

PROJECT DEVELOPMENT PHASE

SPRINT - 4

DESCRIPTION:

The growing applications of IOT technologies as well as cloud-based services in various industries have raised the demand for smart railways to integrate the new generation services and solutions for their operation. Moreover, the contribution of information and communications technology in smart railways further gives rise to efficient and modern forms of transportation. The global smart railways market was valued at USD 14,328.9 million in 2018 and is projected to reach USD 48,778.1 million by the end of 2027. In addition to this, the market is estimated to register a CAGR of 14.7% during the forecast period, i.e., 2019-2027.

Benefits of IoT Applications in Railways:

By leveraging IoT technologies, railway operators can aim to provide a more intelligent, connected, efficient, safe, and convenient railway experience for everyone while also realizing these benefits:

- **Increased efficiency:** Congestion and overcrowding create operational inefficiencies. Using deep learning and AI through computer vision, operators can monitor passenger flow and gather data for advanced analytics to help enable more-informed decision-making around staffing and security.
- **Reduced downtime:** Sensors, cameras, and in-vehicle computers empower rail operators to monitor their fleet's diagnostic data to minimize breakdowns, predict maintenance repairs, and optimize servicing schedules to keep trains in working order and moving.
- **Enhanced safety:** Computer vision and AI-enabled smart cameras help automate safety alerts when there are potential

water spills, fire and smoke, or accidents. They can also be used to help locate missing children in crowds or detect if someone climbs onto conveyor belts, falls on escalators or onto trackways, or enters restricted areas.

- **Increased passenger satisfaction:** IoT technologies provide operators myriad possibilities for creating new solutions and services to meet passenger expectations. Operators can personalize travel for individual passengers with near-real-time data collection and analysis or provide strong and reliable onboard Wi-Fi so passengers can stay connected throughout their journey.