

What's possible?

Imagining the future of brain technologies

Technology is always changing. Some of the strange and exciting ideas on these cards are inspired by devices that already exist, while others may be in development or still in the realm of science fiction. Even if some cards are not realistic now, imagination can fuel the work of scientists, engineers, artists, and advocates to change the future. Your ideas today could be the technology of tomorrow.

COMING SOON



Based on current technology, and could be here in the near future.

FAR FUTURE



Some connection to ongoing research, but might take longer to arrive.

SCIENCE FICTION



Connected to real ideas, but way beyond current science.

Questions to Consider

New technologies often have pros and cons. They can affect different people in different ways—a device or service that you enjoy may have unintended consequences for someone else.

As you look through these cards, consider...

Who would most value or benefit from this technology and who might be harmed?

What kind of data about you does this technology collect and share with others?

How would this technology change our relationships with family, friends, and others in our community?

What would it take to manufacture, operate, and eventually dispose of this technology?

How would this technology interact with our bodies and the environment?

Would this technology need to be regulated in some way, and if so, by whom?

It's your turn to design a new brain technology!

Think about the problems you could solve or new opportunities you could create with your brain invention. What would it do? How would it connect to the brain? Who would use it?



**How would your invention benefit the world?
Are there any ways it might cause harm?**

**If your invention was in a sci-fi movie set 100
years in the future, how would it be used?**

You Design the Future!

Imagine a new brain-related invention

NAME OF YOUR INVENTION:

Smart Pills

Pills for boosting memory and attention
that could make you smarter



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TECHNOLOGY

COMING SOON





Smart Pills

Pills for boosting memory and attention that could make you smarter

These pills were developed to treat brain disorders, but some people argue they could have other uses too.

Students claim the pills help them study. Workers with demanding jobs find it easier to focus and do their work safely. Older people wonder if they could slow the mind's aging.

QUESTIONS TO CONSIDER:

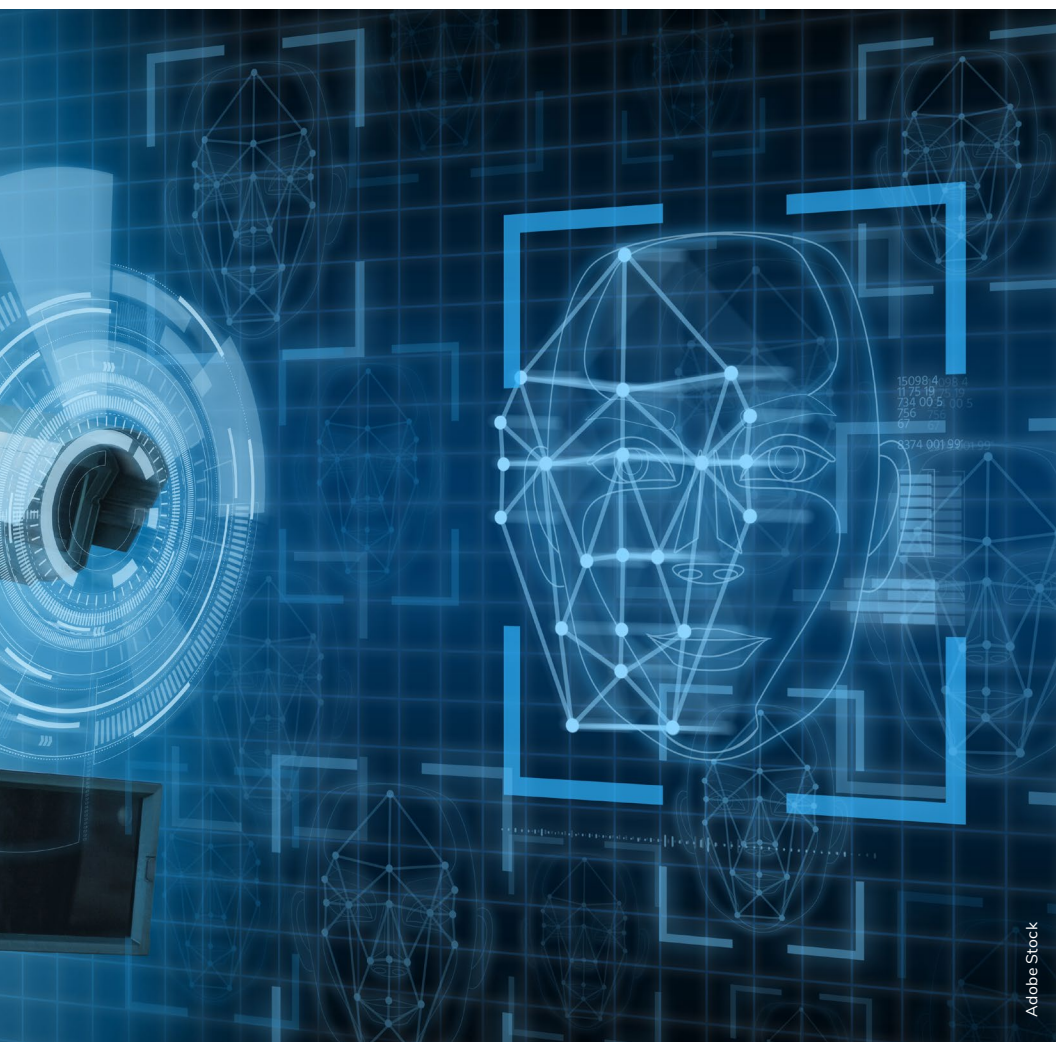
Would you use these pills?

