

# SCENARIOS WORKSHOP

ARE WE THERE YET?



# Instructions

1

Introduce a topic

2

List possible milestones

3

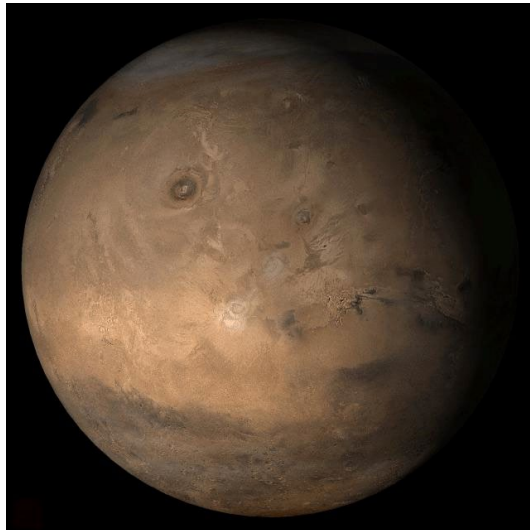
Select your response

4

See how everyone voted



# Topic 1: Space Travel



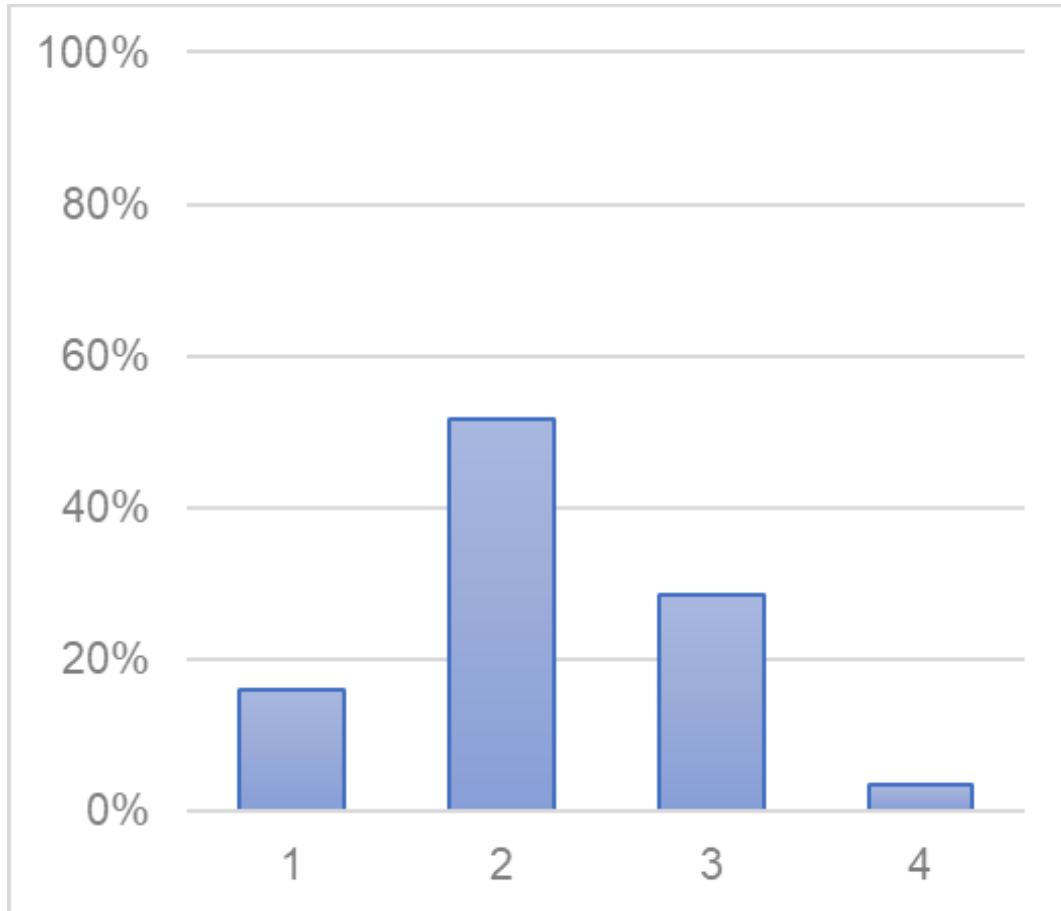
By 2035, the United States...

