

DOE SBIR/STTR Pitch Submission Example

This example pitch represents an advanced application and should be used for guidance only. It is not a template you must match. We recognize that applicants vary widely in their commercialization maturity. We enthusiastically welcome early-stage teams whose pitches may look quite different. We evaluate your pitch based on the strength of your core technical innovation, your commercialization potential, and your team's ability to execute, not against this single example.

DOE Disclaimer: This representative example is based on a hypothetical topic using fictional details. The content included in this document is not historically accurate and is only intended to be used as a general template to help you draft a compelling, competitive pitch.

1. Summary, Topic, and Mission Alignment (100 words or less)

The world today (1879) uses gas lamps and candles for lighting, but these are expensive and reduce indoor air quality. Thomas Edison Lightbulbs, LLC is developing an electric-powered alternative that is more convenient, safer, and cheaper. Existing electric lights suffer from a very limited lifetime (currently ~five hours). By exploring alternative filament materials, we can develop electric lightbulbs that maintain constant light, with consistent color quality, for hundreds (potentially thousands) of hours. The development of such a technology would change the global lighting market and aligns with the Revolutionary Technologies topic and with DOE's mission to advance America's industrial competitiveness.

2. Technical Promise (200 words or less)

A fundamental problem related to electric lightbulbs is that of filament endurance (lifetime). Current electric bulbs use platinum filaments, which are expensive and have very low lifetimes, making their usage impractical. There is an urgent need to find a solution to this problem. Hundreds of cities around the world would benefit from a safer, nonflammable replacement to gas-fueled lighting, and a successful demonstration would be a breakthrough globally.

Our innovative approach utilizes our patented, organic material carbonization process. Current experiments have shown that carbonized cotton filaments may provide illumination for up to ~50 hours, which is a 10x improvement over existing platinum filament technology. To demonstrate the feasibility of our technology in Phase I, Edison will evaluate and optimize both the design and filament carbonization process to maximize the bulb's lifetime and quality, at a competitive cost (target \$0.15/unit). We

believe our technology can extend the operating lifetime to more than 500 hours, making it a viable and competitive solution across numerous applications.

Our Phase I feasibility will include systematic testing of select carbonized material variants, refinement of the process time and temperature(s) to achieve optimal carbonization, and performance verification of the filaments to ensure brightness, color quality, and lifetime.

3. Commercialization Potential (200 words or less)

The lighting market is dominated by several gas lamp companies. Interviews with gas lamp suppliers, building managers, and municipal lighting authorities show consistent complaints about the dangers associated with using gas lighting, as well as the high costs to install, operate and maintain the infrastructure. Edison's value proposition directly addresses these concerns. Electric lights are as bright as gas lamps, emit superior color quality, and reduce both fire risk and air quality concerns. Our analysis suggests electric lights would cost \$5-10 annually compared to up to \$200 for gas lighting. This represents up to a 97% reduction in operational costs. The advantages of electric lighting compared to gas lighting create a significant market opportunity.

There are some barriers to entry for this market, the most significant of which is the infrastructure build-out and customer education. However, both of these are manageable, as current options also require a significant build-out of their distribution infrastructures (either gas lines or electric wires) and the capital costs magnitudes should be similar. As part of our customer interviews, we will explore training and educational needs, but we are starting to see network effects with deployments of other equipment, including telephones and industrial (electric) machines.

4. Team Qualifications (200 words or less)

Our Principal Investigator, Thomas Edison, has 15 years of experience with electrical invention and manufacturing, and his past achievements include the telegraph repeater and the quadruplex telegraph system. Edison's laboratory offers custom-made instrumentation for electrical testing and materials analysis. Edison has hired a team of experts in experimental science, engineering, and commercialization who are well-versed in electrical technology, material properties, and product development, respectively.

Our strategic partners include researchers from State University that have indicated willingness to provide advanced chemical analysis and materials consultation.

Additionally, three large U.S. municipalities have expressed interest in hosting a pilot site for our technology if this project is successful.

Phase I funding will be utilized for filament experiments, tests and validation, and stakeholder engagement and market research. Follow-on funding is expected to come via collaborative partnerships with electrical equipment makers as well as private equity firms, while local governments are expected to provide funds to support pilot infrastructure projects.

Example Use of Generative Artificial Intelligence (AI) Disclaimer

A Thomas Edison Lightbulbs internal AI tool was used alongside MS Copilot as writing assistance. All substantive ideas, strategic concepts, and content described in the pitch are the original work of the Edison team.