International Amateur Radio Union Region 1

Europe, Middle East, Africa and Northern Asia Founded 1950

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SUBJECT	**IARU Region 1 ARISS working group**		
Society	**UBA**	**Country:**	**Belgium**
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1. Introduction

The International Space Station (ISS) is humanity's outpost in space. An amateur radio clubstation is part of the permanent ISS equipment.

We propose to set up an IARU Region 1 ARISS working group.

2. Background

Amateur radio has been closely related to manned space flight since the early days of the Russian space station MIR and the American space shuttles.

Amateur radio working groups have actively supported these activities: MAREX and SAFEX for MIR and SAREX for the shuttles.

Presently, the International Space Station also has an amateur radio station onboard. ARISS is the international working group in charge of this activity. ARISS is composed of delegates representing the IARU and AMSAT societies of the countries participating to the ISS.

ARISS is organized in four Regions: USA/Canada, Europe, Russia and Japan.

At an ARISS meeting in 2000, the European delegates decided to work together on the European level. The ARISS-Europe working group was created and Terms of Reference were adopted.

The onboard ARISS station is presently used as packet radio station and VHF/UHF crossband repeater. Moreover, in agreement with NASA, ARISS School Contacts with the US crew member are set up by ARISS on a weekly schedule. SSTV will be installed soon.

The ARISS organisation has several volunteering ground stations used for ARISS "telebridge" School Contacts. When it is impossible to do a direct contact using a satellite type amateur radio station set up in the school, one of these stations does the contact and the two-way signals are relayed to the school by phone. These ground stations are located in the USA, Honolulu, Australia, South Africa and Europe.

Whereas ARISS is closely working together with NASA, the American National Aeronautics and Space Administration, ARISS-Europe has developed a close relationship with ESA, the European Space Agency. Twice a year ESA organises an educational event and a competition for schools in a European country. ARISS-Europe provides an amateur radio contact with the ISS for the winning schools.

Columbus is the European space laboratory, presently under construction, which will be attached to the ISS in the near future. ARISS has an agreement with ESA for building an ARISS station onboard Columbus using dedicated patch antennas fixed at the nadir of the Columbus module.

The Russian ARISS branch has a close relationship with the Russian Space Agency and the Rocket and Space Corporation Energia. Main Russian ARISS delegate is Sergey Samburov, RV3DR who is the grand grandson of Konstantin Tsiolkovski, Russian physicist and father of rocketry.

NASA has asked ARISS to collaborate to the programme Moon, Mars and beyond. ESA also prepares Moon and Mars plans. Tsiolkovsky's most famous quote is: "Earth is the cradle of humanity, but one cannot remain in the cradle forever."

3. Key points and proposal

ARISS communications use techniques of the amateur radio satellite service but there is a basic difference: ARISS onboard stations are controlled and operated by licensed astronauts and cosmonauts.

ARISS educational outreach has a powerful impact on the youth. In France and in Germany students have prepared and passed their amateur radio examinations and got their licence in vue of an ARISS School Contact.

The educational community, the civil authorities and the media are always extremely enthousiastic about ARISS School Contacts. The general public appreciates the know-how shown by the volunteering amateur radio operators and the amateur radio service is viewed as a valuable asset to the community.

The benefits of ARISS activities for the amateur radio service are evident in terms of Public Relations, education of the youth and recruiting.

The ARISS working group supports the maintenance and the further development of the ARISS onboard station. The weekly ARISS School Contacts need intensive preparation and close cooperation with the radioamateur teams which set up and operate the ground stations in the schools. Contacts with the space agencies are permanent. All this work is done by volunteers in true ham spirit for the benefit of all.

4. Recommendation

To set up an IARU Region 1 working group to support the amateur radio activities related to the International Space Station.