Option	Answer
1	...will not have returned to the moon
2	...will have successfully returned to the moon
3	...will have successfully sent individuals to Mars
4	...will have successfully sent individuals beyond Mars



Image credits (top to bottom): NASA and NASA/JPL/Malin Space Science Systems

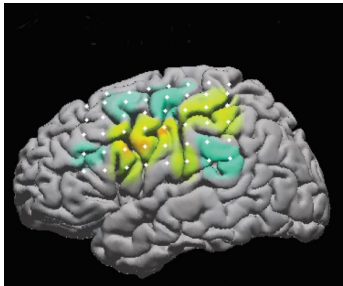
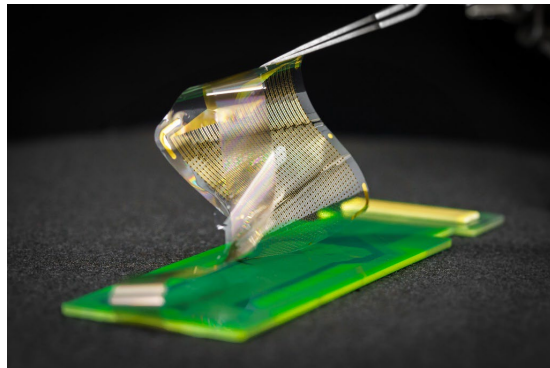
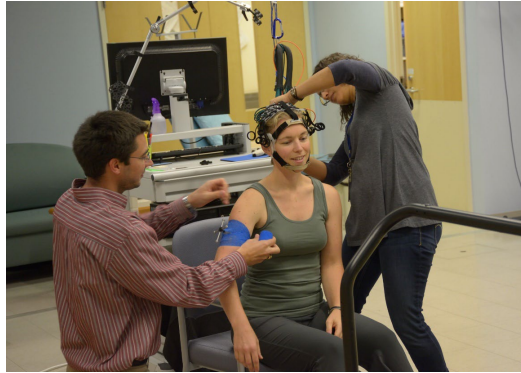
# Audience Voting



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# Topic 2: Brain-Computer Interfaces (BCI)



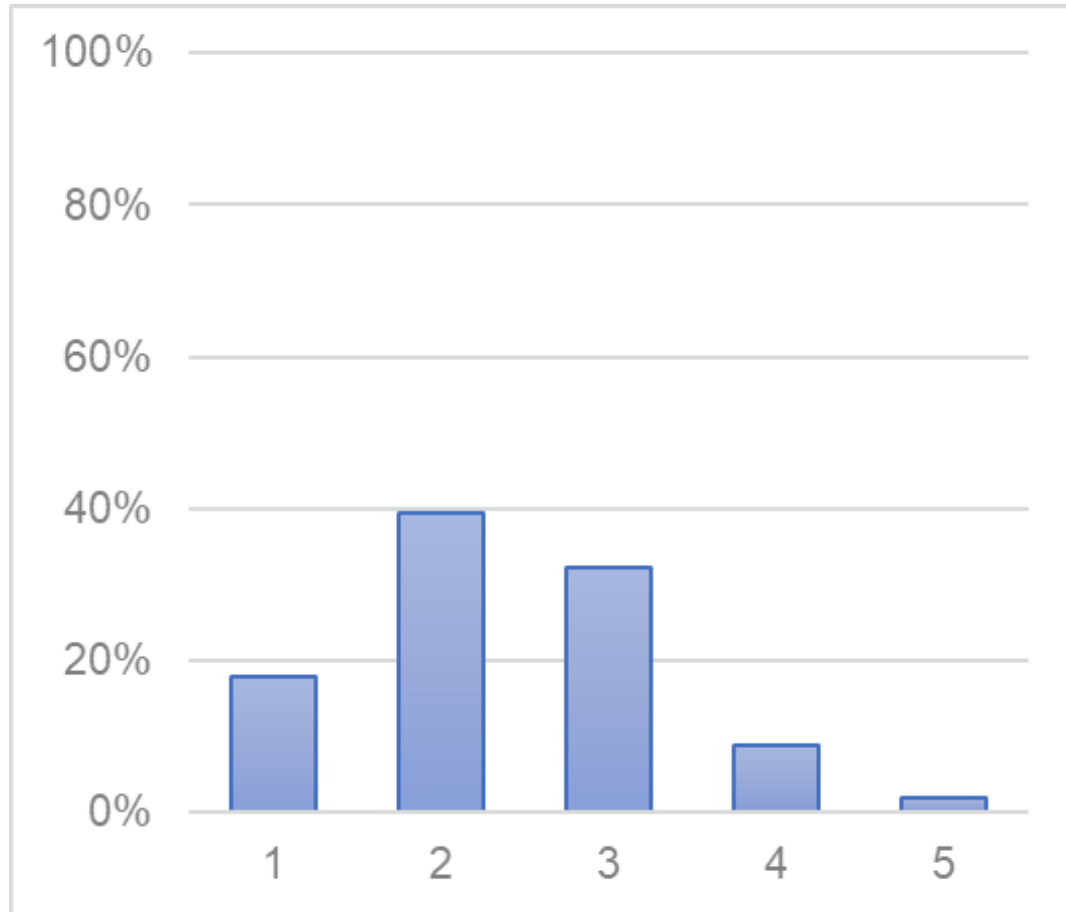
By 2035, how many of the following statements about brain-computer interfaces will be true?

