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# INSTITUTIONAL RESEARCH
## *Medical Devices*
## INITIATION REPORT

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# HeartBeam (NASDAQ: BEAT) - Buy

*July 25, 2022*

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## Use My Credit Card for Cardiac Care – A New Paradigm in Remote Monitoring with an ER Assist Too

*HeartBeam is focused on improving patient outcomes in the cardiac space. This validated heart attack detection system couples an innovative sensor in a credit card like form factor coupled with AI for Remote Monitoring and the smart system offers ER physicians a welcomed assist.*

**Remote Monitoring and AI with an Emergency Room Assist:** HeartBeam's plans to launch two products (initially). A telehealth product for high-risk cardiovascular patients (remote monitoring) and a AI-diagnostic expert & detection system in the Emergency Rooms (ER). Both hold the promise to improve patient outcomes. The initial telemedicine product addresses coronary artery disease (CAD) and other high risk (MI) patients. The market today lacks a user-friendly, easy to carry and always ready product that can provide physicians and patients with timely and accurate information about potential Acute Coronary Syndrome (ACS) and Myocardial Infarction (MI) events. Intelligent software in the ER can offer a welcome assist and save time during the golden window for patients in need of cardiac care.

**What's the Market Opportunity? It's large.** Simply put, 18M patients in the U.S. have heart disease. This adds up to over $30B. The number of hospitals using mobile applications is rising sharply (in part as a result of COVID), accelerating a push to tele-health. These 18 million patients are typically seen by 5,000 cardiologists and 5,000 emergency rooms nationwide.

**Simple Math:** We estimate Remote Monitoring, based on existing reimbursement rates, as worth $1,400 plus annually. If we assume just a fraction of the 18M patient prevalence become users this equates to a multi-billion-dollar opportunity. 5,000 Emergency Rooms with the potential to license ($100k annually) smart software (AI) to assist doctors in the detection and treatment of cardiac issues (& ruling out false positives), equates to $500M market size. In our projected forecast we assume just a fraction of the market becomes RPM (remote patient monitoring) patients. In the ER space we assume up to 30% of ER's (AI Software) become users by the end of the decade. In addition to our assumed discount rate (30%) we apply a "risk cut" to our projections (30%) and then feed these revenues into our model with appropriate estimates on SG&A and R&D.

**How Does it Work? – VCG.** The foundation of the company's technology is based on the concept of vector cardiography (VCG). VCG is viewed as superior to ECGs in detecting heart attacks (MI), but is no longer used clinically because of the difficulty experienced by physicians interpreting the output. This problem has now been solved by recording three orthogonal (x, y and z) projections of the heart vector with a device that is the size of a credit card. The core technology consists of a series of patented inventions and associated algorithms. Several trials have established a clinical data package that support a 510(k) pathway/approval.

**Valuation:** We project our model out to 2030. We apply a 30% risk cut to our projected revenues in our product model in addition to our 30% risk rate applied in our Free Cash Flow to the Firm (FCFF), discounted EPS (dEPS), and Sum-of-the-Parts (SOP) models. We use a fully diluted outyear share count assuming multiple raises. The result is equal-weighted and averaged and rounded to the nearest whole number to derive our 12-month projected price target of $12.0.

**Risks to our thesis include:** 1. Regulatory Approvals; 2. Clinical Science 3. Adoption Rates 4. The competitive landscape. 5. Intellectual Capital 6. Dilution.

| | |
|---|---|
| **Current Price** | **$1.50** |
| **Price Target** | **$12.00** |

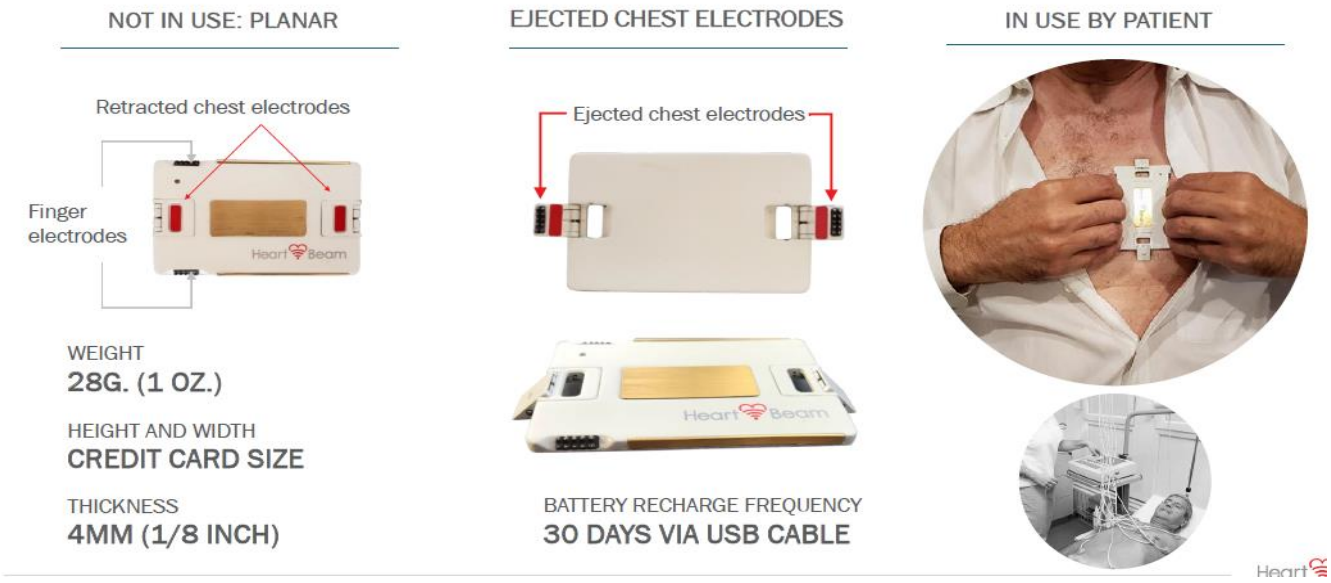

*Source: HeatBeam*

| Stock Data | | | |
|---|---|---|---|
| 52-Week Range | $1.17 | - | $5.47 |
| Shares Outstanding (mil.) | | | 8.0 |
| Market Capitalization (mil.) | | | $12 |
| Enterprise Value (mil.) | | | $1 |
| Debt to Capital | | | 0% |
| Book Value/Share | | | - |
| Price/Book | | | 1.8 |
| Average Three Months Trading Volume (K) | | | 287 |
| Insider Ownership | | | 53.2% |
| Institutional Ownership | | | 6.5% |
| Short interest (mil.) | | | 1.1% |
| Dividend / Yield | | | $0.00/0.0% |

**Company Description: (***partly adapted from the company's filings***):** HeartBeam is a late-stage company focused on bringing technology (enhanced hardware & software) to provide solutions that enable the detection and monitoring of cardiac disease outside a healthcare facility setting and provide enhanced physician support inside the ER with an AI-driven data analysis packages. At its core, there is a proprietary innovative sensor coupled with smart software for remote diagnostic and monitoring that can be used for patients anywhere. The company's initial offerings are focused on two markets - Ambulatory and Emergency Room (ER) use. The telehealth product is a credit card-sized ECG device coupled with a cloud-based diagnostic software system. Multiple studies conducted by the company have shown that the ischemia detection system is accurate. The company is also applying its platform technology to create a software tool for detecting heart attacks in the ER environment. This software tool is designed to enable emergency physicians to more accurately and quickly diagnose cardiac events. These products, software, and hardware are classified as Class II medical devices by the FDA. Class II medical devices are those for which general controls alone are insufficient to provide reasonable assurance of safety and effectiveness, and there is sufficient information to establish special controls. We expect these devices to follow a 510(k)-approval process. HeartBeam has three issued U.S. utility patents, three pending U.S. utility patent applications, and two pending provisional applications.

It makes sense. The company was founded by CEO Branislov Vajdic, Ph.D., in 2015. Dr. Vajdic has a background in cardiac devices and semiconductors. Dr. Vajdic is credited with the development of the first flash memory during his tenure with Intel. He has used his knowledge to develop the sensor technology and coupled it with state-of-the-art AI software to found HeartBeam.

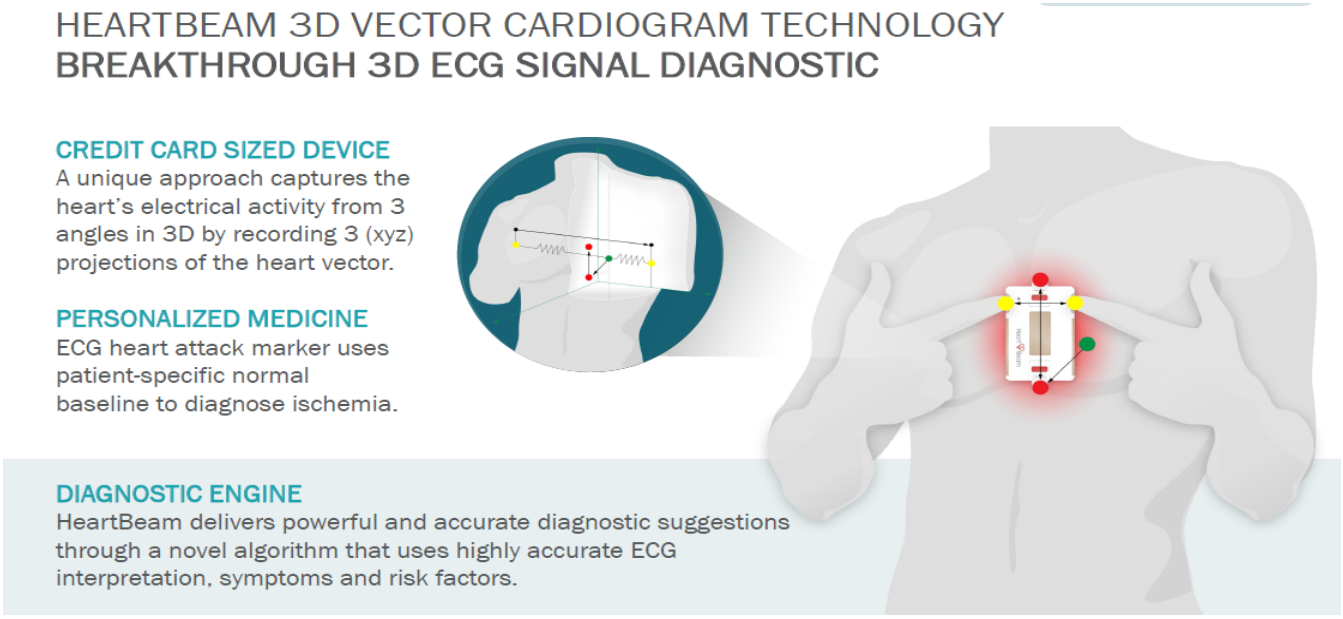
**Exhibit 1. A Credit Card Sized ECG Machine – 12 LEAD ECG System always with the patient.**




*Source: HeartBeam.*

The telehealth ECG collection device is the size of a credit card and records cardiac signals with integrated electrodes rather than wires or self-adhesive electrodes. Unlike a standard 12-lead ECG machine that records signals in empirically determining locations on a human body, the approach is focused on recording three projections of the heart vector. The successful recording of the projections of the heart vector enables the synthesis of a 12-lead signal set as well as internal algorithmic diagnostic work in the space of 3D heart vectors.

**Exhibit 2. A Credit Card Sized Device**




*Source: HeartBeam.*

**So, what is it? The telehealth system consists of:**

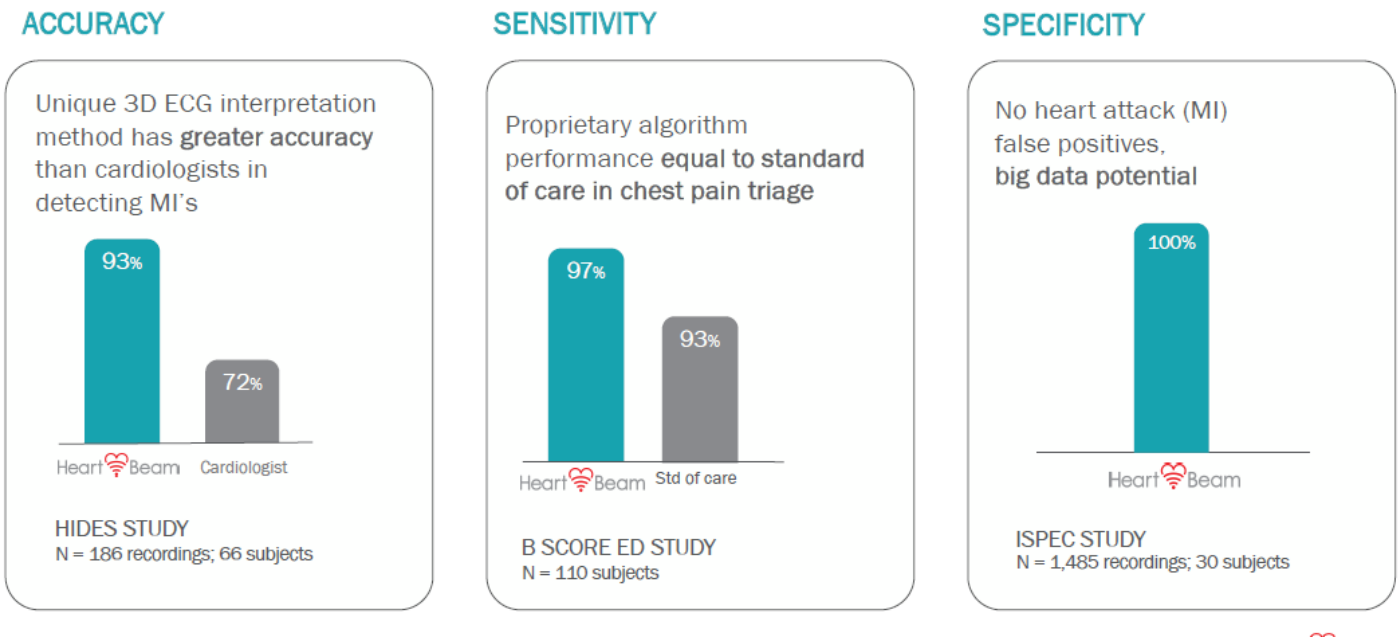
1. **A credit card-sized cardiac electrical signal collection device**. The device captures cardiac signals that represent x, y, and z projections of the heart vector and transmits them via Bluetooth connection to a smartphone. It is always with the patient as it easily fits in a wallet. It is easy to use as all that is required of the patient is that the device is pressed against the chest.

