



# Following the data **Key trends in the longevity science and market**

Fiona Miller

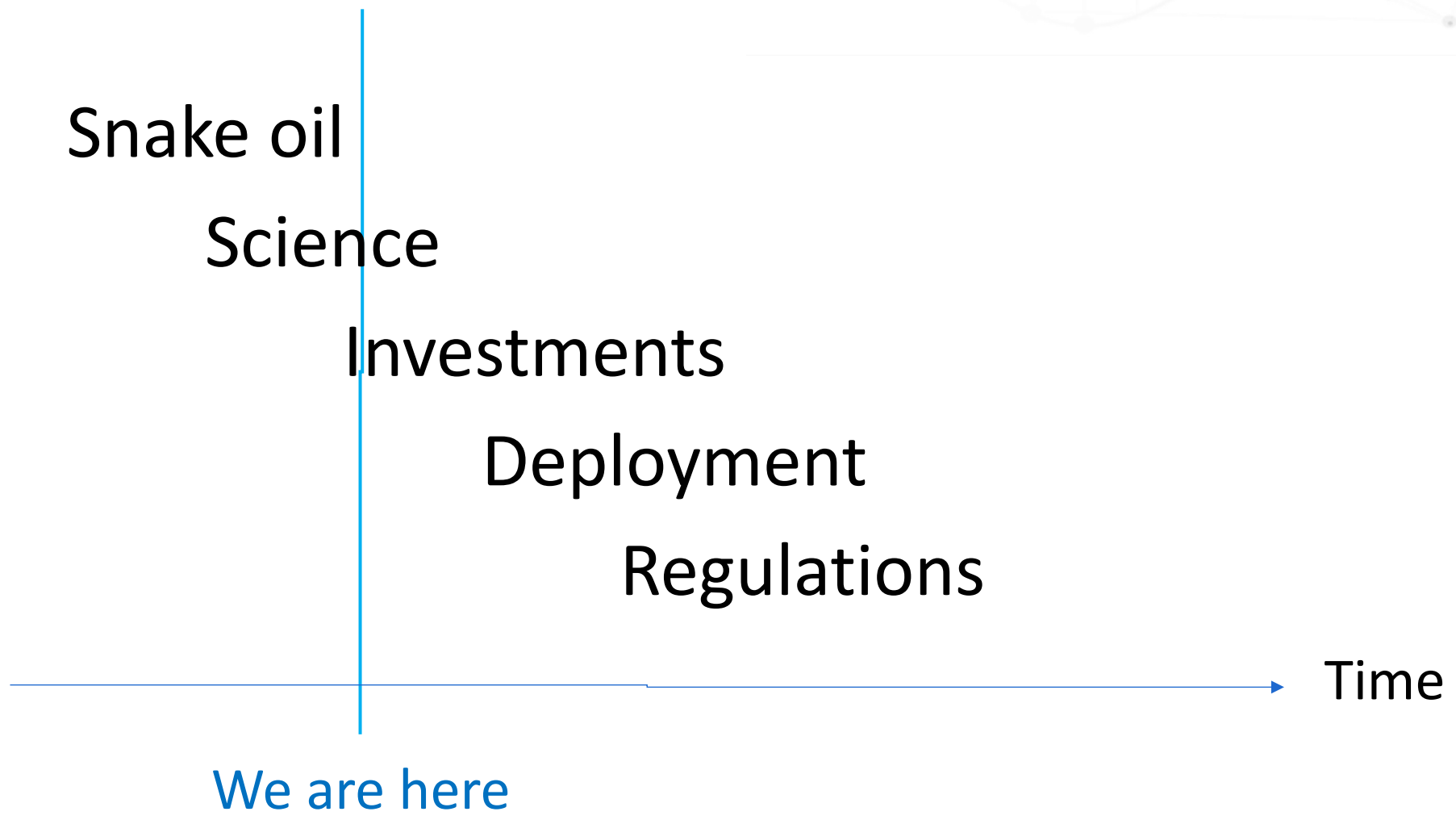
16-Nov-2022



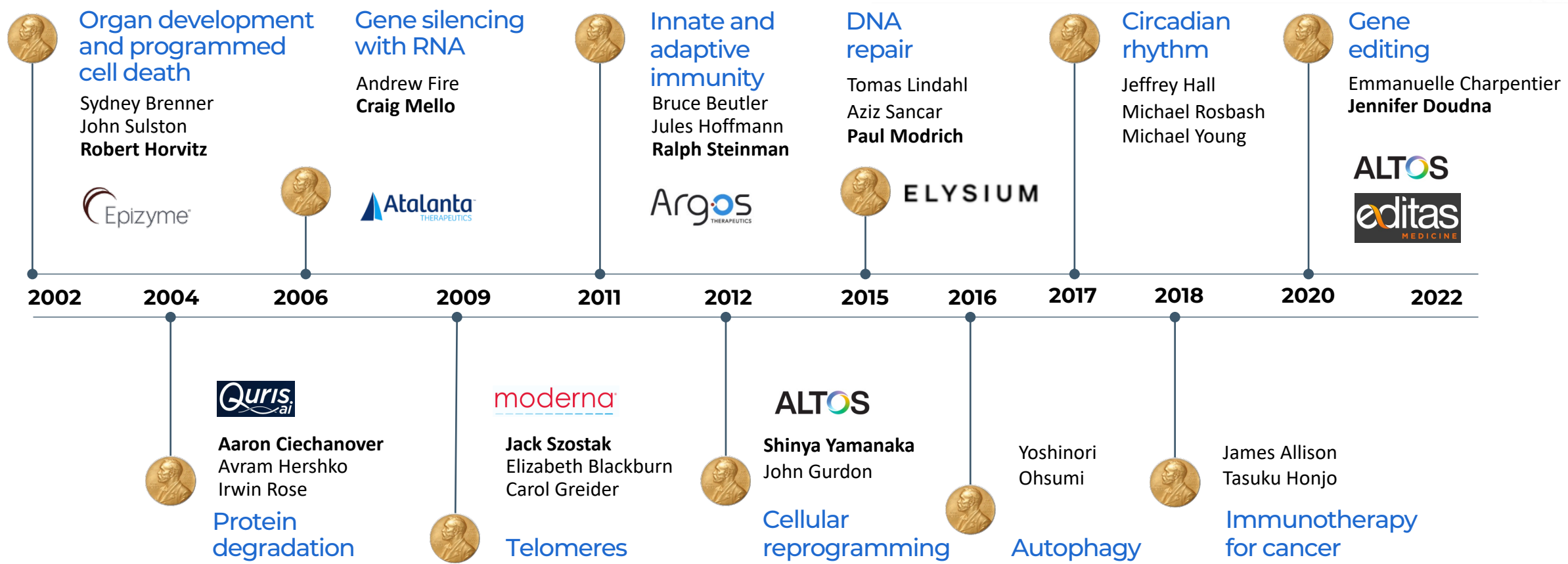
**quadraScope invests in**  
ventures that aim to  
**reverse aging**  
and enhance health  
by **targeting the**  
**mechanisms of aging.**



