ALGORAE PHARMACEUTICALS

Non-deal Corporate Presentation

ASX Code: 1AI

April 2024

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Corporate Overview

$0.01
1AI share price*

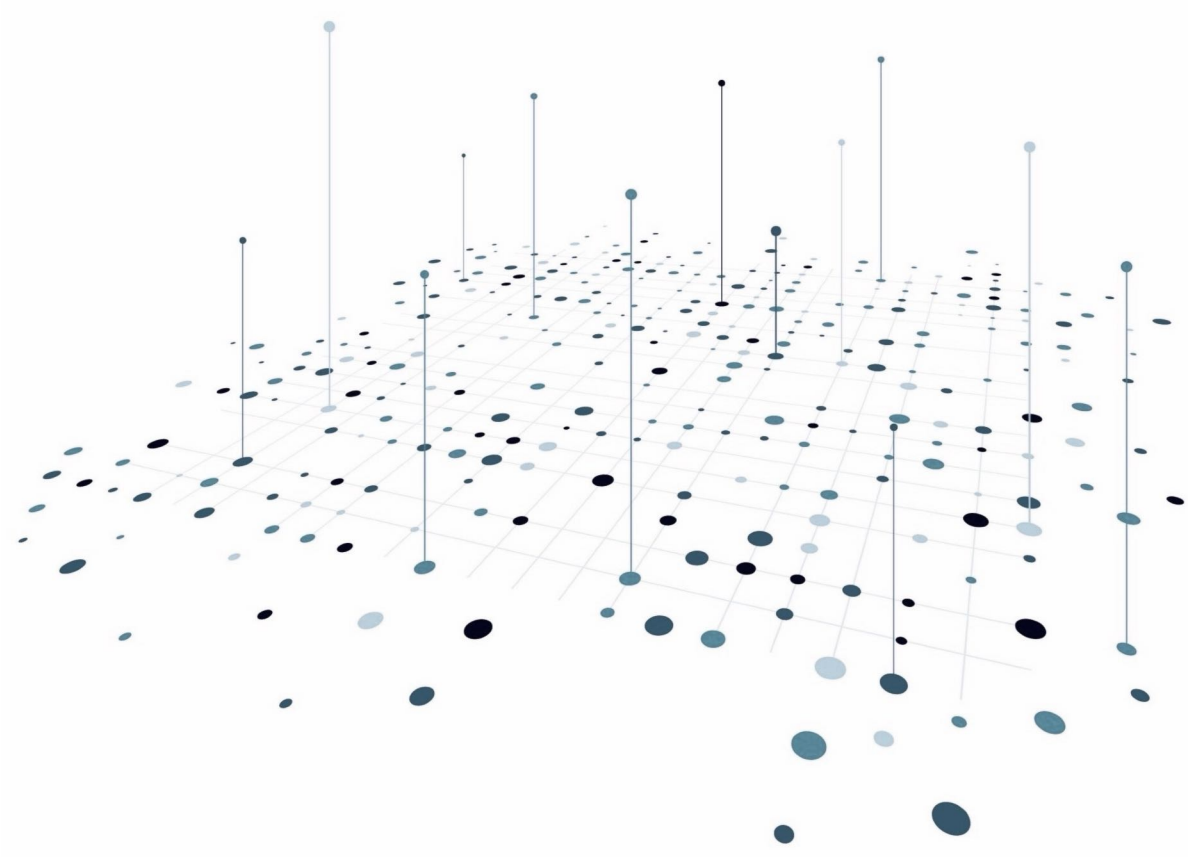
$3.6 million
Cash (31 Dec 23)

1.68 billion
Shares on issue

306 million
ITM Listed options**

45%
Top 20

$16.8 million
Market capitalisation



** Price as at 17 April 2024*
*** ITM Listed options: 1AIO ($0.012, exp 31/03/26), OTM listed options: 1AIOA ($0.015, exp 19/04/24 (expires 19 April 2024))*

Mission

Algorae is a biopharmaceutical company aiming to transform the cost, pace, and timeline of drug discovery and development through the application of artificial intelligence

In Action

- **AlgoraeOS artificial intelligence platform** to expand therapeutic pipeline of assets
- **First AlgoraeOS readout** of fixed dose combination drug targets expected Q2/Q3 2024
- 2 combination drug candidates in pre-clinical trials, **AI-116** for dementia and **AI-168** for cardiovascular disease
- **Expert scientific teams** from UNSW, Monash and Latrobe University
- **CSIRO grant funding** achieved for expansion of AlgoraeOS development team
- **Strong intellectual property strategy** for existing drug candidates and AI-generated drug targets

