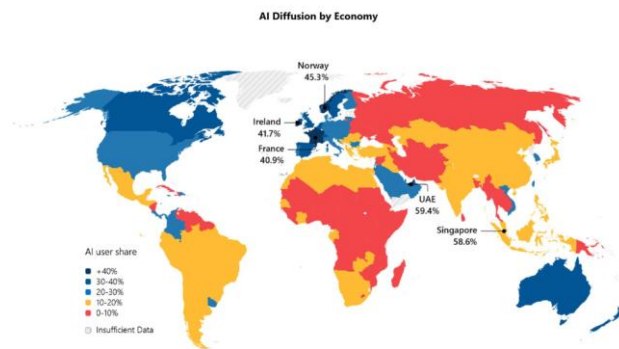
The AI infrastructure layer for legal work – at law firms and in-house teams.

Lab to Market Pitch Competition

THE PROBLEM

Tech moves exponentially. Law doesn't. The result is painfully slow legal systems running next-gen software on broken architecture, like driving a Lamborghini on a dirt road.

- Demand is real, adoption is stuck. New tools ship weekly, yet 72% of lawyers say the industry is unprepared.
- Civil law takes the worst hit: jurisdictions, especially Greece, run on undigitized data that current tools cannot reach.

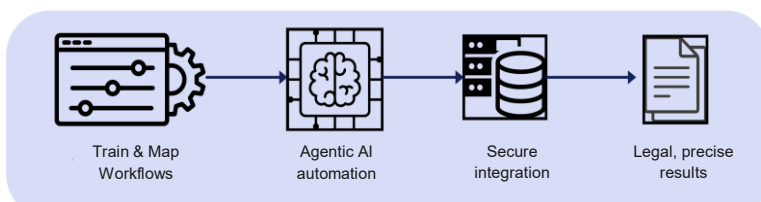


Data Source: AI Diffusion Technical Report, AI for Good Lab [5]

AI adoption worldwide, 2025. Source: AI Diffusion Technical Report.

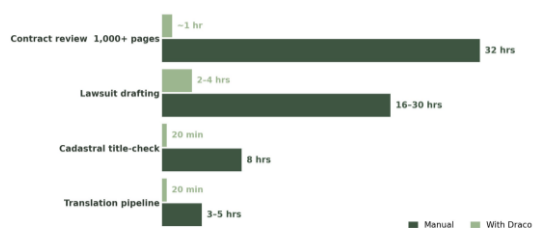
OUR SOLUTION

Draco organizes sparse, undigitized legal data and runs it through automated workflows, collapsing tasks that take days into under one hour. Same output, a fraction of the time and cost.



What makes it unique: we don't just ship software, we embed, learn the workflows, and turn that work into reusable legal agents that make every next client faster.

PROVEN TIME SAVINGS



VALUE PROPOSITION

For law firms and in-house legal teams, we collapse multi-day document work into under one hour, cutting cost and letting lawyers do law, not paperwork.

- Partner: high-touch engagements for large firms; we train the team and automate workflows on-site.
- Platform: light-touch, self-serve software for smaller in-house teams.

KEY HIGHLIGHTS

- Accepted into the Columbia Lab to Market Accelerator with NTUA and Endeavor.
- Co-presented at CodeX, Stanford Law School, with an ongoing research relationship.
- Deployed at LAT Law Firm; in talks with law firms in Greece for paid pilots.
- Live workflows in production on maritime and litigation matters in Piraeus.
- Part of Microsoft for Startups.



THE TEAM



Mikhail Tzevelekos
Founder. Legal practitioner in maritime & tax law. Published researcher, CodeX co-presenter at Stanford Law.



Maria Tzevelekou
Founder. Integrated MEng in ECE, NTUA. Built infrastructure for Greek Customs at Planet S.A.

info@jadeledger.com
www.jadeledger.com

AI didn't kill software. It killed the old way of delivering it.





