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守护 • 专业 • 诚实 • 持续

QIANYU

ALL-SCENARIO SOLUTIONS FOR SMART LIFE TECHNOLOGY

智慧生命科技 全场景解决方案

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SENSE EVERY MOMENT OF LIFE

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onesense-med.com

苏州工业园区和顺路33号1号楼

Building 1, No. 33 Heshun Road, Suzhou Industrial Park

[Version: QY202610-01]

千屿科技（苏州）有限公司

QIANYU TECHNOLOGY (SUZHOU) CO., LTD.

CARE • PROFESSIONALISM • INTEGRITY • PERSEVERANCE
守护 • 专业 • 诚实 • 持续

QIANYU

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Contactless dynamic ECG diagnostic and monitoring system

超高密度肌电采集分析系统
Ultra-high-density EMG acquisition and analysis system

神经交互手环
Neural interaction wristband

腕式低频神经刺激手环
Wrist-worn low-frequency nerve stimulation wristband

模块化混合密度电生理平台
Modular mixed-density electrophysiology platform

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SENSE EVERY MOMENT OF LIFE

Company Profile
企业简介



万瞬医学技术（苏州）有限公司
Onesense medical technology (Suzhou) co., ltd.
2021.09.08

千屿科技（苏州）有限公司
Qianyu technology (suzhou) co., ltd.
2025.03.12

上海千屿未来智能科技有限公司
Shanghai Qianyu Future Intelligent Technology Co., Ltd.
2025.12.23

主要业务 Core businesses

- 科研服务 Research services
- 高端科研装备 Advanced scientific research equipment
- 无感心肺监护 Contactless cardiopulmonary monitoring
- 闭环神经调控 Closed-loop neuromodulation
- 脑机接口 Brain–computer interface
- 神经交互 Neural interaction

千屿科技成立于2025年3月12日，是一家高端科研设备与创新医疗设备自主研发、生产及转化落地的硬科技企业。公司依托复旦大学和上海交通大学生物医学工程学科平台，围绕多模态生理信号采集、神经电生理分析、无感心肺监护、闭环神经调控、神经交互与脑机接口等方向，致力于将高校先进科研成果转化为医疗健康领域的产品与解决方案。

千屿科技旗下包含万瞬医学技术（苏州）有限公司、上海千屿未来智能科技有限公司两家全资子公司。2025年下半年起，千屿科技、万瞬医学、上海千屿未来智能科技有限公司共同组成集团化发展体系，形成“科研服务+科研设备”的科研板块、“创新医疗器械研发注册+临床研究服务”的医疗板块、”底层技术积累转化+前瞻技术探索”的技术研究板块。

随着技术的积累以及产品转化经验的提升，我们逐步确立“科研服务—科研装备—临床转化—规模化产品”的发展主线，推出科研服务、神经电生理采集分析、无感心肺监护、闭环神经调控、神经交互与脑机接口等协同发展的业务矩阵，持续推动生物医学工程技术从实验室走向临床、产业和真实应用场景。

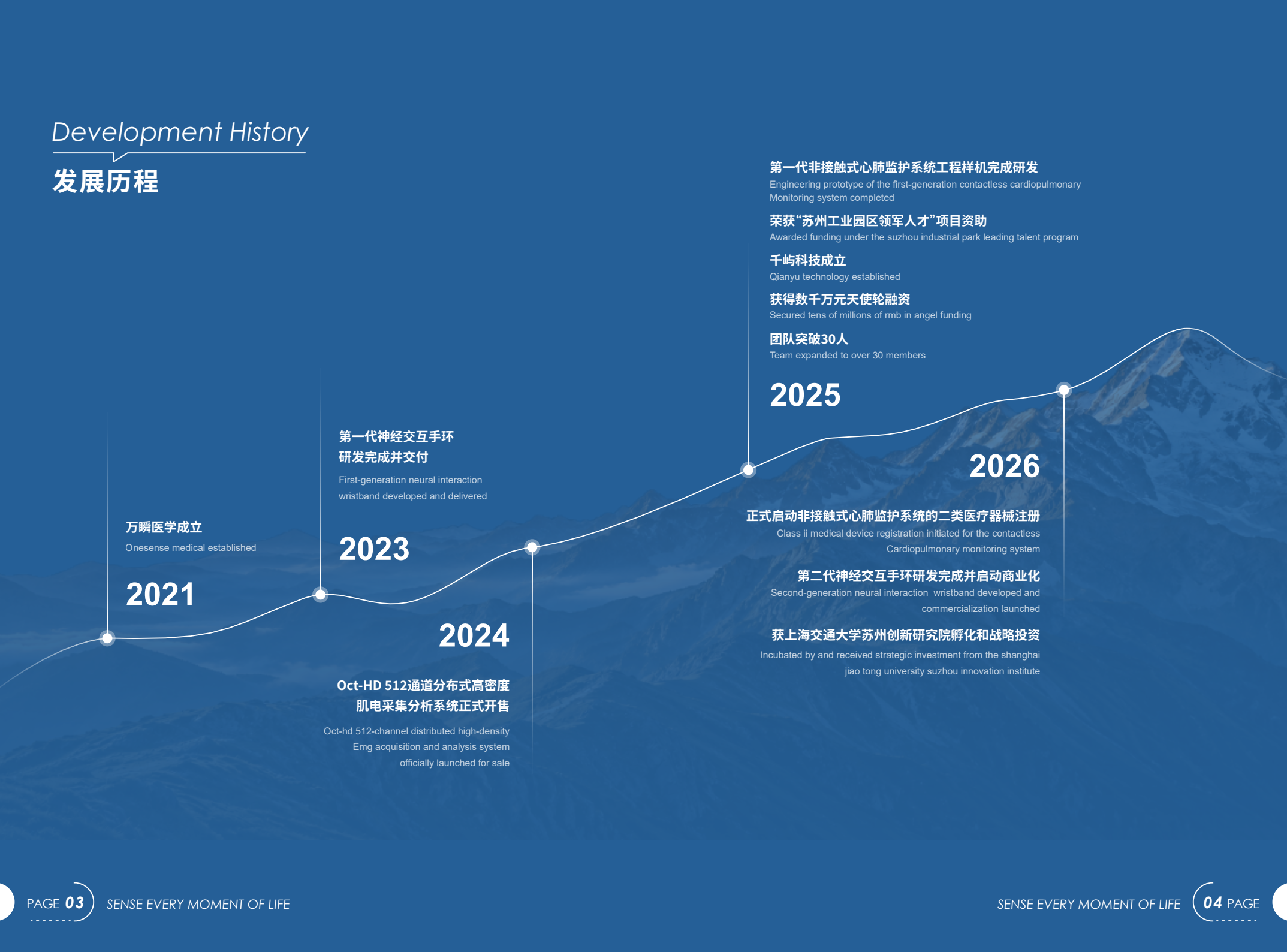
Qianyu Technology, established on March 12, 2025, is a deep-tech company specializing in the independent research, development, manufacturing, and commercialization of advanced scientific instruments and innovative medical devices. Leveraging the biomedical engineering platforms of Fudan University and Shanghai Jiao Tong University, the company focuses on multimodal physiological signal acquisition, neuroelectrophysiological analysis, contactless cardiopulmonary monitoring, closed-loop neuromodulation, neural interaction, and brain–computer interfaces. It is committed to transforming advanced university research into products and solutions for healthcare applications.

