### DESIGN&PITCH CHALLENGE

# OPERATION LIFELINE: TECHNICAL BRIEF

Now that you have analyzed a problem, proposed and refined a solution, and developed a pitch for your idea, you will create a Technical Brief describing your product and the process you used to find a solution.

PART 1. Briefly describe your solution and how it solves the problem or challenge you identified.

PART 2. Describe the mathematics, science, and engineering you researched to design your product. Include links to websites or other resources you used.

PART 3. Describe the decisions you made to choose your design and the challenges you had to overcome.

PART 4. How did developing your Key Business Proposition and related Business Models affect your process?

PART 5. Your final solution probably looked different from your original idea. Describe the process for how you developed your idea from start to finish.





#### PART 6. How well do you think your solution will work under real-world conditions?

Just a little	Somewhat	Fairly Well	Almost Completely

#### Explain your reasoning.

## PART 7. Fully describe your Operation Lifeline solution based on the questions below.

- A. What does your solution look like?
  - a. Include a detailed sketch of your solution. Include dimensions and appropriate units of measurement.
  - b. Label your sketch to explain how it works.
- B. How much medication will your solution be able to deliver?
  - a. Show how you calculated this.
  - b. Include any assumptions you made about the types of medication or medication containers that your solution will deliver.
- C. In what situations will your customers be able to use your solution?
  - a. Describe the components of your design that will allow it to be used in specific situations, like floods or earthquakes.
- D. How far can your design deliver medications?
  - a. Show how you calculated this.
  - b. Describe any limitations to your solution.
- E. How will your device keep medications cold?
  - a. Explain how long your solution will keep the medication cold.
  - b. Explain how the materials in your solution keep things cold.
  - c. Describe other materials you considered, how they work to keep things cold, and why you chose the materials you did.



