项目简介 A Brief Summary

Founded in 2003, PhysioSign is headquartered in California, USA and in Shanghai, China. The United States houses the main research and development scientific team. China's main role is R&D, implementation of manufacturing, production, sales, clinical, animal, registration, regulatory, website service center (real-time network of instruments) etc. After more than 15 years of endearment, the company finally recorded the electrophysiological signals of the heart in animals for the first time in 2015 (the first time in medical history) and in humans for the first time in 2016 (the first time in medical history). The Product has obtained: CFDA & CE.

A 核心专利与发明 Core Patents and Inventions

*首次在人类体表扫描记录到新心脏标志物[电生理信号].(解释:心脏是携带微电器官,只有电生理是直接的心脏标志物,而心超,CT,MRI 是动力学,结构学,影像学,不能检测心脏电活动.) 首次在传统 ECG(1903年至今没有发展)的波形内,扫描记录到心脏内解剖组织电位。

***For the first time in history, a new cardiac marker (electrophysiological signal) was recorded on a human body surface scan.** (Explanation: The heart is a micro-electrical organ. Electrophysiology is the only direct cardiac marker; CT and MRI are dynamic, structure Learning, imaging, and cannot detect cardiac electrical activity.) For the first time in history, in the waveform of the traditional ECG (not evolved since 1903), a scan recorded the anatomical tissue potentials in the heart.

**首次将心脏波形(形态学)实现了量化数据化.无创心电波形是定性学诊断,量化数据是定量学诊断.
心电图之所以是唯一的经验学,就因为是形态波形,每个医生阅读,理解,判断不一样.困惑了 100 多年.

**** For the first time in history, the heart waveform (morphology) was quantified. The non-invasive ECG waveform is a qualitative diagnosis, and quantitative data results in quantitative diagnosis.**

The reason why the electrocardiogram is based on experience, is because it is a morphological waveform. Each doctor reads, understands, and judges differently according to their experience level. This level of confusion and misunderstanding has existed for over 100 years.

***首次实现了**类脑智能**。之所以会与所有的**人工智能**不一样，是因为本核心技术能扫描记录到传统心电图没有显示的电信号，这些解剖组织的信号都是具体不同疾病的发生部位。**类脑智能**是靶标技术（靶向标测技术），因此超过任何公司的所谓**人工智能**(名词而已)。

***** For the first time in history, Luminary Intelligence (LI) has been realized.**

The reason why this is different from all other artificial intelligence (AI) is that its core technology can scan and record the electrical signals that are not displayed by traditional ECG. The signals of these anatomical tissues are the specific sites of different diseases. Human brain intelligence is a targeting technology (targeted mapping technology) and, therefore, exceeds any other company's so-called artificial intelligence.

****实现了传统 ECG 能记录到的，也实现了传统 ECG 不能记录到的。实现了有创电生理能记录到的，也实现了有创电生理不能记录到的。

**** **Our technology can obtain the signals recorded by traditional ECG; it can obtain the signals which cannot be recorded by traditional ECG.** Our technology can obtain the signals recorded by traditional invasive electrophysiology; it which obtain the signals that cannot be recorded by invasive electrophysiology.

***** 已经获得的专利 **Obtained Patents in USA**

专利的范围,从基础→创新理论→验证理论→科学论证→特殊技术→单项功能→各种产品, 综合性专利。

Scope of patents, basics → innovation theory → verification theory → scientific argument → special technology → single function → various products, comprehensive patents.

*首次创造发明了新心脏定律(专利)。

*First creation of a new cardiac law (patent).

*首次创造发明了正弦波新定理(专利)。

*First new sine wave theorem (patent) was invented.

*首次创造发明了验证了传统心电图公式(专利)。ECG 自发明以来没有科学公式证明。

*First invention to validate the traditional ECG formula (patent). ECG has not been proven by scientific formula since its invention.

*首次创造发明了心脏电生理模型(专利)。

*First creation of a cardiac electrophysiological model (patent).