Qianyu Technology has two wholly owned subsidiaries: Onesense Medical Technology (Suzhou) Co., Ltd. and Shanghai Qianyu Future Intelligent Technology Co., Ltd. Since the second half of 2025, the three companies have operated as an integrated group. Its business structure comprises a scientific research division focused on research services and scientific equipment; a medical division dedicated to the R&D, regulatory registration, and clinical research of innovative medical devices; and an advanced technology division centered on foundational technology development, commercialization, and forward-looking research.

Building on its growing technological capabilities and product commercialization expertise, the company has established a development roadmap spanning research services, scientific equipment, clinical translation, and large-scale product deployment. Its integrated business portfolio encompasses research services, neuroelectrophysiological signal acquisition and analysis, contactless cardiopulmonary monitoring, closed-loop neuromodulation, neural interaction, and brain–computer interfaces. Through these complementary areas, Qianyu Technology continues to advance biomedical engineering technologies from the laboratory into clinical practice, industrial applications, and real-world settings.

Development History

发展历程



2021

万瞬医学成立

Onesense medical established

2023

第一代神经交互手环
研发完成并交付

First-generation neural interaction wristband developed and delivered

2024

Oct-HD 512通道分布式高密度
肌电采集分析系统正式开售

Oct-hd 512-channel distributed high-density Emg acquisition and analysis system officially launched for sale

2025

第一代非接触式心肺监护系统工程样机完成研发

Engineering prototype of the first-generation contactless cardiopulmonary Monitoring system completed

荣获“苏州工业园区领军人才”项目资助

Awarded funding under the suzhou industrial park leading talent program

千屿科技成立

Qianyu technology established

获得数千万元天使轮融资

Secured tens of millions of rmb in angel funding

团队突破30人

Team expanded to over 30 members

2026

正式启动非接触式心肺监护系统的二类医疗器械注册

Class ii medical device registration initiated for the contactless Cardiopulmonary monitoring system

第二代神经交互手环研发完成并启动商业化

Second-generation neural interaction wristband developed and commercialization launched

获上海交通大学苏州创新研究院孵化和战略投资

Incubated by and received strategic investment from the shanghai jiao tong university suzhou innovation institute

Founding Team

创始团队



戴晨赟 博士
Chenyun Dai Ph.D.

CSO/联合创始人
CSO/Co-Founder

神经接口 Neural interfaces | 人工智能 Artificial intelligence | 康复机器人 Rehabilitation robotics

- 上海交通大学长聘教轨副教授、博士生导师
  Tenure-Track Associate Professor and Doctoral Supervisor at Shanghai Jiao Tong University
- 先进医疗芯片研究所副所长
  Deputy Director of the Institute of Advanced Medical Chips
- 曾任复旦大学副研究员
  Former Associate Researcher at Fudan University
- 美国伍斯特理工学院硕博
  Master's and Ph.D. Degrees from Worcester Polytechnic Institute, USA
- 上海千人专家、上海市浦江学者
  Expert under Shanghai's Thousand Talents Program and Shanghai Pujiang Scholar

研究方向 Research Interests
神经接口、神经调控、电生理穿戴装置、运动康复系统、AI仿生算法、集成芯片
Neural interfaces, neuromodulation, wearable electrophysiology, motor rehabilitation, AI biomimetics, and ICs

学术专利 Publications & Patents
近五年SCI论文近100篇，一作/通讯40余篇；第一发明人专利十余项
Published ~100 SCI papers in five years, including 40+ as first/corresponding author; inventor on 10+ patents

转化项目 Technology Translation
获华为资助200万，研发下一代人机交互系统
Received RMB 2M from Huawei for next-generation HMI development

参与项目 Selected Projects & Achievements
国家自然科学基金2项；上海自然科学基金2项；科技部2030脑计划；
创立多家医疗器械公司，2家完成A轮融资；获"台州500精英"、园区领军人才
Led 2 NSFC and 2 Shanghai NSF projects; joined the China Brain Project; founded multiple medtech companies, 2 completing Series A; selected for Taizhou 500 Elite and SIP Leading Talent programs



徐珂 博士
Ke Xu Ph.D.

CEO/联合创始人
CEO/Co-Founder

脑机接口 Brain–computer interfaces | 医疗设备 Medical devices | 产业化 Commercialization

- 复旦大学本硕、帝国理工学院博士
  Bachelor's and Master's Degrees from Fudan University; Ph.D. from Imperial College London
- 千屿科技（苏州）有限公司，创始人&CEO
  Founder & CEO, Qianyu Technology (Suzhou) Co., Ltd.
- 万瞬医学技术（苏州）有限公司，创始人&CEO
  Founder & CEO, Onesense Medical Technology (Suzhou) Co., Ltd.

研究方向 Research Interests
产业化经历（5+年创新医疗器械研发管理经验）
Over 5 years of experience in innovative medical device R&D and management

学术专利 Publications & Patents
第一发明人专利授权、公开20余项；SCI及EI论文30余篇，一作含工程学顶刊IEEE TII（IF 12+）、生物医学工程顶刊IEEE JBHI（IF 7+）等；Google Scholar引用量超1100次，h-index 16
20+ patents; 30+ SCI/EI papers, including first-author papers in IEEE TII and IEEE JBHI; 1,100+ citations; h-index 16

转化项目 Technology Translation
主持研发全球首款512通道分布式高密度肌电采集设备，年销售额超300万元
主持华为高校研发项目：总经费>200万元
Led the world's first 512-channel distributed HD-EMG system, generating RMB 3M+ annually; led a Huawei-funded university R&D project worth RMB 2M+

参与项目 Selected Projects & Achievements
日内瓦国际发明展银奖、中国国际大学生创新大赛金奖
Silver Medal at the International Exhibition of Inventions Geneva; Gold Award at the China International College Students' Innovation Competition



钱大宏 博士
Dahong Qian Ph.D.