Artificial intelligence promises to **revolutionise** drug discovery

Only 6% of clinical trials using **traditional** drug discovery approaches receive FDA approval[1]

We intend to drastically **improve** upon this statistic

Transforming Drug Discovery with AI-enabled technology

Drug development is accelerated by using **data driven** and **AI-enabled** approaches

Combination drug repositioning compresses timelines, decreases costs, and increases approval success rates

AI-enabled drug discovery leverages large data sets to predict synergistic combination drug targets to assess in the clinic

Artificial Intelligence for Combination Drug Discovery

AlgoraeOS utilises machine learning, deep learning and neural network artificial intelligence within extensive existing databases to predict synergistic pharmaceutical fixed-dose combination (FDC) drug targets, aimed at improving existing therapeutics

AlgoraeOS Development & Infrastructure

Collaborating with **UNSW Data Science Hub** and **CSIRO Data61** to harness cutting-edge data science and technology, AlgoraeOS is being developed by the leading artificial intelligence experts and institutions in Australia

GADI, Southern Hemisphere's most powerful supercomputer at Canberra's, National Computational Infrastructure (NCI)

- 250,000 CPU cores
- 930 terabytes of memory
- 640 Nvidia GPU's
- 10 petaflops of peak performance

AlgoraeOS AI-enabled Drug Discovery Platform

Spend less for discovery and move faster to development

Data Analysis & Integration

Analysing vast amounts of biological, chemical, and clinical data. Integrating diverse datasets, including genomics, proteomics, and chemical structures, to identify potential drug targets and biomarkers.

Drug Design & Optimisation

Designing novel drug candidates by predicting molecular structures and properties that are likely to have the desired therapeutic effects. This significantly improves the pace of the drug discovery process and reduces costs

Predictive Toxicology

Predicting potential toxicities of drug candidates, eliminating unsafe compounds earlier in the development process. This reduces the likelihood of late-stage failures and enhances overall drug safety.

Target Identification & Validation

Predict and prioritise potential drug targets by analysing biological data, identifying disease-associated pathways, and predicting the likelihood of a target being viable for therapeutic intervention, driving focus on the most promising avenues.

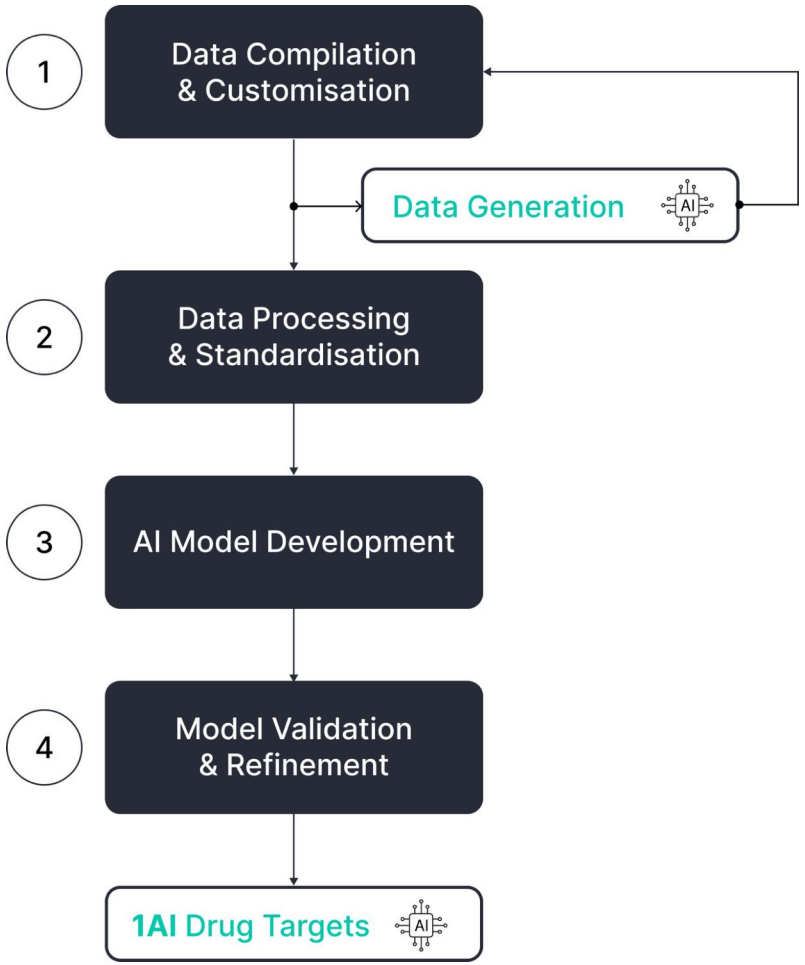
Prediction of Drug-Drug Interactions

Predict potential interactions between drugs, helping researchers and clinicians identify possible adverse effects and optimise combination therapies. This is crucial in preventing unwanted side effects and ensuring the safety of drug combinations.

