

A woman is sleeping in a bed with white pillows and a white blanket. She is wearing a white smartwatch on her left wrist. The room is dimly lit with a blue light. On a wooden nightstand to the left, there are a pair of glasses and some papers.

ACCELStars

**Exploring the Science of Sleep to
Create Innovative Medical Treatments
and Wellness Services.**

May. 2026

Confidential

Company

- We are ACCELStars, a Sleep-AI tech company, founded by Professor Hiroki Ueda of the Graduate School of Medicine, U-Tokyo.
- Ueda is a world-renowned authority in the fields of circadian rhythms and sleep.
- Miyahara is a serial entrepreneur who built Japan's largest PHR.



Name	ACCELStars Inc.,
Established	28 th Aug. 2020
Capital	JPY30 million
Employees	18
Major Shareholders	Management Team Sumitomo Mitsui Trust Bank FFG Venture Business Partners (VC-Fund) Suzuyo Group SUMISEI-SBI Investment
Office	Fukuoka: Kurume Research Park, Bio Incubation Center Tokyo: U-Tokyo Entrepreneur Plaza Room 205



Tadashi Miyahara

President & CEO

- Serial Entrepreneur
- Founded Japan's largest PHR, "PepUp". After merging with JMDC, listed in TSE as Japan's largest Medical Data company. (TSE 4483)



Hiroki Ueda

Founder / Executive Board & CTO

- Prof. at the U-Tokyo Graduate School of Medicine (Circadian Rhythm/Sleep)
- BoD at Society for Research on Biological Rhythms (US)



Singapore 2025 **WORLD SLEEP** **September 5-10**

World Sleep 2025 Keynote Speakers



Hiroki R. Ueda, MD, PhD

Laboratory Head, Laboratory for Synthetic Biology, RIKEN
Professor, Graduate School of Medicine
University of Tokyo
Japan

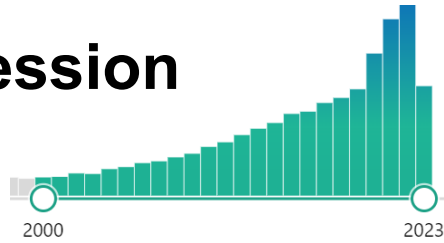
Presentation Title

Towards human systems biology of sleep/wake cycles: The role of calcium and phosphorylation in sleep

Research on the correlation between sleep and illness is rapidly growing

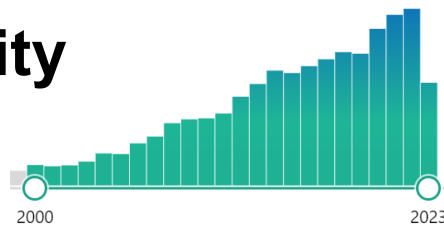
+ Depression

30,565



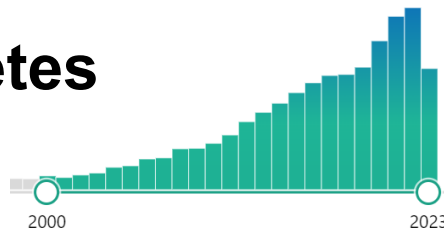
+ Obesity

15,916



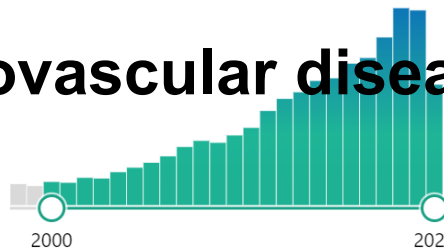
+ Diabetes

12,129

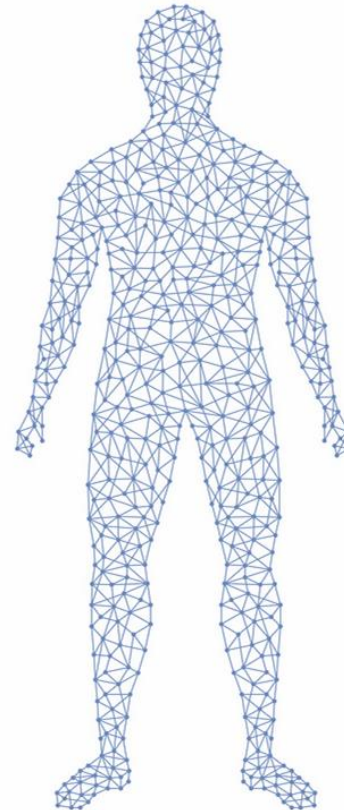


+ Cardiovascular disease

18,624

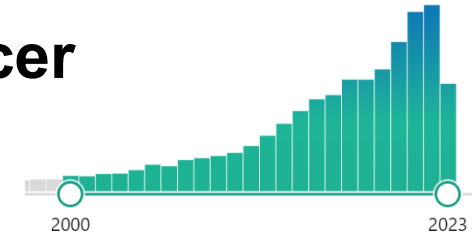


“Sleep” +



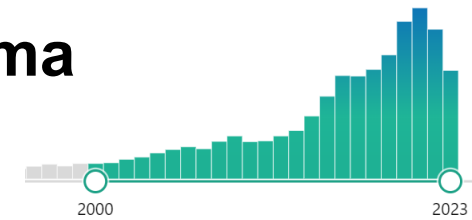
+ Cancer

13,964



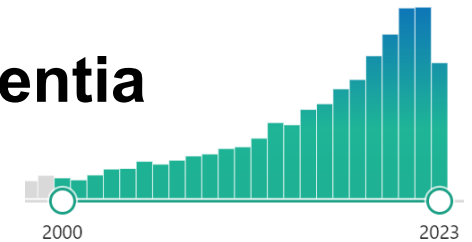
+ Asthma

5,391



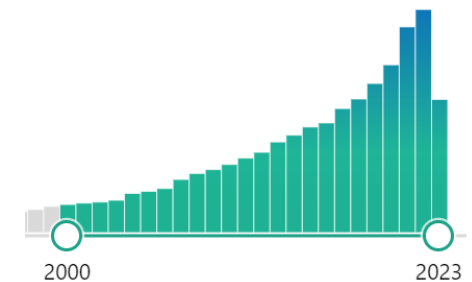
+ Dementia

6,701



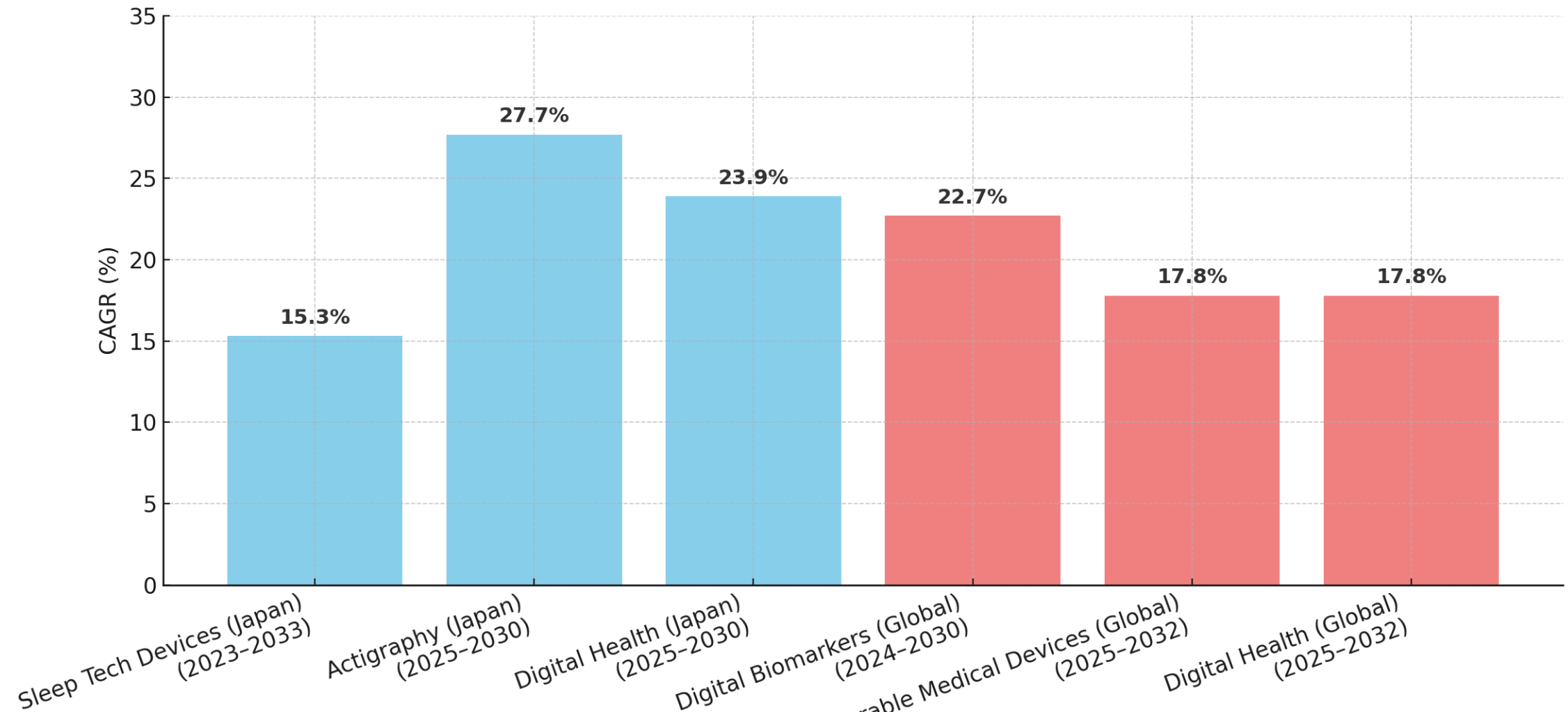
+ Pain

20,800



Source: PubMed

High-Growth Segments Where ACCELStars Operates (CAGR >10%)



Sources:
Spherical Insights, "Japan Sleep Tech Devices Market Forecast 2023-2033" (CAGR 15.3%)
MarketResearchFuture, "Japan Actigraphy Device Market 2025-2030" (CAGR 27.7%)
TechSci Research, "Japan Digital Health Market 2025-2030" (CAGR 23.9%)
Global Market Estimates, "Digital Biomarkers Market 2024-2030" (CAGR 22.7%)
ResearchAndMarkets, "Global Wearable Medical Devices Market 2025-2032" (CAGR 17.8%)