- Noninvasive BCI headsets will monitor alertness, attention span, and indicators of fatigue in certain workplace environments
- Invasive BCI devices will allow for locked-in individuals to communicate at “able-bodied typing speeds” (~40 words per minute)
- Noninvasive BCI will be able to read an individual's unique brain patterns, like a biometric marker
- Information can be transmitted directly to the brain via an invasive BCI

Option	Answer
1	At least one
2	At least two
3	At least three
4	All four
5	None



# Audience Voting



1. At least one
2. At least two
3. At least three
4. All four
5. None



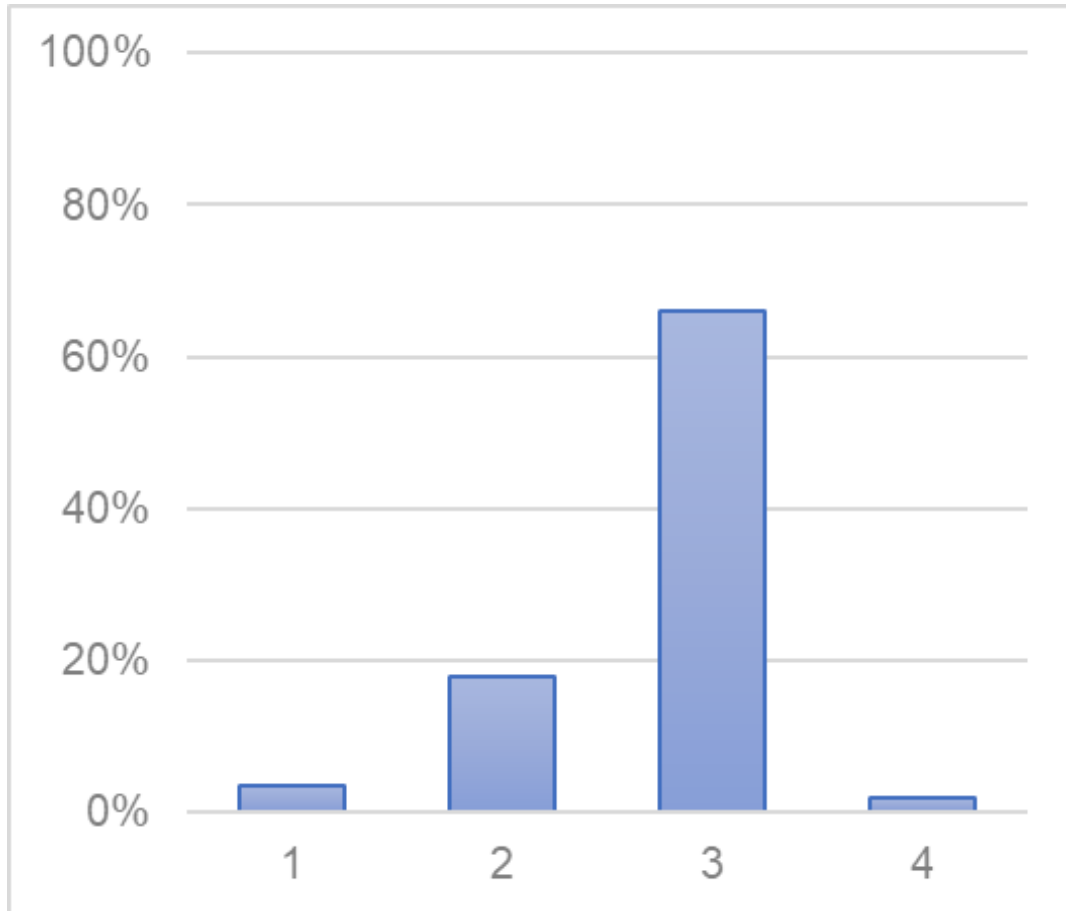
# Topic 3: Virtual Reality



By 2035, virtual reality...

