Meteosat Data Collection Systems

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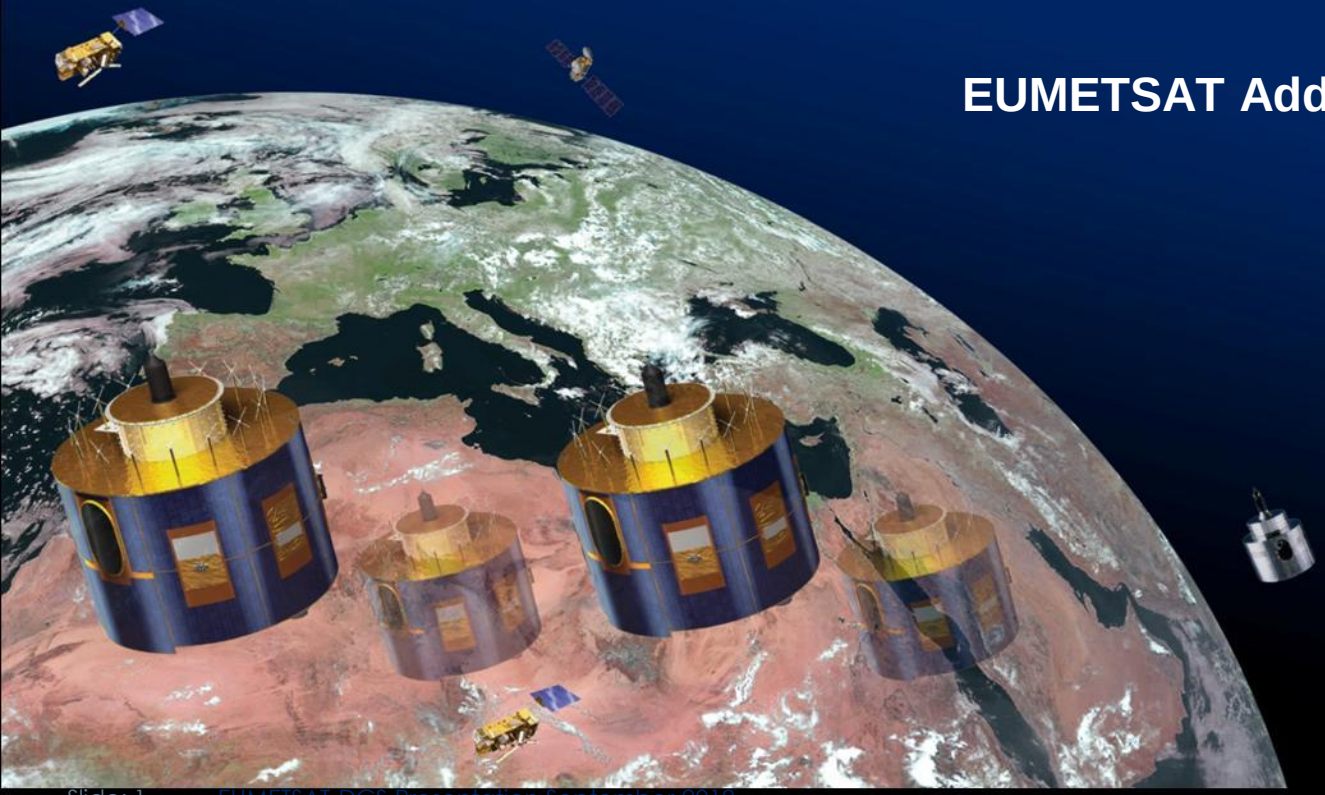
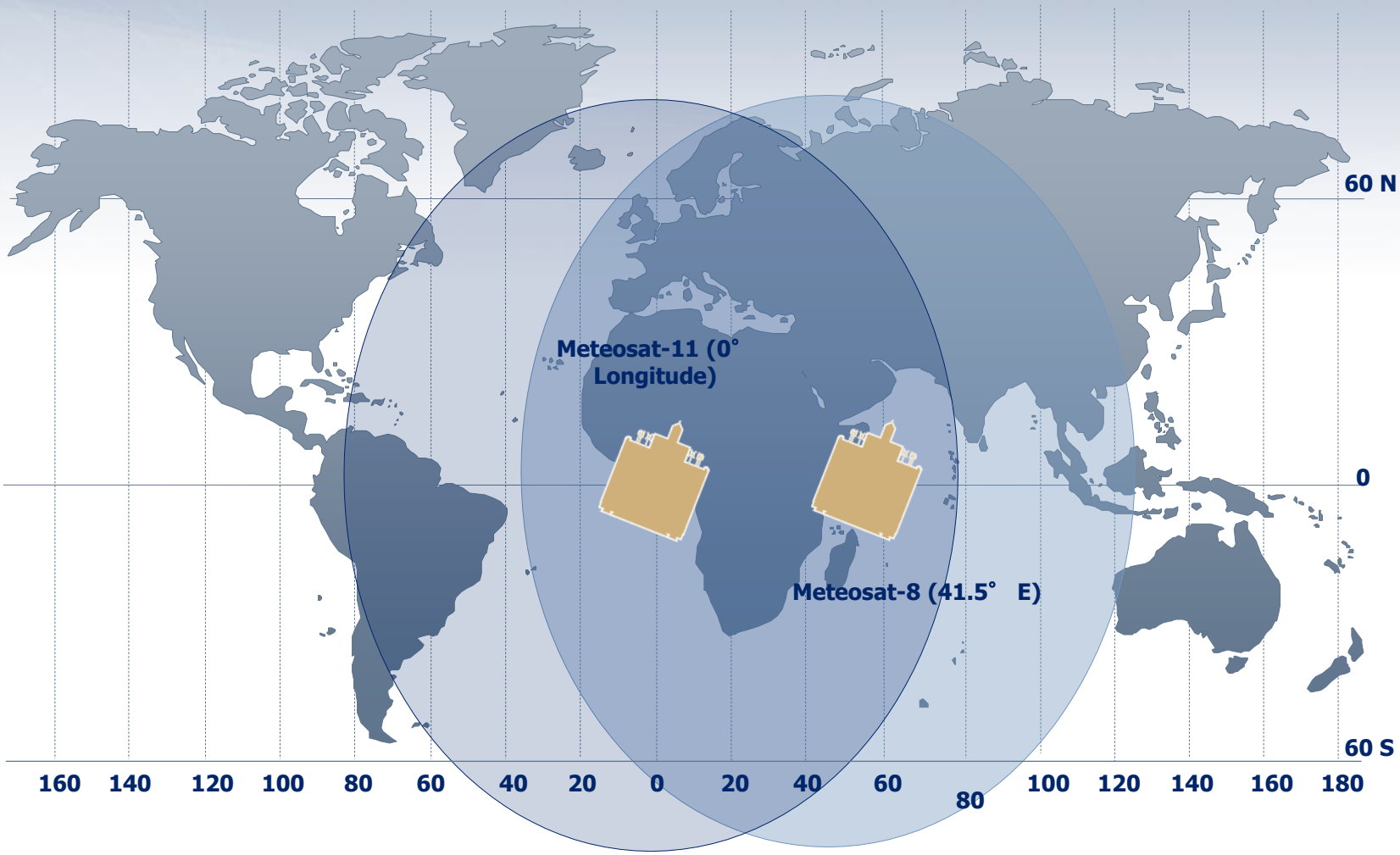
EUMETSAT Additional Data Services Manager



