



Rail

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## Railway Electromagnetic Compatibility (EMC) Consultancy Services

Unless a rigorous EMC management and control structure is established, EMC can cause operational problems and in extreme cases have a direct effect on the safety of the rail network. Apparatus and Rolling Stock must be designed, manufactured and tested prior to service introduction to ensure all EMC compliance and health and safety requirements have been met.

TÜV SÜD's international EMC experts have in-depth knowledge of all five parts of the EN 50121 EMC Railway standards. We also assist manufacturers and infrastructure owners in meeting additional test and documentation requirements as listed in London Underground (1-222, G-222) and Railway Group (GE/RT 8015) standards.

We can provide relevant training courses and operate one of the largest accredited test facilities in the world. TÜV SÜD's test engineers along with our global consultancy network ensure timely market entry whilst making sure all legal and contractual requirements are met.

### **EMC Directive 2004/108/EC**

The EMC Directive applies to equipment, which has two subsets: 'apparatus' and 'fixed installations'.

The essential requirements of the directive states that the equipment shall be designed and manufactured so that generated Electromagnetic disturbances do not interfere with other equipment. The equipment shall also have a level of immunity to Electromagnetic disturbances which allows it to operate without unacceptable degradation of its intended function.

### **Apparatus**

The new directive defines 'apparatus' as any finished appliance or combination thereof made commercially available as a single functional unit. The directive addresses the EMC compliance requirements for larger, complex apparatus which can be moved and used in various locations. It defines these as 'mobile installations'. The compliance requirements for mobile installations (e.g. Rolling Stock) are therefore the same as those for apparatus.

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TÜV SÜD operates in a wide range of industry sectors and utilise best practice from each in its rail projects. We assist manufacturers in fulfilling their mandatory obligations including the compilation of EMC Technical Documentation and performing EMC Assessments when harmonised standards cannot be applied in full (e.g. for Rolling Stock).

Although it is now at the manufacturer's discretion to involve an EMC Notified Body to assess all or part of his technical documentation, many continue to do so for the added value of third party review and the peace of mind this brings.

TÜV SÜD is one of the largest UK Notified Bodies (No.1895) designated under the EMC Directive. We assess client technical documentation with a view to issuing a Statement of Compliance in support of CE marking.



#### **Fixed Installations**

Many rail infrastructure projects (e.g. stations, depots, control centres etc) fall within the scope of the EMC Directive as a 'fixed installation'.

TÜV SÜD has managed EMC assurance issues for large infrastructure projects which have included signalling control centres and London Underground's largest train-care depot.

Once a project is complete, the appointed Responsible Person, as mandated by the Directive, must retain all documentation with the knowledge that good EMC engineering practices have been employed.

Our EMC Assurance Evidence Files provide sufficient evidence to demonstrate compliance and overall assurance for inclusion within the project's Safety Case.

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