


BRAIN  MIND

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NEUROETHICS  
INITIATIVE

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# BRAINMIND NEUROETHICS INITIATIVE

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BrainMind is a nonprofit community of leading neuroscientists, entrepreneurs, investors, and philanthropists. This ecosystem is united by the shared mission to support and cultivate the most important and impactful ideas in brain science.

Our organization is positioned in a curator role, constantly assessing neurotechnologies for their potential impact – this role requires a strong neuroethical framework. As we develop new philanthropic and investing approaches to promote the positive impact of brain science, neuroethics should inform our decisions and those of our community.

By convening a series of neuroethics advisory meetings culminating in a multi-sectoral summit, BrainMind aims to serve as a facilitator, convener, and exemplar of how to integrate neuroethics into all aspects of neuro-innovation, from academic research to commercialization. In this effort, BrainMind has the opportunity to form a “practical layer” between neuroethics frameworks and their applications in the wider community.

# NEUROETHICS IS CLOISTERED IN ACADEMIA

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- Over the last 30 years, academic thinkers have been deeply considering how neuro-innovation can be done responsibly. Researchers and philosophers have wrestled with ethical questions that are unique to neurotechnology, identifying core values such as **agency**, **privacy**, **equity**, and protection against **dual use**.
- More recently, groups such as the OECD, US BRAIN initiative, Human Brain Project, and others have released more than 20 **high-level recommendations** and guidelines based on neuroethics principles. The danger is that these frameworks remain academic exercises.
- As we learned by speaking with members of our community, stakeholders who are translating neuroscience out of the lab -- scientists, entrepreneurs, investors, and funders -- are largely unaware of these guidelines and standards, and they don't understand how (or why) to use neuroethics principles in their day-to-day decision-making.

# ASILOMAR FOR THE BRAIN AND MIND

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**Asilomar for the Brain and Mind** will be a global, multi-sectoral conference focused on implementing principles of responsible innovation in neurotechnology.

At Asilomar, participants will:

- Build awareness of neuroethics as a problem-solving framework
- Present practical tools and case studies for neuroethics implementation
- Commit to ongoing engagement with neuroethics guidelines

**Ideal Outcome:** Exemplar participants, companies, and organizations will collectively anoint a newly created living organization, led by neuroethicists, which supports startups, investors, and academic institutions in engaging with neuroethics frameworks. This organization will carry forward the commitments made at Asilomar, creating metrics and mechanisms for accountability across neuroscience stakeholder groups.

# ROUNDTABLE STAKEHOLDERS

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In 2021, BrainMind convened advisory groups across sectors to better understand the incentives and attitudes of these groups with respect to neuroethics.



Entrepreneurs



Investors



Researchers



Industry  
Executives



Funders and  
Philanthropists



Policy-  
makers



# HIGH-LEVEL FINDINGS



## Entrepreneurs

- Entrepreneurs want their companies to be **perceived as ethical**, and they want their products to be **compliant** with future regulations.
- Intense **competing pressures** (time and funding constraints) make it **challenging** to incorporate ethical consideration into startup workflows.
- Smaller startups tend to look for **shortcuts** -- for example, relying on more established companies to set up “**guardrails**” for product development.
- Most entrepreneurs are looking for guidance that is both **socially enforceable** and **optional**.



## Investors

- Primarily focused on **financial returns** and scalable innovation. Value proposition ideally speaks to this.
- More concerned about **personal ethics** (reputation) versus the ethical implications of the products they back, taking the view that predicting a technology's harmful impact is next to impossible; better to screen for ethical entrepreneurs.
- **Angel** and **seed** stage investors are in a better position to influence a company and product in its early stages.
- **Young and upcoming** investors might think more about ethics and social impact than others that have been in the business for years
- Preliminary indications that investors at the **top 1%** of their field (e.g. Midas List investors) may be more likely to engage with neuroethics and could serve as **exemplars** to others.
- Most want to align with positive outcomes for society, but often unaware of **how to structure** that alignment.





