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Natalia Arias

Company / Idea

Phototherapy on Health (PHOTON)



Pitch

A personalized phototherapy platform that combines precision light delivery and cognitive monitoring to modulate psychological functions and improve brain and systemic health in a non-invasive, safe, and evidence-based way.



TRL Level (1-9 Scale)

5



Company website/LinkedIn

<https://www.nebrija.com/investigacion-universidad/grupos-y-centros-de-investigacion/grupo-de-investigacion-brain-and-behaviour-cerebro-y-comportamiento/>



NEEDS

There is a growing need for safe, non-invasive, and scalable interventions to prevent and treat neurodegenerative diseases and cognitive decline, as current pharmacological options remain limited in efficacy and accessibility, while aging populations increase the demand for preventive brain health solutions.

APPROACH

Our unique solution is a personalized phototherapy platform that integrates precision light delivery with real-time cognitive monitoring, enabling adaptive, individualized modulation of brain function to support neuroprotection, enhance cognitive performance, and improve systemic health in a non-invasive, safe, and evidence-based manner.

BENEFITS

Key benefits include non-invasive cognitive enhancement, neuroprotection, and improved mood, attention, and sleep via personalized, adaptive light-based interventions. This solution targets aging populations at risk of cognitive decline, individuals with early-stage neurodegenerative conditions, and health-conscious users seeking preventive and performance-optimizing brain health tools.

COMPETITION

Built on 15+ years of photobiomodulation research, our platform translates clinical evidence into safe, measurable real-world outcomes. It offers personalized protocols across various cognitive conditions for home or private clinical use. This scalable, non-invasive solution bypasses traditional healthcare pathways, reducing public health waiting times while supporting preventive and therapeutic brain health.

NEXT STEPS

Next, we will launch strategic pilots to scale our technology from TRL 5 to TRL 7–8, partnering with hospitals, private clinics, and research institutions for real-world evidence. We are also seeking investors and innovation partners to fund device optimization, regulatory pathways, and scalable manufacturing, transitioning the platform from clinical validation to home and clinical deployment.

INSPIRATION

I became a science founder to bridge the gap between biomedical research and accessible patient solutions, especially in photobiomodulation and preventive brain health. My key takeaway: scientific excellence only impacts lives when translated into scalable, usable tools. For peers, entrepreneurship requires research-level rigor, but demands that you simplify, iterate, and validate in the real world rather than waiting for perfect certainty.

Algenaars

NEEDS

Renovation companies working for multi-owner residential buildings.

COMPETITION

The local AI solutions for this niche market is missing in the Dutch market.

APPROACH

Local AI for customer and deeds (legal document for real estates) analysis.

NEXT STEPS

Pilot partners.

BENEFITS

Scalable user analysis, scalable legal document analysis, and local data processing for renovation construction companies.

INSPIRATION

Every pitch or negotiation is a learning point where you refine your course, and it is always a steering challenge towards a more valuable goal, which then hopefully returns the investment.

Koray Bingöl



Company / Idea

Algenaars



Pitch

Algenaars allows construction companies to analyze customer feedback and real-estate deeds locally to narrow down potential design solutions.



TRL Level (1-9 Scale)

2



Company website/LinkedIn

<https://www.linkedin.com/in/ckoraybingol/>



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Ravi Gurbani



Company / Idea

NeuroSenS



Pitch

NeuroSenS is an AI-assisted wearable that detects early signs of stress and delivers non-invasive vagus nerve stimulation in real time to help high-stress professionals and students regulate anxiety before it escalates.



TRL Level (1-9 Scale)

2



Company website/LinkedIn

<https://www.linkedin.com/in/raga1/>

NEEDS

Chronic stress and anxiety are increasing globally, particularly among working-age professionals and students, leading to reduced productivity, burnout, and diminished quality of life. Existing solutions often provide delayed treatment or passive monitoring, creating a need for accessible, real-time support that helps individuals regulate stress before it escalates.

APPROACH

NeuroSenS is developing a closed-loop wearable that combines physiological sensing, adaptive algorithms, and non-invasive vagus nerve stimulation to help regulate stress in real time. Unlike existing wearables that only track stress, NeuroSenS is designed to detect and respond to early signs of autonomic dysregulation automatically.

BENEFITS

NeuroSenS provides high-stress professionals and students with a wearable tool for real-time stress regulation, bridging the gap between passive monitoring and active intervention. The solution aims to improve wellbeing, productivity, and resilience while reducing reliance on reactive stress-management approaches.

