



MULTIDISCIPLINARY
INSTITUTE OF
NEURO-TECHNOLOGY &
DATA
SCIENCE

FLORIDA'S NEXT MOONSHOT:
CURE PARKINSON'S BY 2040

*"We choose to go to the moon in this decade and do the other things,
not because they are easy, but because they are hard."*

John F. Kennedy

Executive Summary

Parkinson's disease incurs significant cost to the individual and the economy, a particularly pressing issue for Florida

The current treatment approaches won't solve this problem

That is why we propose a scientifically unique approach and organizationally advanced model at MINDS

At MINDS, our Vision is to cure Parkinson's disease before the end of the next decade with state-of-the-art ecosystem and a singular focus on the cure

We will drive immense impact to the region and economy

It will take a robust set of public and private partners



Parkinson's disease debilitates patient lives...

...and has a massive economic impact



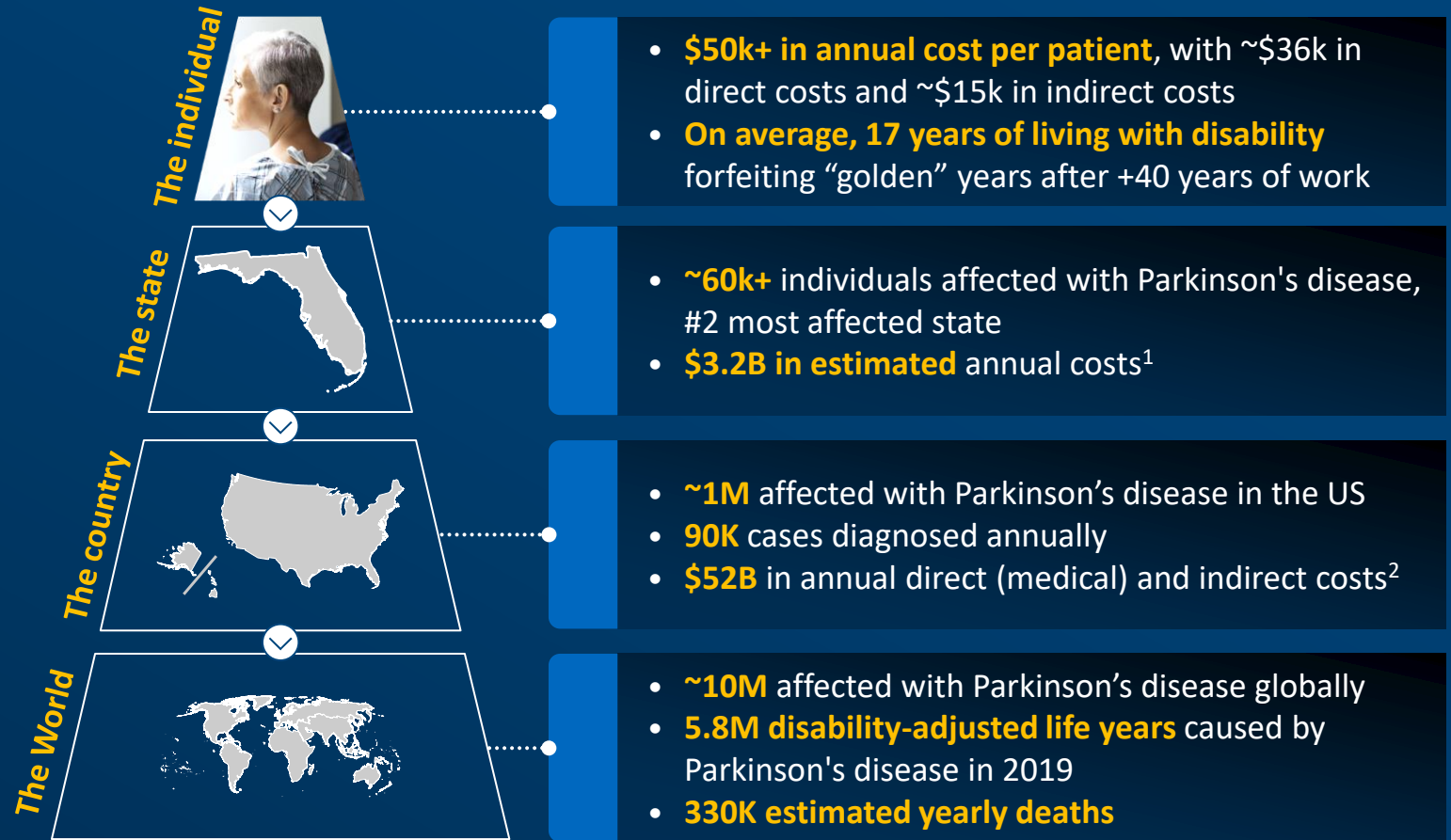
Costly treatment



Loss of motor function and confinement to a wheelchair

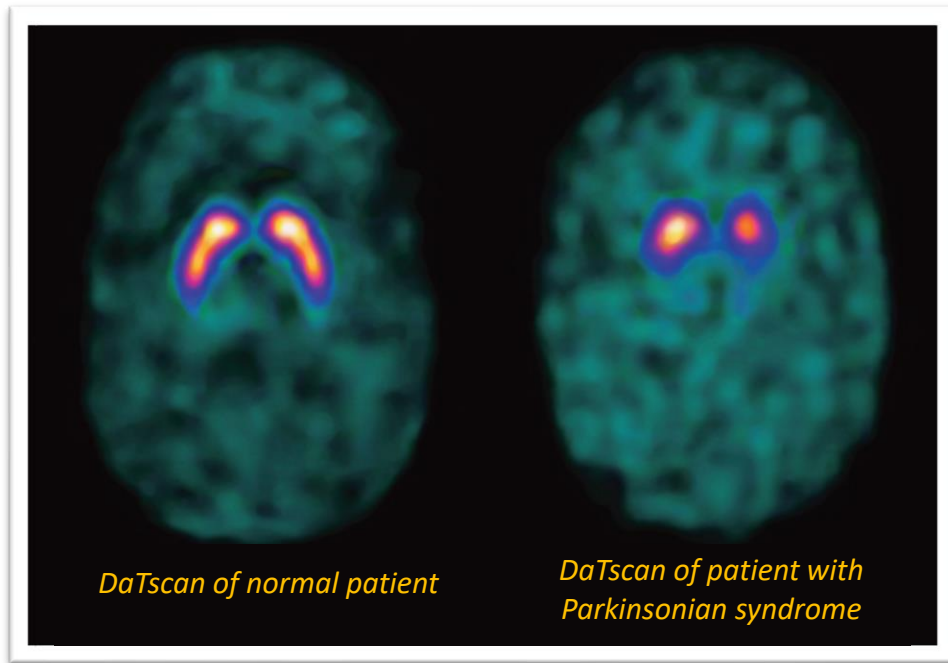


Necessary around the clock care



1. Extrapolated based on applying the % of total US Parkinson's disease population residing in Florida to the total US PD direct related cost
2. Estimates as of 2017
Source: Parkinson's Foundation and World Health Organization

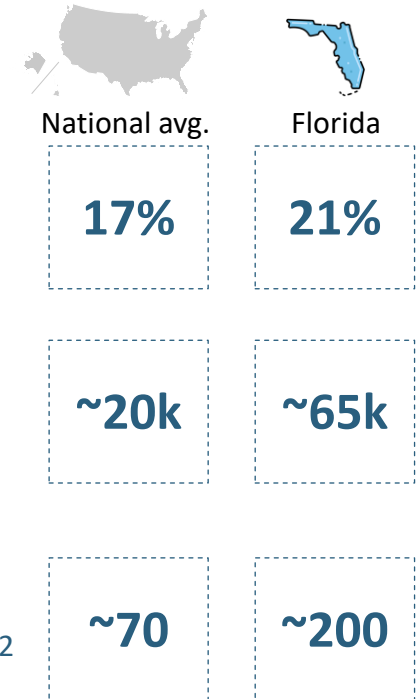
Florida is disproportionately affected by Parkinson's disease



Florida has the highest % of senior citizens (>64yos) in the US¹

Florida 2nd highest prevalence rate of Parkinson's cases in US

Florida is among the top five states with highest healthcare spend (\$'B)²



Current approaches won't solve this problem...

