



# First Integrated AI-enabled Mobile fMRI-guided Neuromodulation System for Treatment of Dementia

PRESENTED BY

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# The Problem

7<sup>th</sup> Cause of Death

## Alzheimer's Disease

is most prevalent form of dementia, numbers expected to double by 2060.

Source: Alzheimer's Association 2025



## One in Two

adults affected either caring for someone with dementia or developing it themselves.



## No Cure, No Reversal.

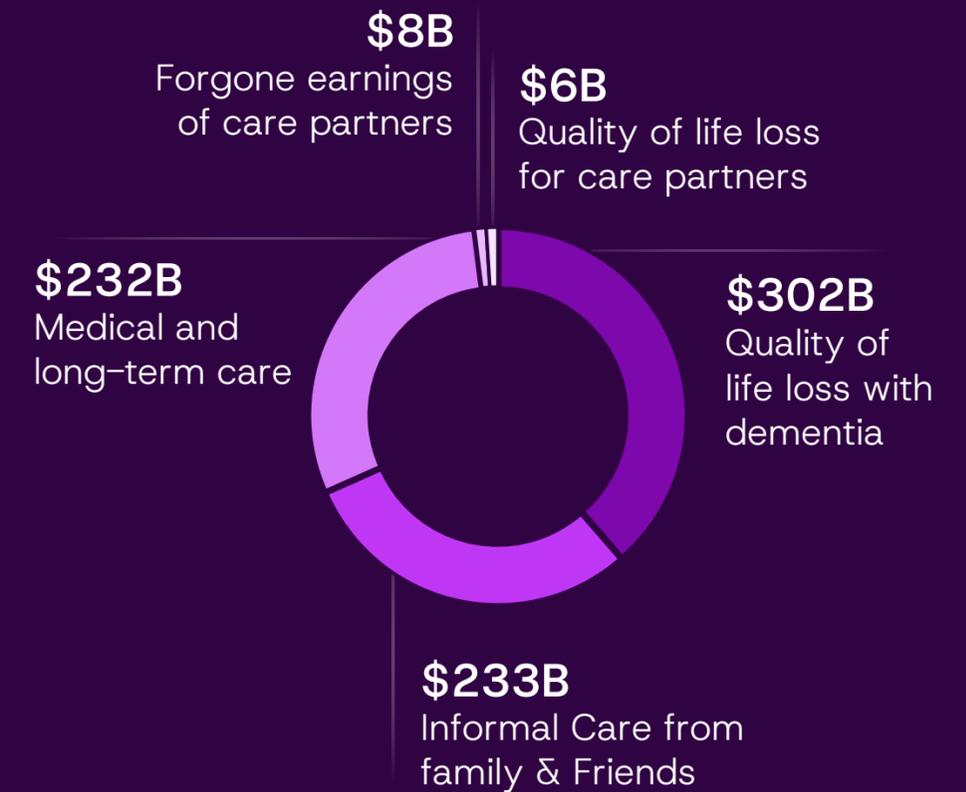
Current treatments only slow progression and often have undesirable side effects.



## TOTAL COST OF DEMENTIA BY COST CATEGORY

# \$781B

Total Annual Cost



<https://schaeffer.usc.edu/wp-content/uploads/2025/04/The-Cost-of-Dementia-in-2025.pdf?>



# Ladybug

by Cerevia

The first non-invasive, image-guided, closed-loop mobile neuromodulation platform for dementia care.

- ✓ **Advanced transcranial magnetic stimulation (TMS) neuromodulation**
- ✓ **Diagnostic-grade fMRI imaging**
- ✓ **AI-enabling data**
- ✓ **Mobile system to deliver treatment at the point-of-care**



## DEEP BRAIN TMS

Advanced TMS neuromodulation with 144 coils to reach the hippocampal networks of the brain.



## LIVE BRAIN IMAGING

Integrated Functional MRI for real-time, actionable feedback.



## AI-DRIVEN THERAPY

Leverage AI-enabling data to accelerate image construction and personalize therapy.



