FIREFLY

NEUROSCIENCE

Leading the transformation
of brain healthcare through
AI and objective data

Forward-Looking Statements

Certain statements in this presentation may contain certain information that is "forward-looking information" or "forward-looking statements" within the meaning of applicable securities laws with respect to Firefly Neuroscience, or its subsidiary elminda Ltd. ("Firefly Neuroscience" or the "Company"). Such statements include all statements other than statements of historical fact contained in this presentation, such as statements that relate to the Company's current expectations and views of future events. Often, but not always, forward-looking information can be identified by the use of words such as "may", "will", "expect", "anticipate", "predict", "aim", "estimate", "intend", "plan", "seek", "believe", "potential", "continue", "is/are likely to", "is/are projected to" or the negative of these terms, or other similar expressions, as well as future or conditional verbs such as "will", "should", "would", and "could" intended to identify forward-looking statements. These forward-looking statements include, among other things, statements relating to our expectations regarding future clinical trials, expectations regarding regulatory approvals, expectations regarding the safety and efficacy of our products, our expectations regarding commercializing our approved products and our ability to generate revenues and achieve profitability; our expectations regarding the impact of COVID-19 on our business, affairs, operations, financial condition, liquidity, availability of credit and results of operations; our expectations regarding the safety, efficacy and advantages of our products over our competitors and alternative treatment options; our expectations regarding our products fulfilling unmet clinical needs and achieving market acceptance among patients, physicians and clinicians; our expectations regarding reimbursement for our approved products from third-party payers; our ability to attract, develop and maintain relationships with other suppliers, manufacturers, distributors and strategic partners; our expectations regarding our pipeline of product development, including expanding the clinical application of our products to cover additional indications or clinical uses; our expectations regarding current and future clinical trials, including the timing and results thereof; our expectations regarding receipt of additional regulatory approvals for our products and future product candidates; our mission and future growth plans; our ability to attract and retain personnel; our expectations regarding maintenance of the current regulatory approvals we have received, including our compliance with the conditions under such approvals; our expectations regarding our competitive position for our products in the jurisdictions where they are approved; our ability to raise debt and equity capital to fund future product development, pursue regulatory approvals and commercialize our approved products; and anticipated trends and challenges in our business and the markets in which we currently operate or may in the future operate.

Forward-looking statements involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements of the Company to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. The results, performance and achievements of the Company will be affected by, among other things, such as risks related to our limited operating history and history of net losses; risks relating to the extent and impact of COVID-19; risks related to our ability to commercialize our approved products, including expanding our sales and marketing capabilities, increasing reimbursement coverage for our approved products and achieving and maintaining market acceptance for our products; risks related to the regulation of our products, including in connection with obtaining regulatory approvals as well as post-marketing regulation; risks related to our successful completion of future clinical trials with respect to our products and future product candidates; risks related to managing growth, including in respect of obtaining additional funding and establishing and maintaining collaborative partnerships, to achieve our goals; risks related to competition that may impact market acceptance of our products and limit our growth; risks relating to fluctuating input prices and currency exchange rates; risks related to the reimbursement models in relevant jurisdictions that may not be advantageous; risks related to reliance on third parties, including our collaborative partners, manufacturers, distributors and suppliers; risks related to intellectual property, including license rights that are key to our business; and risks related to the loss of key personnel. The Company's forward-looking statements are made only as of the date of this presentation and, except as required by applicable law, Firefly Neuroscience disclaims any obligation to update any forward-looking statements, whether as a result of new information, future events or results or otherwise, unless required by applicable law. There can be no assurance that forward-looking statements will prove to be accurate, as actual results and future events could differ materially from those anticipated in such statements. Accordingly, and because of the above-noted risks, uncertainties and assumptions, readers should not place undue reliance on forward-looking statements due to the inherent uncertainty in them.

Initial Areas of Focus

High Impact, Large Addressable Markets

Early Detection & Prevention

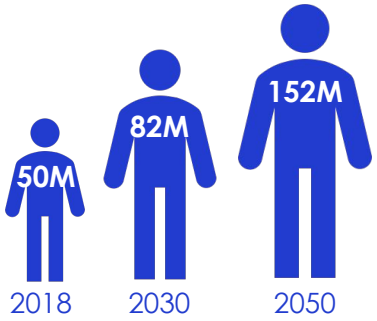
Precision Medicine

“Dementia is Our Top Public Health Crisis”

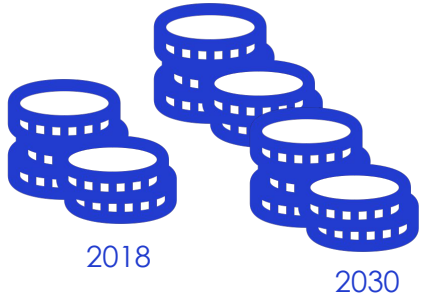
— US Surgeon General, October 2019

Every 3 seconds a person is diagnosed with dementia, leading to nearly **10 million new cases** of dementia worldwide each year. About ¼ of these receive an actual diagnosis.

If global dementia care was a country, it would be the 16th largest economy, and exceed the market value of companies like Apple, Microsoft and Amazon



50 million people worldwide have dementia. The number will more than triple to **152 million by 2050.**



The total estimated worldwide cost of dementia in 2018 was US$1 trillion, about 1,4% of world GDP. This figure will **double by 2030.**

Early detection of Dementia is key for better management

The Burden of Depression is Massive & Growing

Disruption is Required to Save Lives, Reduce Costs

The Main Challenges Solving Mental Health Issues

1. Lack of practical, objective measurements
2. Treatment is based on trail and error

Random choice for first treatment*

4-6 weeks to know if treatment works

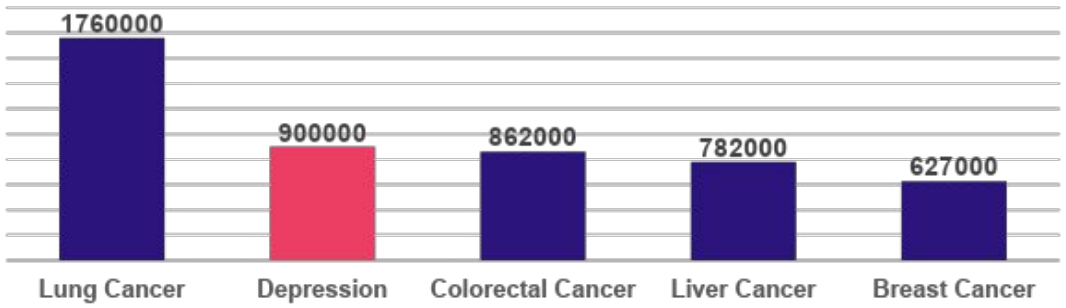
1st treatment works only **30% of the time**