Option	Answer
1	...will be limited to a novelty or entertainment function and/or specific applications (e.g., training)
2	...will have permeated more broadly to society, but still largely for early tech adopters
3	...will be pervasive, with most of society spending some time in virtual worlds and environments
4	...will be pervasive, with most of society spending more time in virtual worlds than the real world

# Audience Voting



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2. ...will have permeated more broadly to society, but still largely for early tech adopters
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# Topic 4: Hyperloop

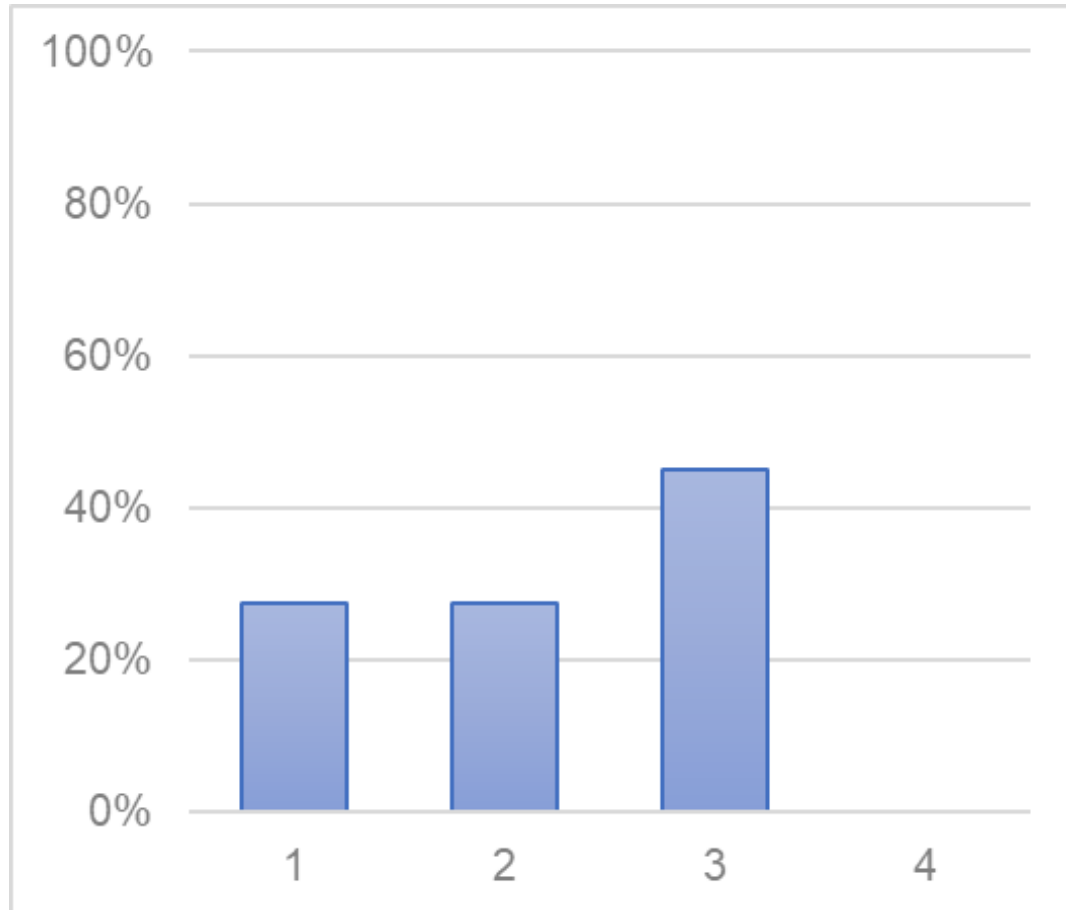


By 2035, fully operational hyperloops for public transportation...