# Market Opportunity

We are designing a scalable model that fits directly into the dementia care ecosystem:

- ✓ Clinics
- ✓ Assisted living center
- ✓ Memory care clinics

...so that advanced neuromodulation treatment can reach patients where they already are.

TAM

**\$246B**

U.S. Medicare + Medicaid spend on healthcare, long-term care, and hospice for ~10M dementia patients.

SAM

**\$157B**

Medicare + Medicaid spend on mild-to-moderate dementia patients in community or non-institutional care.

SOM

**\$2B**

Mobile Ladybug trucks reaching assisted-living centers with high dementia volumes. Transition to leasing, licensing, subscription model



# Clinical Data

Based on Previous Peer-reviewed Study (S Korea)

In a 2024 randomized, placebo-controlled study, **4 weeks** of MRI-guided TMS in patients with Alzheimer's-related cognitive impairment resulted in statistically significant improvements from baseline compared to sham treatment.

At **8-week follow-up**, outcomes **exceeded both baseline and end-of-treatment measures**:

ADAS-Cog\* (-5.2/p=0.002)  
CDR-SB\* (-4.5/p=0.007)

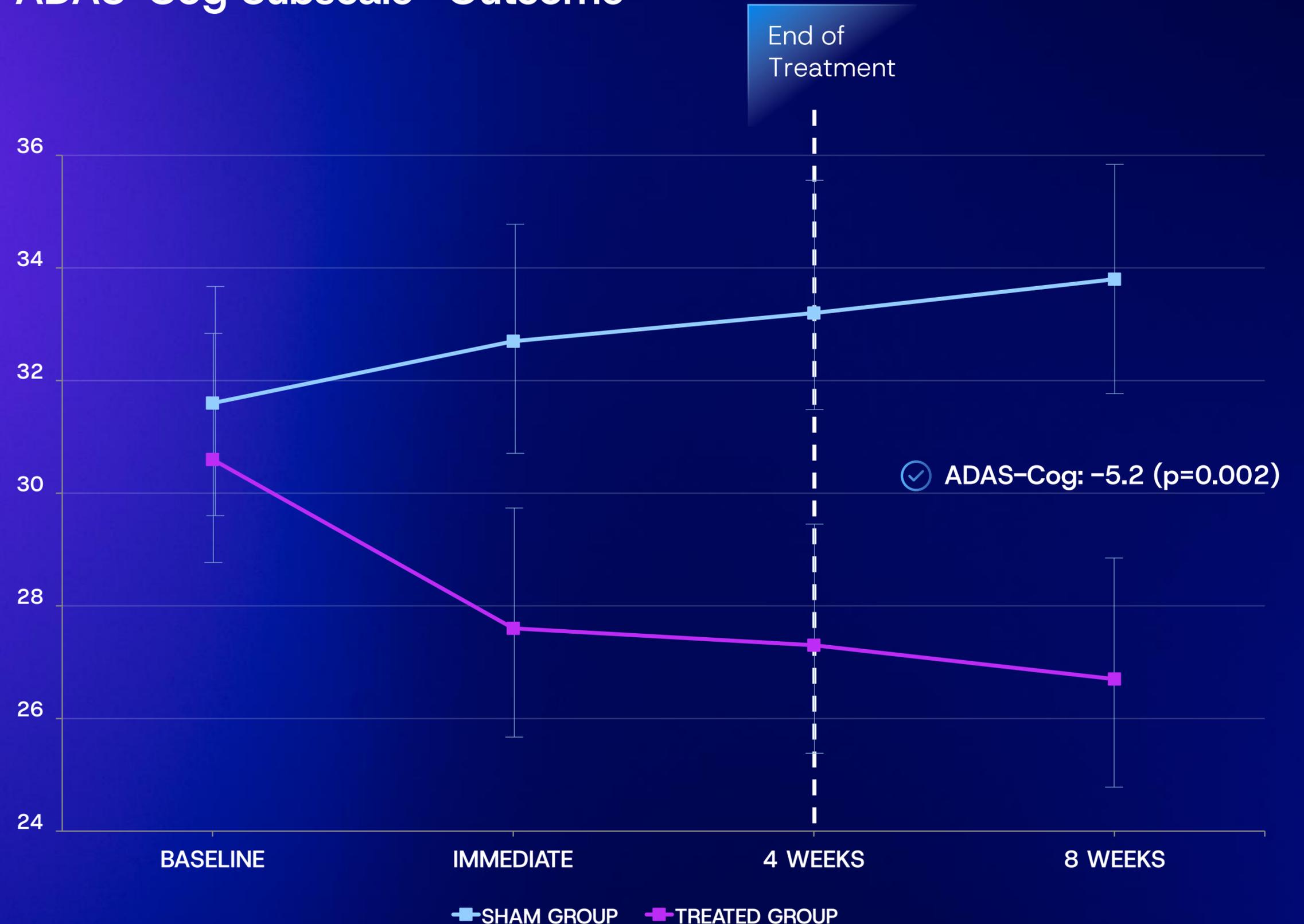
In contrast, patients in the sham group demonstrated continued cognitive decline over the same period.

This study provides scientific precedent to further explore network-level neuromodulation in dementia, though outcomes may vary and are not predictive of results of the Ladybug platform.

YH Jung et al, "Effectiveness of Personalized Hippocampal Network-Targeted Stimulation in Alzheimer Disease: A Randomized Clinical Trial." DOI: 10.1001/jamanetworkopen.2024.9220

Source: \*Alzheimer's Disease Assessment Scale-Cognitive Subscale

## ADAS-Cog Subscale\* Outcome



# Executive Team Built to Succeed

## CEREVIA TEAM SUCCESSES

- ✓ Have raised **\$3M in non-dilutive** funding (NIH & DoD grants)
- ✓ **IP moat:** 50+ US & Int'l patents; full stack neuro platform
- ✓ Pilot interest from **Kaiser**, memory care clinics
- ✓ Cerevia is **8<sup>th</sup> spin out** of Weinberg Medical Physics studio



**Irving Weinberg,  
MD, PhD**

Founder & CEO

Radiologist, MedTech Expert, Entrepreneur. Extensive M&A history successfully selling multiple startups. Spearheads our technical, clinical, regulatory, and grant funding.



**Ida Garakani Good,  
MA**

Co-Founder & COO

Med Device & Neurotech Executive. Extensive experience in M&A, operations, commercialization, regulatory, and fundraising. Spearheads operations, fundraising, investor relations, and commercial strategy.



**Joost de Schutter,  
MBA**

Chief Financial Officer

Silicon Valley-based Finance Executive. Expertise with strategic planning in neuromodulation and neurotech. Spearheads our strategic financial future and supports investor relations.



# Advisory Board

We are guided by our esteemed advisory board



## Dr. Ainsley MacLean, MD FACR

Chair, Scientific Advisory Board; Neuroradiologist; General Partner – Ainsley & Born Capital; Founder & LP – AAG Advisory; Former Chief AI Officer – Kaiser Permanente



## Sungshin Kim, PhD

Scientific Advisor/AI-enabling Digital Twin & Precision Targeting Framework Fellow; Associate Professor & Neuroscientist with expertise in Neuroimaging, Neuromodulation & AI-applied Learning and Memory; Co-author *Jung et al.* clinical study; Expert in image-guided brain stimulation



## Pranav Parikh, PhD

Clinical Consultant; Assoc Professor, University of Houston, Direct NSAP NIH R25 Research Education Program, Director, Center for Neuromotor and Biomechanics Research



## Prof. Robin Rowe

Scientific Advisor/AI Standards & Digital Twin Fellow; Chairman, United Nations ITU Metaverse Task Group; Novartis Biome Innovation Prize Winner (Psoriasis AI Diagnostics); WHO AR Group Manager; AI Strategist DARPA Research Scientist; US Navy Research Scientist (NATO VR War Gaming & FLIR Flight Simulation)



## Molly Hermiller, PhD

TMS & Clinical Consultant; Neuroscientist; Assistant Professor, Florida State University



## Mike Petrillo, MS

Vice President, Engineering; Expertise in medical device manufacturing, QC and regulatory compliance



## Gerry Daneshvar, MD

Head of Business Development; Investor Relations & Public Affairs



## Jeff Hausfeld, MD, MBA, FACS

Memory Care Center Consultant; CEO, Memory Care Centers of Illinois

# Traction

Cerevia Neuro is already seeing strong pull from the ecosystem despite our early stage.

## ACCELERATOR/INVESTOR FORUM INVITATIONS

- ✓ VentureWell Aspire Fall Cohort
- ✓ Barracuda Bowl Pitch Event
- ✓ MedTech Innovator nomination
- ✓ FAST Track Program by California Life Sciences
- ✓ Accepted presenter to LSI USA '26

## FUNDING

- ✓ Awarded federal grant funding
- ✓ Engaged with federal and state non-dilutive programs to support first clinical trials
- ✓ Strong validation of scientific rationale and unmet need
- ✓ Active discussions with angel and VC investors

## PILOT INTEREST FROM

- ✚ Largest health system in US
- 🧠 Memory care clinics
- 🎓 Academic institutions

## LETTERS OF SUPPORT

- 🏢 Industry KOLs
- 🏛️ Academic institutions

## EXECUTION & TRANSLATIONAL READINESS

**CLIO Certification – Commercial Readiness Assessment (34/35)**  
Independently assessed across regulatory, reimbursement, IP, and GTM domains.

## FEDERAL FUNDING



# Execution Velocity:

$\Delta$  Progress /  $\Delta$ Time

Parallel execution across operations, governance, advocacy, engineering, & regulatory and clinical pathways.



**Q2 2026**

- Analyze feasibility & safety signals
- Refine stimulation protocols
- Advance FDA engagement (post–Breakthrough submission)
- Prepare study sites for pivotal clinical trial
- Cost engineering with insights & learnings gained

# Competitive Landscape

## CEREVIA NEURO'S "STACKED ADVANTAGE"

### PLATFORM STRENGTHS

- ✓ Mobile and image-guided neuromodulation.
- ✓ Closed-loop, personalized stimulation.
- ✓ Multi-modality system combining TMS, ultrasound and future modalities.

### CLINICAL AND OPERATIONAL FIT

- ✓ Diagnostic and therapeutic in one system.
- ✓ Purpose-built for memory clinics, IDNs and senior-care ecosystems.
- ✓ Scalable, decentralized model that avoids high capital equipment.

### DIFFERENTIATION AND VALUE

- ✓ Aligns with TCET, CMS reimbursement and value-based care.
- ✓ Potential for cognitive restoration, not just slowing decline.
- ✓ Treatment paradigm shift to restore brain circuitry and cognitive gains.

## NO DIRECT COMPETITORS

No neuromodulation platforms approved by FDA for dementia.

## EMERGING TECHNOLOGIES (NOT FDA APPROVED FOR DEMENTIA)

Insightec (Focused Ultrasound, Exablate Neuro)

- › Requires full MRI suite, Capital cost \$1.5M–\$2.5M Fixed.
- › Non-mobile devices.
- › Potential blood brain barrier opening risks (Microhemorrhage, Amyloid-Related Imaging Abnormalities-like patterns).
- › Single-modality.

## INDIRECT COMPETITORS

Lecanemab (Leqembi)/ Donanemab (Kisunla)

