

Recommendation 1 for Committee Decision

Prepared by: Working Group C
Date of Submission: 10 November 2016
Issue Title: Training for Capacity Building and Information dissemination

Background/Brief Description of the Issue:

GLONASS is the key part of the multi-GNSS, therefore, it is important to advance the GLONASS technology and share the Russian experience with other countries.

The Joint Stock Company "Russian Space Systems" and the Moscow State University of Geodesy and Cartography are working actively to inform users about the GLONASS-GNSS technology and their applications through the training courses/workshops/seminars.

Discussion/Analyses:

To highlight an experience of the "Russian Space Systems" Joint Stock Company and the Moscow State University of Geodesy and Cartography and to inform the interested universities, information and education centers about the educational GNSS activities in Russian Federation.

Recommendation of Committee Action:

Working Group C noted the experience of the "Russian Space Systems" company and the Moscow State University of Geodesy and Cartography the training courses on the GLONASS-GNSS technologies and recommends that the ICG Information Centres and other organizations use the educational potential of these entities.

Working Group C recognizes the experience of the Timiryazev Academy and the Moscow State University of Geodesy and Cartography in precision agriculture and appreciates the benefit of the monograph "The management of the agricultural enterprise with the appliance of space navigation means (GLONASS) and distance zoned probes of the Earth" to be used in the ICG Information Centres.

Recommendation 2 for Committee Decision

Prepared by: Working Group C

Date of Submission: 10 November 2016

Issue Title: **The International Civil Aviation Organization (ICAO)
Global Navigation Satellite Systems (GNSS) Monitoring
guidelines for Aviation**

Background/Brief Description of the Issue:

During ICAO Navigation System Panel#2 held in December 2015, guidelines for States were approved on GNSS Monitoring for Aviation (GNSS performance verification and data recording). Such guidelines have been reflected on a proposal of amendment to ICAO Annex 10 (SL 16-061) to be effective from November 2018 and on an update of ICAO Doc9849 GNSS Manual to be published in the next months.

ENAV and Telespazio, in the framework of BEYOND project funded by the European Commission under H2020 programme, have investigated and validated some methodologies for calculation of ICAO GNSS parameters.

Discussion/Analyses:

ICAO GNSS Monitoring concept for Aviation has been presented explaining the mean of “Performance Assessment”, “Data recording” and “Operational Status Monitoring”. Concerning the performance assessment, a set of 6 GNSS Key Performance Indicators (KPI) on the range and position domain have been presented. Proposed methodologies and validation steps carried on by Beyond project has been discussed.

Recommendation of Committee Action:

The Working Group C takes note of recent developments in ICAO and proposes:

- *Disseminate “Aviation GNSS Monitoring concept” among related communities;*
- *Invite nation states to publish and share ICAO KPI reports;*
- *Create synergies among stakeholders;*
- *Coordinate with other ICG Working Groups.*