Multiple drug cycles with bad side effects

50% of patients drop out within first month

Remission often takes 1 year or longer

Mortality from depression is higher than most common cancers – and growing



>310M (~10% of WW population)

1st leading cause of disability

Low efficacy rate (40-50% of frontline drug treatment fails)

>30% of patients are left untreated

Annual economic burden in U.S. is $326B

*Consequential Example

1) Sources: WHO / Journal of Clinical Psychiatry

The Challenge: If You Can't Measure It, You Can't Manage It

Evolution of brain assessment technologies

1848

Clinical Cases

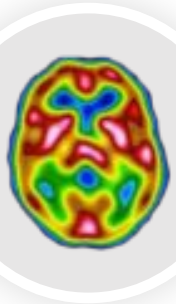
(Phineas Gage) Brain function "mysterious"

1929

EEG

Electrical activity of brain identified (Hans Berger)

1950's



PET

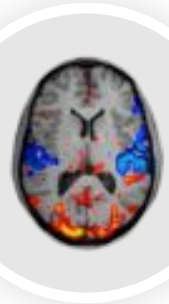
Observe body's metabolic processes as an aid to diagnosis of disease

1970's

CT / MRI

Imaging revolution: anatomy, metabolism, perfusion

1990's



fMRI

Functional MRI (fMRI) measures brain activity by detecting changes associated with blood flow

Our Solution

Brain Network Analytics (BNA™)

A software decision support tool for clinicians who want to use objective data-based insight made possible by advances in Machine Learning and Cloud Computing

- Measures electrical brain activity using standard EEG technology
- Advances in Cloud Computing, Signal Processing and Machine Learning (AI) create individualized brain maps
- Brain maps automatically compared to dataset of normal, age-matched patients
- Easy-to-read report provides clinicians with objective insight on brain function
- Powered by the largest, structured brain dataset in the world that grows with each new patient

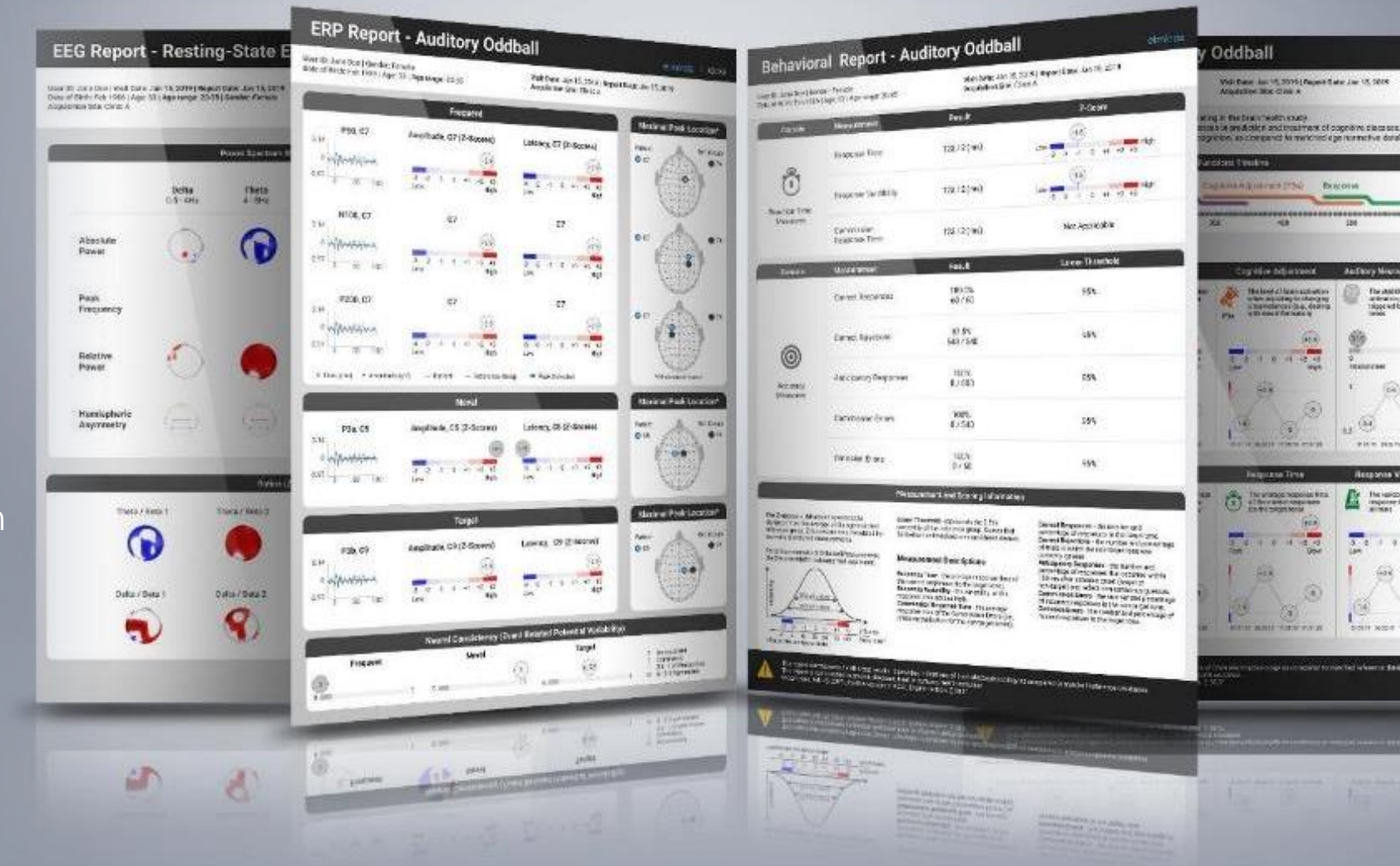
Direct interface with brain through **“off the shelf” hardware**

