

## The solution to prevent the cardiovascular diseases

SPINOVIT is a spin off project from UCLouvain proposing a robust biomarker of endothelial function (reflecting the performance of the blood vessels) which allows the detection of the earliest stages of cardiovascular diseases. Cardiovascular diseases remain the primary cause of mortality in the world and have a major socio-economic impact.



### The situation

Today, only an assessment of the risk and corrective factors are used to "guess" the real state of the patient. The medical community **requests a tool to measure and monitor the risk** of a patient for allowing a personalized and precision medicine.



### The solution

Our SPINOVIT project consists of a newly developed and patented syringe, a hands-off shipment and a patented measurement of our biomarker by an innovative technology (electronic paramagnetic resonance spectroscopy).

Our biomarker, the **nitrosylated hemoglobin (HbNO)**, reveals the performance of the blood vessels allowing a monitoring of the possible development of a cardiovascular disease before clinical symptoms. Indeed, HbNO quantity is a **surrogate of the nitric oxide (NO) production**, a sensor of the cardiovascular health.

Collaborations with the Cliniques Universitaires Saint-Luc helped us to correlate our biomarker with clinical parameters to validate scientifically its relevance. We are also pursuing our efforts in the **big data management** of the collected clinical values (vital signs, risk and corrective factors) for developing an **algorithm enhancing the risk stratification** including the HbNO measurement.



### The rationale

In 2021, the European Society of Cardiology (ESC) published the **guidelines** on the assessment of the endothelial function in cardiovascular medicine emphasizing:

1. Endothelial cells are the **sentinels** of CV health
2. **NO** bioavailability is modulated by the **CV risk factors** and linked to the oxidative stress

4. Endothelial dysfunction is a **key player** in CV diseases and can track lifestyle changes and pharmacological interventions

6. Endothelial dysfunction can **identify the patients at risk** despite optimal therapy

7. An **algorithm** is needed to improve the cardiovascular **risk stratification**

8. There is presently **no ideal method** to measure the endothelial function

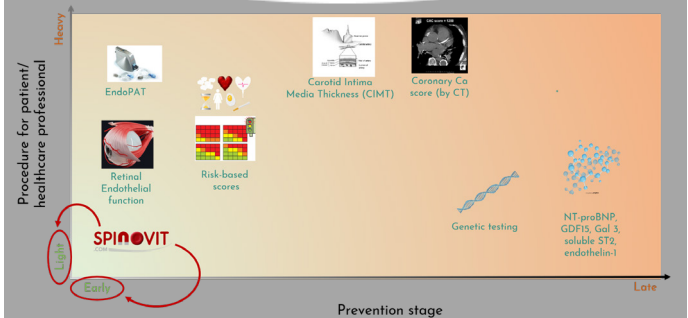


### The market

Our beach head market is the **Anesthesiologists** (40 million surgeries in Europe/year) who have a huge need for a biomarker to prevent the peri-operative cardiovascular complications (4% of non cardiovascular surgeries).



### The competitors



As stated in the latest ESC guideline, **no ideal measurement method** for endothelial function is presently available.



### Our need

To commercialize our solution, we are:

- **clinically validating the relevance** of our biomarker
- looking for **new collaborations** (cardiologists, pharma companies, sport clubs).
- looking for investors:

