blinklab

Early and accurate diagnosis of autism and ADHD

Using a breakthrough AI-powered smartphone platform

JMM & ÉTHICA CAPITAL Innovation & Investment Lunch
May 2024

PRINCETON
UNIVERSITY

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THE AUSTRALIAN

YOUNG CHILDREN JOINING SCHEME 400 PER CENT HIGHER THAN EXPECTED

NDIS misses autism checks

EXCLUSIVE

STEPHEN LUNN
SARAH ISON

Thousands of children with autism or developmental delay who should not be on the $42bn National Disability Insurance Scheme are still getting taxpayer support because public servants are failing to reassess their cases.

The NDIS caseload surged last year, as the number of children up to six years old who joined the scheme skyrocketed 400 per cent more than expected.

In the latest NDIS annual financial sustainability report, scheme actuary David Gifford notes greater numbers of children with developmental delay joining the scheme in 2022-23 pushed numbers significantly higher than anticipated.

More than 16,500 0 to 6-year-olds joined the NDIS last financial year, 415 per cent greater than the 3211 expected. An additional 23,766 people across all age groups joined the scheme in 2022-23 with developmental delay as their primary disability, when just 5440 were anticipated.

Despite the National Disability Insurance Agency's inability to predict the recent massive increases, the scheme actuary still projects between five and six per cent of the 300,000 children aged 0-14 on the NDIS are likely to be removed each year for the next three years as staffing resources ramp up. The revelations came as NDIS executives fronted parliament on Wednesday and conceded $60bn in projected savings would likely disappear altogether if Labor's efficiency measures fail. Former NDIS minister Linda Reynolds led a united front of Coalition and Greens senators attacking the Albanese Government's secrecy over its plans to contain the scheme's growth over the next decade.

Senator Reynolds grilled officials on whether the scheme was still running "above expectations", to which she was told the cost of the NDIS was 0.9 per cent above expectations as of last September.

The WA senator also asked the NDIS executives what would happen if Labor's $720m in budgeted "efficiency measures" – which the government says will get the scheme's growth down to 8 per cent a year – was not successful.

"It will result in $60bn in savings not being realised? In us being $60bn ... in the black?" Senator Reynolds said.

Mr Gifford replied "based on quick calculations, yes, it would be something like that".

Despite admitting that the NDIS's third quarter report was available and in the hands of commonwealth and state governments, the officials refused to table the documents or provide budget data over the past four months.

Greens senator Jordon Steele-John criticised the agency for setting a "dangerous precedent" while Senator Reynolds blasted what she called an "unprecedented" lack of transparency.

"It is outrageous and unprecedented for any agency or department to come to Senate estimates and refuse to provide current budget estimates data," she said.

The boom in child and adolescent cases saw an overall increase in NDIS participant numbers in 2022-23 of 75,847, 32 per cent more than the 57,639 the actuary had expected.

"New entrants with developmental delay and autism accounted for 70 per cent of total new entrants in 2022-23," the actuary's paper says.

About 12 per cent of all boys aged 5-7 are on the NDIS.

Total scheme numbers sat at 610,500 at the end of 2022-23 and are projected to increase to over a million by 2033, with scheme costs anticipated to run to $92bn.

A critical factor in overall scheme numbers being higher than expected was that fewer children than anticipated left.

Continued on Page 4

Freed non-citizen detainees accused of 27 crimes

DAVID MURRAY
JESS MALCOLM

Non-citizens released into the community after the High Court's "NZYQ" ruling in November have since been accused of committing 27 crimes, with more than 100 of them receiving welfare benefits.

The Australian Federal Police's Grant Nicholls told a Senate estimates committee on Tuesday night that as of last Friday, the AFP had received 27 reports of crimes involving former detainees. Seven were commonwealth prosecutions, 18 were state and territory prosecutions and one matter was under consideration.

FULL REPORT P5
COMMENT P5

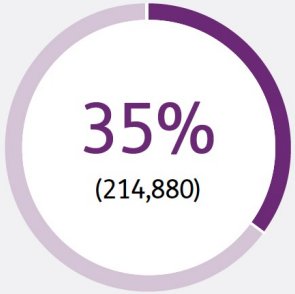
15 February 2024

Read article

Autism summary
June 2023

Insights

As at 30 June 2023:



of the **610,502** active NDIS participants have a **primary disability of autism**, making it the **most common disability for NDIS participants.**

Source: ndis.gov.au

Total payments

In the year ending 30 June 2023:
the NDIS provided
$6.73 billion
of paid supports to participants with autism.

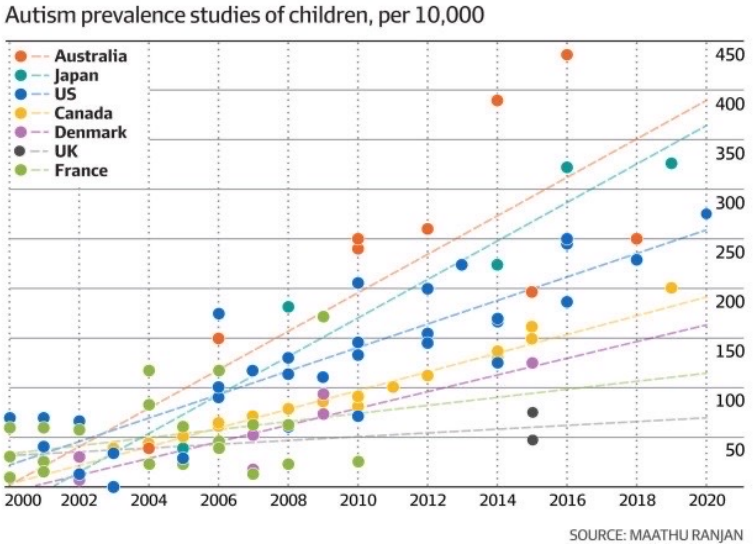
In the previous year:
the NDIS provided
$5.27 billion
of paid supports to participants with autism.