COMPETITION

Unlike most existing solutions that either monitor stress or provide manual neuromodulation, NeuroSenS combines real-time physiological detection with automated vagus nerve stimulation in a single wearable. This closed-loop approach aims to enable proactive stress regulation rather than reactive stress management.

NEXT STEPS

Our next step is to build a functional MVP by recruiting key technical team members in AI/ML and embedded systems. In parallel, we are seeking pilot partners, early user validation opportunities, and pre-seed investors to support prototype development and testing.

INSPIRATION

Witnessing family members struggle with anxiety—and the burden of medication side effects—showed me the urgent need for accessible, non-pharmacological options. As a physician, I wanted to harness technology to help people manage stress proactively. My advice: meaningful innovation often begins with a personal problem, but succeeds only through rigorous validation and persistence.

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Marko Jerman

Company / Idea

IceJet Technologies – Clean Cutting with Ice



Pitch

IceJet cuts with water and ice instead of sand, making industrial cutting cleaner, safer and residue-free.



TRL Level (1-9 Scale)

4



Company website/LinkedIn

www.linkedin.com/in/marko-jerman-icejet



NEEDS

Industries such as food processing, gasket production and aerospace need cleaner cutting methods for materials that pure water jets cannot cut effectively, but where mineral abrasives create contamination, dust and waste. IceJet addresses the need for precise cutting without solid abrasive residues left on the workpiece or in the generated waste.

APPROACH

IceJet replaces conventional sand-like mineral abrasive with cryogenically cooled ice particles in a high-speed waterjet cutting process. After cutting, the ice simply melts, enabling a cleaner process with reduced abrasive handling, disposal and contamination risk.

BENEFITS

The key benefits are cleaner parts, less solid waste, reduced dust in the workshop, simpler waste management and lower dependence on abrasive supply chains. This is especially valuable for food producers, gasket manufacturers, aerospace companies and other users where cleanliness, surface integrity and process sustainability matter.

COMPETITION

IceJet competes with conventional abrasive waterjet cutting and other established industrial cutting methods, which can solve many cutting tasks but often create contamination, abrasive waste, dust, coolant residues, or limitations in cut complexity. IceJet keeps the flexibility of waterjet cutting while using ice particles that melt after use, making the process cleaner and reducing solid waste.

NEXT STEPS

Our next step is to find pilot partners and early adopters willing to test IceJet on real industrial cutting problems. We are also looking for support in business development, market validation and preparing the technology for commercialization.

INSPIRATION

Discovering IceJet—the seemingly impossible idea of cutting with ice—sparked my curiosity, leading to a PhD and years of creative research. After overcoming major technical hurdles, industry interest proved that commercialization was the logical next step, even if it meant leaving my university comfort zone. My advice: choose a topic that truly fascinates you, build a great team, and enjoy the small steps along the way, not just the final goal.

Urban Košak

Company / Idea

Stopping Alzheimer's at its cause — and its symptoms



Pitch

Treating Alzheimer's disease by targeting neuroinflammation and cognitive decline with only one molecule



TRL Level (1-9 Scale)

5



Company website/LinkedIn

<https://www.ffa.uni-lj.si/en/home>



Team Members

Svit Ferjančič Benetik, Damijan Knez, Anže Meden, Anja Pišlar, Selena Horvat, Aleš Obreza, Stanislav Gobec

NEEDS

Pharma and biopharma companies/Patients with Alzheimer's disease

COMPETITION

We have developed and patented first-in-class dual butyrylcholinesterase and p38 α mitogen-activated protein kinase inhibitors for treating Alzheimer's disease

APPROACH

We have developed and patented first-in-class dual butyrylcholinesterase and p38 α mitogen-activated protein kinase inhibitors for treating Alzheimer's disease

NEXT STEPS

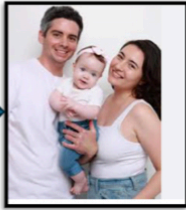
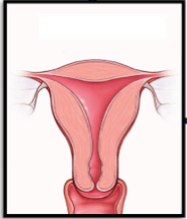
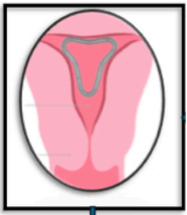
We want to license or sell our patent to a pharma or biopharma company

BENEFITS

First-in-class molecules for treating patients with Alzheimer's disease.

INSPIRATION

I'm not a "science founder" and do not wish to pursue research-based entrepreneurship. I'm a researcher focused on preclinical development of new molecules for treating brain diseases and disorders. We always patent our most promising molecules and they are available to pharma and biopharma companies.