	Current Modalities	Limitations and side effects
Symptomatic treatment	Conventional pharmacological therapy ●	<ul style="list-style-type: none"> • Drug resistance developed during later stages • Side effects include dyskinesias and "on-off" effects
	Deep brain stimulation ●	<ul style="list-style-type: none"> • Ineffective for imbalance, freezing of gait or non-motor symptoms • Side effects include worsened memory
	Lesion surgery ●	<ul style="list-style-type: none"> • Risk of permanent side effects: numbness, vision loss, Cognition worsening etc.
Disease modifying	Gene therapy ●	<ul style="list-style-type: none"> • Unproven genetic causes for heterogeneous disease
	Stem cell therapy ●	<ul style="list-style-type: none"> • Concerns of tumor formation • Niche therapy, difficult to drive scale
	Immunotherapy ●	<ul style="list-style-type: none"> • Unclear toxic protein species of alpha-synuclein • Difficulty to image toxic proteins in cell / animal models

Treatment / drug development stages

● Discovery phase
 ● Pre-clinical / early clinical trial
 ● Approved treatment / drug

...due to many challenges

- 1 **Lack of sufficient multi-modal data** to accurately diagnose, discover treatment, or design clinical trials at scale
- 2 **Low success rate for neurological treatments** due to limited experimental data, unrepresentative cell/animal models, and few sophisticated prediction technology
- 3 **Lengthy trials and decoupled research & clinical operation** leading to underdeveloped personalized treatment

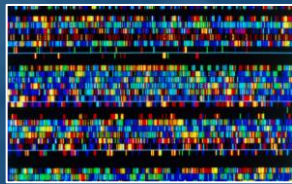
Tailwind is ahead...



