

TERMS OF REFERENCE (TOR)
FOR THE
DATA ANALYSIS AND MODELING SERVICES

I. Background

The Republic of Serbia and the International Bank for Reconstruction and Development (Hereinafter: IBRD) concluded the Loan Agreement (Hereinafter: LA) for the Second Real Estate Management Project in Serbia (Hereinafter: The Project), signed by the two parties on August 21st, 2024 and ratified by the Parliament of the Republic of Serbia in its session on November 27th, 2024 ("Official Gazette RS – International Agreements", No 9/2024 of December 3rd, 2024).

The Law on State Surveys and Cadastre (LSSC, October 2023) with appropriate amendments provides a solid foundation for the project. A viable single agency, the Serbian Republic Geodetic Authority (RGZ), is implementing the LSSC. A Project Council and Project Steering Committee are supervising the Project implementation.

The Project consists of four components: (A) Implementation of the Property Mass Valuation System; (B) Integration of Information Systems and the NSDI Services Development; and (C) Institutional Improvement, RGA Sustainability and Project Management.

The Project Development Objectives are to improve the transparency, accessibility, and reliability of Serbia's real property management systems.

A full description of the Project is provided in the document "Project Appraisal Document" (PAD) and Loan Agreement (LA). The PAD is considered as a part of the necessary background materials to be understood by Consultants.

Implementation is entrusted to the Project Implementation Unit (Hereinafter: PIU) of the Republic Geodetic Authority (Hereinafter: RGA).

II. Objective

Objective of Data Analysis and Modelling activity is to support RGA efforts to analyze property market data from the Sales Price Register (Hereinafter: SPR) and process the data in order to create viable valuation models for all types of taxable properties.

Objective of this TOR is to provide support for Data Analysis and Modelling activity by providing data analysis and modelling consultancy within the unit working on this activity. The support includes performing statistical, spatial and market analysis on data stored in SPR database and cooperation with other specialists in creation of valuation models for taxable properties.

III. Scope of work and tasks

SPR database contains approximately 800,000 records on property transactions with an influx of around 600 transactions per day. Approximately 73% of those are records on sales out of which around 80% are suitable for further analysis and model development, as well as for interpretation of real estate market for public.

The Consultant will be a part of the team working on analyzing and processing data on property conveyance from SPR. The team will consist of consultants working under this ToR and full time RGA employees assigned to this activity.

The Consultant will work independently or as part of a unit within the team as assigned by the Head of Mass Property Valuation Department or team leader appointed by the Head of Mass Property Valuation Department (hereinafter: Coordinator). Scope of work includes defining approaches for analyzing and valuation for properties markets, performing data analysis of property market data, developing market reports, proposing valuation models, and cooperation with other Consultants within the team on development of property valuation models based on SPR and other available data.

The Consultant shall have the following specific tasks:

- a) Work in cooperation with other consultants to define adequate approaches for spatial and statistical data analysis and analysis of key market fluctuations for each specific real estate market and for the real estate market in Serbia as a whole;

- b) Work in cooperation with other consultants on the development of models for each specific real estate market;
- c) Continuous real estate market analysis and model development;
- d) Development of spatial zones for each specific real estate market in Serbia;
- e) Defining and implementing procedures for texturing the model;
- f) Participation in the preparation of real estate market reports;
- g) Proposing measures to improve the quality of data and the performance of RKC;
- h) Participation in the creation of a database of taxable real estate and the calculation of their values in accordance with the defined models; and
- i) Other tasks related to real estate market data analysis and model development.

Working conditions:

The Consultant shall work full time within the RGA premises. The Consultant will be provided with all reasonable office space, office furniture and equipment to undertake the tasks assigned.

IV. Work Products / Deliverables

The results from the work to be performed by the Consultant include:

- a) Defined procedures and tools for analysis of data;
- b) Developed models of each particular property market;
- c) Defined spatial zones;
- d) Prepared real estate market reports;
- e) Calculated values of all taxable properties;
- f) Monthly report on activities.

These tasks will be evaluated by the Head of Department for Mass Property Valuation or Coordinator from the RGA.

V. Professional Expertise Required

The consultant must possess the following qualifications:

Minimum requirements

- a) Bachelor of academic or applied studies science in Geodesy or Final year of master academic studies in Geodesy, Economy, Statistics or other related studies.
- b) Knowledge of property markets;
- c) Knowledge of MS Office and Web browsers;

Advantages

- d) University degree or Master of applied science degree or Master of science degree in science of Geodesy, Economy, Statistics or other related science;
- e) Knowledge of spatial databases;
- f) Experience with spatial and statistical analysis;
- g) Experience with GIS software;
- h) Experience with statistical analysis software; and
- i) Working knowledge of spoken and written English.

Selection

A Consultant will be selected under the Direct Selection method for Individual Consultants as set out in the World Bank's "Procurement Regulations for IPF Borrowers" (September 2023).

The salary level shall be defined as an outcome of negotiations between the Client and Consultant with a view to the budget allocation for the position.

The contract shall be signed for the period of one year with possibility to be extended but no longer than the life of the Project. The contract will also define the price adjustment clause considering that the contract shall cover a period longer than 18 months. Annual salary adjustment (for contracts longer than 18 months) will be made based on the formula agreed with the Bank which may rely on the living cost increase according to the official statistical data from the relevant source, as may be agreed with the Bank. The first adjusted remuneration rate will become effective from the 13th month and, from then on, the rate will be adjusted every 12 months.

VI. Reporting

The Consultant will report to the Coordinator designated by the Head of Department for Mass Appraisal from the RGA on a monthly basis.

VII. Resources

The Consultant will be provided with all reasonable office space, office furniture and equipment to undertake the tasks assigned.