Clinical Trial Optimisation

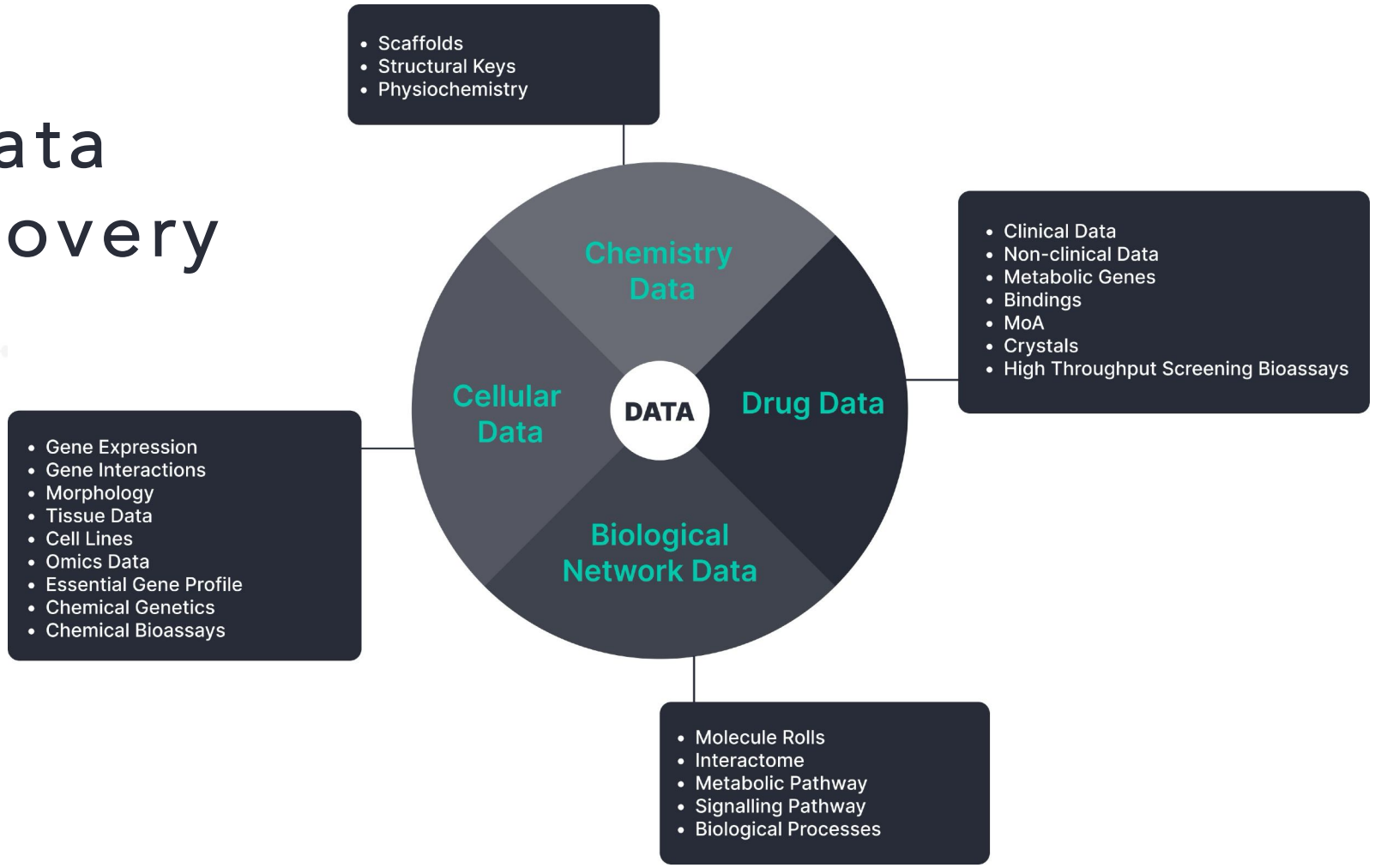
Assisting patient stratification for clinical trials, identifying sub-populations most likely to respond to a particular treatment. This leads to more efficient and successful clinical trials by enrolling patients who are more likely to benefit.

