

TempleGuard™ By

PulseWave

Applying deep-learning AI algorithms in real-time
to predict the development of CVD, pre or post-event

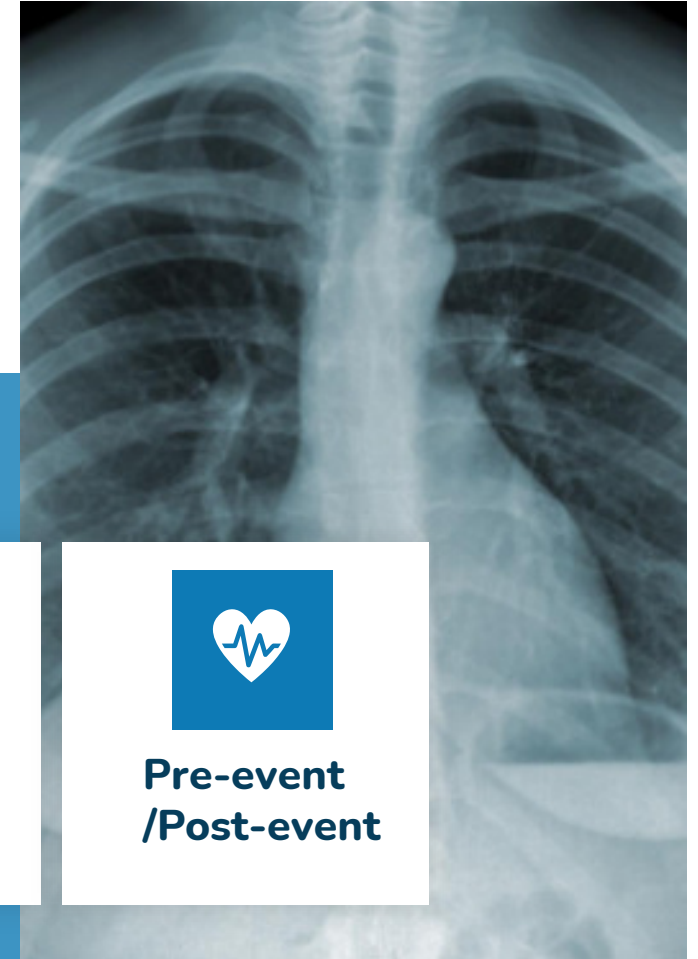


www.pulsewave.ch

Our Mission

Discreet Real Time Monitoring

We are building a discreet monitoring device fixed on any eyeglasses frame that collects crucial information, processes it via deep learning algorithms and makes it available for doctors before CVD events can occur.



