

OPERATIONS ADVISORY NOTICE (OAN)		 Transport Malta Civil Aviation Directorate Flight Operations Inspectorate Transport Malta Malta Transport Centre Pantar Road Lija LJA 2021 Malta
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1.0 INTRODUCTION

This OAN is an advance notice to all affected operators on the requirement to ensure that the requirements established in CAT.GEN.MPA.205 and CAT.IDE.A.285 as implemented by Commission Regulation (EU) 2015/2338 of 11 December 2015, amending Regulation (EU) No. 965/2012 as regards requirements for flight recorders, underwater locating devices and aircraft tracking systems.

This notice rescinds and replaces OAN 06/17.

1.1 Background

1.1.1 Aircraft Tracking Systems

Aircraft tracking systems are meant to prevent circumstances such as those after the disappearance of the Malaysian Airlines flight MH370 on 8 March 2014, where all communications with the aeroplane and its track were lost abruptly. For two weeks, search and rescue (SAR) efforts were focused on an area close to where the aeroplane was last detected by air traffic control (ATC) surveillance systems, while in fact it had most probably kept flying for several hours after being lost. In addition, a very rough determination of the probable flight path of the aeroplane in the last six hours of the flight was only made possible thanks to the analysis of logon messages exchanged automatically between the aeroplane and the satellites of the telecommunication service provider every hour.

The only physical evidence of the aeroplane was floating debris, which was found more than a year after the accident. After having explored 120 000 square kilometres of the sea floor, the Australian and Chinese authorities decided to stop the underwater search operations. To this date, the location of the aircraft wreckage is unknown and this accident remains unexplained. This highlights the need to permanently track commercial air transport (CAT) flights, even beyond radar coverage, so that an alert can be triggered quickly in case of an abnormal situation. Hence, Annex IV (Part-CAT) to Commission Regulation (EU) No 965/2012 CAT.GEN.MPA.205 requires that operators of large aeroplanes establish, as part of the system for exercising operational control over the flight, an aircraft tracking system.

1.1.2 Underwater Locating Devices (ULD's)

Point CAT.IDE.A.285 (f) requires some categories of large aeroplanes to be fitted by 1 January 2019 with a ULD that operates at a frequency of 8.8 kHz±1 kHz (hereafter called '8.8 kHz ULD').

However, this ULD is not required to be installed if the aeroplane is equipped with '*robust and automatic means to accurately determine, following an accident where the aeroplane is severely damaged, the location of the point of end of flight*' (refer to point CAT.IDE.A.285 (f) (2)). Point CAT.IDE.A.285 (f) (2) actually refers to CAT.GEN.MPA.210 '*Location of an aircraft in distress — Aeroplanes*' in a non-explicit manner.

Since confusion with the emergency locator transmitter (ELT) required by CAT.IDE.A.280 is possible EASA will issue AMC's and GM's to clarify the requirements.

2.0 APPLICABILITY

2.1 Aircraft Tracking Systems (CAT.GEN.MPA.205)

By **16 December 2018** at the latest, the operator shall establish and maintain, as part of the system for exercising operational control over the flights, an aircraft tracking system, which includes the flights eligible to (b) when performed with the following aeroplanes:

- (1) aeroplanes with an MCTOM of more than 27 000 kg, with an MOPSC of more than 19, and first issued with an individual CofA before 16 December 2018, which are equipped with a capability to provide a position additional to the secondary surveillance radar transponder;
- (2) all aeroplanes with an MCTOM of more than 27 000 kg, with an MOPSC of more than 19, and first issued with an individual CofA on or after 16 December 2018; and
- (3) all aeroplanes with an MCTOM of more than 45 500 kg and first issued with an individual CofA on or after 16 December 2018.

2.2 ULD (CAT.IDE.A.285 (f))

By **1 January 2019** at the latest, aeroplanes with an MCTOM of more than 27 000 kg **and** with an MOPSC of more than 19 **and** all aeroplanes with an MCTOM of more than 45 500 kg shall be fitted with a securely attached underwater locating device that operates at a frequency of 8,8 kHz \pm 1 kHz, unless:

- (1) the aeroplane is operated over routes on which it is at no point at a distance of more than 180 NM from the shore; or
- (2) the aeroplane is equipped with robust and automatic means to accurately determine, following an accident where the aeroplane is severely damaged, the location of the point of end of flight.

