

**Project Design Phase-I**  
**Proposed solution document**

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Unsecure, due to train accidents happening because of cracks in track, collision of train in the junction point, loss of signal during motion of train, sudden crossing of animals and humans leads to a big problem.
2.	Idea / Solution description	Our idea is to continuously monitor crack in the track with the help of sensors (ultrasonic sensor). This process mainly includes positioning, sending and alerting through the help of GPS module. Improvisation of Rail Collision Avoidance System (RCAS). Smart sensors are also used to track important assets, manage passenger flow, and enable predictive maintenance.
3.	Novelty / Uniqueness	The main point of our project is, we are introducing the Internet Of things (IOT) into the existing railway technology, with the help of cloud platform and smart sensors.
4.	Social Impact / Customer Satisfaction	Safety - Occurrence of accidents can be prevented. People in and around the train will feel safe and secure.
5.	Business Model (Revenue Model)	Cost estimation = Rs.7,500 (approx)
6.	Scalability of the Solution	We are using cloud platform which is virtual, so it doesn't occupy physical space and easy to retrieve. Sensors are easy to handle and maintain.