Option	Answer
1	...won't exist anywhere in the world
2	...exist in other countries, but not in the United States
3	...exist in the United States, but in small numbers (e.g., < 5)
4	...exist in the United States, with most promising hyperloop corridors in operation



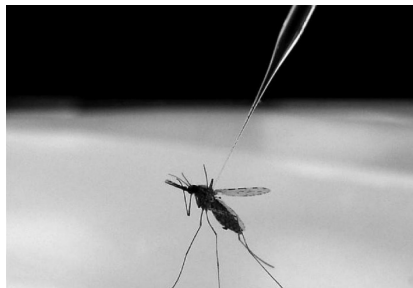
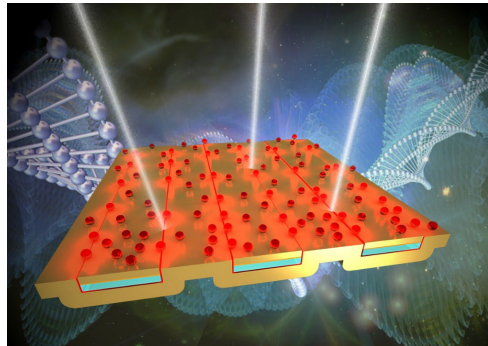
# Audience Voting



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3. ...exist in the United States, but in small numbers (e.g., < 5)
4. ...exist in the United States, with most promising hyperloop corridors in operation



# Topic 5: Synthetic Biology



How many of the following statements about synthetic biology will be true?

By 2035, synthetic biology...

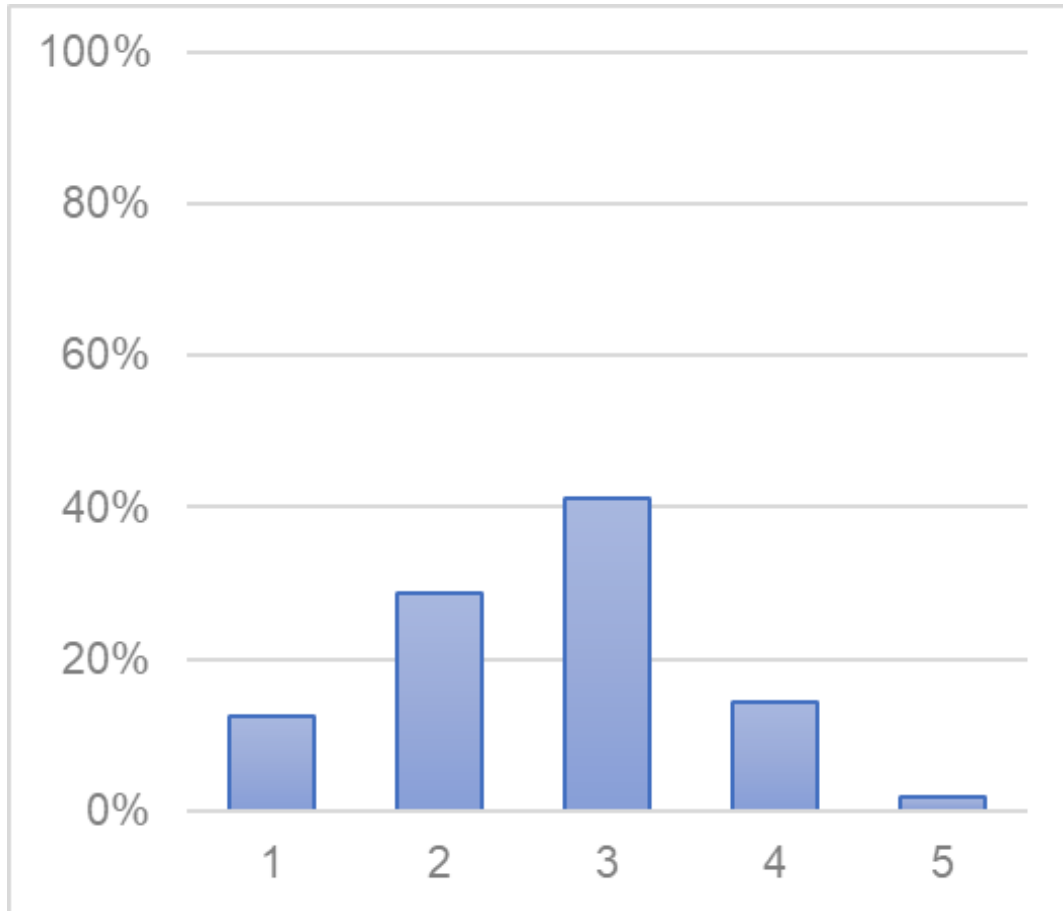
- ...will allow many forms of cancer to be cured
- ...will have provided a viable alternative to petrochemical generation
- ...will produce cell-cultured seafoods that are widely available for consumers
- ...will lead to the eradication of malaria