AlgoraeOS Synergistic Drug Combination Prediction



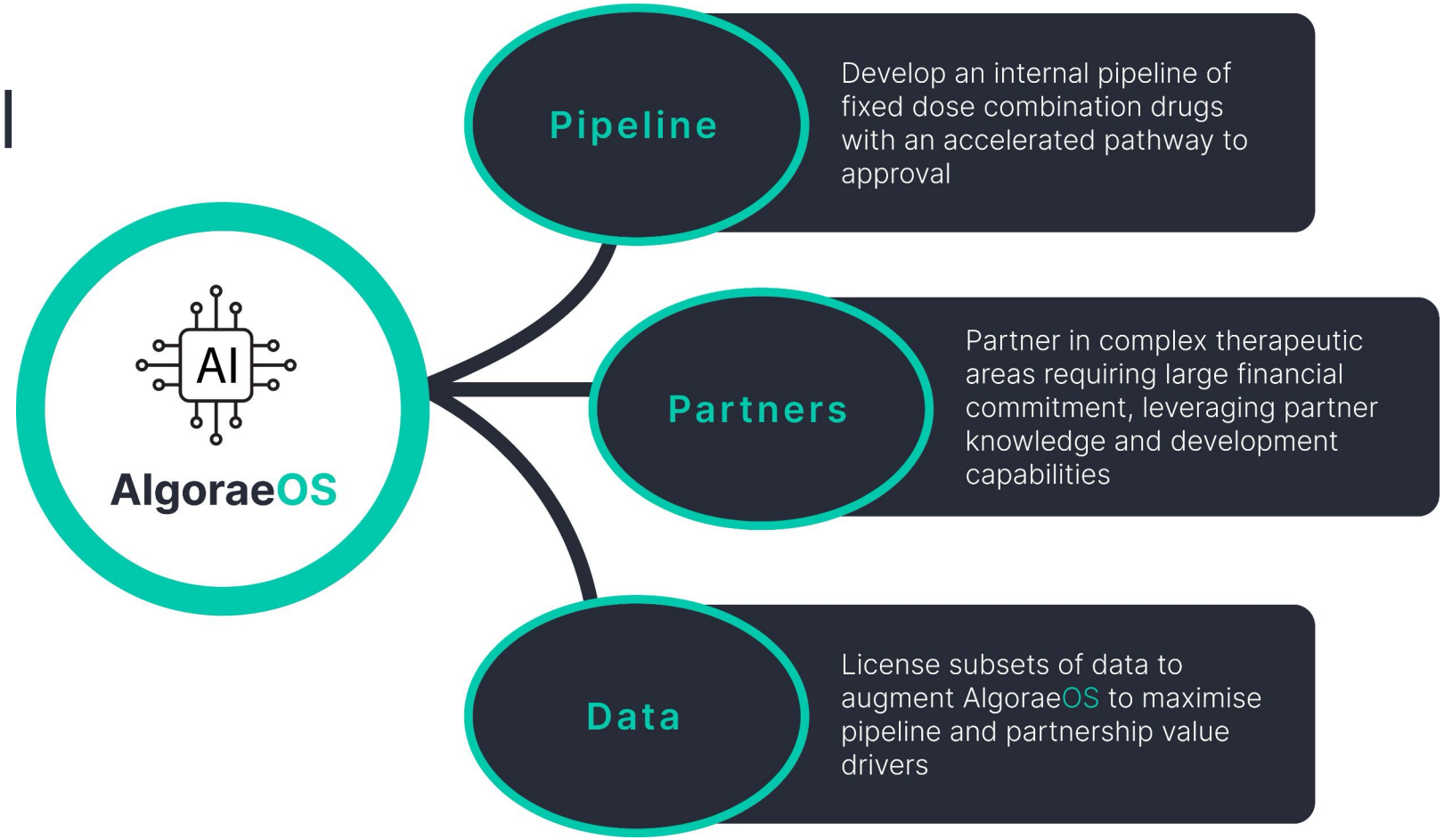
- Extensive scientific and medical databases compiled and customised for data processing and standardisation
- AI model utilises machine learning, deep learning and neural networks
- Screening for fixed dose combination drug targets, either two registered drugs or a registered drug plus a cannabinoid
- Prediction of fixed-dose ratios for synergistic activity, important for drug improvement and development of new intellectual property
- AI models and AlgoraeOS databases continually refined and validated for increasing predictive power.