WasteChain

The Marketplace for Recyclable Materials



www.wastechain.gr

THE PROBLEM

Cross-border trade of recyclable and recycled plastics in the EU is broken: buyers can't **trust** quality or quantity before committing, **prices** are opaque with no reliable market reference, and EU **regulations** are complex and painful to document for every trade.

WHY NOW

~1.5 M
tonnes/year

EU plastic waste exports banned from non-OECD markets, Nov 2026

30%

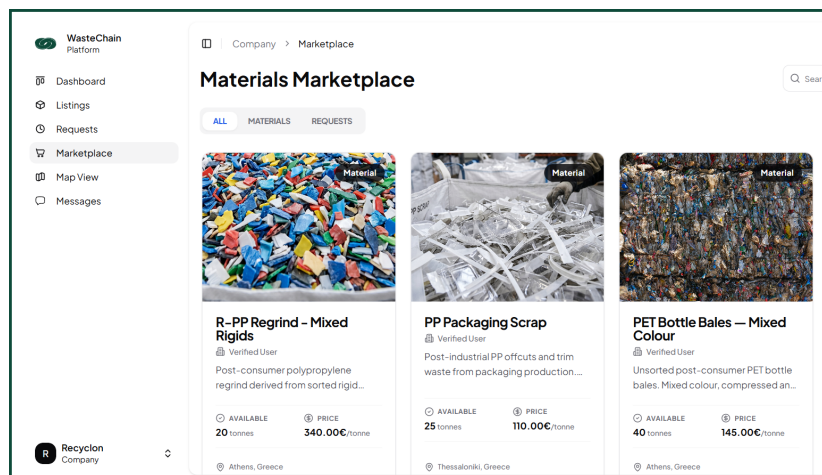
Manufacturers are now required to use recycled plastic (EU PPWR 2030)

New heavy
compliance

The revised Waste Shipment Regulation (2024/1157) makes every cross-border trade complex to clear.

OUR SOLUTION

The B2B marketplace for cross-border recyclable trading - built for trust and EU compliance. MVP Ready.



WHAT WE OFFER

Every operation we build for trust is doing double duty for compliance. This is one of our structural advantages.



Trust (quality, quantity, frequency)



Transparency (price, payment)



Compliance

TARGET MARKET



Waste Sorting and Recycling Facilities



Material Brokers and Trade Middlemen



Industrial Manufacturers sourcing recycled inputs

TRACTION

65

Interviews conducted with industry operators, regulatory bodies, and academia

2

Letters of Intent (LOIs) in onboarding companies in Greece

Top 100

Sole Greek venture selected in a global 100 cohort by UNESCO x Nestlé Youth Impact

Academic Partner:



UNESCO CHAIR ON GREEN
INNOVATION & CIRCULAR ECONOMY
ESU NTUA

Supporters



OUR TEAM



Michalis
Sigalas

Product
Lead
Mech. Eng.



Maria
Bakouli

Market
Lead
Mech. Eng.



Konstantinos
Kolonas

Operations
Lead
Mech. Eng.



Stamatis
Tsagkliotis

Technology
Lead
Software Eng.

A discreet wearable device for **anxiety and panic attacks** through non-invasive median nerve stimulation.



THE PROBLEM

Anxiety happens in real time.
Most solutions don't.



Medication can have side effects, be addictive or needs consistency.



Most wearables only track stress. But do not intervene.



>\$100/month

1 in 3

people will experience anxiety disorder in their lifetime

365M+

people have anxiety disorder now

VALUE PROPOSITION / TARGET

For B2C:

Primary users are people with acute anxiety and panic attacks.



Young women (15-35) (2/3 of cases)



Professionals with high pressure



In pre-menopause



Diagnosed with anxiety disorders or panic attacks

For B2B:



Clinician Intermediaries



Insurance Companies



Mental Health Clinics/Retreats



Corporate Wellness Partnerships

Value Proposition:



Increased **productivity** and focus



Better **quality of life**



Reduced **additional anxiety-related health issues**

OUR TEAM



Evgenia Skouloudi
Software Engineer



Filoxeni Laskaridou
Biomedical Scientist



Lamprini Kourou
Business Analyst

OUR SOLUTION

On-demand relief. In your hands.

