PROCEDURE FOR INCLUDING GNSS STATIONS IN EPOS

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Available from the M³G-Bureau at https://gnss-metadata.eu/Guidelines/
Questions and comments are welcome at C.Bruyninx@oma.be.

Updates:
Created: January 13, 2017: Initial version discussed at TCS-ICS Integration Workshop (02/2017)

Update:
July 17, 2017:
- Added M³G-bureau, information on the Supplier Letter
- Clarified relation Operational Centre – Data Supplier
Jan. 10, 2018: Revision to reflect higher maturity of M³G system.
Feb. 2, 2018: Revision of "Data Center/Node" and "Agency" terminology.
Feb. 19, 2017: Revision of "Data Supplier/OC" terminology.

Intended for:
This document describes the procedure to be followed by the **Data Suppliers** in order to integrate GNSS stations in EPOS**.**

Terminology:

Data Supplier: The EPOS Data Supplier is the legal contact of the GNSS tracking station w.r.t. EPOS. It has the legal rights to distribute the GNSS data of the tracking station to a third party through EPOS. The Data Supplier signs the **EPOS Data Supplier Letter**.
Mostly, the Station Owner acts as Data supplier. If this is not the case, EPOS supposes the existence of an agreement between both to assure that the agency acting as Data Supplier has the rights to sign the EPOS Data Supplier Letter on behalf of the agency of the Station Owner.

Operational Centre (OC): The Operational Centre **maintains the GNSS station metadata** (e.g. site log, antenna calibrations, site pictures,...) within EPOS. It also performs conversion of raw GNSS data to the Receiver Independent Exchange Format (RINEX), and data upload to the agreed-upon EPOS-GNSS data node.
Mostly, the Station Owner acts as Operational Centre. If this is not the case, EPOS supposes the existence of an agreement between both to assure that the agency acting as Operational Centre has the rights to act in EPOS on behalf of the agency of the Station Owner.

*Unless otherwise specified, all emails should be sent to m3g@oma.be (M³G: **M**etadata **M**anagement and distribution system for **M**ultiple **G**NSS networks).*

Procedure:

1. Read "Guidelines for EPOS-GNSS Stations and Operational Centres", available from https://gnss-metadata.eu/Guidelines/EPOS-GNSS_Guidelines_Station_OperationalCentre.pdf:

    1.1. Make sure the station complies with the **Requirements for Permanent Stations** in the document. Pay attention to guidelines specifically for new stations and make sure the equipment (receiver, antenna) you use is known to the International GNSS Service (IGS)! If it is not, contact m3g@oma.be.

    1.2. Make sure your agency is allowed to sign the **EPOS-GNSS Supplier Letter**, available from https://gnss-metadata.eu/Guidelines/EPOS-GNSS_Supplier_Letter.docx.

    1.3. Make sure you, are another agency, is capable of performing the tasks of an **Operational Centre** described in the document "Guidelines for EPOS-GNSS Stations and Operational Centres". As a basic principle, EPOS has an open data policy.

2. Make sure you, or another agency, is capable of acting as an **EPOS Data Node** as it is described in the document "Guidelines for EPOS-GNSS Data Nodes (*not available yet*)". A list of available EPOS-GNSS Data Nodes is available from https://gnss-metadata.eu/index.php?r=site%2Fdatanode

3. Choose the **station(s) 4-character identification code(s)**:
   All EPOS-GNSS stations are uniquely identified using a 9-character abbreviation code (RINEX 3 naming conventions), consisting of a 4-char ID, followed by "00" and the 3-char ISO country code. Consequently, choosing the 4-char station code is the first step. The 9-char code will be used for all future reference to your station (data and documentation).
    To prevent duplication, check for already used 4-char station abbreviations at
    http://sopac.ucsd.edu/checkSiteID.shtml
    http://facility.unavco.org/data/gnss/sitecheck.php
    ftp://igs-rf.ign.fr/pub/DOMES/codomes.snx

   OPTIONAL, but recommended: **Request a DOMES number** for your station/marker from the International Earth Rotation and Reference Systems Service (IERS): http://itrf.ensg.ign.fr/domes_request.php.

   Download (from https://gnss-metadata.eu/Guidelines/EPOS-GNSS_Supplier_Letter.docx), complete and sign the **EPOS-GNSS Supplier Letter** including Annex A and B. Send the scanned letter to the M³G-bureau (m3g@oma.be) and send the original to
   > Carine Bruyninx
   > Royal Observatory of Belgium
   > Av. Circulaire 3
   > 1180 Brussels
   > BELGIUM

   If you are proposing several stations to EPOS, then just sign the letter once and list all the stations in Annex A, and associated Operational Centres in Annex B.

4. The contact person of the Operational Centre(s) indicated in Annex B of the EPOS-GNSS Supplier Letter will receive an email invitation from the M³G-bureau to register an account at https://gnss-metadata.eu in order to upload the GNSS station metadata.

5. The Operational Centre must then create/update the **Operational Centre** (OC) **Profile**, add the new proposed station(s), select the network (at least EPOS must be selected), select the EPOS data node (*option not yet active*), and upload, validate and save the GNSS station metadata.

6. Once the mandatory GNSS station metadata is validated and saved at M^{3}G and the EPOS data node has been confirmed, the GNSS station metadata will show up at the EPOS-GNSS Data Gateway (even if it is still 'Proposed to EPOS').

7. As soon as the GNSS RINEX data from of the new GNSS station will become discoverable at the EPOS-GNSS Data Gateway, the M^{3}G-bureau will give the station(s) the **official label "EPOS station"**.