↑ 28%

Autism is a $700B market in 2024 in the US alone

"The economic burden is significant and alarming" [1]

- Autism prevalence has grown to 2-4% among children[2]
- Autism healthcare expenses world-wide are soaring[3]
  - *Costs for an autism diagnostic evaluation: $1,000 to $5,000.*
  - *Costs of care are around **$60K** annually during childhood[3].*
  - *Lifetime cost for individual with ASD: **$3.6M**[3]*
  - *35% of NDIS participants have autism accounting for **$6.7B**[4].*
- No medical autism check available
  - *Autism diagnostic evaluation is **subjective.***



[1] *Leigh and Du (2015), Forecasting the economic burden of autism in 2015 and 2025 in the US, Journal of Autism and Developmental Disorder*
[2] *Center for Disease and Control, World Health Organization*
[3] *Cakir et al. (2020) The lifetime social cost of autism: 1990-2029, Research in Autism Spectrum Disorder*
[4] *National Disability Insurance Scheme (NDIS)*

Autism diagnosis is expensive, inaccurate, and too late

Leading to poor developmental and clinical outcomes and high financial costs.

Parental observations

Concerns arise about child's behavior and development.

Autism screening

By primary care physician, who refers to specialist.

12-24 months waitlist

Autism diagnostic evaluation

Formal diagnosis requires input from **multiple disciplines**, including psychiatry, psychology, audiology, occupational and physical therapists. Process is complex, expensive and frequently delayed. Current diagnostic tools are **subjective**.

Diagnosis at age 5-6

Family frustrated by evaluation that took longer than **12 months**.

Late intervention

Yielding **poor clinical results** and leading to **high expenses** later in life.

BlinkLab's digital solution accelerates path to diagnosis

By bringing to market a smartphone platform for **early** and **accurate** autism diagnosis.

Parental observations

Concerns arise about child's behavior and development.

Digital screening

Using our **accessible** smartphone-based platform.

blinklab

Diagnostic evaluation

Using biomarkers. Only necessary specialists are consulted.

Autism
Anxiety
ADHD

Diagnosis at age 2-3

Initial diagnosis **instantaneously**, confirmed in 1-2 months.

Early and personalized intervention and accurate monitoring

Intervention starts early during brain development, yielding **optimal clinical results** and leading to significant **reduction in costs** (40-60%) later in life.

BlinkLab facilitates early diagnosis, reduces costs, and improves accuracy.

Our patented technology: neuroscience on a smartphone

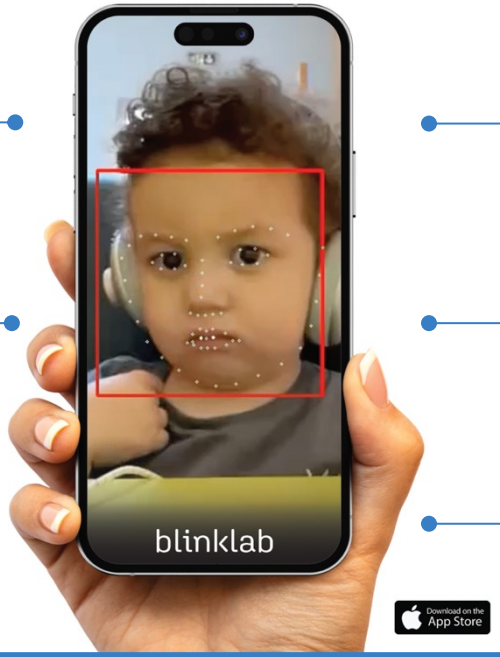
Minuscule facial reflexes, evoked by our app, generate a digital biomarker for autism.

Smartphone-based

Scientifically-proven **neurometric evaluations** conveniently at the home.

Evokes facial reflexes

By presenting visual and auditory stimuli during smartphone use.



Computer vision

Facial features are tracked on the smartphone and transferred to the **BlinkLab platform**.

Biomarker detection

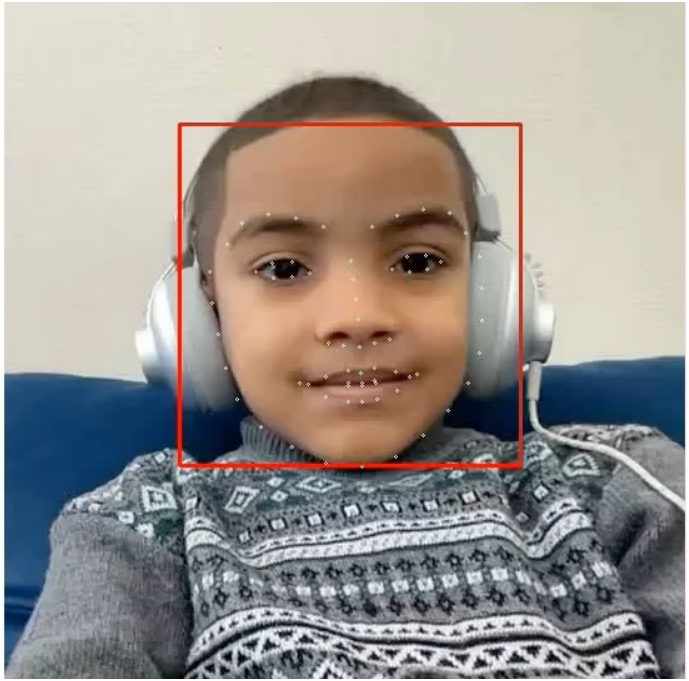
Biomarkers are detected in **real-time** and made available to the clinician.

