

# **ATM – Guidance on the Application of the R&TTE Directive to ground-based Air Traffic Management radio equipment**

Air Traffic Management (ATM) ground-based radio equipment falls within the scope of the Radio Equipment and Telecommunication Terminal Directive 1999/5/EC<sup>1</sup> (the R&TTE Directive). This guidance note explains the overall measures that manufacturers and suppliers of such equipment shall take in order to ensure that the equipment is compliant with the R&TTE Directive.

## **Disclaimer**

*This guidance note is intended to serve as a manual for parties in the ATM sector directly or indirectly affected by the R&TTE Directive 1999/5/EC. It should assist in the interpretation of the Directive but cannot take its place; it gives only guidance to manufacturers and suppliers on some of the most important issues related to the application of the Directive in this area.*

*The guidance is based on the R&TTE Directive, on the “New Approach” as described in the “Blue Guide” and on informal agreements made in TCAM, the committee of the Directive. More general information on the application of the Directive is available in the Guide on the implementation of the R&TTE Directive<sup>2</sup>. The provisions of the New Legal Framework have not been taken into account. This guidance note will have to be reviewed accordingly at a later date.*

*The text of this guidance note is publicly available, but is not binding in the sense of a legal act. In the event of any inconsistency between the provisions of the R&TTE Directive or any other legal text and this Guide, the provisions of the legal text prevail.*

*Finally, attention is drawn to the fact that all references to the CE marking and EC Declaration of Conformity relate to the R&TTE Directive only and that the right to place a product on the EU single market only applies when all relevant legislation is complied with.*

## **Application of the R&TTE Directive to ground-based Air Traffic Management radio equipment**

In accordance with Article 1(4) and Point 6 of Annex I of the R&TTE Directive, the Directive did not initially apply to “Air-traffic-management equipment and systems within the meaning of Article 1 of Council Directive 93/65/EEC of 19 July 1993 on the

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<sup>1</sup> Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity.

<sup>2</sup> [http://ec.europa.eu/enterprise/sectors/rtte/documents/guidance/index\\_en.htm](http://ec.europa.eu/enterprise/sectors/rtte/documents/guidance/index_en.htm)

*definition and use of compatible technical specifications for the procurement of air-traffic-management equipment and systems”.*

On 20 October 2005, as a result of the repeal of Directive 93/65/EEC<sup>3</sup> by Regulation (EC) No 552/2004<sup>4</sup> (hereafter named “the Interoperability Regulation 552/2004”), which does not provide that references to the repealed Directive should be construed as references to the Regulation, this exclusion ceased to apply. Accordingly, from that date, the R&TTE Directive and its essential requirements apply to ground-based ATM equipment unless the equipment falls within other exclusion of the R&TTE Directive, in particular amongst the “*Products, appliances and components within the meaning of Article 2 of Council Regulation (EEC) No 3922/91 of 16 December 1991 on the harmonisation of technical requirements and administrative procedures in the field of civil aviation*”, as amended (see Point 5 in Annex I of the R&TTE Directive).

With regard to civil aviation safety, interoperability requirements of ATM equipment are covered by:

- the "Interoperability Regulation", Regulation (EC) No 552/2004, as amended by Regulation (EC) No 1070/2009, and including its implementing rules; and by
- the 'EASA Basic Regulation", Regulation (EC) No 216/2008<sup>5</sup>, as amended, and including its implementing rules.

As far as ground-based ATM equipment is concerned, the Interoperability Regulation and the EASA Basic Regulation are complementary to the R&TTE Directive.

Some Member States have additional requirements and/or administrative approval processes for these products. Manufacturers and suppliers are therefore advised to contact national authorities on aeronautical safety issues.