首席科学家
Chief Scientist

医学影像 Medical imaging | AI医疗 Ai in healthcare | 医工交叉 Medical–engineering integration

- 中组部海外高层次人才
  Selected for the National Overseas High-Level Talent Program
- 上海交通大学生物医学工程学院二级教授、博士生导师、
  Level II Professor and Doctoral Supervisor at the School of Biomedical Engineering Shanghai Jiao Tong University
- 先进医疗芯片研究所所长
  Director of the Institute of Advanced Medical Chips
- 聚交芯创（A轮）联合创始人
  Co-Founder, Jujiao Xinchuang
- 临尚创业投资基金、灿芯半导体领投
  Series A led by Linshang Venture Capital & Brite Semiconductor

研究方向 Research Interests
医疗电子芯片、人工智能在医学领域的应用；手术机器人
Medical electronic chips, applications of artificial intelligence in medicine, and surgical robotics

学术任职 Academic Appointments
中国医学影像AI产学研用联盟副理事长；国家药监局中检院人工智能医疗器械归口单位专家；IEEE人工智能医疗仪器标准组成员
Vice Chair, China Medical Imaging AI Alliance; NIFDC Expert on AI Medical Devices; Member, IEEE AI Medical Instruments Standards Working Group

产业化项目 Commercial Projects
临尚创业投资基金、灿芯半导体领投
Secured investment led by Linshang Venture Capital Fund and Brite Semiconductor

省部级项目 Provincial and Ministerial Projects
承担多项省部级重点项目
Led and participated in multiple key projects at the provincial and ministerial levels

Technological Capabilities

技术实力

6+

核心平台

CORE TECHNOLOGY PLATFORMS

多技术平台协同 支撑全链条研发

Multiple technology platforms supporting the complete research and development process

30+

专利软著

PATENTS AND SOFTWARE COPYRIGHTS

专利与软著保护 技术成果持续沉淀

Continued accumulation of protected technical achievements

10+

科研成果

RESEARCH ACHIEVEMENTS

承担多项国家及省级科研与创新项目

Research achievements generated through multiple national and provincial research and innovation projects

20+

合作开发

COLLABORATIVE DEVELOPMENT PROJECTS

与高校、医院及企业开展深度合作开发

In-depth development with universities, hospitals and corporate partners

Born from Academic Research

Advancing Toward Clinical Translation

源于高校科研 走向临床转化

我们聚焦神经科学与智能医疗的前沿领域，构建从核心技术研发产品设计到临床研究转化的完整能力体系，为科研创新与临床应用提供可靠支撑

We focus on the frontiers of neuroscience and intelligent healthcare, building end-to-end capabilities spanning core technology R&D, product design, clinical research, and translation to provide reliable support for scientific innovation and clinical applications

硬件研发

HARDWARE RESEARCH AND DEVELOPMENT

- 神经信号采集与处理
  Neural signal acquisition and processing
- 电刺激与神经调控技术
  Electrical Stimulation and Neuromodulation Technologies
- 嵌入式硬件系统与设备集成
  Embedded Hardware Systems and Device Integration

软件算法

SOFTWARE AND ALGORITHM DEVELOPMENT

- 信号处理与特征提取
  Signal processing and feature extraction
- 机器学习与解码算法
  Machine learning and neural-signal decoding algorithms
- 平台软件与数据分析
  Platform software and data analysis

医工转化

MEDICAL TECHNOLOGY TRANSLATION

- 样机开发与性能验证
  Prototype development and performance verification
- 临床研究支持与评价
  Clinical research support and evaluation
- 医疗器械设计与合规
  Medical device design and regulatory compliance

知识产权

INTELLECTUAL PROPERTY DEVELOPMENT

- 核心专利布局完善
  Comprehensive core patent portfolio
- 软件著作与技术保护
  Software copyrights and technical protection
- 知识产权体系建设
  Development of a structured intellectual property system



Honors & Qualifications
荣誉资质

千屿科技累计获得各类荣誉奖项超 9 项
Qianyu Technology has received more than nine awards and honors.

- 2024中国国际大学生创新大赛铜奖
  Bronze Award, 2024 College Innovation Competition
- 2024中国国际大学生创新大赛上海赛区金奖
  Gold Award, 2024 College Innovation Competition · Shanghai
- 第六届“海聚英才”苏州分赛二等奖
  Second Prize, Global Talent Competition · Suzhou
- 2025“创客中国”长沙赛区三等奖
  Third Prize, 2025 Maker in China · Changsha
- 2025苏州银发经济创新创业大赛三等奖
  Third Prize, 2025 Suzhou Silver Economy Competition
- 2025“赢在苏州”全球创新创业大赛优胜奖
  Excellence Award, 2025 Win in Suzhou
- “创客中国·浙江好项目”台州海选赛三等奖
  Third Prize, Maker in China · Taizhou



Patent Certificate
专利证书

围绕无感电生理、心肺监护、神经电刺激、神经交互、
高密度电生理采集、信号处理算法和软件平台形成较系统的知识产权布局

A systematic IP portfolio spanning contactless electrophysiology, cardiopulmonary monitoring, neurostimulation, neural interaction, high-density electrophysiology acquisition, signal-processing algorithms and software platforms

10+ 项
发明专利
Invention patents

20+ 项
实用新型与外观设计
Utility models & designs

10 + 项
软件著作权
Software copyrights



Product matrix

产品

Medical Product Matrix

Bio-Mattress　非接触式动态心电诊断监测系统

BIO-MATTRESS Contactless dynamic ECG diagnostic and monitoring system

在不贴电极、零打扰地获取心电、呼吸等生理信号，提升长期监测舒适性和依从性。

Captures ECG, respiration and other physiological signals without attaching electrodes to the skin or disturbance, improving comfort and adherence during long-term monitoring.

Oct-HD　512通道超高密度肌电采集分析处理系统

OCT-HD 512-Channel Ultra-High-Density EMG Acquisition & Analysis System

全球首创512通道超高密度肌电采集与分析，覆盖高密度肌电研究全流程。

The world's first 512-channel ultra-high-density EMG acquisition and analysis platform, covering the complete high-density EMG research workflow.

EMG Gesture Band　神经交互手环

EMG GESTURE BAND Neural Interaction Wristband

基于边缘AI的可穿戴神经交互硬件与算法能力的一体化平台，助力人机交互、脑机接口、空间计算、康复医学等领域。

An integrated wearable edge-AI hardware and algorithm platform for HCI, brain-computer interfaces, spatial computing and rehabilitation medicine.

以科技创新，驱动精准医疗与健康未来

Technology innovation for precision medicine and a healthier future

腕式低频神经刺激手环

Wrist-Worn Low-Frequency Nerve Stimulation Device

将运动状态识别与神经电刺激输出形成闭环，提高康复训练的精准性、主动性和可量化程度。

Closes the loop between motion-state recognition and neurostimulation to make rehabilitation training more precise, active and measurable.

模块化混合密度电生理平台

Modular Mixed-Density Electrophysiology Platform

统一不同密度、不同模态的电生理采集需求，提升科研平台扩展性和数据通量。

Unifies electrophysiology acquisition across densities and modalities, expanding research-platform flexibility and data throughput.

脑机接口与植入式脊髓神经电刺激

BCI & Implantable Spinal Cord Neurostimulation

围绕外周信号、神经接口与电刺激干预，布局更长期的神经科技平台。

A long-term neurotechnology platform spanning peripheral signals, neural interfaces and electrical-stimulation intervention.



