

Machine Vision Based Inspection System

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Machine Vision Based Inspection System Latest News

Recently, Indian Railways has signed a Memorandum of Understanding (MoU) with the Dedicated Freight Corridor Corporation of India Limited (DFCCIL) for the installation of Machine Vision Based Inspection System (MVIS).

About Machine Vision Based Inspection System

- It is a modern, **cutting-edge technology** that **uses artificial intelligence** to inspect trains in real time.
- The system would revolutionise the way trains are maintained and monitored, offering a smarter, safer, and efficient future for Indian train travel.

Working of Machine Vision Based Inspection System

- It is deployed on a wayside that captures **high-resolution images of the under-gear of moving trains** and automatically detects any hanging, loose, or missing components.
- On detecting anomalies, the system **generates real-time alerts** to facilitate prompt response and preventive action.

- It **combines high-resolution cameras** with intelligent software to scan every passing train for signs of wear and tear.
- From detecting hairline cracks and loose fittings to identifying other mechanical abnormalities, the system conducts inspections within seconds, which earlier took hours or even days to complete.
- By catching faults early, the technology prevents potential breakdowns, enhances safety, and helps avoid train delays.
- It will help in **monitoring the health of rolling stock**.
- **Advantage:** The primary advantage of MVIS is its ability to **carry out consistent monitoring** without disrupting regular train services.
- This initiative also aligns with IR's broader objective of introducing modern, intelligent systems to the railway ecosystem.
- **Significance:** The technology is expected to **significantly enhance the safety of train operations**, reduce manual inspection efforts and help avoid potential accidents/service disruptions.

Source: PIB

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