# Rejuvenation industry cycle

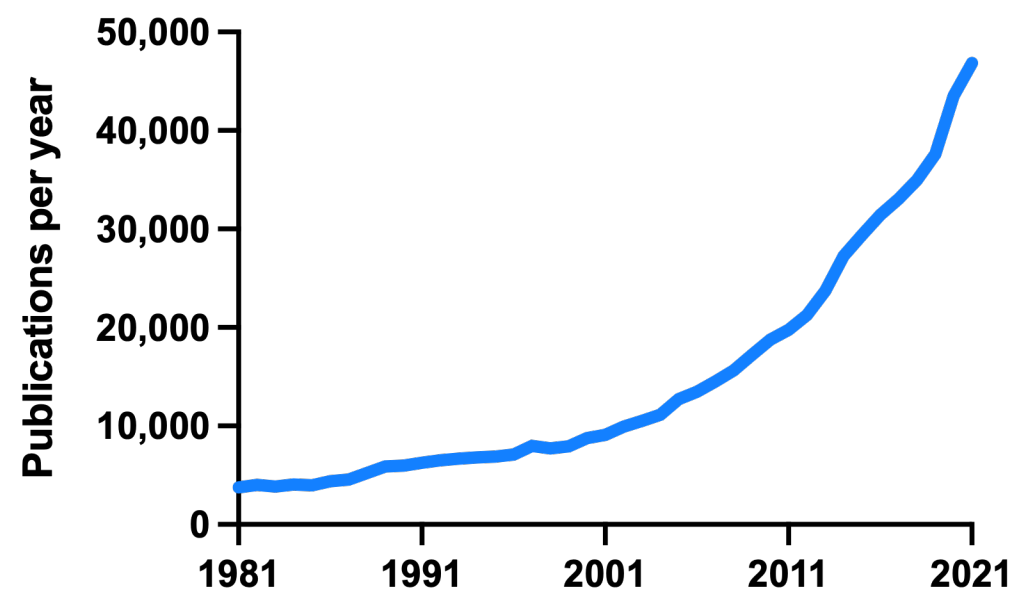


# Relevant Nobel Prizes in the last 20 years

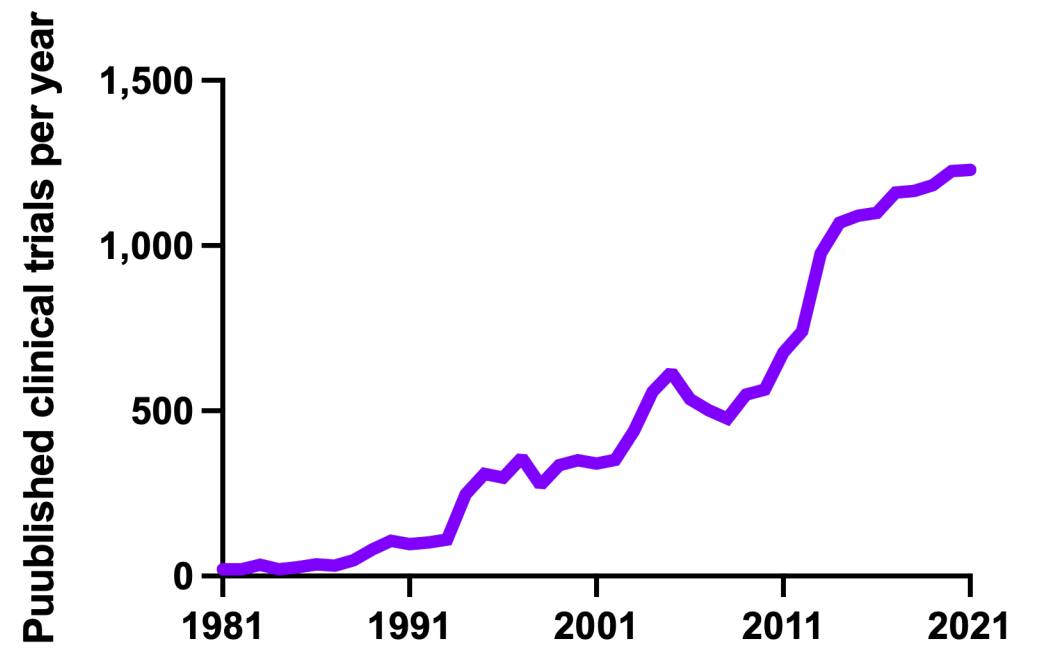


# Significant increase in publications and trials

### All publications

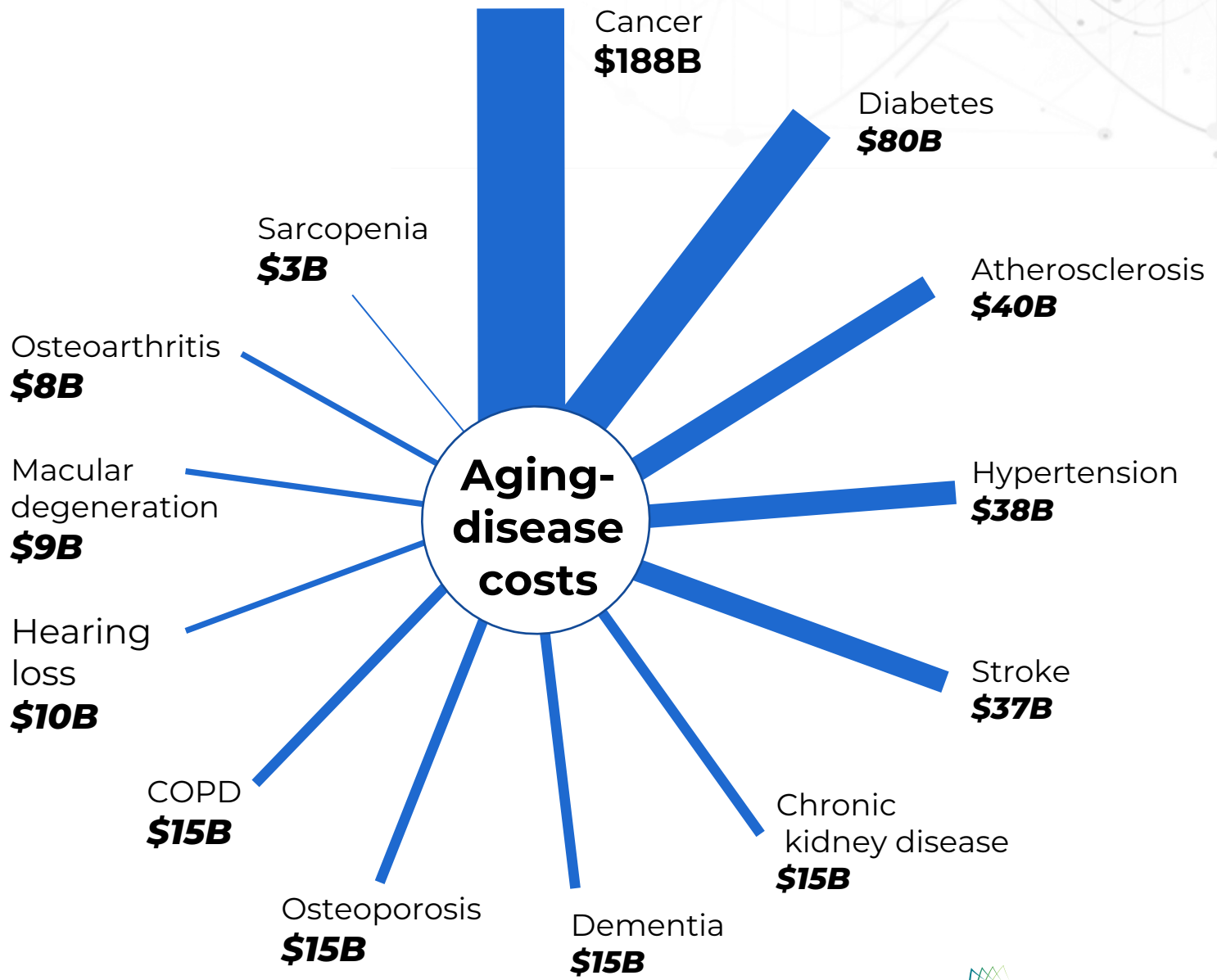


### Clinical trials



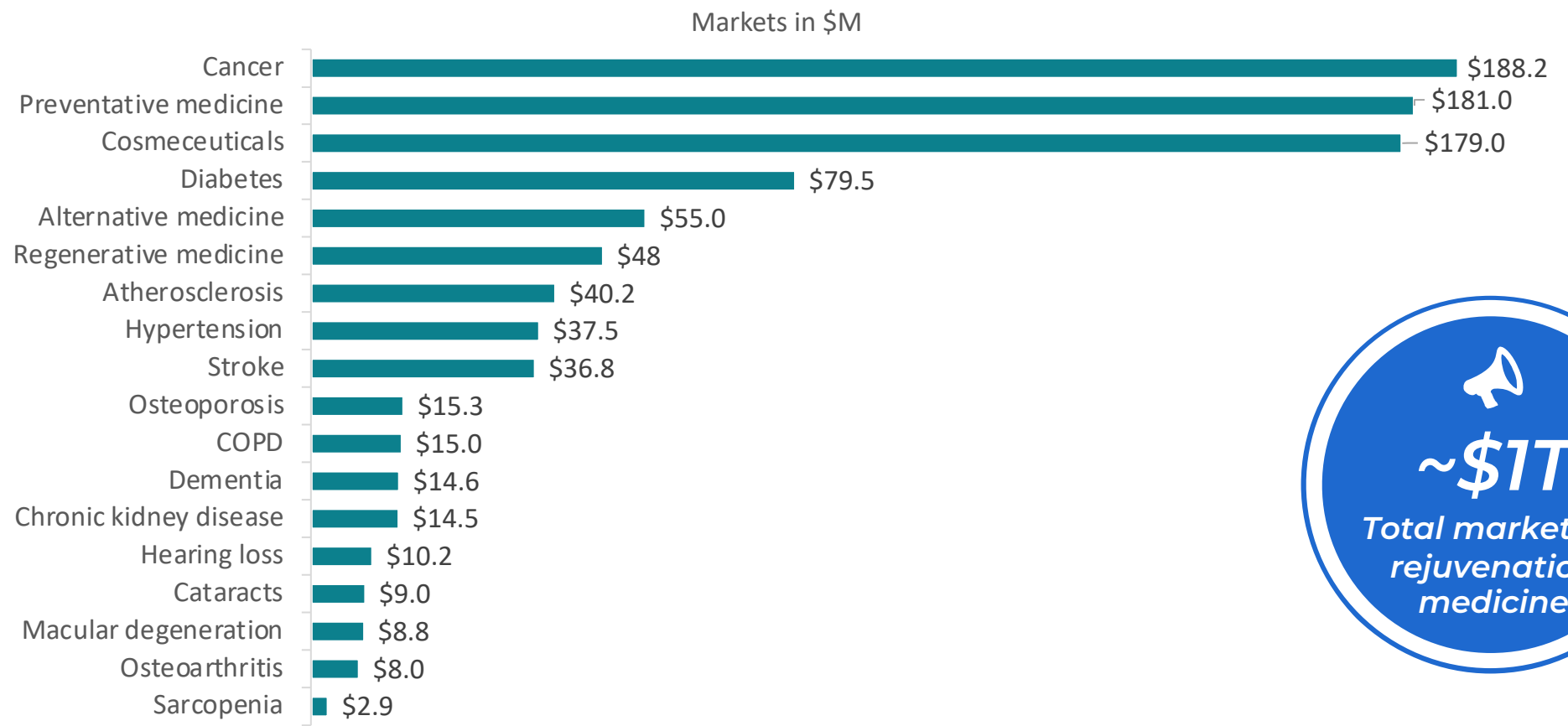
Source: NIH National Library of Medicine; [publications](#), [clinical trials](#).  
Search terms: "rejuvenation", "aging", "longevity".