BNA™ is FDA 510(k) Cleared For the Assessment of Brain Function

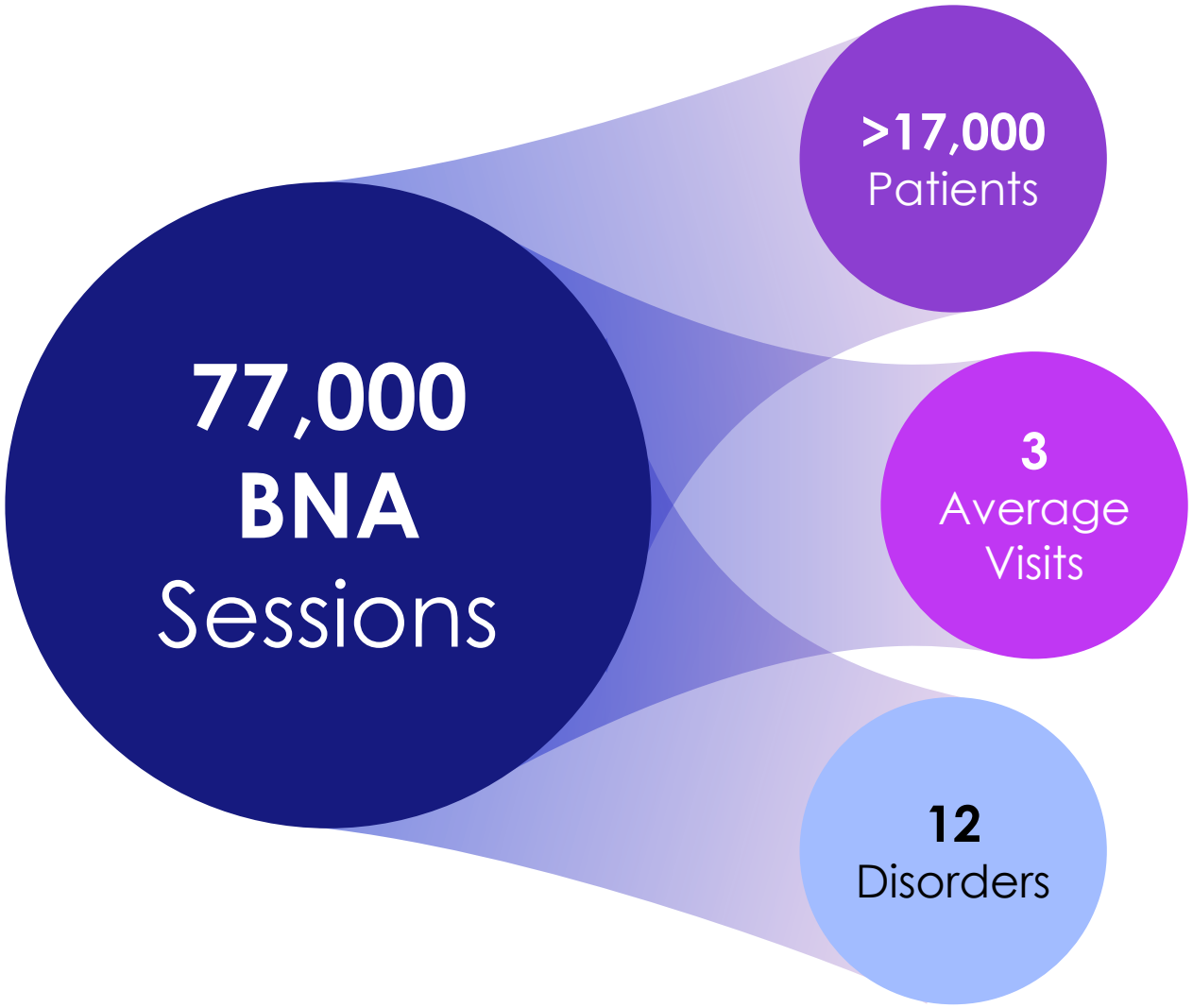
"The Brain Network Analytics (BNA™) Product is to be used by qualified medical professionals for the post-hoc statistical analysis of the human EEG, including event-related potentials (ERP).

This device is indicated for use in individuals 12 to 85 years of age.

The BNA™ Product is to be used with established testing tools (Auditory Oddball, Visual Go No-Go (age range of 25 to 85 years), and Eyes-Closed tasks)."



