LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG
Administration du cadastre
et de la topographie
Service géodésie

LUREF2025
Transformation Parameters

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The Administration of Cadastre and Topography hereby publishes the new transformation parameters LUREF2025, which define the transition from the national realisation of the European Terrestrial Reference System 1989 (ETRS89) – the reference frame ETRF2000 at national reference epoch 2025.83 – to the Luxembourg national reference system LURES. They supersede the previous transformation LUREF2020 and enter into force on 31 October 2026; until that date, LUREF2020 remains valid.

The parameters are provided in two mathematically equivalent formulations of the seven-parameter Helmert transformation, given in the table below. Both formulations reproduce exactly the same LURES coordinates; users should simply select the one supported by their software. The rotation origin (X_0, Y_0, Z_0) given below applies only to the Molodensky-Badekas formulation.

Table 1: LUREF2025 parameters for the transition ETRS89 (ETRF2000 @ 2025.83) to LURES, in the Bursa-Wolf and Molodensky-Badekas formulations.

Parameter	Bursa-Wolf	Molodensky-Badekas
T_x [m]	188.6395	265.8980
T_y [m]	−11.5073	−76.9712
T_z [m]	43.2685	−20.2451
R_x ["]	−0.491508	−0.491508
R_y ["]	−3.127139	−3.127139
R_z ["]	2.699202	2.699202
Scale [–]	0.999999515	0.999999515
Scale [ppm]	−0.484787	−0.484787

Molodensky-Badekas rotation origin: X_0 = 4103546.0547 m, Y_0 = 440519.7206 m, Z_0 = 4846981.8016 m.

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