



Company Presentation

April 2023



www.cardiacsense.com



Executive Summary

Summary



Most advanced medical watch
With FDA and CE certification

Target markets (size of billions):

- Arrhythmias monitoring
- Early detection of chronic patients' exacerbation
- Comfortable vital sign monitoring

Unique differentiation: proprietary sensors provide continuous monitoring of arrhythmias and early detection of exacerbation of chronic patients at medical level accuracies

Worldwide distribution agreements represent tens of millions of dollars in sales

Developing a chip with same medical functionalities for all wearable devices

Led by a strong management team with \$28M raised to date

CardiacSense Watch

Widest array of sensors, some unique to CardiacSense



Side ECG electrode



Accelerometers / Gyro

On / Off button

Respiratory Rate sensor

SpO2 sensor

Bottom ECG electrode



Artifact Sensor (enables continuous measurement at ECG level)

PPG sensor

Bottom ECG electrode

CardiacSense Solution for Hospital Environments

Ring featuring miniaturized sensors, hospital gateways

- **Continuous:**
 - ✓ Pulse Rate
 - ✓ Oxygen Saturation
 - ✓ Arrhythmia detection
 - ✓ Respiratory Rate
 - ✓ Blood Pressure
 - ✓ ECG (with add on)
- Wireless communication
- Emergency button (replace wired button)
- Patient Identification (replace plastic wristband)
- Single charge per stay



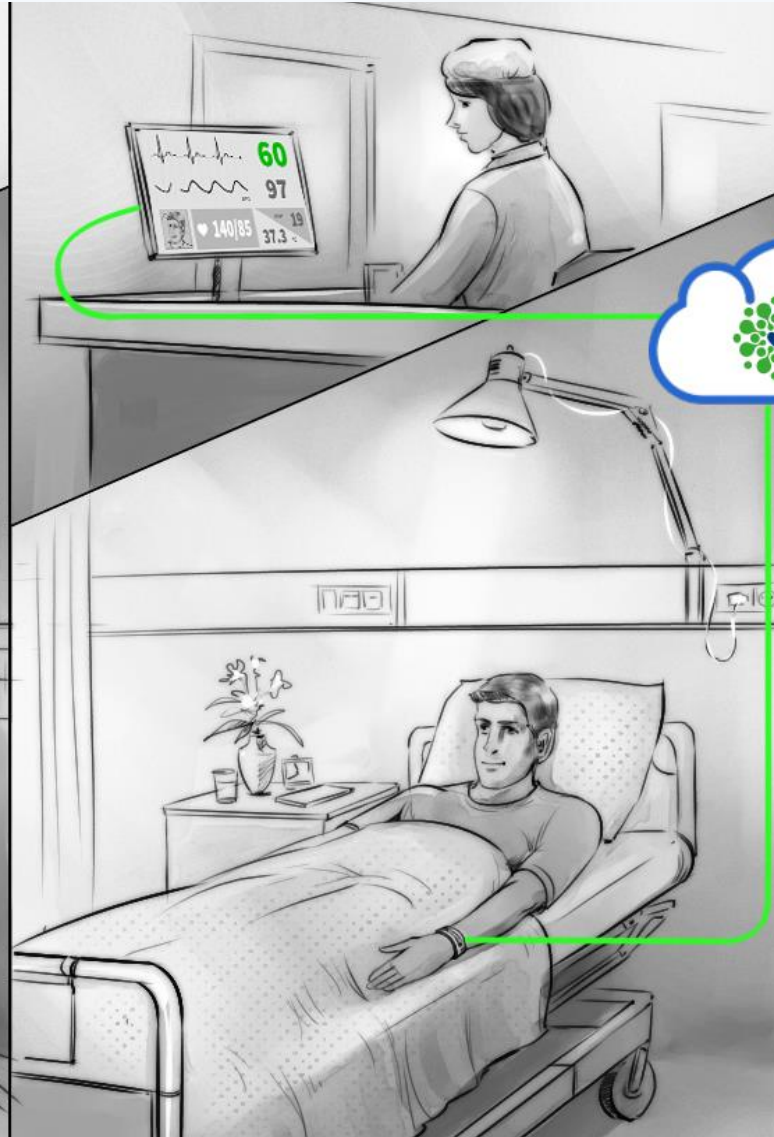
One ring to replace them all!

Starting 2025

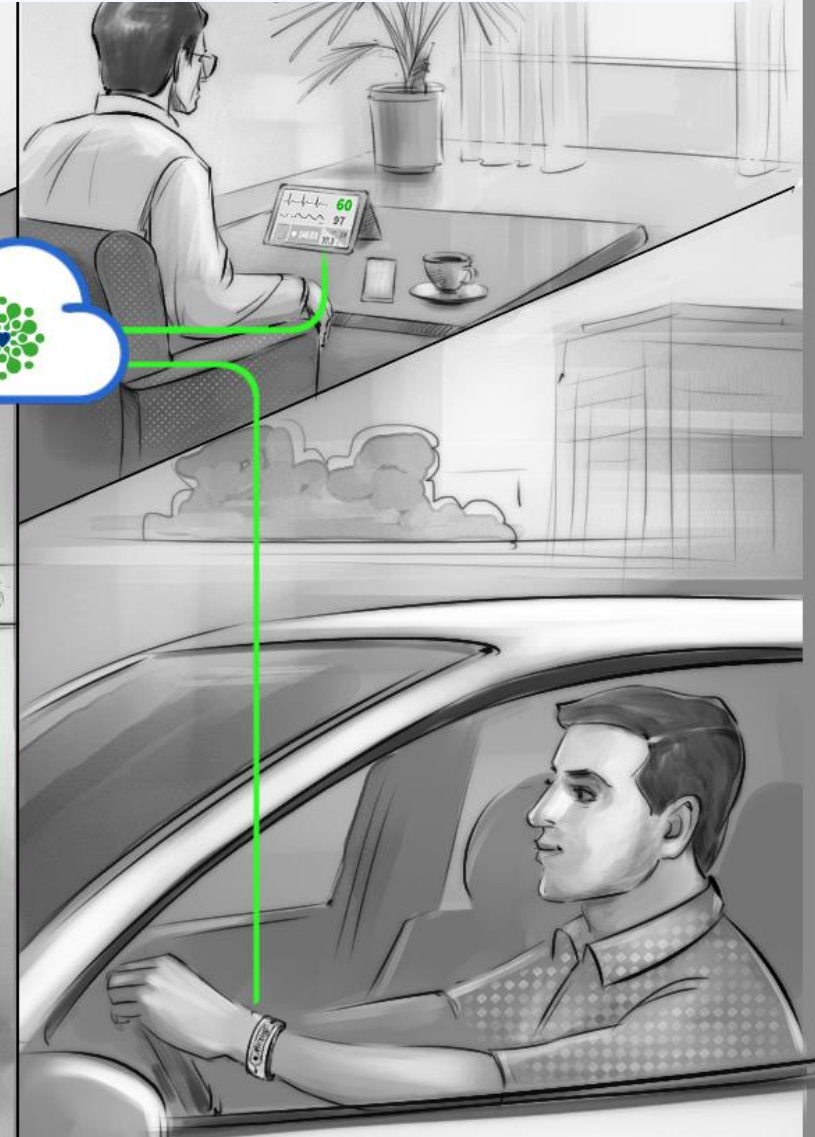
Compelling Use Case – Hospital Bedside Monitoring