CVD Monitoring



Real Time



All Day



Long Term



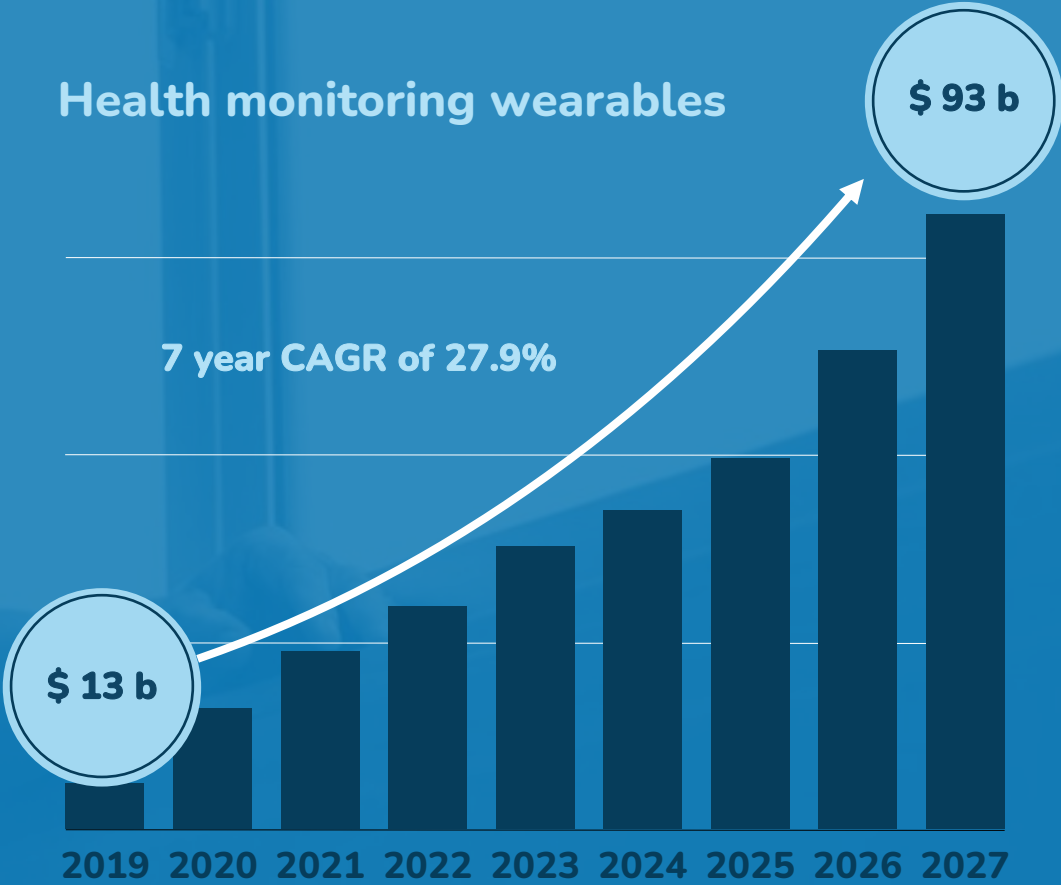
AI Supported



**Pre-event
/Post-event**

Market Potential

Health monitoring wearables



9.7%
of men

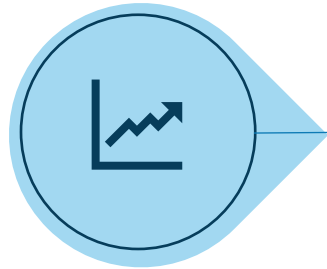
7.6%
of women

Had CVD, diabetes mellitus, or received lipid-lowering or antihypertensive treatment*.

17.9M
People

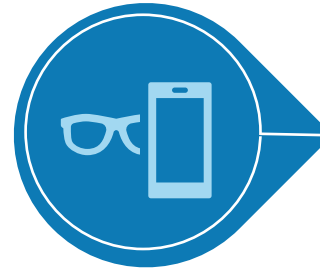
Died from CVD in 2018, representing 31% of all global deaths. Of these deaths, 85% are due to heart attack and stroke**.

Market Trends and Drivers



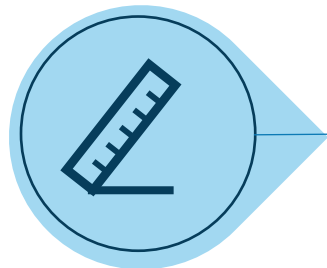
Costly TREATMENT AND HOSPITALIZATION

The average hospitalization cost of a single CVD Patient in the US is **\$53K**. [newsarchive.heart.org](https://www.newsarchive.heart.org)



Why Eyeglasses Can Be Smart

Average distance between Eyeglasses and Smartphone is below 1 meter throughout the day.



Inconsistency POOR MEASURING

30% of CVD monitoring devices are abandoned within 6–12 months, mainly due to inconvenience in the use. Ernst & Young

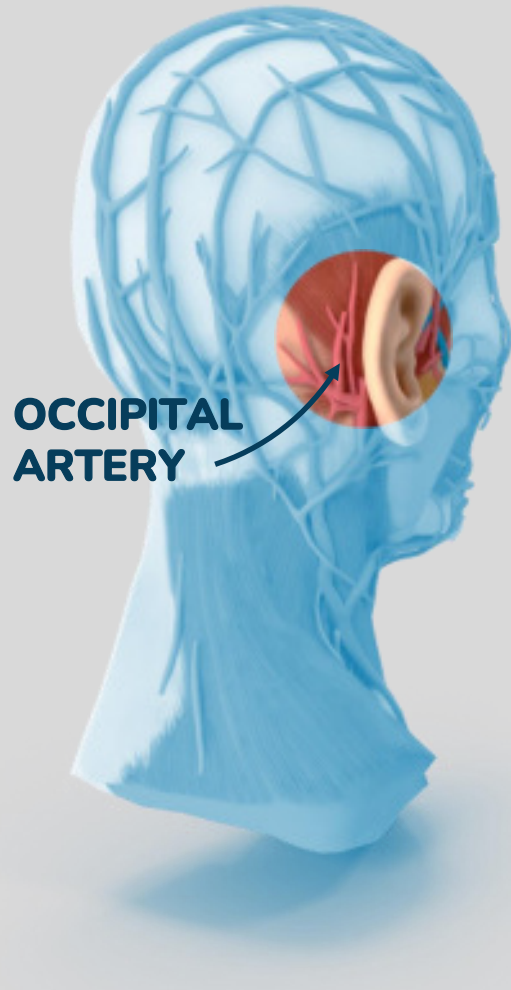


Non-Stop Day-Time Monitoring Via Eyeglasses

77% of the US population in the age group above 55, constantly wear eyeglasses. [statista.com](https://www.statista.com)

Next Gen Remote CVD Monitoring

Pulse Wave Velocity has been shown to be a reliable predictor of myocardial infarction, stroke and occlusive arterial disease ('MACE')



The use of TempleGuard™, an integrated device worn on glasses, solves numerous problems that arise with traditional measuring of PWV and tailoring and adjusting medical therapy for hypertension. Amongst them are: Elimination of confounding factors such as white coat hypertension, body posture, changes in circadian rhythm, activity and many more.