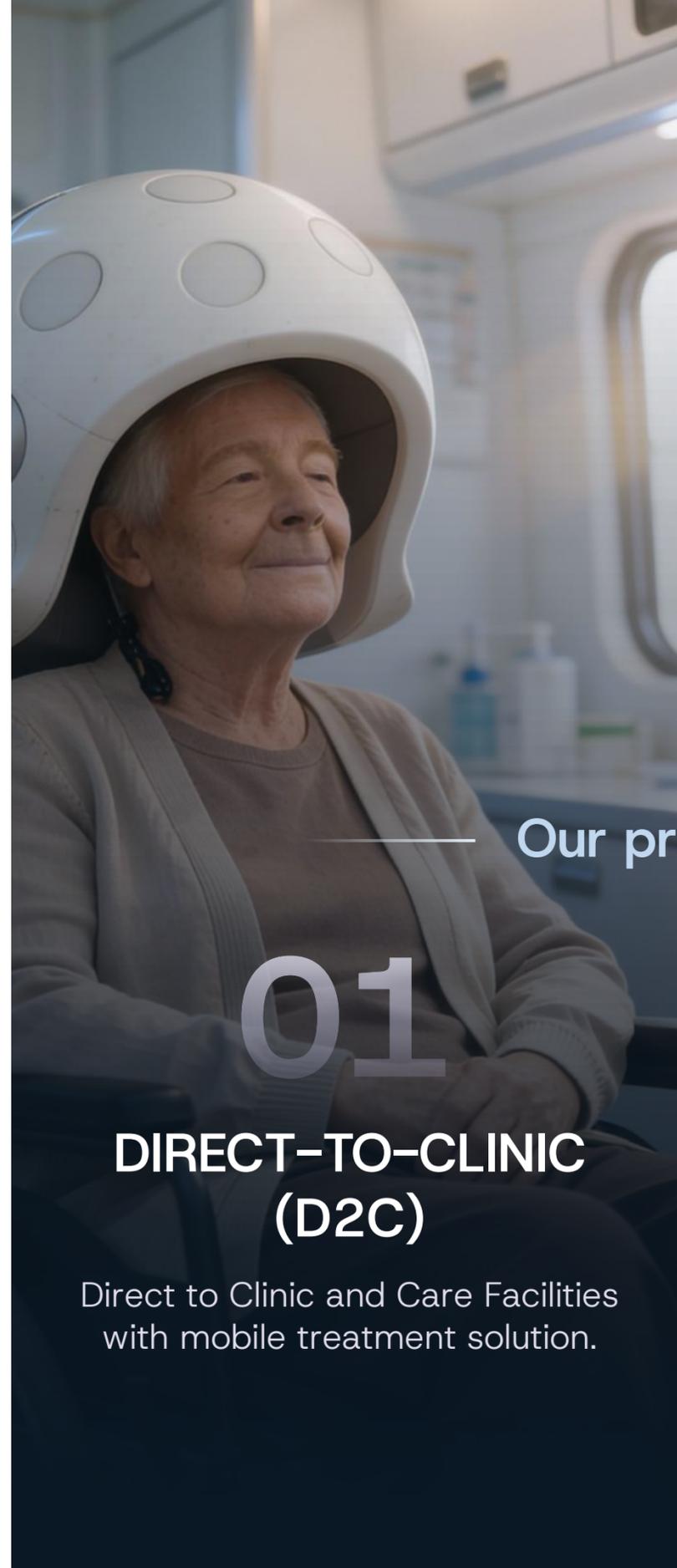
- › Requires infusions + MRI safety monitoring.
- › Slows decline but does not improve cognition.
- › Risk of ARIA, no disease modification.
- › Small/temporary effect.

# Business Model

As a Full Stack Brain Health Platform, we can deliver end-to-end solutions for neurological care, with multiple sources of revenue:

- ✓ **Hardware**
- ✓ **Software**
- ✓ **Clinical Protocols**
- ✓ **Service Layer**
- ✓ **Data Layer**

