

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
Innovative and Informal Space Education (4)

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TRAINING OF EXPERTS FOR INTERNATIONAL AEROSPACE SYSTEM FOR GLOBAL  
MONITORING OF GLOBAL PHENOMENA

**Abstract**

International Academy of Astronautics (IAA) is making efforts to create and launch International Aerospace System for Global Monitoring of Global Phenomena (IASGMP) no later than by 2016. I referring to monitoring of indicators of earthquakes, volcano eruptions, droughts, floods, landslides, storms, as well as man-made. It will let us forecast them, as well as evaluate the scope and location for humanitarian assistance. It is quite possible that in distant future humanity will learn and begin to prevent natural disasters just as we already can blow away clouds, blow up rains and provoke avalanches.

During the implementation of IASGMP project a lot of workplaces will be created, and in Russia alone their number will be as high as 140-160 thousand. However neither Russia, nor any other country has enough quantity of workers with adequate qualification. Therefore one of the aims of IASGMP is mass distance education of experts on monitoring and forecasting of natural disasters, experts in allied sciences and analogous art. The system of distance education is included in the ground segment of International Aerospace System for Global Monitoring of Global Phenomena.

Russian Academy of Cosmonautics by K.E.Tsiolkovsky, as a member of International Association "Znanie" (which I have an honor to head), is suggesting to use satellite technologies of distance education. Over a period of years they have been successful used by another member of International Association "Znanie" – Modern University for the Humanities (MUH), Moscow. At the present time, 2500 professors provide training using satellite technologies on 68 specialties of 175 thousand students of MUH. Cost of training of one person is 5 US dollars and it is asymptotically tent to zero as the number of students rise.

MUH has its own space teleport which work is supported by two satellites in geostationary orbit. Received from teleport educational content is transmitted through satellites to any part of Russia (with the exception of north part of Chukchi Peninsula), the CIS and Eastern Europe countries. Access to content (lection courses, interactive consultations, testing and so on) can be provided collectively (at more than 900 access points) or individually, and this makes education possible even in remote or hard-to-reach areas (mountains, deserts, Far North, flashpoints, places of detention, etc.).

In the space segment IASGMP will place six satellites in geostationary orbit and three or four more in sun synchronous orbits. That would be enough for signal with educational content to cover almost all populated area of our planet. Consequently, the ground segment of IASGMP will include thousands of access points for education of required experts. In remote and hard-to-reach areas education will be conducted individually, and for that end learner will have to have a satellite antenna and a TV set.

Educational content will be created by International Association "Znanie" jointly with Scientific-research Institute for Space Systems, Korolev, Moscow region, and the Russian Academy of Cosmonautics by K.E.Tsiolkovsky.