Total Meteosat DCS System Coverage



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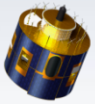
Meteosat Mission Planning

YEAR... 03 04 05 06 07 08 09 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40



METEOSAT SECOND GENERATION

METEOSAT-8

METEOSAT-9

METEOSAT-10

METEOSAT-11

METEOSAT THIRD GENERATION

MTG-I-1 : IMAGERY

MTG-S-1: SOUNDING

MTG-I-2: IMAGERY

MTG-I-3: IMAGERY

MTG-S-2: SOUNDING

MTG-I-4: IMAGERY

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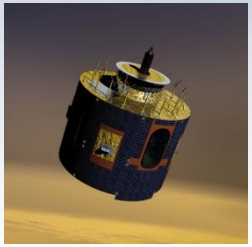
DCS System Overview - DCP Data Flow



DCP messages

DCP messages

MTP Fucino

DCP messages

DCPF

DCP messages & auxdata

Internet

DCP messages & auxdata

DCP messages

EUMETCast

DCP messages

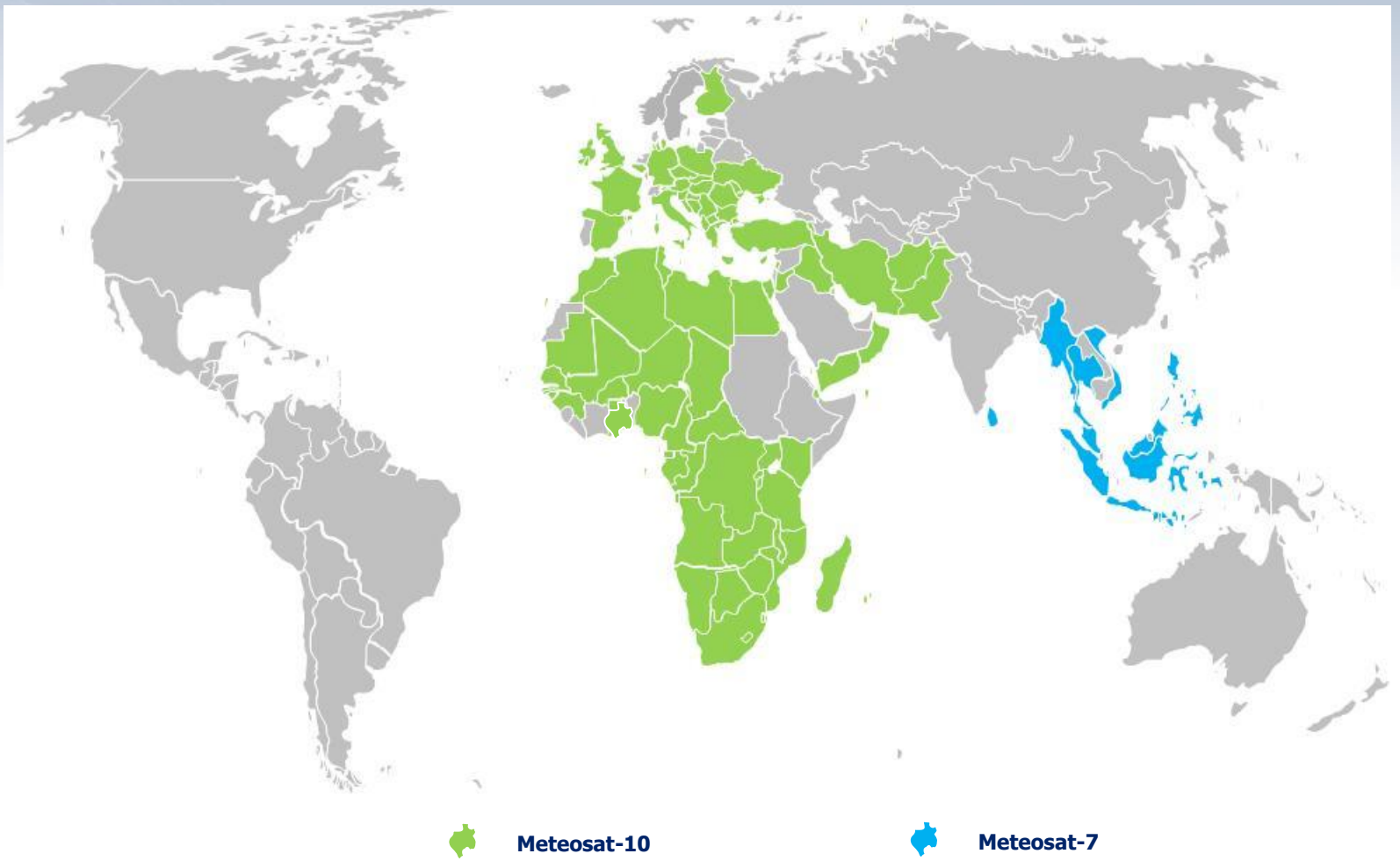
DCP Bulletins

GTS DWD Offenbach

GTS DCP Bulletins

EUMETSAT

DCP Users by country



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DCS – Users (approximately)

- Number of Operators – 120
- Number of Countries – 66 (Europe, Africa, Asia)
- Number of allocated Regional DCPs – 1200
- Number of DCPs transmitting – 650

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Table 1: Comparison of characteristics of current standard DCPs with high-rate DCPs

Standard and High Rate DCPs

- The current Meteosat Data Collection System supports 100bps 'Standard' Rate DCPs and 1200bps 'High Rate' DCPs

- Both Standard and High Rate will be supported for the foreseeable future

- **The first HRDCP was certified in March 2015 (Signal Engineering), HRDCPs also certified from (Microcom, Sutron, SciSys (prototype))**

DCP on the GTS

The WMO defines the ‘Global Telecommunication System’ (GTS) as: "The co-ordinated global system of telecommunication facilities and arrangements for the rapid collection, exchange and distribution of observations and processed information within the framework of the World Weather Watch.“