AlgoraeOS 4 Pillars of Data for Drug Discovery



AlgoraeOS Business Model

3 key opportunities to create shareholder value using our artificial intelligence platform



BioPharma with AI-enabled Business Models

Algorae is the only AI-enabled biopharma company focused on fixed-dose combination drugs (FDCs) and cannabinoid combination drugs

		USD	AUD
1AI	Algorae Pharmaceuticals Ltd	$10.8M	$16.9M*
RXRX	Recursion Pharmaceuticals Inc	$1.78B	$2.78B
RLAY	Relay Therapeutics Inc	$884M	$1.38B
EXAI	Excientia Plc	$537M	$839M
SDGR	Schrodinger Inc	$1.79B	$2.80B
ABCL	AbCellera Biologics	$1.18B	$1.84B
BTAI	Bioxcel Therapeutics	$89.6M	$140M
LTRN	Lantern Pharma Inc	$64.8M	$101M

**prices as at 17 April 2024*

Major value drivers within AI-enabled biopharmaceutical companies include generation of drug targets, advancement of AI-discovered drug candidates and commercial collaborations with other, often larger, pharmaceutical companies.

Combination Drugs: New & Improved Pharmaceuticals

Fixed-dose combination drugs (FDCs) are medicines comprising 2 or more active pharmaceutical ingredients combined in a single dose. Algorae leverage existing data generated on individual drugs by other R&D companies over decades to develop improved pharmaceutical treatments. Approximately 10% of all new drug applications with FDA are FDCs.

Advantages of fixed-dose combination drugs

Enhanced Efficacy

Combining drugs with different mechanisms of action can lead to more potent and synergistic therapeutic effects

Broader Spectrum of Activity

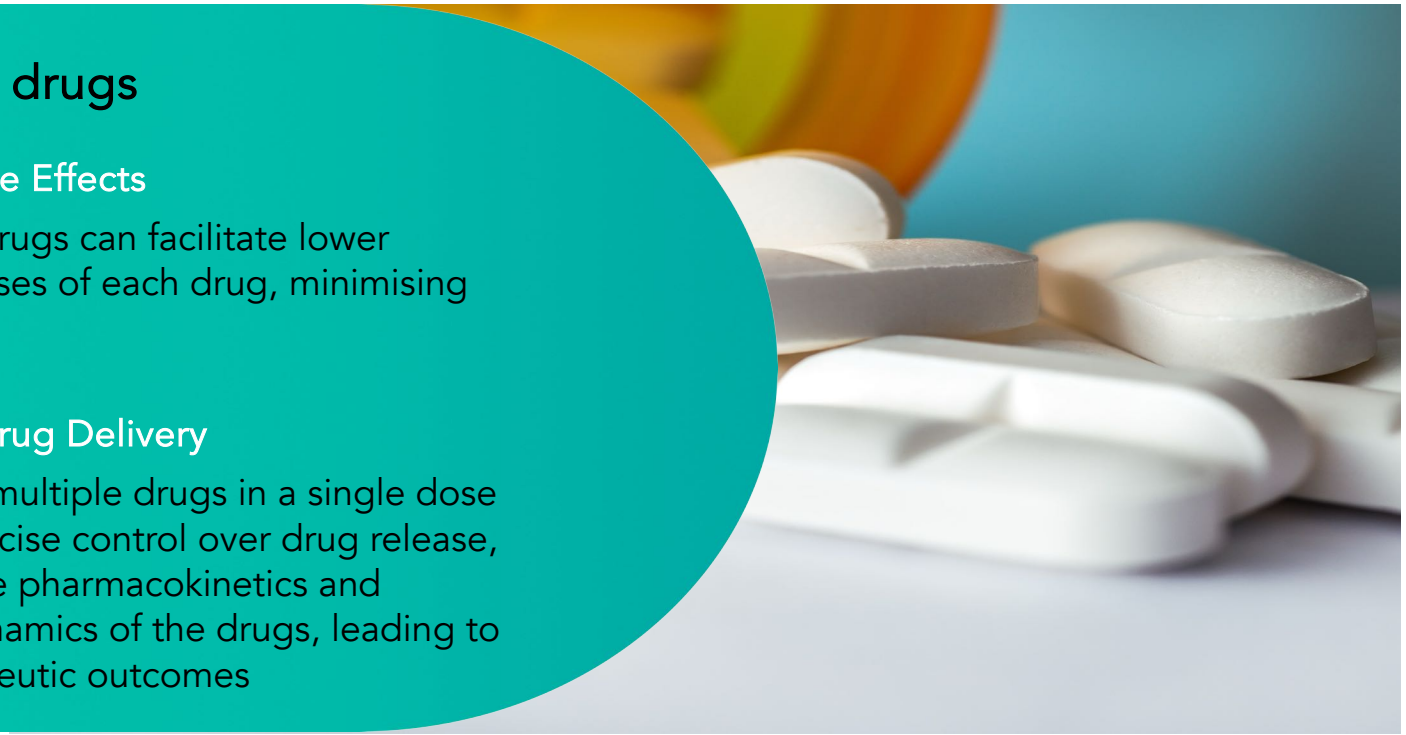
Combination drugs can be effective against a wider range of targets, pathogens, or disease processes