CalmaPulse is a discreet wristband that uses non-invasive median nerve stimulation to help calm anxiety and panic symptoms instantly.



Manual activation



Stimulates the median nerve



Drug-free, non-invasive



Discreet Design, wear it anywhere



Built specifically for anxiety and panic attacks



HOW IT WORKS



1. NOTICE



2. PRESS



3. RELIEF

KEY HIGHLIGHTS



NTUA x Columbia
Lab to Market program



60+
customer discovery interviews



NY Tech Week
connect with US entrepreneurs



Prototype
in development



Clinical Validation
planning A-stage trials



Market Opportunity:

TAM
\$276B

SAM
\$1.15B

SOM
\$24.1B

CONNECT WITH US



www.calmapulse.com



linkedin.com/company/calmapulse



calmapulse@gmail.com





Plant a genius idea, grow it everywhere.

GrowApps turns an idea into a real, published app. A team of AI agents designs, builds, tests and publishes one Flutter codebase that runs on web, iOS and Android, with hosting and store deployment built in.

THE PROBLEM

- Shipping an app still takes 6-12 months and €50k-€200k, plus a full team: design, dev, devops.
- Today's AI tools stop at a web prototype that breaks the moment you iterate.
- Most ideas die before they are ever validated.

THE SOLUTION

- Describe your app in plain language; AI agents design, build, test and publish the real thing.
- One real Flutter codebase ships to web, iOS and Android. Real, exportable code, no lock-in.
- Watch it build live and refine in plain English, like working with a product team.

A working product, not a mockup, in about 8 minutes.

VALUE PROPOSITION

- Non-technical founders & idea-havers: ship this week, not in six months.
- Flutter developers & freelancers: 10x output, skip the boilerplate.
- Agencies & software teams (white-label): faster delivery plus recurring revenue share.

Not just a developer, a whole product team: design, build, test, ship.

WHY WE WIN

- End-to-end: design, build, test and publish, not just code generation.
- Native cross-platform AND fully managed (backend, hosting, scale). Rivals are web-only or DIY.

TRACTION · LIVE AND MONETIZING

132 active users

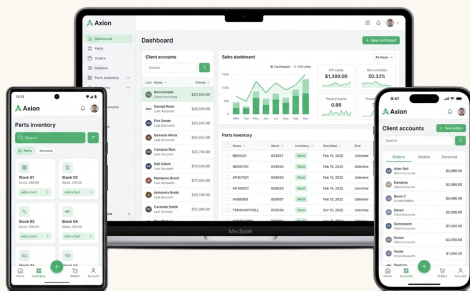
3,000 people reached

~8 min avg time to build an app

First paid validation (Jun 2026). 50 customer-discovery interviews completed.

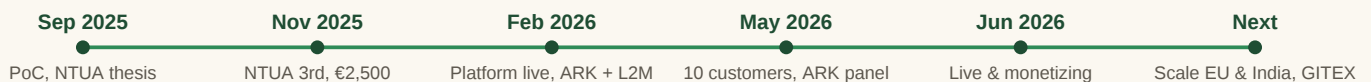
RECOGNIZED BY

ARK Incubator · Lab2Market · Panatheneia · Delphi Economic Forum



One codebase. Web, iOS and Android.

MILESTONES · FROM THESIS TO LIVE PRODUCT



TEAM · SMALL TEAM, DEEP BUILD

Konstantinos Kakkavas Founder & CEO

AI architecture & product. Built the GrowApps PoC as his NTUA diploma thesis.

Olga Kontakioti CTO

Product roadmap & R&D.

Rami Murad Growth & Marketing

Part-time. Demand & community.

Hiring Full-time developer

A core engineer to ship the roadmap.