All DCPs are inserted onto the GTS as bulletins. These are available to any users connected to the GTS.

http://www.wmo.int/pages/prog/www/TEM/GTS/index_en.html

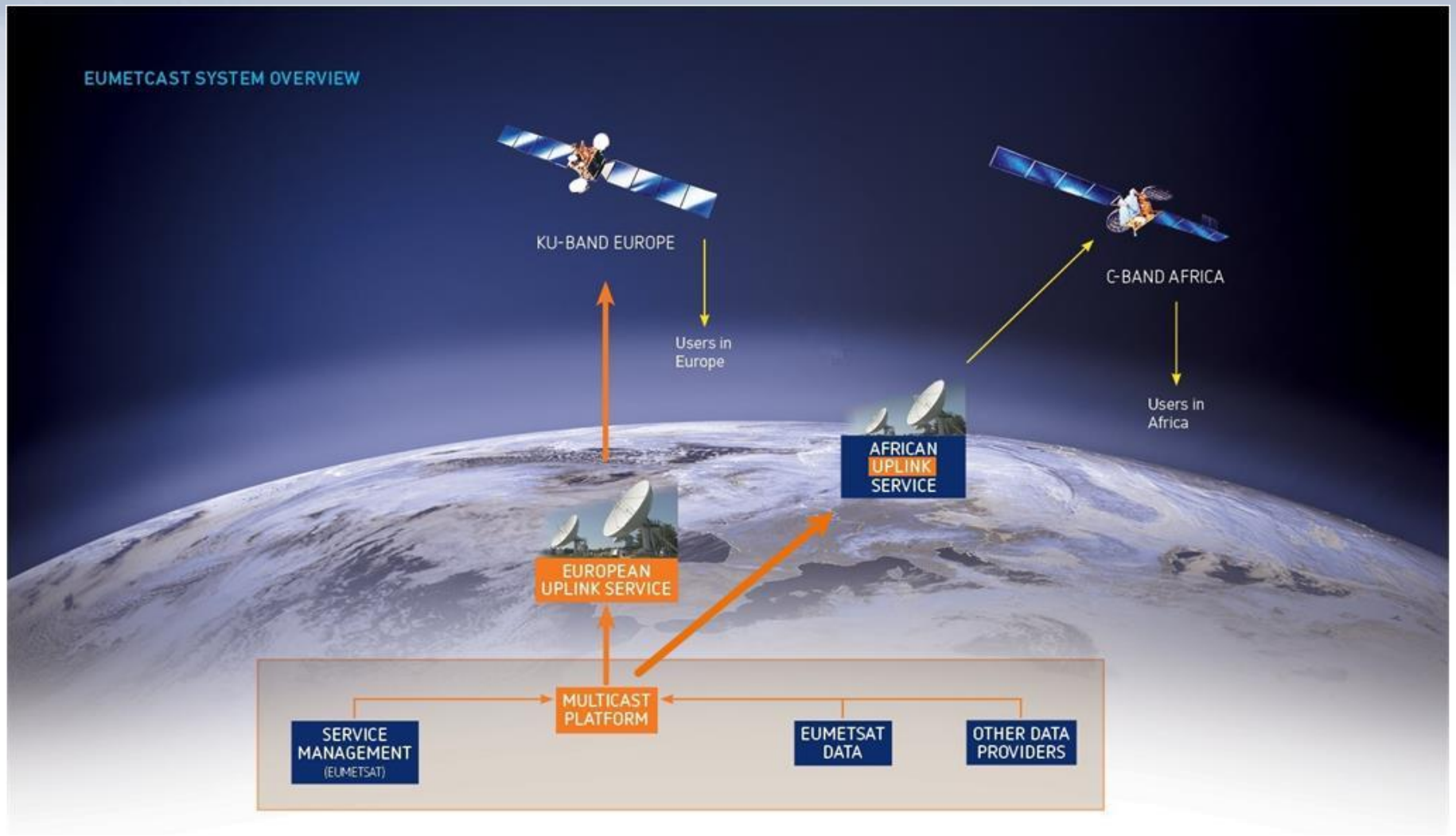
DCP on the WEB

EUMETSAT provide access to DCPs via a web portal. This is available to all registered DCP operators.

It allows the DCP messages to be viewed and downloaded.

EUMETSAT are now implementing a new version of the web portal.

