
Geografske informacije - Geodetske reference - 2. del: Enotna identifikacija geodetskih talnih postaj (ISO/DIS 19161-2:2026)

Geographic information - Geodetic references - Part 2: Unique identification of geodetic ground stations (ISO/DIS 19161-2:2026)

Geoinformation - Geodätische Referenzen - Teil 2: Eindeutige Identifikation von geodätischen Bodenstationen (ISO/DIS 19161-2:2026)

Information géographique - Références géodésiques - Partie 2: Identification unique des stations géodésiques au sol (ISO/DIS 19161-2:2026)

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35.240.70	Uporabniške rešitve IT v znanosti	IT applications in science
93.020	Zemeljska dela. Izkopavanja. Gradnja temeljev. Dela pod zemljo	Earthworks. Excavations. Foundation construction. Underground works

oSIST prEN ISO 19161-2:2026**en,fr,de**

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DRAFT International Standard

ISO/DIS 19161-2

Geographic information — Geodetic references —

Part 2: Unique identification of geodetic ground stations

Information géographique — Références géodésiques —

Partie 2: Identification unique des stations géodésiques au sol

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ISO/DIS 19161-2:2026(en)**Foreword**

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Introduction

With the advent of the space geodetic observations, and in particular with the Global Navigation Satellite Systems (GNSS), an increasing number of geodetic ground stations are installed, providing permanent and campaign based observations for scientific and non-scientific applications, raising to some extent concerns about their identification.

At the international level, each of the 4 space geodetic techniques used for International Terrestrial Reference Frame (ITRF) realizations has its own numbering system. For three of them - Satellite and Lunar Laser Ranging (SLR & LLR), Very Long Baseline Interferometry (VLBI) and Doppler Orbitography and Radiopositioning Integrated by Satellite (DORIS) - there are a small number of stations, each managed by their International Association of Geodesy (IAG) service, which takes care of their identification and guarantees a non-ambiguous internal numbering system.

In the case of GNSS, the number of stations is far greater, supporting a wide range of applications for a very broad user community. The IAG international GNSS service (IGS) is only interested in using a subset of these stations, for the study of the orbits, earth orientation parameters and reference frames. As a result, there is no authority in charge of this numbering and the 4-characters code identifiers used are not unique.

A unique geodetic ground station identification system based on international standards will facilitate applications which benefit from the mix of the space geodetic observations.

In some cases, it may even prevent the accidental misuse of data occurring in the growing automatic use of datasets collected via the Internet, such as Global Positioning System (GPS) data from permanent ground stations used for weather prediction.

The main benefactors of a unique geodetic ground station identification are

- a) Industry and commerce – large industry:
 - 1) for operators of geodetic ground stations and those creating products based on such data (e.g., precise orbits), the benefits will be to facilitate the operation of networks of geodetic ground stations and products based on their data;
 - 2) GNSS software developers.
- b) Government: for National geodetic agencies, the unique numbers will facilitate the operation of networks of geodetic ground stations.
- c) Academic and research bodies: studies of climate change (e.g., sea level change) will benefit from unique identifiers of geodetic ground stations in that it will significantly reduce risks of confusion between stations and misinterpretation of geodetic data.
- d) Non-governmental organizations: for the International Association of Geodesy (IAG), the International Earth Rotation and Reference Systems Service (IERS), and the IGS, the unique numbers will facilitate operation of geodetic ground stations and use of the products based on them.

[Clause 6](#) provides conformance requirements for this document.

[Annex B](#), which is informative, provides the required and optional metadata for the numbering scheme, including most of the metadata used by the Directory of Monitoring of Earth Rotation in Intermediate Time-Scales numbers, known as DOMES (Directory of MERIT Sites).

Ground geodetic stations taken into consideration by DOMES are limited to the following:

- GNSS (permanent) stations
- DORIS (beacons)
- VLBI radio telescopes
- Satellite and lunar laser stations (SLR & LLR)