Reduced Side Effects

Combining drugs can facilitate lower individual doses of each drug, minimising side effects

Optimised Drug Delivery

Formulating multiple drugs in a single dose facilitates precise control over drug release, improving the pharmacokinetics and pharmacodynamics of the drugs, leading to better therapeutic outcomes



AlgoraeOS: Differentiated from International Peers

Specialisation One: Fixed Dose Combination Pharmaceuticals

Specialisation Two: Cannabinoids

- Cannabinoid compounds, as well as fixed dose combination drug predictions sets AlgoraeOS apart from international peer platforms
- Warehousing cannabinoids, including understudied minor cannabinoids, for research, which is inputted into the AlgoraeOS database
- Cannabinoids, in particular minor cannabinoids, remain understudied despite **substantial commercial interest** in cannabinoid and cannabinoid-receptor targeting companies

Recent Cannabinoid Commercialisation Examples:

- USD$7.2b (A$11.2b) acquisition of GW Pharmaceuticals by Jazz Pharmaceuticals in 2021 after FDA approval of CBD-based product, Epidiolex[2]. 2022 annual sales of Epidiolex totaled USD$736m (A$1.15b)
- USD$1.075b (A$1.68b) acquisition of Inversago Pharma by Novo Nordisk A/S in 2023 after Phase 1B trials over drug candidate INV-202, an oral CB1 inverse agonist

AI-116
Dementia

Dementia Drug Market

Market data pertains to acetylcholinesterase Inhibitors, known as Donepezil, Rivastigmine and Galantamine.

Est. Market Size (2024)	USD$21 billion [3]
Est. Market Size (2033)	USD$170 billion
CAGR (2024-2033)	8.20%

Dementia and neurocognitive diseases, such as Alzheimer's, Parkinson's, and Vascular Dementia, impose a high disease burden on individuals, and the healthcare system