How would you feel if your friends or family used them?

What if the pills were very expensive and not everyone could afford them?

Emotion Detection Cameras

Cameras with built-in facial recognition
capabilities to read emotional states



Adobe Stock

TECHNOLOGY

COMING SOON





Emotion Detection Cameras

Cameras with built-in facial recognition capabilities to read emotional states

These cameras can detect facial expressions and predict how someone is feeling.

They might be placed in stores, on streets, or even embedded in glasses. Being able to instantly detect a person's emotions might help keep them safe, sell them useful products, or even improve their relationships.

QUESTIONS TO CONSIDER:

Would you use such a camera? For what purposes?

If your phone camera had this feature, so that Siri or Alexa could help you talk through your feelings, would you try it?

Super Prosthetic Limbs

Brain-interfacing prosthetic arms and legs that are more powerful than human limbs



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TECHNOLOGY

COMING SOON





Super Prosthetic Limbs

Brain-interfacing prosthetic arms and legs that are more powerful than human limbs

If someone loses an arm or leg from an injury, they could get one of these enhanced prosthetic limbs that connects directly to the brain.

Not only would such devices restore the abilities of a missing or damaged limb, they could provide even greater strength, speed, and agility.

QUESTIONS TO CONSIDER:

If you had one of these prosthetic limbs, what super things would you do?

Who should qualify to get these limbs? What if someone without injuries wanted one, such as an athlete or soldier?

Brain Game Controller

Play games or control your avatar in a virtual world using only your thoughts



TECHNOLOGY

COMING SOON





Brain Game Controller

Play games or control your avatar in a virtual world using only your thoughts

Looking for the latest edge to make you the top-rated player in your favorite video game?

This game controller moves at the speed of your thoughts, by wirelessly reading your brain signals. Not just for gaming, it could also be used to interact realistically in a virtual world.

QUESTIONS TO CONSIDER:

Would you use this game controller if your brain activity was recorded while you play?

What if it was also used to show you customized ads?

Who owns your brain data?

Mental Health Screening

Low-cost tool that can quickly identify
risk of mental illnesses



Adobe Stock

TECHNOLOGY

COMING SOON





Mental Health Screening

Low-cost tool that can quickly identify risk of mental illnesses

This rapid, low-cost test uses genetic and neurochemical markers to detect whether someone currently has or will develop a mental illness.

