Regulatory aspects of remote tower operations in Europe

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Remote Aerodrome ATS in Europe

→ Presentation contents

  → The EU system, roles and responsibilities

  → The principles of the EASA functional regulation

  → The EASA remote towers regulation, philosophy and principles

  → Experiences from remote towers in the EU

  → The presentation is simplified, it is a generic view and does not go in to details.

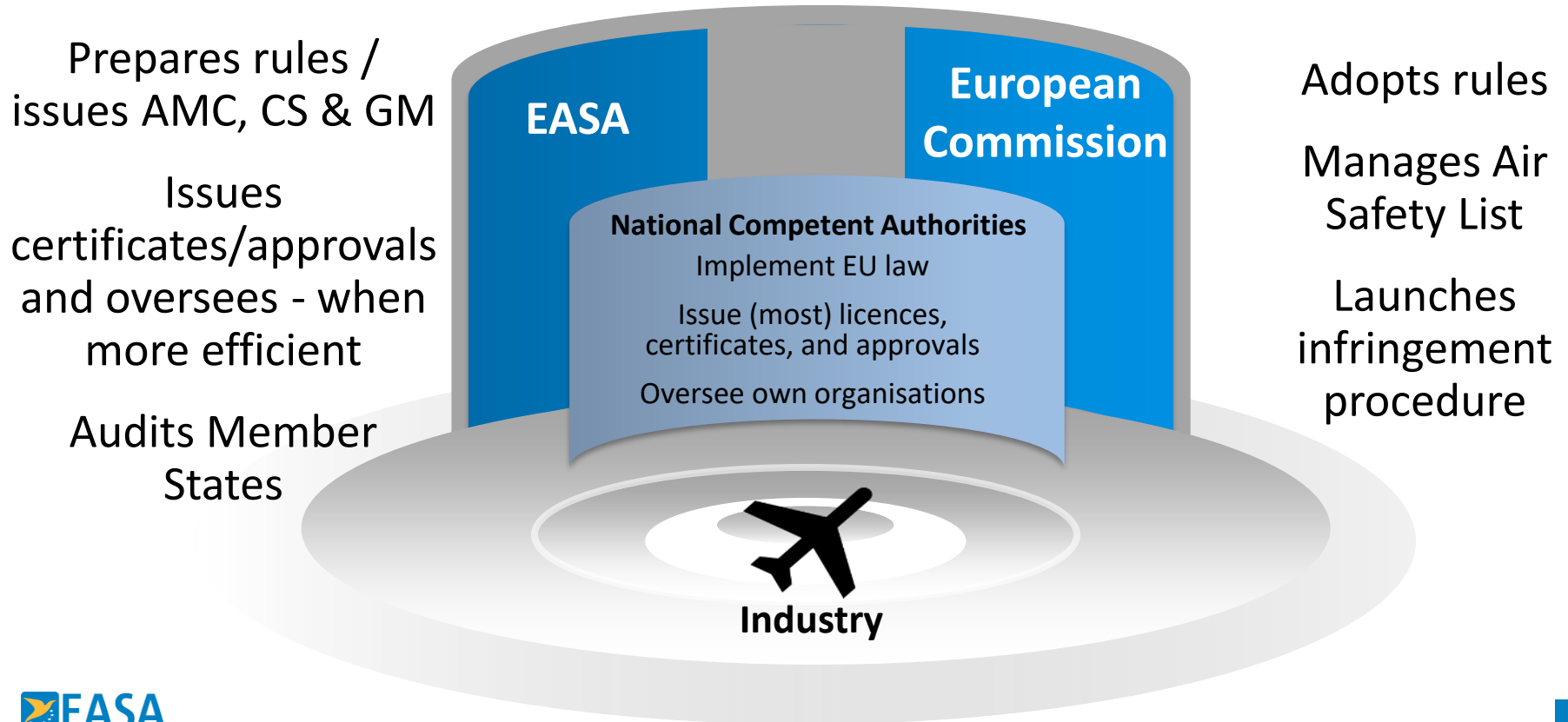# Remote Aerodrome ATS in Europe

→ Current status

  → Remote Aerodrome ATS has been in operational use for several years.

  → Remote towers are used both for ATC and AFIS.

  → Remote towers are used both for primary service and as backup.

  → Two new airports have opened with Remote ATS from day one.