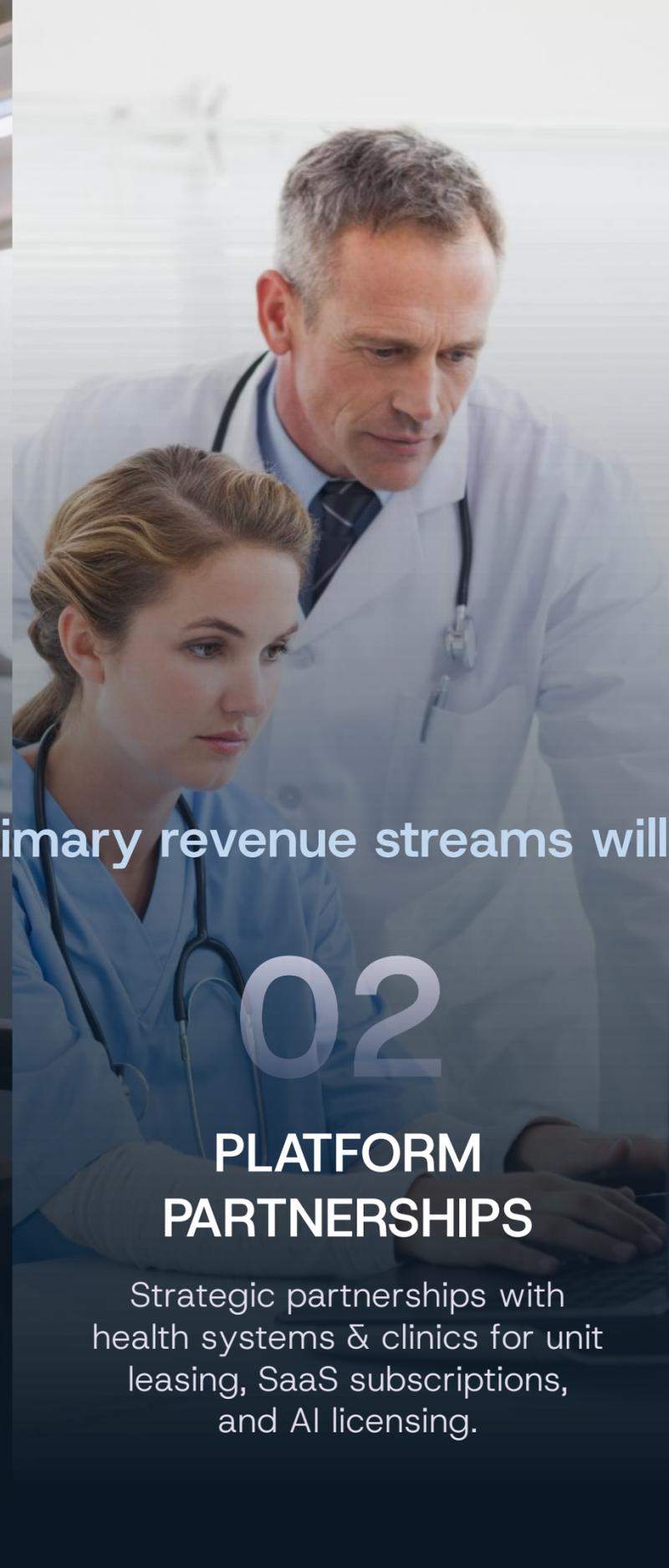
We will operate initially as Direct-to-Clinic (D2C) and then transition to B2B after clinical & regulatory milestones are met.



01

## DIRECT-TO-CLINIC (D2C)

Direct to Clinic and Care Facilities with mobile treatment solution.



02

## PLATFORM PARTNERSHIPS

Strategic partnerships with health systems & clinics for unit leasing, SaaS subscriptions, and AI licensing.



03

## FRANCHISE EXPANSION

Implement franchise model in specific territories.

