

# Annex

## A: Glossary

**Adverse effect on competition (AEC)** – Where a feature, or combination of features, of a market prevents, restricts or distorts competition in connection with the supply or acquisition of goods or services in the UK or a part of the UK. The basis of the test for an MIR to the CMA.

**Automatic route setting** – a subsystem of traffic management systems consisting of algorithms designed to optimise the routing of trains.

**Automatic Warning System (AWS)** – a train protection system that gives the driver an audiovisual indication of the status of an upcoming signal.

**Axle counters** – a train detection system. It compares the number of axles that pass the counter at the start of a section of line to that at the end of the section; if the count is the same, the section is presumed clear.

**Boom and bust** – a colloquialism used to describe a rapid rise followed by sudden drawdown of work, common to infrastructure renewals.

**Computer based interlocking (CBI)** – see interlocking.

**Control period** – also known as a price control. A five-year period for which Network Rail has been funded following a review by ORR.

**Control system** – the subsystem on which traffic management systems operate and that a human signaller interfaces with. Modern control systems feature a workstation with a visual display unit (screen) and tracker ball/mouse to aid the signaller in visualising the control area and input commands.

Key workstation control system products referred to in this report are:

- Apparato Centrale Computerizzato (ACC) (Hitachi/Ansaldo);
- Integrated Electronic Control Centre (IECC) (Resonate);
- Modular Control System (MCS) (Alstom/Vaughan Harmon);
- Route Control Centre (RCC) (Hitachi/Ansaldo); and
- WestCad (Siemens).

**Conventional signalling** – signalling systems that are designed around fixed block working, where entry into a section of line is controlled and communicated to drivers by means of a trackside signal.

**Digital Railway Programme** – a government sponsored initiative to rollout modern train control and signalling technology.

**Driver Machine Interface (DMI)** – the main interface between the driver and the train in an ETCS-enabled train. It is controlled by the European Vital Computer (EVC).

**East Coast Digital Programme** – the transformation of the East Coast Mainline, using digital train control technology.

**EULYNX** - European initiative in railway signalling, with the aim of reducing the cost and installation time of signalling equipment by virtue of standardisation.

**European Rail Traffic Management System (ERTMS)** - a single, EU-wide signalling and speed control system that ensures interoperability between national railway systems.

**Framework agreement** – an agreement between a buyer and supplier(s) that sets out the terms under which contracts for the provision of goods, services and works may be awarded for the duration of that agreement.

Key framework agreements referenced in this report are:

- Type A;
- Type B;
- Type C (Minor Works);
- Major Signalling Renewals and Enhancements Framework (MaSREF);
- Level Crossings (LX) Framework;
- Major Signalling Framework;
- Signalling & Telecoms (S&T) Framework; and
- Minor Signalling Framework.

**Fringe** –the point at which two interlocking areas adjoin, requiring technologies in both areas to interface with one another.

**Governance for Rail Investment Projects (GRIP)** – an 8-stage project control process based on the standard lifecycle of a capital delivery project. GRIP 1-3 can be

summarised as the development of options, GRIP 4-5 includes detailed design of a single option, and GRIP 6-8 forms the construction, test and commissioning phases.

**Global System for Mobile Communications – Railway (GSM-R)** – a wireless communications standard for railways.

**Infrastructure manager** – a body or undertaking that is responsible for establishing and maintaining railway infrastructure.

**Integrators – companies** who supply signalling projects without ownership of their own key (particularly interlocking) technology.

**Interlocking** – an arrangement of signalling apparatus that prevents conflicting movements. In modern signalling systems, the interlocking logic is performed by an electronic interlocking (referred to generically as a computer based interlocking (CBI) but most GB examples are Solid State Interlockings (SSI) or derivatives). This function can be performed by relays as well as mechanical systems.

Key electronic interlocking products referred to in this report are:

- Apparato Centrale Computerizzato (ACC) (Hitachi/Ansaldo);
- EBI Lock (Alstom/Bombardier);
- ElectroLogIXS (ELIX) (Alstom/GETS);
- Système Enclenchement Intégré (SEI) (Hitachi/Ansaldo);
- SIMIS-W (Siemens);
- Smartlock (Alstom);
- Westrace (Siemens) and
- Westlock (Siemens).

**Long Term Deployment Plan (LTDP)** – a plan for future signalling renewals by means of a partnership approach between Network Rail, train operating companies, the rail industry supply chain and DfT..

**Memorandum of Understanding (MoU)** – an agreement between two (bilateral) or more (multilateral) parties.

**Market Investigation Reference (MIR)** - a formal statutory investigation by the CMA of a market on the basis that one or more features in the market prevent, restrict, or distort competition.

**Original Equipment Manufacturers (OEMs)** - a company that produces products and or/equipment. These products and/or equipment may be sold directly to end customers by the OEM, either standalone or as components within a wider service offering, or indirectly, through third party providers..

**PRISM** – a tool used by Network Rail to assess the performance of suppliers in enabling them to carry out their contract.

**Radio Block Centre** – a device used at ETCS Levels 2 and 3, acting as a centralised safety unit which, using radio connection via GSM-R, receives train position information and sends movement authority and further information required by the train for its movement.

**Route Asset Manager (RAM)** – Network Rail employee who manages and directs the determination and development of the route asset management plans for those assets within a defined geography

**Reference CCS Architecture (RCA)** - modern architecture based on radio based ERTMS and EULYNX.

**Signalling Equivalent Unit (SEU)** – a measure used to estimate and compare the cost of signalling projects. The number of component parts of a signalling project at sub system level – points, signals and level crossings is calculated to establish the number of ‘SEUs’. Dividing the total cost of the project by the number of SEUs determines the SEU rate.

**Signalling Infrastructure Condition Assessment (SICA)** - process provides a structured approach to determining the condition of a signalling asset by answering a set of objective questions regarding its physical condition, environment, reliability and maintainability

**Solid State Interlocking (SSI)** – see interlocking.

**Target 190plus** - a Network Rail Research & Development programme that looks at the sustainability of the signalling systems on the network and the challenges these bring to the rail industry.

**Track circuit** – a train detection system. It works by using the rails to run an electrical circuit, connecting a power source at one end of a section of line to a relay at the other end. When the section is clear, the relay is energised; when a train enters, the metal

wheels and axles short the circuit, de-energising the relay. A de-energised relay indicates that a section of line is occupied by a train.

**Train Interface Unit (TIU)** - interface of the European Vital Computer to the train for submitting commands or receiving information.

**Train Protection & Warning System (TPWS)** – a train protection system that automatically applies the brakes on a train that is approaching a danger (red) signal too fast or has passed a signal at danger without authority.

**Undertakings in lieu of a reference (UILs)** - specific commitments offered by one or more companies, designed to mitigate competition concerns that constitute an AEC.