  → Further developments are ongoing, and the technology has improved over the years.

  → The biggest change currently being worked on is multiple service provision.

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Building blocks of the EU regulatory framework

The EU framework is mainly functional regulation, divided into three different levels, "hard law", "soft law", and "guidance".

Implementing Rules	Acceptable Means of Compliance	Certification Specifications	Guidance Material
• Adopted through the EU legal process • "Hard law" • Compulsory	• Adopted by EASA • "Soft law" • Alternatives possible	• Adopted by EASA • "Soft law" • Alternatives possible	• Adopted by EASA • Not binding, pure guidance

The EU system

Prepares rules / issues AMC, CS & GM

Issues certificates/approvals and oversees - when more efficient

Audits Member States

EASA

European Commission

National Competent Authorities

Implement EU law

Issue (most) licences, certificates, and approvals

Oversee own organisations

Industry

Adopts rules

Manages Air Safety List

Launches infringement procedure

Functional regulation, principles and philosophy

- The EU regulations put more generic requirements into "hard" law, and more detailed ones into "soft" law.
- This provides flexibility in how the law is implemented.
- This requires high competence for both ANSP and NCA staff.

ATS.OR.415 Aeronautical mobile service (air-ground communications) – area control service

Commission Implementing Regulation (EU) 2020/469

An air traffic services provider shall ensure that air-ground communication facilities enable two-way communications to take place between a unit providing area control service and appropriately equipped aircraft flying anywhere within the control area or areas.

AMC1 ATS.OR.415 Aeronautical mobile service (air-ground communications) — area control service

ED Decision 2020/008/R

Whenever practicable, air-ground communication facilities for area control service should permit direct, rapid, continuous and static-free two-way communications.
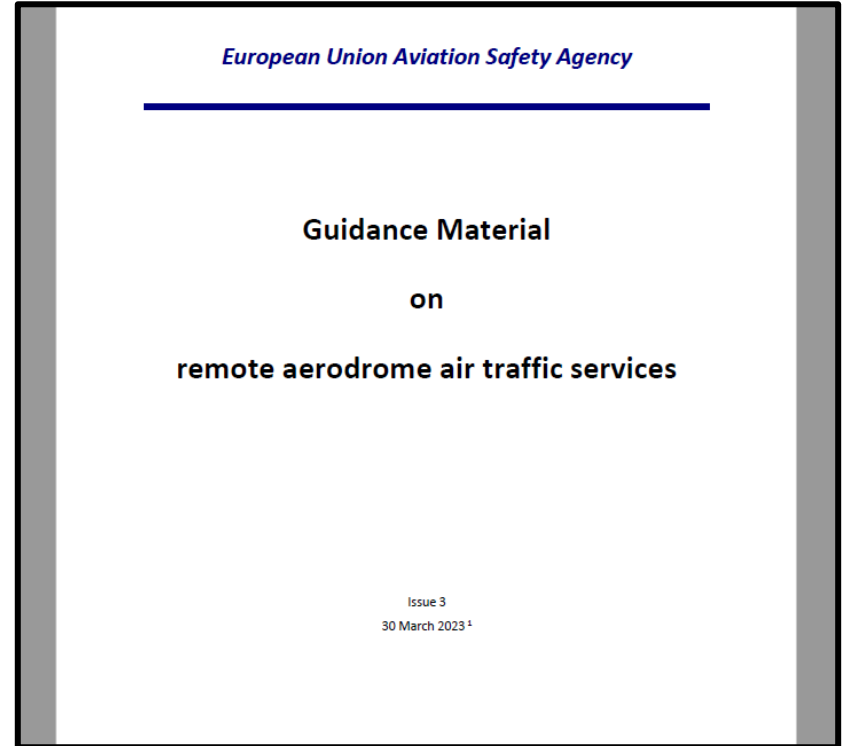
GM1 ATS.OR.415 Aeronautical mobile service (air-ground communications) — area control service

ED Decision 2020/008/R

Where air-ground voice communication channels are used for area control service by air-ground communicators, suitable arrangements should be made to permit direct pilot-controller voice communications, as and when required.

The EASA Remote Tower Regulation

- EASA has published a stand-alone guidance material for remote towers.
- This has been updated twice, with version 3 being published in March 2023.
- The guidance material covers both transition to R-TWR and operation of a R-TWR.
- It is a guidance material, and not binding regulation.