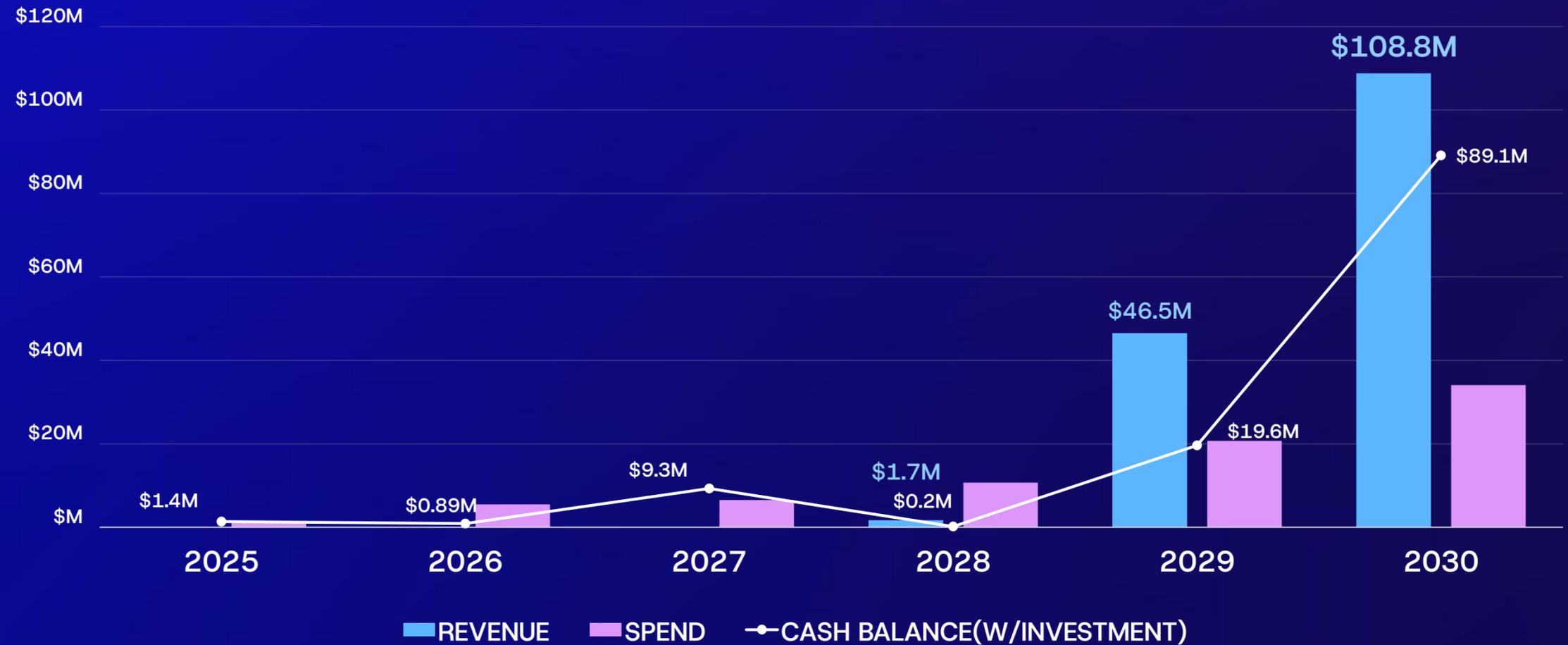
Our primary revenue streams will include

# Integrated Financial Plan



# Financial Projections

## P&L and Cash



Cerevia projects **revenue acceleration starting in 2029**, driven by commercialization and reimbursement of the Ladybug™ neuromodulation platform and expansion into dementia-care channels.

**Early Investment → Long-Term Scale** Limited revenues expected during clinical and regulatory years (2025–2028), with major revenue inflection following FDA clearance, CMS approval, and commercial rollout.

**By 2030, Cerevia targets \$100M+ in annual revenues**, supported by strong gross margins and a scalable model with expected robust reimbursement yielding \$4M/mobile unit/year.

# \$8M

To fund the next phase of growth and achieve key milestones by 2027

## Funding Ask

2026



Prototype launch



First human trial



Low-field fMRI testing

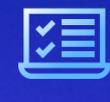
2027



Cost engineering



Pivotal clinical trial



Submit Clinical Data to FDA approval for dementia



# Why Invest in Cerevia?

## BREAKTHROUGH NEUROMODULATION PLATFORM

- ✓ First mobile, non-invasive, image-guided system
- ✓ Provides real-time actionable data for personalized Alzheimer's treatment.

## STRONG IP POSITION & FULL STACK PLATFORM

- ✓ Deep technical moat with 50+ issued US and international patents.

## SCALABLE COMMERCIAL MODEL

- ✓ Moves beyond mobile units into leasing for hospitals and private clinics.

## CHANNEL PARTNERSHIPS

- ✓ Established relationships with major US healthcare systems and memory care centers.

“

Current pharmacological treatments offer limited benefit and carry significant risks. This project brings the potential of advanced image-guided neuromodulation to patients across care settings, improving both access and patient experience.



**Dr. Ejaz A. Shamim, MD, MBA, MS, FAAN**  
Chief, Dept of Neurology



**KAISER PERMANENTE®**



# Join Us In Defining The Future Of Dementia Care

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