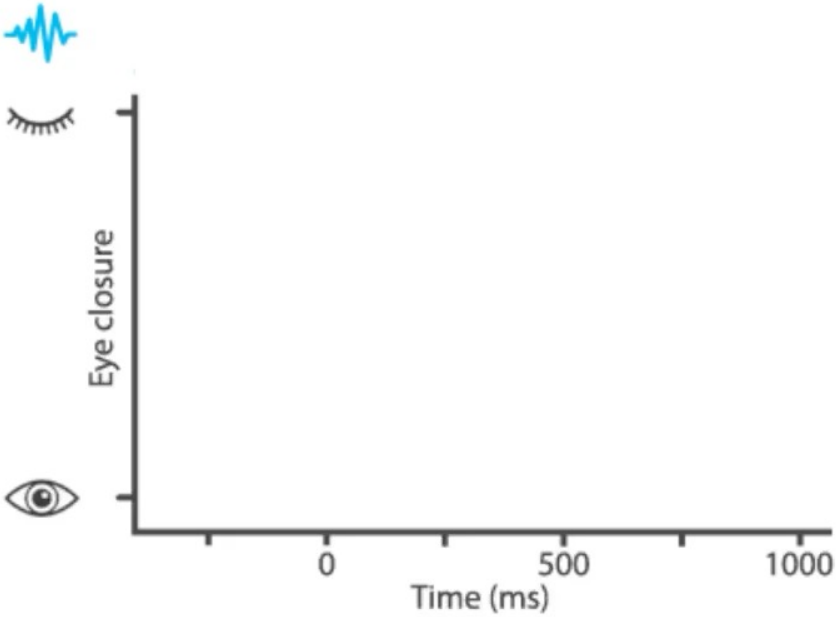
Evaluates brain function

State-of-the art analysis methods and AI modelling are used to **map the functioning of brain regions involved in autism**.

BlinkLab's AI-driven digital platform will address a significant unmet need for cost-effective and precise diagnostic alternatives.

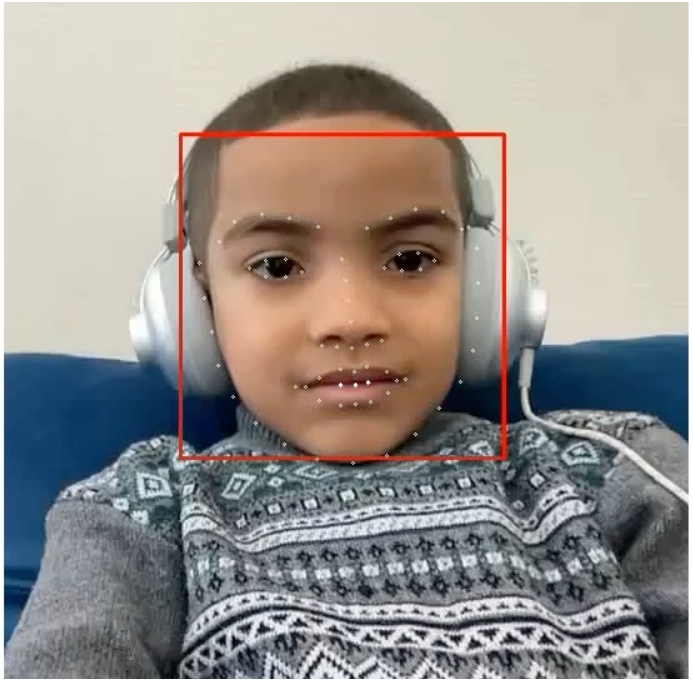
BlinkLab PPI test – Neurotypical Control (4 years old)