# \$490B global spending on age-related diseases



Global markets for age related diseases (2022): [dementia](#), [stroke](#), [atherosclerosis](#), [hypertension](#), [chronic kidney disease](#), [diabetes](#), [cancer](#), [sarcopenia](#), [osteoporosis](#), [osteoarthritis](#), [macular degeneration](#), [cataracts](#), [COPD](#), [hearing loss](#).

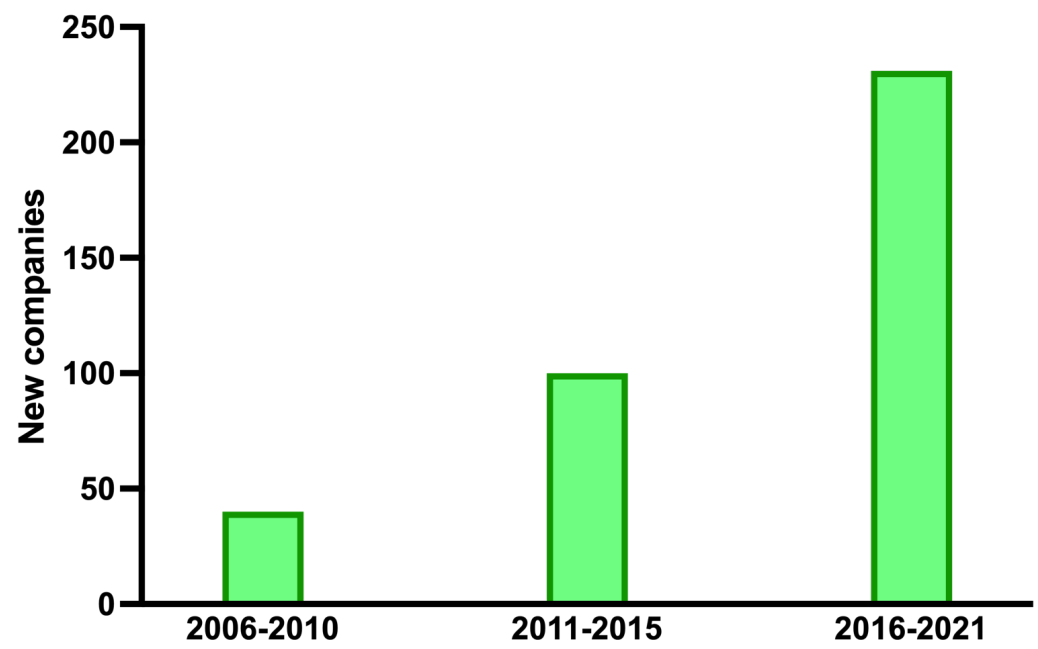
# \$1 trillion market opportunity to displace ...



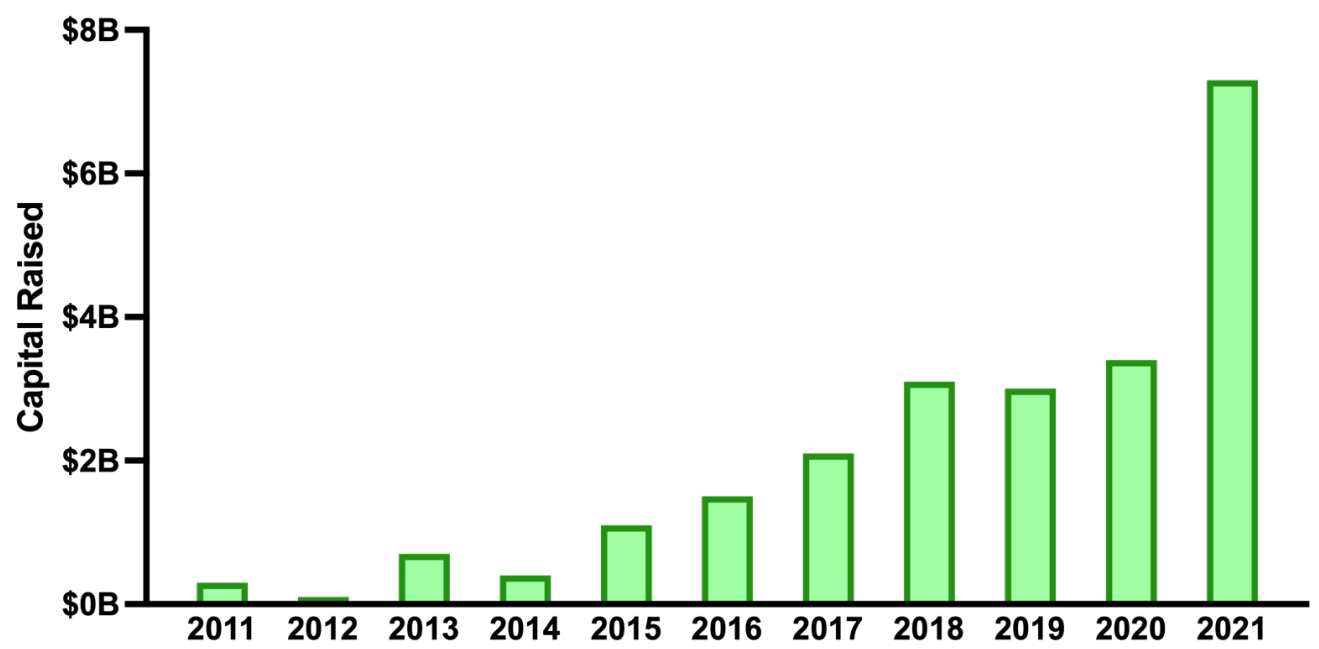
~\$1T  
Total market for  
rejuvenation  
medicine

# Significant growth in new aging-related ventures and investments

### Longevity company formations



### Investments in longevity companies (\$B)



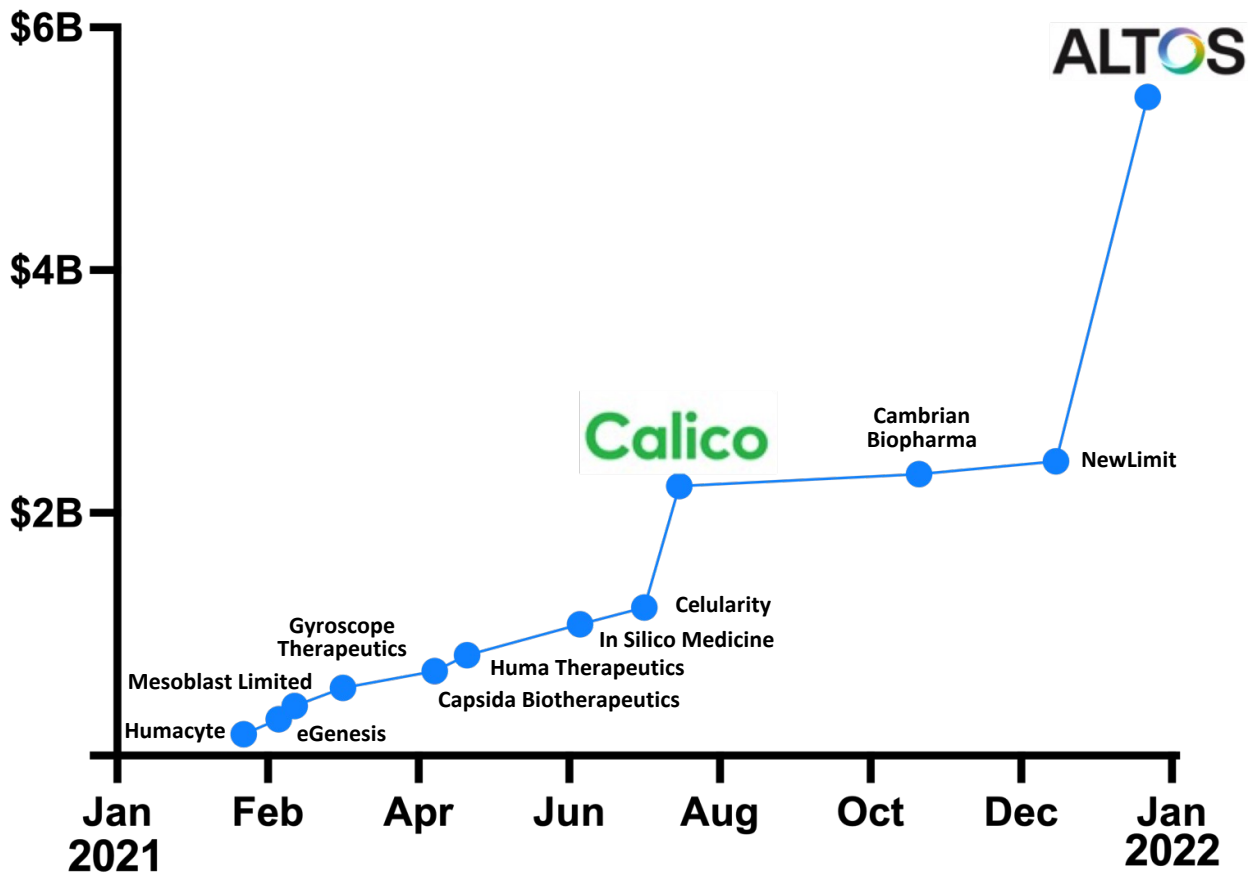
Analysis by Longevity.Technology (2022): [investments](#), [companies](#).





# Further validated by most recent funding surge

## Investments into Rejuvenation



Dr. Seimetz sits on the board of directors at Humacyte.