*首次开天辟地创造发明了"新心电图仪" (专利)。被认为不可能而变成了现实。

*First creation of the "new electrocardiograph" (patent). Once considered impossible, is now a reality.

*首次创造发明了类脑智能(专利)。全新的不使用数据库的人工智能新方法。

*First invention of "human-like intelligence" [HI], or call "Luminary Intelligence" [**LI**]. An entirely new approach to artificial intelligence which does not rely on databases (patent).

*首次创造发明了无创体表电生理方法检测心脏自律传导系统的技术(杜绝应用此方法再发明专利)。

*For the first time, the invention of the non-invasive electrophysiological method for detecting the cardiac autonomous conduction system was invented (the patent for this method was not re-invented any more).

*首次创造发明了体表检测心内膜心外膜的新方法(专利)。
*For the first time, a new method (patent) for the detection of Endocardial and Epicardium by body surface scan was invented.

*首次创造发明了靶向标测心室内 10 层心肌的激动时间技术(专利)。
*First excitation time technique (patent) of the 10-layer myocardium in the ventricle was created.

*首次创造发明了应用靶标技术将 ST 段波形实现了全数字化量化技术(专利)。
*First creation application of the targeted technology to achieve ST-segment waveform full digital quantization technology (patent).

*首次创造发明了 5 种类型 3 个轴芯的 ST 段检测分析阅读判断新方法。
*First new method for reading and judging the ST segment detection analysis of five types of three axial cores was invented.

*首次创造发明了新 ST 段和 T 段的时程测量方法以及正常人数据值。
*First time-course measurement method and normalized human data values of the new ST segment and T segment were invented (patent).

*首次创造发明了扫描记录到 SAN, AVN, His bundle, Bundle branches 电位及波形(专利)。
*First creation invented the scan recordings of the SAN, AVN, His Bundle, Bundle Branches potentials and waveforms (patent).

*首次创造发明了 SCT 信号处理(专利)。
*Creation invention of SCT signal processing (patent).

*首次创造发明了“全新生命体征监护仪”(专利)。
*First invention of the "new vital sign monitoring" (patent).

*首次创造发明了“袖珍便携式听诊器式心电”检测仪(专利)。
*First invention of the "Pocket Portable Stethoscope ECG" detector device (patent).

*首次创造发明了“体表可视化 EpCG 电生理电图”检测仪(专利)。
*First invention of the "Surface Visualization EpCG Electrophysiological Electrograph" detector (patent).

*首次创造发明了“体表实时逐波希氏束电图”(专利)。
*First invention of "real-time, body surface beat-by-beat His Bundle electrogram" (patent).

*首次创造发明了“超小型口袋式蜂窝无线联网实时 Holter 监测仪”(专利)。
*First invention of the "ultra-small pocket cellular wireless networking real-time Holter monitor" (patent).

B 研究开发团队 Research and Development Team

研发团队聚集了顶尖关键人才，二位数学家，一位是全球屈指可数的三位中的一位，在数学上有重大发明，尤其是信号处理，微分方程，拓扑学等世界数学十大领域中解决了部分难题。心脏界人才，攻克了几个世纪以来的难题，理论的缺陷，纠正了正弦波二种理论，心脏电生理模型等。微电子芯片嵌入人才，软硬件结合等 5 位顶级人才，都在公司任职 15 年以上，团队团结稳定。每天在不断创新。

The team is made up of various key talents including two top mathematicians (one of which is considered top 3 in the world, has significant inventions in the field of mathematics, specifically in signal processing, differential equations, topology and other global mathematics top ten fields). Through significant perseverance, they have corrected two theories of sine waves, which include inherent theoretical flaws which have been studied over for centuries by the world's scientists. The rest of the team consists of 5 top talents in the fields of software, hardware, and embedded systems. They have been with the company for more than 15 years. This team is a staple core of the company, which continues to make daily innovations.

C 引起了重要组织的关注 Attracted the Attention of Important Organizations

*受到诺贝尔奖组织委员会的青睐，有可能进入诺贝尔奖的候选人名单。

*Favored by the Nobel Prize Organizing Committee; it is a possibility to enter the Nobel Prize list of candidates.