IMARC Group, "Global Digital Health Market 2025-2032" (CAGR 17.8%)

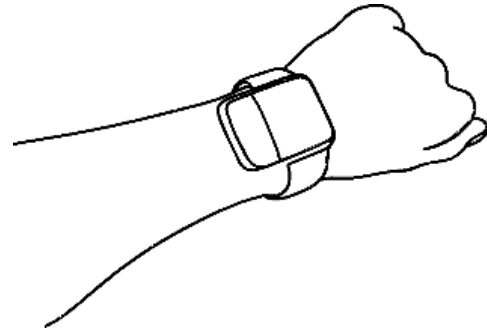
Technologies | Sleep Algorithm by U-Tokyo

- Ueda's team at the U-Tokyo has created the most precise sleep measurement algorithm using a wrist-worn device.
- Accurate detection of mid-awakenings is crucial for diagnosing sleep disorders and diseases.
- Advancements in making sleep measurement simpler and more socially accessible, at a level suitable for medical use, are expected.

• Eliminate the Pain of Sleep assay



PSG Testing is Hard to wear



Reliable wrist-based sleep measurement can be a breakthrough

• Success to develop reliable algorithm

Wearable Device	Researcher	Accuracy	Sensitivity (Sleep)	Specificity (Arousal)
ACCEL(SONY)	Ode+, 2022	91.7%	96.2%	80.1%
ACCEL(Axivity)	Katori+, 2022	93.2%	97.2%	82.2%
Actiwatch-64	Kosmadopoulos+, 2014	88.0%	97.8%	26.9%
Actiwatch-64	Markwald+, 2016	89.3%	96.7%	37.0%
Fitbit	de Zambotti+, 2016	90.9%	95.4%	42.4%
Apple Watch	Walch+, 2019	86.6%	93.0%	54.1%
Oura Ring	de Zambotti+, 2019	—	96%	48%

