ELECTRONIC TRAIN AUTHORISATION

The Electronic Train Authorisation (ETA) is the next generation in train management. It replaces warrants, verbal authority and hand written notes for train control.

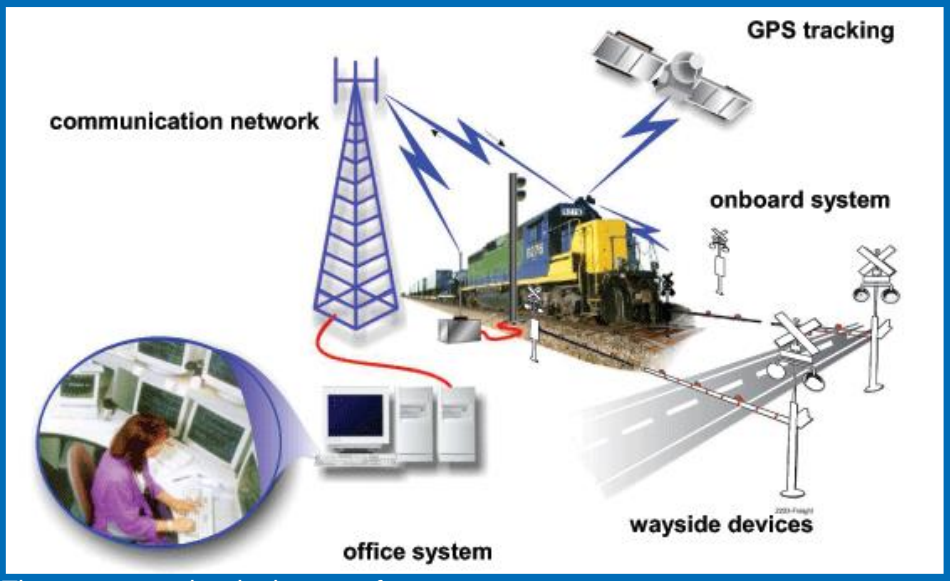
The reliable tracking of a train is the key information for effective and smooth railway operations.

One of the many ETA applications is the real time tracking along a complete railway section, which enables reliable GPS positioning, real time train speed monitoring and direct communication with the locomotive amongst others.

Imagine a system that could alert a train controller in real time to any train operating outside of its expected profile. ETA offers the ideal solution to a TCS fall back scenario.

The system is based on the need for a robust, reliable, digital Train Control System with minimal “field based” infrastructure. The ETA is a web based solution to Train Control that is fully scalable and flexible.

ETA ensures that Train Control knows the exact location of each train in the system and their limit of authority to proceed. It is able to support the operation of trains at safe operating distances without the need for fixed block wayside signalling.



The system works via the use of a combination of differential GPS and known track layouts. It is designed to work with all rail vehicles including work gangs and hi-rail vehicles.

Electronic Train Orders will ensure that messages and limits of authority are communicated correctly, improving safety and operational efficiency.

Not only does it give a visual display of the order to proceed, it also provides a full audit trail with a documented record of the orders sent and time of acknowledgement as well as the location of trains or work crews.

The ETA is, as a loose analogy, the equivalent of a signal aspect in conventional systems. It provides an orderly manner in which the operator may instruct or authorise a train driver to traverse a section of track.

This section of track will include a start signal, a destination signal, and all route elements in between. The ETA automates all the steps of the manual paper work alternative in a deterministic, orderly and complete manner.

For this reason the ETA is heavily data and state driven, and at its heart is a database system to provide the electronic warrant (ETA) and train register.

SIGNALLING

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