3.0 ADDITIONAL GUIDANCE

EASA published AMC and GM to CAT.GEN.MPA.205. This AMC details the minimum conditions on the aircraft tracking equipment, the performance of the position reporting function, the recording of the aircraft tracking data and the procedures associated with the aircraft tracking system.

Guidance Material to CAT.IDE.A.285 provides the necessary explanation to correctly interpret point IDE.A.285 (f) (2), which as stated in 1.1.2 refers to the requirement of CAT.GEN.MPA.210.

3.1 ICAO Guidance Material

Operator may refer to ICAO Circular 347, Aircraft Tracking Implementation Guidance for Operators and Civil Aviation Authorities. However operators are urged to treat this information with caution as certain structural differences between ICAO SARPs and EASA regulations exist.

3.2 Summary of IR's related to aeroplane location

Appendix 1 provides a quick summary of IR's related to aeroplane location. The following points summarise the requirements;

- ELT carriage requirements (in CAT.IDE.A.280, NCC.IDE.A.215, SPO.IDE.A.190);
- The replacement of flight recorders ULDs with ULDs having a minimum transmission time of 90 days (in CAT.IDE.A.185, CAT.IDE.A.190, NCC.IDE.A.160, NCC.IDE.A.165, SPO.IDE.A.140, and SPO.IDE.A.145);
- The fitting of large aeroplanes overflying oceanic areas with an 8.8 kHz ULD attached to the airframe, or alternatively with robust and automatic means to locate the point of end of flight in case of an accident (in CAT.IDE.A.285);
- Aircraft tracking for large aeroplanes (in CAT.GEN.MPA.205); and
- Robust and automatic means to locate the point of end of flight in case of an accident for future large aeroplanes (in CAT.GEN.MPA.210).

4.0 ACTION BY OPERATORS

All affected commercial aircraft operators are advised to take note of the new requirements in a timely manner to ensure implementation of the procedures or installations of any additional equipment are done before the stipulated time frames.

4.1 Management of Change

Affected operators are expected to manage the implication of these regulatory changes through their management system.

The case should detail how the following gaps/risks are mitigated;

- Equipment requirements and upgrade timelines;
- Operational / flight crew personnel procedure updates, and/or new training requirements;

- Consideration should also be given in the operator's implementation plan to developing the risk management component that would ultimately interface with the aircraft tracking component(s) as well as with the SMS (as applicable) and quality systems. This integration would in turn ensure that future aircraft tracking systems, processes and activities are subjected to the organization's overarching safety and quality assurance processes.

4.2 Airborne aircraft tracking capability

Operators may refer to table 2-1 in ICAO Circular 347 for methods and suitability of tracking requirements.

4.3 Aircraft tracking responsibilities

It is recommended that operators analyse their current and future possible routes to ensure the provisions of the requirement are met. Operators may refer to GM2 CAT.GEN.MPA.205 to determine whether specific flights need to be tracked.

Appendix 2 to this OAN provides a broad guideline provided by Eurocontrol that show coverage of ATC surveillance systems in European Airspace. **Note – it is the operator's responsibility to ensure to check area coverage through appropriate means (e.g. AIP's and other ANSP information).**

4.4 Compliance Monitoring & OM Amendments

Compliance monitoring procedures shall cover the new provisions in the audit plans and evidence of this implementation check shall be kept on file.

OM and other document processes shall be submitted to the flight operations inspectorate in the approved form. This change does not require prior approval.