2. **A smartphone application that receives the cardiac signals from the HeartBeam signal collection device**. The app has several functions: guiding the patient through the signal collection, asking about symptoms, displaying the status of the data collection, and notifying the patient of the plan of action as determined by a physician. In addition, the app will contain HIPAA-compliant video conferencing or text capabilities for the healthcare provider to communicate directly with the patient.

3. **A cloud-based software system that serves three basic functions**: (1) Performing a final check of the ECG signal quality, (2) Synthesizing a 12-lead ECG from the measured (recorded) 3 vector leads, and (3) Preparing a summary report for the physician. In order to facilitate a more accurate physician interpretation of the data, the software overlays the patient's synthesized baseline 12 lead ECG waveform on the synthesized 12 lead ECG waveform from the current event. To ensure high signal quality, the system checks for noise levels in the recorded signals. Those signals that can be effectively filtered are accepted, and those that have a noise level above an empirically established threshold are rejected. If a recorded signal is rejected, the user is asked to repeat the recording.

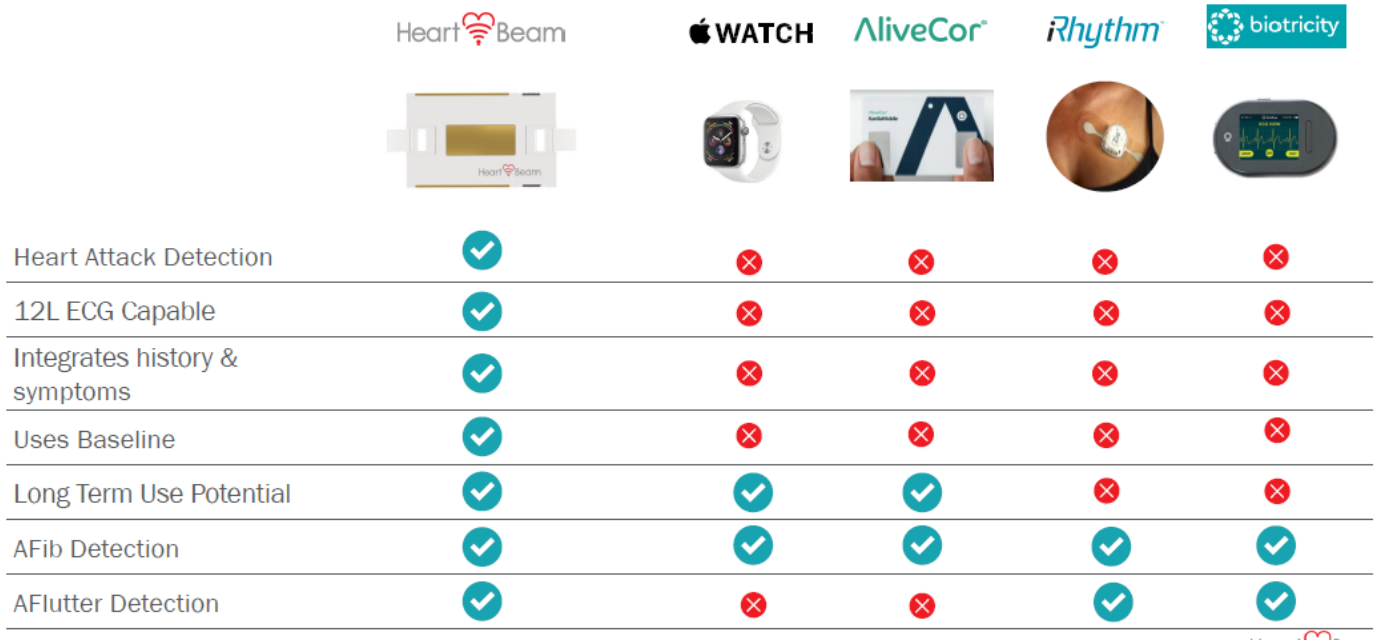
4. **A web-based physician portal**, which displays all of the relevant information for the physician to analyze: patient history, symptoms, baseline and current readings, synthesized 12-lead ECG and recorded three vector leads. The HeartBeam physician portal assists physicians with their diagnostic interpretation by providing both the baseline 12-lead synthesized ECG and the 12-lead synthesized ECG that is under evaluation.

**Exhibit 3. It Works & it works well.**




*Source: HeartBeam*

**Exhibit 4. How Does it Compare to What Exists Today?**




| | HeartBeam | WATCH | AliveCor | iRhythm | biotricity |
|---|---|---|---|---|---|
| Heart Attack Detection | ✓ | ✗ | ✗ | ✗ | ✗ |
| 12L ECG Capable | ✓ | ✗ | ✗ | ✗ | ✗ |
| Integrates history & symptoms | ✓ | ✗ | ✗ | ✗ | ✗ |
| Uses Baseline | ✓ | ✗ | ✗ | ✗ | ✗ |
| Long Term Use Potential | ✓ | ✓ | ✓ | ✗ | ✗ |
| AFib Detection | ✓ | ✓ | ✓ | ✓ | ✓ |
| AFlutter Detection | ✓ | ✗ | ✗ | ✓ | ✓ |

*Source: HeartBeam*

**The Market Opportunity (*adapted from the company's filings*):** Electrocardiograms (ECGs) are key diagnostic tests utilized in the diagnosis and monitoring of cardiovascular disease and represent the number one cause of death worldwide. According to the company, in the U.S. (2016), there were 121.5 million adults living with cardiovascular disease and 18.3 million adults with diagnosed coronary artery disease (CAD). The market size is increasing with an aging population and lifestyle choices. Every 40 seconds, someone in the U.S. has a heart attack or myocardial infarction (MI). Unfortunately, there is no way for patients to tell whether the symptoms they are experiencing are due to an MI or some other more benign condition such as indigestion. As a result, patients often ignore symptoms and delay seeking care, which leads to worse outcomes and increased mortality. On the other hand, many patients who go to the Emergency Room with chest pain are not experiencing an MI. Chest pain is the second most common reason for an ER visit, yet fewer than 20% of chest pain ER visits result in a diagnosis of a life-threatening condition. These unnecessary ER visits lead to well over $10 billion in unnecessary healthcare expenditures.