DCP via – EUMETCast



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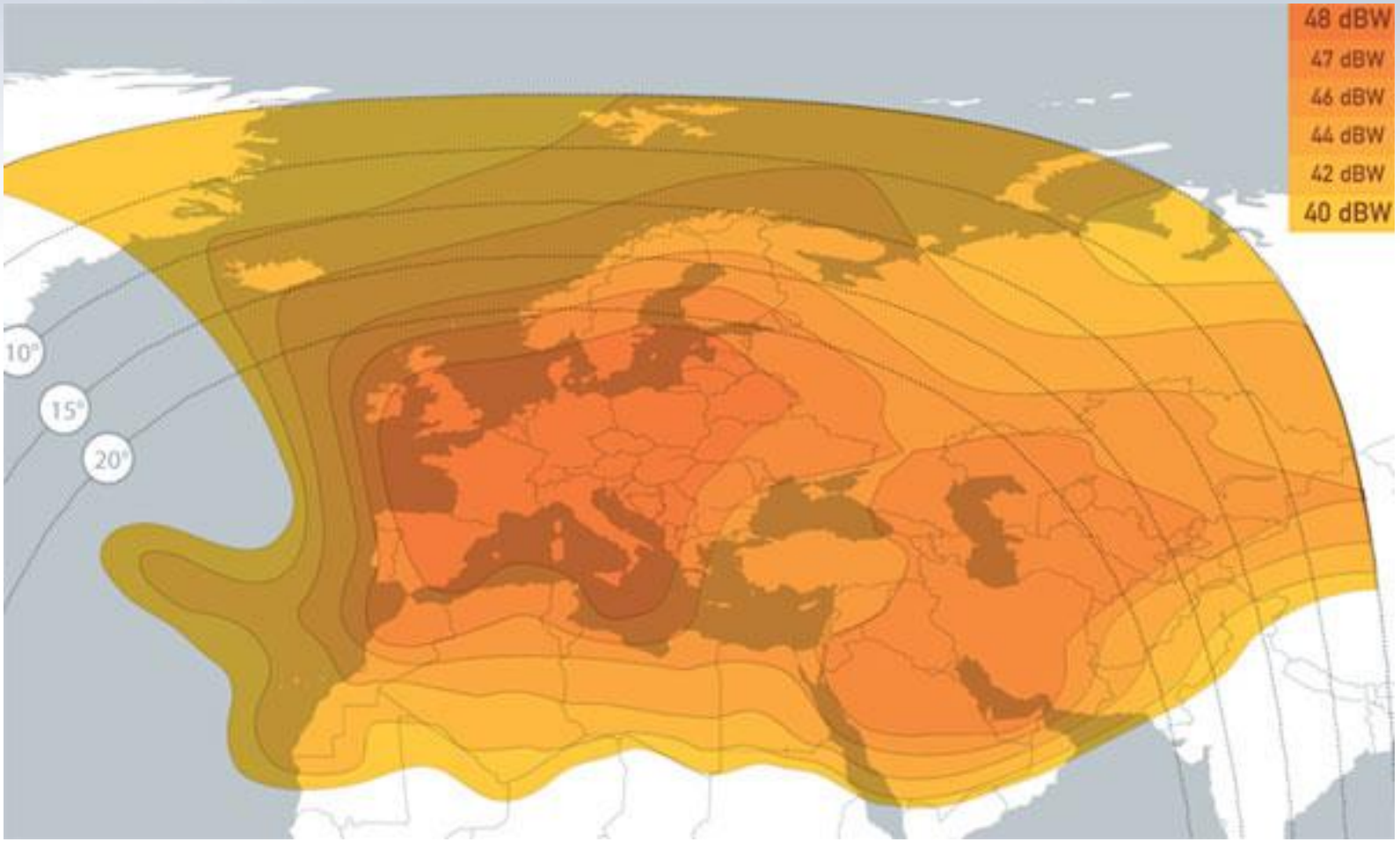
DCS – EUMETCast Europe Coverage