Ode KL, et al., iScience, 2022; Katori M, Shi S, et al., PNAS, 2022

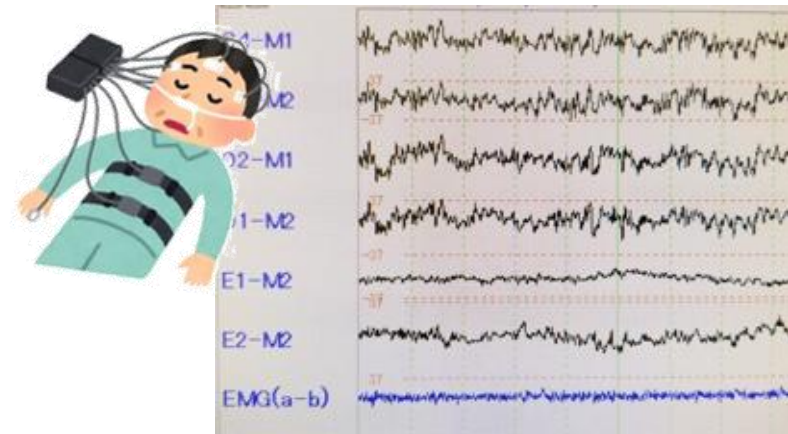


Technologies | Teacher Data Quality

- A broad academic network to gather high-quality training data, ensuring improved quality through collaborative research and a large volume of data.
- By collaborating with the President of the Japanese Academy of Sleep Technology and the research team, we ensure the quality and quantity of sleep data, thereby maintaining and enhancing our competitive advantage.

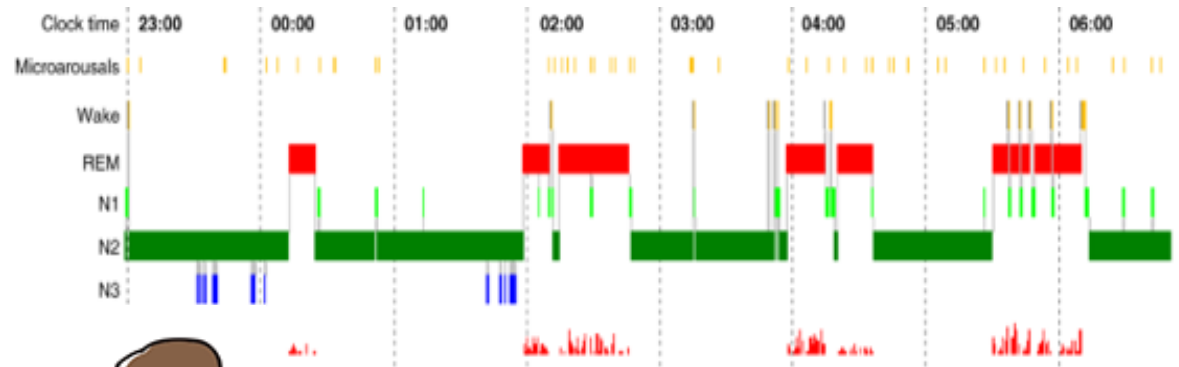
Enhancing the quality of AI learning to develop an exceptional data-PF.

Data Collection from researcher-network



Examinee Data from our sleep PSG lab and clinical research partners

Training Data by Japan's top sleep technologist



Judgment by clinical technicians

Machine Learning by our Expert team



Succeed in building a highly accurate "Sleep Judging AI."

Technologies | Our Expert Team

- We gathered sleep data in our own lab and developed the algorithm with a top team including PhD holders.
- We used a consensus approach, having multiple technicians score the same PSG data to generate a reconciled, high-quality training dataset.
- As a result, we successfully created a very reliable algorithm.

Sleep-AI algorithms developed by our experts and trained on real-world data.

Generating training data through data verification and collaboration among multiple technologists.

		Nanba					
		W	R	1	2	3	
Yagi	W	2194	29	89	6	0	2318
	R	25	3612	50	59	0	3746
	1	119	162	1416	352	1	2050
	2	30	133	665	6517	416	7761
	3	1	2	1	88	1836	1928
		2369	3938	2221	7022	2253	17803
		13.3%	22.1%	12.5%	39.4%	12.7%	

		Nanba					
		W	R	1	2	3	
Yagi	W	94.7%	1.3%	3.8%	0.3%	0.0%	
	R	0.7%	96.4%	1.3%	1.6%	0.0%	
	1	5.8%	7.9%	69.1%	17.2%	0.0%	
	2	0.4%	1.7%	8.6%	84.0%	5.4%	
	3	0.1%	0.1%	0.1%	4.6%	95.2%	
total						一致率	87.5%



Algorithm Development by our Expert Members



Takanori Ogata (Information) | Deep Learning, Machine Learning

Master's degree in Systems Information Science from Kyushu University. He was selected as a creator for the IPA MITOU Youth project during his studies. In 2012, while still a student, he co-founded ABEJA (TSE 5574). He has extensive experience in both fundamental and applied research in Deep Learning and Machine Learning, including joint research with universities and corporations.