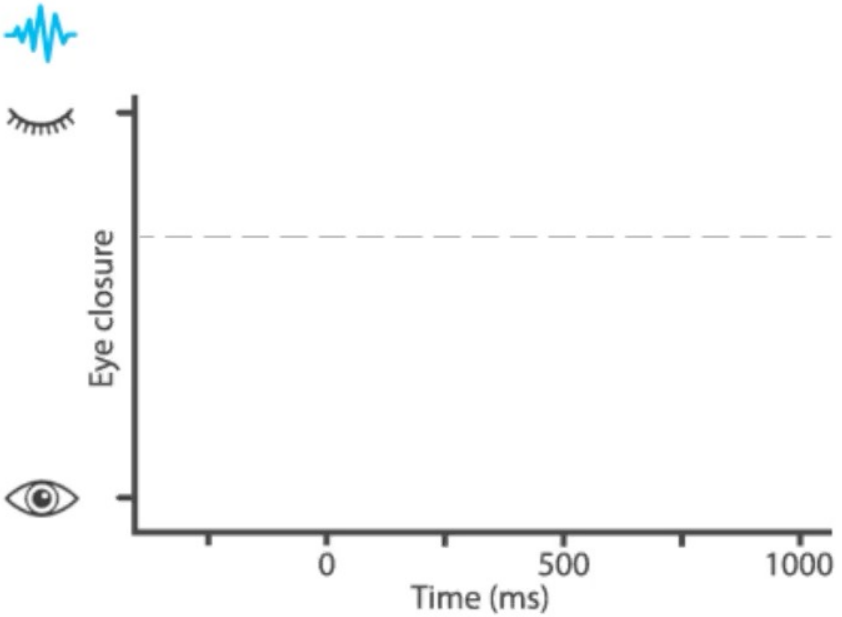




Video used with permission of child and caregiver

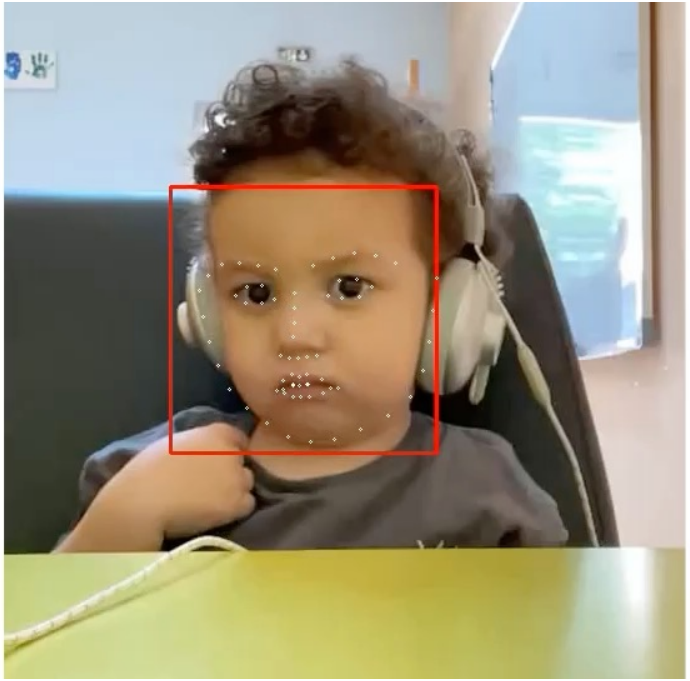
BlinkLab PPI test – Neurotypical Control (4 years old)

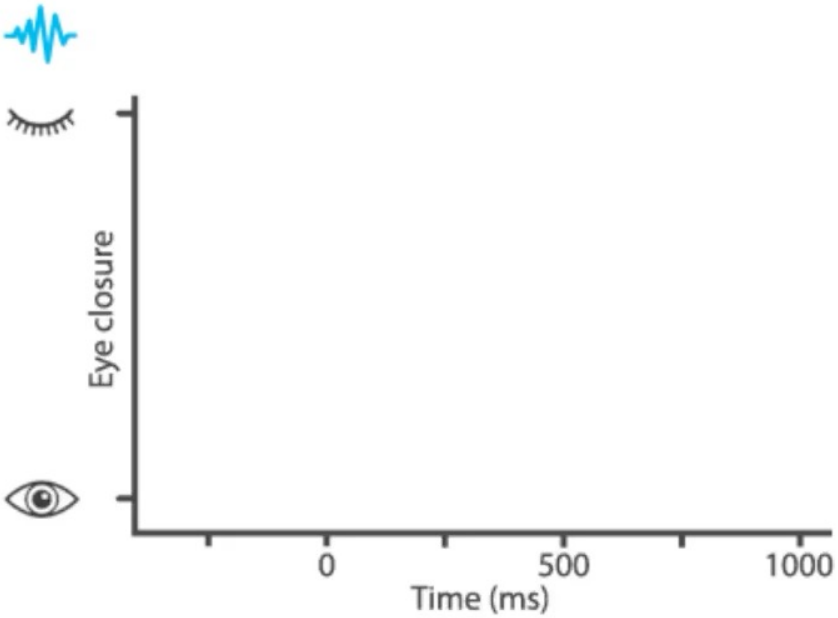




Video used with permission of child and caregiver

BlinkLab PPI test – Autism Spectrum Disorder (2 years old)





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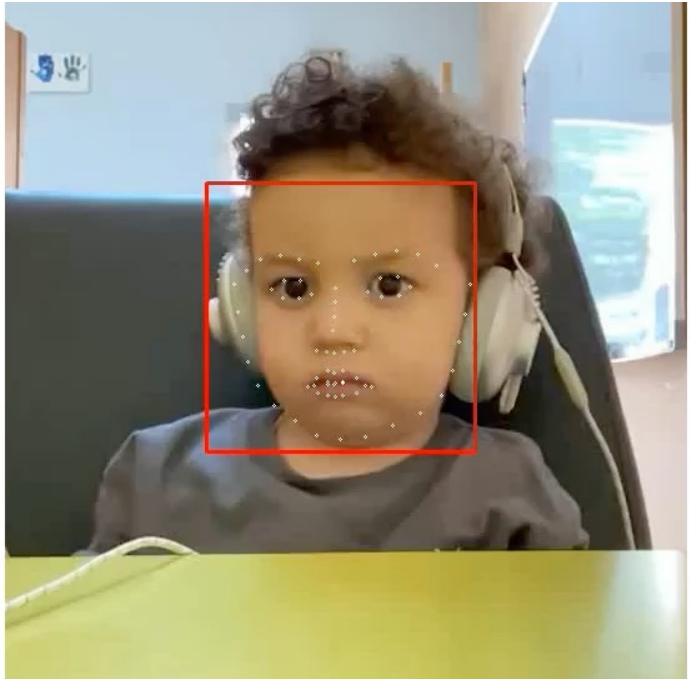
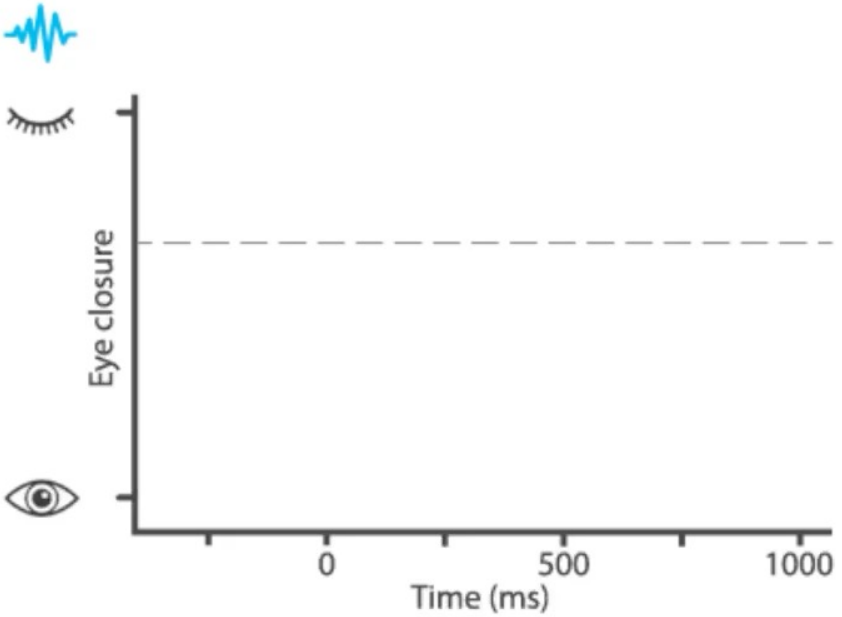
BlinkLab PPI test – Autism Spectrum Disorder (2 years old)