Most ECGs are conducted in a healthcare facility setting using a 12-lead ECG machine, the gold standard. ECGs taken outside of healthcare facilities are expected to grow more quickly than in-hospital ECGs. Monitoring cardiac patients outside of a hospital is a fast-growing trend, as it is less expensive and provides a better patient experience. However, while ambulatory cardiac monitoring devices are often much easier for patients to use, they have fewer leads than the gold standard and therefore cannot offer as comprehensive a picture of cardiac health.

While a standard 12-lead ECG readout is of great medical value, it is simply impractical to have a machine next to patients when they experience symptoms outside the clinical setting since recording the event requires attaching multiple electrodes to the patient's body with professional assistance. While existing technologies use predominantly single lead ECG devices to monitor arrhythmias, these technologies do not provide information to the physician on the presence of life-threatening conditions of ACS or heart attacks.

The company's telehealth technology addresses these market needs and has several key attributes that make it a good fit for these patients. The telehealth Product is generally used when symptoms occur and offer the potential for lifelong patient usage. The device is always near the patient and ready to be used for recording a cardiac event. It enables real-time cardiac data transmission during a telemedicine visit. It offers a recorded three vector lead set of signals and a 12-lead derived ECG set of signals. Physicians will typically prescribe the product to chronic cardiovascular patients for long-term monitoring, thereby enabling prolonged data collection and delivering a complete picture for diagnosis. This will also enable the use of artificial intelligence on our future database that will have a unique set of longitudinal 12-lead ECGs for patients.

**The Business Model:** In the short term, the goal is to drive the Remote Patient Monitoring (RPM) market where there are already reimbursement codes. The company's Generation 1 telehealth Product should be compelling versus existing Remote Patient Monitoring (RPM) technologies as it is uniquely positioned to assess Acute Coronary Syndrome (ACS) and heart attacks among high-risk cardiac patients. In the longer term, the company plans to conduct additional clinical trials that demonstrate the clinical efficacy and cost-effectiveness of the next generation, a full-featured Generation 2 Product. The plan is then to secure a new CPT code and reimbursement specific to the Generation 2 telehealth solutions value advantage.

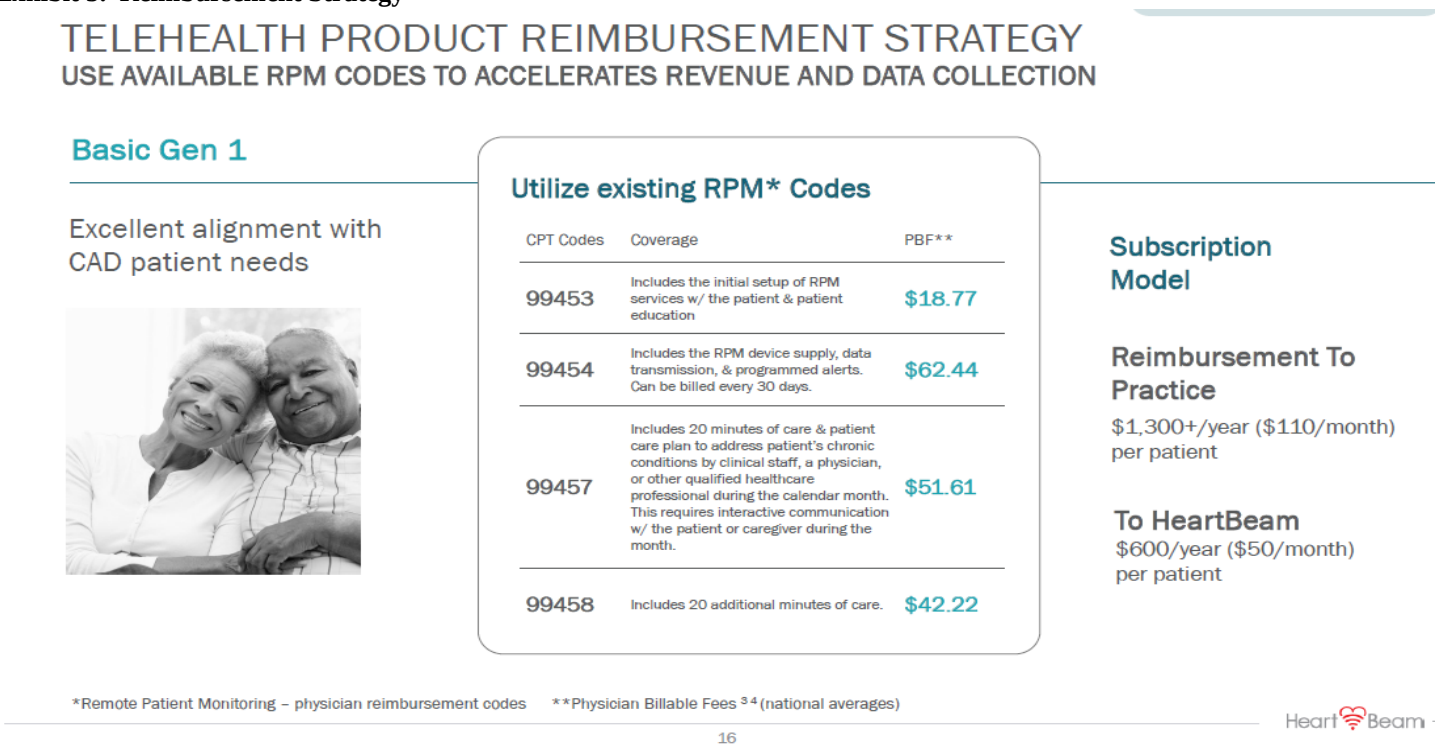
Existing RPM Codes: These codes pay practices for providing covered services. The main RPM codes relevant for our Generation 1 telehealth Product are:

- CPT 99453: Remote monitoring of physiologic parameter(s), initial; set-up, and patient education on the use of equipment
- CPT 99454: Remote monitoring of physiologic parameter(s), initial; device(s) supply with daily recording(s) or programmed alert(s) transmission, each 30 days
- CPT 99457: Remote physiologic monitoring treatment management services, clinical staff/physician/ other qualified health care professional time in a calendar month requiring interactive communication with the patient/caregiver during the month; initial 20 minutes
- CPT 99458: Remote physiologic monitoring treatment management services, clinical staff/physician/ other qualified health care professional time in a calendar month requiring interactive communication with the patient/caregiver during the month; additional 20 minutes

CPT 99453 is paid one time per patient, with the average CMS payment rate of $21. The technical code CPT 99454 and the professional code CPT 99457 are paid monthly, with a combined average CMS payment rate of $119, which is what we model. Private payers may pay in different amounts. We anticipate practices can bill payers for monthly services related to the core HeartBeam telehealth product bundled with other products. Under this model, the company will negotiate with payers for a per patient per month fee for the ongoing HeartBeam telehealth service, which also will include an amortized charge for the cost of the device.

A Well Defined but Narrow Market that can be covered with a small sales force. We expect the company will develop a direct sales force for its telehealth products targeting large hospitals and integrated practices. The cardiology world is sophisticated and will require data. These sophisticated customers expect to see technical presentations, peer-reviewed clinical data, and product demonstrations to develop comfort with the product.

**Exhibit 5. Reimbursement Strategy**




*Source: HeartBeam*

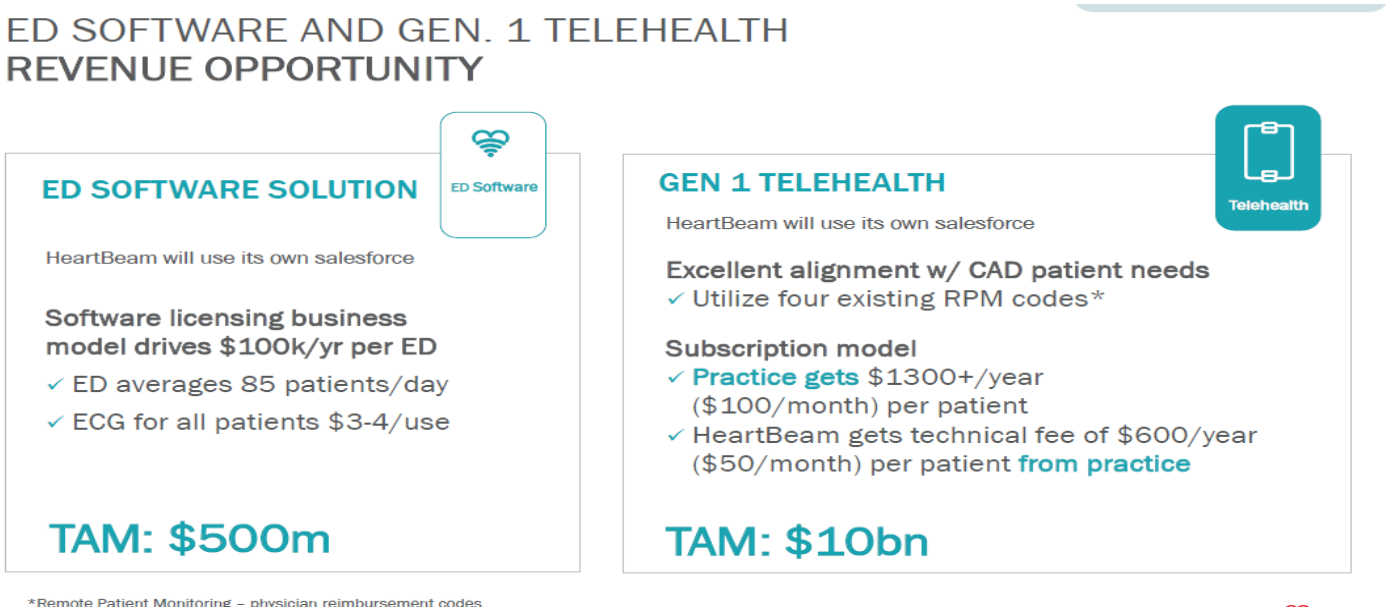
**Market Strategy:** The telehealth product is set to be marketed to 5,000 U.S. cardiologists and other physicians as a device with unique diagnostic capabilities (i.e., ACS and heart attack detection for high-risk patients) that are reimbursable under the existing physician fee schedule for remote patient monitoring. As a result, this allows the practices to capture additional revenues not being acquired today and to support better patient outcomes across the practice. We believe a relatively small targeted salesforce can help drive product adoption. The hospital-based ER product is expected to be commercially available in 3Q22. The initial market strategy plans to leverage current clinical relationships where there is already a high degree of familiarity and comfort with the intelligent software.

**Clinical Data. The company has conducted several clinical studies to assess the performance of its technologies.**

1. In the first n=129 patient study (HeartBeam Ischemia Detection Study — HIDES), the company collected electrical signal data on patients whose coronary arteries were occluded during a Percutaneous Coronary Intervention (PCI), using a traditional 12-lead ECG and our vector signal-based device simultaneously. The VCG-based signal interpretation system had significantly (21%) higher accuracy in detecting ischemia.
2. In a second study (B Score), n=110, the HeartBeam diagnostic engine, using ECG, symptoms, and history, matched the diagnostic performance of expert cardiologists in detecting the presence of MIs in patients presenting to an ER with chest pain. This result indicates that the quality of the diagnostic advice produced by our expert system will be extremely valuable to the physician who is assessing the condition of a patient in a telehealth environment. The sensitivity of the HeartBeam algorithm was 97% (27/28) and specificity was 56% (45/81), and the cardiologist panel was 93% and 49%, respectively.
3. The third study, ISPEC (1845 recordings), assessed the false positive rate for non-symptomatic patients, which is relevant in a telehealth situation. It is important that the system have a low false positive rate when patients are conducting baseline recordings, which are required on at least a monthly basis. The study yielded no false positives.