Option	Answer
1	At least one
2	At least two
3	At least three
4	All four
5	None



Image credits (top to bottom): Bio-Rad Laboratories; Qiaoqiang Gan, University at Buffalo; and National Institute of Allergy and Infectious Diseases

# Audience Voting



1. At least one
2. At least two
3. At least three
4. All four
5. None



# Topic 6: Zero Hunger

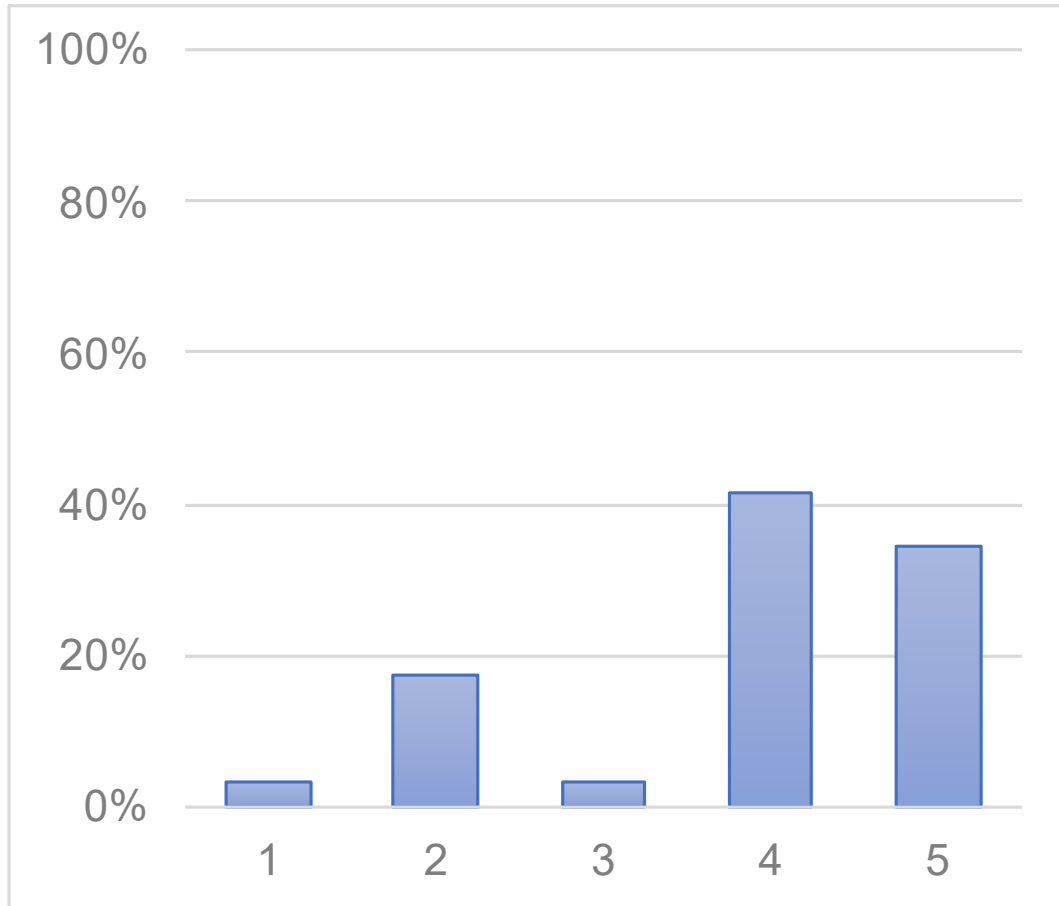


By 2035, food insecurity...