Thin skin
without hair
Optimal
Measurement
Quality

Artery is twice as
large as radial artery
Excellent source to
determine pulse
characteristics

Measuring on both
sides of the skull
Enables exact PTT
and PWV results

From Temple Tip to TempleGuard™

The TempleGuard is using the part of the eyeglasses that is positioned right on the ideal measuring area and is usually concealed behind the ear.

Standardized

Suitable for high volume production

Adjustable

Can be tuned by hand for good fit and optimal sensor reading

Patented Technology

Application filed after extensive IP research

Integrated

ALS sensors
Bluetooth
Memory
Battery



The TempleGuard Difference



User Profiling

General user profile is set up upon App installation by asking relevant question



Raw User Data

Stored on flash memory of TempleGuard device and transmitted to smartphone using BLE (Bluetooth Low Energy) and further from Smartphone to Cloud.



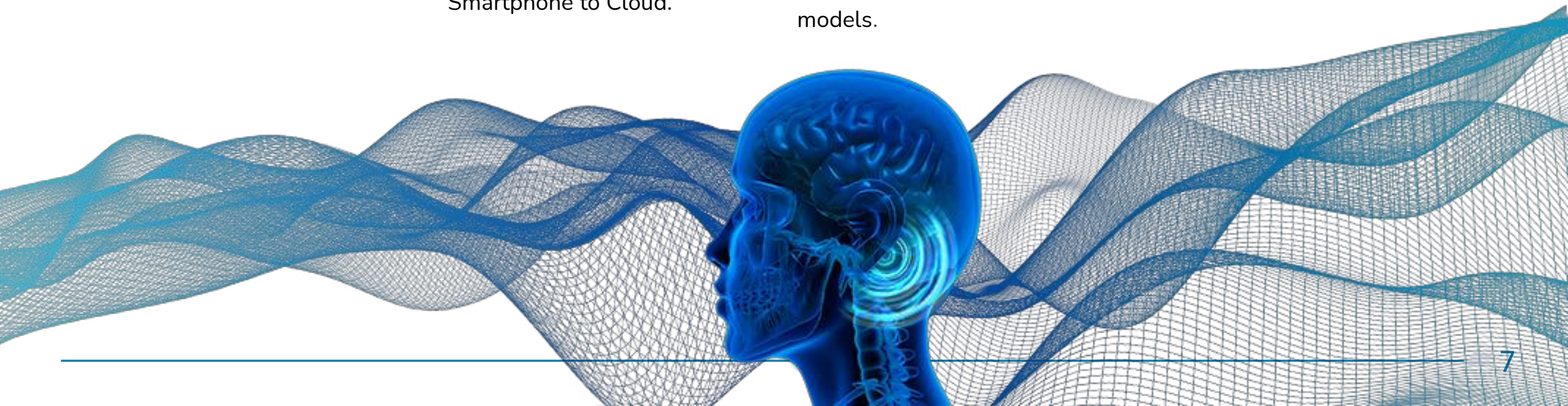
Assumptions Based on Deep Learning

AI Model transfers raw data into assumptions which are validated by user feedback. Feedback is used to train data models.



Monitoring And Alerting

Qualified prediction of unfolding CVD events through cross profiling, pre-defined gold standard thresholds and AI model.



