IGS/RTCM RINEX WG

I. Romero (RINEX WG Chair)
ESA/ESOC/Navigation Support Office

5TH AM/WG MEETING, 11 DEC 2022

IGS esa
European Space Agency

Introduction

- ► The IGS/RTCM RINEX WG serves the IGS and the RTCM SC104 communities at once,

- ► Half the members from the IGS

- ► The Chair is one of the IGS RTCM SC104 representatives

- ► Changes in RINEX are agreed at RTCM level (manufacturers) and IGS level (high-end users) helping in adoption and keeping the format fit for purpose

RINEX 4.00 – In summary

▶ **O**bservation files **are** <u>backward compatible</u> to RINEX 3.0X

▶ **N**avigation files **are not** <u>backward compatible</u>, but the legacy navigation message blocks remain as in RINEX 3.0X so very easy to continue reading those with small adjustment, also;

  ▶ Navigation messages from any station are not unique, many other stations will have the same messages, so no loss of data.

  ▶ IGS merged navigation files will remain available for the foreseeable future (brdcDDD0.YYn in RINEX 2.11, BRDC00IGS… in RINEX 3.0X, etc)

▶ **M**eteo files **are** <u>backward compatible</u> to RINEX 3.0X

RINEX 4.00 – Trial and Validation in the IGS

- DLR formalized the "_MN.rnx" RINEX4.00 files in data/daily/2022/brdc/

  - BRD400DLR_S_20221300000_01D_MN.rnx.gz

- The IGS Infrastructure Committee proposed and organized early access to R4.00 data files in data/campaign/rinex4 directory.

- Early users can access station data and navigation files from 22 May 2022 onwards.

- 20/23 station files (Obs & Nav) are available from GFZ

RINEX 4.01 - Planned for 2023

▶ Minor revision

▶ Address typos and needed corrections/clarifications

▶ Expand some comments and explanations

▶ Add GPS signal code "R" (C1R, L1R, D1R, S1R, C2R, L2R, D2R, S2R will be added to the GPS Signal Table 2)

AOB

- Open Issues to continue evaluating in the WG:
  - Navigation Bit Streams (?)
  - SBAS correction format (?)
  - Future LEO PNT could it affect GNSS data formats and standard (?)

esa European Space Agency

IGS

Thank You

WG CHAIR: IGNACIO (NACHO) ROMERO

Ignacio.Romero@esa.int