*被选为中央卫生部全国培养教育中心心脏无创技术培训主讲单位。

*It was selected as the key non-invasive technical training unit of the National Education and Education Center of the Central Ministry of Health.

*被 3 个国家科学院/工程院院士的提携和推荐。

*It was promoted and recommended by three national academicians.

*医院申报研究课题，依靠本项目仪器，已经得到了重大科学研究项目基金共计 12 个。

*The hospital applied for research projects and has received 8 major national scientific research project funds relying on the instrument of this project.

*已经发表了 13 篇论文，其中 7 篇在国外著名影响杂志发表。

*Thirteen papers have been published on this device, including seven of which were published in famous foreign influential magazines.

*得到 FDA 的关注，可以检测心脏药物的疗效，FDA 其目的是检测药厂的药物真实疗效。
*Attracts the attention of the FDA to test the efficacy of heart drugs. The purpose of the FDA is to detect the true efficacy of the drug in pharmaceutical plants.
*引起大药厂的关注，可以研究心脏各种疾病的靶向药物。
*Attracts the attention of large pharmaceutical companies to study the effects of targeted drugs for various diseases of the heart.

D 潜在客户 Potential customers

在中国已经销售了 85 台仪器，特三甲徐州二院，301 医院，新桥医院，齐鲁医院，等大型医院。
In China, 85 instruments have been distributed to specific hospitals, including the following: special top ClassA hospitals, 301 hospital, Xinqiao hospital, Qilu hospital, and other various large hospitals.

E 对全球心脏界的影响 Impact on the Global Cardiac Community

关于产品和技术:
在心电图上的再发明。医疗仪器总共仅有三个产品得到过诺贝尔奖，(ECG,1924 年。CT, 1976 年。MRI, 2003 年)。我们在技术上及原理上有百项创造发明，已经得到多项美国专利。
Products and Techniques:
Reinvention of the Electrocardiogram [ECG]. In total, only three medical devices have ever won a Nobel Prize, ECG (1924), Computed Tomography [CT], (1976), and MRI (2003). Our devices have led to hundreds of inventions in technology and principle and received several American patents.

关于对心脏专业的影响:
在医学界目前只有 ECG 是形态学，仅有的一门经验学科(定性的诊断学方法)，而 ECG 又是最最常用的仪器，在临床上往往患者得到最终治疗结果后，方能确认 ECG 的阅读诊断是对？还是错？而本项目在不改变传统 ECG 的基础上，实现了(定量的诊断学方法)。这被人们认为是梦想。而我们将梦想变成了现实。有标准的量化数据，医生如果阅读化验报告单一样，可以增加诊断率，减少人为误差率。
Regarding the Impact of Cardiac Specialty:
In the medical field, the ECG is morphological and experiential (qualitative diagnosis method). The

ECG is the most commonly used medical instrument. In clinical practice, patients confirm whether the reading diagnosis of ECG is right or wrong only after they get the final treatment results. This project has realized quantitative diagnosis methods without changing the traditional ECG. This is considered a dream worth obtaining. We have turned our dreams into reality.

关于临床应用的影响:

第一，它能扫描记录到传统 ECG 没有显示的信号(波形)；第二，它能扫描记录到有创电生理的信号(参数)，PA interval, AH interval, HV interval。第三，它能扫描记录到有创电生理不扫描记录的参数，如: P 前波(SAN), AVN, BB, Purkinje' s 等。它如同 X-ray 之后再发明了 CT 和 MRI 一样的影响。

Impact of Clinical Implications:

Firstly, our device can scan and record signals (waveforms) not shown by conventional ECG's; second, it can scan and record invasive electrophysiological signals (parameters), PA interval, AH interval, HV interval. Third, it can scan and record the parameters that are not recorded in invasive electrophysiology, such as frontal wave of SAN, AVN, BB, Purkinje's, etc. It has the same effective results as seen in X-ray, followed by CT and MRI.

