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**Entrants's Name:** Bojji Rajaram

**Country:** India

**Field:** Engineer-scientist for rail guded systems, Intelligent Knowledge embedded systems.

**Innovation - idea:** The collisions on railways have resulted in loss of hundreds of lives annually on Indian Railways. I was moved strongly, to invent the Anti-collision Device network (Raksha kavach) which sits as additional layer in the working of trains, and silently prevents dangerous collisions, without human intervention.

**Innovation - why it is pioneering:** This poineering in my opnion, because it is the first knowledge embedded system, where intellect, analysis in real time and deductions formed the basis withe principle of a network of small capacvity devices produce an uncommon mega-result. World patents obtained- but I assigned all royalties to people of India.

**Strategy - how it achieves impact:** The Anti-collision Device comprises of a microprocessor, gettiing inputs through digital radio modem, a GPS engages in active communication with other similar moving devices as mounted on Locomotives /gurdvans of trains and at stations, within 4 to 5 km range, and analyse information to take pre-emptive action, to automatically stop any collision like event. All this is done without any human input.

**Strategy - growth plans:** The systems are implemented by the Indian Railways and Konkan Railway, covering 2500 km in India, as it is the most economical and more powerful than any other available ones in the world. Governemnt of India has cleared Corporate Plan to to cover entire 64000 route km of India with the system

**Impact to date:** Having seen my work Europe too is now stated to to work on the concept of distributed intelligent devices controlling local events, instead of centralised control.

**Future impact:** My road map for the intellegent knowledge embedded devices is such that the rail guided systems will not only become safer and more productive when the final version of ACD network coupled with Intellegent station management system is implemented, the humans will be relieved of sub-human work of rule based running- but the sytem will be automated with the intelligent devices taking over these functions.We will have improved quality of service at reducing costs.

**Sustainability - resource base:** My reserach work in this regard was purely from my own desk as extra hours of working- and motivated both Government and Private industry to proactively work. I am happy that the company which took the initiative and devoted themselves to my concepts successfully created welath in the country based on my intellectual property. Personally I did not aspire for royalties nor license fees, and did the work in public interest- so assigned my patent rights to President of India through, Konkan Railway Corporation Ltd., a Govt of India Company , of which I used to be the Managing Director.

**Major challenge for the field:** Change is the most difficult process for set mind-sets. Even if better life is the result of change, too much resistance is faced from the majority of people with conditioned brains, who accept the suffering as part of living. Patience to educate and change them is the challenge.

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