Bio-Mattress 非接触式动态心电诊断监测系统

Contactless Dynamic Ecg Diagnostic And Monitoring System

面向恶性心律失常、心肌梗死、房颤等高危心脏事件的居家预警监护方案

Home Based Early Warning for Malignant Arrhythmias, Myocardial Infarction, and Atrial Fibrillation

Bio-Mattress是一套非接触式动态心电诊断监测系统，以薄垫式柔性非接触式心电传感器为核心，铺设在床垫上即可实现整夜睡眠中连续生理参数的监测，采集8通道心电图、呼吸波、心率、呼吸率、体动、在/离床等数据，并通过云端、APP对恶性心律失常、心肌梗死、房颤等高危心脏事件进行实时报警和诊断报告生成。

Bio-Mattress is a contactless dynamic ECG diagnostic and monitoring system built around a thin, flexible, non-contact ECG sensor mat. Placed directly on a mattress, it continuously monitors physiological parameters throughout the night, collecting eight-channel ECG signals, respiratory waveforms, heart rate, respiratory rate, body movement, and bed occupancy data. Through its cloud platform and mobile app, the system provides real-time alerts for high-risk cardiac events—including life-threatening arrhythmias, myocardial infarction, and atrial fibrillation—and generates diagnostic reports.



数据闭环管理

Closed loop data management

多指标输出

Multiparameter output

整夜连续监测

Continuous overnight monitoring

无感非接触

Unobtrusive contactless monitoring

应用场景

APPLICATION SCENARIOS

医院/科室随访

Hospital and Department Follow Up



院外连续数据采集
与心脏风险复查管理

Continuous out-of-hospital data collection and cardiac-risk management

居家睡眠检测

At Home Sleep Monitoring



长期睡眠心电监护
与高危心脏事件警报

Long-term sleep ECG monitoring and high-risk cardiac-event alerts

康养机构看护

Senior Care Facility Monitoring



老年人夜间心律异常
与突发风险识别

Identification of night-time arrhythmias and acute risks in elderly population

临床研究支持

Clinical Research Support



为睡眠、心肺和慢病
研究提供数据入口

A data gateway for sleep, cardiopulmonary, and chronic-disease research



全球首款商业化非接触式心电图系统

The World's First Commercially Available Contactless ECG System

软件界面

USER INTERFACE



实时监测主页

Real-Time Monitoring Dashboard



实时波形与信号质量

Real-Time Waveforms and Signal Quality



指标报告界面

Metrics Report Interface



数据中心

Data Center

监测流程

MONITORING WORKFLOW

无感采集

Seamless Data Collection

信号分析

Signal Analysis

异常分析

Anomaly Analysis

Web端/APP信号分析

Web and Mobile App Signal Analysis

报告输出

Report Generation

产品组件
PRODUCT COMPONENTS

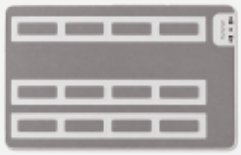


主控盒
Main Control Box

压力传感器
Pressure Sensor



采集盒
Data Acquisition Box

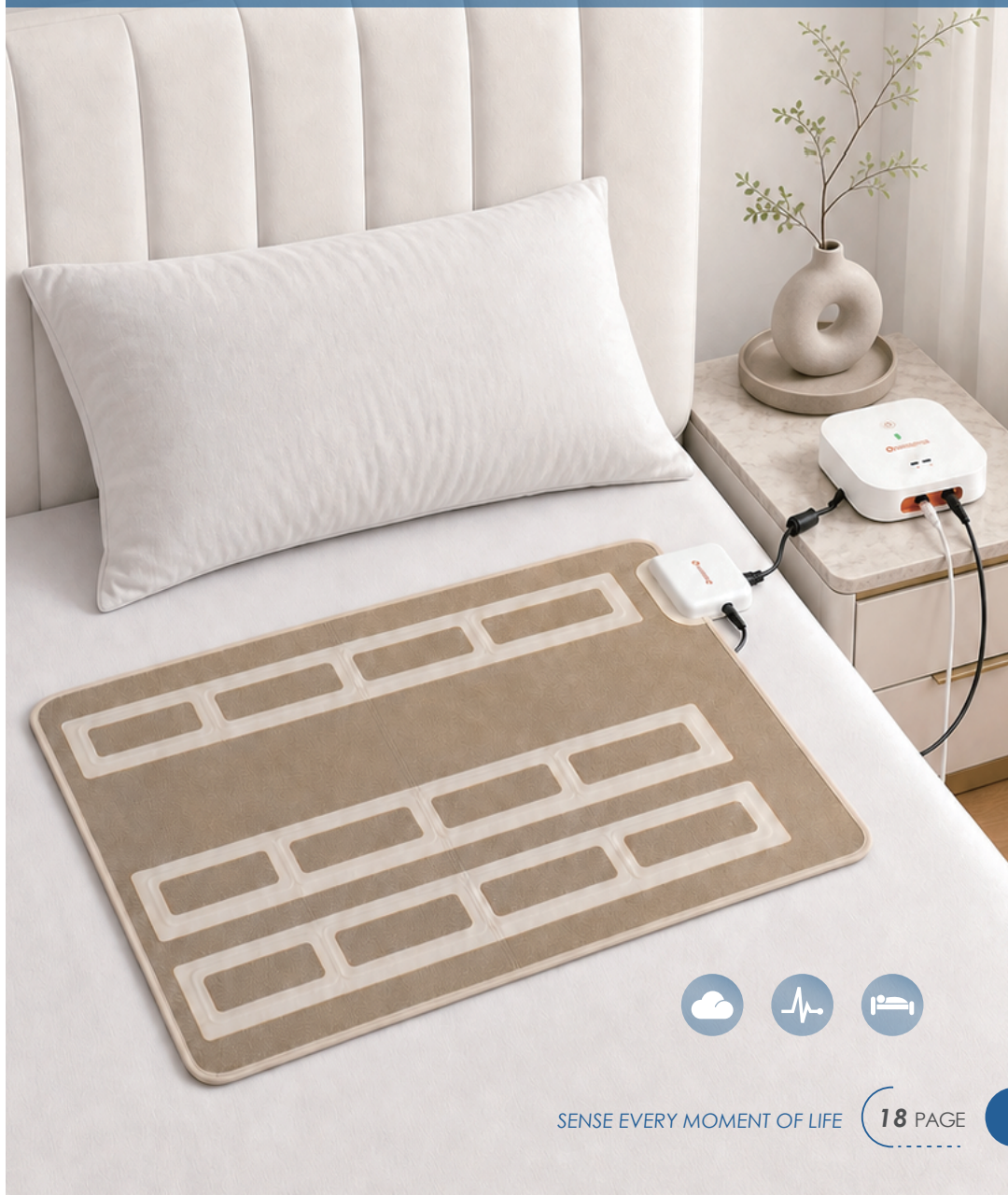


柔性监测薄垫
Flexible Sensing Mat

产品参数
PRODUCT SPECIFICATIONS

参数项 PARAMETER	指标 SPECIFICATION
适用人群 Target Users	医疗环境和家庭护理环境采集和记录成人的心电数据、呼吸率和心率 For recording ECG data, respiratory rate, and heart rate in medical and home-care settings of adults
心率 Heart Rate	测量范围：30 次/分 ~ 200 次/分　精度：±3 次/分 Measurement range: 30 bpm - 200 bpm Accuracy: ±3 bpm
呼吸率 Respiratory Rate	测量范围：6 次/分 ~ 35 次/分　精度：±2 次/分 Measurement range: 6 breaths/min - 35 breaths/min Accuracy: ±2 breaths/min
心电前端 ECG Front End	动态范围±3mV;输入阻抗≥10MΩ@10Hz；　系统噪声≤50μV Dynamic range: ±3 mV; input impedance >=10 MOhm at 10 Hz; System noise <=50 uV
共模抑制 Common Mode Rejection	≥60dB@50Hz;≥45dB@100Hz ≥60dB@50Hz; ≥45dB@100Hz

Bio-Mattress 非接触式动态心电诊断监测系统
Contactless Dynamic Ecg Diagnostic And Monitoring System





OCT-HD 512通道超高密度肌电采集分析系统

512 - channel ultra-high-density emg acquisition & analysis system

面向神经肌肉、康复评估与运动控制研究的高密度电生理采集分析平台

A high-density electrophysiological data acquisition and analysis platform for neuromuscular research, rehabilitation assessment, and motor control studies

Oct-HD是一款可穿戴的分布式高密度肌电采集系统，包含采样模块、基站和配套软件。每个模块可采集64通道肌电与九轴运动姿态数据，结合专用绑带可轻松固定在肢体与躯干任意位置。本系统基于专利同步技术，最高支持8个模块、512通道同时工作，在线和离线（无需无线网络连接）状态下均可实现多模块的微秒级同步采样，满足多场景需求。

Oct-HD is a wearable, distributed high-density electromyography acquisition system comprising acquisition modules, a base station, and dedicated software. Each module records 64 channels of electromyography together with nine-axis motion and posture data. Dedicated straps allow flexible placement on the limbs or trunk. Based on proprietary synchronization technology, the system supports up to eight modules and 512 channels operating simultaneously. It provides microsecond-level synchronized acquisition across multiple modules both online and offline, without requiring a wireless network, meeting the needs of diverse research applications.

精准同步

Precise Synchronization

高精度 低噪声

High accuracy Low noise

核心优势
Core Advantages

全通道阻抗检测

All-channel Impedance Detection

神经元分解算法

Motor-unit Decomposition algorithm

应用场景

APPLICATION SCENARIOS

神经康复评估

Neurorehabilitation Assessment



用于偏瘫、脊髓损伤、周围神经损伤等康复研究，采集不同肌群的高密度肌电信号

High-density EMG for hemiplegia, spinal cord injury and peripheral nerve injury research

运动科学与训练分析

Sports Science & Training Analysis



适用于运动表现评估、动作技术分析、肌肉疲劳监测和损伤风险研究

Performance assessment, technique analysis, muscle-fatigue monitoring and injury-risk studies

人机交互

Human–Machine Interaction



适用于动作意图识别、智能假肢控制与交互系统研究

Suitable for motion-intent recognition, intelligent prosthetic control, and interactive system research