Current bed-side monitoring with multiple wired equipment



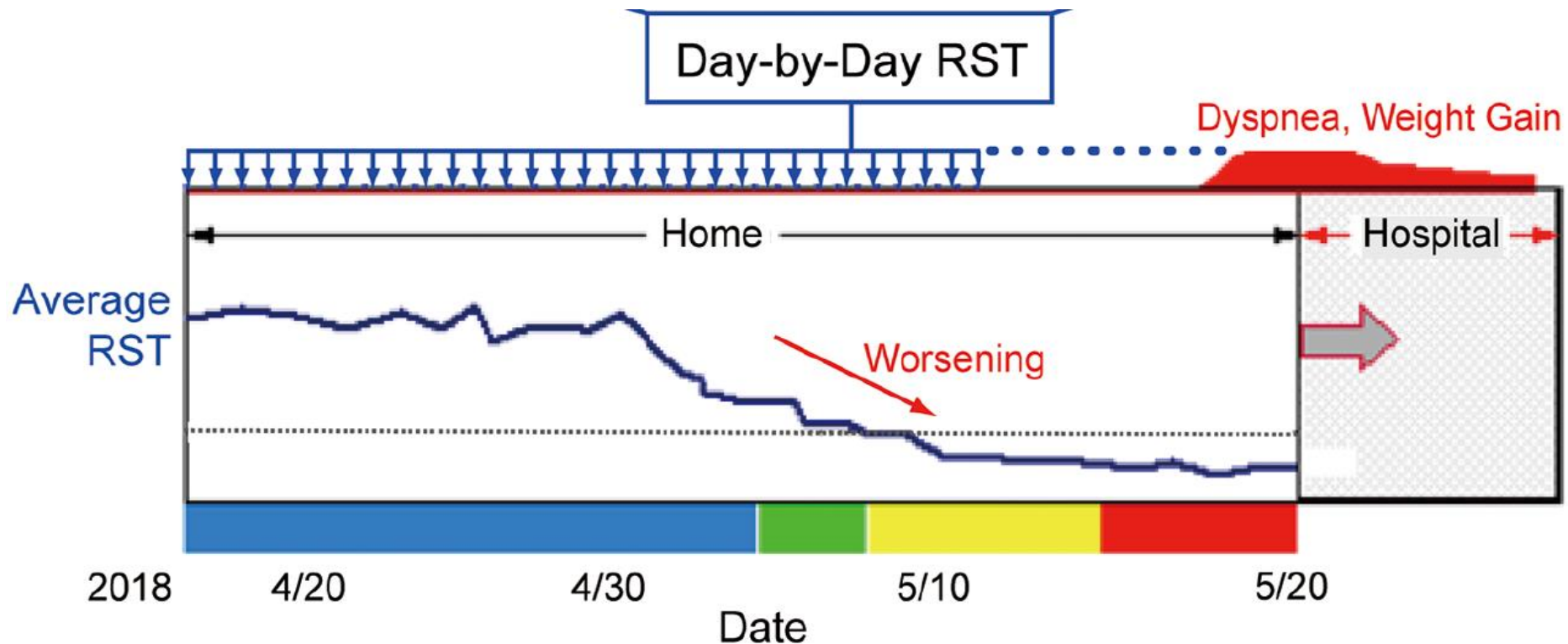
Alternative CardiacSense device monitoring replaces multiple equipment and wiring “spaghetti”



CardiacSense device monitoring can continue post-release and/or for at-home hospitalization

Respiratory Rate Variability used for early detection of CHF exacerbations

Annual cost of rehospitalization of CHF subjects in the US is \$50B!