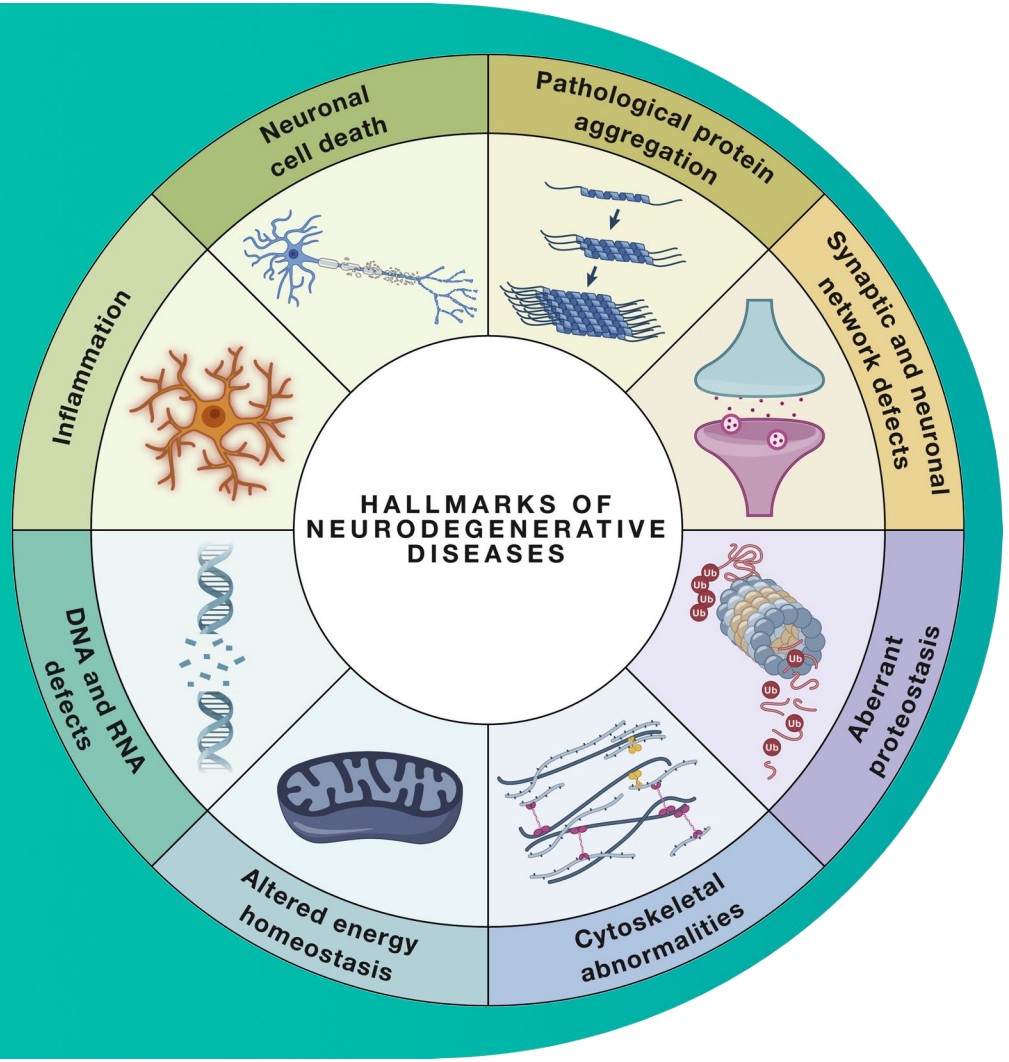
10 million people are diagnosed with dementia every year, translating to a diagnosis every **3.2 seconds**

As the world's population ages, Alzheimer's disease is becoming more common, which calls for the creation and application of therapies that specifically address cognitive decline.

Cannabinoids to Improve Existing Dementia Treatments

AI-116 combines an acetylcholinesterase inhibitor and cannabidiol in a novel fixed dose combination designed to enhance an existing treatment.

Neurocognitive diseases, like Alzheimer's, share many of the same hallmarks, such as inflammation, neuronal cell death, pathological protein aggregation and, synaptic and neuronal network defects [4]



AI-116 Dementia: Preliminary Results

- Preliminary *in vitro* data demonstrates the neuroprotective effect of AI-116, exceeding that of the existing FDA registered acetylcholinesterase inhibitor.
- Cell viability increased by 20.1% for AI-116 versus 2.1% for and existing acetylcholinesterase inhibitor, in pre-clinical studies.
- Results demonstrate synergistic method of action within AI-116.
- RNA sequencing analysis to commence to further assess AI-116, including for neuroinflammation which plays a multifaceted role in the pathogenesis of dementia.