## Researchers

- Need for a neuroethical inquiry process that is **seamless across actors** and across the bench-to-bedside life cycle.
- Research is often fueled by ethical imperatives; scientists don't necessarily see it as **their responsibility** to look at the gaps and needs for ethics.
- Researchers need to consider more ethical implications with the end-user in-mind, yet they **lack an open pathway** to consult with end-user (e.g. patient) populations.
- Incentives: scientists need **external support** with funding and collaboration on the most cutting-edge ideas. Opportunity to align incentives at **grantmaking** level.



## Industry Executives

- Significant concern around **public perception** of ethics.
- The main concern is the question of how they can engage with neuroethics while doing **exemplary/cutting edge** work.
- Specter of “**yet another ethics committee**” looms large at large companies.
- Executives within **later-stage** developed companies are more equipped to engage with neuroethics as compared with early entrepreneurs.
- Big tech companies often welcome regulation at the government level because it can be used as **a barrier to entry** to future competitors.



## Philanthropy, Funders

- Neuroethics has **ontological synchrony** with most philanthropic and government funder objectives
- Can sit in the '**sweet spot**' between universities and the private sector (they can create incentives on both sides)
- Funders want to **avoid mission creep**; accept limitations of what their funds can accomplish
- While naturally aligned, philanthropic organizations do not yet have a clear **playbook** on how to **incentivize** implementation of neuroethics guidelines
- While incentives are easily identified because of the mission-oriented nature of foundations, **awareness** is also an issue for many organizations.



## Policymakers

- **Pacing problem:** regulation cannot keep up with the pace of neuro-innovation
- **Awareness:** While many recommendations and guidelines have been published, many relevant stakeholders are not aware of them and/or do not understand how to implement the guidelines in their workflows
- **Messaging:** Challenge of translation between disciplines due to jargon, connotation, and implicit language patterns of each discipline.
- **Incentives:** Some groups consider recommendations “impractical,” too costly to their competitive position to implement, or simply irrelevant to their objectives.
- Need for more engagement with **private sector** stakeholders funding neuro-innovation

# CROSS-STAKEHOLDER VALUE PROPOSITION

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**Voice** Co-creation of regulations and standards



**Identity** Marketing and public perception benefits



**Sustainability** De-risk investments, regulatory readiness



**Individual Alignment** Resonance with personal values, commitments



**On-Mission** Alignment with mission-oriented organizations



# WHAT WE CAN DO



**Voice**



**Identity**



**Sustainability**



**Individual Alignment**



**On-Mission**

- **Awareness:** engage our community around the value proposition, create FOMO around Asilomar with exemplar attendees
- **Cultural Norms:** Social pressure, create a new set of expectations; self-regulation via desire to meet expectations of the group
- **Tools:** Make easy to implement; develop customizable templates for company bylaws; user/vendor agreements, etc.

# PRIVATE SECTOR INVOLVEMENT

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Private sector engagement is important:

- Tremendous influx of resources committed to brain research by private companies today (Google, Meta, IBM, Neuralink, Kernel, etc.)
- Powerful influence of commercialized of brain technologies on individual lives and societies in the next 10-15 years.
- Decentralized innovation across nations, across tech companies and large private investments and funds

The Google logo, consisting of the word "Google" in its signature multi-colored font.The Meta logo, featuring a blue infinity symbol followed by the word "Meta" in a bold, black, sans-serif font.The IBM logo, consisting of the letters "IBM" in a bold, blue, sans-serif font with horizontal stripes.The Neuralink logo, featuring a stylized black outline of a brain with a white dot in the center, followed by the word "NEURALINK" in a bold, black, sans-serif font.The Kernel logo, consisting of the word "kernel" in a bold, black, sans-serif font.