Jun 2021

Google sister company and drug giant chip in another **\$1B** to cure age-related diseases – Calico

Oct 2021

Cambrian Biopharma closes **\$100M** Series C to advance healthspan-boosting therapies

Dec 2021

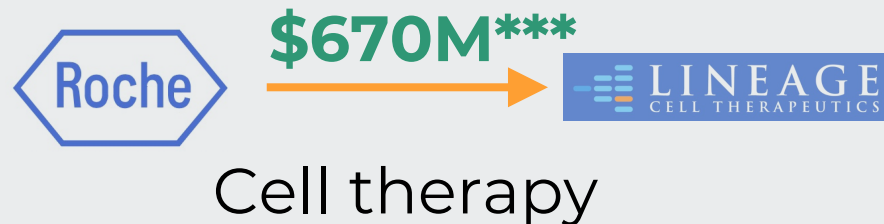
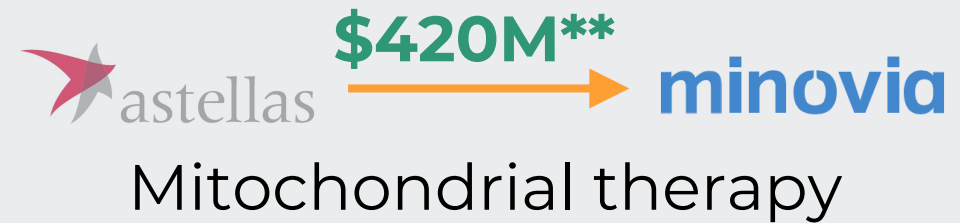
What this crypto billionaire’s big bet on longevity means for you – NewLimit, **\$105M**

Dec 2021

A **\$3B** bet on finding the fountain of youth – Altos Labs

# Big pharma is investing in longevity

Notable partnerships (2021 and 2022)



**BCG** The emerging commercial landscape for aging biology-based therapeutics  
[Analysis](#) by Michael Ringel, JD, PhD

\*Alphabet Inc. (Google) invested an additional \$500M in the same deal

\*\*\$20M upfront, Minovia may receive up to \$420M per product in milestone payments

\*\*\*\$50M upfront, Lineage may receive up to \$670M in milestone payments

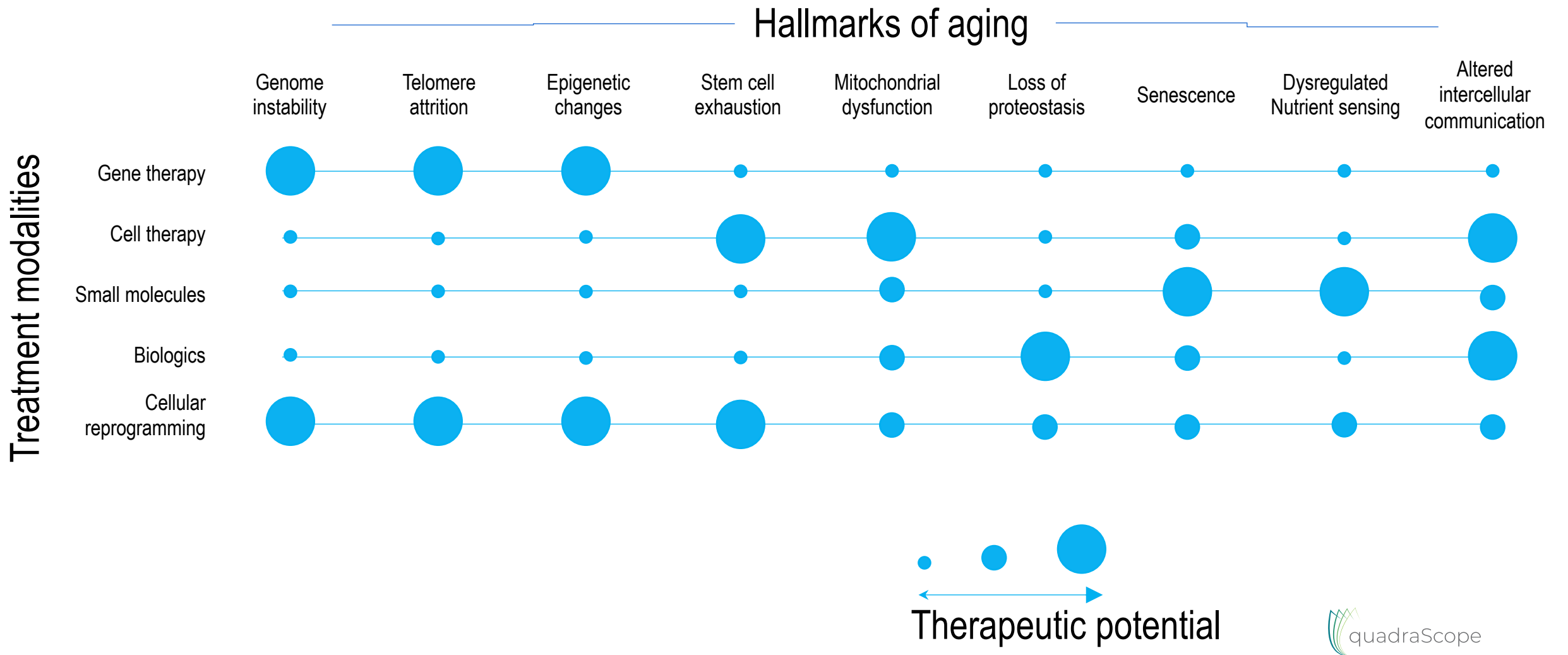
Deal references: [AbbVie](#), [Roche](#), [Astellas](#), [Novartis](#).

# Aging - industry segmentation

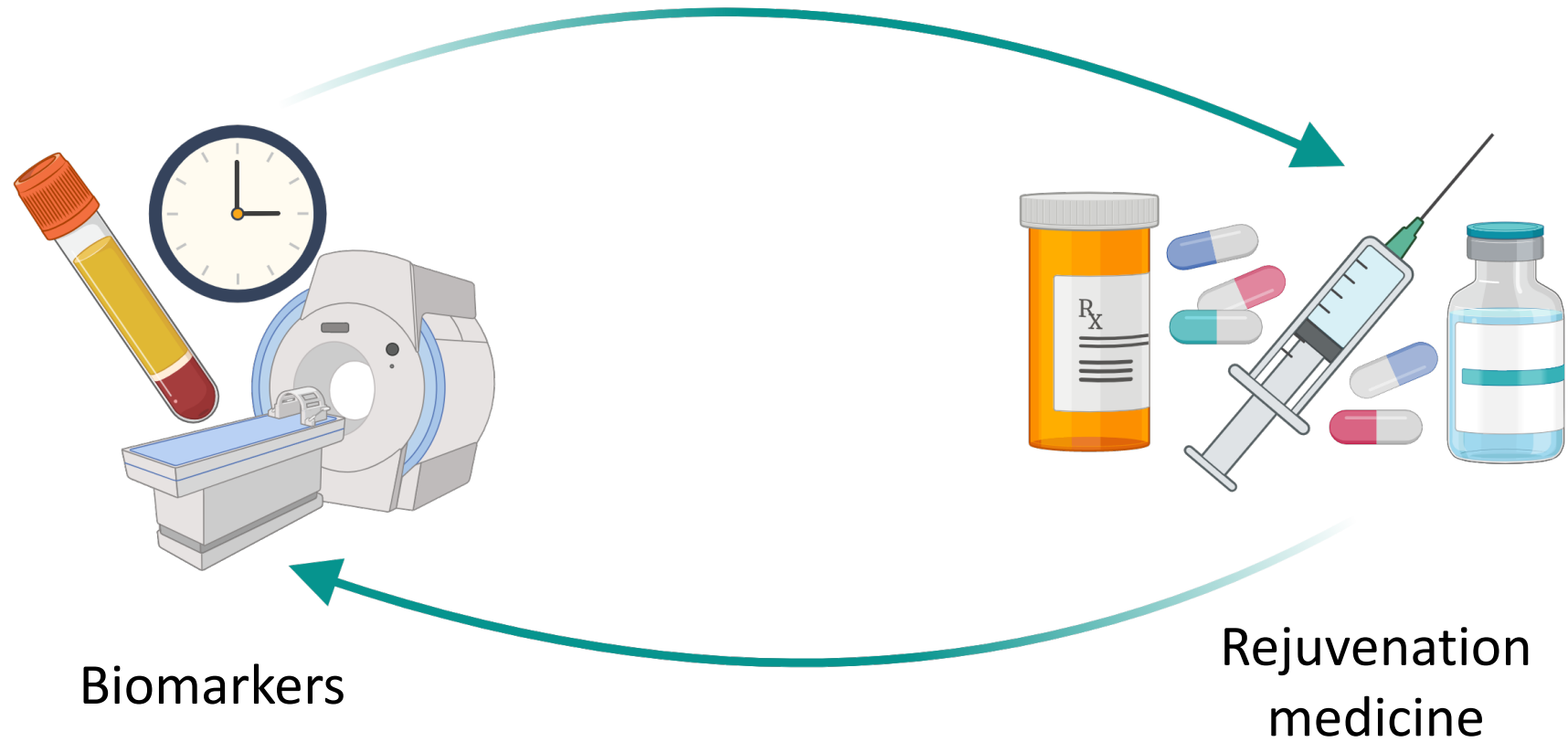
 **quadraScope**  
portfolio company

<p><b>Gene expression changes</b></p> 	<p><b>Mitochondrial dysfunction</b></p> 	<p><b>Loss of proteostasis</b></p> 	<p><b>Cellular senescence</b></p> 	<p><b>Metabolic dysregulation</b></p> 	<p><b>Deficient rejuvenation factors</b></p> 
<p><b>Tissue damage &amp; stem cell exhaustion</b></p> 	<p><b>Immune system dysfunction</b></p> 	<p><b>Neuro-degeneration</b></p> 	<p><b>Cardiovascular dysfunction</b></p> 	<p><b>Ovarian aging</b></p> 	<p><b>Plasma-focused therapies</b></p> 
<p><b>Drug discovery</b></p> 	<p><b>Machine learning platforms</b></p> 	<p><b>Clinics</b></p> 	<p><b>Cryopreservation</b></p> 	<p><b>Research platforms</b></p> 	<p><b>Nanotechnology &amp; biomaterials</b></p> 

