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IGS requirements with respect to new GNSS signals - The GNSS Working Group of the IGS

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Today IGS provides a large set of high quality products for a huge number of applications e.g. in geodynamics, surveying or atmosphere monitoring. A key objective of the IGS is to provide users anywhere in the world access to highest level GNSS data, products and resources for scientific applications, through an “open data policy”. This is naturally dependent upon the availability and performance of the various satellite systems.

Recognizing the importance of the upcoming new European satellite navigation system (GALILEO), the modernization programs for GPS and GLONASS and the services provided by existing and new SBAS Systems the IGS decided to set up a GNSS-Working Group. Major goals of this WG are to prepare a consolidated feedback to GNSS system engineering based on relevant IGS experience of providing highest accuracy products for the existing systems and concerning the work of IGS Analysis Centres as well as other IGS Working Groups to reflect opportunities of the various GNSS modernization programs.

As one example we might focus on new signals. This set of new signals provided by GNSS ongoing modernization programs will allow for improved ambiguity resolution (TCAR,MCAR) over longer baselines. This will not only influence orbit determination but also allows for the elimination of second-order ionospheric effects and subsequently to improve the determination of remaining tropospheric refraction. This presentation will give a summary of the activities of this GNSS-WG and touch upon the strategies of the International GPS Service for optimising the future use of multiple integrated GNSS.