

# BrainBridge Innovations

Considering a product launch of  
implantable BCIs

# Case Introduction

Read to  
Interviewee

Interviewer  
Evaluation

The year is 2035; BrainBridge Innovations is a cutting-edge medical company specializing in neurological technology. BrainBridge is considering launching a brain-computer interface chip (BCI) for people with severe neurological disorders. Their focus is on determining whether launching this product is feasible and optimized for long-term success.

**Q1 (Answer in slide 3): What are some factors BrainBridge should consider when creating its strategy?**

## Potential Questions (answer if asked)

Questions regarding Market:

- More info available later in the case.

Questions regarding Success Criteria:

- Should be profitable within 5 years
- Product should be approved by relevant regulatory bodies

Questions regarding R&D Status & Capabilities:

- R&D has not been completed for the new product
- BrainBridge has a strong R&D team with technical expertise in neurotechnology.

Questions regarding financing opportunities:

- The company is open to licensing and collaboration to overcome R&D costs.
- BrainBridge is exploring funding options, including potential investors and loans.

**Definition of BCI (brain computer interface):** A chip that allows direct communication between the brain's electrical activity and an external device, most commonly a computer or robotic limb.

If a question is asked that isn't on this list, respond with one of the following.

"We'll examine that later in the case"

"That isn't relevant for this case"

Make up a realistic answer to a question they ask if you think they answer is relevant to the question in the case

# NEED TO Update Potential Framework Topics (Non-Exhaustive)

Read to Interviewee

Interviewer Evaluation

Q1: What are some factors BrainBridge should consider when creating its strategy?

## Target Market



1. Expected Market Size
2. Level of Competition
3. Types of Consumers
4. Stage of Market (emerging etc.)

## BrainBridge Capabilities



1. Manufacturing Infrastructure: BrainBridge's manufacturing and R&D capabilities.
2. Intellectual Property Protection: Strength of BrainBridge's patents, trademarks, etc. maintain competitive advantage.
3. Does BrainBridge have the financial capabilities to go forth with the launch

## Public Perception

1. Cultural Considerations: Take into account public perception towards brain implanted health devices.
2. Media Coverage: Media Sentiment and Public discourse about BCI technology
3. Brand Reputation: Maintain a strong brand reputation through active initiatives within company

## Regulatory & Safety



1. Regulatory Approval Odds: Assess the likelihood of regulatory approval in target countries.
2. Cybersecurity: Evaluate cybersecurity risks, including data privacy, unauthorized access, and potential exploitation of vulnerabilities.

## Monetization & Marketing

1. Pricing: Determine likely sale price range
2. Costs & Breakeven: Consider marketing, manufacturing, distribution, and misc costs. Determine break even quantity at estimated price.
3. Insurance Acceptance: Evaluate the odds of coverage from insurance companies.

## Long-Term Sustainability

- Financial Resilience: Establish financial strategies to ensure long term success.  
-Outside funding, M&A, etc.
- Diversification: Explore opportunities for diversification in product offerings or target markets to mitigate risk and capitalize on emerging trends.



Denotes critical bucket

# Determining Target Market

Read to  
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Interviewer  
Evaluation

BrainBridge is uncertain about the country it wants to launch its product in. They've provided you with a chart measuring multiple factors created by their analysts.

**Q2: Which country would you suggest BrainBridge enter?**

## Information For Interviewer:

- Level of competition means how much competition exists in that countries market
- If they choose Japan or USA that's fine as long as they defend their choice. (don't lose points)
- At end of the Exhibit Analysis, read to interviewer: "The company is concerned about competition so they have decided to enter the USA market"

**Q3 will be Market Sizing the U.S for BCIs**

# Exhibit 1

## Cultural Acceptance vs. Potential Market Size

Bubble Size = Level of Competition



# Estimating U.S Market Size

Read to  
Interviewee

Interviewer  
Evaluation

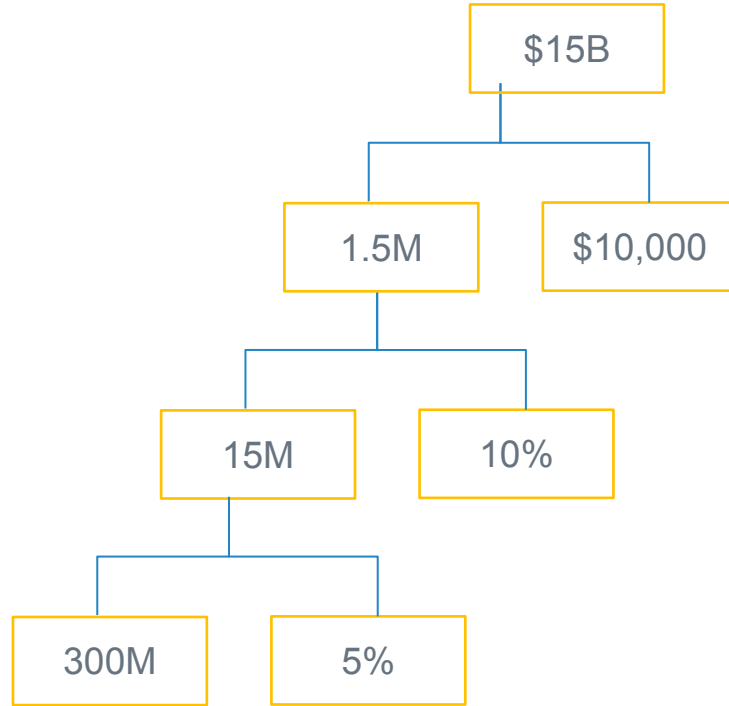
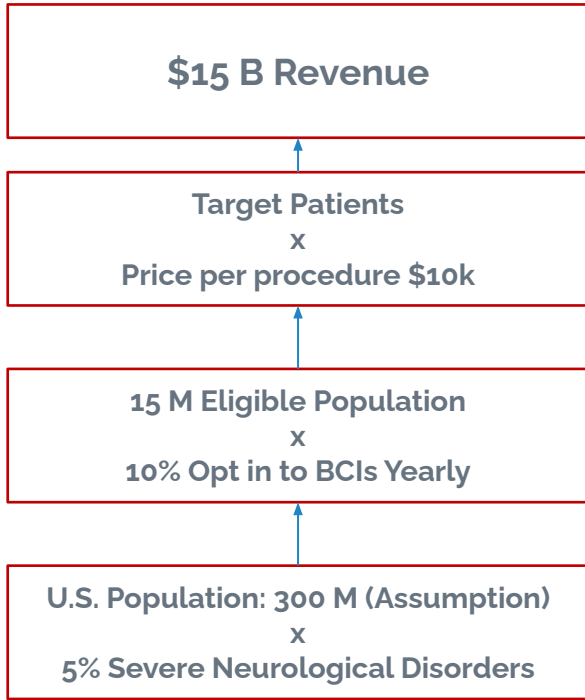
The company is concerned about competition so they have decided to enter the U.S market. Estimate the current size of the target market in terms of annual revenue within the U.S. There is some data I can disclose if you ask for it specifically.