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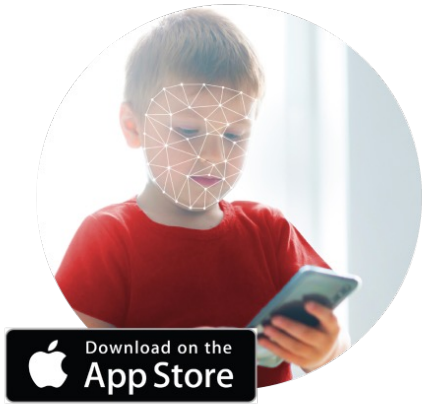
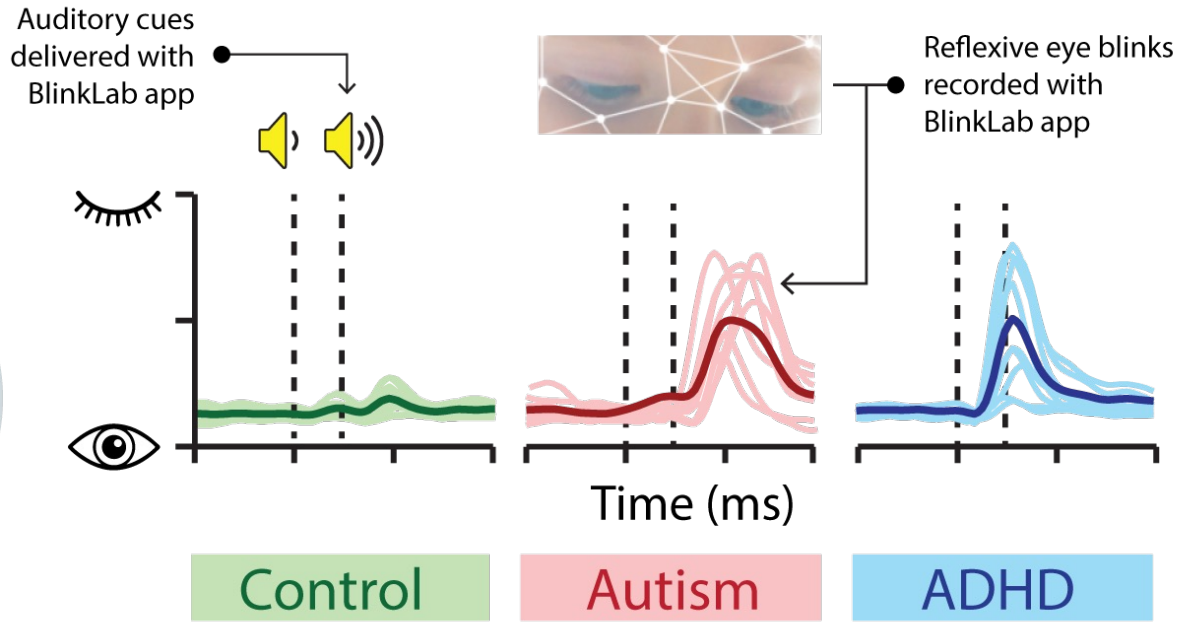
How our AI technology detects autism and also ADHD

BlinkLab precisely measures the alterations in **sensory sensitivity** in people with autism and ADHD.

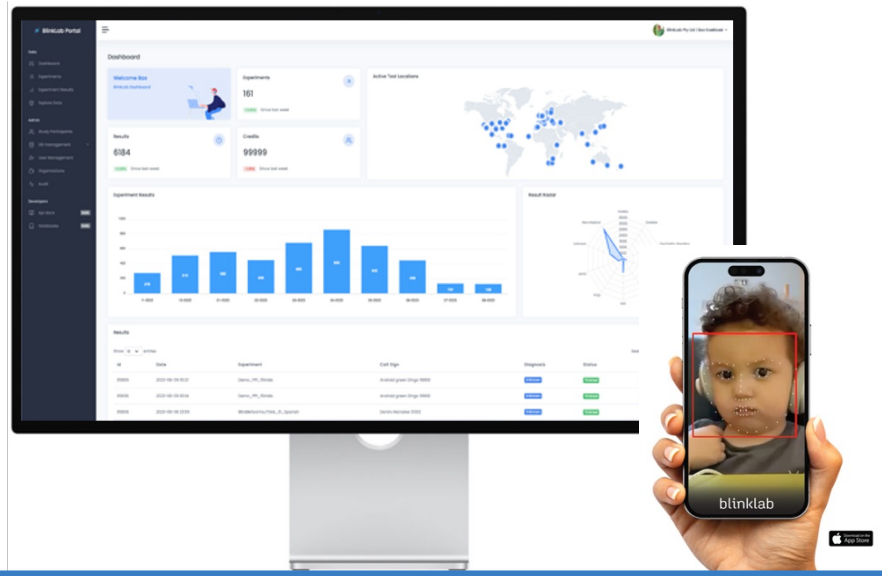




BlinkLab is fully developed, field tested, and ready to use

Validated in >6,000 subjects tested globally, including people with limited access to healthcare.