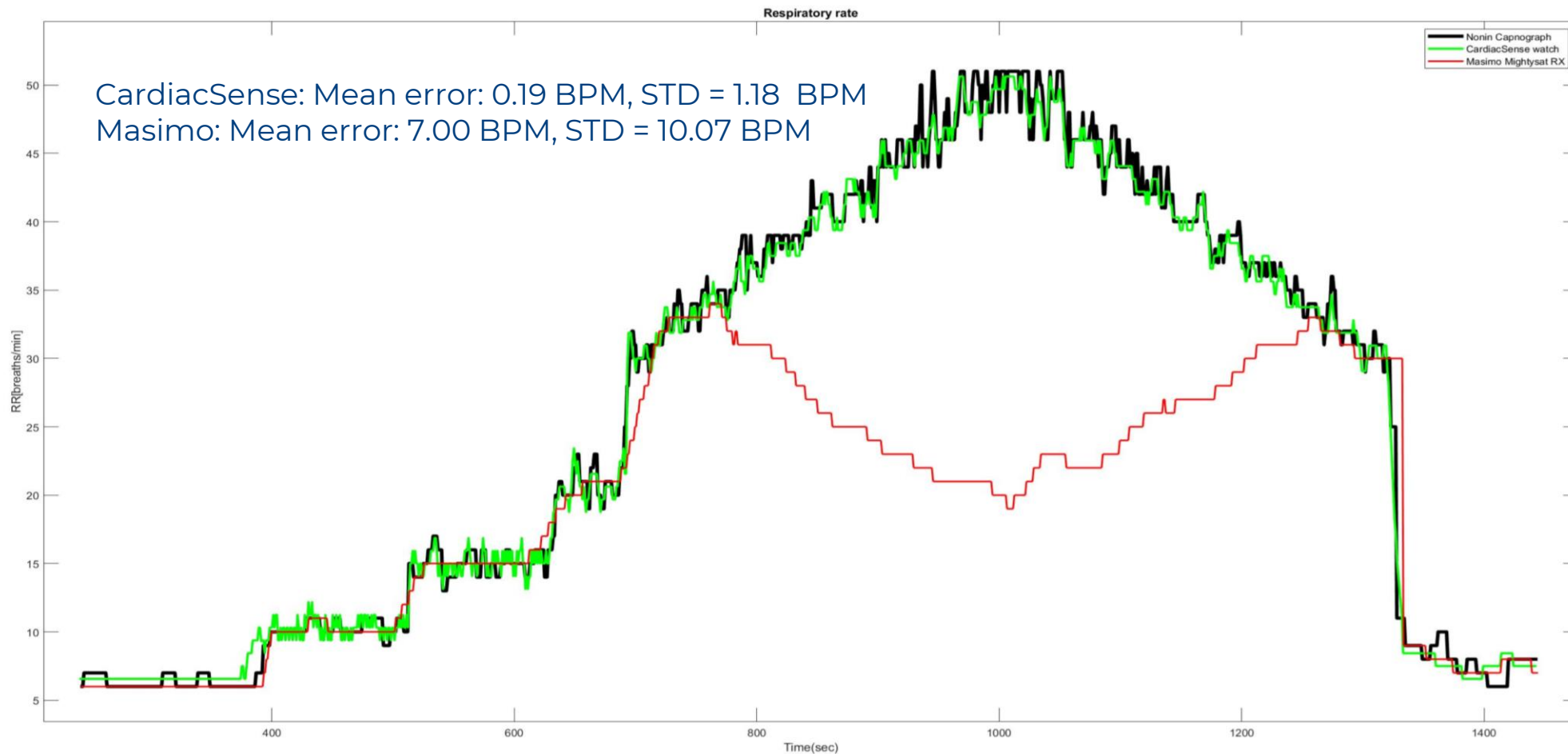


Circulation Journal, Circ J 2022; 86: 1081 – 1091, doi: 10.1253/circj.CJ-21-0590

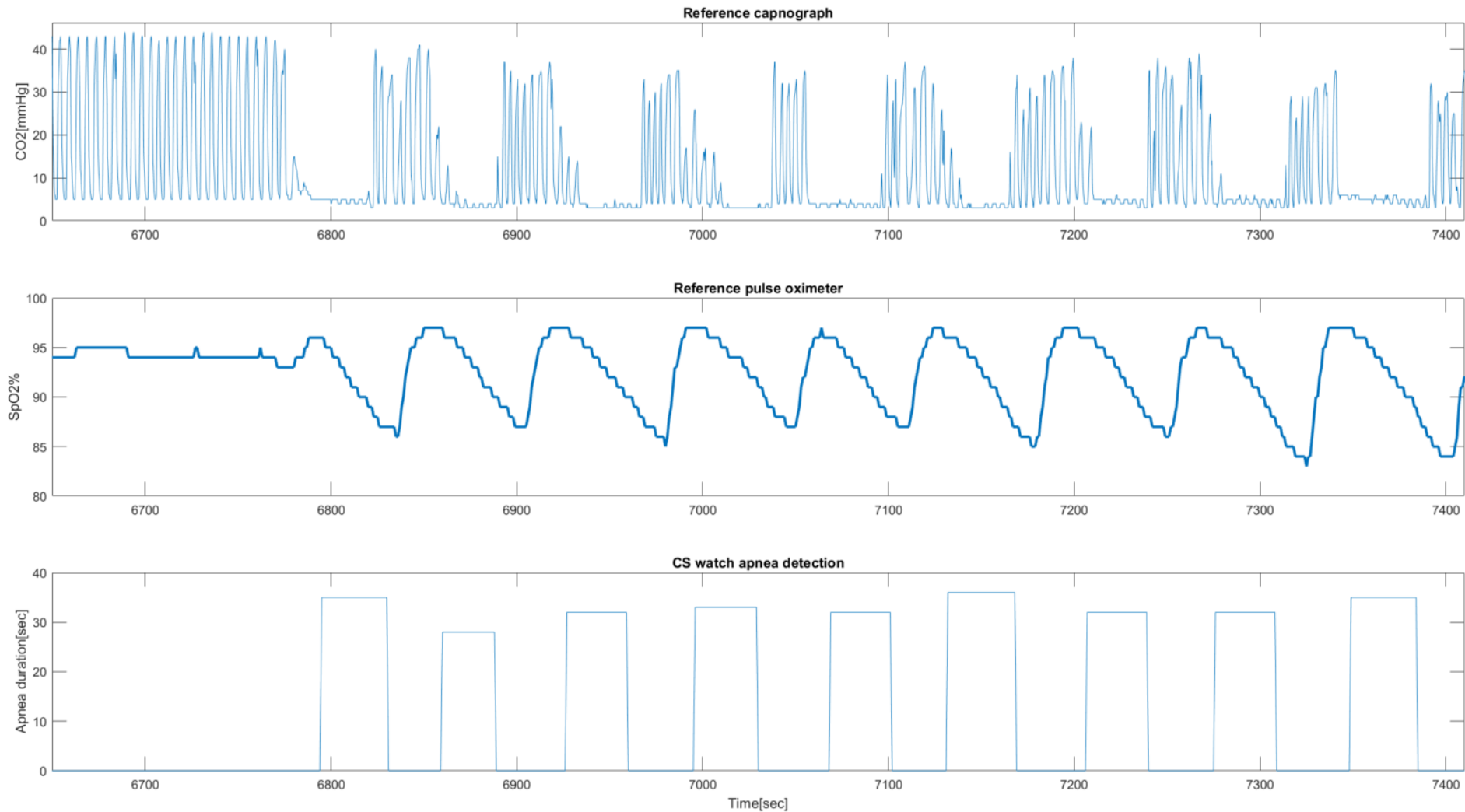
Respiratory Rate (RR) Variability

Main parameter providing early warning for chronic illness exacerbation

CardiacSense vs. Capnograph Vs. Masimo



Unique Technology for Sleep Apnea Detection

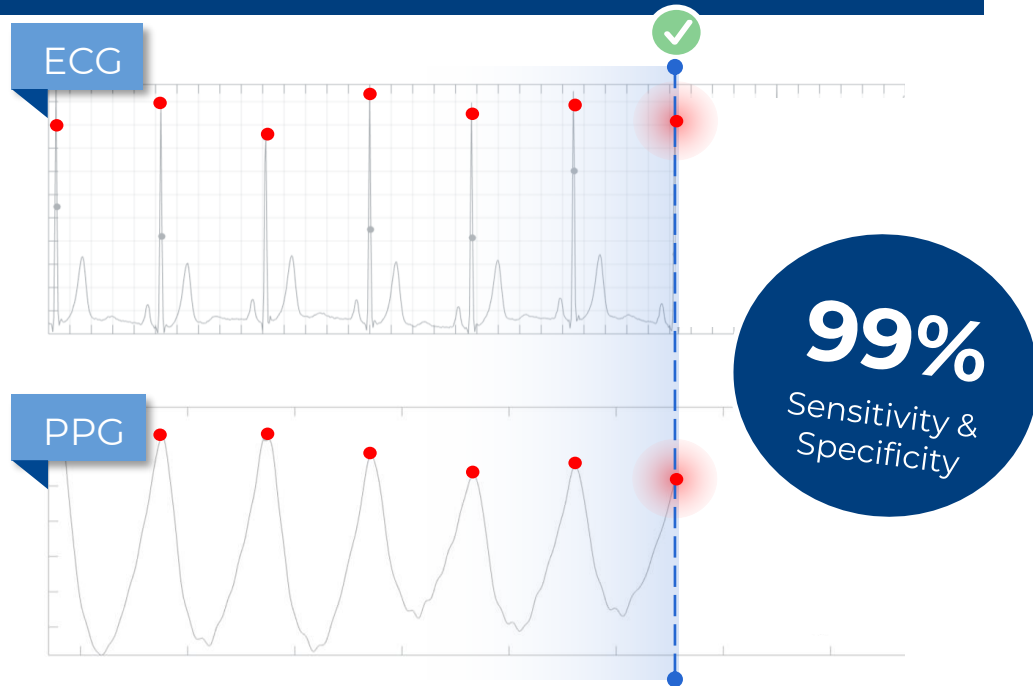


Beat-by-beat Detection of Pulse Rate (PPG)