NEEDS

Intrauterine adhesions cause secondary infertility, but current treatments (hysteroscopic adhesiolysis) fail with >62.5% recurrence. We address this unmet need with a bioresorbable, sustained-release implant designed to prevent adhesions and improve fertility outcomes for millions of women globally.

APPROACH

Engineered via low-temperature hot melt extrusion, our solution combines chemically modified bioactive HAX with a biocompatible, bioresorbable polymeric matrix to create an in situ gel-forming implant. This platform enables sustained bioactive release, conforms to varying uterine anatomies, prevents adhesion recurrence, and eliminates surgical removal.

BENEFITS

For women with intrauterine adhesions, our minimally invasive, bioresorbable treatment reduces recurrence, improves fertility, and eliminates secondary removal procedures. For clinicians and healthcare systems, this adaptable, sustained-release platform improves treatment success while reducing long-term infertility-related costs.

COMPETITION

Unlike conventional non-resorbable IUDs and barriers, our platform combines chemically modified bioactive HAX with a bioresorbable, sustained-release matrix that actively heals endometrium while preventing adhesion recurrence. Its adaptable, in situ gel-forming design eliminates surgical removal and conforms perfectly to diverse uterine anatomies.

NEXT STEPS

We will complete material and biological characterization, followed by preclinical validation to prove safety and efficacy in preventing intrauterine adhesions. We are also seeking strategic investment, clinical collaborators, and translational partners to accelerate regulatory development and commercialization.

INSPIRATION

Witnessing the global fertility crisis and a family member's struggle with infertility motivated me to harness science for real clinical impact. I learned that research shouldn't end at publication; it must translate into accessible technologies. My advice to peers: pursue problems that genuinely matter to people, because meaningful science creates the most lasting impact.

Philbert Nshimiymana



Company / Idea

Intrauterine implantable device for the prevention and treatment of intrauterine adhesions



Pitch

We are developing EndoRestora, a next-generation bioresorbable implantable device that prevents uterine adhesions, reduces infertility, and redefines women's reproductive care globally.



TRL Level (1-9 Scale)

3



Company website/LinkedIn

linkedin.com/in/philbert-nshimiymana-990395115

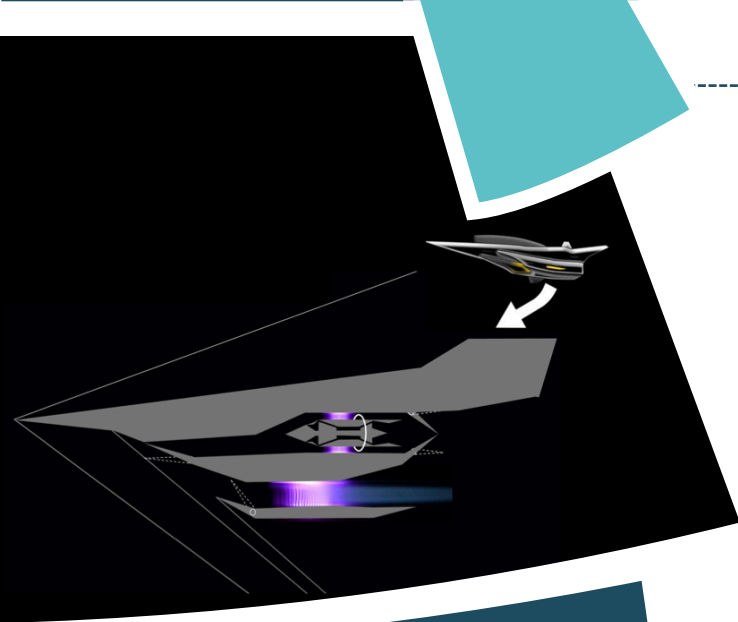
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Ravi Patel



Company / Idea

PAISC technologies



Pitch

We build Europe's indigenous air-breathing engines for hypersonic flights.



TRL Level (1-9 Scale)

3



Company website/LinkedIn

www.linkedin.com/in/ravi-patel-5066b6243

NEEDS

We want to secure European technological sovereignty in critical hypersonic markets amidst rising regional aggression and shifting global alliances. Beyond defense, our propulsion technology delivers low-cost, reliable access to space.

APPROACH

Our PAISC technology provides a unique method to stabilize flames in hypersonic (Scramjet) engines, extending their operational range and maximizing efficiency.

BENEFITS

Hypersonic propulsion technology sovereignty for defense and space market. Above 500 km range at Mach 5+.

COMPETITION

Existing flame stabilization methods suffer from excessive pressure loss and limited operational range, making net-positive thrust difficult to achieve. This fundamental bottleneck is why Europe lacks a deployed Scramjet engine. Our PAISC technology solves this critical problem.

