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The GGOS Working Group on Performance Simulations and Architectural Trade-Offs (PLATO)

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The terrestrial reference frame (TRF) is the foundation for virtually all space-based and ground-based Earth observations. The commonly used global TRF is the "International Terrestrial Reference Frame (ITRF)" that is generated by using GNSS, VLBI, SLR and DORIS observations. In order to meet the anticipated future needs of science and society, GGOS has determined that the accuracy and stability of the ITRF needs to be better than 1mm and 0.1mm/y, respectively. As these goals are not yet reached, several improvements are needed:
1) Developing next generation space-geodetic stations with improved technology and system performance;
2) Improving the ground network configuration in view of global coverage and co-locations;
3) Improving the number and accuracy of surveys between co-located stations;
4) Deploying, improving and optimizing space-based co-locations.
In order to support these activities, GGOS established the Working Group „Performance Simulations and Architectural Trade-Offs (PLATO)". On the one hand, the working group members will develop improved analysis methods using all existing data and co-locations of space-geodetic techniques. On the other hand, simulations are carried out in order to investigate future improvements and optimization of ground network, space segment and observation scenario. The simulations will help to estimate future data product quality based on projected network configuration and performance.
The poster summarizes the activities within the working group PLATO and the outcome of the studies already carried out.