Mitsuru Kaneda (Physics) | EEG, EMG

Ph.D. in Science from the University of Tokyo's Graduate School of Science, which he completed in March 2011. He conducted research in particle physics at CERN, the European Organization for Nuclear Research, and the Tokyo Institute of Technology before transitioning to the private sector. He joined our team in February 2022.



Sho Ogaki (Mathematics) | Pulse Wave, SpO2, Respiration

Ph.D. in Science from Osaka University's Graduate School of Science, where he specialized in mathematics. After graduation, he worked as a quant, developing financial product valuation algorithms. He then moved on to spearhead R&D for business growth at several companies. Sho joined our team in 2022.



Tomoyuki Nohara (Sensors) | Acceleration, Temperature

Master's degree in Mechanical and Information Engineering from Kyushu Institute of Technology. His research background includes fluid dynamics, vibration, and sound. He has led R&D and new product development in the AI domain at companies such as Pioneer and Abeja. Tomoyuki joined our team in 2022.

Products | Sleep AI-PF and Medical Device

- In addition to our primary ability for wearable data analysis, we also offer automatic PSG data analysis, along with a web-based survey system.
- We provide features for sleep research and product assessment, supporting their use in sleep-related studies and product evaluations.
- PSG-AI's support has significantly reduced technicians' tasks from hours to just minutes, receiving positive feedback from authorities.

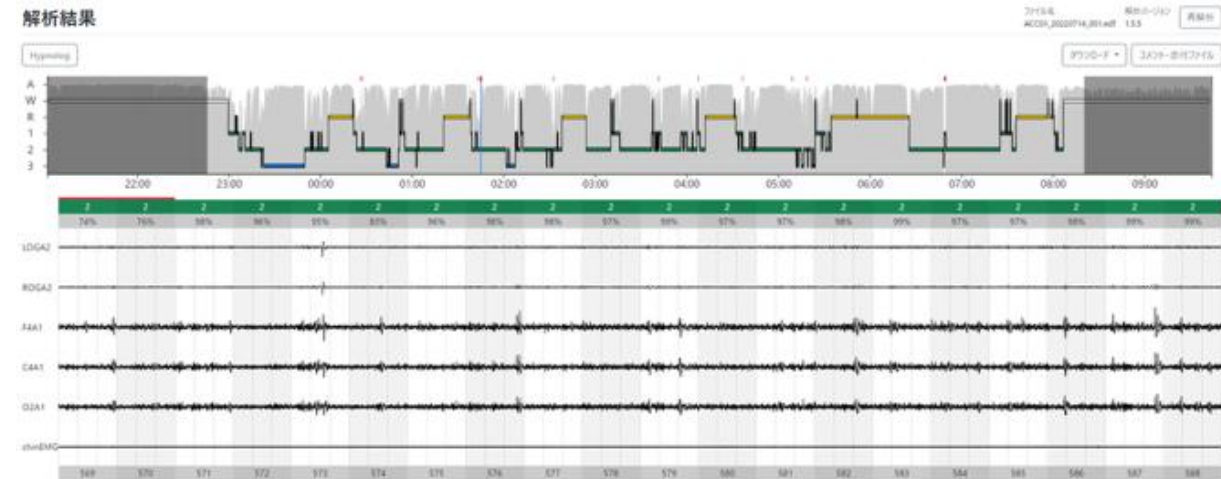
AI-Analysis of Wearable Device Data



Sleep-detection AI, compatible not only with our proprietary medical device body motion sensor but also with multiple third-party devices



AI-Analysis of PSG Data



At our in-house lab, we collected over 600+ PSG data sets. We developed an AI algorithm using the diagnostic results from our top-tier clinical laboratory technologist team as training data.



Traction | Sleep Research Support

- Conducted 60+ clinical studies approved by ethics committees. Additionally, more than 100 studies are underway in the discussion.
- Since FY2024, we have received R&D support inquiries from pharmaceutical companies and business entities considering healthcare services, with proven results across various companies.