EUTELSAT 10A



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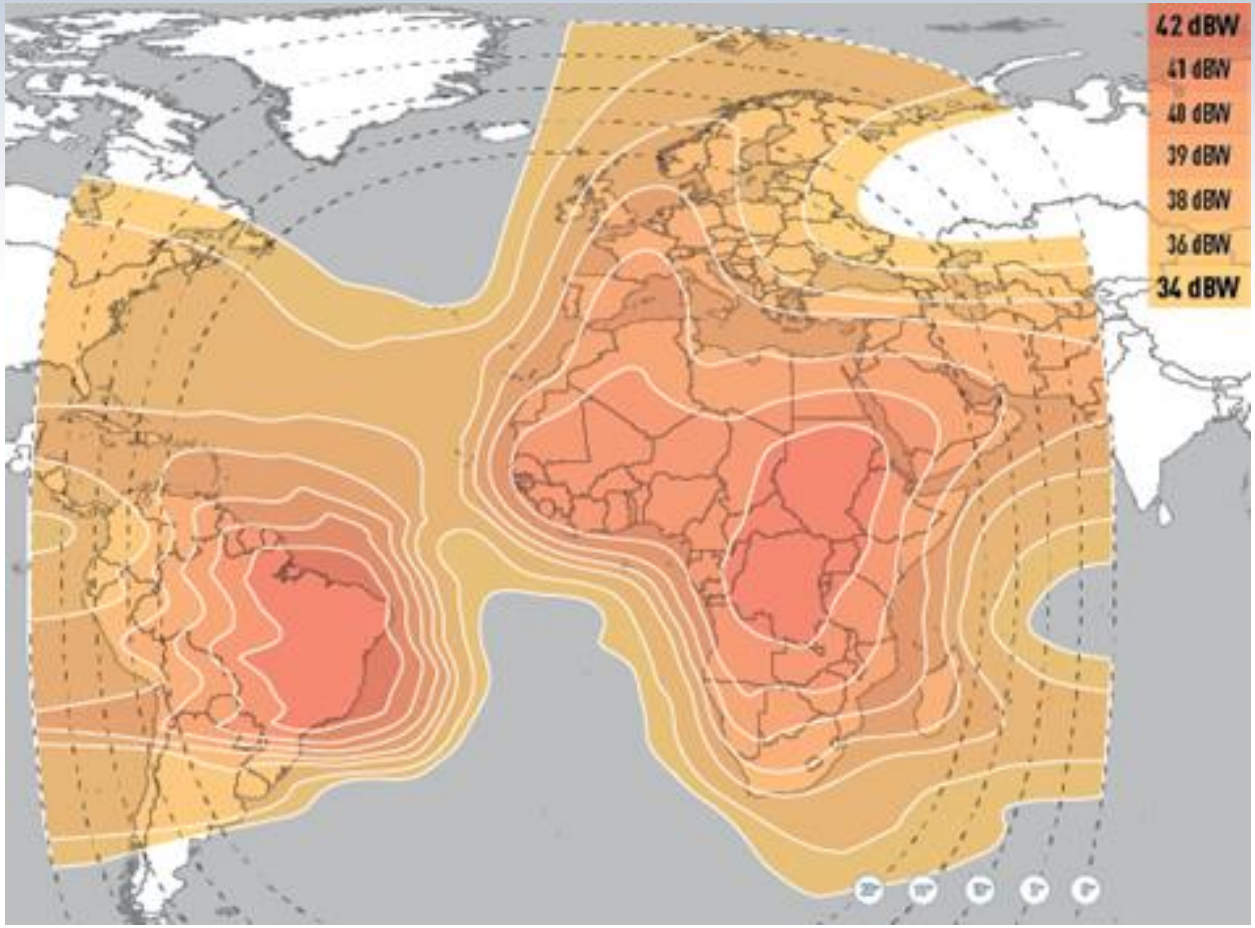
DCS – EUMETCast Africa Coverage

- **EUTELSAT-8 West**
- **Typical antenna sizes in Africa 2.4 m**
- **Americas coverage – for free!**



