

## A SINGLE HIGH-PRECISION HOMOGENEOUS COORDINATE SPACE OF TERRITORIES AND LOCAL COORDINATE SYSTEMS: WAYS OF HARMONIZATION

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The article presents research on the issue of constructing a single high-precision homogeneous coordinate space of territories and the place in this process of local coordinate systems (LCS). A description is given of two main types of local coordinate systems used in the Russian Federation. It is shown, that local coordinate systems of settlements and local territories (LCS) in their current form, in general, are an obstacle to building a single high-precision homogeneous coordinate space of territories. At the same time, local coordinate systems of the Regions of the Russian Federation (LCS–NN) can be a full-fledged tool for constructing such a single coordinate space of territories, provided that they are created on the basis of the corresponding accuracy of the state coordinate system (preferably based on high-precision the State Coordinate System of 2011 (SCS-2011)). Current trends in the application of LCSs are noted, including the fact, that local coordinate systems for maintaining the SSRI are becoming the main CS in which civilian departments, starting with the Ministry of Construction of the Russian Federation, will create their spatial data. An example of practical experience of converting spatial data of the regional Ministry of Construction of the Novosibirsk Region from a multitude of LCSs to a single LCS of the Novosibirsk Region is presented, confirming the noted national trend towards the transition from many low-precision LCSs of settlements and individual local territories to a single, more accurate and more homogeneous LCSs of the subject of the Russian Federation (LCS–NN).

**Key words:** the State Coordinate System of 2011, local coordinate systems, a single high-precision homogeneous coordinate space of territories, local coordinate systems of maintaining the USRI.

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