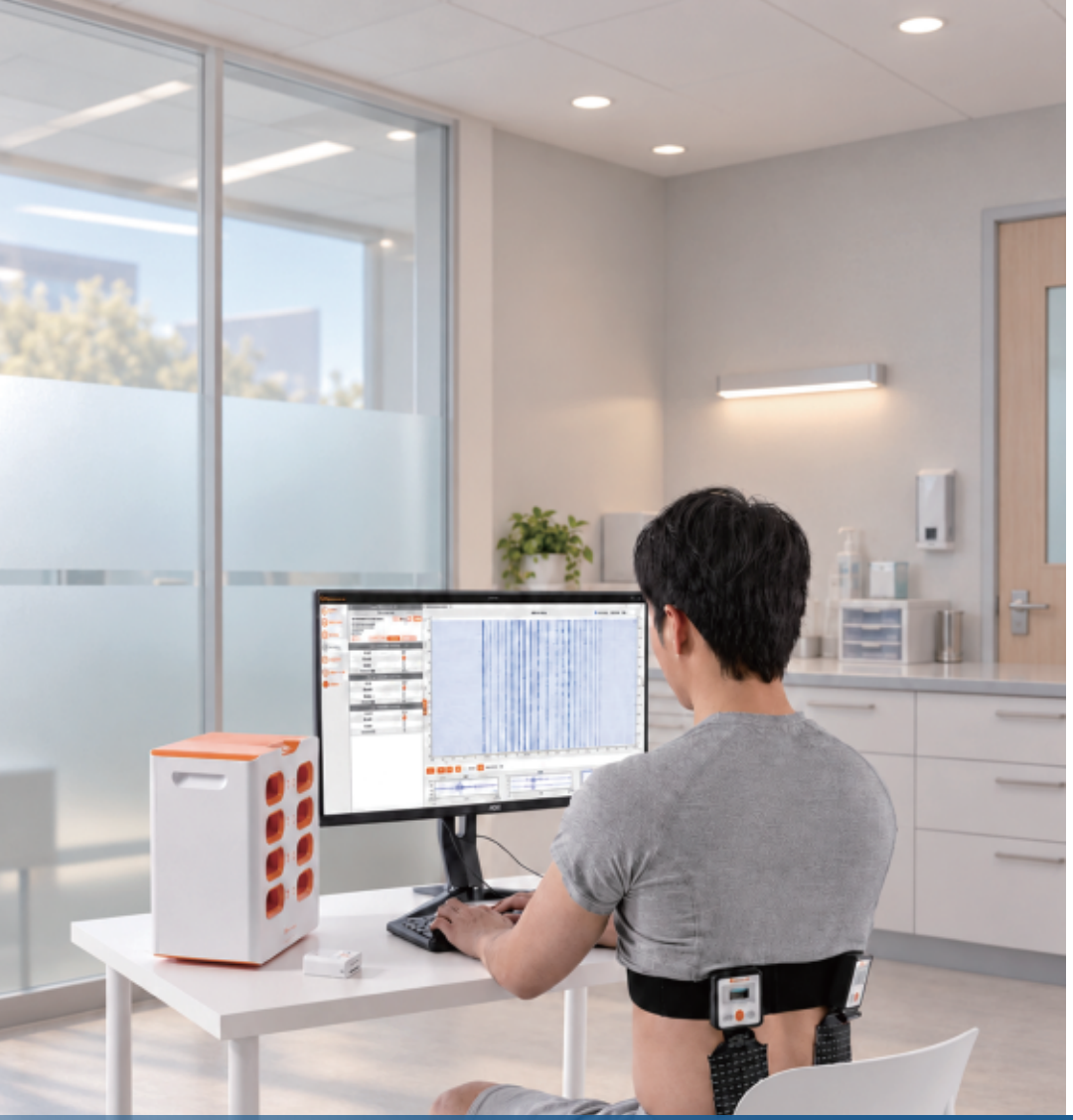
体育科学研究

Sports Science Research

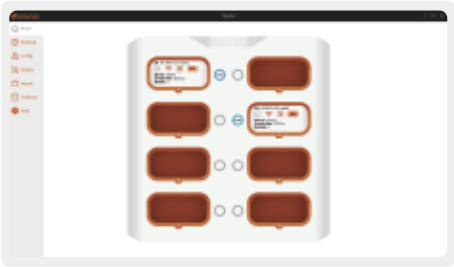


适用于动作分析、疲劳监测、训练优化与损伤预防

Suitable for motion analysis, fatigue monitoring, training optimization, and injury prevention



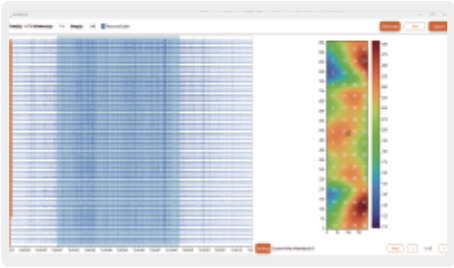
软件界面
USER INTERFACE



客户端首页
Client Home Page



实时显示预览界面
Real-Time Display Preview



强度分布图
Intensity Distribution Map



MU神经元分解
MU Decomposition

典型流程
TYPICAL WORKFLOW

配置实验
Configure Experiment

佩戴电极
Apply Electrodes

阻抗测试
Impedance Test

同步采集与事件标记
Synchronized Acquisition & Event Marking

数据导入分析
Data Import & Analysis

产品组件
PRODUCT COMPONENTS



肌电采集器
EMG Acquisition Device



采集器基站
EMG Base Station



接地手环
Grounding Wrist Strap



柔性电极
Flexible Electrode



客户端
Client Application

产品参数
PRODUCT SPECIFICATIONS

参数项 PARAMETER	指标 SPECIFICATION
通道数 Channels	73ch (64ch EMG + 9ch IMU) * 8 73ch (64ch EMG + 9ch IMU) * 8
数据传输与存储 Data transfer & storage	机身内存32GB WiFi(非必需) 32 GB onboard memory; Wi-Fi optional
最大采样率 Maximum sampling rate	2000sps 2000sps
分辨率 Resolution	24bit 24bit
CMRR CMRR	＞100 dB ＞100 dB
输入阻抗 Input impedance	＞100MΩ ＞100MΩ
同步性 Synchronization	＜0.5ms(模块内) ＜2ms(模块间,离线同步无需联网) <0.5 ms within module; <2 ms between modules; offline, network-free
待机时间 Battery life	＞4h(WiFi连接) ＞8h(离线模式) >4 h with Wi-Fi; >8 h offline
输入噪声 Input noise	6μVrms 6μVrms

OCT-HD 512通道超高密度肌电采集分析系统
512 - channel ultra-high-density emg acquisition & analysis system





EMG GESTURE BAND 神经交互手环

Emg gesture and neural interaction band

面向空间计算、AR终端与具身智能的下一代人机交互入口

Next-generation human-machine interaction interface for spatial computing, AR terminals, and embodied intelligence

通过腕带式佩戴与干电极接触，采集前臂多通道肌电与运动姿态数据，为文旅场景沉浸体验、机器人遥操作与运动意图识别、AR场景空间交互等多领域控制提供稳定的数据。结合先进的边缘AI训练和部署技术，实现实时采集、超低功耗数据传输与多终端控制。

Worn as a wristband with dry-electrode contact, the device captures multichannel forearm EMG and motion/posture data, providing reliable input for immersive cultural and tourism experiences, robot teleoperation, motor-intent recognition, augmented-reality spatial interaction, and other control applications. Advanced edge AI enables real-time acquisition, ultra-low-power data transmission, and control across multiple terminals.