**Q3: Estimate the size of the BCI U.S Market in terms of Revenue.**

**For Interviewer: Calculations on next slide**

## **Variables required for Market Sizing:**

1. Variables (only provide if asked):
2. - U.S. Population: 300 M (Assumption)
3. - % of Population with Severe Neurological Disorders: Assumed 5%
4. - % of Patients Who Opt in for a BCIs Annually: Assumed 10%
5. - \$Price per Implant: \$10,000 (Assumption)



- If candidate's number is way off, sanity check them to see if they can get to the right number
- If candidate fails to arrive close to the correct number, give them the answer to move on to break even section

# Brainstorming

Read to  
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**Q4:** We have established that market size for BCIs in the U.S is 15 billion dollars. Could you brainstorm some potential costs that BrainBridge might encounter?

[Give Interviewee 30-45 seconds to brainstorm]

## Potential Costs

- Research and Development
- Regulatory Approval
- Marketing and Advertising
- Distribution and Sales
- Training Programs
- Customer Support
- Quality Assurance and Testing
- Infrastructure
- Legal and Insurance
- Market Research

**Bonus question if time allows:** How can BrainBridge measure if the market would be profitable for a BCI product?



# Break Even Calculation

Read to  
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Investors in BrainBridge only want to launch the BCI if it is profitable within 5 years. Assume that the BCI chip lasts a lifetime.

**Q5: Considering the following costs for BrainBridge, how much market share would BrainBridge require to be profitable within 5 years?**

## Solution:

1.  $BE = \text{upfront cost} / ((\% \text{market share} \times \text{market size}) - \text{annual cost})$
2. Solve for % market share  $\rightarrow X$
3.  $X = ((\text{upfront}/BE) + \text{annual cost}) / \text{market size}$

$$5 = 10B / ((\% \text{mkt share} * 15B) - 1B)$$

Solve for % mkt share  $\rightarrow X$

$$X = ((10B/5) + 1B) / 15B$$

$$X = 20\%$$

## Exhibit 2

Cost Breakdown	
R&D	\$8000M
Regulatory and Legal	\$2000M
Manufacturing and Production (Annual)	\$200M
Distribution and Sales (Annual)	\$475M
Labor (Annual)	\$325M

# Conclusion

Read to  
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You now have a meeting with the CEO of BrainBridge. They ask you to give them your recommendation, summarize your findings, and propose next steps.

## Potential Solution

- **Headline**
  - BrainBridge should launch the BCI product in the US market
- **Evidence**
  - US has high cultural acceptance, high market size, and low-medium competition which BCI cares about.
  - Total market size is \$15B in the US and BrainBridge would only need to capture 20% of this market annually which seems achievable.
  - Cost of labor and other ongoing costs are relatively low and would suggest greater long term profitability.
- **Risks:** Public perception issues - people could be weary of brain implants & side effects.
- **Mitigations:** Test the concept in focus groups before conducting R&D to gauge opinions.
- **Next Steps:** Prepare a marketing campaign, begin talks with regulators, secure funding

**DO NOT DO BONUS QUESTION.**

## Bonus Question

Read to  
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The CEO is satisfied with your performance and has solicited your provisional assessment for the subsequent phase of this engagement. They ask you to provide your perspective on the feasibility of a planetary acquisition strategy, leveraging a mind control feature embedded within BrainBridge's BCI devices.

### Headline:

- Vesperan should use BrainBridge's BCI devices to strategically infiltrate the United States, leveraging its military capabilities for planetary acquisition.

### Evidence:

- BrainBridge's R&D capabilities and technical expertise position us to develop a mind control BCI with high efficacy rates.
- Control of 1% of the US, esp. those in key military positions, provides access to advanced tech and infrastructure.

**Risks:** International cybersecurity and defense entities could compromise operational secrecy and effectiveness.

### Mitigations:

- Engage in covert R&D activities using existing BrainBridge projects as cover to minimize regulatory attention.
- Implement phased deployment with rigorous monitoring to manage and mitigate societal backlash.

### Next Steps:

- Initiate a classified project team within BrainBridge to develop the mind control feature.
- Conduct targeted recruitment in a covert location of individuals within the U.S. military and strategic sectors for initial control, prioritizing access to nuclear codes and cyber warfare capabilities.