

MediVIE Tech

Category:

Best Startup

Company Name:

MediVIE Tech

Turnover and/or Funding:

The project is currently in the R&D phase and has not yet generated revenue. To date, we have secured over €200,000 in funding through a combination of non-dilutive grants and equity financing from private investors.

Sub-Category:

Medical Technology / Digital Health

Corporate history (creation, key milestones, main funding,...) Information on Condition / Disease and need for solution / product (prevalence, existing treatments / solutions):

MediVIE Tech is a French MedTech company founded in late 2023 following a deeply personal story.

The undetected deterioration of our CEO's mother, despite regular nurse visits during her cancer treatment, highlighted a critical gap in patient monitoring. This inspired the creation of a connected wearable device capable of continuously tracking vital signs to support earlier interventions and enhance patient safety. Our long-term vision: to develop an AI-powered prediction model capable of detecting early signs of deterioration, helping clinicians anticipate risk and intervene up to 48 hours in advance.

Our device, "Pulsar," is a lightweight, non-invasive wristband that uses proprietary multispectral photoplethysmography (PPG) technology to continuously measure five key parameters: heart rate, blood pressure (estimated), oxygen saturation (SpO₂), skin temperature, and respiratory rate. All hardware and software components-especially our signal acquisition and filtering algorithms-are developed entirely in-house, ensuring full control over accuracy, data integrity, and clinical integration.

Key milestones include incubation within two leading French accelerators (IMT Starter and Agoranov), completion of a functional prototype, a patent filed in June 2025, and

active proof-of-concept deployments in partner healthcare institutions.

Pulsar addresses a critical unmet need: outside of intensive care units, patient monitoring remains intermittent, manual, and error-prone. Nurses typically collect vital signs only 2-3 times per day, using disparate tools and manually transcribing values-leading to missed events, delayed detection, and reduced time for direct patient care.

Pulsar's impact includes:

- Early detection of acute events (desaturation, sepsis, stroke)
- Reduction of preventable ICU transfers and hospital readmissions (up to 40%)
- 30% time savings for nursing teams on vital sign collection
- Reduced infection risks through single-patient usage
- Improved comfort and reassurance for patients

Our ongoing preclinical validation efforts are conducted in collaboration with two French hospitals, comparing Pulsar's data against ICU-grade reference devices and collecting real-world feedback from medical staff. We are also building a robust clinical dataset-already 50 million collected PPG data points with clinical correlations for early detection of deterioration, potentially anticipating critical events 48 hours in advance. This model will integrate scoring frameworks like NEWS (National Early Warning Score) and multi-signal analysis to flag early signs of physiological decline.

To date, MediVIE Tech has secured over €250,000 in funding, including non-dilutive public grants, innovation awards, and equity investment. We are currently under review for an additional €180,000 innovation grant from Bpi France to support regulatory and clinical development.

By bridging the gap between intensive care precision and the general ward environment, MediVIE Tech is reshaping how hospitals monitor, prevent, and respond to patient deterioration. We are committed to making predictive, proactive, and human-centered monitoring the new standard in modern healthcare.

History of the development of the solution/product (Intellectual Property, preclinical and clinical datas, development collaborations):

MediVIE Tech's development strategy is based on full control of both hardware and software, ensuring seamless integration, clinical accuracy, and scalable deployment. From the outset, we adopted a co-design approach with healthcare professionals, while developing all core technologies-particularly signal processing algorithms and data infrastructure-entirely in-house.

Our intellectual property includes a patent filed in June 2025, covering our proprietary

multispectral PPG (photoplethysmography) sensor configuration and embedded algorithms enabling continuous, non-invasive measurement of five key vital signs: heart rate, SpO₂, estimated blood pressure, skin temperature, and respiratory rate-with clinical-grade accuracy. Additional filings are under preparation for our predictive AI layer and complete system integration. The system architecture also includes independent data pipelines per vital sign, improving modularity and regulatory agility.

The hardware was developed iteratively with biomedical engineers and tested on healthy volunteers to optimize sensor positioning, signal quality, and user comfort. Designed as a hospital-grade wristband with a sealed sensor pod, Pulsar is fully wireless, durable, and hygienic. Battery life and connectivity are optimized for continuous use in clinical workflows.

Our signal acquisition and filtering algorithms have been validated on over XX hours of continuous PPG recordings, benchmarked against ICU-grade reference data to align with invasive gold standards. These algorithms show strong robustness to motion artifacts and skin tone variations-two key limitations of traditional PPG. Data is encrypted and securely transmitted to a cloud-based clinical dashboard.