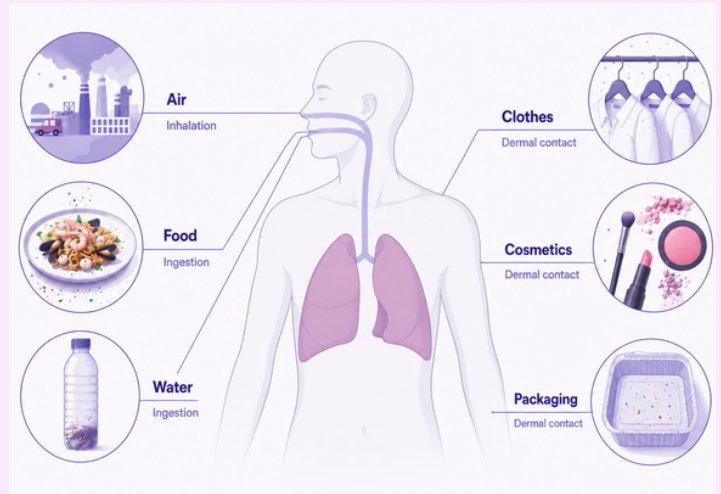
KERBEROS

Capsule-based probiotic yeast that binds microplastics in the gut

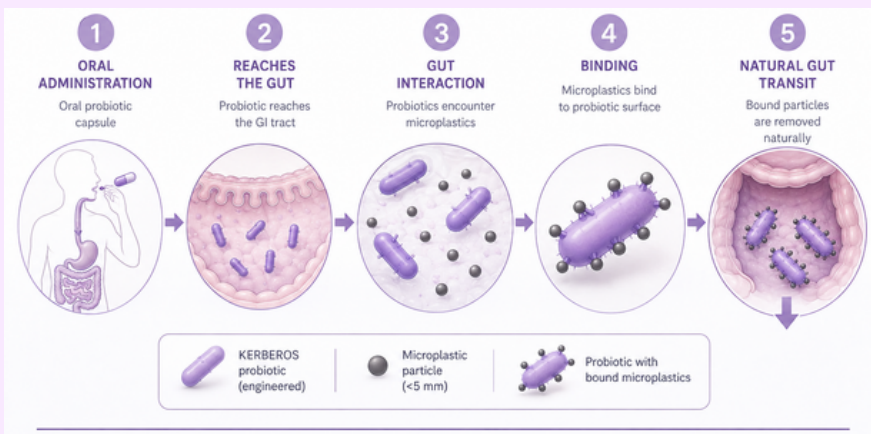
Problem statement

Microplastics have become an unavoidable part of daily life, entering the human body through food, water, and air. Recent studies have detected microplastics in multiple human tissues, raising growing concerns about their potential role in inflammation, microbiome disruption, and long-term human health.

Despite increasing awareness, there are currently no targeted preventive technologies designed to reduce internal microplastic exposure.



Our Solution



KERBEROS is developing a probiotic-based biotechnology platform designed to bind microplastics in the gut before systemic absorption.

The goal is to enable removal through natural gastrointestinal transit using a solution that is:

Non-invasive

Affordable

Safe

Business Model

KERBEROS is positioned as a licensable biotechnology asset

Value Proposition

- Non-invasive
- Built on existing probiotic manufacturing
- Scalable through B2B licensing partnerships

Revenue Model

- Licensing agreements
- Milestone partnerships
- Royalties

Contact



Maria Dima, Medicine Student, NKUA



Zacharias Semertzidis, Chemical Engineering Student, NTUA

Email:
kerberos.probiotic@gmail.com

Preventing heart attacks *up to 1 week* before.

Cardion AI-powered ECG patch for early warning of heart-attack risk.

Cardion is a chest-worn ECG patch that turns **1 minute** of heart signal into an **AI risk score**, helping high-risk patients and their doctors identify silent deterioration before emergency escalation.