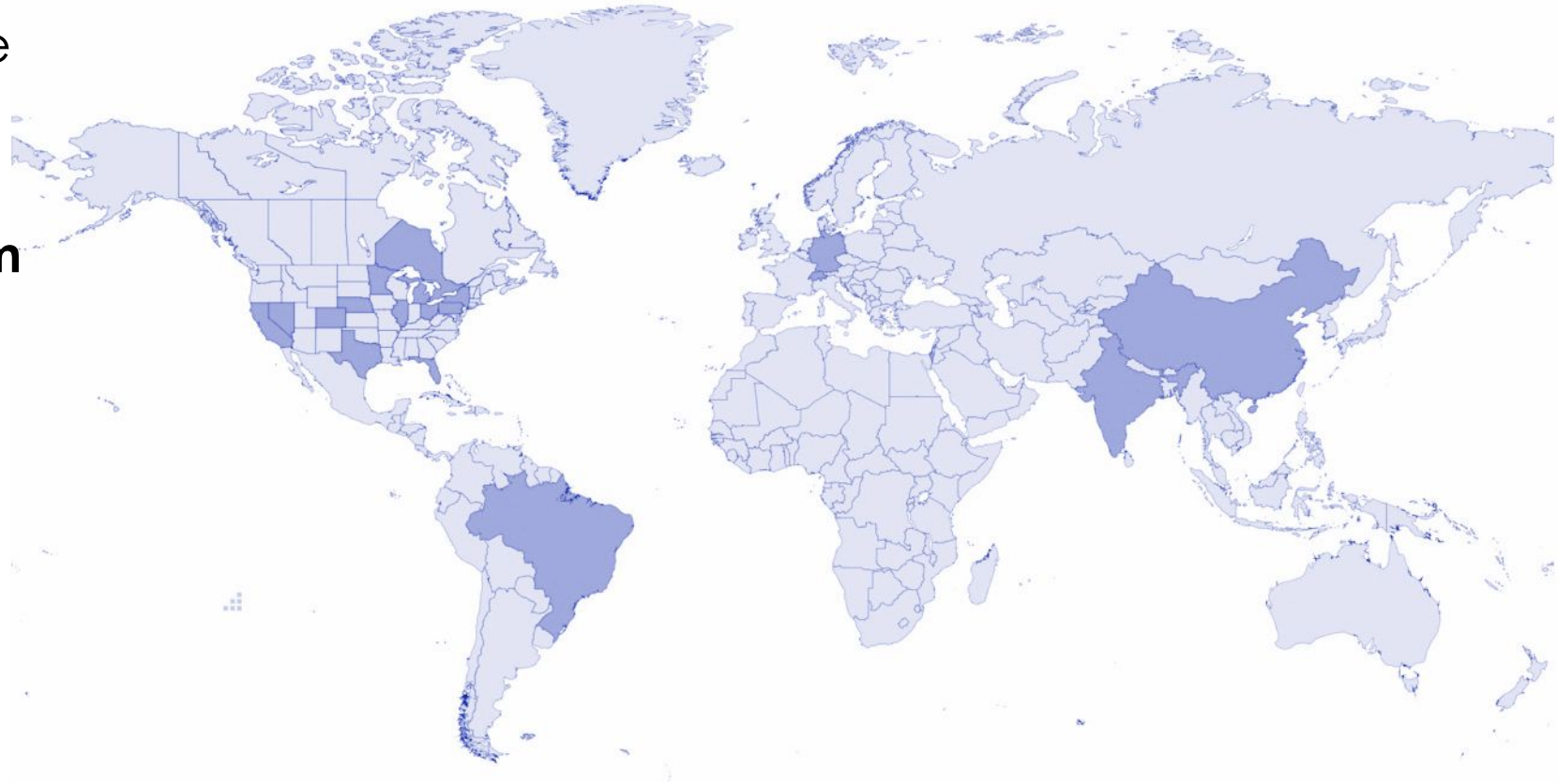
Largest Standardized, Multi-Task, EEG Database



Psychiatry	Neurology
Anxiety	Dementia / Early Alzheimer's
Depression	Parkinson's
Bi-Polar	MCI
Schizophrenia	mTBI/TBI
ADHD	ASD
PTSD	
Schizoaffective Disorder	

Our Data is Proprietary & High Quality

- ✔ The EEG and ERP data are **proprietary**
- ✔ Collected with our **standardized BNA platform**
- ✔ **106** sites
- ✔ **21** Countries
- ✔ **40** Studies
- ✔ **5** Commercial site



BNA™ is Poised to Transform Mental Health Standard of Care

Standard Procedure		Firefly Neuroscience
Undiagnosed pre-symptomatic stages (e.g., preclinical AD)	**Pre-clinical**	**Detection of pre-symptomatic pathology** (e.g., Early prediction of cognitive decline)
Diagnosis based on subjective symptoms	**Diagnosis**	**Diagnosis is supported with objective brain measures**
A trial-and-error strategy Low remission rates[1], increased health care costs	**Treatment selection**	**Informed treatment selection** (e.g., SSRI, TMS)
High drop-out rates, low adherence'	**Treatment compliance**	**Increased compliance**
Subjective assessment of treatment effect	**Follow-up**	**Objective monitoring of treatment effect**

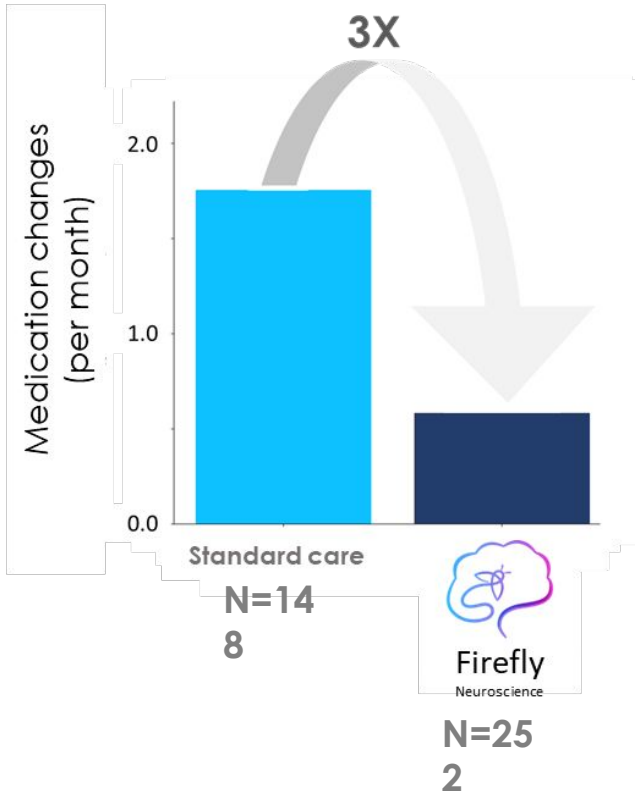
Poor outcomes, increased costs

Improved outcomes, lower costs

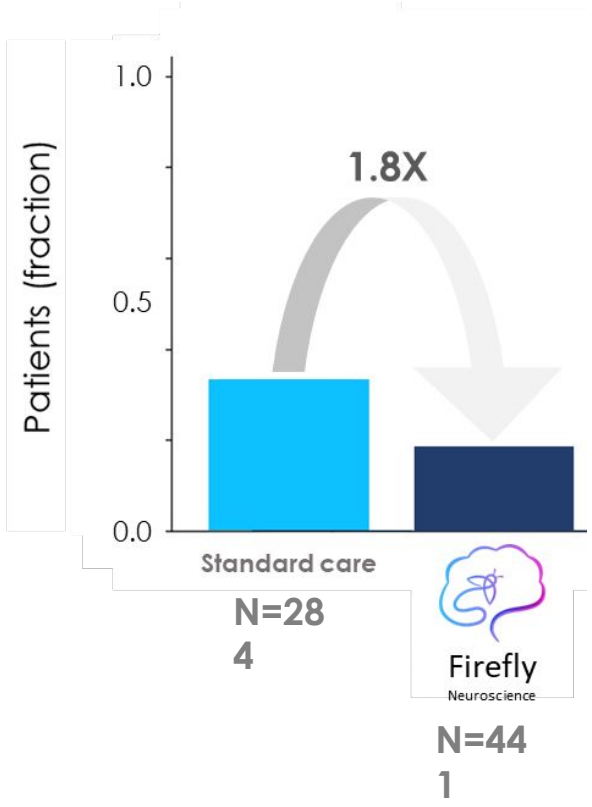
1) [1]28% remission rate, 21% dropout rate (STAR*D level 1)