Conditions covered by the test include schizophrenia, severe depression, bipolar disorder, and many others. The test has a 75% accuracy rate.

QUESTIONS TO CONSIDER:

Would you take this test? How would you feel about a friend or family member taking it?

What if your employer or school required you to take it?

What if the test was wrong?

Designer Brain Cells

A mix of human and animal brain cells used to grow replacement brain tissue



Adobe Stock





Designer Brain Cells

A mix of human and animal brain cells used to grow replacement brain tissue

Growing brain cells in the lab can help scientists study brain diseases—and potentially be used as new treatments.

Brain cells from animals and human donors could be used to repair the damaged parts of a patient's brain. But would the patient still be themselves?

QUESTIONS TO CONSIDER:

How would you feel about cells from an animal or another person being implanted in your brain?

Would you consider donating your brain cells if they could help someone?

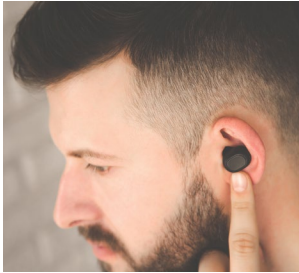
Mood-Sensing Earbuds

Earbuds that “read” your brain waves
to customize a playlist of music and news



Adobe Stock





Mood-Sensing Earbuds

Earbuds that “read” your brain waves to customize a playlist of music and news

Even when you're not sure what you want to listen to, these earbuds know!

As soon as you put them in your ears, the earbuds detect brain signals related to your mood and preferences. This data is transmitted to the company's server, where algorithms pick your ideal soundtrack.

QUESTIONS TO CONSIDER:

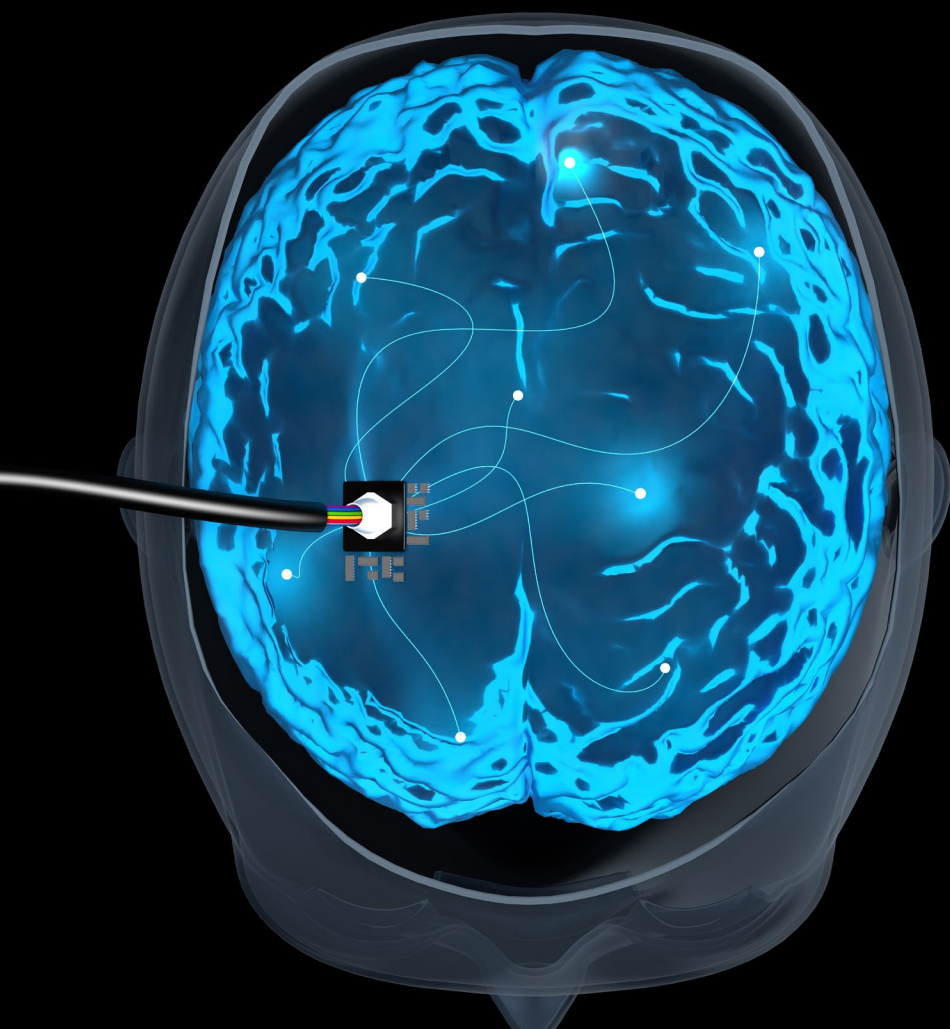
Would you like having devices that respond to your mood?

