‘DRISHTI’ System

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Why in news?

Indian Railways is planning to install Artificial Intelligence (AI)-based technology to enhance the safety of freight trains.

- It is an ***AI-based surveillance*** and ***locking monitoring*** system for goods coaches in real time.
- **Jointly developed by –** Northeast Frontier Railway (NFR) and IIT Guwahati - Technology Innovation and Development Foundation.
- **Objectives –** To enhance freight safety, improve transparency, and boost operational efficiency for Indian railways.

Key Features of DRISHTI

- **Real-Time Monitoring –** The system uses computer vision and machine learning to detect door tampering or unlocking in real time.
- **Surveillance–** It integrates AI-powered cameras and sensors strategically mounted on moving freight trains, enabling anomaly detection without manual inspection.
- **Scalability –** Designed for deployment across freight corridors, especially in strategic and high-risk zones.
- **Data-Driven Alerts –** Capable of generating automated alerts for security breaches or operational faults.
    - Traditionally, detecting such issues relied heavily on manual inspections, which are often time-consuming and impractical for long freight rakes moving under dynamic conditions.
- **Advantages –**
    - Real-time monitoring of wagon door locks.
    - Automated alerts in case of tampering or abnormalities.
    - Reduced human intervention, ensuring faster response times.
    - Enhanced transparency and safety across the freight network.

- Seamless integration with existing railway operations without disruption.

References

1. Indian Express | AI-based technology – DRISHTI was unveiled
2. Rail Analysis | AI-based technology – DRISHTI was unveiled