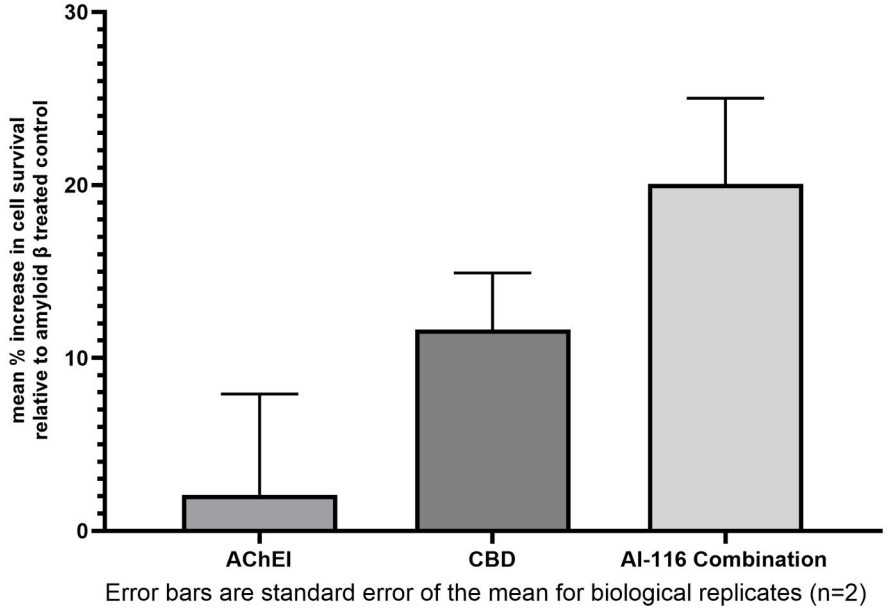


Figure 1. Average percentage increase in cell survival relative to amyloid β treated control cells. Zero is the benchmark for AB effected cells with no treatments, whereby cell viability was 65.5%. Cell viability increased by 2.1% to 67.6% for the acetylcholinesterase inhibitor (AChEI), by 11.6% to 77.1% for CBD and by 20.1% to 85.6% for AI-116.

AI-168 Cardiovascular Disease

Cardiovascular Drug Market

Est. Market Size (2023)	**USDS$66.7 billion** [5]
Est. Market Size (2032)	**USD$84.5 billion**
CAGR (2023-2029)	**2.7%**

Cardiovascular disease (CVD) is the leading cause of death worldwide with an estimated 18 millions deaths attributable in 2019 alone

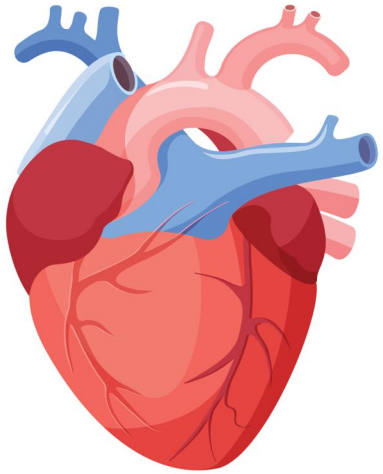
In 2017 in Australia, CVD accounted for 19% of the disease burden, was associated with 27% of deaths, caused more than 1 million hospitalizations, and accounted for 12% of the total health expenditure

Cannabinoids to Improve Treatments for Cardiovascular Disease

Reported Effects of Cannabinoids in Animal Models of Cardiac Disease

Myocardial Infarction
- Inflammation
- Infarction Size
- Neutrophil Infiltration

Arrhythmia
- Tachycardia
- Cell Death
- Oxidative Stress



Cardiomyopathy
- Inflammation
- Oxidative Stress
- Cell Death

Hypertension
- Vasorelaxation

AI-168 comprises a cannabinoid and another drug in combination.

Cannabinoids have been reported to be therapeutically beneficial in models of myocardial infarction, arrhythmia, diabetic cardiomyopathy, hypertension and doxorubicin-induced cardiomyopathy, where they protect against inflammation, reactive oxygen species and improve cell survival [6]

Board of Directors

- Significant shareholders in the business
- Extensive experience building and funding high growth companies on ASX
- Established record of collaborating with expert scientists, institutions and universities

Mr. David Hainsworth
Executive Chairman

Mr. Brad Dilkes
Non-executive Director

Mr. Bradley Latham
Non-executive Director

Scientific Leadership Team

Dr. James McKenna (Algorae)
Chief Scientific Officer

Prof. Garrie **Arumugam (LTU)**
Dementia

A/Prof. Fatemeh Vafaee (UNSW)
Artificial Intelligence

Dr. Muhammad Heydari (UNSW)
Artificial Intelligence

Dr. Kristen Bubb (Monash)
Cardiovascular

Dr. Giannie Barsha (Monash)
Cardiovascular

Upcoming Catalysts

- Launch of AI platform, AlgoraeOS
- Artificial intelligence scans for drug targets
- Additional pre-clinical results from AI-116 for Dementia
- Pre-clinical results from AI-168 for Cardiovascular Disease
- Data acquisitions for AI platform
- Data sharing and strategic partnerships
- Findings from NTCELL strategic review

Appendix

References / Cited Sources

Slide 5: FDA Approvals

1. Link to cited information

Slide 14: GW Pharmaceuticals Takeover

2. Link to cited information

Slide 16: Dementia Drug Market

3. Link to cited information

Slide 17: Neurocognitive Disease and Cannabinoids

4. Link to cited information

Slide 20: Cardiovascular Drug Market

5. Link to cited information

Slide 21: Cannabinoids and Cardiovascular Disease

6. Link to cited information

Link to cited information

ALGORAE PHARMACEUTICALS

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