Real-World Evidence for BNA™ Clinical Utility

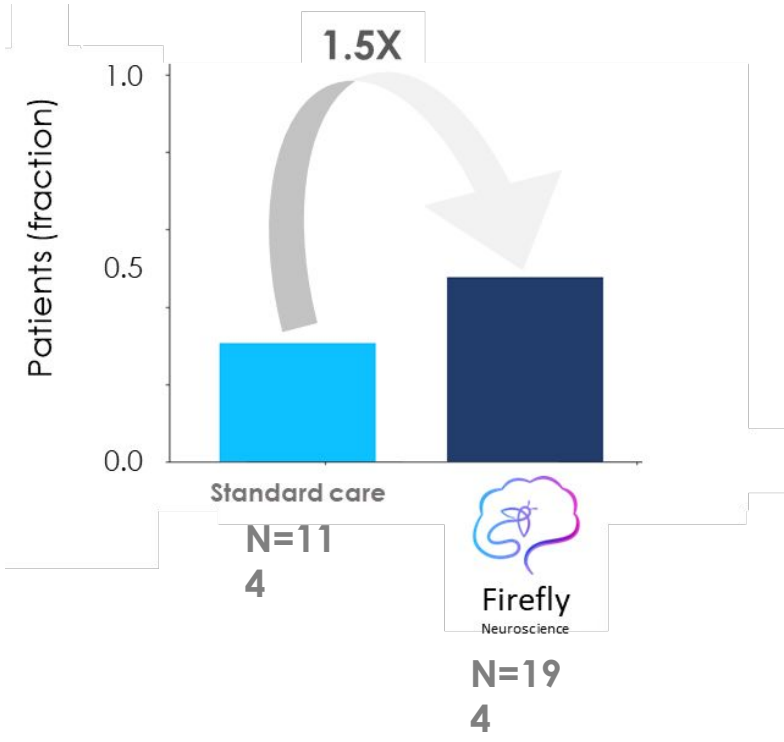
Informed treatment selection
Less medication changes



Increased compliance
Less discontinuation

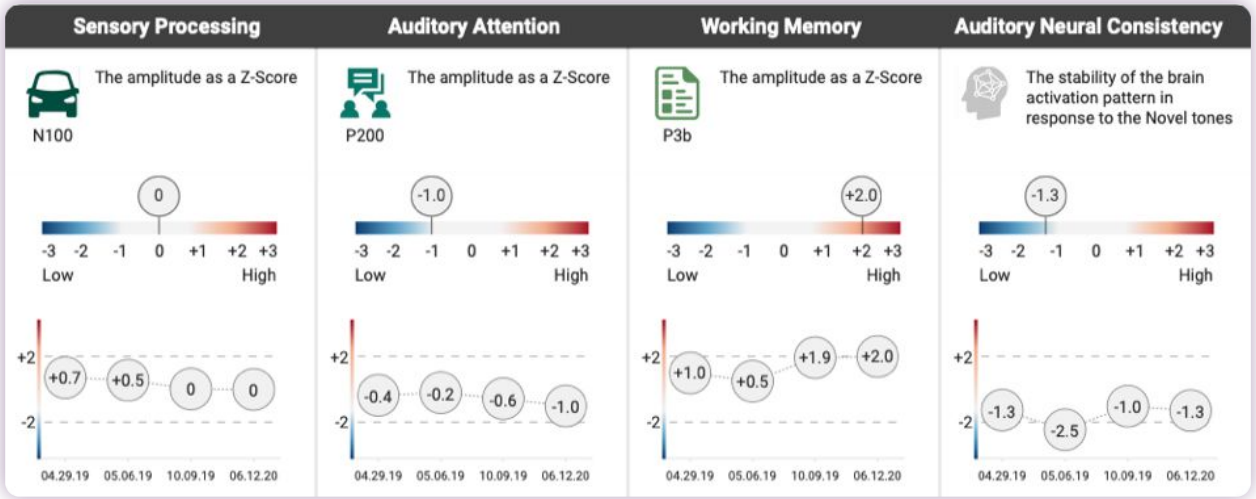


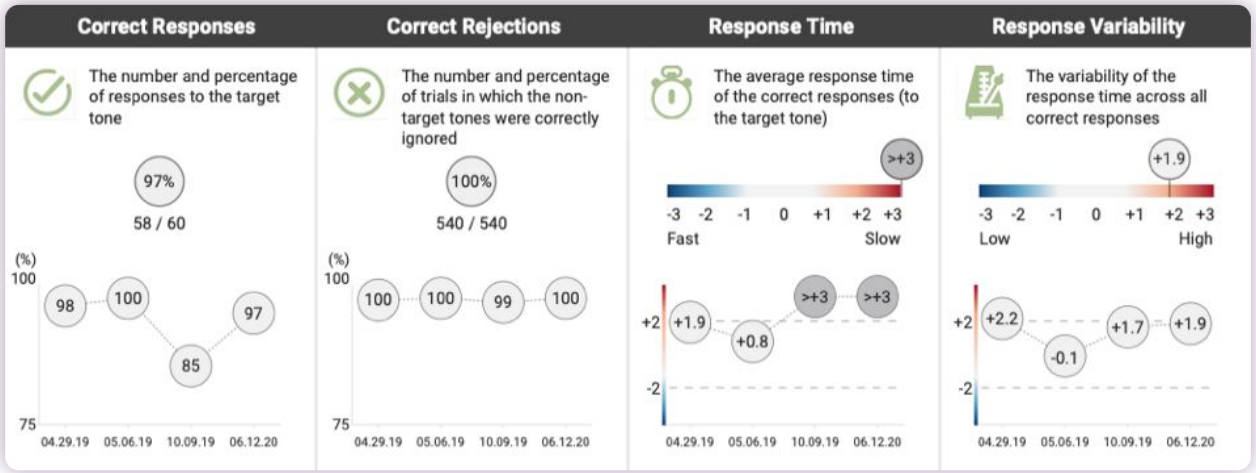
Improved treatment outcomes
Increased response and remission rates



Aiding Disease Progression Monitoring

PATIENT	73-year old male diagnosed with MCI included in a clinical study
PHYSICIAN	How do the cognitive functions develop across time? Will patient progress from MCI to dementia?
BNA	The attentional domain shows a deviating trend across visits with stronger deviances appearing in the memory domain from the 3rd visit on. This is aligned with a strong decrease in behavioural performance by the 3rd visit.
HIGHLIGHT	Physician concluded from BNA results that the the patient experienced a severe drop in cognitive functionality at the 3rd visit and thus 6 months after first visit. A progression from MCI to Dementia is supported by the results.