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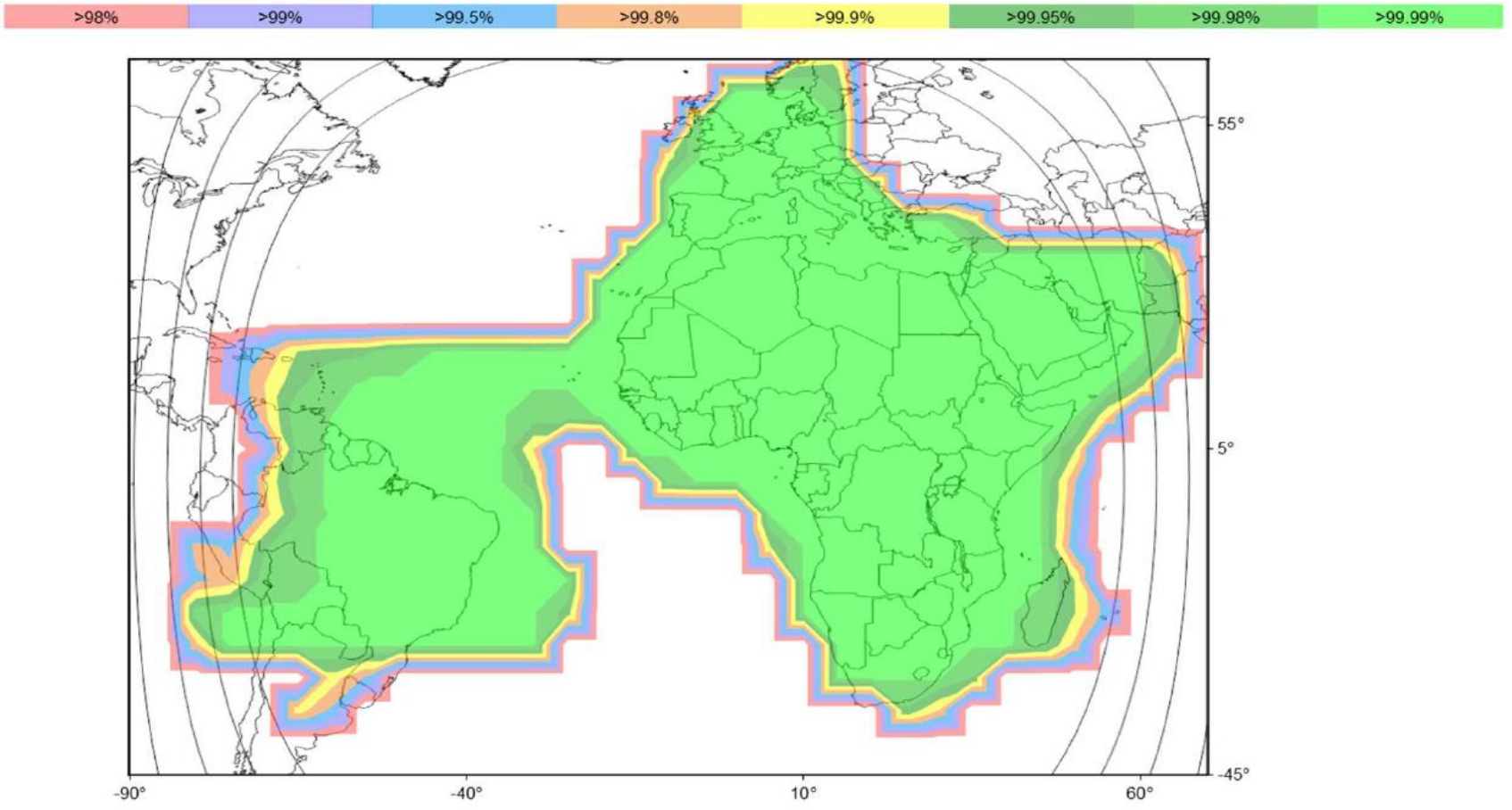
DCS EUMETCast Africa – 2.4m Antenna Coverage



2,4 mt antenna reception coverage vs. link availability

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Reception of DCP data via EUMETCast

A typical EUMETCast reception station comprises a standard PC, a DVB reception device (internal or external), and a satellite off-set antenna fitted with a digital universal V/H LNB for Ku-band, or fitted with a circular polarisation feedhorn, bandpass filter and special LNB for C-band.

These components can be purchased very cheaply, less then 2000 Euros. It is also very easy to set up. The DCP data will automatically be delivered the to PC as part of the EUMETCast data stream.