What protections would you want for your brain data on the company's server?

Could this device be misused?

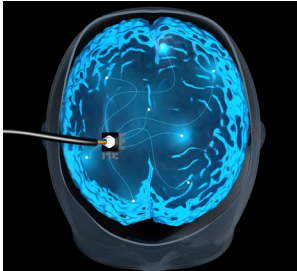
Brain Implant

A device that electrically stimulates the brain to restore or enhance its function



Adobe Stock





Brain Implant

A device that electrically stimulates the brain to restore or enhance its function

Just like some heart problems are treated with a pacemaker, some neurological conditions can be treated with a brain implant.

Such implants could also be used to regulate emotions and mood, control impulses, or alter behavior. They might even give us new, enhanced abilities.

QUESTIONS TO CONSIDER:

How is a brain implant different from other medical devices? If you got one, would it change who you are?

Who decides when a brain implant is necessary?

Who defines “normal” functioning?

Bionic Eye

A visual prosthetic that can restore sight and potentially create superhuman vision



Adobe Stock

TECHNOLOGY

FAR FUTURE





Bionic Eye

A visual prosthetic that can restore sight and potentially create superhuman vision

The bionic eye uses a tiny camera to collect visual information and transmits it directly to a brain stimulator, enabling blind people to see.

Since it is not limited to the properties of the human eye, the bionic eye could also be used for night vision, thermal vision, or even X-ray vision.

QUESTIONS TO CONSIDER:

Who should have access to the bionic eye?

What might happen if the bionic eye software gets hacked, or if its hardware becomes obsolete?

Memory Eraser

Run this device across your forehead to erase
the last 24 hours of your memory



Shutterstock





Memory Eraser

Run this device across your forehead to erase the last 24 hours of your memory

This portable device would safely remove all of your memories of the past day.

Memories help define our lives, but sometimes we just want to forget. Maybe something bad happened to you, or maybe you just heard a spoiler for the latest superhero movie. Either way, problem solved!

QUESTIONS TO CONSIDER:

