Internet of Things (IoT) Smart solutions for Railway

References:

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Indian Railways can have remarkable improvement in asset management using IoT for Rolling Stock like Coaches, Wagons and Locomotives. The optimal use of assets can be facilitated once their exact location is known in real time. Track maintenance can become better and manpower can be effectively utilized. The great pressure that railways is facing due to the whopping wage bill and its severe criticism by experts can be eased once the handheld devices can enable management to optimally deploy staff for maintenance works. The assets will have sensors depicting their health and with use of intelligent monitoring systems, they will reach the right location at the right time. IR today is dependent heavily on supply chain partners. Lot of time and effort is wasted in pursuing the supplies, gaining access to information of vendor. All this can be automated using IoT. The role of purchase department can be limited just to give the purchase order, the balance work can be handled by intelligent systems when the network has information on consignments, stock position etc. IoT is the future, and it has already arrived.

A “thing” can join in IoT, only when it is tagged as ‘smart’. For becoming ‘smart”, common things or objects, a few action are needed;

1. a unique identity is assigned to the object
2. it has the ability to communicate or to transmit data wirelessly
3. sensing devices must be inbuilt in the object
4. it should have capacity to be remote controlled

The potential of IoT can be judged by the following examples:

* **Smart Parking and alerts about open, free space**: There is real potential to reduce traffic congestion by 30%, boost parking revenue, and reduce CO2 emissions by Smart Parking in Nice, France which alerts drivers about open spaces.

* **Intelligent and weather-adaptive lighting for streets**: It has been estimated that the French city of Nice can reduce power consumption (related to lighting) between 20 and 80 per cent, by calibrating streetlights on the basis of pedestrian and vehicular traffic and changing weather conditions.