



# ALTERNATIVE FUTURES SYNTHETIC BIOLOGY

Improving the resilience and security of  
critical infrastructure



## WHAT IS THE PURPOSE OF THIS GAME?

*Alternative Futures: Synthetic Biology* allows players to brainstorm and discuss initiatives and strategies that will mitigate future risks to critical infrastructure potentially arising from advancements in synthetic biology.



## HOW SHOULD I GET READY TO PLAY?

Players need no advance preparation. The game requires only that you bring your knowledge, experience, and perspectives to think strategically about critical infrastructure resilience and preparedness.

Before the game, you may want to contemplate a few potential initiatives, such as policies, programs, investments, public/private partnerships, research and development, or other actions that address resilience and security implications (both threats and opportunities). Please consider what initiatives, if successfully implemented today, will help prepare critical infrastructure stakeholders for trends in the advancement of synthetic biology.

## HOW DO WE PLAY?

The game consists of three rounds, each of which will present you with a scenario that could plausibly occur within the next 10 to 15 years.

During each round, the Innovator (see box at right) first proposes initiatives that could influence critical infrastructure security and resilience in response to a specified disruptive scenario. The Devil's Advocate then provides counterarguments as to why these initiatives may fail, followed by the Innovator's rebuttal. The Judge considers the arguments from both players and assigns each initiative a high, medium, or low probability of success. The assigned probability affects the die roll number needed for the initiative to pass.

Between the Innovator and the Devil's Advocate, the player who passes (or prevents) the most initiatives is the round's "winner." As a reward, that player selects the next social, technological, environmental, economic, or political (STEEP) disruptor category to introduce the following turn. STEEP disruptors may require players to consider the implications of an event or alter the trajectory of current trends in synthetic biology in different ways that players must account for.

At the end of each round, players change roles, thus allowing them to hold different roles during the game.

For more information about this game or other Secure Tomorrow Series products, please contact [SecureTomorrowSeries@cisa.dhs.gov](mailto:SecureTomorrowSeries@cisa.dhs.gov).

### *Player Roles*

You will be assigned one of three possible roles at the start of the game:



#### The Innovator

Responsible for developing initiatives and supporting arguments.



#### The Devil's Advocate

Responsible for developing counterarguments to initiatives proposed by the Innovator.



#### The Judge

Responsible for adjudicating the validity of the Innovator's arguments versus the counterarguments made by the Devil's Advocate.