ATM ground-based radio equipment subject to the R&TTE Directive typically includes (but is not limited to) the following products:

- HF SSB Transmitter/Receiver
- VHF AM Transmitter/Receiver (25 kHz and 8.33 kHz Channel Spacing)
- VHF Data Link Mode 2 (D8PSK) - Transmitter/Receiver
- VHF Data Link Mode 4 (S-TDMA) - Transmitter/Receiver
- UHF AM Transmitter/Receiver

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<sup>3</sup> Council Directive 93/65/EEC of 19 July 1993 on the definition and use of compatible technical specifications for the procurement of air-traffic-management equipment and systems.

<sup>4</sup> Regulation (EC) No 552/2004 of the European Parliament and of the Council of 10 March 2004 on the interoperability of the European Air Traffic Management network.

<sup>5</sup> Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (Text with EEA relevance).

- VHF Data Broadcast - Transmitter/Receiver
- VHF Direction Finder (DF) - Receiver
- Non-Directional Beacon (NDB) - Transmitter
- ILS Glide slope - UHF - Transmitter
- ILS Localiser – VHF - Transmitter
- Marker Beacon – VHF - Transmitter
- Microwave Landing System (MLS)
- Conventional VHF Omni-Directional Range Beacon (CVOR) - Transmitter
- Doppler VHF Omni-Directional Range Beacon (DVOR) - Transmitter
- Distance Measuring Equipment (DME)
- Primary Radar 1,2 GHz
- Primary Radar 3 GHz
- Primary Radar 10 GHz
- Primary Radar 15 GHz
- Monopulse Secondary Surveillance Radar (MSSR)
- MSSR Mode S
- MSSR Site Monitor
- Advanced Surface Movement Guidance and Control System - Transmitter/Receiver

## **Essential Requirements of the R&TTE Directive**

Article 3 of the R&TTE Directive sets essential requirements, namely in the area of health and safety (Article 3(1)(a)), electromagnetic compatibility (Article 3(1)(b)) and radio spectrum usage (Article 3(2)). Radio spectrum matters are addressed only to the extent necessary to avoid harmful interference and ensure effective use of the spectrum. The Directive does not deal with sector specific requirements concerning functionality and functional safety, fitness for purpose or interoperability between systems. For ATM equipment, such matters are addressed under legislation specific to the aviation sector, in particular the Interoperability Regulation 552/2004 and the EASA-Regulation referred to above.

The following ETSI documents:

- ETSI TR 103 065 V1.1.1 (2010-12) “Aeronautical Communications; Classification of RF-parameters of ground-based Air Traffic Management-related radio equipment as being governed by R&TTE Directive or Single European Sky (SES) Interoperability Regulation” and
- Annex D of ETSI EG 201 399 V2.2.1 (2010-08) “Electromagnetic compatibility and Radio spectrum Matters (ERM); A guide to the production of Harmonized Standards for application under the R&TTE Directive”

provide an illustration of the scope of the R&TTE Directive in the area of ATM and of the relevant harmonised standards which may be applied by manufacturers. ETSI has published additional information on aeronautical radio communication and navigation matters with the aim of assisting manufacturers on its web site:

<http://www.etsi.org/WebSite/Technologies/Aeronautical.aspx>

### **Application of harmonised standards and other options to assess conformity with the essential requirements**

For some types of ground-based ATM equipment, harmonised standards in respect of Article 3 of the Directive are developed under standardisation mandate M/405<sup>6</sup> and are listed in the Official Journal of the European Union (OJEU) in the publication of titles and references of harmonised standards under the R&TTE Directive. The references of harmonised standards in the OJEU are available at:

[http://ec.europa.eu/enterprise/policies/european-standards/harmonised-standards/rte/index\\_en.htm](http://ec.europa.eu/enterprise/policies/european-standards/harmonised-standards/rte/index_en.htm)

In cases where relevant harmonised standards in respect of Article 3(2) of the Directive are not available or have not been fully applied, manufacturers must seek the opinion of a Notified Body. This may be done by seeking an opinion on a Technical Construction File (TCF) for each product type (Annex IV of the R&TTE Directive) or on the basis of a quality management system assessment by a notified body under the Full Quality Assurance (FQA) option (Annex V of the R&TTE Directive).