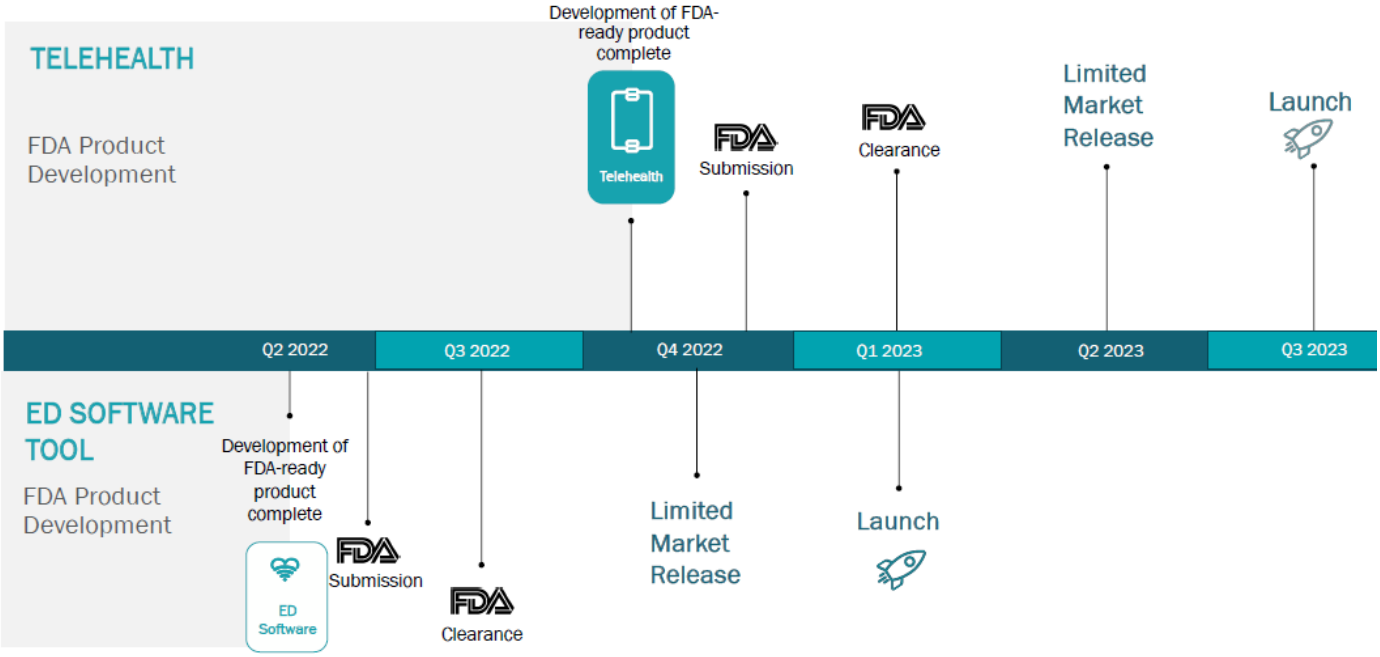
**These studies are being prepared for peer-reviewed publication.**

**Exhibit 6. The Revenue Opportunity is Large**




*Source: HeartBeam*

**Exhibit 7. The Timeline: Gen 1 Telehealth.** For the initial remote monitoring product – We expect it should be completed in 3Q22, followed by submission to the FDA in 4Q, and 510(k) clearance expected in 1Q23. This will be immediately followed by a limited market release and then a commercial launch by mid-2023. For the second product, the ER Software: HeartBeam plans to submit its ER software tool to the FDA this year and expects to have FDA clearance by late 3Q/early 4Q with a limited market release planned for 4Q and a full commercial launch in 1Q23.




*Source: HeartBeam*

**Exhibit 8. The Pipeline:** We expect to see a "Gen 2" Telehealth product that will build on the existing platform. The focus of this product will be on product enhancements around data and prediction supporting its diagnostic value. This should yield revised reimbursement codes reflecting this value. We expect to see an enhanced AI-based diagnostic system as part of the ongoing product development efforts. A 12-lead capable patch ECG monitor is in development too. This should have advantages over existing single-lead ECG patch devices.


*Source: HeartBeam*

**Intellectual Property:** HeartBeam has three issued patents, three pending U.S. utility patent applications, and two pending provisional applications. The patent expirations don't begin until 2036.

**A "Simple" Product Model & Assumptions Suggest a Big Opportunity:**

1. Our "simple model" is based on our understanding of the patient prevalence and the number of decision-makers (5,000 cardiologists and 5,000 Emergency Rooms) who make purchase decisions.
2. For Remote Patient Monitoring (RPM), we assume a price of $1,400 plus annually with increases over time. For the 5,000 Emergency rooms nationwide, we assume a $100,000 annual license fee. Our market size is partly based on the 18M patient prevalence.
3. We assume a modest COGS of 20% initially, eventually coming down to just 10%

**Simplified Product Models**

| VCG - TeleHealth - US | 2023E | 2024E | 2025E | 2026E | 2027E | 2028E | 2029E | 2030E |
|---|---|---|---|---|---|---|---|---|
| U.S. Prevalance Patients across 5,000 cardiologists w/CAD | 18,000,000 | 18,126,000 | 18,252,882 | 18,380,652 | 18,509,317 | 18,638,882 | 18,769,354 | 18,900,740 |
| U.S. Cardiologists | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 | 5,000 |
| Patients per Doctor | 3,600 | 3,625 | 3,651 | 3,676 | 3,702 | 3,728 | 3,754 | 3,780 |
| Patients Qualified for Remote Monitoring | 1,080 | 1,088 | 1,095 | 1,103 | 1,111 | 1,118 | 1,126 | 1,134 |
| Percent of Patients Who Opt for RM | 0% | 1% | 5% | 10% | 15% | 25% | 32% | 37% |
| Patients Per Cardiologist | - | 11 | 55 | 110 | 167 | 280 | 360 | 420 |
| Annual remote Monitoring Fee | 1,400 | 1,400 | 1,428 | 1,499 | 1,544 | 1,606 | 1,622 | 1,655 |
| Price Change | | 1% | 2% | 5% | 3% | 4% | 1% | 2% |
| Revenue ($) Per Cardiologist | - | 15,226 | 78,195 | 165,360 | 257,269 | 449,055 | 584,602 | 694,291 |
| Total Annual Revenues ($M) | - | 21 | 112 | 248 | 397 | 721 | 948 | 1,149 |
| Risk adjustment | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% |
| **Risk Adjusted U.S. Revenue ($M)** | **$ -** | **$ 15** | **$ 78** | **$ 174** | **$ 278** | **$ 505** | **$ 664** | **$ 804** |

| Tele-Health : VCG - SMART ER Software - US | 2023E | 2024E | 2025E | 2026E | 2027E | 2028E | 2029E | 2030E |
|---|---|---|---|---|---|---|---|---|
| **Emergency Room Adopters** | 5,000 | 5,035 | 5,070 | 5,106 | 5,141 | 5,177 | 5,214 | 5,250 |
| Market penetration | | 0.50% | 5.00% | 10.00% | 15.00% | 20.00% | 25.00% | 33.00% |
| Annual License Fee | $ 100,000 | $ 101,000 | $ 102,010 | $ 103,030 | $ 104,060 | $ 105,101 | $ 106,152 | $ 107,214 |
| Increase in price | 1% | 1% | 1% | 1% | 1% | 1% | 1% | 1% |
| **Sales ($M)** | **$ -** | **$ 3** | **$ 26** | **$ 53** | **$ 80** | **$ 109** | **$ 138** | **$ 186** |
| Probability of Success | 30% | 30% | 30% | 30% | 30% | 30% | 30% | 30% |
| **US Revenue ($M)** | **$ -** | **$ 2** | **$ 18** | **$ 37** | **$ 56** | **$ 76** | **$ 97** | **$ 130** |

