AstraCell

*“To confine our attention to terrestrial matters would be to limit the human spirit”*

| Contact Information8345 Colonial PlaceDuluth, GA 30097678-662-9020[astracellfuelcell@gmail.com](mailto:astracellfuelcell@gmail.com)TeamIshan Mahajan - CEO ishanmahajan73@gmail.com Sarvesh Prabhu - CBO sarveshprabhu@gmail.com Varnica Basavaraj- CFO cheer.varnica@gmail.com Srirag Tatavarti - CTO sriragt@gmail.com  **Company Information** Type: limited liability companyIndustry: Aerospace, Space Travel, and ConsumerismStage: Research and Development (Stage 1)Founded: August 27th, 2021Number of Employees: 4 Provisional Patent Application Number: 63329226  **Accomplishments**   * Conrad Challenge Global Finalist * Validation from 40+ professors * Patent Pending Honeycomb system | About Us At AstraCell, we are here to ignite the revolution of biologically composed fuel cells. Our purpose is to create a cell that **outlasts and outperforms the competition**, while also being incredibly **eco-friendly and cost-effective** by using a new biological component system. It is a profitable yet environmentally beneficial solution.  **Market Size** Space tourism and travel market currently valued at $423.8B Overall space travel market projected to be $1.4T by 2030  **Market Gap**  The demand for traditional PEMFC fuel cells is skyrocketing, which in turn is rapidly increasing platinum extraction from the earth. This is causing **issues in cost and sustainability** and plateaus in efficiency improvements. New ambitious plans for the future in space have left the aerospace industry facing a new set of unprecedented goals and unforeseen obstacles. Finally, NASA’s alkaline fuel cells last 10,000 hours, while current PEMFCs **only last up to 5,000 hours**.  **Solutions**  AstraCell is pioneering the fuel cell revolution by incorporating our **new honeycomb and enzyme catalyst system** with traditional fuel cell technologies. Our fuel cell can perform optimally at **temperatures as low as 50oC** while maintaining efficiency. Low temperatures decrease degradation rates, increasing AstraCell’s lifespan to an estimated **10,000+ hours**.  Our product also reduces the amount of hydrogen and oxygen needed by approximately 25% and **replaces large quantities of costly platinum** with frugal enzymes. The fuel cell has fewer rare metals and molecules, **dropping costs and helping the environment**.  **Go-to-Market**   1. Gain industry credibility through further research and testing 2. Begin to produce fuel cell components based on completed POC 3. Reach into the aerospace market and graphene production (initial profit) 4. Utilizing more biological components to achieve a 100% green fuel cell   **Funding Opportunity**   * Small business grants and angel investors * $550,000 from NASA Space Research Grant * $500,000 from AFOSR Environmental Fuel Development Grant   **Funding Uses**   * Grant money for foundational technology, private venture capital for marketing/product launch * Market studies on efficiency differences between concept model and market standards * Quality and Safety Assurance for hybrid fuel cell system |
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