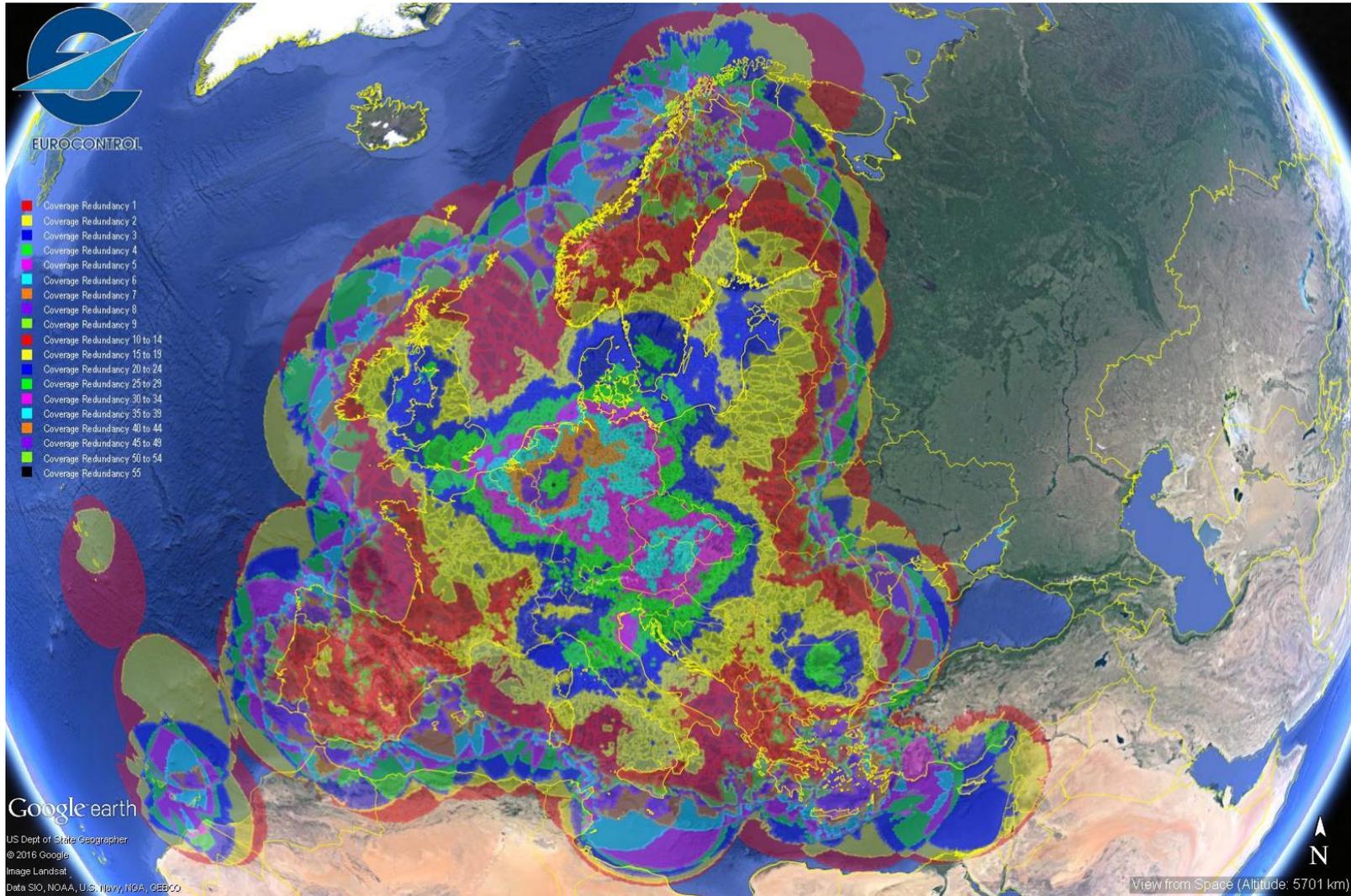
Flight Operations Inspectorate

APPENDIX 1 SUMMARY OF IMPLEMENTING RULES RELATED TO LOCATING AN AEROPLANE

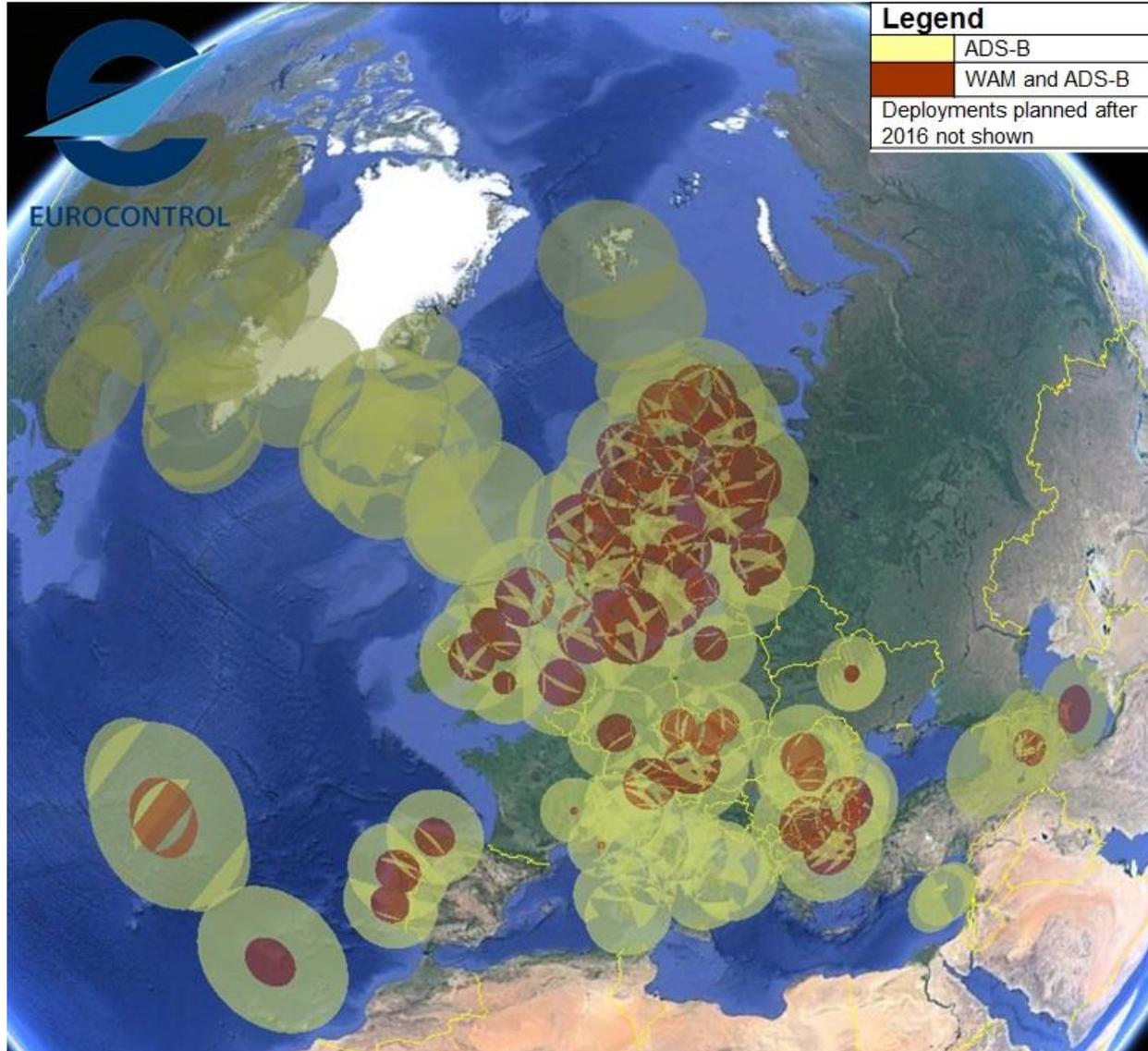
Aircraft considered	Before 16 June 2018	After 16 June 2018	After 16 December 2018	After 1 January 2019	After 1 January 2020	After 1 January 2021	Comments
Aeroplanes operated under Part-NCC or Part-SPO and required to carry a flight recorder (flight data recorder (FDR) and/or CVR)	ELT carriage requirements			ELT carriage requirements + 90-day flight recorders' ULDs			90-day ULDs carriage is mandatory only if the aeroplane is required to carry a flight recorder.
<p>Aeroplanes:</p> <ul style="list-style-type: none"> • operated under Part-CAT: <ul style="list-style-type: none"> ○ with an MCTOM of less than 27 000 kg or ○ with an MCTOM of less than 45 500 kg and an MOPSC of 19 or less, and • required to carry a flight recorder (FDR and/or CVR) 	ELT carriage requirements	ELT carriage requirements + 90-day flight recorders' ULDs					Typically, aeroplanes operated for CAT and with an MCTOM between 5 700 kg and 27 000 kg, and business jets.
<p>Aeroplanes:</p> <ul style="list-style-type: none"> • operated under Part-CAT: <ul style="list-style-type: none"> ○ with an MCTOM of over 27 000 kg and an MOPSC of more than 19, or ○ with an MCTOM of over 45 500 kg, • manufactured before 16 December 2018, and • with no aircraft tracking capability additional to the transponder 	ELT carriage requirements	ELT carriage requirements + 90-day flight recorders' ULDs	ELT carriage requirements + 90-day flight recorders' ULDs + 8.8 kHz ULD (or robust means to accurately locate an accident) if the aircraft flies farther than 180 NM from seashores				Typically, short-haul jet aeroplanes performing scheduled passenger operations. All aeroplanes in this category are required to carry an FDR and a CVR.