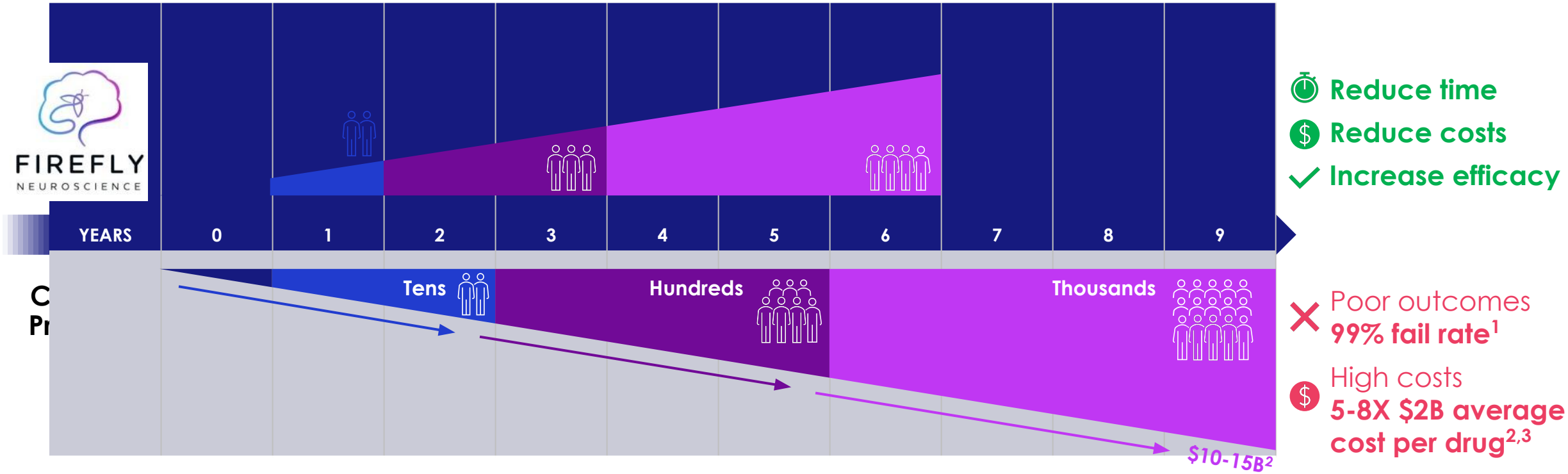


Assessing Treatment Efficacy & Supporting Compliance with BNA™

PATIENT	29-year old depressed female with previous failed medication treatment.
PHYSICIAN	TMS depression treatment initiation. Experiences difficulties with patient's compliance, as TMS resource intense and can take weeks until improving symptoms
BNA	Baseline shows severe deviances in relevant scores (P200 & Response Time). Trend towards normalization by 2nd visit. All scores in normal range by 4th visit.
HIGHLIGHT	Physician used BNA to explain the positive effects of treatment on brain's electrophysiology. Patient's compliance improved significantly allowing a successful completion of treatment leading to full remission.

AOB Task, Visits show baseline and 1 week, 2 weeks, and 5 weeks into treatment

BNA™ Also Has the Potential to Transform CNS Drug Development



Preclinical Lab Studies

Phase 1 Human Safety

Phase I/II Expanded Safety

Phase III Efficacy & Safety

[1] *Gribkoff, VK. The need for new approaches in CNS drug discovery: Why drugs have failed, and what can be done to improve outcomes. Neuropharmacology. 2017 Jul 1;120:11-19*

[2] *Wegener,G, The current development of CNS drug research. Int J Neuropsychopharmacol. 2013 Aug;16(7):1687-93*

[3] *Rabiner, E. (2019, May 30). Advances in CNS drug development. Research Outreach. https://researchoutreach.org/articles/cns-drug-development*

Enabling Pharma Companies to Measure Treatment Impact & Enhance Patient Selection

BNA™ was used to show SNRI drug direct effects on cognitive function.

BNA™ was useful as a primary endpoint for developing PK/PD model for treatment-resistant depression drug.

BNA™ was used to quantify depression objectively.

Indication for BNA™ as a biomarker for predicting deep TMS treatment outcome Patent protected

BNA™ participates as an objective endpoint in phase 1 and 2 for measuring the effect of a novel ASD drug on cognitive brain function

BNA™ improves CNS biomarker and drug R&D, which is the worst performing class of new drug development

