

BUDGET AND JUSTIFICATION

Category	Line Item	Amount (₦)
Software	Thermocalc Licensed Package (To be accessed at the University of Johannesburg, South Africa)	5,000,000
	Sub-total Software	5,000,000
Equipment	Spark Plasma Sintering (SPS) Machine (Out sourced)	5,000,000
	Powder Processing Unit (Ball Mill)	1,000,000
	Analytical Equipment (SEM, XRD, UTM)	5,000,000
	Sub-total Equipment	11,000,000
Materials & Consumables	Ti, Nb, Mo, Carbon Powders	10,000,000
	Consumables (dies, argon gas, solvents)	2,000,000
	Sub-total Materials	12,000,000
Travel & Logistics	Field visits to DICON & partners	3,000,000
	Sub-total Travel	5,000,000
Administrative & Other	IP Filing & Patent Fees	2,000,000
	Publication Fees & Dissemination	1,000,000
	Sub-total Administrative	11,000,000
Grand Total		₦39,000,000

Monitoring and Evaluation

Budget Justification

The requested funds are essential for the successful execution of every project objective.

- **Personnel:** The personnel budget is a direct reflection of the project's complexity and the need for dedicated, high-level expertise. It supports a team of professionals for the full 24-month duration, ensuring continuous progress and accountability. This is a foundational investment in human capital.

- **Equipment:** The acquisition of the SPS machine is a critical, non-negotiable expense. It is the core technology that enables the synthesis of our novel alloy under precisely controlled conditions. Without it, the project's primary objective cannot be met. The other equipment, including the ball mill and analytical tools, are necessary for preparing materials and verifying the alloy's properties. The collaborative agreement with DICON reduces our cost for analytical equipment, demonstrating fiscal responsibility.
- **Materials & Consumables:** The cost of high-purity raw materials (Ti, Nb, Mo, C) is significant due to their specialized nature. This budget line ensures we have a consistent supply of quality inputs, minimizing experimental variability and ensuring reliable results.
- **Travel & Logistics:** This budget line is crucial for facilitating the essential collaboration with our partners at DICON, allowing for in-person meetings, shared lab work, and effective communication. The conference travel budget is vital for disseminating our findings, gaining international exposure, and attracting future commercial partners and funding.
- **Administrative & Other:** The budget for Intellectual Property (IP) filing is a strategic investment that protects NASENI's and our team's interests. It is essential for ensuring the long-term commercial viability and sustainability of the innovation. The contingency fund provides flexibility to address unforeseen technical challenges or market changes without disrupting the project's timeline.

Value for Money

The requested ₦39,000,000 represents exceptional value for money. This investment is not for a single product but for a foundational technology platform that will catalyze a new sector in Nigeria's economy. The potential for billions of Naira in fuel savings and the creation of hundreds of jobs significantly outweighs the initial investment. By licensing the IP, NASENI can recoup its investment over time and generate a sustainable revenue stream. This is a strategic investment in a high-growth sector with a clear, quantifiable return on investment.

Matching Funds/Other Funding Sources

Currently, this grant proposal is our primary source of funding. However, we have a standing, non-financial collaboration with the Defence Industries Corporation of Nigeria, Kaduna, which provides us with in-kind support in the form of access to their analytical facilities and the expertise of their technical staff. This is a significant contribution that has reduced our equipment budget by an estimated ₦10,000,000, demonstrating our commitment to leveraging existing national resources. We will also actively seek a follow-on grant from other international and local funding bodies to scale up the project for commercialization after the completion of Phase III.