Research Support for Academia

60+ For various targeted Diseases
With many influential researchers



Research Outsource & Consulting biz

Based on its reputation for supporting research in academia, we have successfully received research assistance requests not only from the sleep medicine field but also from various industries.

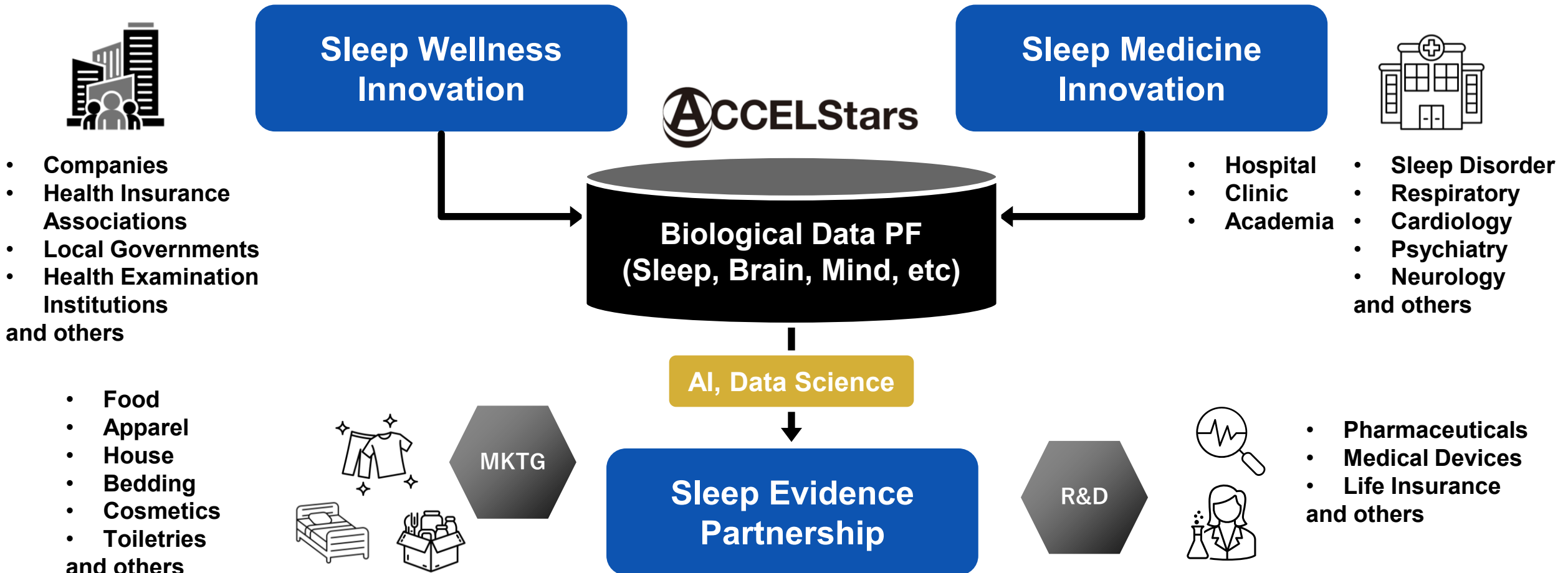
- Pharmaceuticals
- House
- Food / Beverage
- Apparel
- Bedding
- Cosmetics
- Toiletries
- and others