Aircraft considered	Before 16 June 2018	After 16 June 2018	After 16 December 2018	After 1 January 2019	After 1 January 2020	After 1 January 2021	Comments
<p>Aeroplanes:</p> <ul style="list-style-type: none"> • operated under Part-CAT: <ul style="list-style-type: none"> ○ with an MCTOM of over 27 000 kg and an MOPSC of more than 19, or ○ with an MCTOM of over 45 500 kg, • which have an aircraft tracking capability additional to the transponder or which are manufactured between 16 December 2018 and 1 January 2021 	ELT carriage requirements	ELT carriage requirements + 90-day flight recorders' ULDs	ELT carriage requirements + 90-day flight recorders' ULDs + aircraft tracking (except if operated in airspace covered by ATS)	ELT carriage requirements + 90-day flight recorders' ULDs + aircraft tracking (except if operated in airspace covered by ATS)	ELT carriage requirements + 90-day flight recorders' ULDs + aircraft tracking (except if operated in airspace covered by ATS)	ELT carriage requirements + 90-day flight recorders' ULDs + aircraft tracking (except if operated in airspace covered by ATS) + 8.8 kHz ULD (or robust means to accurately locate an accident) if the aircraft flies farther than 180 NM from seashores	Typically long-haul jet aeroplanes performing scheduled passenger operations are already fitted with a satellite communication system.
<p>Aeroplanes:</p> <ul style="list-style-type: none"> • operated under Part-CAT, <ul style="list-style-type: none"> ○ an MCTOM of over 27 000 kg and an MOPSC of more than 19, or ○ an MCTOM of over 45 500 kg, • which are manufactured after 1 January 2021. 	N/A					ELT carriage requirements (one automatic ELT may be substituted) + 90-day flight recorders' ULDs + aircraft tracking (except if operated in airspace covered by ATS) + robust means to accurately locate an accident.	Several solutions are possible for the robust means to accurately locate an accident. Carriage of an 8.8 kHz ULD and of an automatic ELT is not required any more.