# Treatment modalities and impact on hallmarks of aging



# Rejuvenation medicine



# Aging biomarkers – industry segmentation

## Molecular

## Biochemical

## Functional

## Anatomical

## Multiple

# Lead team: proven track record in building companies



**Fiona Miller**

Managing Partner

- Serial tech entrepreneur with 3 successful exits
- \$3.3M invested into 9 rejuvenation ventures
- Board member at Healthy Longevity Clinic



**José Navarro-Betancourt, MD, PhD**

Scientific Director & Partner

- Peer reviewed publications on the mechanisms of aging
- PhD from McGill University

# Advisors active in the rejuvenation ecosystem

Top international aging scientists, drug development experts, and longevity industry pioneers



## Nir Barzilai, MD

- Renowned expert in longevity genomics
- Scientific director of the American Federation for Aging Research
- Professor at the Albert Einstein College of Medicine
- Lead investigator in the SuperAgers initiative and the TAME trail



## Carmela Abraham, PhD

- Professor Emerita, Boston University
- Acclaimed expert in the biology of aging and Alzheimer's disease



## Reason

- Co-founder and CEO of Repair Biotechnologies
- Active investor in longevity (Oisin Biotechnologies and Leucadia Therapeutics).



## Diane Seimetz, PhD

- Leading drug development and regulatory expert
- Angel investor
- Board member at several biotech companies



# Venture Partners



## Frank Wellens

Venture Partner

- Over 20 years of experience in management consulting, M&A, and investing
- Invested and served on the board of the Managing Partner's last venture
- M.Sc. in applied economics from the University of Antwerp and advanced management program at Harvard Business School



## Miri Polachek

Venture Partner

- Managed Joy Ventures, a mental health fund and venture builder
- Co-founded and ran Israel Brain Technologies, a brain technology accelerator and hub
- 30 years financial and operational leadership including big pharma (Pfizer, Teva)
- MA in Health Economics from Boston University and MBA from New York University

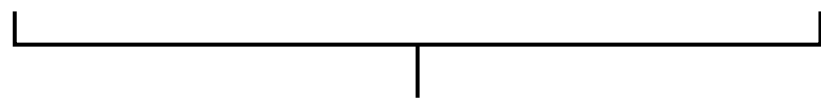
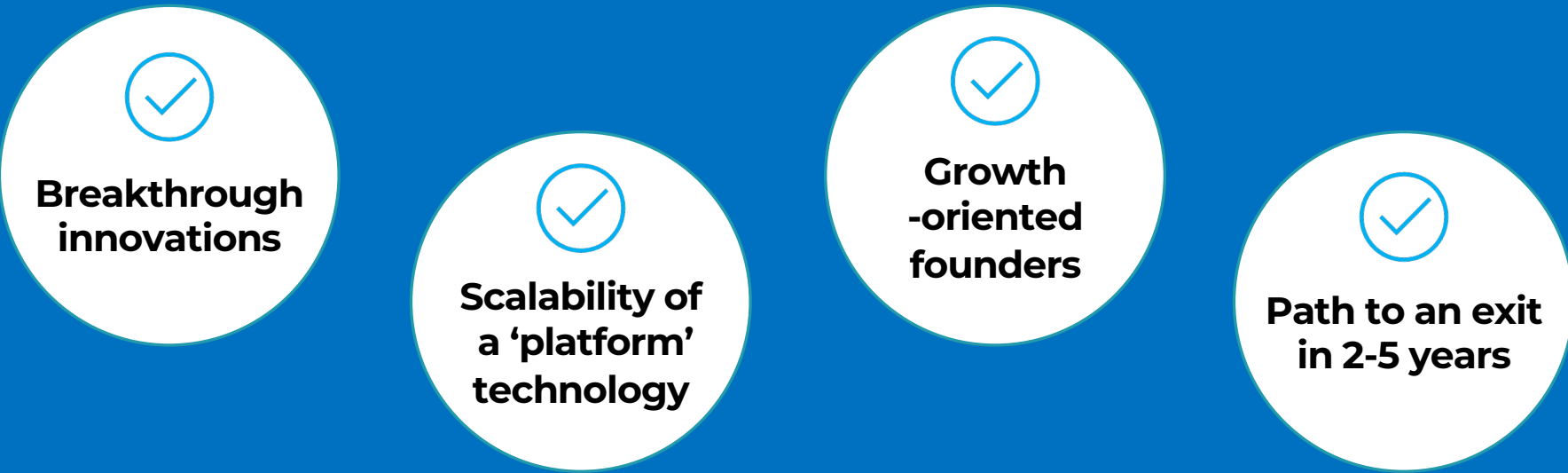


## Daniel Fylstra

Venture Partner

- Founder and CEO of Frontline Systems Inc., a software company specialized in advanced analytics and decision intelligence
- Seed investor and former CEO of Sierra Sciences, a biotech company focused on telomere biology
- BS in EE & Computer Science from M.I.T. and MBA from Harvard Business School

# Our focus: early-stage rejuvenation

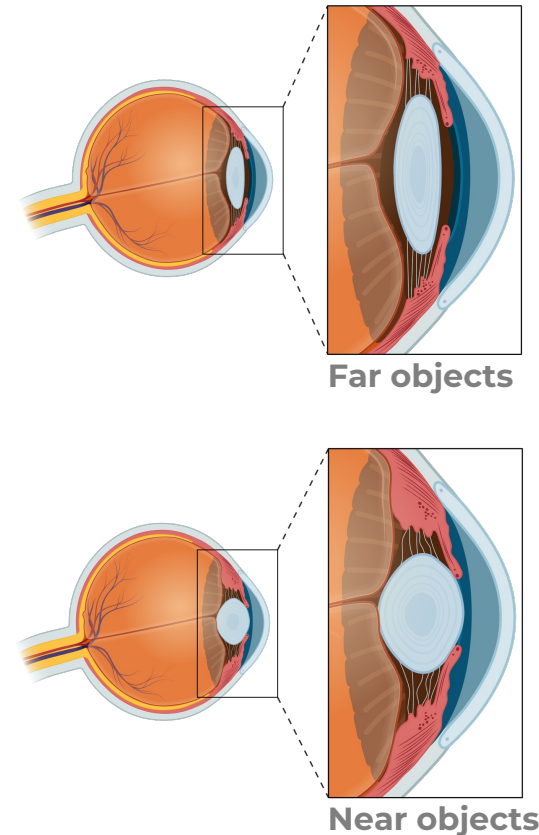
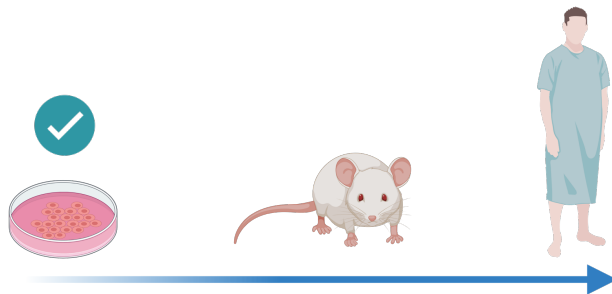


The formational phase is where we can make the biggest impact

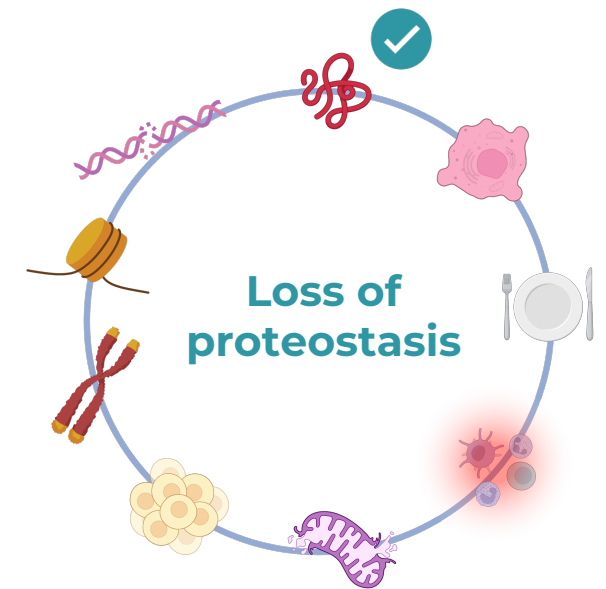
# Investment opportunity – Company A

NY

Aiming to cure presbyopia using small molecules that restore the flexibility of the eye lens. The treatments may be applicable to other conditions associated with protein damage.