NEXT STEPS

- 1) First customer: We are in the process of establishing collaborations with NLR, TNO, and ESA to develop our technology further. However, we lack connections with private partners who can serve as our early evangelists.
- 2) Investment and grant opportunities.
- 3) I am looking for co-founders.

INSPIRATION

I am pursuing this particular technology because I see its great potential to solve some of the critical bottlenecks in the space market. On a bigger picture, I want to build technologies for space access and travel, and I believe the startup route is best for this journey. This is because academia is too slow and fundamental sometimes, and industry giants are not keen to explore new concepts and technologies.

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Daniyar Satarov



Company / Idea

Ultra-Fast Protein Powder Production / Industrial Chlorella



Pitch

The JUPITER-K project presents a non-GMO planktonic, thin-walled strain of Chlorella sorokiniana optimized for industrial-scale production of high-quality protein and bioactive powder compounds.



TRL Level (1-9 Scale)

4



Company website/LinkedIn

<https://algae.kz/>

NEEDS

We address the growing global demand for sustainable, high-protein food ingredients by developing chlorella-based protein powder. Our solution is for food manufacturers to create healthier, eco-friendly products.

APPROACH

Our solution combines a proprietary thermophilic Chlorella strain with scalable cultivation and extraction technologies to produce high-protein, sustainable ingredients for the food industry. We are also developing processing methods to convert green protein powder into a neutral-colored protein powder and high-value chlorophyll extract, enabling broader food and nutraceutical applications.

BENEFITS

Our technology provides food manufacturers and consumers with a sustainable, high-protein powder. In addition, the extracted chlorophyll creates a high-value by-product for nutraceutical and functional food applications.

COMPETITION

Our approach combines a proprietary thermophilic Chlorella strain with processing technologies which allows to get 58% of protein content at the faster processing time, and producing a neutral-colored, food-grade protein powder and high-value chlorophyll extract.

NEXT STEPS

Next step is to develop and validate an efficient extraction process for producing neutral-colored protein powder and purified chlorophyll at pilot scale. We are currently seeking technical partners, pilot customers, and strategic funding to support EU market entry and production scale-up.

INSPIRATION

The opportunity to turn research into real-world impact — creating protein solutions that can address global food and environmental challenges.

Team Members:
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Aziza Aitekina,
Maksat Mukhametkaliev

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* AI rendered depiction of our vision

NEEDS

Life scientists spend tremendous amount of time on boring repetitive manual tasks, while generating tons of single use plastic waste and failed experiments. This is the reason, why life science research is so costly, unsustainable and time-consuming.

APPROACH

Versa'tchip invention is the first versatile lab-on-a-chip system for industrial use! Unlike other solutions, our solution has very few barriers in front of adoption, does not suffer from scalability issues and can automate a whole experimental workflow.

BENEFITS

Versa'tchip invention is the first versatile lab-on-a-chip system for industrial use! Unlike other solutions, our solution has very few barriers in front of adoption, does not suffer from scalability issues and can automate a whole experimental workflow.

COMPETITION

There are robotic liquid handlers since decades, which are used in limited settings and other lab-on-a-chip systems are not versatile. Versa'tchip is in this perfect spot between these 2 worlds, without suffering from some of the scalability and adoption issues.

NEXT STEPS

We are currently raising our pre-seed round of €600k to reach our PoC, of which 70% will be covered by a grant. Although, we have pilot partners to test our technology, we are always happy to have more!

INSPIRATION

I was that scientist working in the lab long hours, repeating the same procedure multiple times. Then I learned key technologies and educated myself by taking relevant roles in business strategy management in biotech. One day, all the pieces came together and the initial idea for Versa'tchip was born. Although, this very first idea was not feasible, the path towards the current invention was predetermined like dominoes.

Saren Tasciyan



Company / Idea

Versa'tchip



Pitch

Versa'tchip is the "Smart cooking machine" for life scientists, to automate & scale up research across academia and industry to free up scientists' time and reduce single use plastic waste.



TRL Level (1-9 Scale)

2



Company website/LinkedIn

<https://www.linkedin.com/in/saren-t/>



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Malte von der Burg



Company / Idea

Airport TwinControl



Pitch

We bring airports operations to the 21st century by providing ground controllers with advanced decision-support for more efficient, environmentally friendly, and safer airport surface operations.



TRL Level (1-9 Scale)

3



Company website/LinkedIn

<https://linkedin.com/in/malte-vonderburg>

NEEDS

Airport surface operations are coordinated by ground control as part of air traffic control (ATC), who still rely on heavily fragmented tools and manual coordination. Staffing issues combined with rising traffic will exacerbate unacceptably high workload, flight delays, and costs.