Preclinical validation is currently underway in multiple French hospitals. These feasibility studies aim to:

- Compare measurements with standard clinical tools (ECG, oximeters, BP cuffs, thermometers)
- Evaluate usability by healthcare staff
- Assess signal continuity and transmission reliability

Initial precision results are promising:

- Heart rate: ± 2.72 bpm (ISO 80601-2), 90.6% conformity
- SpO₂: Arms of 3.12% (ISO 80601-2-61 compliant)
- Respiratory rate: ± 2 respirations/min
- Blood pressure: Preliminary results show promising accuracy (RMSE ~ 8 mmHg) with ongoing algorithmic refinement and clinical validation.

In parallel, we aim to build a high-quality clinical dataset-already over 50 million PPG data points entries. Therefore, this data will power our AI-based early warning system, combining NEWS scoring and multi-signal trend detection. First clinical validations are planned for late 2026.

A large-scale observational study is scheduled for Q2 2026 to support CE marking (MDR) and subsequent FDA 510(k) clearance. In addition, Pulsar is being designed for interoperability via HL7-standard integration.

MediVIE Tech's strength lies in its ability to iterate rapidly, validate in real-world clinical environments, and retain ownership of the full technology stack. Our mission: to deliver

a solution that is clinically robust, intuitive to use, and scalable across health systems.

Why this drug or device is innovative, the broad implications for future research, and/or how it will improve the human condition:

MediVIE Tech introduces a breakthrough in how vital signs are monitored across the hospital care pathway. Our solution merges four layers of innovation-technological, organizational, clinical, and predictive-into a lightweight, wireless, and easily deployable device.

At the core of our system is proprietary multispectral PPG technology (470nm, 530nm, 660nm, 940nm) that ensures ICU-level precision in non-invasive monitoring of five key parameters: heart rate, blood pressure, SpO₂, skin temperature, and respiratory rate. The signal processing is robust to motion artifacts and skin tone variations, addressing longstanding PPG limitations.

Unlike traditional hospital monitors, Pulsar enables continuous and autonomous data collection, reducing reliance on multiple bedside devices and eliminating manual transcription errors. Designed for interoperability with EHRs (via HL7), the system fits seamlessly into hospital workflows, providing real-time clinical visibility across general wards.

The clinical implications are substantial:

- Earlier detection of deterioration (sepsis, desaturation, stroke)
- Up to 40% reduction in preventable ICU transfers or readmissions
- 30% decrease in nursing time dedicated to routine vitals collection
- Lower infection risks due to single-patient use, wireless format

Our predictive innovation lies in the development of an AI-based early warning layer. By analyzing 50+ million high-frequency PPG data points, we train models to anticipate critical events up to 48 hours in advance. This includes an automated NEWS scoring system to support clinical decision-making and triage prioritization.

Our system is also built for scalability beyond hospitals. The same platform can extend to chronic disease management, hospital-at-home care, and elderly monitoring-further alleviating hospital burden and reducing unplanned admissions. By providing real-world, high-density physiological datasets, we also open new avenues in AI-based diagnostics, post-operative surveillance, and personalized medicine.

What makes MediVIE Tech truly stand out is our human-centered innovation. We do not aim to replace clinicians-we empower them. By automating the repetitive and technical, we allow caregivers to focus on empathy, communication, and early intervention, consequently transforming healthcare delivery toward a proactive, predictive model.

And our active pilots with hospital partners ensure that every iteration responds to real frontline needs.

We are continuously refining our device and algorithms based on direct clinical feedback, ensuring relevance and clinical utility.

MediVIE Tech is not only redefining hospital monitoring-it is shaping the future of predictive, connected, and compassionate care. MediVIE Tech is opening the path to safer, smarter, and more humane care systems.

Please provide appropriate references (PubMed, Abstract, Website):

www.medivietech.com

<https://www.medtechfrance.fr/innovations-medicales/sante-numerique/surveillance-medical-en-temps-reel-medivie-tech-ouvre-une-nouvelle-ere-de-la-sante-connectee/>

References File Document upload:

[Clinical Evaluation Report of the Stellar Bracelet for Blood Oxygen Saturation SpO Measurement.pdf](#)

[Clinical Evaluation Report of the Stellar Bracelet for Heart Rate Measurement.pdf](#)

[Innovation Breakthrough in Cuffless Blood Pressure Monitoring.pdf](#)