Florida is the home to second largest Parkinson patient population in US

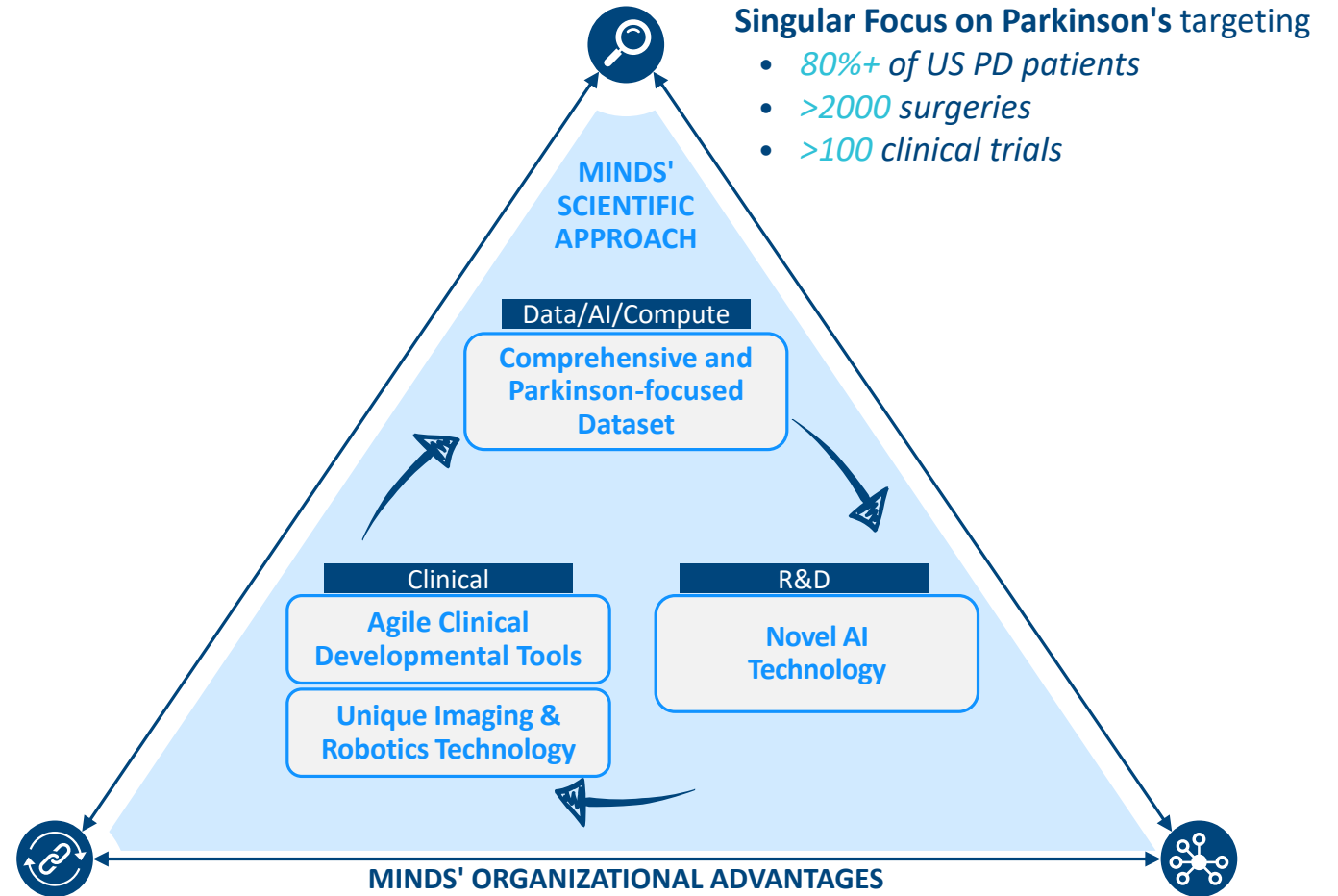


Advancement in AI powered computing



Global initiatives to abundant of data, starting with Global genome projects

...MINDS is uniquely structured to solve this problem



Closely-coupled multidisciplinary ecosystems designed with

- >100 Top neurologists
- >\$40M in research funding

Strategic Partnerships

- BCG
- Max Planck
- ...

Many multidisciplinary projects have gained momentum...

20+ Universities, tech companies and medical partners co-developing framework to promote Healthcare AI adoption

Healthcare Enabled by AI in Real Time - Coalition for Healthcare AI (CHAI)

MAYO CLINIC Berkeley UNIVERSITY OF CALIFORNIA
Google JOHNS HOPKINS MEDICINE



...

30+ Universities, enterprises, and federal agencies building world-class threat detection and neutralization capabilities

Soft-target Engineering to Neutralize the Threat Reality (SENTRY)

Northeastern University Transportation Security Administration
Homeland Security Science and Technology BOSTON UNIVERSITY



...

25+ Universities, tech companies, and gov. agencies developing NextGen tech for best-in-class security screening

Awareness and Localization of Explosives-Related Threats (ALERT)

Duke UNIVERSITY U.S. Customs and Border Protection
SIEMENS Raytheon Technologies



...

Source: Department of Homeland Security; Duke Health and Duke Institute for Health Innovation; Coalition for Health AI

...distilling best practices for MINDS

- Start with an important world challenge
- Invest time and resources into building a multidisciplinary research team
- Foster long-term community and stakeholder engagement
- Train the next generation



MINDS' VISION

**CURE PARKINSON'S DISEASE BEFORE
THE END OF THE NEXT DECADE**

WHAT IS MINDS?

State-of-the-art ecosystem bringing the best talent and technology together in one location with a singular focus to accelerate the path to curing Parkinson's disease



World-class Researchers

Top researchers committed to understanding comprehensive disease pathology



Singular Focus on Parkinson's disease

Dedicated to curing Parkinson's disease vs. a broader group of related diseases (e.g. neurodegenerative diseases)



Integrative Approach

Trans-disciplinary, agile collaboration across broad specialties (e.g., STEM, biopharma, patient care), leveraging university and partner resources



Cutting-edge Tech

Use of Artificial Intelligence and large-scale data integration to transform genomic, environmental and lifestyle data into actionable insights



Best-in-class Ecosystem

Extensive network of facilities designed to meet all Parkinson's patients, family & investigator needs, headquartered in Florida

MINDS will create tremendous economic impact for the region and state

WE WILL DRIVE TOWARDS IMPACTFUL OUTCOMES ALONG AN AGGRESSIVE TIMELINE

2023

Launch MINDS
ecosystem

2026

Operate #1 center in research,
diagnostics, prevention and
treatment for Parkinson's
disease

2028

Create AI-enabled and other state
of the art diagnostics, therapies
and treatments for Parkinson's
disease

2030

Develop clear path to cure
Parkinson's using predictive,
preventative, personalized &
participatory treatment

2040

Scale deployment of
validated cure for Parkinson's
disease globally

MINDS WILL REPOSITION FLORIDA'S BRAND AS A GLOBAL HUB FOR TECH, HEALTHCARE & RESEARCH

MINDS will change the perception of Florida across tech, healthcare and research areas...