APPROACH

We are building an intelligent software platform for ground control of airport surface operations, centered on a multi-agent system that coordinates all taxiway traffic in real time. It combines optimisation, digital twinning, and human-in-the-loop interfaces to support a gradual path from decision support to high levels of automation.

BENEFITS

The provided decision-support lets ground controllers manage the operations more efficiently and safely, keeping their workload in an acceptable range. With more efficient and predictable airport surface operations, both airlines and airports profit from significant cost savings due to minimised delays and better use of existing infrastructure.



COMPETITION

Existing competitors are not specialised in ground control and real-time operations, and their models lack both fidelity and tactical predictability.

NEXT STEPS

We are seeking pilot partners and first customers to confirm the identified pain points and refine our solution together with ground controllers as our end users.

INSPIRATION

Throughout my PhD, I have been driven by the idea that research should directly benefit human operators in complex environments. My simulations prove that airport surface operations can be more efficient, predictable, and sustainable, and I am eager to translate these insights into practical tools for ground controllers. My key takeaway? Move beyond the isolated "research solution" and focus deeply on the actual pain points of daily operations.

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NEEDS

As populations age, healthcare systems face a growing need for earlier and more scalable detection of cognitive decline and dementia risk to enable timely intervention and preventive care.

APPROACH

Beynex uses clinically validated cognitive assessments and AI to remotely monitor brain health over time and support earlier detection of cognitive decline.

BENEFITS

Beynex helps individuals, clinicians, and healthcare partners continuously monitor cognitive health and identify potential decline earlier. This can help reduce the long-term burden on patients, caregivers, and healthcare systems.

COMPETITION

Beynex differentiates itself through its focus on longitudinal cognitive trajectories, AI-supported analytics, and real-world continuous monitoring rather than isolated assessments.

NEXT STEPS

Beynex is currently focused on expanding its B2B2C partnerships, continuing active clinical research, and connecting with strategic investors and healthcare partners to support international scaling.

INSPIRATION

With a background in physics, research, and data modeling, I transitioned to AI after seeing a gap between scientific discovery and scalable, real-world impact. This drove me to the intersection of research and entrepreneurship, where I focus on making science-driven solutions practical and accessible. My main takeaway: build around problems you genuinely care about, and don't wait for the "perfect" setup to start.

Elif Bayındır



Company / Idea

Beynex



Pitch

Beynex uses AI-powered cognitive monitoring to detect early signs of dementia before noticeable symptoms appear.



TRL Level (1-9 Scale)

8



Company website/LinkedIn

<https://www.beynex.com/>
<https://www.linkedin.com/in/elif-bayindir/>

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Viktoria Enkmann



Company / Idea

RNAAnalytics



Pitch

RNAAnalytics makes software and simple lab kits that help labs check RNA nanoparticles faster and more easily.



TRL Level (1-9 Scale)

5



Company website/LinkedIn

<https://www.linkedin.com/in/viktoriaenk/>
www.rnanalytics.eu

NEEDS

RNA medicines depend on lipid nanoparticles, but labs still struggle to analyze them quickly, reliably, and in a standardized way. This slows down drug development, quality control, and regulatory preparation.

APPROACH

RNAAnalytics combines easy-to-use lab kits with software that automates data analysis for LNP quality testing. Our first solution helps labs measure particle size and encapsulation efficiency using existing lab equipment.

BENEFITS

Biotech, pharma, CRO/CDMO, and research labs get faster results, less manual data work, and more reproducible LNP analytics. This helps teams make better development decisions and reduce delays.

COMPETITION

Most existing solutions require separate instruments, manual workflows, or outsourced testing. RNAAnalytics is different because it combines plug-and-play kits, existing lab equipment, and software-based analysis in one workflow.

NEXT STEPS

We are looking for first customers, pilot partners, and strategic investors to support market launch and software expansion.

INSPIRATION

I founded RNAAnalytics after seeing how manual, fragmented data delays advanced therapies. Our goal is to turn deep analytical know-how into practical tools that bring RNA medicines to patients faster. My biggest takeaway? Research-based entrepreneurship isn't just about strong science—it's about translation. Start early, talk to customers, and don't wait for perfection.

Team Members:
Hannes-Oliver Burgstaller
Founder, COO & CFO

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Tympulse Medical | Tympanic Tissue Regeneration

John Gleeson



Company / Idea

Membrana - Ear Drum Regeneration



Pitch

Membrana combines a regenerative implant with an minimally invasive delivery system to repairing burst eardrums in an outpatient setting.



