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Subject	ARSPEX WG 2013 Activity Report		
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ARSPEX WG 2013 Activity Report

1. ARISS School Contacts

In 2013, 30 educational radio contacts were successfully performed in Region 1:

- 1 in Austria
- 1 in Croatia
- 4 in France
- 1 in Greece
- 14 in Italy
- 2 in the Netherlands
- 3 in Poland
- 1 in Senegal
- 1 in Switzerland
- 1 in UK
- 1 in Vatican City

Since 2001, 863 successful school contacts have been performed in 49 countries and in 5 continents, allowing thousands of students to share the excitement of a space talk. Moreover, tens of thousands of students, faculty, and parents have participated by planning and attending these events.

Teachers, parents, media and communities see, first hand, how Amateur Radio and crewmembers on ISS can energize youngsters' interest in science, technology and learning.

2. HamTV on ISS

The European Space Agency has signed a contract with manufacturer Kayser Italia for the development and manufacturing of a Digital Amateur Television transmitter on the Columbus module.

This S-Band “HamVideo” transmitter will use one of the ARISS L/S-band antennas installed on the nadir of Columbus.

The Ham Video transmitter is presently aboard the International Space Station. It is stored in the European Columbus module.

Installation and Commissioning are planned March 2014. The Commissioning will consist of tests of ARISS S-band antennas, the 4 Ham Video frequencies and the 2 Symbol rates. The Commissioning will be done in several steps, extending over a period of one or more weeks. During this period, the Ham Video transmitter will

transmit continuously, allowing ground stations to submit receiving reports. This information will be most useful to determine appropriate locations for chained ground stations, needed for video enhanced ARISS school contacts.

3. QB50

The QB50 CubeSat project is progressing, supervised by the von Karman Institute for Fluid Dynamics (VKI) in Belgium. This CubeSat Project aims at launching 50 university built CubeSats in one bunch.

From the beginning of the project, ARSPEX chairman has asked VKI for at least one amateur radio CubeSat as a counterpart of the use of amateur radio frequencies for QB50 telemetry. Two CubeSats have been allocated to the amateur radio service. These CubeSats are presently under construction. One is being developed by AMSAT francophone. The second is made by AMSAT UK and AMSAT NL, under supervision of Graham Shirville, G3VZV. Both will be launched before the QB50 bunch.

4. OUFTI

Students of the University of Liège, Belgium have built an amateur CubeSat called OUFTI and featuring a D-STAR transponder.

The European Space Agency has selected OUFTI for a future launch.

The UBA and AMSAT Belgium are supporting the OUFTI project.

5. FUNcube

AMSAT UK's FUNcube CubeSat was successfully launched November 2013 on a geosynchronous polar orbit. This educational satellite operates three passes in the morning and three passes in the evening.

On daylight passes, FUNcube transmits telemetry full power, i.e. 300 mW. This telemetry is easily received with a FUNcube dongle receiver and a modest VHF antenna. The intent is to provide schools access to direct satellite reception, allowing students to learn about space, satellite orbits and amateur radio.

On evening passes, FUNcube operates as a wideband amateur radio transponder. Telemetry power is then reduced to 30 mW.

The FUNcube project comprises extensive software support and an Internet "Warehouse" where telemetry data are stored and made accessible real time, as received by participating stations.

Congratulations to AMSAT UK for a splendid achievement.

6. European Interparliamentary Space Conference

2013, the Belgian Senate held Presidency over the European Interparliamentary Space Conference (EISC).

The UBA participated with a stand to the venue at the European Space Center, Redu, Belgium.

ARSPEX chairman participated to the Plenary Session in the Belgian Senate. The venue was intended to provide the opportunity to discuss and debate on the theme of students and their interest in space education. With a view to further the debate, young professionals and students from the EISC countries had been invited to share their experiences.

7. Special frequencies for student satellites

The ITU proposes to examine the possibility to reserve a spectrum segment for student satellites.

Presently, these CubeSats use amateur frequencies for their telecommunications, whereas, in most cases, no specific amateur radio activity is offered.

IARU R1 is attentive to further developments.

8. ARSPEX Bulletins

In 2013, 50 ARISS-Europe News Bulletins were circulated to 2045 subscribers.

Most News Bulletins were also posted on the IARU Region 1 website.

Respectfully submitted

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ARSPEX WG chairman