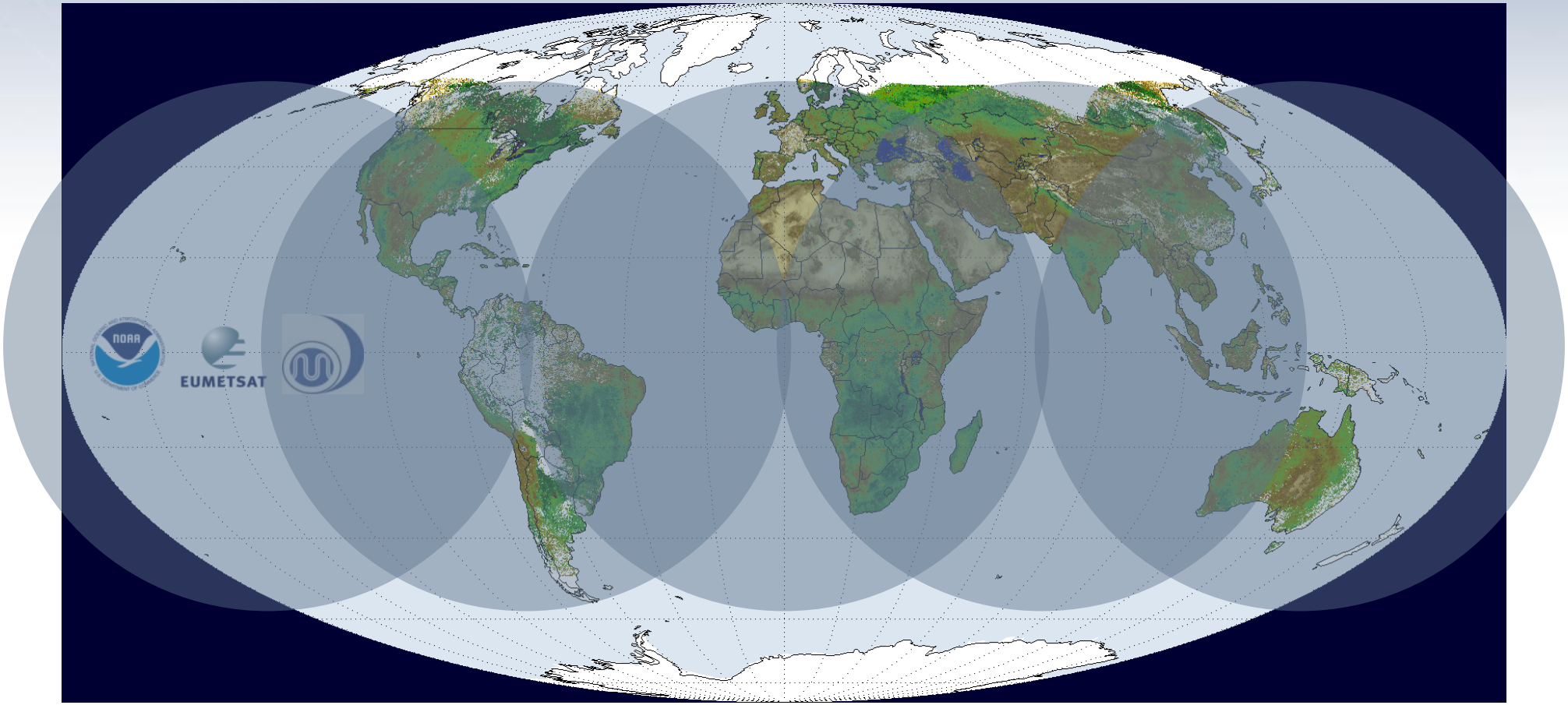
Enhanced DCP (EDCP)

There is a study for a new DCP standard that is driven the following factors.

- Moving platform utilisation
- International use
- Cross platform use
- Inter agency use

This is a joint initiative between NOAA, JMA and EUMETSAT to evaluate the use of a common standard.

CGMS DCS Systems – Global Coverage



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Coordination Group for Meteorological Satellites (CGMS)

CGMS provides an international forum for the exchange of technical information on geostationary and polar orbiting meteorological satellite systems

The main objective of CGMS is to coordinate long-term, sustainable satellite systems relevant to weather and climate, to which both operational and research and development space agencies contribute, while responding as far as possible to the requirements and related programmes of the World Meteorological Organisation

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CGMS support to DCS

- Dedicated DCS sub-group for the coordination of International DCS supported by NOAA, EUMETSAT and Japan Meteorological Agency (JMA) – mobile platforms
- DCS Handbook
- Best Practices for DCP certification and Data Access
- Development of new DCP standards

SATCOM Forum

The International Forum of users of satellite data telecommunication systems is an entirely self-funded body jointly sponsored by the World Meteorological Organization (WMO) and the Intergovernmental Oceanographic Commission (IOC) of UNESCO, of the United Nations in the view to address the requirements of these two Organizations for the timely collection of environment data from observing platforms.

SATCOM Forum

- The primary aim of such a Forum would benefit the existing User Community, but also provides a 'one-stop-shop' for new users who wish to collect data from remote sites.
  - Includes DCS, ARGOS, Iridium, Orbcom, Inmarsat...
  - Users Representatives
  - System providers

- Supported by CGMS

Questions

Thank you very much for your time.

Questions?

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