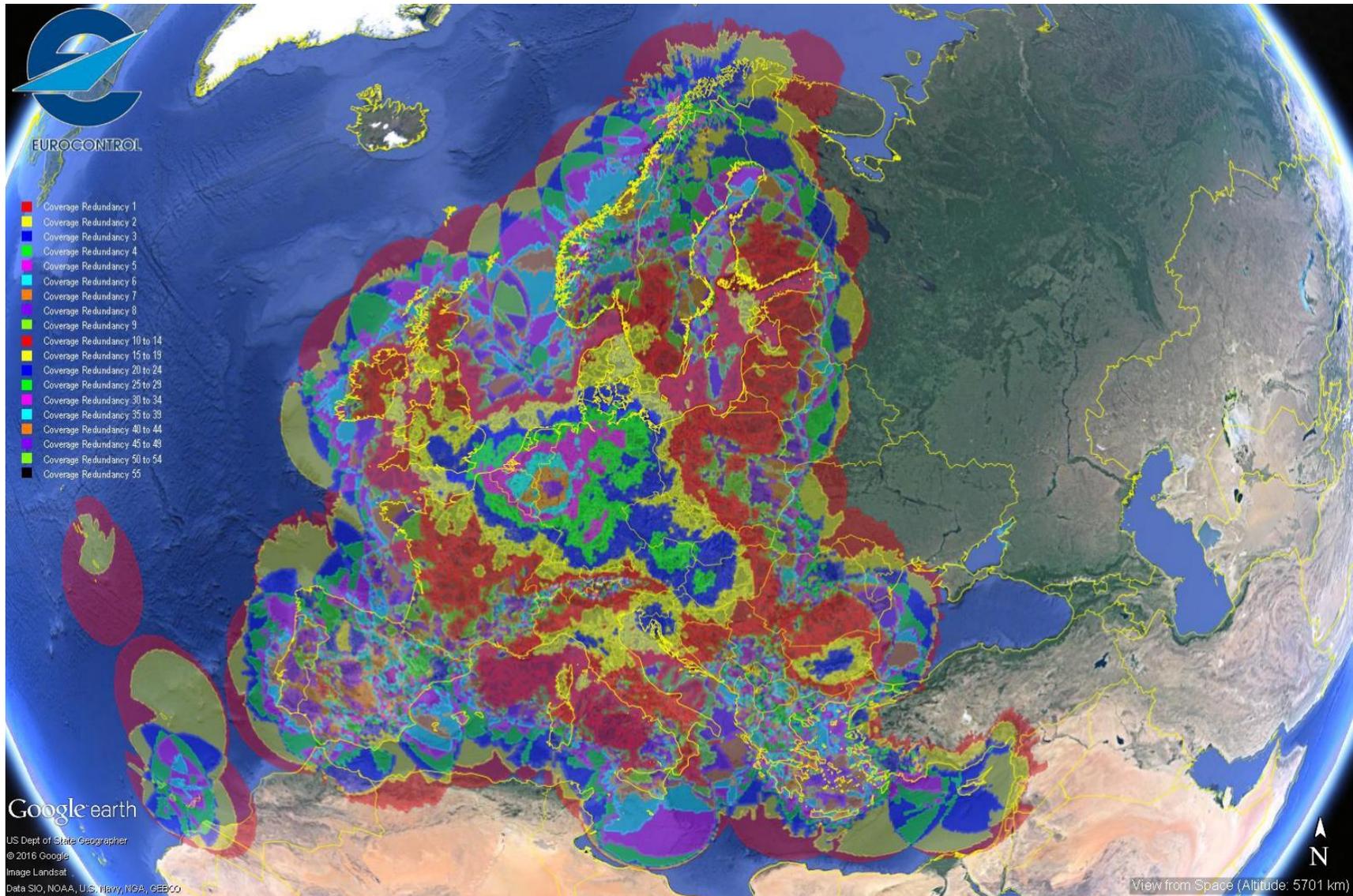
APPENDIX 2 MODE-S AND SSR COVERAGE AT 30 000 FT ABOVE SEA LEVEL (ASL) IN THE EUROPEAN AREA (APRIL 2016) — SOURCE: EUROCONTROL



COVERAGE BY ADS-B AND WAM AT 30 000 FT ASL IN THE EUROPEAN AREA (DEPLOYED IN 2016) — SOURCE: EUROCONTROL



MODE-S AND SSR COVERAGE AT 15 000 FT ASL IN THE EUROPEAN AREA (APRIL 2016) — SOURCE: EUROCONTROL



COVERAGE BY ADS-B AND WAM AT 15 000 FT ASL IN THE EUROPEAN AREA (DEPLOYED IN 2016) — SOURCE: EUROCONTROL

