



CGMS-42 EUM-WP-20
v1, 29 April 2014

Prepared by EUMETSAT
Agenda Item: WGI/4.2
Discussed in WGI,

HARMONISATION OF GLOBAL DATA COLLECTION SYSTEMS

Working Paper summary (corresponding to ca ½ a page)

This paper will present the work performed on behalf of CGMS in the SATCOM Forum in the context of Data Collection Systems.

Harmonisation of global Data Collection Systems

1 INTRODUCTION

This paper will present the work performed on behalf of CGMS in the SATCOM Forum in the context of Data Collection Systems.

2 SATCOM Forum

The International Forum of users of satellite data telecommunication systems (SATCOM Forum) 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 with the view to address the requirements of these two Organizations for the timely collection of environment data from observing platforms.

The following is an extract from the Executive Summary from the Ad Hoc International Forum of users of satellite data telecommunication systems (SATCOM Forum) held on Paris, France, 3-4 October 2013.

The ad hoc international Forum of users of satellite data telecommunication systems (Satcom Forum) was held at the headquarters of the Intergovernmental Oceanographic Commission (IOC) of UNESCO in Paris, France, from 3 to 4 October 2013, and was chaired by Mr David Meldrum (United Kingdom). 33 participants from 12 countries, and representatives of the satellite data telecommunication service providers, and the satellite equipment manufacturers also attended the meeting.

The objective was to build on the previous session (Toulouse, April 2012) to determine whether the Forum should become an established expert group, meeting on a regular basis. The future Forum is meant to provide an international mechanism, covering the wide user base that exists within the co-sponsoring Organizations, to address remote data communication requirements – including tariff negotiations as needed – for automatic environment observing systems using satellite data telecommunication systems (Satcom systems).

The meeting reviewed the World Meteorological Organization (WMO) and IOC user requirements for the collection of meteorological data from remote areas (including buoys, ship-based observing systems, sea level observing stations, Automatic Weather Stations, Polar Observations, profiling floats, and animal tracking). It reviewed the capabilities and the tariff schemes of the satellite data telecommunication systems that are mostly being used for the collection of environmental data from remote areas, and discussed the role that they could play in the future Forum. The meeting noted that the future Forum is meant to provide guidance to the WMO and IOC users on the use of Satcom systems, including guiding them on how to make the best arrangements for the purchase of airtime. The Forum will provide detailed information on satellite systems

capabilities so that users will be able to make informed decisions on which system to use.

The meeting established an interim Executive Committee for the Satcom Forum to drive the workplan, which should lead to the formal establishment of the Forum by the sponsoring Organizations. The meeting reviewed the draft Terms of Reference of the Satcom Forum, proposed some changes to reflect the proposed reporting of the future Forum to the Executive Bodies of WMO and IOC through the Commission for Basic Systems (CBS) Management Group, and the GOOS Steering Committee respectively.

Representatives from several Satellite Data Telecommunications Systems were represented in addition to Meteorological Data Collection Systems including: Inmarsat, Iridium, ARGOS, Globalstar, Orbcem.

In addition several user groups were represented and platform and system manufacturers.

The meeting discussed WMO/IOC user requirements for remote Automatic Weather Stations, Hydrological stations, Polar Observations, drifting buoys, ship-based observations, sea-level observations, ARGO profilers and animal trackers.

Overall there was agreement that such a Forum would benefit the existing User Community, but could also provide a 'one-stop-shop' for new users who wish to collect data from remote sites.

1.1 Satcom Forum Terms of Reference

The Terms of Reference agreed by the interim Executive Committee are:

- Provide proper coordination amongst the users of satellite data telecommunication systems and represents their collective interests in working with the satellite telecommunication service providers and the industry in order to advance the awareness and understanding of the user requirements;
- Advance the awareness and understanding of available and planned capabilities;
- Facilitate adoption of interoperability and quality standards and principles as needed;
- Investigate and propose as appropriate cooperative and tariff negotiation mechanisms on the use of satellite data telecommunication systems;
- Provide guidance to best meet user needs of each considered application;
- Report to the executive bodies of WMO and IOC through the Commission for Basic Systems (CBS), the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM), and the GOOS Steering Committee respectively.

Membership is open to all representatives of the co-sponsors stakeholders.

1.2 Satcom Forum and CGMS

EUMETSAT (Sean Burns) is the CGMS representative to SATCOM and is also a member of the interim Executive Committee.

The information about the Data Collection Systems of CGMS members will be collected and made available to existing and potential end users via the SATCOM Forum. This will include information gathered in the context of the IODC discussion in WG III, DCS status information from the WG I

In addition to the usual information provided by agencies at each CGMS meeting, the *ad hoc* meeting also proposed the following useful Satcom criteria and draft metrics:

This list of criteria which may be described in tables published by the Satcom Forum describing the specifications of satellite operators or requirements of users:

- Transmission Frequency - Determines size and type of antenna
- Type of service (packet or streaming) - Some platforms perform better when using packet systems;
- Packet size and repetition rate, or streaming data rates - Care should be taken to understand actual data rates;
- Timeliness: Getting data onto GTS not automatic with Iridium;
- Availability, are satellites available. Not a problem with geostationary satellites if you are within view of a satellite and not in the polar regions. Not a problem with big LEO systems;
- Performance in different environments, such as extreme temperatures, rough oceans;
- Power Consumption - This is very important on some platforms;
- Inherent Positions - Positions calculated inherently through the signal transmitted by platforms without the need for a GPS receiver can reduce power consumption significantly;
- Long Term Viability of Satellite System - Users and manufacturers both need long term stability in order to optimize planning of instrument production and deployment;
- Availability - Not simply telemetry coverage, but including regional governmental restrictions and frequency interference;
- Technical Support.

The first SATCOM Forum is planned 2015.

2 CGMS DATA COLLECTION SYSTEM INFORMATION

It is proposed to collate all the current and CGMS DCS information, and gather further information – as outlined in the previous section, in a single ‘manual’ in preparation for the next Satcom Forum meeting.

This information will be gathered during the CGMS-42 meeting and in subsequent bilateral discussions with CGMS partners.

3 CONCLUSIONS

This paper summarises work carried out on behalf of CGMS in Satcom Forum.

All CGMS member DCS information will be collated and provided to next Satcom Forum meeting.

The secretariat will keep CGMS members up to date on plans for the first Satcom Forum, currently planned for 2015.