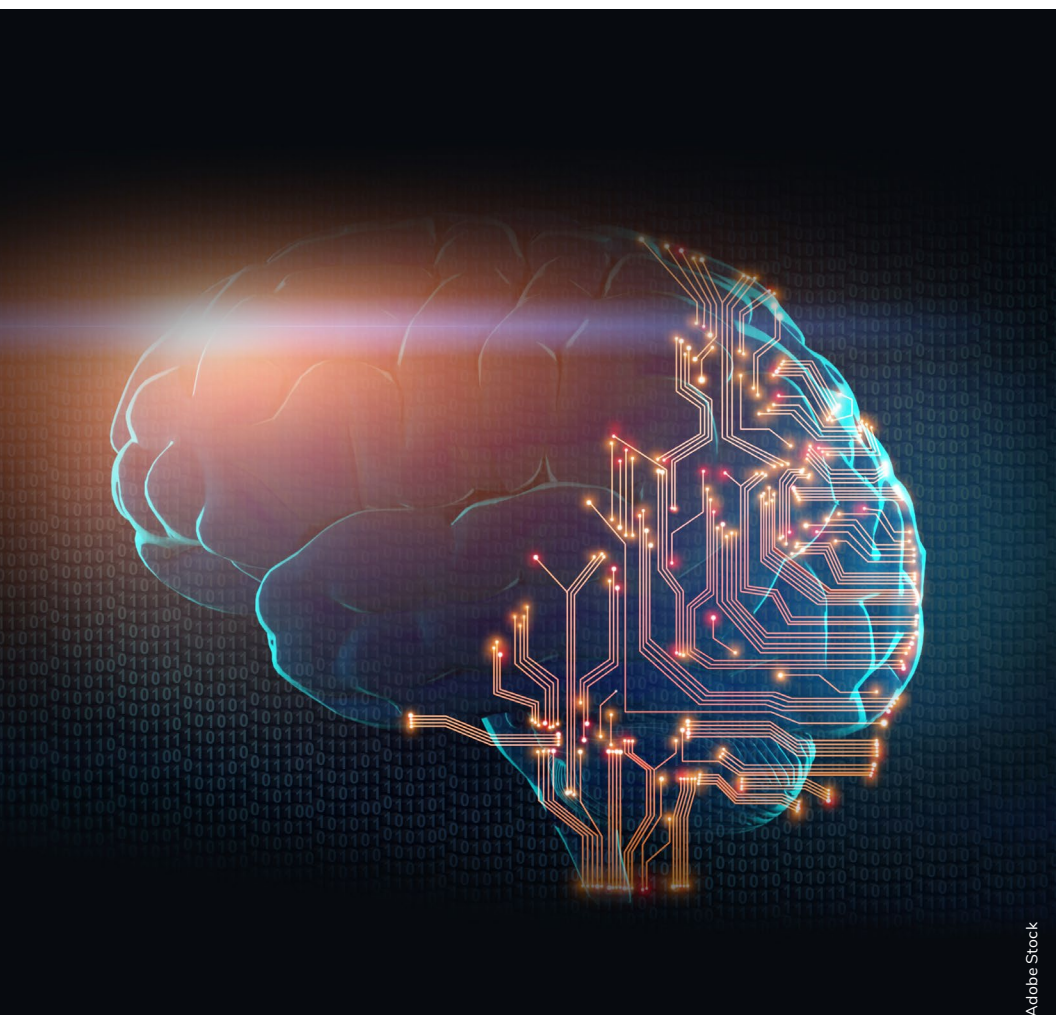
Can you think of a day you would like to forget?

How often would you use this device if you could?

What if your friends or family used this device all the time?

Digital Brain

A digital copy of your brain
simulated in a supercomputer



Adobe Stock

TECHNOLOGY

SCIENCE FICTION





Digital Brain

A digital copy of your brain
simulated in a supercomputer

Your brain is unique, but what if its trillions of connections could be copied to create a digital twin?

This simulated digital brain could serve as your “backup” in case of injury or disease. It might allow doctors to predict your future, in terms of risk for neurological or mental illness.

QUESTIONS TO CONSIDER:

If the digital brain is a copy of yours, is it conscious?
Alive?

Who should have access to your digital brain?

What should happen to the digital brain after you die?

Pocket Lie Scanner

Handheld device that scans a person's brain to reveal whether they are lying



Adobe Stock



Pocket Lie Scanner

Handheld device that scans a person's brain to reveal whether they are lying

Sometimes you really need to know the truth.

This portable device could be used anywhere from courtrooms to classrooms—wherever there's a need to find out what really happened. Just ask the subject a yes/no question, scan their brain, and instantly learn whether their answer was a lie.

QUESTIONS TO CONSIDER:

How would you use this device if you had one?

Should its use be restricted to certain people or situations?

How would life be different if everyone had access to this?