TRL Level (1-9 Scale)

5



Company website/LinkedIn

www.tympulsemedical.com

NEEDS

A large proportion of burst ear drums become chronically non-healing and create consistent pain and discomfort for patients. Existing surgical procedures take too long for the surgeon and come with risks to the patient that could be solved by a minimally invasive in-office solution.

APPROACH

Membrana combines a proven regenerative resorbable bioimplant technology, with a single use, in-office delivery system, to reduce procedure times, remove the need for general anaesthetic, and avoid unnecessary surgical intervention.

BENEFITS

Shorter procedure times and improved reimbursement for surgeons, reduced procedure risks and infections for patients, faster and better clinical outcomes for both doctors and patients.

COMPETITION

There is no alternative available. Existing competitors use large membranes that have to be cut to shape and surgically implanted behind the ear drum, leading to unnecessary infection and anaesthetic risks, costs and procedure times.

NEXT STEPS

WE are closing a €4M seed round, with co-investment from a strategic leader in the ENT field, to pursue EU and US regulatory approval, allowing a 40 patient first-in-human clinical study at the end of 2028.

INSPIRATION

Having worked at a high level in academic tissue engineering research, the opportunity (now for the 2nd time) to actually take a nascent technology I co-invented (and bring it "from benchtop to bedside" by treating real patients, both human and animal) has been one the most rewarding jobs I have ever been fortunate enough to do.

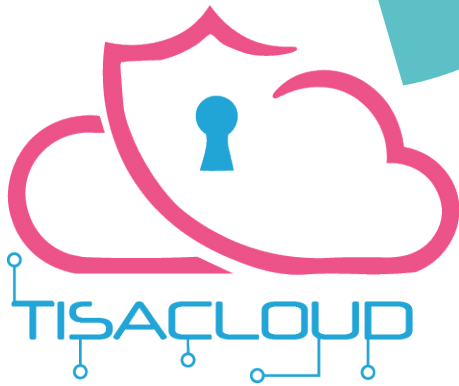
Team Members:
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Ainara Grajales



Company / Idea

AI Cybersecurity for Critical IoT and OT Systems



Pitch

We build an AI-driven edge security platform that protects critical IoT and OT systems from cyber threats in energy, aerospace, and industrial environments without interrupting operations.



TRL Level (1-9 Scale)

5



Company website/LinkedIn

www.tisalabs.com

NEEDS

Critical infrastructure depends on legacy industrial and IoT systems that often lack built-in security, while generic IT security tools do not work well in OT environments. The result is a growing risk to safety, uptime, and operational continuity.

APPROACH

Our solution combines a secure edge gateway with AI-based intrusion and anomaly detection, multi-protocol support, and automated alerts and response workflows. It is designed to monitor sensors, gateways, and control systems in real time while preserving uptime and supporting legacy systems.

BENEFITS

The main beneficiaries are operators and security teams in energy, utilities, aerospace, and industrial infrastructure. They gain real-time visibility, faster threat detection, and stronger protection for mission-critical systems without needing to replace existing infrastructure.

COMPETITION

The solution is differentiated by its OT-specific design, edge-based detection, and full-stack hardware-software approach rather than a generic IT security model. It also supports legacy industrial protocols such as LoRa, Modbus TCP, and MQTT, which helps it fit real-world operational environments better than many competitors.

NEXT STEPS

The next step is to secure expert guidance, pilot partners, and funding to move from successful proofs of concept into scaled deployments. The team is especially looking for industrial operators, utilities, aerospace stakeholders, system integrators, and strategic investors.

INSPIRATION

I chose this path to build meaningful solutions at the intersection of cybersecurity and IoT. Recognizing a massive challenge in OT security, I worked alongside our founder and CEO to pivot our team's deep IoT expertise toward this space. My main takeaway: in deep tech, understanding the operational problem is just as vital as building the technology itself.

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Donya Mansouri

Company / Idea

Tilā Revive



Pitch

We transform discarded tilapia skin into regenerative facial burn masks - reducing methane-producing waste through a circular economy model while advancing sustainable wound healing.



TRL Level (1-9 Scale)

4



Company website/LinkedIn

<https://www.linkedin.com/in/donya-mansouri-692b8120a/>



NEEDS

Current burn dressings are often generic, painful to replace, and generate significant medical waste through frequent dressing changes, placing additional strain on healthcare systems. At the same time, millions of tons of tilapia by-products are discarded annually despite their proven regenerative potential in wound healing.

