New Venture Creation Project

Deliverable 2: Initial Opportunity Analysis

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| **Project Name:** | **Radiant Power** |
| **Code (EMINE22\_XY):** | EMINE23\_03 |
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Project Team

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To review if necessary:

Problem and Customer Description (What made you change it? Try to be as specific as possible)

 The "Radiant Power" project is a new venture that aims to provide uninterrupted electricity to military off-grid sites for sea and air surveillance by harvesting decay heat from nuclear waste, specifically Pu-238, and applying it to a Stirling engine to generate electricity. The Stirling engine is one of the most efficient ways of converting heat energy into mechanical energy, making it ideal for the environment. It is also a simple, reliable, and proven platform, which makes it suitable for remote power generation. The project's business model is based on the safe and efficient management of nuclear waste while providing a reliable and sustainable energy source to military sites. By repurposing nuclear waste, the project has the potential to reduce environmental impact and increase the lifespan of existing nuclear waste storage facilities.

The problem that the project aims to solve is the need for a reliable power source with a long lifespan in off-grid targeted market locations that are regulated and secure. Most of the Military sites are remote and difficult to reach by road, maintenance jobs are usually pre planned and delivered via helicopters. The solution is needed to power one or two long rang air- or sea surveillance radar system, connected to a telecom grid either by cable or a radio link system, or a long-haul radio systems on LF or HF radio bands.

Window of Opportunity: Market & Competitors analysis

1. Market size (What is the market size (TAM, SAM, SOM)?

**TAM:** The target market comprises remote military sites worldwide, encompassing military bases reliant on either diesel generators or photovoltaic panels, with over 3000 operational radar systems deployed globally.

**SAM:** The serviceable addressable market encompasses military bases located in India and its neighbouring countries, encompassing a total of 46 operational sites within India, an additional 38 sites slated for completion by the end of 2023, and a further 32 sites distributed throughout the Maldives, Mauritius, Seychelles, and Sri Lanka.

**SOM:** The serviceable obtainable market encompasses the 38 military bases currently under development in India, in addition to the 46 sites that are already operational.

We were unable to obtain precise information regarding the number of military sites in Sweden and India from the military consultants we interviewed. Therefore, the information presented above on the number of sites was derived from the referenced source, which may not be exhaustive. However, we anticipate that the number of sites will exceed our projections.

Site: [Integrated Coastal Surveillance System - Wikipedia](https://en.m.wikipedia.org/wiki/Integrated_Coastal_Surveillance_System#:~:text=28%20February%202021.-,Locations,Mauritius%2C%20Seychelles%20and%20Sri%20Lanka)

1. Industry analysis (Who are the main competitors in this market now? What is your solution competing with?)

Based on our interview with military consultants at the defence schools in Sweden and India, the competitor's obtainable market comprises of companies that supply PV panels, batteries, and diesel generators to military contractors.

Radiant Power is positioning itself as a competitor to these companies by offering alternative solution to PV panels, batteries, and diesel generators.

1. Competitive analysis (What are the key variables for the customer? How is your solution performing on them? Please, include the strategy Canvas)

The primary factors of utmost importance to the customer are reducing capital and operational costs, ensuring a consistent and dependable power supply, minimizing maintenance, and refueling requirements, employing durable and long-lasting power sources, and securing the power source against theft. The security concern with Radiant Power has been addressed by deploying the device underground.

1. Analysis of the moment (Who would be the early adopters of your solution? Apply the Innovation Adoption Lifecycle to your solution. Include figures, if necessary)

Based on the information provided above, the early adopters of the Radiant Power solution would be military bases and contractors located in remote and off-grid areas currently using diesel generators or photovoltaic panels to generate electricity. These early adopters are likely to be innovators and early adopters in the innovation adoption lifecycle, who are willing to take risks and adopt new and innovative solutions. As the solution becomes more established and proven, the early and late majority and laggards will likely adopt it.

Unfortunately, no figures or data are supplied to estimate the adoption percentage at each stage of the innovation adoption lifecycle.