...and create tremendous economic impact in the state

TECH



Create new **highly upskilled talent pipeline** (inc. first unique AI-centric workforce population in FL)



Attract tech & healthcare **startups to the region**

HEALTHCARE



Attract the **best neurologists** and neurosurgeons in the world



Increase inflow of **medical tourism**

RESEARCH



Create Florida's next big **research-driven innovation moonshot**



Reposition **Florida's university system as top tier research institutions**, attracting top researchers & students

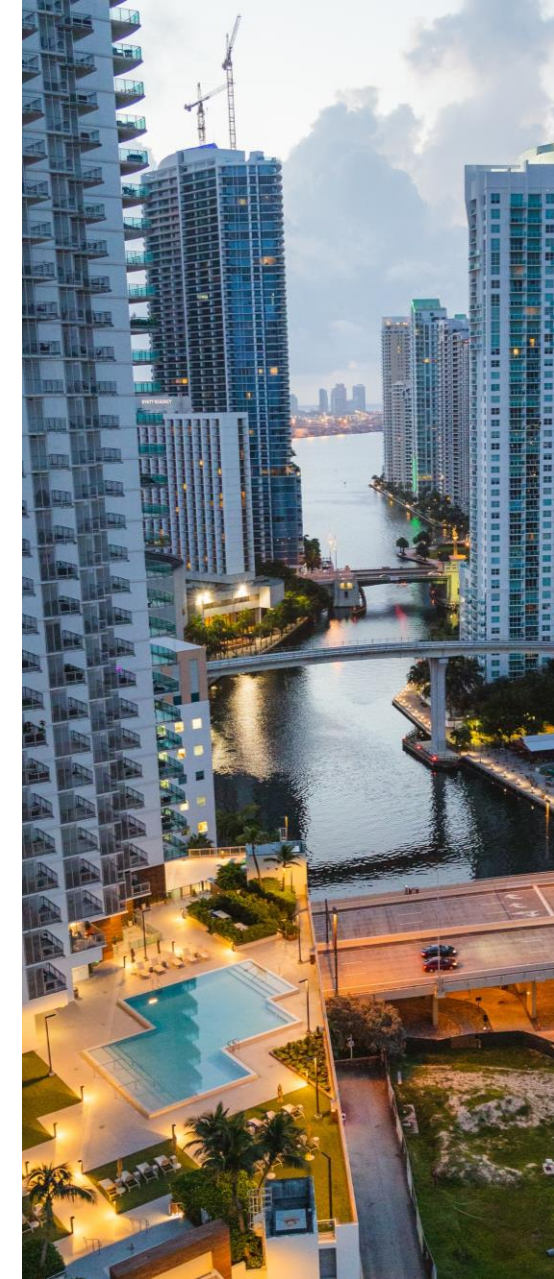
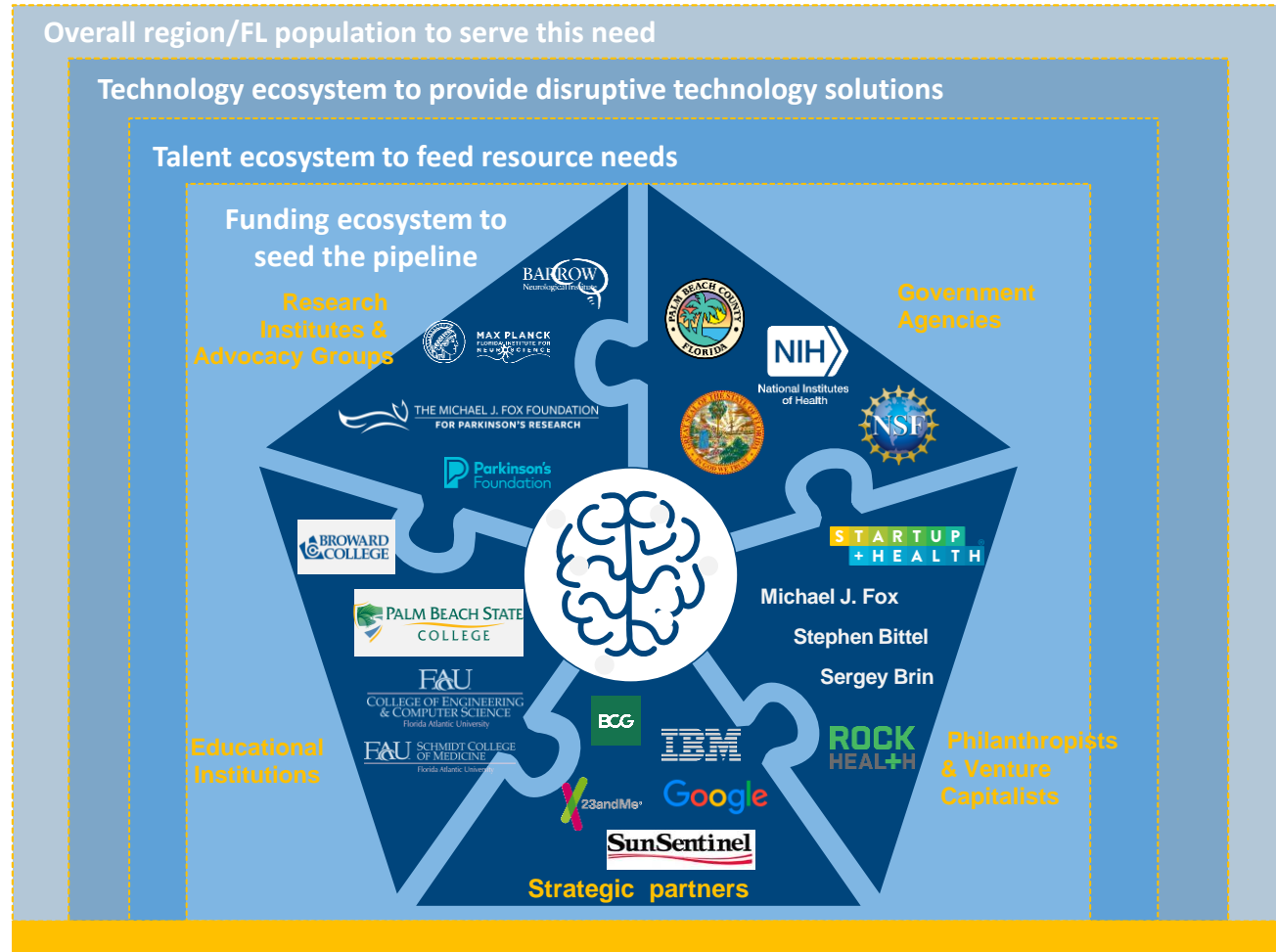


Creation of Tech-enabled workforce in Florida with **6-8K direct jobs¹** and **1-3K indirect jobs¹**



Contribution of **\$3-\$4B to Florida's annual GDP²** uplift from Parkinson's treatment relief and clinic revenue

A ROBUST GROUP OF PARTNERS IS REQUIRED TO REALIZE **MINDS'** VISION



We have laid out an approach to build this world class institution



SETTING THE VISION

- Define success factors of world-class ecosystems
- Clarify the vision for MINDS Ecosystem
- Develop high-level estimate of investment needs

4 WEEKS



DESIGN

- Develop MINDS ecosystem blueprint
- Build detailed financial model
- Provide strategic alignment with stakeholders

FOCUS OF THIS YEAR



BUILD

- Oversee MINDS multi-stage Build process
- Setup key strategic partnerships to support Build and Operate Phases
- Identify & hire key talent

24 - 36 MONTHS



OPERATE

- Launch MINDS ecosystem operations to deliver world-class research and clinical outcomes
- Stand up Executive Board to guide strategic decisions

ONGOING



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