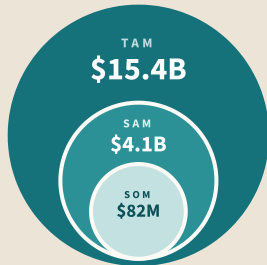
PROOF SO FAR

168h early-risk window before an event

85.9% AUROC on real clinical ECG data

8,573 patients
10,640 ECG recordings

MARKET OPPORTUNITY



- TAM** — global wearable ECG monitoring, 2030
- SAM** — AI prescription monitoring, US & EU
- SOM** — realistic 2030 share via cardiologists

BUSINESS MODEL

- Hardware kits
- Consumable pads
- Clinical software
- Data / licensing

Target gross margin ~55%

TEAM

- NV** **Nikos Vardonikolakis**
FOUNDER & CEO · AI/ML
- AS** **Alexandra Sachinidi**
CO-FOUNDER & CPO · Biomedical & Electronics
- GP** **Gerasimos Pnevmatikakis**
CO-FOUNDER & CTO · Full-Stack
- IS** **Iakovos Sachinidis**
CO-FOUNDER · Hardware & Embedded Systems
- Clinical Lead (TBA)**
CLINICAL ADVISOR · Cardiologist, PhD AI-ECG

CONTACT

www.diagnall.com

info@diagnall.com



01 — PROBLEM

Heart attacks can escalate *silently* between check-ups.

High-risk cardiac patients may deteriorate without clear symptoms. Between clinic visits, the early warning signals are often unmonitored until the patient reaches emergency care. **The monitoring gap is where the risk builds.**

02 — TODAY'S TOOLS

Existing tools do not close *the gap*.

Clinic ECG	Minutes of data, every few months.
Holter monitor	24–48h, bulky, reviewed later.
Consumer wearables	Wellness-focused, not predictive.

03 — SOLUTION

Cardion turns 1 minute of ECG into an *AI risk score*.

- 1 ECG Patch**
Sticks to the chest and records heart signals.
- 2 AI / ML Model**
Detects subtle pre-MI risk patterns in ECG.
- 3 App + Doctor Review**
Flags risk for patient and clinician review.

One system: ECG patch + AI risk model + app + doctor review.

04 — UNIQUE ADVANTAGE

Predictive, *not just reactive*.

Existing monitors mostly record, screen, or review **after the fact**.

Cardion looks for **early risk patterns** before emergency escalation.

Built for **high-risk cardiac patients**, not general wellness users.



05 — TARGET & VALUE

Who *Cardion* is built for.

PATIENTS

High-risk cardiac patients, starting post-surgery and post-discharge.
Value — less blind time, earlier risk awareness.

DOCTORS

Cardiologists and clinics monitoring vulnerable patients.
Value — risk signals between visits; earlier clinical review.

PROVIDERS

Hospitals, clinics and remote-monitoring providers.
Value — from late emergency response to preventive monitoring.

Beachhead — high-risk post-surgery and post-discharge cardiac patients under cardiologist supervision.

06 — VALIDATION & TRACTION

Why this is *credible*.

- 85.9% AUROC** on real clinical ECG data.
- 1–168h** risk window before an event.
- Non-invasive** — 1-minute chest reading.
- 8,573 patients**, 10,640 ECG recordings.
- End-to-end **ECG → AI → Risk Score** pipeline completed.
- 80+ stakeholder interviews** with cardiologists, surgeons & FDA advisors.

“You’re the only ones in the market actually doing this.” — Moin Hussaini, CPO, AccurKardia

May–Jun 2026
ON STAGE

ThinkBiz · **1st live demo**
NY Tech Week · **25+ stakeholder interviews**
Lab-to-Market · Columbia University & NTUA

2027–29
CLINICAL & REGULATORY
Clinical trials
FDA submission · 510(k)

Early 2026

MARKET VALIDATION

55+ discovery interviews
410+ survey responses

Now

CURRENT FOCUS

Finishing medical-grade MVP
Legal & patent

2030

THE GOAL

FDA Class IIb clearance
Market launch

THE ASK

€10K now

€100K+ next