*Source: Dawson James*

**Valuation:** Our valuation for HeartBeam is based on revenue projections out to 2030. We know the market itself is quite large. To adjust for the associated risks, not just with approval but a successful product launch, we apply just a 30% risk cut in our therapeutic models. The subsequent revenues are then fed into our income statement. To the income statement metrics, we then model a target valuation. We assume the company does raise additional capital, and as such, our valuation math is based on the 2030 fully diluted share count. We assume rising SG&A and R&D as the company commercializes its products and expands its pipeline, coupled with an improving cost of goods sold (COGS) initially at 20% and at scale falling to just 10%. Our valuation models: Free Cash Flow to the Firm (FCFF), discounted EPS (dEPS), and Sum-of-the-Parts (SOP), use a 30% discount rate. This is in addition to the 30% risk cut in our revenue models. We select 30% for micro-capitalized growth companies, and this represents our highest risk rate. The result of these three models is then equal-weighted and averaged and rounded to the nearest whole number to provide a 12-month target price.

### Exhibit 9. Free Cash Flow Model

| | | |
|---|---|---|
| | Average | $ 12 |

| | | |
|---|---|---|
| | Price Target | $ 11 |
| | Year | 2022 |

**DCF Valuation Using FCF (mln):**

| units ('000) | 2022E | 2023E | 2024E | 2025E | 2026E | 2027E | 2028E | 2029E | 2030E |
|---|---|---|---|---|---|---|---|---|---|
| EBIT | (8,946) | (9,395) | (1,888) | 52,013 | 136,720 | 244,900 | 465,120 | 637,493 | 792,701 |
| Tax Rate | 0% | 0% | 0% | 10% | 15% | 25% | 30% | 35% | 38% |
| EBIT(1-t) | (8,946) | (9,395) | (1,888) | 46,812 | 116,212 | 183,675 | 325,584 | 414,370 | 491,475 |
| CapEx | 348 | - | - | - | - | - | - | - | - |
| Depreciation | 159 | - | - | - | - | - | - | - | - |
| Change in NWC | | | | | | | | | |
| FCF | (8,439) | (9,395) | (1,888) | 46,812 | 116,212 | 183,675 | 325,584 | 414,370 | 491,475 |
| PV of FCF | (8,439) | (7,227) | (1,117) | 21,307 | 40,689 | 49,469 | 67,453 | 66,037 | 60,250 |

| | | |
|---|---|---|
| Discount Rate | 30% | |
| Long Term Growth Rate | 1% | |
| Terminal Cash Flow | 1,711,688 | |
| Terminal Value YE2030 | 209,835 | |
| NPV | 498,256 | |
| NPV-Debt | - | |
| Shares out (thousands) | 46,019 | 2030E |
| NPV Per Share | $ 10.83 | |

*Source: Dawson James estimates*

### Exhibit 10. Discounted EPS Model

| | | |
|---|---|---|
| Current Year | | 2022 |
| Year of EPS | | 2030 |
| Earnings Multiple | | 10 |
| Discount Factor | | 30% |
| Selected Year EPS | $ | 10.68 |
| NPV | $ | 13.09 |

Source: Dawson James estimates

| | Discount Rate and Earnings Multiple Varies, Year is Constant 2030 EPS | | | | | |
|---|---|---|---|---|---|---|
| Earnings Multiple | 13.1 | 5% | 10% | 15% | 20% | 25% | 30% |
| 5 | **$36.14** | $24.91 | $17.46 | $12.42 | $8.96 | $ 6.55 |
| 10 | $72.29 | $49.82 | $34.91 | $24.84 | $17.92 | $ 13.09 |
| 15 | $108.43 | $74.73 | $52.37 | $37.26 | $26.88 | $ 19.64 |
| 20 | $144.57 | $99.65 | $69.83 | $49.68 | $35.84 | $ 26.18 |
| 25 | $180.72 | $124.56 | $87.28 | $62.10 | $44.79 | $ 32.73 |
| 30 | $216.86 | $149.47 | $104.74 | $74.51 | $53.75 | $ 39.28 |
| 35 | $253.00 | $174.38 | $122.20 | $86.93 | $62.71 | $ 45.82 |
| 40 | $289.14 | $199.29 | $139.65 | $99.35 | $71.67 | $ 52.37 |

*Source: Dawson James estimates*

### Exhibit 11. Sum-of-the-Parts Model

| Heart Beam | LT Gr | Discount Rate | Yrs. to Mkt Peak | % Success | Peak Sales MM's | Term Val |
|---|---|---|---|---|---|---|
| Monitor | 1% | 30% | 5 | 70% | $912 | $3,144 |
| NPV | | | | | | $10.31 |
| Software | 1% | 30% | 7 | 70% | $186 | $641 |
| NPV | | | | | | $1.24 |
| Net Margin | | | | | | 80% |
| MM Shrs OS (2030E) | | | | | | 46 |
| Total | | | | | | $12 |

*Source: Dawson James estimates*

**Risks to our thesis include** 1. Regulatory Approvals; 2. Clinical Science 3. Adoption Rates 4. The competitive landscape 5. Intellectual Capital 6. Dilution

- **Regulatory Approvals**. The company's products require regulatory approvals, and there can be no assurances that the requirements to achieve these approvals can be met.
- **Clinical Science:** The company will need to demonstrate to its "sophisticated" clients (cardiologists) that the product works and is comparable to the existing standard of care.
- **Adoption Rates**: There are no assurances that our projected market share can be met. A combination of factors from pricing and reimbursement to competitive performance are expected to be key factors in driving users to select the product for both their practices, patients, and the emergency room setting.
- **The Competitive Landscape & IP**. The company does have intellectual property and knows how to protect the utility of its devices and software; however, we expect that the technology cycle is competitive, and the company may face competition from well-financed competitors who are already in position in the target markets.
- **Dilution**: The company is likely to incur losses for the foreseeable future until it is able to generate sufficient revenue from product sales. Our model assumes a rising share count. There can be no assurances that the company can successfully raise the capital required to execute its business strategy.