CardiacSense is the only company cleared for this indication that is mandatory for arrhythmia detection

Clinical Trial – Q1 2019

Sourasky Medical Center

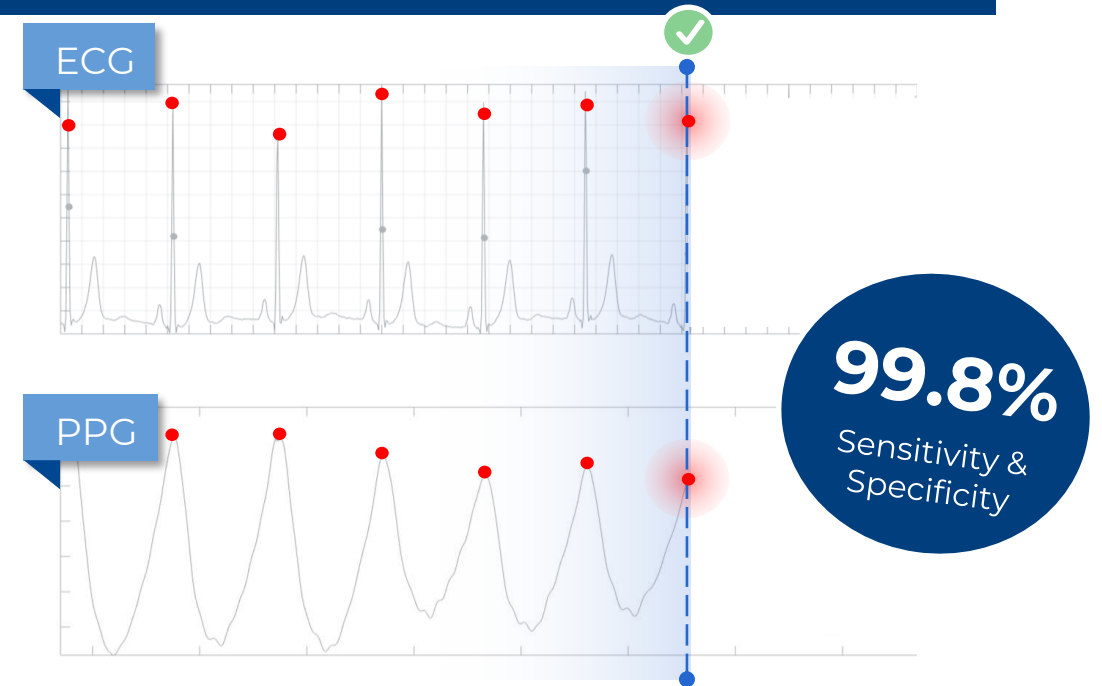


FDA, CE & NMPA threshold:

over 96% beat-to-beat sensitivity between ECG and PPG across 24 patients

Clinical Trial – Q4 2022

M Health Fairview, Minnesota



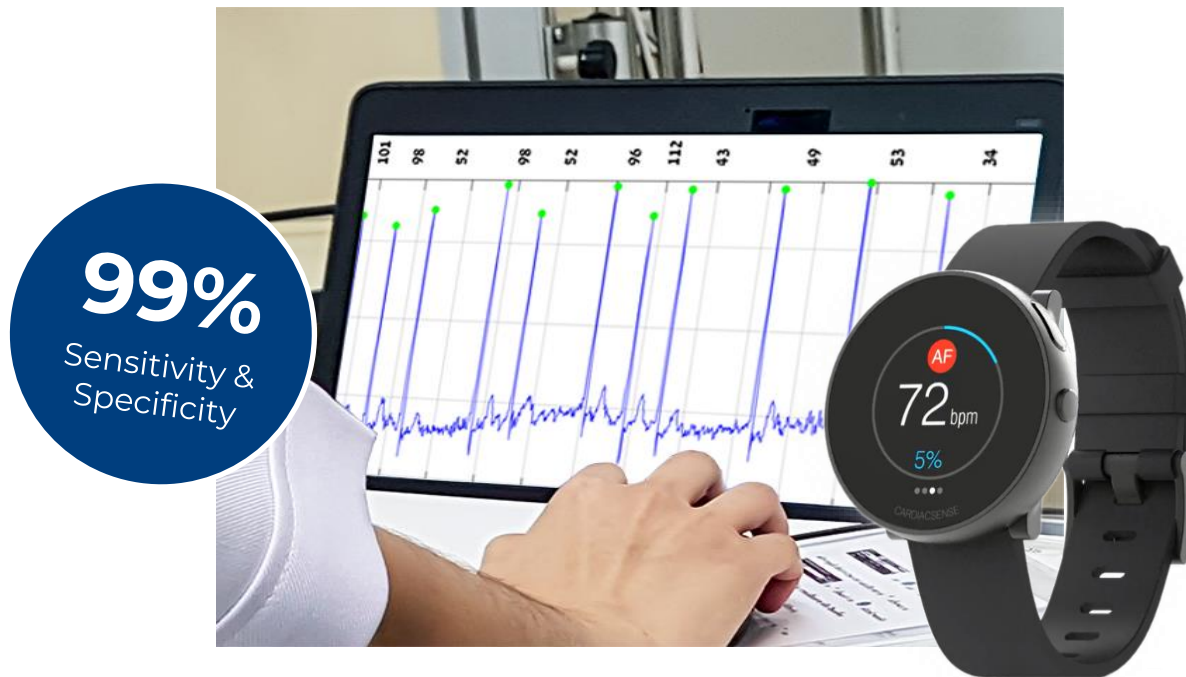
FDA, CE & NMPA threshold:

over 56 beat-to-beat sensitivity between ECG and PPG across 56 patients

FDA, CE & NMPA Protocol for AF Detection Clearance

Pivotal Clinical Trial – Q4 2019

Sourasky Medical Center, Rambam Medical Center, Sheba Medical Center



99%

Sensitivity & Specificity

FDA, CE & NMPA threshold:

over 95% consistency between medical watch and cardiologist diagnostic of AF detection across 30 patients

CardiacSense Report: Normal rhythm

The only report to show full electro-mechanical analysis

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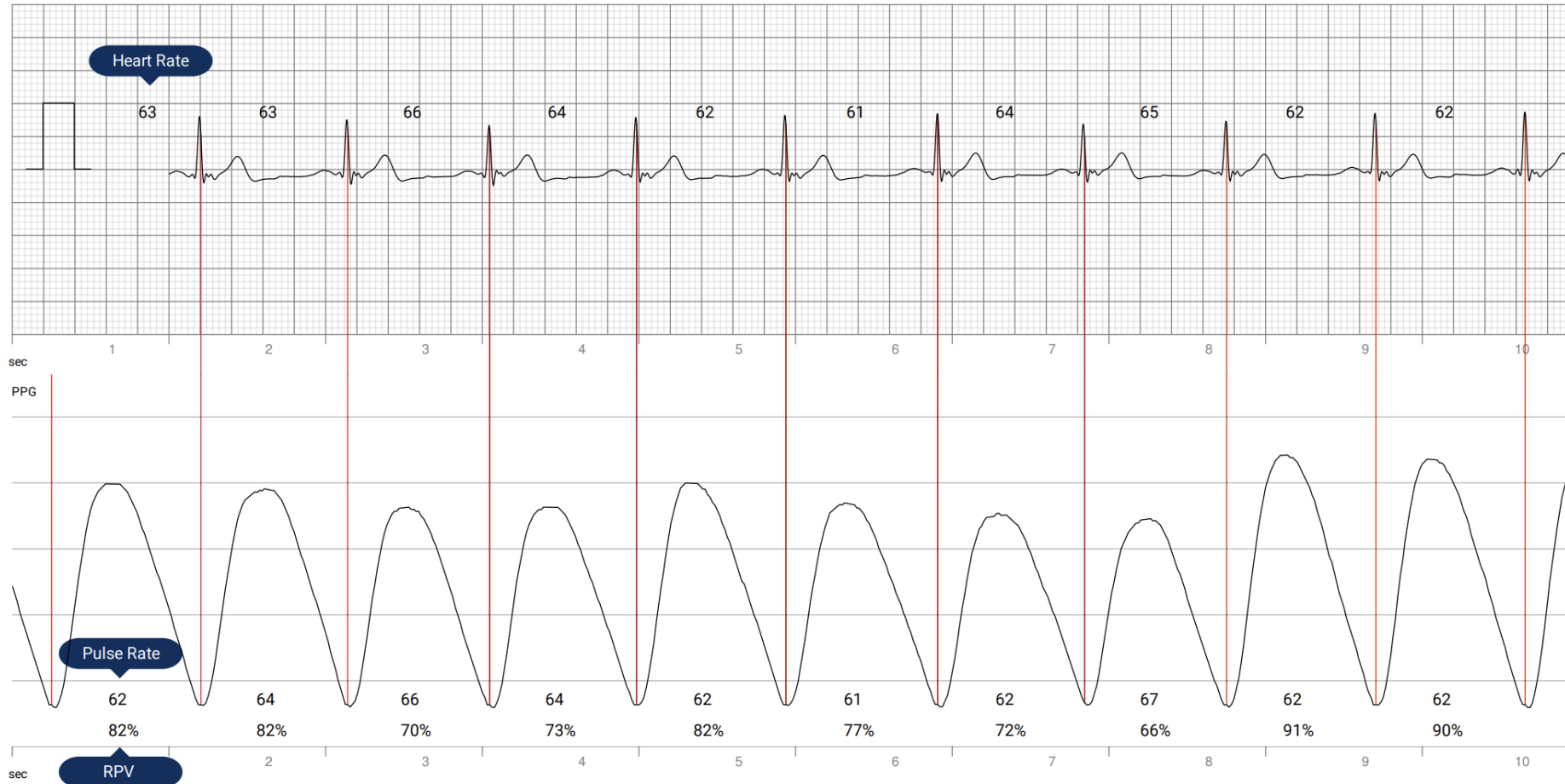


