

# Early diagnosis of autism

Using a breakthrough AI-powered smartphone platform





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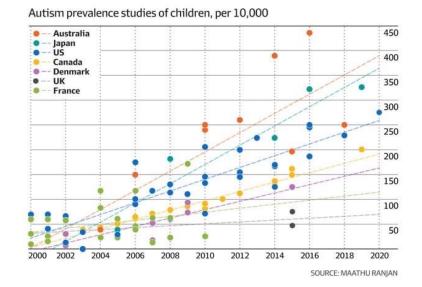
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#### Current Autism Market is \$700B in the US alone

"The economic burden is significant and alarming" 1

- Autism prevalence has grown to 2-4% among children<sup>2</sup>
- Autism healthcare expenses world-wide are soaring<sup>3</sup>
  - Costs for an autism diagnostic evaluation: \$1,000 to \$5,000.
  - Costs of care are around **\$60K** annually during childhood<sup>3</sup>.
  - Lifetime cost for individual with ASD: \$3.6M<sup>3</sup>
  - 35% of NDIS participants have autism accounting for \$6.7B4.
- No medical autism check available
  - Autism diagnostic evaluation is subjective.



<sup>&</sup>lt;sup>1</sup> Leigh and Du (2015), Forecasting the economic burden of autism in 2015 and 2025 in the US, Journal of Autism and Developmental Disorder

<sup>&</sup>lt;sup>2</sup> Center for Disease and Control, World Health Organization

<sup>&</sup>lt;sup>3</sup> Cakir et al. (2020) The lifetime social cost of autism: 1990-2029, Research in Autism Spectrum Disorder

<sup>&</sup>lt;sup>4</sup> National Disability Insurance Scheme (NDIS)

# Autism summary June 2023



# 2

#### 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.



#### 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.



# Diagnostic evaluation

**Using biomarkers.**Only necessary specialists are consulted.



# 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.

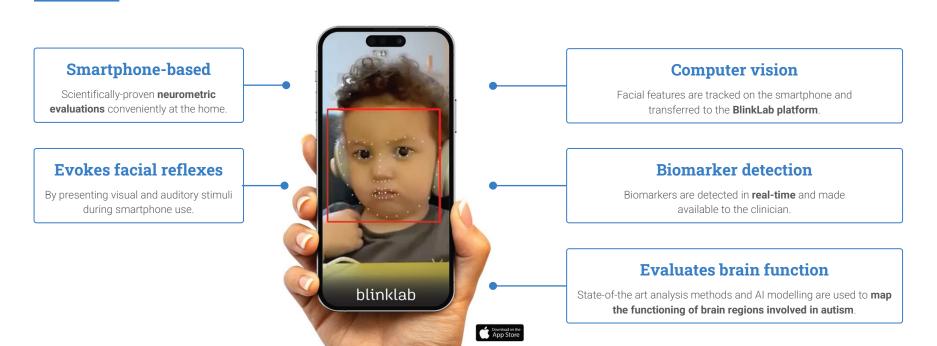




blinklab

### Our patented technology: neuroscience on a smartphone

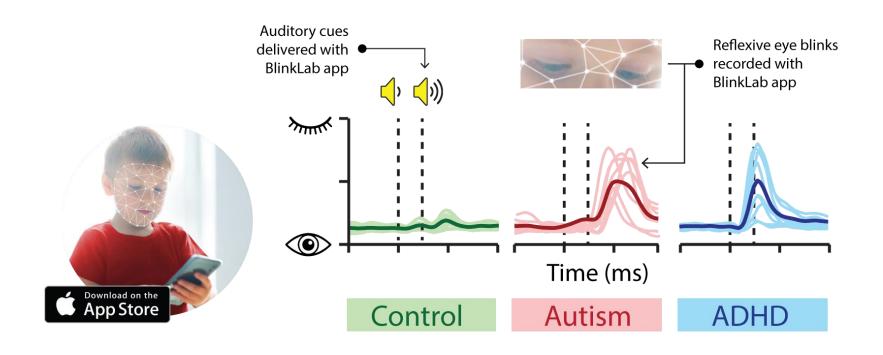
Minuscule facial reflexes, evoked by our app, generate a digital biomarker for autism.



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

#### How our AI technology detects autism and also ADHD

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



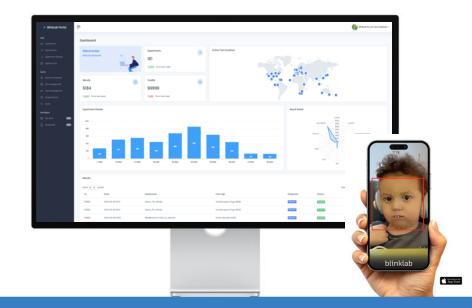
#### BlinkLab is fully developed, field tested, and ready to use

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
   > 30 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.

























