**Functional Requirements Document**

**Motorola Deep Connect**

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**Owner: Morphedo Technologies Pvt Ltd**

**Project Background**

This document provides the background for the Motorola Deep Connect project, developed by Morphedo in collaboration with Motorola. The project aims to create a reliable communication system for miners and their families.

Mining is a demanding and hazardous profession where safety is paramount. Due to the risks involved, mobile phones are prohibited in mines. This restriction poses a significant challenge for miners who wish to stay in touch with their families.

Motorola Deep Connect addresses this challenge by utilizing the walkie talkies already used by miners for internal communication. The system connects these walkie talkies to smartphones, enabling miners to communicate with their families from within the mine.

Each miner is assigned a unique ID that links to a module on the surface. This module allows them to make 5G voice calls to their families using their walkie talkies. The families use a simple, easy-to-use app on their smartphones that works like a walkie talkie for two-way calling.

The solution is designed to be affordable and scalable, making it ideal for deployment across various mining sites in India. By improving communication, Motorola Deep Connect enhances the well-being and peace of mind of miners and their families.

**Functional Requirements**

**1. Walkie Talkie Integration**

The system must integrate seamlessly with existing walkie talkies used by miners. It should allow miners to use their walkie talkies to communicate with the surface module.

**2. Unique ID Assignment**

Each miner must be assigned a unique ID that links their walkie talkie to the surface module. This ID must ensure that communications are routed correctly to and from the miners.

**3. 5G Voice Call Capability**

The surface module must support 5G voice calls, allowing miners to communicate with their families using the latest communication technology.

**4. Smartphone Application**

A user-friendly smartphone application must be developed for miners' families. This app should function like a walkie talkie, enabling two-way communication with the miners.

**5. Surface Module**

The surface module must be robust and capable of handling multiple simultaneous connections. It should facilitate the communication between miners and their families.

**6. Affordability and Scalability**

The solution must be affordable to ensure it can be widely adopted across various mining sites. It should also be scalable to accommodate the needs of different mining operations.

**7. Security and Privacy**

The system must ensure secure and private communication between miners and their families. It should use encryption and other security measures to protect the data.

**Conclusion**

The Motorola Deep Connect project aims to provide a reliable, secure, and affordable communication solution for miners and their families. By meeting these functional requirements, the system will enhance the well-being and peace of mind of miners, ensuring they can stay connected with their loved ones.