APPROACH

Tilā Revive builds on proven regenerative properties of tilapia skin by redesigning it specifically for facial burn care. Our approach focuses on creating facial-specific biomaterials that improve comfort healing and recovery while reducing reliance on painful and waste-intensive traditional dressings.

BENEFITS

Our solution aims to reduce painful dressing changes, support healing, lower infection risk, and improve comfort for facial burn patients while decreasing waste and resource burden within healthcare systems. Beyond burn care, the technology has potential applications across multiple industries including medical devices, after-sun skin recovery, regenerative skincare, and sustainable cosmetics, creating both clinical and commercial impact.

COMPETITION

Fish-skin wound healing is clinically recognized, but existing solutions are primarily designed for general body wounds. Tilā Revive differentiates itself through facial-specific design, sustainability-driven manufacturing, and a focus on improving both patient experience and healthcare efficiency.

NEXT STEPS

We are currently seeking funding, laboratory space, and research collaborations to further develop the technology. Our next step is advancing prototype development and biomaterial testing to move toward clinical and commercial applications.

INSPIRATION

Studying medicine inspired me to look beyond daily patient care toward building technologies that fundamentally improve how care is delivered. Seeing firsthand how innovation directly impacts a patient's recovery and quality of life led me to regenerative medicine and sustainable biomaterials. My key takeaway for peers? True innovation comes from questioning existing healthcare systems rather than accepting them as fixed.



RUMEYSA TUTAR



Company / Idea

Kera+Heal



Pitch

A keratin-based tissue adhesive platform for faster, safer healing



TRL Level (1-9 Scale)

4



Company website/LinkedIn

<https://mplusheal.com/>

NEEDS

Millions of surgical and traumatic wounds still rely on sutures, which can cause tissue trauma, infection risk and longer recovery times. We are solving the need for a sustainable, biocompatible tissue adhesive that improves healing while reducing patient burden and healthcare costs.

APPROACH

Kera+Heal is a patented, human hair-derived keratin-based tissue adhesive platform designed to provide biocompatible, in situ adhesion while actively supporting the biological healing process. By transforming human hair waste into high-value keratin biomaterials, we offer a sustainable and accessible alternative to conventional wound closure methods.

BENEFITS

Kera+Heal benefits surgeons and healthcare providers by offering an easy-to-use, biocompatible tissue adhesive that may reduce suture-related tissue trauma, support faster wound closure, and improve procedural efficiency. For patients, it aims to improve comfort, support natural healing, and potentially reduce recovery time and complication-related burden.

COMPETITION

Kera+Heal is different because it is based on patented human hair-derived keratin technology, transforming a sustainable biological waste stream into a biocompatible tissue adhesive platform. Unlike conventional synthetic or closure-focused adhesives, Kera+Heal is designed not only to seal tissue but also to become part of the biological healing environment through keratin's natural bioactivity.

NEXT STEPS

Our next step is to secure pilot clinical and R&D partners to validate Kera+Heal in relevant tissue repair applications and accelerate preclinical development. We are also seeking strategic medtech partners, regulatory guidance, and early-stage funding to support scale-up, biocompatibility testing, and commercialization.

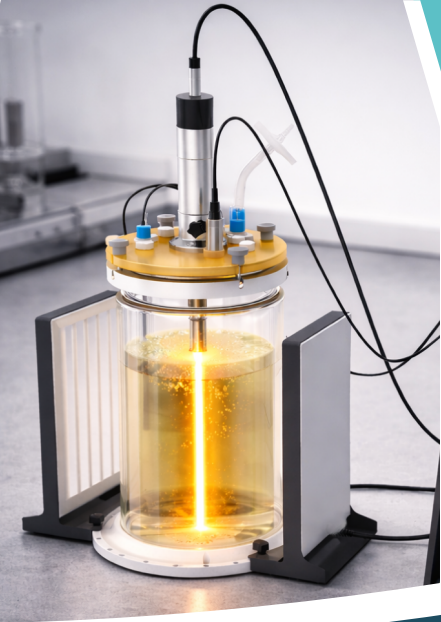
INSPIRATION

My inspiration came from seeing academic biomaterials research transform into real patient solutions. With MPLUSHEAL, we are proving that an overlooked source like human hair can become a high-value biotech platform. My main takeaway: entrepreneurship requires both scientific depth and the courage to act through uncertainty. Talk to users early, and let real-world feedback shape your science.

DT LAUNCH PAD
Enabling Deep Tech Entrepreneurship



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NEEDS

The process industry 4.0 wants to produce more sustainably and data-driven. Current refractometer solutions are too expensive and bulky for widespread adoption or integration with other sensors.

COMPETITION

Whereas traditional systems have been relying on prism-based optics for the past 70 years, our technology leverages a novel photonic sensing principle based on university research.