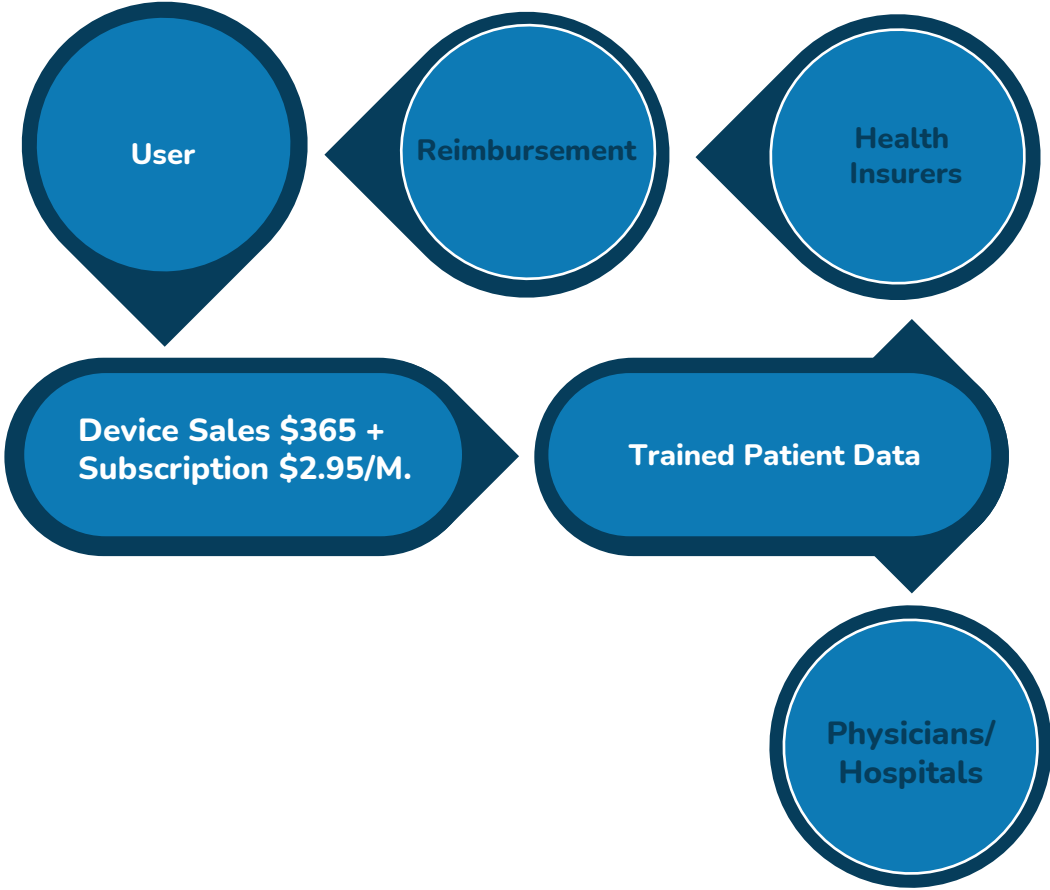
Business Model/ Go-to-Market Strategy

R&D partnership



Bern University
of Applied Sciences

EHR Partners



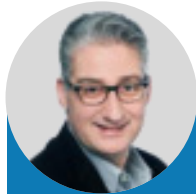
Financial Projections

USDK

	2021	2022	2023	2024	2025
Total Revenue	-	886	19,847	139,882	360,331
Gross Profit	-	439	17,344	125,845	326,391
Gross Margin(%)	0%	49%	87%	90%	91%
Operating Expenses	585	2,056	5,506	23,870	57,396
Income before Taxes	(585)	(1,617)	11,838	101,975	268,995

Funders

Collaborators & Advisors



Peter Weisz CEO

MBA from LMU,
Munich, Germany

- Founder of online fitness/nutritional plan database Fitinstructor
- Founder of WM Fahne 2006. Sold more than 4 Million items during the FIFA 2006 World Cup/2008 FIFA EURO
- 3rd Runner up - EY Switzerland - Entrepreneur of the Year, 2006
- CEO of Swiss Nahrin AG (OTC products)
- Inventor and founder of Findy Eyeglasses tracker



Assaf Grundman CTO

B.Sc. in electrical engineering,
Bar-Ilan University, Israel.

- Specialization in Nano Technology and Bio Engineering
- Expert in deep learning and reinforcement learning
- Head of Signal Processing at Integrity Diagnostics
- Development lead, Findy Eyeglasses tracker

Prof. Dr. Thomas Niederhauser
Univ. of Applied Sciences, Bern

Prof. Stan Finkelstein
MIT, Reimbursement Advisor

Raising **\$1.5M**

OPERATIONS EXPANSION

**R&D with University of applied sciences
and University Clinic, Bern to enable
product evolution**

**Start establishing strategic alliances with
Health Insurers**

**Spread awareness amongst key players in
Medicine & Eyewear**

Hire core team

Accelerate Growth

PRODUCT DEVELOPMENT

Conduct clinical studies

**Prepare OEM mass production and QA
infrastructure**

Achieve FDA

**Establish deep learning data training
module**



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Confederation
Innosuisse – Swiss Innovation Agency

Track Record



Joint R&D with University of applied sciences and University Clinic, Bern through Innosuisse Innovation Grant of CHF 1 M



Partnership with Maccabi – KSM, the 2nd largest digital patient database in the World



POC available by August 2021

PulseWave AG

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www.pulsewave.ch