Business | Overview

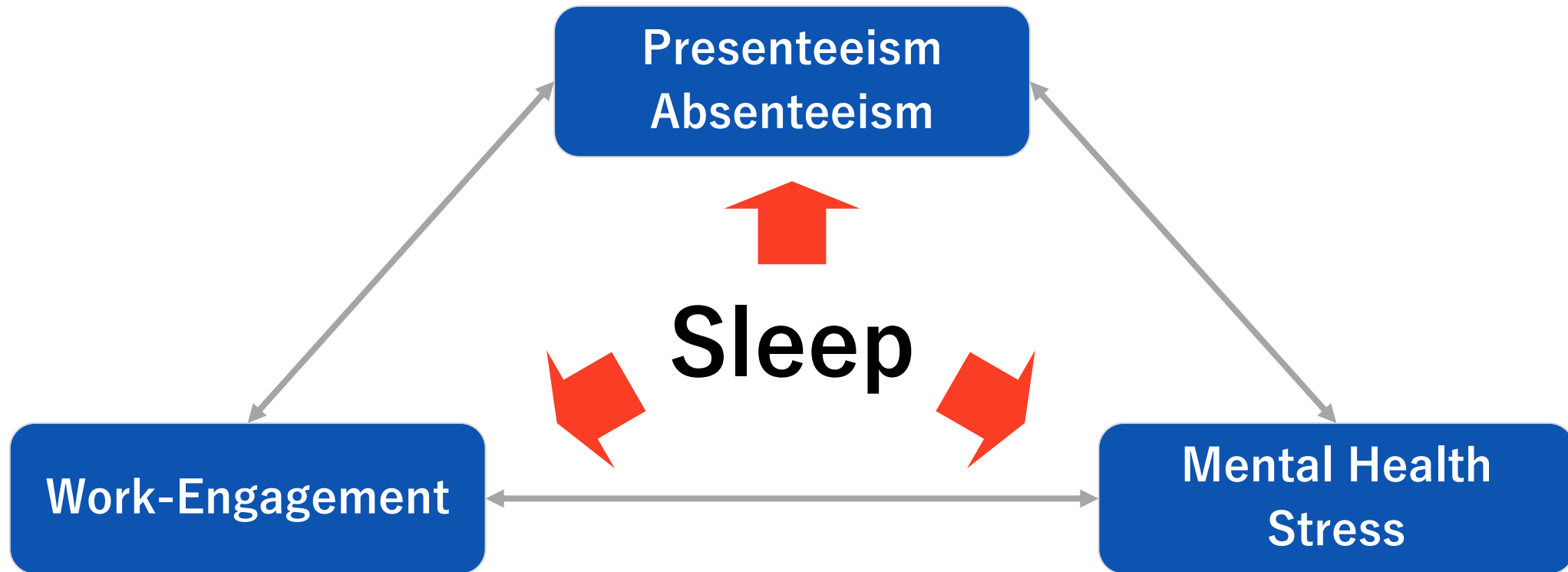
- Driven by increasing demand for sleep issues, we will enhance business in the sleep wellness & medicine field and expand into digital biomarkers.
- Looking ahead, we aim to link brain health and mental health prevention through sleep by providing digital biomarkers.
- Additionally, we provide evidence development support services for companies interested in R&D and marketing using sleep data.

Overview of Our Business



- We use sleep as a KPI and focus on supporting the revitalization of “human capital” through improved sleep.
- By utilizing sleep visualization technology and a consulting approach, we provide solutions for both individuals and organizations.

Using “Sleep” Data as a KPI to Improve Human Capital Performance



Increase the number of organizations using sleep as a KPI to promote its adoption for organizational growth and business strategy, thereby helping boost productivity amid labor shortages in Japan.

Business | Corporate Sleep Wellness

- From the perspective of corporates and insurers, we provide services that utilize sleep-related data to enhance productivity and support early detection and intervention for depression risk.
- We promote service delivery by collaborating with channel partners, medical institutions, solution providers, and other stakeholders.

• Connecting Sleep Wellness & Sleep Medicine



Survey about Sleep × Engagement



- Visualize how individual sleep affects health management outcomes such as productivity, performance, engagement, and lifestyle habits.
- Identify key actions to implement as health management measures.



Sleep Health Checkup



- Device + Consultation: Exploring the Causes of Insomnia
- Medical devices enable more accurate measurements.
- Individuals at risk for disease should seek consultation. (SAS, Insomnia)

+ Services

Seminar & Consulting



- Understanding the Importance of Sleep
- Recognizing Your Own Sleep Challenges
- Raising Awareness for Sleep Improvement
- Customized to Meet Your Needs



Analysis and Consulting

Based on measurement results and qualitative insights gathered from coaching and seminars, we analyze and recommend the actions that individuals and organizations should take.



111+

Sleep Wellness
Clients

Corporates

70+

- BRIDGESTONE**
Solutions for your journey
- Jera**
Energy for a New Era
- JR**
JR-EAST
- odakyu**
ELECTRIC RAILWAY
- HONDA**
The Power of Dreams
- BIPROGY**
- はくばく**
The Kokumotsu Company
- 伊藤園**
- Suzuyo**
- rkb**
- Belc**
- POLA ORBIS**
HOLDINGS
- Mitsui Chemicals**
- LY**
- SoftBank**
- ORIX** オリックス生命
- UACJ**
- 野村不動産**
- ITFOR**
- IHI GROUP**

etc.