APPROACH

Based on breakthrough university research, our optical sensing system is able to measure the refractive index of a liquid in-line, real-time, with a small footprint and at affordable cost.

NEXT STEPS

We will continue validating the prototype through on-site customer pilots. The next steps are the development of a robust certified product, setting up & outsourcing production and expanding the team. For this we are looking for follow-up funding towards the end of 2027.

BENEFITS

The system can be integrated with great versatility, reaching places not possible before. This enables large scale savings and waste reduction through advanced process control.

INSPIRATION

Whereas science typically takes years to actually become used, this is a chance to bring something from the lab to the market with your own hands at a very short timescale.

Don van Elst



Company / Idea

Firefly Sensing



Pitch

Next generation photonic sensors for an industry in transition.



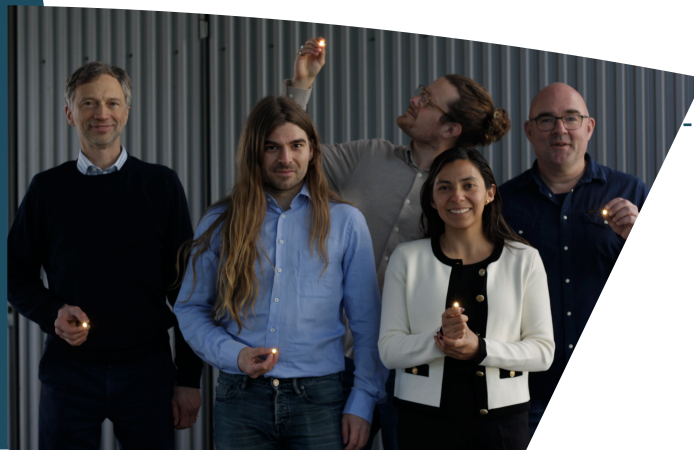
TRL Level (1-9 Scale)

5



Company website/LinkedIn

www.fireflysensing.com; <https://www.linkedin.com/in/donvelst/>



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Anže Zidar



Company / Idea

Gum Guardian



Pitch

A nanofiber patch for gum inflammation.



TRL Level (1-9 Scale)

4



Company website/LinkedIn

www.linkedin.com/in/anzezidar

Team Members:
Špela Zupančič
Lenart Grkman

NEEDS

Gum disease affects nearly half of adults globally, yet current treatments are inconvenient, short-lived, and poorly targeted to the gingival tissue. Gum Guardian addresses this with a mucoadhesive electrospun nanofiber oral strip that delivers bioactive compounds directly to inflamed gums overnight, offering a simple, pharmacy-accessible solution for daily periodontal care.

APPROACH

Gum Guardian uses a semi-dissolvable electrospun nanofiber strip with a non-dissolvable backing layer that adheres to the gums overnight, enabling prolonged, localized delivery of anti-inflammatory bioactives directly to periodontal tissue — a format no existing oral care product offers. This pharmacy-ready, nightly-use strip bridges the gap between passive oral hygiene products and invasive clinical treatments, making effective gum care as routine as brushing.

BENEFITS

For patients, the strip offers effortless nightly gum care with targeted, sustained-release delivery that reduces inflammation more effectively than rinses or gels — without requiring clinical visits. For pharmacies and dental clinics, it creates a new revenue channel in a currently underserved preventive periodontal care category, while for healthcare systems it has the potential to reduce costly late-stage periodontal interventions.

COMPETITION

Unlike mouthwashes, gels, and toothpaste that offer only brief contact, Gum Guardian's electrospun nanofiber strip provides hours of direct, controlled bioactive release to gingival tissue. While existing oral strips target teeth, Gum Guardian uniquely targets the gums—leaving it without a direct competitor in the mucoadhesive gingival therapy space.

NEXT STEPS

Our immediate next step is securing a pilot partner, a pharmacy chain or dental clinic network in Slovenia, to validate real-world user acceptance and gather clinical feedback on our initial ethylcellulose-based strip. In parallel, we are seeking pre-seed funding to acquire a cutting machine for scalable in-house manufacturing and to complete the Class I MDR regulatory pathway for EU market entry.

INSPIRATION

Working with electrospun nanofibers, I saw a stark disconnect: we engineered advanced drug delivery systems at the bench, yet patients relied on decades-old gels. That gap was impossible to ignore. Launching a venture with Špela and Leart was a natural extension of our research, not a pivot. My advice? Don't wait for your science to be "finished" to think about application. Real-world constraints—like manufacturing and regulation—will actually reshape and strengthen your research.

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