Detailed Screening Report

Eldad Shemesh, 022425417 - Feb 19, 2023-06:40 pm, CS

Lead I ECG Sinus rhythm

Scale: 25mm/s, 10mm/mV



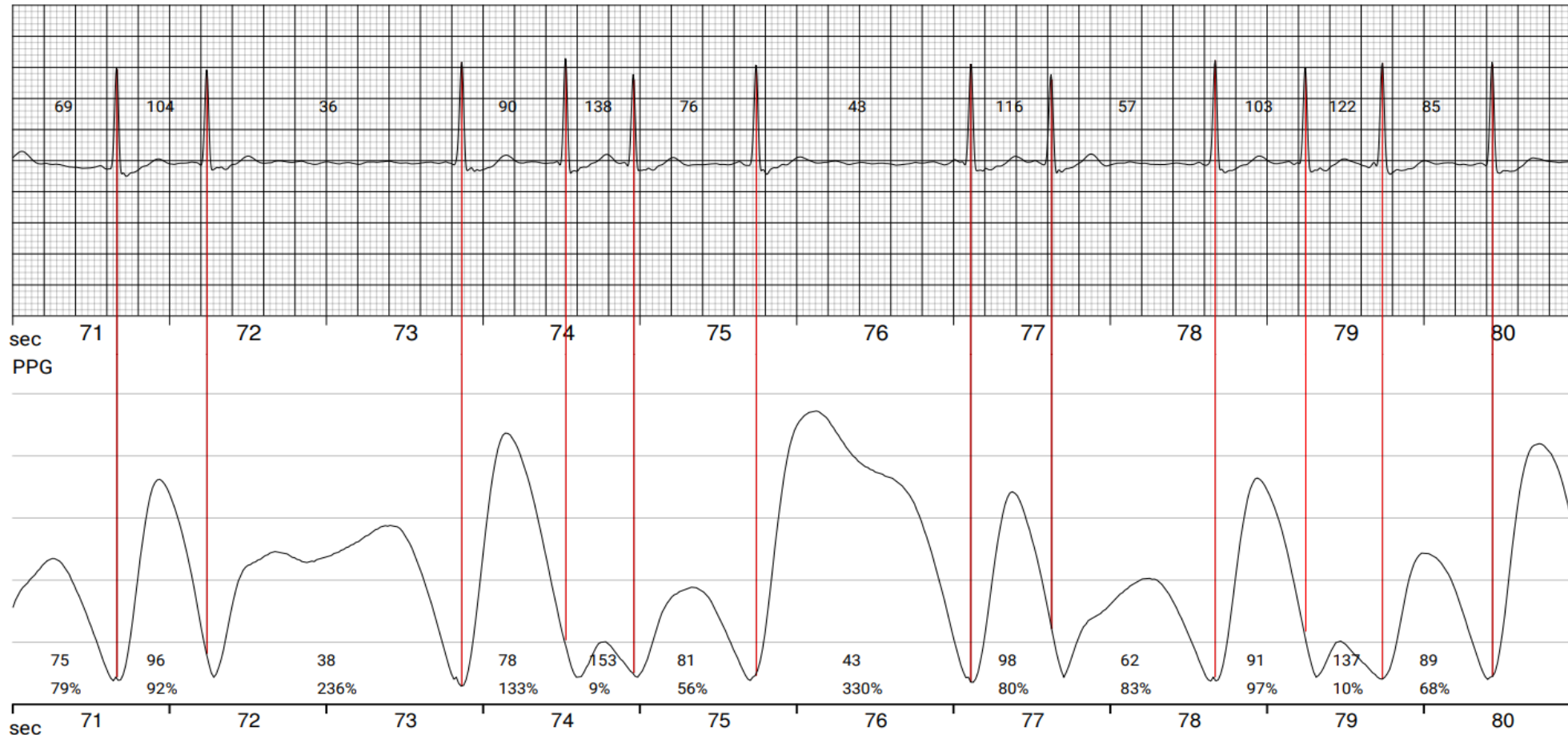
CardiacSense Report: **Atrial Fibrillation**

The only report to show full electro-mechanical analysis



Detailed Measurement Report

Lead I ECG



CardiacSense Report: Atrial Fibrillation

The only report to show full electro-mechanical analysis

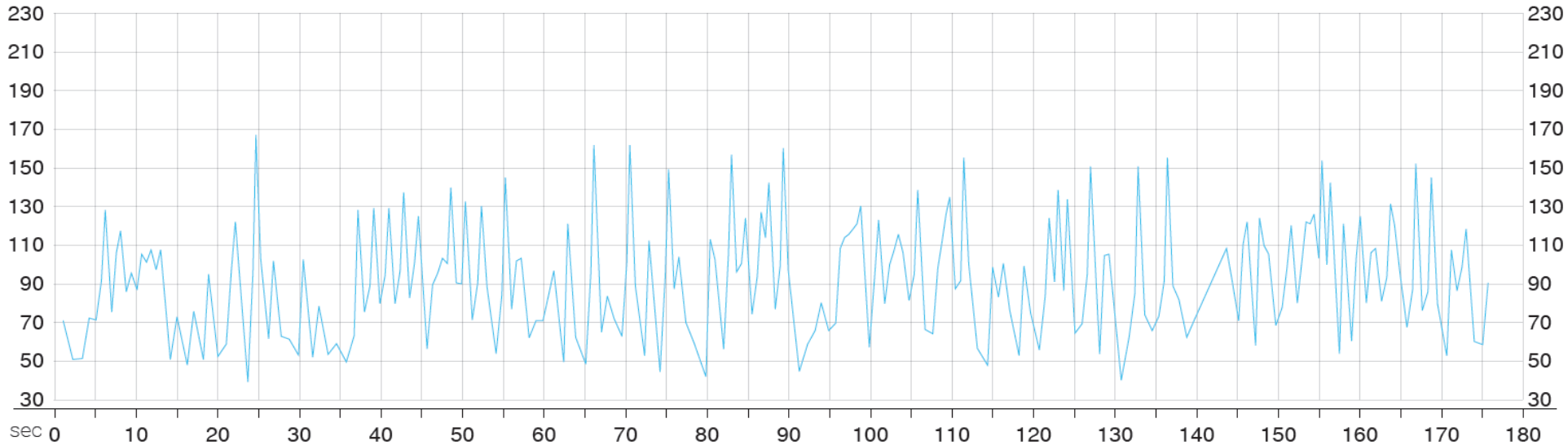


Detailed Measurement Report

Personal Info	Medical Info reported by the user			Measurements			
	COPD	No	Sleep Apnea	No	Stroke	No	Heart Rate 93 bpm
	CHF	No	Diabetes	No	Heart attack - MI	No	Blood Pressure -- mmHg
	A-Fib	Permanent	Asthma	No	Vascular Disease	No	Respiratory Rate 16 rpm
	Hypertension	No	Epilepsy	No	CHA ₂ DS ₂ -VAS Score	1	SpO ₂ 98 %
	PI - 2.62 %		PWV - 4.48 meter/sec				