应用场景

APPLICATION SCENARIOS

智能手势交互

Intelligent Gesture Interaction



通过腕带采集肌电与 IMU 信号，识别手势意图，实现对虚拟界面、数字内容或智能设备的自然交互控制

The wristband captures EMG and IMU signals to recognize gesture intent and enable natural control of virtual interfaces, digital content or smart devices

具身机器人

Embodied Robotics



将手部动作意图转化为控制指令，用于机械手、康复设备或机器人末端执行器的人机协同

Translates hand-movement intent into control commands, enabling human–machine collaboration with prosthetic hands, rehabilitation devices, and robotic end effectors

文旅场景互动

Cultural-Tourism Interaction



在展陈、教育、文旅等空间中，通过手势完成内容触发、对象选择和互动浏览，提升无接触式交互体验

In exhibition, education, and cultural-tourism spaces, gestures trigger content, select objects, and support interactive browsing, improving touch-free interaction experiences

解决问题
PROBLEM SOLVING

佩戴复杂
影响真实动作采集

Complex wearing affects natural movement capture

传统肌电设备
难以部署边缘AI算法

Traditional EMG devices are difficult to integrate with edge AI algorithms

摄像头存在
视觉盲区

Camera blind spots

机器人数据采集领域
缺少动作意图识别

Robotic data collection lacks motion intent recognition

产品参数
PRODUCT SPECIFICATIONS

参数项 PARAMETER	指标 SPECIFICATION
主控平台 Main Control Platform	最新一代边缘AI计算平台 Latest-generation edge AI computing platform
采集配置 Acquisition Confiquration	500～2000 sps；PGA 1~12；带宽0~1kHz 500–2000 SPS; PGA: 1–12 ; Bandwidth: 0–1 kHz
信号质量 Signal Quality	短接噪声≤3μVrms；佩戴静息噪声≤15μVrms；CMRR≥90dB Short-circuit noise ≤3 μVrms; resting wearing noise ≤15 μVrms; CMRR ≥90 dB
通信 Communication	WiFi 6E；蓝牙BLE 5.4 WiFi 6E； Bluetooth BLE 5.4
续航 Battery Life	连续工作>8h；待机>16h Continuous operation >8 h; standby >16 h
算法接口 Algorithm Interfaces	自定义手势本地识别；原始数据、手势事件、校准、设备管理开发接口 On-device recognition of custom gestures； open APIs for raw data, gesture events, calibration, and device management



EMG GESTURE BAND 神经交互手环
Emg gesture and neural interaction band



腕式低频神经刺激手环

Wrist-worn low-frequency nerve stimulation band

针对特发性震颤的腕带形态解决方案，医疗标准设计，以非侵入式方式实现震颤频率监测到刺激的闭环调控

A wrist-worn solution for essential tremor, designed with medical standards and enabling non-invasive closed-loop control from tremor-frequency monitoring to stimulation