Commercialization

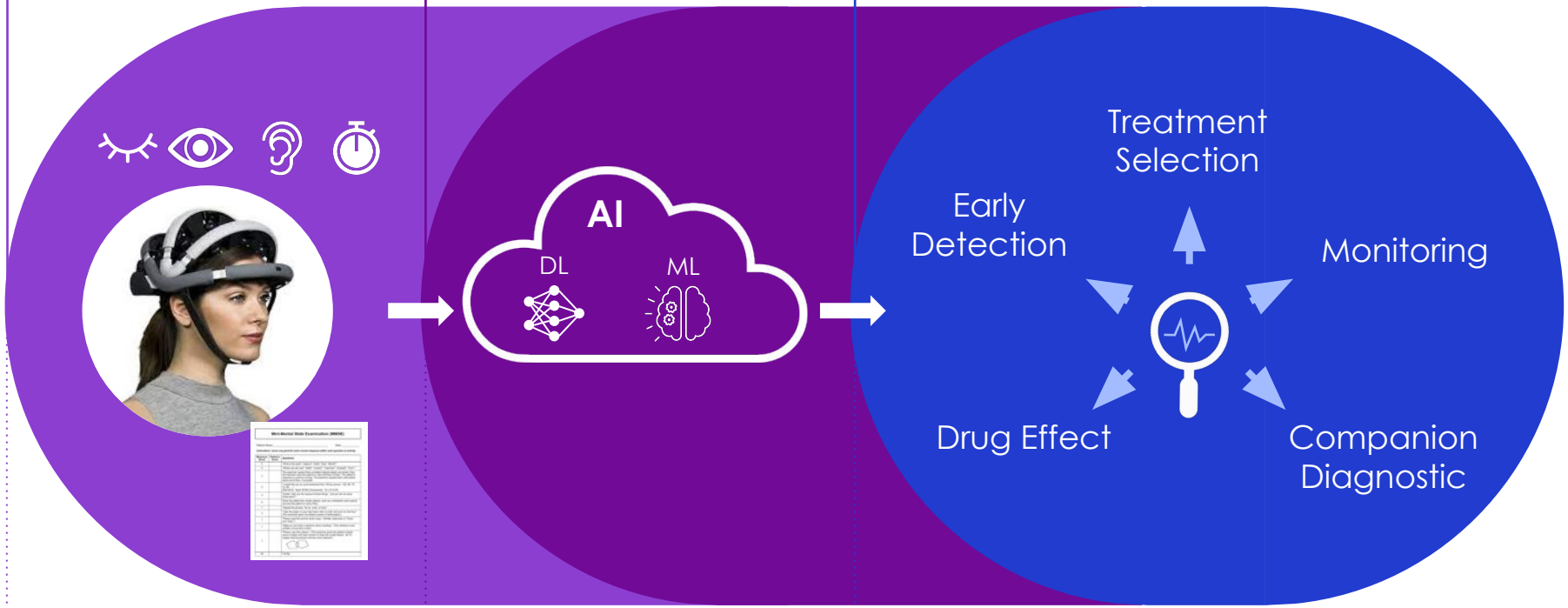
Firefly
Neuroscience

Leading the Transformation in Healthcare Through AI

World-Largest Standardized Multi-Task Database

Brain Network Analytics BNA™

Improved outcomes by using EEG-Based Biomarkers



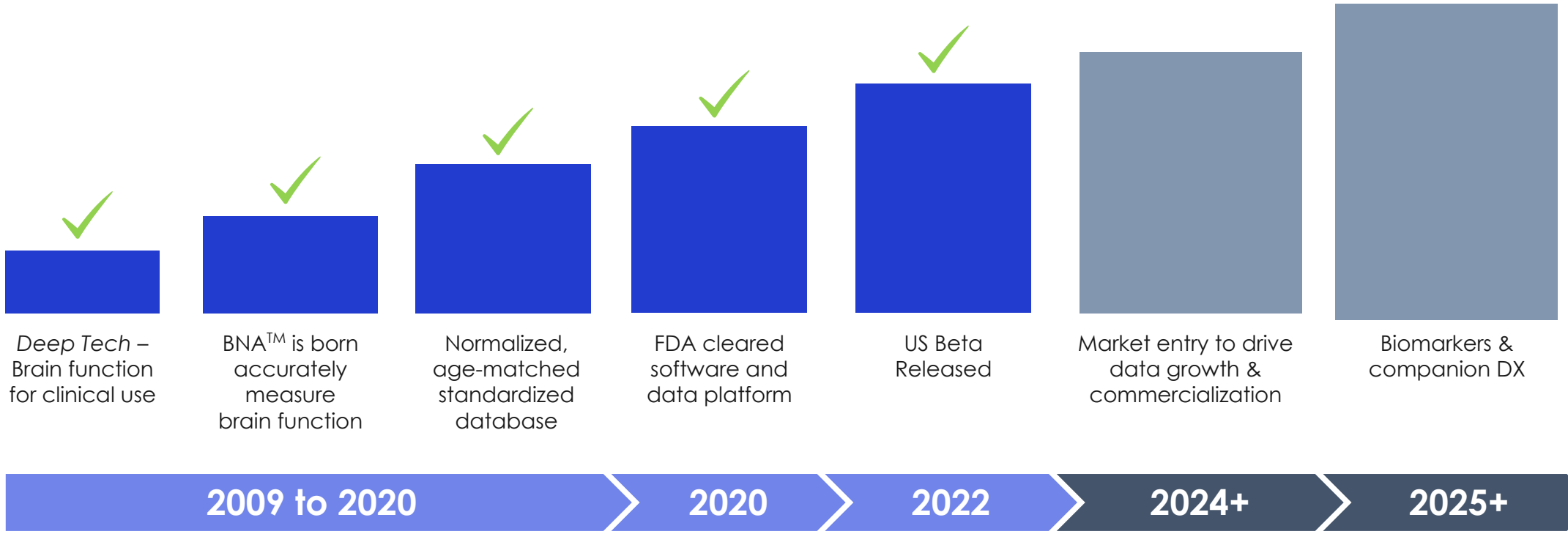
- Multiple visits over time
- Proprietary

- Normative Database (FDA cleared)
- Scalable
- AI-driven platform

- Reduced costs
- Better Efficacy
- Reduce time

FDA Cleared Software and Data Platform is the Product of 10+ Years of Hard Science and $80M+, Backed up by 9 Patents

Product Development Timeline and Key Milestones



Rich Database Continues to Build, Monetizing Through Licensing and Royalty Fees

BNA™ Data Platform

Data: each incremental brain scan adds to database

$ **Licensing Fee**

Data: each incremental brain scan adds to database

$ **Licensing Fee**

$ **Royalty on new drug created**

Clinicians
+$10B TAM in USA

Pharma
+$20B TAM

1) *Source: Management Estimates*

Firefly's Applications are Broader and our Technology is Superior to Competitors, who are Valued at $100M+

Company	Scope of Activity	FDA Cleared for Analytics Tool	Multi-Condition & Normative Database	Latest Valuation ($M)
Firefly Neuroscience	Multi-condition diagnosis and treatment support	✓	✓	TBD*
Alto Neuroscience	Depression drug development	✗	✗	$175M
Beacon Biosignals	CNS drug development	✗	✗	$162M
Brainscope	ER concussion diagnosis	✓	✗	$100M+

* Intrinsic valuation approx. $60m+, based on clinical database, platform development and FDA/CE regulatory clearance