F 产品临床意义 Clinical Significance of the Product

关于对医生的益处:

它是 II 类医疗仪器，属于无创，方便，简单，实用，有效，普及面极广。医生能在阅读传统 ECG 同步阅读到更多的解剖部位信号(而且解剖部位可视化)，增加了形态波形可视化(创造了心脏科学里程碑式的新历史)。其次是将波形实现了量化数据化(创造了心脏科学崭新历史)。减少培训，缩短经验，提高检测率，增加诊断率，减少人为误差率。

Benefits Doctors:

This device is a class II medical device, which is non-invasive, convenient, simple, practical, effective and widely accessible. Doctors will be able to simultaneously read the anatomical parts of the signals separately (and anatomical site visualizations) along with the traditional ECG waveform, increasing the ability to visualize morphological waveforms (creating a new history in cardiac science). Another benefit is the realization of waveform quantitative data (creating a new history of cardiac science). Together, this will reduce human error, reduce training, shorten experience required, improve detection rate, and increase diagnostic rate. Traditional ECG is an experience-based discipline; expect it to change radically.

关于疾病的检出率:

将传统 ECG 对 CAD/AMI/ACS 的检测率只有 17~25% (AHA 官网报道)已经提高到 90~93% (动物实验，临床应用，文献报道)。对未发作的心动过速和心衰疾病，由原来 ECG 的 0%变成了 75~90%检测率。

Detection Rate of Diseases:

The detection rate of CAD / AMI / ACS by traditional ECG is only around 17~25% (as reported by AHA's official website); we have increased this detection rate to 90~93%. For silent tachycardia and heart failure, our detection rate is 75~90%, as opposed to impossible with the previous generation.

与传统技术比较:

最容易体现技术的先进性，如果人人都在制造同样的产品，而你确比其它制造商更加优秀，说明了技术的优势。saahECG 的传统 ECG 波形要比任何厂家要精准，拐角细腻，基本无圆弧角，信号失真更小。

Technology Comparison:

The easiest way to compare our technology with others, is by comparing the traditional ECG waveform itself. The saahECG's traditional ECG waveform is more accurate than its competitors, containing finer cornering, far less arc angles, and less signal distortion.

G 对医疗产品的展望 Outlook for Medical Products

关于对其它产业的有望前景：

可以帮助研制心脏各种疾病的靶向药物。目前没有治疗心脏疾病的药物，如：窦房阻滞，房室传导阻滞，His bundle block, 恶性早搏等具体治疗心律失常的靶向药物，CAD, AMI, ACS, 等疾病的靶向药物。所有的有创和无创电生理系统的仪器，都需要更新和换代，是必然趋势。

Prospects for Other Industries:

[1] It can help in the development of targeted drugs for a variety of heart diseases. Currently, there are no drugs for the treatment of certain heart diseases, such as Sinus Block, Atrioventricular Block, Bundle of His Block. Other specific targeted drugs include the treatment of Arrhythmias, CAD, AMI, ACS, and other Cardiac diseases. [2] This will lead to an inevitable trend of updating and replacing all instruments of invasive and non-invasive electrophysiology.

H 关于颠覆性产业化革命：

项目具备唯一性，无竞争性，排他再专利性，杜绝无创电生理用这种方法的再发明的等等条件，另外还有具备更大产业化的专利产品，专利号：US Pat No. 10,117,635。Patent Pending: US App. No. 62/742,477。可以进军有创仪器行业，创造有创不能检测的部位，以及弥补有创不能自动测量的缺陷。

Industrial Revolution:

This project is unique, non-competitive, contains exclusive patents, and eliminates competing non-invasive electrophysiology methods in the same field of invention. In addition, there are more industrial patents underway: US Patent No. 10,117,635. Patent Pending: US Application. No. 62/742,477.