- **Remote testing**
  Enables accessible and global diagnostics.
- **Scalable solution**
  Easily adaptable for clinical and diverse research needs.
- **Real-time analysis**
  Immediate insights in user tests and biomarker scores.
- **Rapid global adoption**
  > 40 scientific and clinical institutes, special schools and, large healthcare providers around the globe already have started implementing BlinkLab (next slide).



BlinkLab is collaborating with world-leading institutions

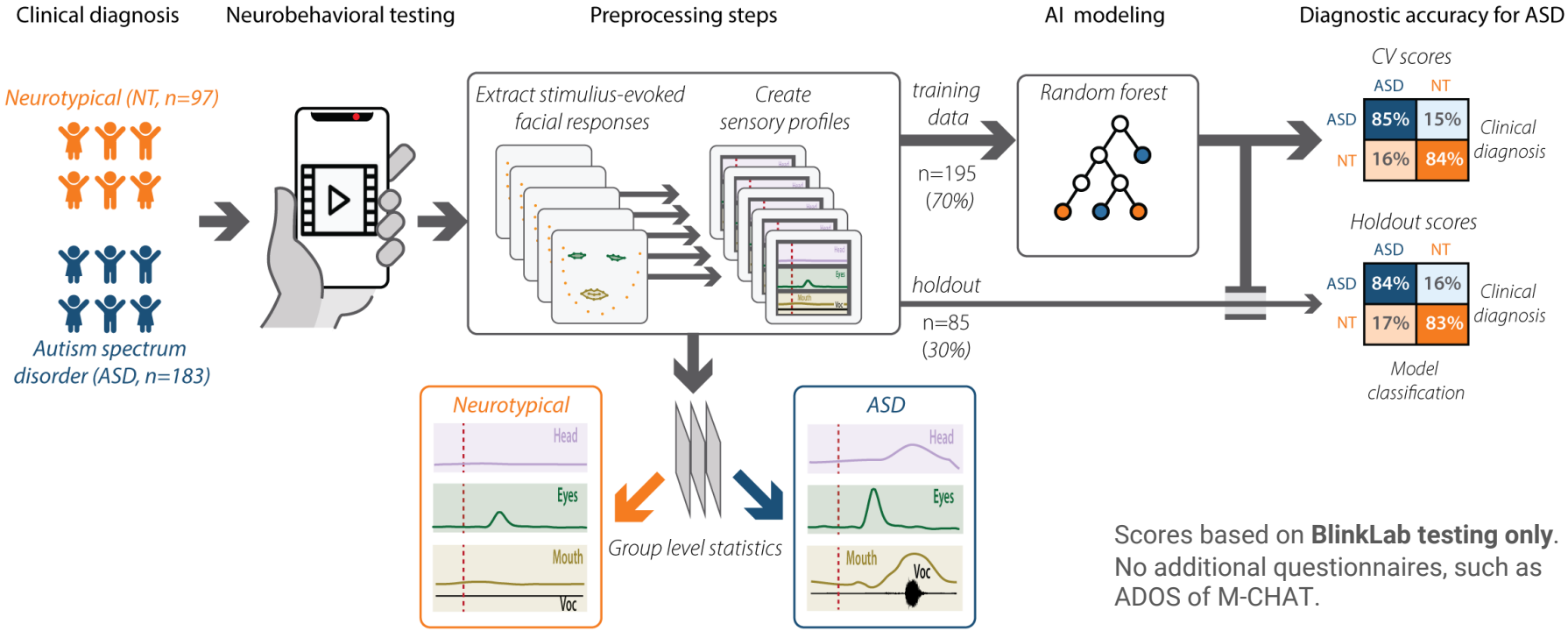
Since our first product launched in 2022, we have established global partnerships with >30 academic and clinical institutes.

Prof. Samuel S. -H. Wang
(Princeton University)

"The BlinkLab app is easy to operate, substantially reduces the costs of diagnosis, and produces reliable and reproducible results."

Breakthrough data from large autism diagnostic study

In our multi-center study in non-European cohort, we attained a **sensitivity of 85%** and **specificity of 84%**



Scores based on **BlinkLab testing only**. No additional questionnaires, such as ADOS of M-CHAT.