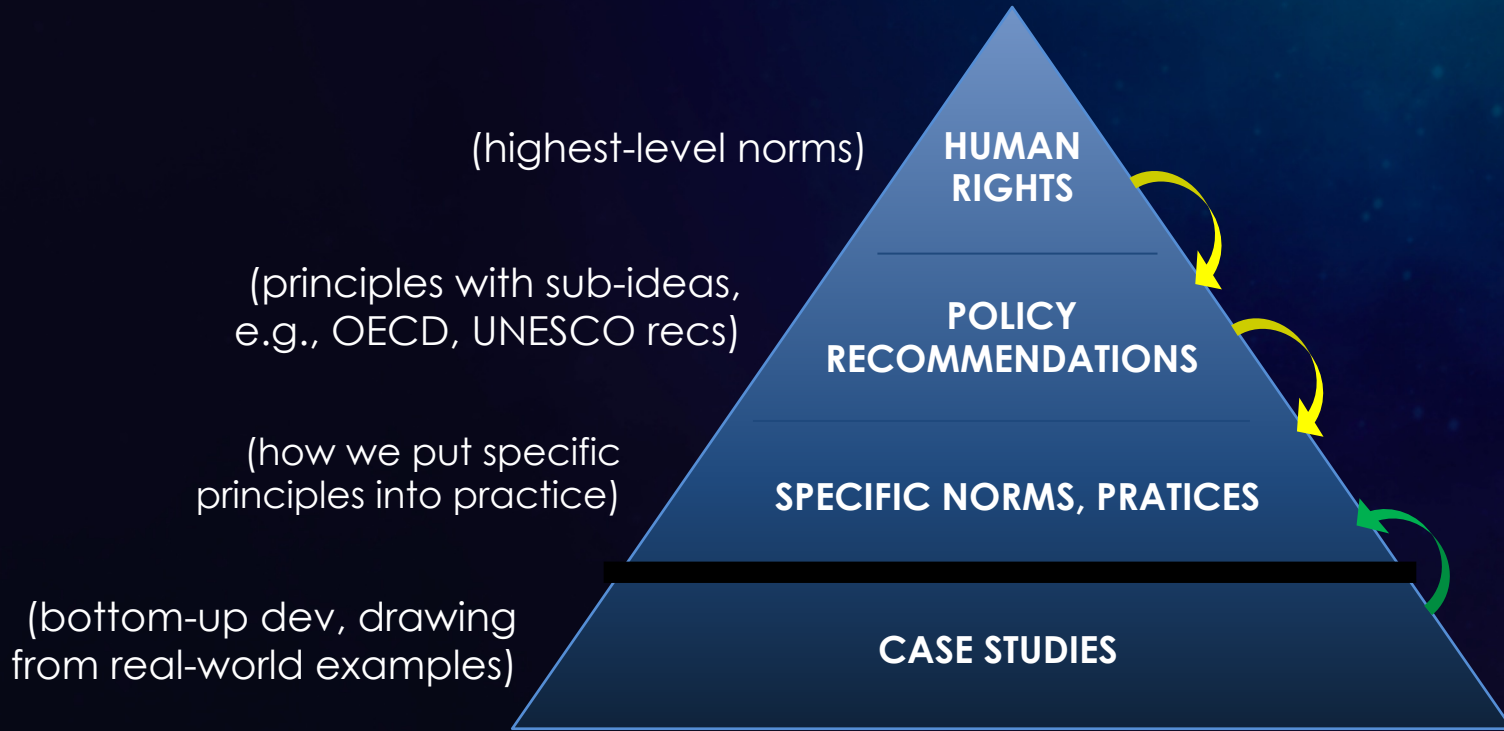
# SUCCESS VIA CULTURALLY ENFORCED NORMS

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Asilomar in the 1970s: DNA modification.

- **Scientists realized the power of recombinant DNA.** Sector leaders developed a set of protective principles at Asilomar – these guidelines influenced how science was funded.
- **Catalyzed a larger set of ethical norms.** Lines were drawn, that, with very few exceptions, have been honored to this day.
- **Swift responses at the government level.** in cases wherein lone bad actors violate these norms – authorities respond swiftly; not because of regulation, but because the country is embarrassed.
- **This is the power of culturally enforced values!** We have the building blocks, and it's time to make them into useful tools for the makers and doers who are translating neurotechnologies into meaningful, beneficial, available technologies for humanity.

# New Norms: Levels of Specification



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**Ideal Outcome:** Exemplar participants, companies, and organizations will collectively commit to ongoing engagement with neuroethics frameworks, with mechanisms for accountability across neuroscience stakeholder groups.

We are continuing to seek input from global stakeholders to set the agenda for Asilomar.