I 无法评估公司的价值方面：

海量人类心脏原始信号数据库。科学家团队(数学，物理，生物物理，心脏等方面的人才)。软件/硬件/嵌入式/平台等人才。首次将心脏建模成功。首次用公式证明了 ECG。首次实现了类脑智能。首次。。。。有超过几百个首次。许多项被全球认为不可能变成了实现而不是变成了可能。

Inability to Appraise the True Potential Value of the Company:

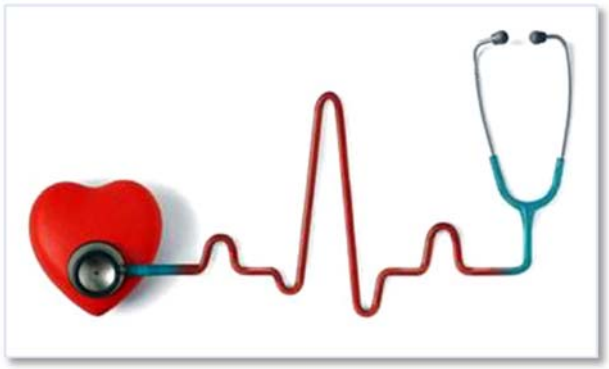
Contains a massive database of raw human cardiac signals. Our team of scientists specialize in mathematics, physics, biophysics, cardiologists, etc. The team also consists of software, hardware, embedded platform specialists, and R&D team. The heart was successfully, correctly modeled. The ECG was formulaically proven for the first time in history. Human-like Intelligence [HI] was realized and applied to our technology. There were many first time accomplishments in this project.

J 投资者的关注焦点：

具备超高回报率的产品，具有持续性的、排他性的、独家唯一的消耗品，以及仪器杜绝再发明的专利保护。以及其它无可估价的人类心脏原始数据库，动物实验数据库，电生理手术前后，植入支架前后，安置起搏器前后，药物前后，等等临床治疗前后数据库。

Investment Con**cerns:**

Products contain super high return rate, sustainability, exclusivity and exclusive specialized consumables. Also contains invaluable databases of human heart data, animal data, before and after electrophysiological surgery data, before and after stent implantation data, before and after pacemaker implementation data, before and after various drug signals, and before and after clinical treatment data. In the medical device industry, there is ceiling is the world's population. Our device is not designed only for inpatient care; it can be used for annual checkup procedures as well.



K 远景与愿量 Foresight and Planning

(a) 融资目的：为了降低成本、扩大生产、销售、全球产业化，迅速开拓中国市场。
Financing purposes: to reduce costs, expand production, sales, and global industrialization.

(b) 公司上股市市场（科创版等）或国外股市。[按双方要求商洽] 主要开拓目标：扩展中国市场，今后目标欧洲、美国及全球市场。
The company's stock going public (High Technology Stock). [Acquisition by both parties]

(c) 引入世界超强公司进行合作模式。
Main development goals: to expand the Chinese market and target the European and American markets in the future.

(d) 继续发展另外更具超大规模的心血管专业领域产品。
Continue to develop additional and more large-scale products in the field of cardiovascular specialty.

(e) 建筑人类心脏电生理原始信号资料库。(向全球开放)
Building a human heart electrophysiological raw signal database. (Open to the world).

(f) 建立国际心电生理实验室。
Establish an international ECG physiology laboratory.

(g) 有望研发靶向药物、靶向治疗、靶向检测、靶向监护等，实现全新医疗理念的实现。
It is expected to develop targeted drugs, targeted therapy, targeted detection, and targeted monitoring, etc. to achieve the realization of a new medical concept.

(h) 类脑智能自动靶向导航，靶向追踪检测，靶向实时监测定位，等等全新生代医学手段。
Luminary Intelligence (LI) = Nigh Human Intelligence (HI) automatic targeted navigation, targeted tracking detection, targeted real-time monitoring and positioning, etc.

(i) 进军有创心脏方面的仪器，将有创功能彻底改变。
Move into the invasive parameters of the instrument: completely change the invasive function.

(j) 打造进入世界 500 强行列企业。
Steer company into the ranks of the world's fortune 500 companies.

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