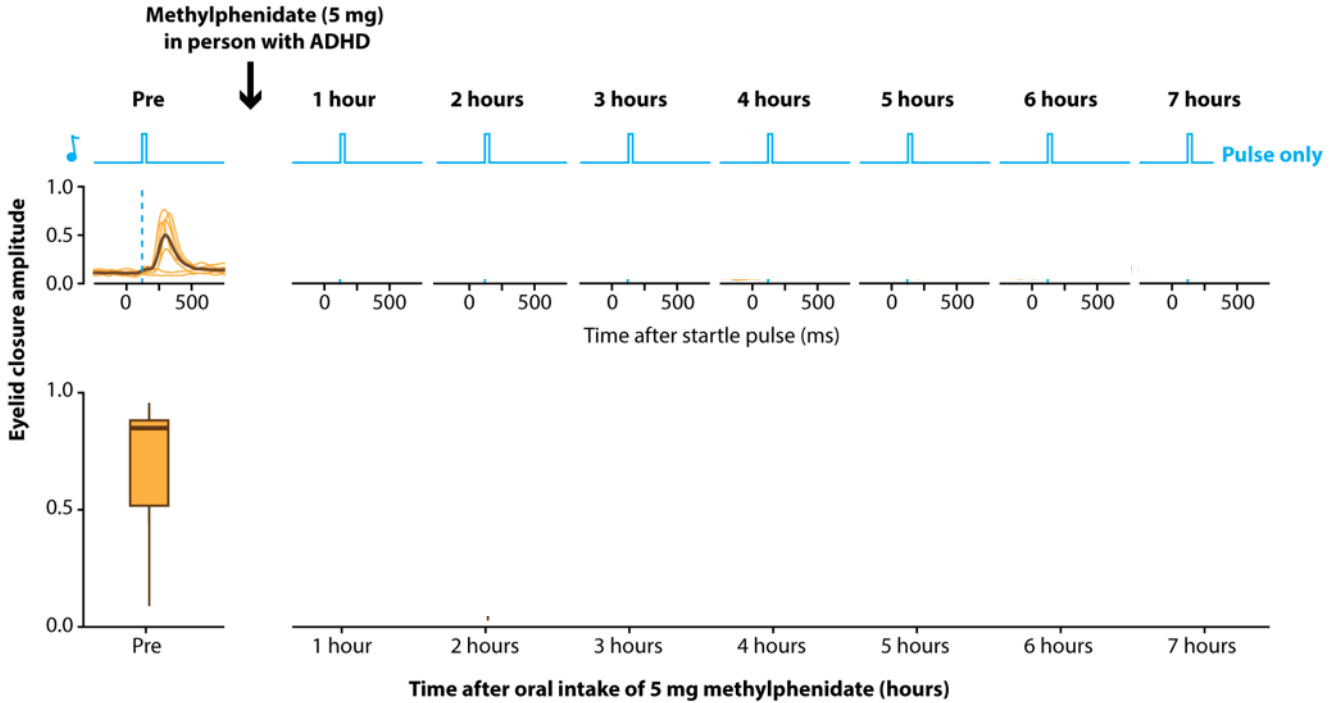
BlinkLab meets standard of care and outperforms FDA-approved digital peers

	blinklab	cognoa	EarliTec Diagnostics Inc.
Sensitivity	**85%**	52%	71%
Specificity	**84%**	19%	81%
Smartphone-based	Yes	Yes	No
FDA approval	Not yet	De novo	510(k)

We are leaders in the rapidly growing space of digital diagnostics **and** therapeutics.

First product to monitor the effect of therapy in real-time

Offers a path to even larger recurring revenues via subscription-based commercial models.



Real-time Ritalin monitoring capability builds path to recurring revenue streams.

We are experts in science, tech and commercialization

Our mission is to use neuroscience to improve the daily life of families with autism.

Henk-Jan Boele, CEO

MD, PhD, Neuroscientist and entrepreneur at Erasmus MC and Princeton University

Fifteen years of experience in neurobehavioral testing with over 35 publications. Recipient of many prestigious awards. Team leader and inventor of BlinkLab.

Anton Uvarov, COO
Executive Director

MBA, PhD, Biotechnology Analyst with Citibank

Cofounder of two biotechnology companies, developed therapeutics for neurodegenerative disorders. Both successfully IPO and publicly traded.

Bas Koekkoek, CSO

PhD, Assistant Professor of Neuroscience. Erasmus MC

Twenty-six years of experience in neurobehavioral testing with over 55 publications in IEEE and the field of neuroscience. An innovator in heart and soul. Cofounder of Neurasmus BV.

Peter Boele, CTO

MA, PhD candidate, Erasmus MC

Born to code, with over 20 years of experience in software development, both as developer as well as executive.

We are backed up by an expert advisory board

World leading scientists and commercial advisors.

Company Chairman

Brian Leedman

Experienced Chairman and co-founder of five ASX listed healthcare companies including digital healthcare company ResApp Health, acquired by Pfizer for $180M in 2022.

ResApp Health · Neurotech International

Company Director

Jane Morgan

Providing strategic investor and media relations services for over 16 years. Founder of JMM.

JMM Jane Morgan Management

Company Director

Richard Hopkins

Experienced bio-pharmaceutical executive with over 20 years in corporate leadership roles with public biotechnology companies.

zelira Therapeutics · PharmAust Limited · PYC Therapeutics

Scientific advisor

Prof. Samuel Wang

Professor of Neuroscience at Princeton University and author of 2 bestselling books.

Princeton University

Scientific advisor

Prof. Chris De Zeeuw

Professor of Neuroscience at Erasmus MC and vice-director of the NIN (Netherlands Institute of Neuroscience).