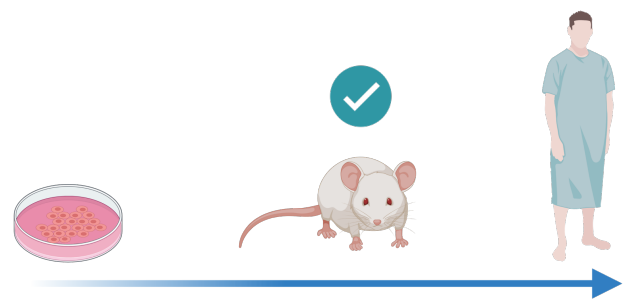
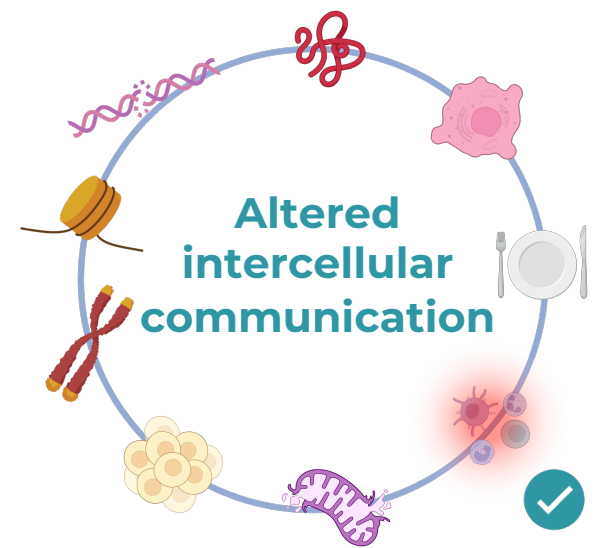
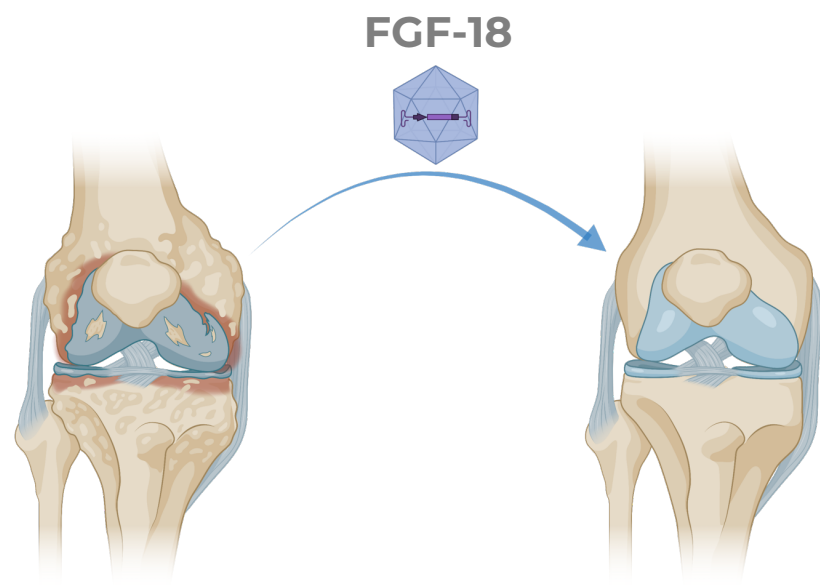
The lens stretches and compresses to focus objects



# Investment opportunity – Company B

MA

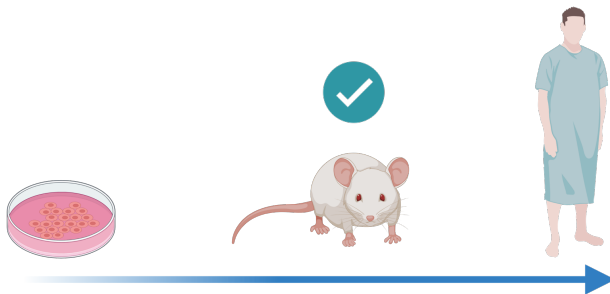
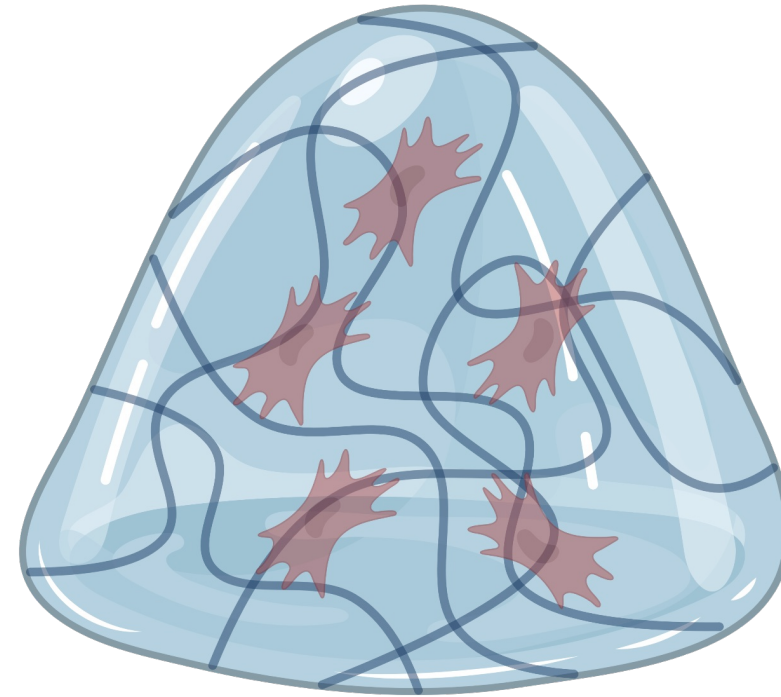
Revolutionizing the treatment of osteoarthritis using gene therapy to regenerate cartilage in joints.



# Investment opportunity – Company C

Israel

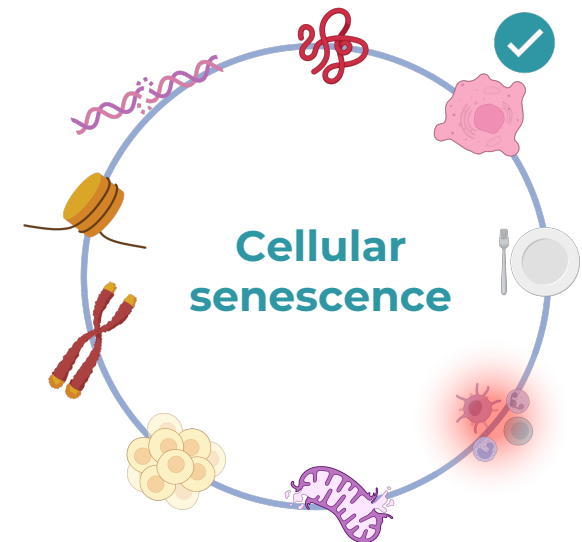
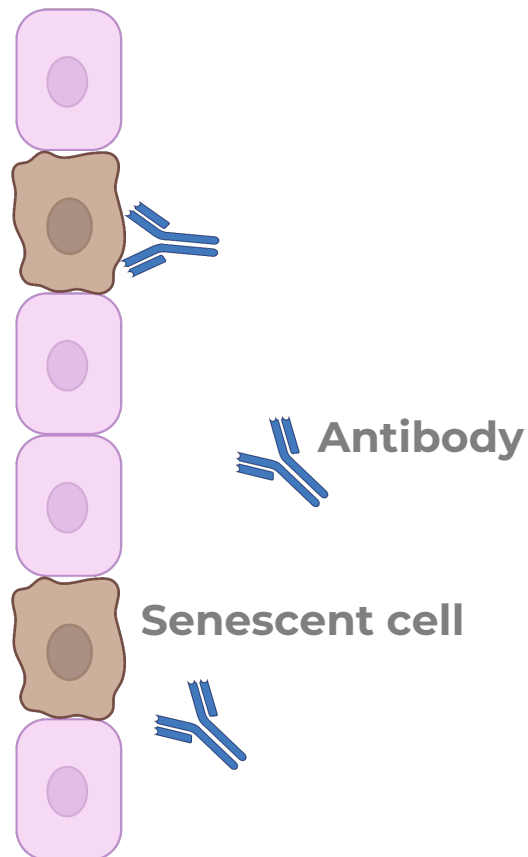
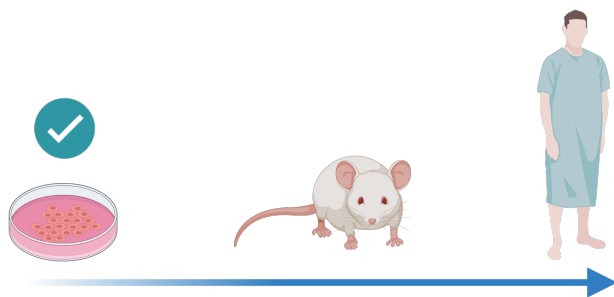
Synthesizing biomaterials  
that serve as scaffolds  
where cells attach,  
proliferate, and generate  
new tissue.