The list of notified bodies is available at:

[http://ec.europa.eu/enterprise/newapproach/nando/index.cfm?fuseaction=directive.notifiedbody&dir\\_id=22](http://ec.europa.eu/enterprise/newapproach/nando/index.cfm?fuseaction=directive.notifiedbody&dir_id=22)

In cases where relevant harmonised standards in respect of Article 3(2) of the Directive are not available, notified bodies can identify the essential radio test suites in respect of Article 3(2) of the R&TTE Directive on the basis of non-harmonised European standards (EN), applicable ITU and CEPT Recommendations and/or Annex 10 to the Convention on International Civil Aviation, as appropriate and applicable<sup>7,8</sup>.

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<sup>6</sup> [http://ec.europa.eu/enterprise/sectors/rte/documents/standards/index\\_en.htm](http://ec.europa.eu/enterprise/sectors/rte/documents/standards/index_en.htm)

<sup>7</sup> Under the ICAO convention, member states have the right to file differences to the provisions of ICAO annexes.

Compliance with Articles 3(1)(a) and 3(1)(b) of the R&TTE Directive can be established on the basis of available harmonised standards taking due account of the specific ATM environment, in particular ETSI EMC standard EN 301 489-22<sup>9</sup> with regard to Article 3(1)(b). Other technical criteria may be applied provided that compliance with Article 3(1) is ensured<sup>10</sup>.

Where appropriate harmonised standards are not available, then other technical criteria demonstrating compliance with Article 3.1 must be established. In all cases the opinion of the notified body may also advise whether or not the technical criteria selected and the resulting test outcomes form an adequate basis for compliance.

Note: compliance with the Interoperability Regulation 522/2004, the amended EASA-Regulation or other relevant aviation regulations is also required before aeronautical radio equipment can enter into service. These requirements apply separately from and in addition to the requirements that will be used by Notified Bodies to determine technical compliance with the R&TTE Directive but may be taken into account by them.

## **Radio Interface Specifications**

Each EU Member State publishes Radio Interface Specifications for the use of radio spectrum by ATM equipment in accordance with Article 4(1) of the R&TTE Directive. They are high level requirements which concern the efficient use of spectrum in the territory concerned and the associated licensing regime. Equipment must meet these requirements, including licensing, before it is put into service.

It is expected that radio interfaces for ATM products will be identical in all material respects. The Commission establishes the equivalence of relevant radio interfaces by way of defining equipment classes and publishing an indicative list of sub-classes, which is available at:

[http://ec.europa.eu/enterprise/sectors/rtte/documents/index\\_en.htm#h2-5](http://ec.europa.eu/enterprise/sectors/rtte/documents/index_en.htm#h2-5)

## **Additional information**

Information about the placing on the market of equipment within the scope of the R&TTE Directive is available on the Guide at:

[http://ec.europa.eu/enterprise/sectors/rtte/documents/guidance/index\\_en.htm](http://ec.europa.eu/enterprise/sectors/rtte/documents/guidance/index_en.htm)

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<sup>8</sup> Compliance with (global) Annex 10- requirements does not necessarily mean that ground-based ATM equipment complies with regionally applicable legal provisions such as the R&TTE Directive; compliance with non-European legal provisions, e.g. FCC-rules, does by no means imply compliance with the R&TTE Directive.

<sup>9</sup> ETSI EN 301 489-22 "Electromagnetic compatibility and Radio Spectrum Matters (ERM); Electro Magnetic Compatibility (EMC) standard for radio equipment and services; Part 22: Specific requirements for ground-based VHF aeronautical mobile and fixed radio equipment".

<sup>10</sup> See Annex II of the Directive

The more general 'Blue Guide' on the single market for products is available at:

[http://ec.europa.eu/enterprise/policies/single-market-goods/documents/internal-market-for-products/new-legislative-framework/index\\_en.htm#h2-3](http://ec.europa.eu/enterprise/policies/single-market-goods/documents/internal-market-for-products/new-legislative-framework/index_en.htm#h2-3)