Erasmus MC

Scientific advisor

Prof. Javier Medina

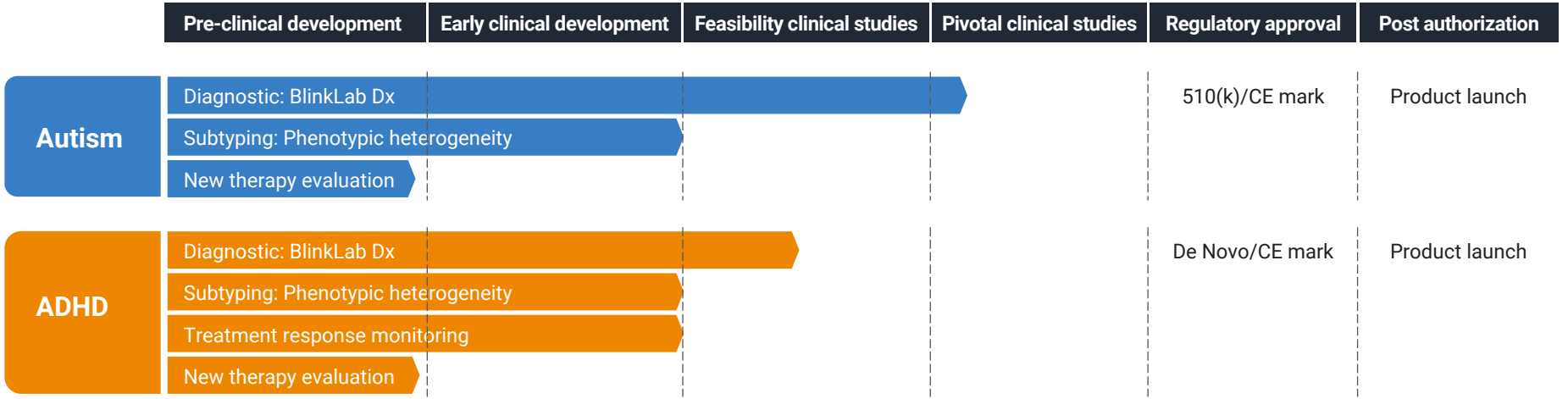
Professor in neuroscience at Baylor College of Medicine in Houston.

BCM Baylor College of Medicine

Meet the whole BlinkLab team
@ blinklab.org

R&D Pipeline

Our pipeline of diagnostic products, relevant development state and regulatory pathway.



blinklab

For timeline, see slide 23

Important milestones

News pipeline: Updates on regulatory studies on autism ánd ADHD, new partnerships, new opportunities

Milestone	Timeframe
Start of activities for FDA registrational study in autism (appointment of CRO, selection and appointment of clinical sited to do the study, appointment of lead clinical investigator, key opinion leaders)	1H 2024
Initiation of ADHD discovery phase study	*1Q 2024
Completion of Autism study in Morocco / EU	*1Q 2024
Completion of pilot Schizophrenia study (EU)	1H 2024
Initiation of global Schizophrenia study (potentially registrational, tbc depending on pilot study outcome)	2H 2024
FDA registrational study in Autism starts	2H 2024
CE mark submission for Autism (EU)	2H 2024
Completion of ADHD discovery phase study	2H 2024
Completion of pilot saccadometry (sporadic pupil movement) study in Alzheimer's/MCI	2H 2024
CE Mark approval (6 months post submission)	1H 2025
Initiation of FDA registrational study in ADHD	4Q 2024 / 1Q 2025
Initiation of Alzheimers/MCI saccadometry study (potentially registrational tbc depending on pilot study outcome)	4Q 2024 / 1Q 2025
FDA registration study in Autism complete	1H 2025
510k FDA submission is Autism	2H 2025
510k FDA approval in Autism (approx. 6 months after submission)	1Q 2026

*Achieved

Capital Structure

(ASX.BB1) Public Market Overview (1 May 2024)	
Share Price	A$0.31
Shares on issue	99,150,003
Founders' shareholding percentage	37%
Founders' options on issue @ 25c	33,750,000
Chairman options @ 25c	2,000,000
Performance rights	3,000,000
Fully diluted share capital	137,900,003
Market Cap (undiluted)	**A$30.7M**
Market Cap (fully diluted)	**A$42.7M**

BOARD AND KEY MANAGEMENT

Brian Leedman
Chairman

Henk-Jan Boele
CEO

Anton Uvarov
Executive Director

Jane Morgan
Non-Executive Director

Richard Hopkins
Non-Executive Director

Intellectual property

Our patents prohibit other parties to conduct neurometric testing using mobile devices.

BlinkLab has consistently prioritized the development and protection of its intellectual property since its seed funding round in August 2021. Our capital investments sourced from seed investors, government funding, and industry sponsorships - have been primarily utilized for IP and software development.

We are represented by the US-based law firm, Meagher Emanuel Laks Goldberg & Liao, LLP, which ensures our IP protection. We have filed National Stage Applications for 2020-2021 patents across various jurisdictions including the United States, Japan, Canada, Australia, Korea, and the European Patent Office (EPO) in March 2023.

Our portfolio comprises patents filed both by Princeton University, under an exclusive license agreement, and BlinkLab itself. These patents range from systems for neurobehavioral testing to methods for measuring emotional engagement, all of which firmly establish our innovation and leadership in the field.

Patents filed by Princeton University, with an exclusive license agreement in place between Princeton University and BlinkLab:

- PCT application number PCT/US2021/058698 Filed November 10, 2021, entitled “System and Method for Remote Neurobehavioral Testing”
- US patent application number 18/036,009 Filed May 9, 2023, entitled “System and Method for Remote Neurobehavioral Testing”
- European patent application number 21892692.1 Filed March 31, 2023, entitled “System and Method for Remote Neurobehavioral Testing”
- Japanese patent application number 2023-528017 Filed May 10, 2023, entitled “System and Method for Remote Neurobehavioral Testing”
- Canadian patent application number 3,195,596 Filed April 13, 2023, entitled “System and Method for Remote Neurobehavioral Testing”
- Korean patent application number 10-2023-7018839 Filed June 2, 2023, entitled “System and Method for Remote Neurobehavioral Testing”
- Australian patent application number 2021378273 Filed May 23, 2023, entitled “System and Method for Remote Neurobehavioral Testing”

Patents filed by BlinkLab:

- US Provisional patent application number 63/218,607 Filed on November 30, 2022, entitled “Psychopharmacological System and Method Using Eyelid Tracking”
- US Provisional patent application number 63/460,451 Filed on April 19, 2023, entitled “Method And System For Measuring Emotional Engagement”
- US Provisional patent application number 63/548,542 Filed on February 1, 2024, entitled “System And method For Detecting Neurological Condition”

For Further Information Please Contact

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