面向成年特发性震颤患者的非侵入式、可穿戴电刺激治疗设备，用于缓解手部震颤症状。产品由主机、腕带电极和移动端 APP 组成，通过经皮传入模式刺激（TAPS）技术，对腕部正中神经和桡神经输出双向低频电脉冲。主机内置传感与控制模块，可采集震颤状态、完成治疗前校准、控制刺激输出并进行异常监测；腕带电极负责稳定贴合皮肤并实现神经区域定位；APP提供设备绑定、校准引导、强度调节、治疗控制、状态查看和记录管理等辅助功能。

A non-invasive, wearable electrical-stimulation device for adults with essential tremor, designed to alleviate hand tremor. The system comprises a control unit, a wristband electrode, and a mobile app. Using transcutaneous afferent patterned stimulation (TAPS), it delivers bidirectional low-frequency electrical pulses to the median and radial nerves at the wrist. The control unit integrates sensing and control modules to measure tremor, perform pre-treatment calibration, regulate stimulation output, and monitor abnormal conditions. The wristband electrode maintains stable skin contact and accurate positioning over the target nerves. The app supports device pairing, guided calibration, intensity adjustment, therapy control, status monitoring, and treatment-record management.

应用场景

APPLICATION SCENARIOS

日常辅助干预

Daily Assistive Intervention



腕表形态，适用于居家、办公等日常场景下的手部震颤辅助管理

A watch-style device designed to support hand-tremor management at home, in the workplace, and in other everyday settings

临床评估随访

Clinical Evaluation & Follow-Up



医生端APP，支持实时刺激参数调节、数据记录与分析、抑制效果观察，辅助临床评估

A clinician-facing app that supports real-time stimulation parameter adjustment, data recording and analysis, and tremor suppression monitoring to assist clinical evaluation

核心优势
Core Advantages

非侵入、腕式、小型化

Non-invasive, wrist-worn, miniaturized

频率检测-刺激输出 形成闭环

Closed-Loop Frequency Detection and Stimulation

适合临床疗效评价与注册证据链建设

Suitable for clinical efficacy evaluation and regulatory evidence-chain development

产品参数
PRODUCT SPECIFICATIONS

参数项 PARAMETER	技术指标 TECHNICAL SPECIFICATION
输出电流调节范围 Output Current Range	0-5mA可调 0-5mA adjustable
最大输出电流 Max Output Current	5mA 5mA
强度步进 Intensity Step	0.1mA 0.1mA
最大输出电压 Max Output Voltage	2.5V@500Ω、50V@10KΩ 2.5V@500Ω、50V@10kΩ
最大相电荷 Max Phase Charge	1.5uC@500Ω 1.5uC@500Ω
最大平均电流 Max Average Current	0.45mA@500Ω 0.45mA@500Ω
震颤频率范围 Tremor Frequency Range	4-12Hz作为算法覆盖范围 4-12 Hz algorithm coverage range
单次治疗时间 Treatment duration per session	40min 40min



腕式低频神经刺激手环
Wrist-worn low-frequency nerve stimulation band



模块化混合密度电生理平台

Modular mixed-density electrophysiology platform

应用场景

APPLICATION SCENARIOS



皮电皮温模块
人因与心理生理实验场景

Electrodermal activity and skin temperature module human factors and psychophysiology research



脑电模块
认知神经科学实验场景

Electroencephalography module cognitive neuroscience research



心电模块
运动生理测试场景

Electrocardiography module exercise physiology testing

围绕不同密度、不同模态的电生理采集需求，构建可组合、可扩展的模块化科研平台。

支持多通道信号同步采集、管理与分析。

A configurable, expandable research platform for electrophysiology acquisition across different densities and modalities, supporting synchronized multichannel acquisition, management and analysis.

产品参数

PRODUCT SPECIFICATIONS

模块 MODULE	技术指标 TECHNICAL SPECIFICATIONS		参数值 VALUE
肌电模块 EMG module	EMG通道数	EMG channels	64
	采样率	Sampling rate	≥2000 sps
	IMU通道数	IMU channels	9
	IMU采样率	IMU sampling rate	≥100 sps
	续航	Battery life	≥4 h
阻抗模块 Impedance module	通道数	Channels	64
	测量频率	Measurement frequency	≥100 kHz
	测量范围	Range	0–1 MΩ
	误差范围	Error	±5%
	续航	Battery life	≥2 h
脑电模块 EEG module	EEG通道数	EEG channels	64
	采样率	Sampling rate	≥2000 sps
	IMU通道数	IMU channels	9
	IMU采样率	IMU sampling rate	≥100 sps
	CMRR	CMRR	＞110 dB
sEMG sEMG	通道数	Channels	2
	重量	Weight	<16 g
	CMRR	CMRR	100 dB
	采样率	Sampling rate	≥2000 sps
	分辨率	Resolution	24 bit
皮电皮温 GSR & skin temp.	GSR采样率	GSR sampling rate	≥100 sps
	GSR量程	GSR range	0–25 μS
	皮温通道数	Skin temperature channels	1
	皮温采样率	Skin temperature sampling rate	1次/s
	皮温精度	Skin temperature accuracy	±0.2 °C
	皮温范围	Skin temperature range	25–42 °C
通用IMU指标 General IMU	采样率	Sampling rate	≥500 sps
	IMU通道数	IMU channels	9
	IMU采样率	IMU sampling rate	≥100 sps

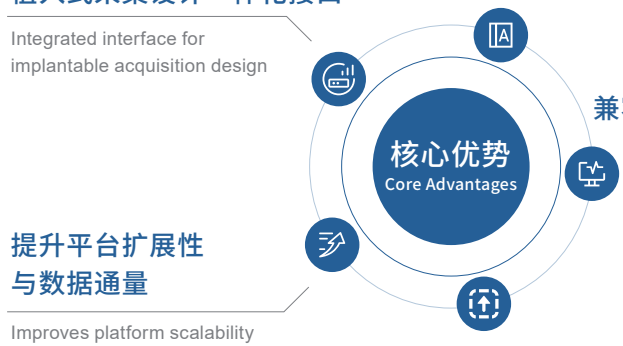


脑机接口与植入式脊髓神经电刺激

Brain-Computer Interfaces and Implantable Spinal Cord Neurostimulation

脑机接口与植入式脊髓神经电刺激储备，是千屿科技围绕重度偏瘫、脊髓损伤及神经功能重建方向布局的前沿神经调控技术平台。该方向基于脑机接口运动解码、脊髓神经信号采集、植入式电极与闭环刺激控制技术，探索通过“采集-识别-决策-刺激-反馈”的闭环链路，实现对运动意图和脊髓激活模式的感知、解析与调控。

Qianyu Technology's brain-computer interface and implantable spinal cord neurostimulation program is a forward-looking neuromodulation technology platform for severe hemiplegia, spinal cord injury, and neural function restoration. It integrates brain-computer-interface-based motor decoding, spinal neural signal acquisition, implantable electrodes, and closed-loop stimulation control. The platform explores a closed-loop pathway of acquisition, recognition, decision-making, stimulation, and feedback to sense, interpret, and modulate motor intent and spinal activation patterns.