European Union Aviation Safety Agency

Guidance Material

on

remote aerodrome air traffic services

Issue 3
30 March 2023 [1]

The EASA Remote Towers Regulation

- EASA considers that remote towers provide aerodrome ATS under the same regulations as conventional towers.
- This means that Remote towers do not have separate regulation, they follow the same rules as conventional towers. We took this decision on purpose.
- This does not mean that remote towers are the same as conventional towers, but the regulatory background is the same.
- The baseline is the provisions on ATS provision and change management. These are in the ATM/ANS regulation (EU) 2017/373.

The EASA Guidance Material

→ The GM is a public document and is available on the EASA website.

→ The document is structured into chapters relating to various relevant areas such as:

  → Operational context,

  → Operational and systems considerations,

  → Management of change,

  → Qualification, training and licensing considerations

Scope of the Guidance Material

→ The intention of the guidance was to gather experiences and knowledge wider than the usual regulatory scope.

→ The GM therefore contains sections on, for example, socio-economic factors, and other relevant topics that may not be covered under the normal regulatory scope.

→ The GM provides guidance, but each project is unique and has to consider the relevant local circumstances.

→ The GM does not consider any national regulation or requirement that may exist above the EU regulations.

Experiences, degraded modes

- R-TWR degrades differently from conventional towers. Because of the integrated nature of the equipment.

- Experience has been used from flight deck design and error management.

- Modern systems can use colour coding and error classification, to aid the controllers in taking initial action.
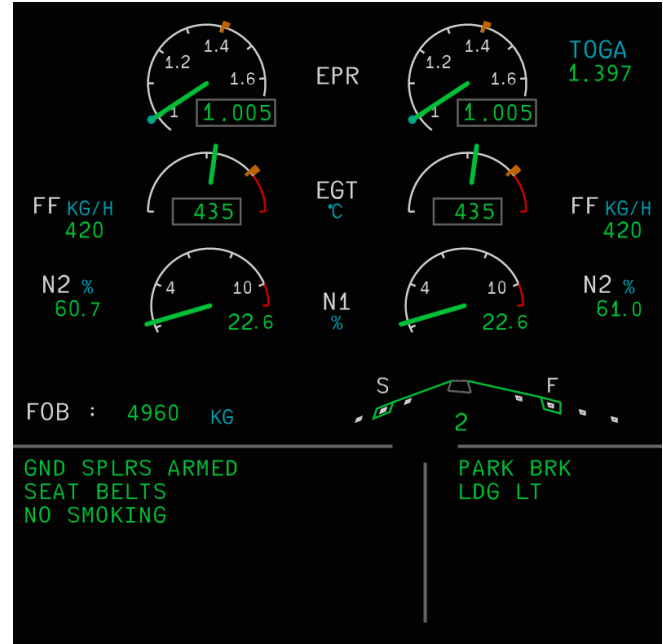
Picture from Wikimedia Commons

Experiences, human factors

Pictures from DFS Deutsche Flugsicherung GmbH

Experiences, running the unit

- Especially when running a center with several remote towers, the unit is often organised more like an ACC than a tower.
- Manuals can be done with standardised procedures and small local supplements, similar to an ACC with sector specific instructions.
- There may be one operational supervisor for the entire RTC.
- Administration is normally done with centralised staff, like in an ACC.
- A key difference from an ACC is that the airports are still different airports with different competencies. There is less much less similarity between them than between different ACC sectors.

Experiences, competent authority staff

→ Also in the competent authority remote towers can be a significant challenge, as they are a new and unknown to most inspectors.

→ Many competent authorities work with a core team of inspectors that work with remote towers, with different backgrounds.

→ This said, there is also benefit to not isolate the remote tower experts, as there is very few regulatory differences between them and other changes.

→ Many EU NCAs participate in international groups and cooperate with each other to draw on experiences and best practices.

Summary and key points

→ The EU system is diversified and based on functional regulation. The main benefit of this is increased flexibility, but it requires a high level of competence both in ANSP and NCA staff.

→ Remote towers are providing the same ATC service as conventional ones, but using different tools and sometimes under different circumstances.

→ The regulatory framework is almost identical for remote and conventional towers.

→ The use of guidance material is a conscious decision, which enables a high level of flexibility and adaptability in how remote towers are used.

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Thank you for your attention!