AF detected

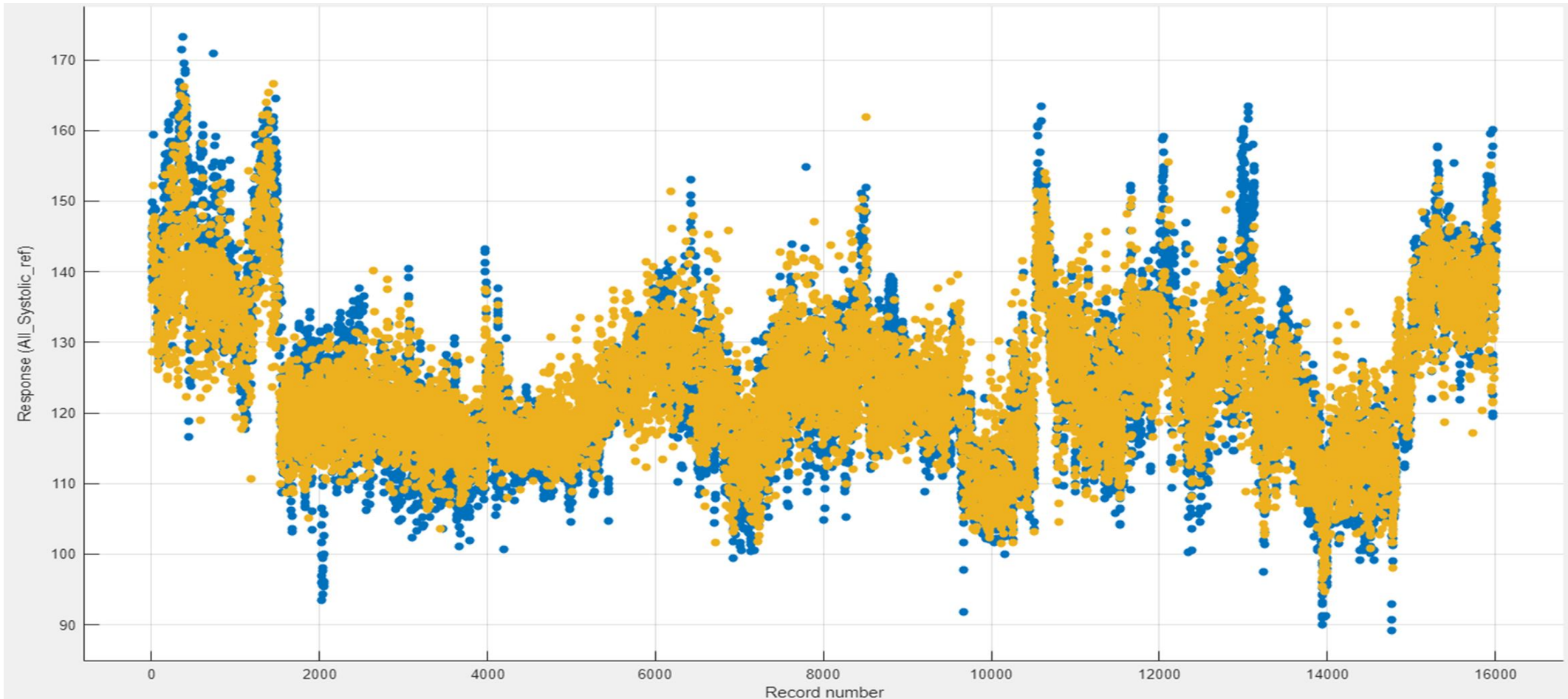
Measurement Heart Rate



PI (Perfusion Index) - The ratio of the pulsatile blood flow to the non-pulsatile blood flow.

PWV (Pulse Wave Velocity) - The velocity at which the blood pulse propagates. It may be used by your physician to estimate the measure of arterial stiffness/health.

Non-inflating Blood Pressure Measurement Breakthrough Meets FDA & CE requirements



FDA & CE Requirement: Standard Deviation of 8 mmHg. Reference is arterial line (blue)
CardiacSense results (orange): Standard Deviation of 6.3 mmHg (over 10 subjects)

CardiacSense - Regulatory Timeline Forecast



Medical Indication	CE Mark	FDA Clearance
Beat-by-Beat Heart Rate (ECG)	Approved (CS3)	Cleared (CSF3)
Continuous Average Pulse Rate (PPG)		Clinical trial successful (99.8%) Submission in Q2-2023 Clearance expected in Q3-2023 (CSF4)
Continuous Beat-by-Beat Pulse Rate - Unique		
Continuous Detection of A-Fib by PPG - Unique		Part of the 27 arrhythmias
Detection of A-Fib by ECG		
Oxygen Saturation (SpO2)	Approved (CS4)	Cleared (CSF3)
Continuous Average Respiratory Rate		Clinical trial in Q3-2023 Clearance expected in Q4-2023 (CSF5)
Arrhythmia screening by PPG - Unique 27 arrhythmias analysis by ECG - Unique	Submission in Q2-2023 Approval in Q1-2024 (CS5)	DeNovo Clearance expected in 2024 (CSF6)
Early detection of exacerbation for CHF patients	Submission in Q2-2024, Approval in Q4-2024 (CS7)	
Calibration-free Blood Pressure - Unique	Clinical trial in 2023 Submission in Q2-2024, Approval in Q4-2024 (CS7)	
Sleep Apnea	Clinical trial in 2024 Submission in Q3-2024, Approval in 2025 (CS8)	

CardiacSense - Clinical Timeline

Medical Indication	CE Mark	FDA Clearance	Subjects in clinical trial	Estimated cost
Beat-by-Beat Heart Rate (ECG)	Approved (CS3)	Cleared (CSF3)		
Continuous Average Pulse Rate (PPG)		Clinical trial successful (99.8%) Submission in Q2-2023 Clearance expected in Q3-2023 (CSF4)		
Continuous Beat-by-Beat Pulse Rate - Unique				
Continuous Detection of A-Fib by PPG - Unique		Part of the 27 arrhythmias		
Detection of A-Fib by ECG				
Oxygen Saturation (SpO2)	Approved (CS4)	Cleared (CSF3)		
Continuous Average Respiratory Rate		Clinical trial in Q3-2023 Clearance expected in Q4-2023 (CSF5)	30	\$150K
Arrhythmia screening by PPG - Unique 27 arrhythmias analysis by ECG - Unique	Submission in Q2-2023 Approval in Q1-2024 (CS5)	DeNovo Clearance expected in 2024 (CSF6)	50	\$250K
Early detection of exacerbation for CHF patients	Submission in Q2-2024, Approval in Q4-2024 (CS7)		100	\$500K
Calibration-free Blood Pressure - Unique	Clinical trial in 2023 Submission in Q2-2024, Approval in Q4-2024 (CS7)		200	\$1,000K
Sleep Apnea	Clinical trial in 2024 Submission in Q3-2024, Approval in 2025 (CS8)		100	\$500K