## Exhibit 12. Income Statement

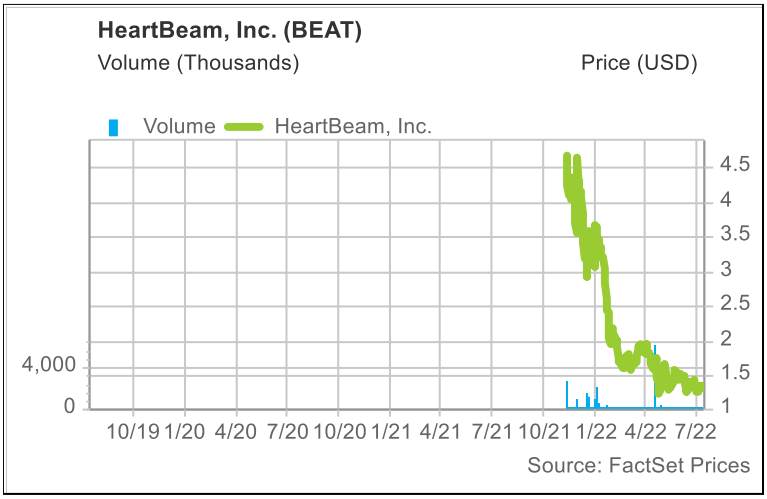
| Heart Beam: Income Statement ($000) | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| .: YE December 31 | 2022E | 1Q23E | 2Q23E | 3Q23E | 4Q23E | 2023E | 1Q24E | 2Q24E | 3Q24E | 4Q24E | 2024E | 2025E | 2026E | 2027E | 2028E | 2029E | 2030E |
| **Product sales** | | | | | | | | | | | | | | | | | |
| ED Software | | - | - | - | - | - | 409 | 427 | 445 | 498 | 1,780 | 18,103 | 36,823 | 56,178 | 76,182 | 96,853 | 130,028 |
| ECG Monitor | | - | - | - | - | - | 3,432 | 3,581 | 3,730 | 4,178 | 14,921 | 78,164 | 173,558 | 278,125 | 504,877 | 663,846 | 804,172 |
| **Total Product Sales** | - | - | - | - | - | - | 3,841 | 4,008 | 4,175 | 4,676 | 16,701 | 96,267 | 210,381 | 334,303 | 581,059 | 760,699 | 934,200 |
| **Expenses** | | | | | | | | | | | | | | | | | |
| COGS | | | | | | | 768 | 802 | 835 | 935 | 3,340 | 19,253 | 33,661 | 46,802 | 69,727 | 76,070 | 93,420 |
| COGS % | | | | | | | 20% | 20% | 20% | 20% | 20% | 20% | 16% | 14% | 12% | 10% | 10% |
| General & Adminastrative | 5,914 | 1,490 | 1,428 | 1,615 | 1,677 | 6,210 | 2,880 | 2,760 | 3,120 | 3,240 | 12,000 | 18,000 | 30,000 | 30,600 | 31,212 | 31,836 | 32,473 |
| Research and Development | 3,034 | 765 | 733 | 828 | 860 | 3,186 | 780 | 747 | 845 | 877 | 3,249 | 7,000 | 10,000 | 12,000 | 15,000 | 15,300 | 15,606 |
| **Total expenses** | 8,948 | 2,255 | 2,161 | 2,443 | 2,537 | 9,395 | 4,428 | 4,309 | 4,800 | 5,053 | 18,590 | 44,253 | 73,661 | 89,402 | 115,939 | 123,206 | 141,499 |
| Operating Income (Loss) | (8,948) | (2,255) | (2,161) | (2,443) | (2,537) | (9,395) | (587) | (301) | (625) | (376) | (1,888) | 52,013 | 136,720 | 244,900 | 465,120 | 637,493 | 792,701 |
| Finance income | | | | | | | | | | | | | | | | | |
| Finance expenses | 2 | | | | | | | | | | | | | | | | |
| **Total other income** | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **Pretax Income** | (8,946) | (2,255) | (2,161) | (2,443) | (2,537) | (9,395) | (587) | (301) | (625) | (376) | (1,888) | 52,013 | 136,720 | 244,900 | 465,120 | 637,493 | 792,701 |
| change in fair value of cash flow hedge | | | | | | | | | | | | | | | | | |
| Income Tax Benefit (Provision) | - | - | - | - | - | - | - | - | - | - | - | 5,201 | 20,508 | 61,225 | 139,536 | 223,123 | 301,227 |
| Tax Rate | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 10% | 15% | 25% | 30% | 35% | 38% |
| **GAAP Net Income (loss)** | (8,946) | (2,255) | (2,161) | (2,443) | (2,537) | (9,395) | (587) | (301) | (625) | (376) | (1,888) | 46,812 | 116,212 | 183,675 | 325,584 | 414,370 | 491,475 |
| | | | | | | | | | | | | | | | | | |
| **GAAP-EPS** | (0.97) | (0.14) | (0.13) | (0.10) | (0.10) | (0.47) | (0.02) | (0.01) | (0.02) | (0.01) | (0.08) | 1.86 | 4.59 | 7.23 | 12.77 | 16.19 | 19.12 |
| GAAP EPS (dil) | (0.72) | (0.09) | (0.08) | (0.07) | (0.07) | (0.31) | (0.02) | (0.01) | (0.02) | (0.01) | (0.05) | 1.24 | 2.96 | 4.50 | 7.66 | 9.37 | 10.68 |
| Wgtd Avg Shrs (Bas) - '000s | 10,067 | 16,016 | 16,032 | 25,000 | 25,025 | 20,518 | 25,050 | 25,075 | 25,100 | 25,125 | 25,088 | 25,188 | 25,289 | 25,390 | 25,492 | 25,594 | 25,697 |
| Wgtd Avg Shrs (Dil) - '000s | 12,372 | 25,250 | 25,503 | 35,000 | 35,350 | 30,276 | 35,704 | 36,061 | 36,421 | 36,785 | 36,243 | 37,714 | 39,246 | 40,839 | 42,497 | 44,223 | 46,019 |

*Source: Dawson James estimates, company reports*

Companies mentioned in this report:

**Important Disclosures:**

**Price Chart:**




Price target and ratings changes over the past three years:
Initiated – Buy – July 25, 2022 – Price Target $12.00

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Current as of 25-Jul-22

| | Company Coverage | | Investment Banking | |
|---|---|---|---|---|
| **Ratings Distribution** | # of Companies | % of Total | # of Companies | % of Totals |
| Market Outperform (Buy) | 30 | 68% | 4 | 13% |
| Market Perform (Neutral) | 14 | 32% | 0 | 0% |
| Market Underperform (Sell) | 0 | 0% | 0 | 0% |
| Total | 44 | 100% | 4 | 9% |

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