



CABLE Conductor Manufacturing Prize

TECHNICAL NARRATIVE TEMPLATE CABLE Prize, Stage 1

Project Name [Enter your team's name]

Tagline: [Your mission or idea as a single catchy sentence]

Technical Narrative Template

Write a detailed narrative describing your solution that addresses each of the following four criteria (seven statements) and explain how your conductor concept is for an *affordable, breakthrough material* that is *technically feasible* to manufacture and enables impactful *applications*. The content bullets are only suggestions to guide your responses; you decide where to focus your answers. Responses to these criteria statements must not exceed 5,000 words in total. You may also include up to 10 supporting images, figures, or graphs integrated into the narrative.

The Technical Narrative must be in English. Unless stated otherwise, all files must be submitted in the HeroX platform in an unlocked, searchable PDF form and use the following file name format: Team-Name_CABLEStage1.pdf. Content that exceeds any word, page, or time limit will not be reviewed. Please refer to the official [CABLE Prize Rules Document](#) for each criteria question and its associated suggested content.

The reviewers will score the questions based on the content you have provided in your narrative and your other submission elements.

Technical Narrative	
1: Affordability	
<p>Suggested content:</p> <ul style="list-style-type: none">• Provide at least one scenario of energy cost savings and reduced climate impact from using the enhanced material. These savings should exceed any of the additional costs beyond manufacturing a state-of-the-art material.	<p>Judging criteria (1–6 scale per statement):</p> <ul style="list-style-type: none">• The proposed material’s expected manufacturing and operating costs are economically justified by projected energy savings and reduced climate impact in at least one widely applicable scenario.

Your Response:

[Enter your response here]

2: Conductor Material Breakthrough	
<p>Suggested content:</p> <ul style="list-style-type: none"> Describe the expected electrical conductivity and other properties of the proposed material and provide the scientific and engineering underpinnings of the enhanced conductivity in your conductor material. Include the stage of development, intellectual property, and any validation to date, as well as the competitive landscape. If the material represents a breakthrough, describe the new scientific understanding. Describe how you would fabricate the proposed enhanced conductivity material. Include any and all assumptions and calculations and/or references supporting data and/or literature. It can include schematics, drawings, or sketches. 	<p>Judging criteria (1–6 scale per statement):</p> <ul style="list-style-type: none"> The proposed material shows enhanced conductivity above the baseline for that material (e.g., in Appendix A) (preferably at or above goals in <u>Table 2</u>), and the explanation of its performance relies on sound scientific and engineering principles. Fabrication of the proposed material is technically feasible and relies on credible manufacturing technologies or approaches.

Your Response:
 [Enter your response here]

3: Technical Readiness	
<p>Suggested content:</p> <ul style="list-style-type: none"> • Provide evidence that the fabrication technique could be scaled up to 1 gram. • Describe the operational principles of your proposed material fabrication system for Stage 2. • Show your readiness to begin fabrication in Stage 2. Include individual member biographies and team experience and qualifications, List external advisers (e.g., a board) or external sponsorship, if any. 	<p>Judging criteria (1–6 scale per statement):</p> <ul style="list-style-type: none"> • The plan to produce the material at the microscale (1 gram or more) in Stage 2 of the competition is credible. • The team has the requisite skill sets needed to produce the material in Stage 2. • The competitor will have access to facilities and financing to produce the material in Stage 2.

Your Response:

[Enter your response here]

4: Technology Application	
<p>Suggested content:</p> <p>Provide example(s) of how a product manufacturer using your material would be able to significantly outperform (including lowering climate impacts) the current state-of-the-art technology in this particular application.</p>	<p>Judging criteria (1–6 scale per statement):</p> <ul style="list-style-type: none"> The proposed material has the potential when fully scaled to significantly outperform (including lowering climate impacts) the current state-of-the-art technology in a widespread energy application.

Your Response:
 [Enter your response here]