植入式采集设计一体化接口

Integrated interface for implantable acquisition design

边缘AI支持

Edge AI support

兼容不同模态电生理数据

Compatible with multimodal electrophysiological data

提升平台扩展性与数据通量

Improves platform scalability and data throughput

支撑科研平台长期升级

Supports long-term research platform upgrades

应用场景

APPLICATION SCENARIOS

下肢偏瘫步态康复

Lower-Limb Hemiplegia Gait Rehabilitation



“运动意图识别、脊髓神经调控、步态反馈”的闭环康复概念

Closed-loop rehabilitation concept integrating motor-intent recognition, spinal neuromodulation, and gait feedback

上肢康复

Upper-Limb Rehabilitation



上肢运动意图解码与手功能训练协同

Upper-limb motor-intent decoding coordinated with hand-function training

Solutions

解决方案

围绕设备、软件、算法、数据与服务能力
为科研验证、临床研究与产品转化提供一体化解决方案

Integrated solutions for research validation, clinical studies,
and product translation across devices,software, algorithms, data, and services



服务对象
Target Clients

- 高校、医院、科研院所
  Universities, hospitals, andresearch institutes
- 临床科室
  Clinical departments
- 医疗器械研发团队、CRO
  Medical device R&D teams, CROs
- B端设备厂商、智能硬件厂商
  B2B device manufacturers, smart hardware manufacturers
- 机器人AI团队
  Robotics and AI teams



能力范围
Capabilities

- 硬件、ID结构、软件、算法全栈开发
  Full-stack development of hardware,ID structure, software, and algorithms
- 实验方案、现场采集、数据分析
  Experimental protocols,on-siteacquisition, data analysis
- 临床测试、数据质控、验证报告
  Clinical testing, data quality control,validation reports
- 接口集成、场景演示、联合开发
  Interface integration, scenariodemos, joint development



交付内容
Deliverables

- 原理样机、工程样机、Demo
  Proof-of-concept prototypes,engineering prototypes, demos
- 标准数据集、统计图表、分析报告
  Standard datasets, statistical charts,analysis reports
- 可追溯数据包、注册验证资料
  Traceable data packages, regulatoryvalidation materials
- 合作产品、小批量导入、量产资料
  Co-developed products, pilotintroduction, mass-production materials



客户价值
Client Value

- 缩短研发周期
  Shorter R&D cycles
- 降低试错成本
  Lower trial-and-error costs
- 补充证据链
  Stronger evidence chain
- 形成产品入口
  Product entry point

需求沟通
Needs Communication

技术评估
Technical Evaluation

方案设计
Solution Design

样机/采集
Prototype / Acquisition

数据分析
Data Analysis

报告交付
Report Delivery

转化落地
Translation & Deployment

RESEARCH SERVICES

科研服务



科研客户的定制化服务

Tailored services for research clients

服务高校、医院、企业、研究所等客户，
围绕具体课题需求提供项目制科研支持

Project-based research support for universities, hospitals, enterprises, and research institutes. tailored to specific study needs



实验系统、
设备与算法全流程

Full workflow: experimental systems, devices & algorithms

提供实验设计、系统搭建、信号采集、设备
定制、算法分析、软件工具链等综合能力

Integrated capabilities in experimental design. system setup, signal acquisition, device customization, algorithm analysis, and software toolchains

定制科研 赋能转化

Custom research Enabling translation

将客户的前沿科研问题转化为可落地的
硬件、软件算法和数据分析方案，提升科
研效率和实验质量

Turning frontier research questions into implementable hardware, software algorithms, and data-analysis solutions to improve research efficiency and experiment quality



科研需求与工程实现

Research needs & engineering implementation



沉淀产品化
与成果转化能力

Productization & result translation capability

持续服务真实科研场景，识别高端设备
需求，验证技术路线，并将成熟能力沉淀
为标准化科研设备和医疗器械转化基础

Identifying real-world research needs, validating technologies, and transforming proven solutions into standardized research equipment and establishing a foundation for medical-device translation

Clinical Research Support

临床研究支持

以科学、合规、高效为核心，提供全流程临床研究支持

Full-process clinical research support centered on scientific rigor, compliance, and efficiency

临床前准备

Pre-Clinical Preparation

协助完成设备状态确认、风险分析、SOP制定、伦理审批等工作。

Assists with device status confirmation, risk analysis, SOP development, ethics approval, and related work.

试验执行支持

Trial Execution Support

提供现场培训、设备部署、受试者管理、数据回收与质量控制。

Provides on-site training, device deployment, subject management, data retrieval, and quality control.

数据管理分析

Data Management & Analysis

支持样本数据清洗、统计分析与可视化，输出高质量数据报告。

Supports sample data cleaning, statistical analysis, and visualization, producing high-quality data reports.

注册验证资料

Registration & Validation Materials

协助完成验证报告，可追溯数据包与设计输入/输出资料。

Assists with validation reports, traceable data packages and design input/output documentation.

对照一致性分析

Agreement Analysis with Reference Devices

对照设备一致性与比对试验设计，确保研究结果的科学性与可比性。

Supports control-device consistency and comparative trial desian to ensure scientific and comparable research results.

可追溯数据包

Traceable Data Packages

建立完整、可追溯的数据与文档体系，满足法规要求。

Establishes a complete, traceable data and documentation system that meets regulatory requirements.

CLINICAL



Collaborative
合作共创

守护生命的千万瞬间
Sense Every Moment Of Life

临床合作
CLINICAL COOPERATION

医院科室、临床研究与验证场景

Hospital departments, clinical research, and validation scenarios

科研合作
RESEARCH COOPERATION

高校实验室、科研院所与课题团队

University labs, research institutes, and project teams

产业合作
INDUSTRY COOPERATION

医疗器械企业、智能硬件与AI团队

Medical device companies, smart hardware, and AI teams

Partners
合作伙伴

长期合作·联合创新

Long-Term Cooperation · Joint Innovation

高校/科研合作
University / Research Cooperation

联合课题/科研验证

Joint projects / research validation

医院/产业合作
Hospital / industry Cooperation

临床验证/产业落地

Clinical validation / industrial implementation

覆盖高校实验室，科研课题与联合验证场景

Covering university laboratories, research projects, and joint validation scenarios

服务临床验证，产品集成与产品化交付

Serving clinical validation, product integration, and productized delivery

期待与高校、医院、科研团队及产业伙伴建立长期合作

Looking forward to long-term cooperation with universities,hospitals, research teams, and industry partners