1) *Source: Dealroom*

Commercial Leadership Team

Proven Leadership in Life Sciences and Technology

Jon Olsen
CEO

- 25+ years of global experience in senior roles
- Managing Director Smith and Nephew (NYSE:SNN)
- Senior Director, Cardiac & Vascular Group at Medtronic (NYSE:MDT)

Medtronic

Smith+Nephew

Gil Issachar
CTO

- 11+ years software and algorithm developer, data science and research
- Masters Degree in Biomedical Engineering
- Masters Thesis focused on signal processing and neuroscience

Sagol School of Neuroscience
Tel Aviv University

Dr. Arun Menawat
CHAIRMAN

- Currently, Chairman & CEO of Profound Medical (Nasdaq:PROF)
- Chairman & CEO of Novadaq (**$700m exit**)
- President & COO of Cedara (**$1b exit to IBM**)

NOVADAQ

PROFOUND

CEDARA SOFTWARE

Jason Dubraski
DIRECTOR BD

- 20+ years in Med Tech Sales & Marketing
- Expertise in Business Development
- Extensive start-up experience, including 2 IPOs

Medtronic

Brainsway

World-Class Advisory Board

Experts In AI and Machine Learning

Saleem Huda

- 25+ years algorithmic trading; Fortress Investment Group, Deutsche Bank Global Markets, Canadian Pension Plan Investment Board, Senior Financial Engineer Algorithmics Inc.
- Interdisciplinary technical consultant for UCLA School of Medicine and Dept. of Tribology and coauthor for multiple biomedical grants from NIH, DARPA, U.S. Army
- Holds a BSc in Mathematics from MIT

Dave DeCaprio

- Co-founder ClosedLoop.ai. (Voted #1 AI Software Solution for Health Care 2023/2022)
- Winner of the CMS Artificial Intelligence in Healthcare Challenge (#1 of 300 companies including IBM, McKinsey, Microsoft)
- Engineering lead for the Human Genome Project at the Broad Institute of MIT and Harvard
- Holds a BSc Electrical Engineering from MIT

Danelle James

- Head of Clinical Development & Medical Affairs at Summit Therapeutics
- Global Development Lead for IMBRUVICA for Pharmacyclics
- Published 50+ manuscripts

Chris Wilson

- Professor, Associate Director - Strategic Relations, Institute for Quantum Computing (IQC) University of Waterloo
- Co-founder quantum sensing technology firm Qubic
- Recipient of the Wallmark Prize in 2012 awarded by the Royal Swedish Academy
- Holds a BSc Physics from MIT, and a PhD Physics from Yale

Fabrizio Billi

- Director Musculoskeletal Devices and Technology Development (MDTD) and Professor Dept. Orthopaedic Surgery UCLA School of Medicine
- Director, Neuro-Musculoskeletal Health and Brain Plasticity Program
- 25+ years developing smart materials and medical devices and wearables
- 50+ Journal Publications and multiple grants from NIH, DoD Industrial Partners, ongoing collaboration with LA Lakers and Bruins medical team to develop custom treatments and novel surgeries

Summary

01

BNA™ Platform is a Potential Game-Changer

- Objective, AI brain assessment and patient management tool
- World's largest database of FDA-cleared, normalized, age-matched EEG scans
- Hard to duplicate, >77,000 BNA™ Sessions; >17,000 patients
- Scalable platform for growth: ability to leverage data for clinical insight and future neuromarkers

02

Demonstrated Clinical Value

- Ability to address several significant unmet needs in neurology, psychiatry and pharma
- Years of clinical experience, multiple awards
- Practical clinic commercial use of EEG/ERP previously only feasible in academia

03

Commercial Stage

- FDA 510(k) cleared for the post-hoc statistical analysis of the human EEG, including event-related potentials
- Indicated for use in individuals 12-to-85 years of age
- Opportunity is well-protected with 60^{+} patents issued and patents pending
- Experienced team that has "done it before"

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Appendix

Firefly
Neuroscience

Electrical Activity in the Brain: Measurement vs. Understanding

EGG data is necessary, but not sufficient

- Non-standard recording
- Non-standard processing
- Relies mostly on raw data
- Superficial processing
- No comparative reference
- Highly variable signals
- Very hard to interpret

Over the past decade, more than 41,000 published studies have referenced EEG data despite its limitations

Pharma/Drug development

	Segmentation	FDA Cleared Normative Database	AI Platform	FDA Cleared Scalable Commercial Platform	Direct Competing Offering	Database
FIREFLY NEUROSCIENCE	Psych/Neuro	✓	✓	✓	✓	Longitudinal, standardized 80,000 Reports 12 Disorders 3 Tasks
BEACON BIOSIGNALS	Sleep	✗	✓	✗	✓	30,000 patients (sleep and epilepsy)
Advanced Brain Monitoring	Sleep	✗	✓	✗	✓	N/A
SPARKNEURO	Neurology	✗	✓	✗	✗	N/A
ALTO NEUROSCIENCE	MDD	✗	✓	✗	✗	N/A
COGNISION	Research	✗	✗	✗	✗	N/A
Cumulus	Home assessments	✗	✓	✗	✗	N/A

Competitive Overview

Company	FDA Indication	Key Features	Database Properties
COGNISION	COGNISION System is for use by qualified clinical professionals in private practice offices or small clinical settings for the acquisition, display, analysis, storage, reporting and management of electroencephalograph (EEG) and auditory evoked potentials (AEP) information	Advertised to be used in clinical trials. Released paper on ERP relevance to Alzheimers. Uses following codes for billing: CPT 92552, 95816, 95957 – pure tone audiometry, eeg 20-40min, eeg digital analysis.	N/A
Cumulus	Cumulus Functional Neurophysiology Platform is intended for the acquisition, display and storage of electroencephalograph (EEG) obtained by placing electrodes on the head of adults and adolescent patients. The EEG signals are time-stamped. The system can be used in the patient's home or a health care facility	Received FDA clearance in 2023. Dry EEG headset for at home or clinic use. Embedded in CNS Pharma consortium.	N/A
SPARK NEURO	N/A	Conducting clinical trials for neurophysiological and psychiatric disorders.	N/A
ALTO NEUROSCIENCE	N/A	Drug development company focused on MDD. Using EEG as a companion diagnostic.	N/A