Option	Answer
1	...won't exist nearly anywhere around the world
2	...won't exist nearly anywhere in the United States, but will continue elsewhere
3	...will be significantly reduced in the United States relative to 2021
4	...will have experienced little or no positive change in the United States versus 2021
5	...will increase in the United States relative to 2021



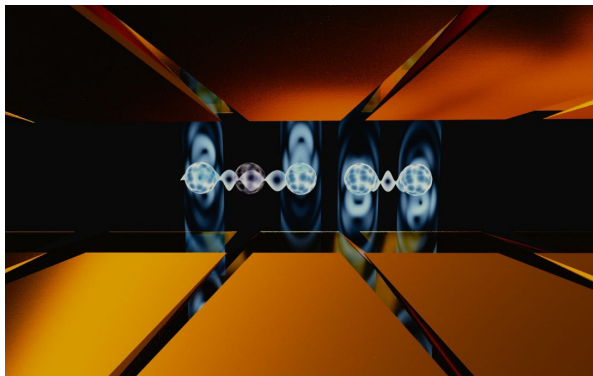
# Audience Voting



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# Topic 7: Quantum Technologies



By 2035, how many of the following will become a reality with quantum technologies?

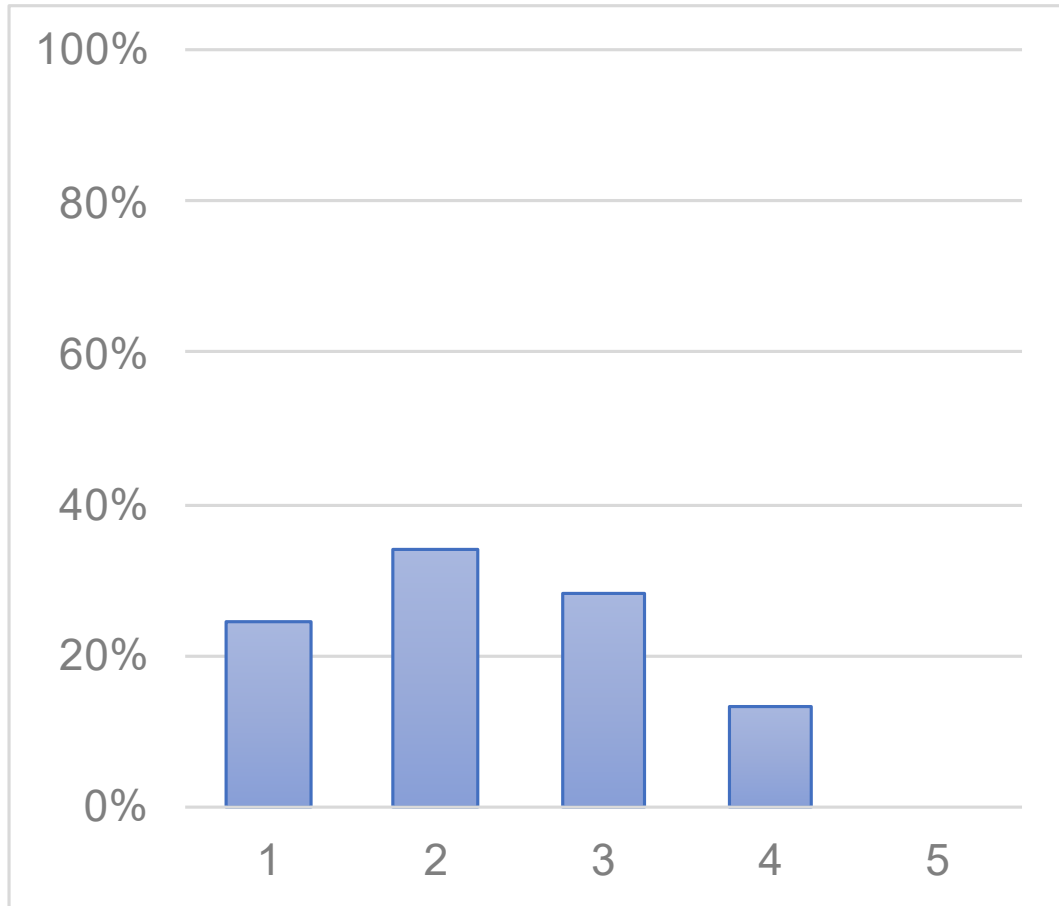
- Quantum sensors in commercial use for critical infrastructure detection and monitoring (e.g., pipeline leak detection)
- Development of the first nationwide quantum Internet in the United States
- Quantum computers capable of breaking public-key encryption
- Quantum simulations capable of addressing complex molecular interactions, leading to novel materials and therapeutics development

Option	Answer
1	At least one
2	At least two
3	At least three
4	All four
5	None



Image credits (top to bottom): Andrew Lindermann, IBM and E. Edwards, Joint Quantum Institute

# Audience Voting



1. At least one
2. At least two
3. At least three
4. All four
5. None