# Investment opportunity – Company D

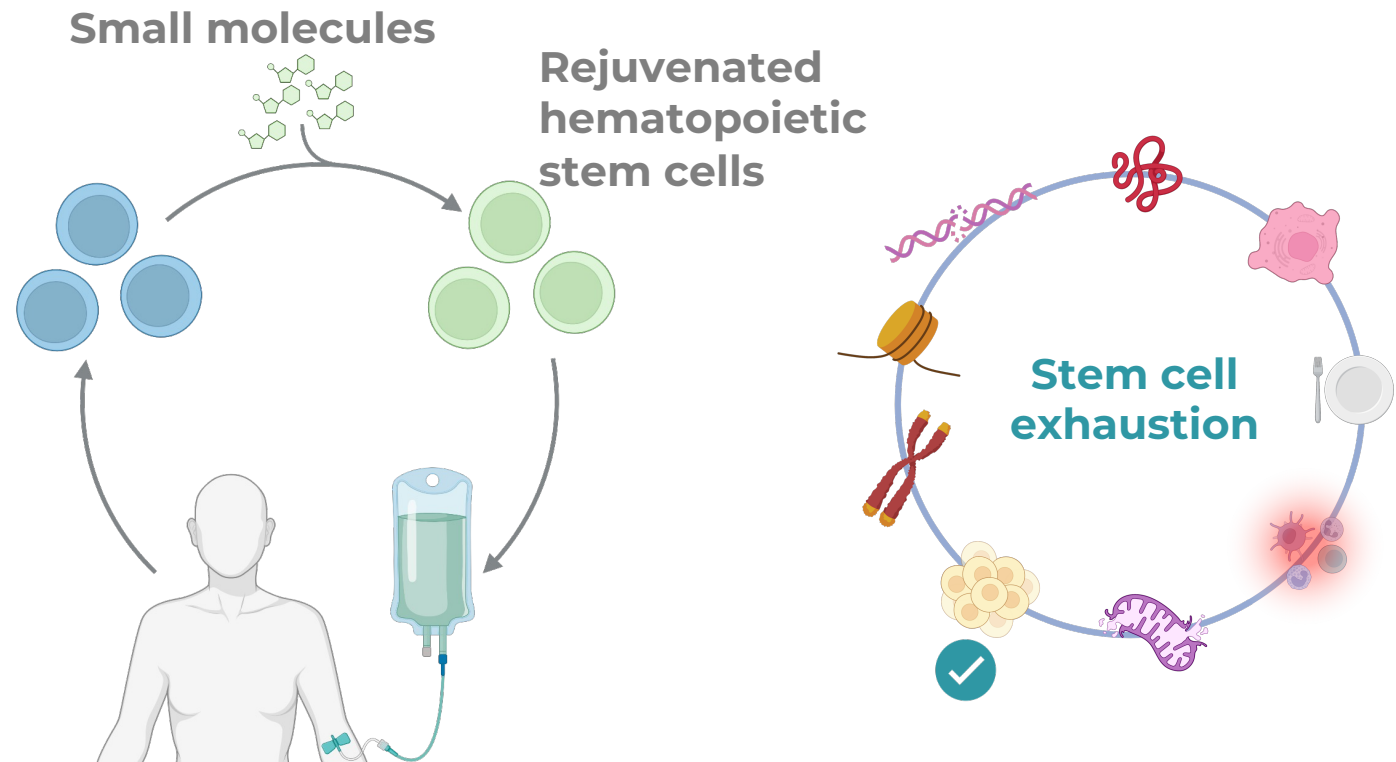
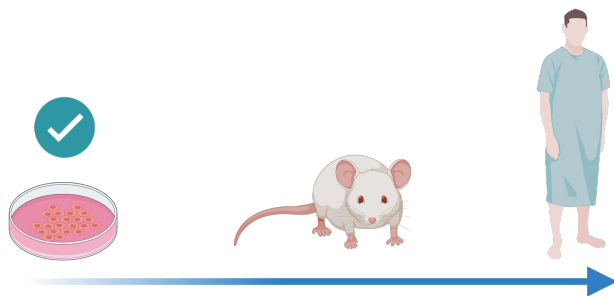
Israel

Producing antibodies that specifically recognize senescent cells and promote the removal of these cells by the immune system.



# Investment opportunity – Company E

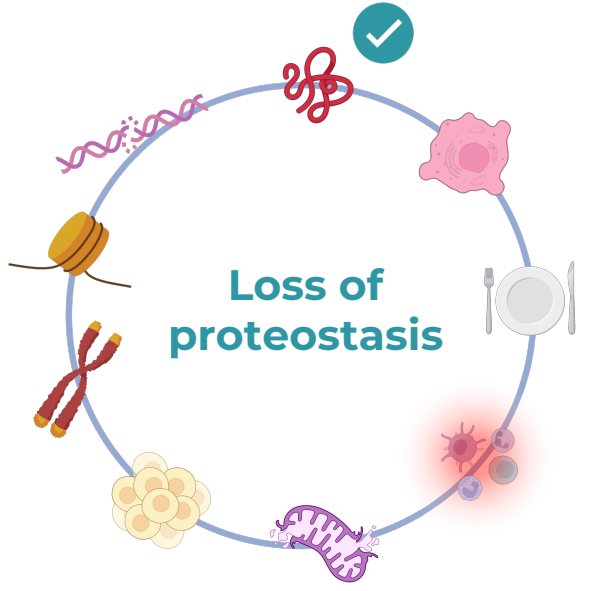
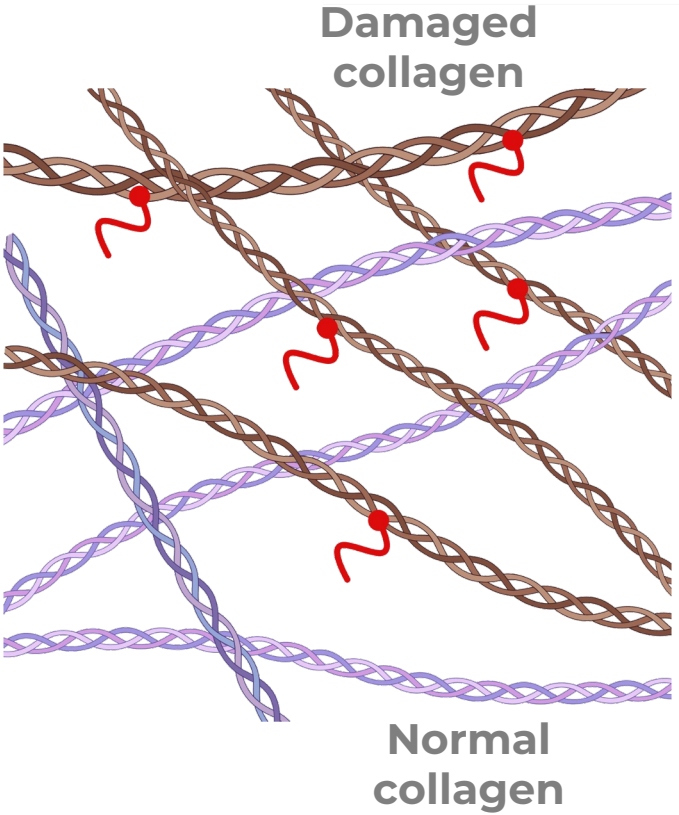
Focused on the isolation, expansion, enhancement, and reinfusion of blood stem cells to reconstitute and rejuvenate the immune system.



# Investment opportunity – Company F

UT

Small proteins that selectively bind to damaged collagen and have the potential to diagnose and treat fibrotic diseases (e.g., liver cirrhosis).



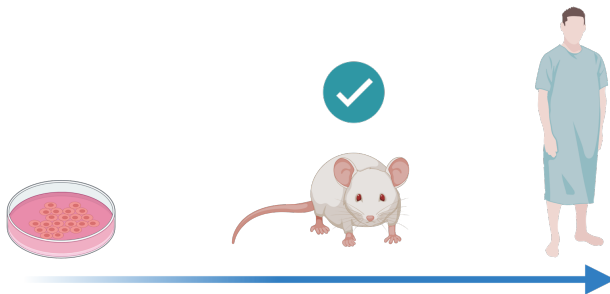
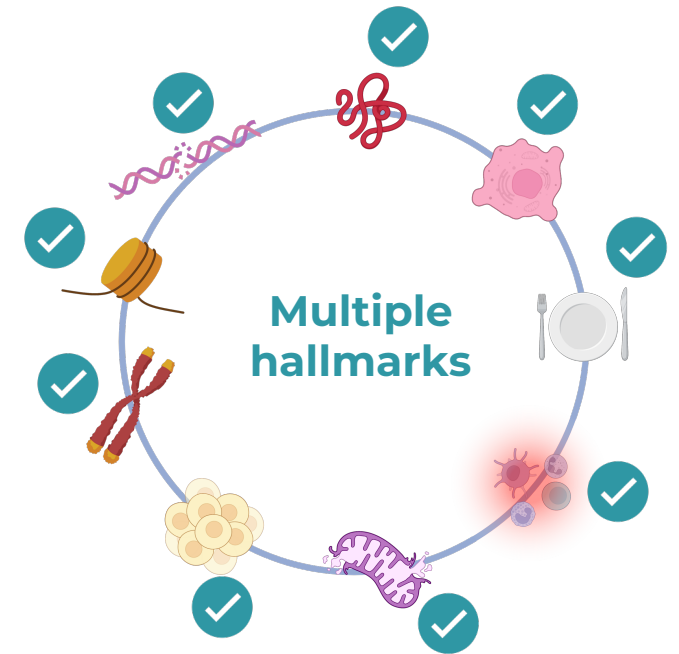
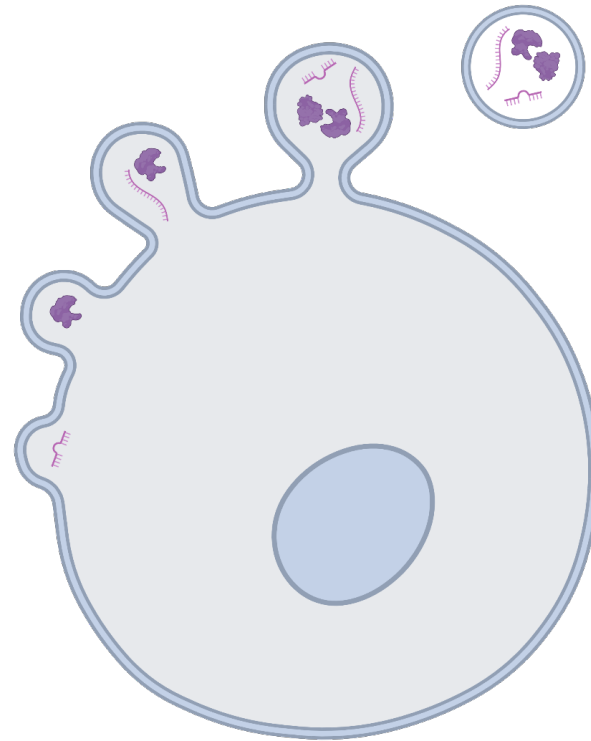
✓ Diagnostic