Summary

- 5 clinical trials
- Estimated cost of \$2.4M
- Spread over 2 years

CardiacSense Vs. Competitors - Regulatory Approvals

Medical Indication

Medical Indication	cardiacsense watching over you	Apple Watch 8	Google (Verily)	Biobeat	Fitbit	Aktiia	Whithings
Beat by Beat Heart Rate	✓	✓	✓	✗	✓	✗	✓
Beat by Beat Pulse Rate	✓	✗ ^{***}	✗ ^{***}	✗ ^{***}	✗ ^{***}	✗	✗ ^{***}
Detection of A-Fib by PPG	✓	✗ [*]	✗ [*]	✗	✗ [*]	✗	✗
Detection of of A-Fib by ECG	✓	✓	✓	✗	✓	✗	✓
Continuous Respiratory Rate	✓	✗	✗	✓	✗	✗	✗
Blood Oxygen Saturation (SpO2)	✓	✗	✗	✓	✗	✗	✓
Blood Pressure 2024	⚠	✗	✗	✗ ^{**}	✗	✓	✗
Detection of all types of arrhythmias 2024	⚠	✗	✗	✗	✗	✗	✗
Early detection of CHF exacerbation 2024	⚠	✗	✗	✗	✗	✗	✗

* “Irregular rhythm suggestive of AF”

** Blood pressure trend – not absolute

*** Average pulse rate and not beat-by-beat

System-on-Module (SOM) Chip

Boosts commercial opportunities



- Significantly reduces:
 - Hardware cost
 - Physical size
 - Power consumption



- Regulatory-cleared as a standalone medical device
- Accelerates time-to-market without needing clinical trials



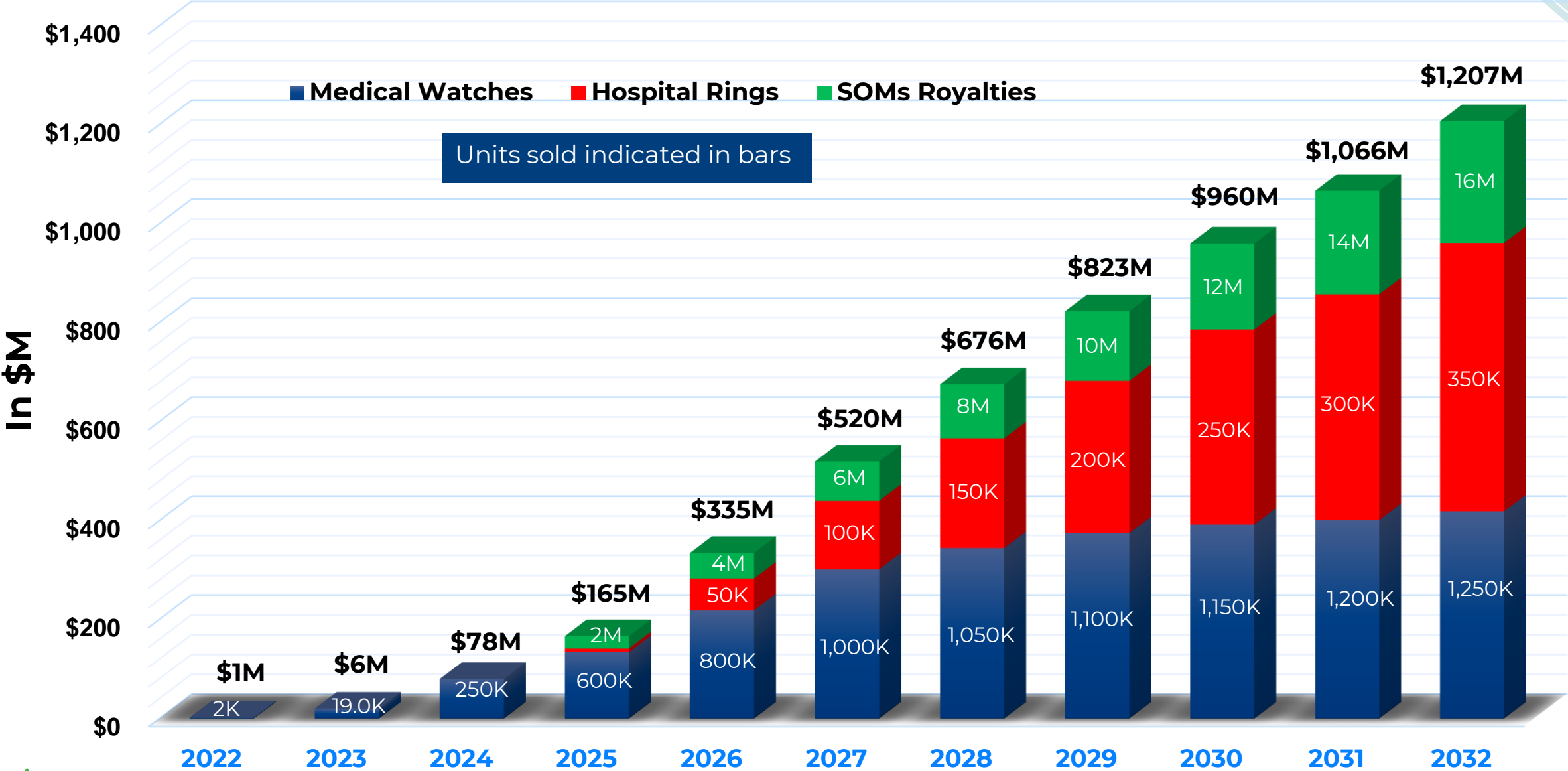
- Drives sales growth and data collection
- Enables “Big Data” company



- The “CardiacSense inside” of all wearables and phones

Production: 2025

CardiacSense Total Sales Forecast, In \$M



Note: for reference, wearable sales expected to reach 700M units by 2025



Thank You

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