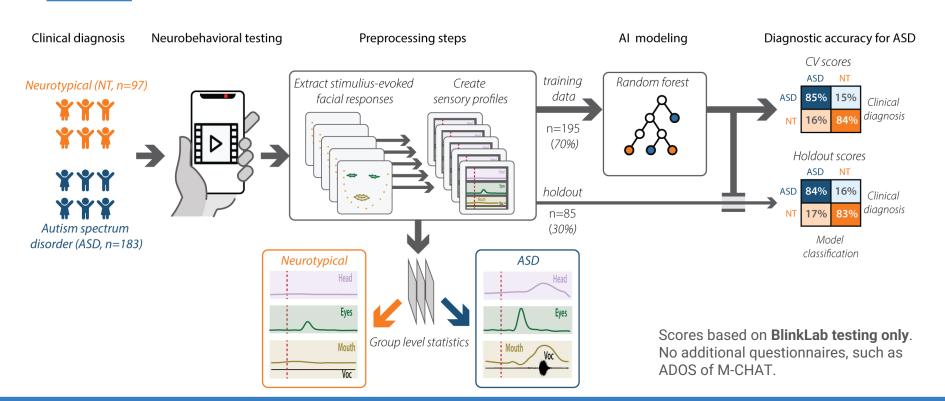


"The BlinkLab app is easy to operate, substantially reduces the costs of diagnosis, and produces reliable and reproducible results."

(Princeton University)

#### 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%



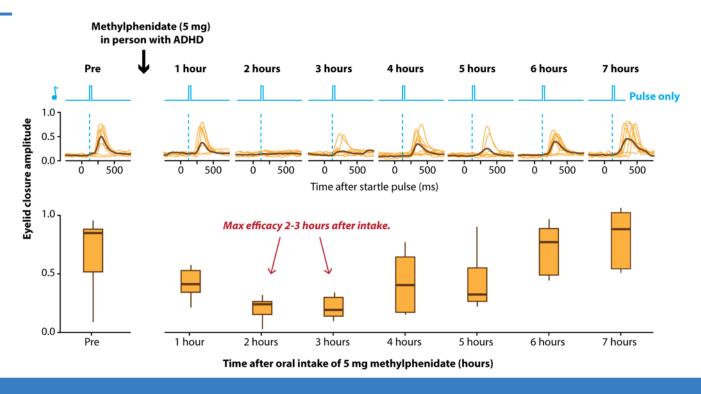
Paper submitted for publication

# 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)

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

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



#### 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 Blinkl ab









**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 Frasmus 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.





**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.

Res pp Neurotech

#### Company Director



Jane Morgan

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



#### Company Director



**Richard Hopkins** 

Experienced biopharmaceutical executive with over 20 years in corporate leadership roles with public biotechnology companies.



PharmAust PYC

#### Scientific advisor



**Prof. Samuel Wang** 

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



#### Scientific advisor



Prof. Chris De Zeeuw

Professor of Neuroscience at Erasmus MC and vicedirector 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.

	Pre-clinical development	Early clinical development	Feasibility clinical studies	Pivotal clinical studies	Regulatory approval	Post authorization
	Diagnostic: BlinkLab Dx				510(k)/CE mark	Product launch
Autism	Subtyping: Phenotypic hete	rogeneity				
	New therapy evaluation	 	 			
		1	'	'		
	Diagnostic: BlinkLab Dx			 	De Novo/CE mark	Product launch
ADHD	Subtyping: Phenotypic hete	rogeneity	I	 		
ADIID	Treatment response monit	oring		 		
	New therapy evaluation		 			



For timeline, see slide 22

#### Important milestones

News pipeline: Updates on regulatory studies on autism and 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

### Use of Funds: Regulatory approval and ready for launch

FDA 510(k) and CE approval for BlinkLab as a diagnostic aid for autism spectrum disorder

Allocation of funds	Full Subscription (\$7,000,000)		
(S) Allocation of funds	Total	%	
Expenses of the Public Offer	\$695,945	8.79%	
Software Improvement and Tech Support	\$1,656,568	20.93%	
IP Protection	\$150,000	1.90%	
Research and Business Development	\$1,031,500	13.03%	
Clinical Studies and Regulatory (United States)	\$1,869,609	23.62%	
Completion of Clinical Study and Regulatory Submission (Europe)	\$480,000	6.06%	
General, Admin & Working Capital	\$1,691,114	21.37%	
Ongoing Listing Costs	\$340,000	4.30%	
Total (includes pre-IPO funds raised)	\$7,914,736	100%	

Note: \$1.4M raised in pre-IPO

### IPO metrics and capital structure

	Full Subscription (\$7,000,000)
Shares	
Shares on issue at the date of the prospectus	64,150,003
Shares to be issued under the public offer	35,000,000
Total shares on issue on completion of the public offer	99,150,003
Options	
Options on issue at the date of this prospectus @ 25c	33,750,000
Chairman Options to be issued to the Non-Executive Chairman on Admission	2,000,000
Total Options on issue on completion of the Public Offer	35,750,000
Performance Rights	
Performance Rights on issue at the date of this Prospectus	-
Performance Rights to be issued to the Directors and Officers	3,000,000
Total Performance Rights on issue on the completion of the Public Offer	3,000,000
Fully diluted Share capital	137,900,003
Gross Proceeds of the Public Offer	\$7,000,000
Market Capitalisation on completion of the Public Offer (undiluted) @ 20c	\$19,830,000
Market Capitalisation on completion of the Public Offer (fully diluted) $@$ 20c	\$27,580,000

#### **BOARD AND MANAGEMENT**







Brian Leedman Chairman

n 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"