# Investment opportunity – Company G CO

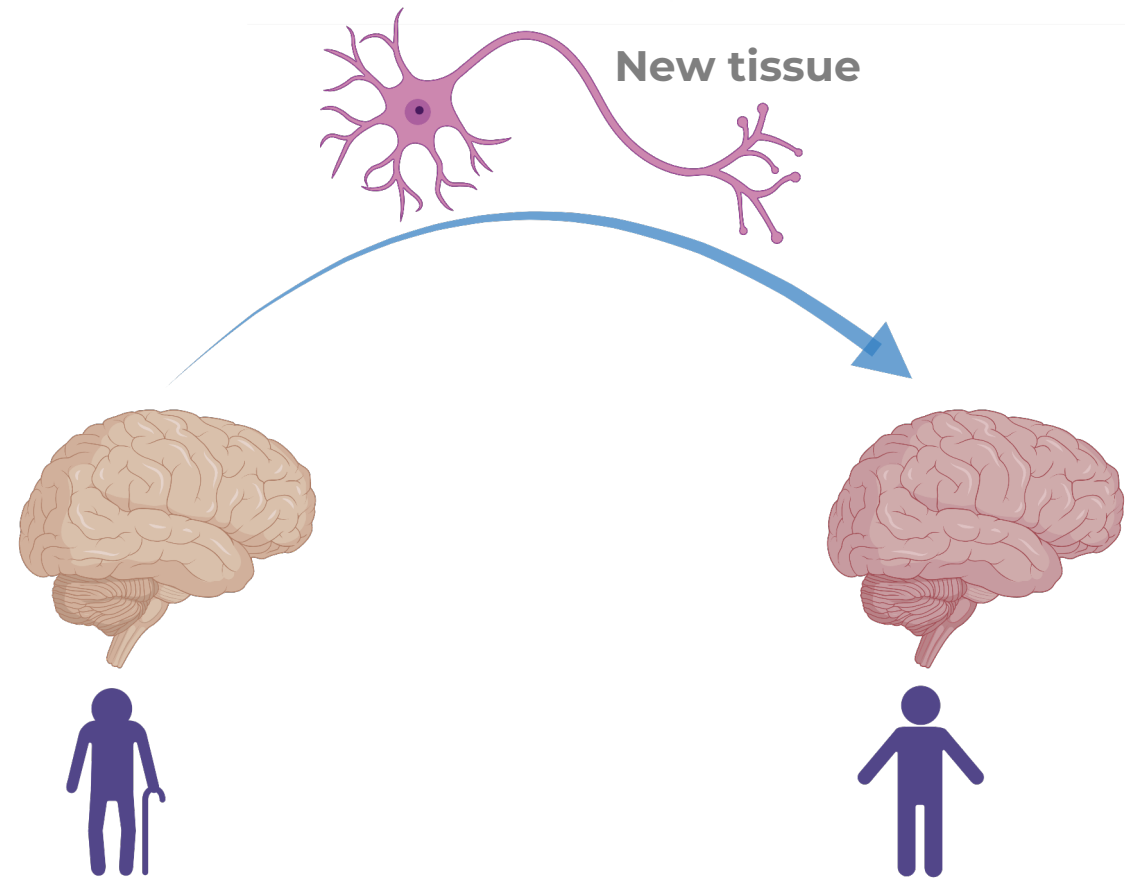
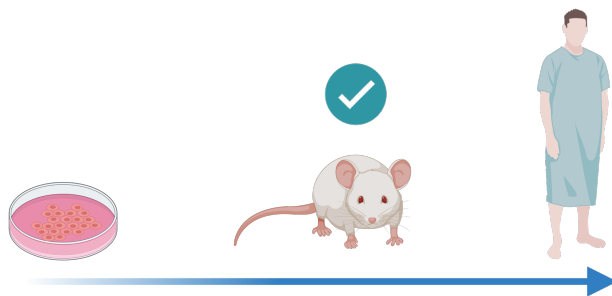
Cellular reprogramming  
using vesicles produced by  
neural stem cells, which  
contain rejuvenation  
proteins, mRNAs, and  
microRNAs.



# Investment opportunity – Company H

NY

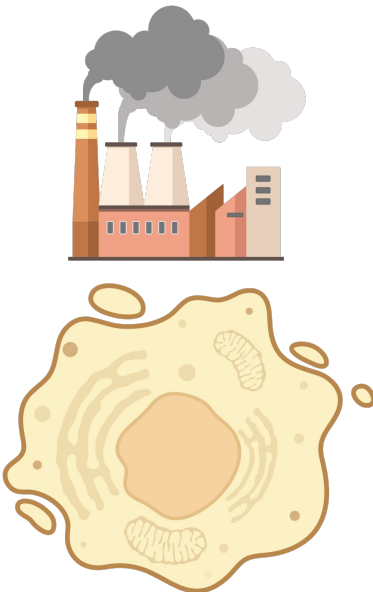
University spinout  
opportunity aiming to  
gradually and  
progressively replace  
aged brain cortex  
tissue.



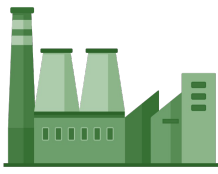
# Investment opportunity – Company I

AZ

Developing an AI-enabled blood test for early detection of hard-to-diagnose chronic diseases (e.g., chronic obstructive pulmonary disease).



**Abnormal metabolites**



**Healthy metabolites**

# Investment opportunity – Company J

MA

Machine Learning technology that generates and analyzes complete multiomic profiles to capture a current health status, predict future conditions, and design personalized rejuvenation treatments.

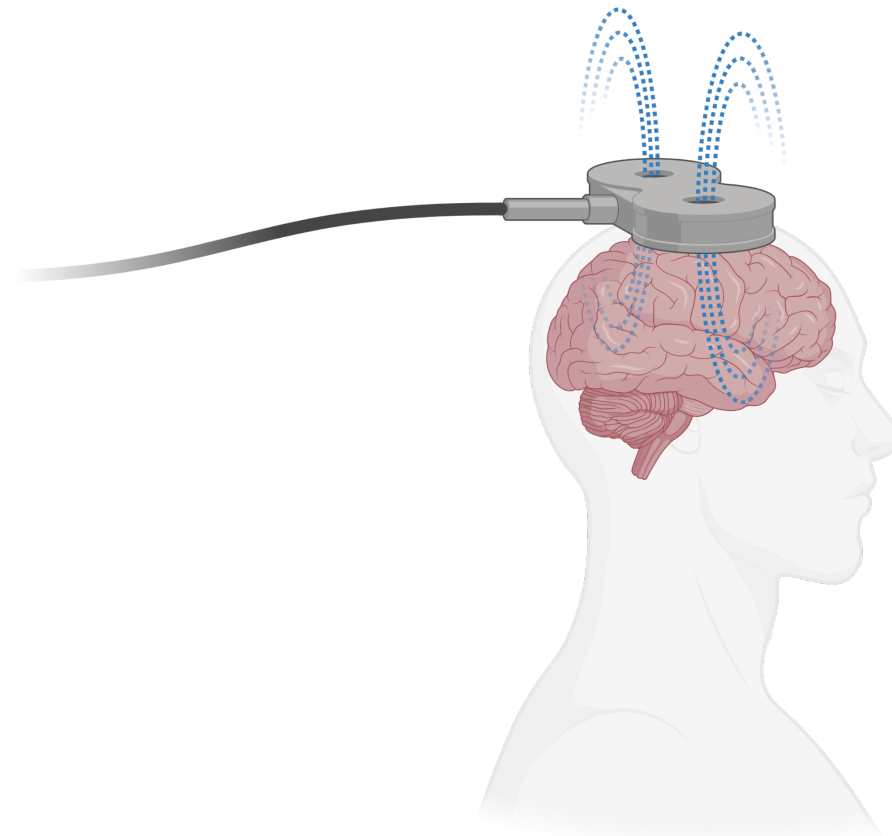


- ✓ Genomics
- ✓ Epigenomics
- ✓ Transcriptomics
- ✓ Metabolomics
- ✓ Proteomics

# Investment opportunity – Company K

Israel

Non-invasive functional neuroimaging platform for early diagnosis of brain diseases via transcranial magnetic stimulation.



# quadraScope key terms

## **Fund size**

Target: \$20M with 50% reserved for follow-on

## **Number of investments**

Target: 20

## **Stage**

Focus: Pre-Seed / Seed

## **Fund term**

10 years + possible two 1-year extensions

## **Investment period**

Target: 5 years

## **Minimum LP investment**

\$100,000

## **Carried Interest**

20%

## **Management fee**

2% per year

## **Manager contribution**

\$4M



# Let's invest in healthy lifespans together

Fiona Miller  
Managing Partner  
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