Insurers

Health Insurance
Association

21+

- JR-KENPO**
- FWD**
insurance
- SHOWA**
- MEITO**
- GSK**
- MEIDEN**
Quality connecting the next
- odakyu**
- BIPROGY**
- KAWAI**
- 外国運輸金融健康保険組合**
The Foreign Transportation and Finance Health Insurance Association

etc.

Others

Local Government
Clinic Groups

20+

- 久留米市**
Kurume City
- 東広島市**
Higashiroshima City Website
- 江戸川区**
Edogawa City
- 熊本県**
Kumamoto Prefecture
- 案都郡山**
- 三豊市役所**
法人番号7000020372081
- 富山県警察**
TOYAMA Prefectural Police
- メディメッセ 桜十字**
KUMAMOTO
- 渋谷睡眠・呼吸メディカルクリニック**
Shibuya Sleep·Breathing Medical Clinic

etc.

Sleep-Biomarker Biz

- Through the analytics PF, we gather diverse objective data from PSG and wearables, along with subjective data like patient and visitor interviews.
- As vast amounts of objective data accumulate and are cross-referenced with disease and symptom data, we will develop the Digital Biomarker PF.

Data Analysis Platform

Objective Data

PSG



Electroencephalogram, eye movement, electromyogram, electrocardiogram, airflow, respiratory effort, snoring sound, body position

Wearable



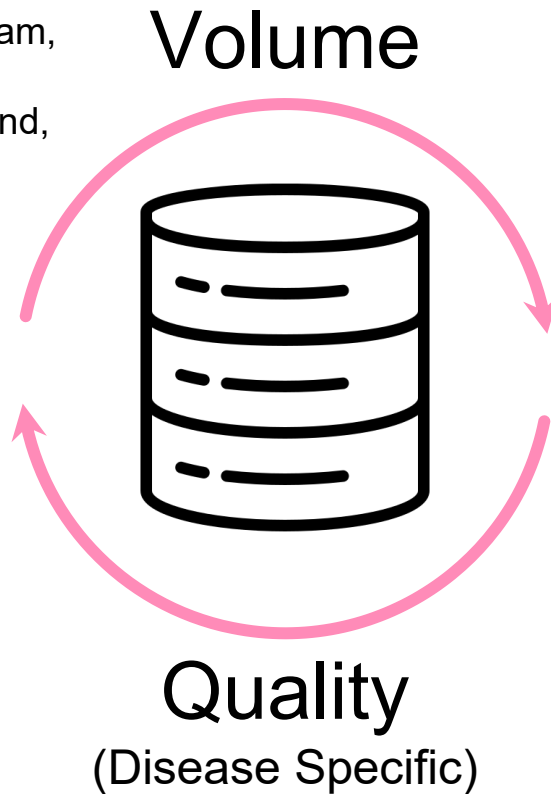
Acceleration, pulse wave, SpO2, blood pressure, light ...and more

Subjective Data

Survey



Lifestyle habits, activity, symptom, QOL assessment ...and more

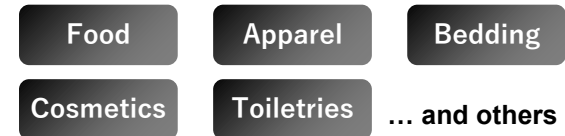


Sleep Biomarker Support & consulting

- **Exploration of “Unmet Medical Needs” and Strategy Development + Indication Expansion**



- **Collaborative Research and Clinical Research Support**



- **Consulting and Co-creation**

Some Major Companies

eg. Manufacturers, Energy, Transportation, Communications, Software and so on

**From Japan, we are expanding into Asia.
We welcome potential partners to connect with us.**

1. Seeking marketing partners for our expansion

2. Expanding our AI data platform with clinical research partners

3. Looking for investors to support rapid growth toward our 2029 IPO

A world map with a dark blue background. The map is overlaid with numerous small, glowing white dots of varying sizes, representing a global network or data points. The dots are most densely clustered in North America, Europe, and East Asia, with more sparse distributions in Africa, South America, and Australia. The map is centered on the Atlantic Ocean.

ACCELStars