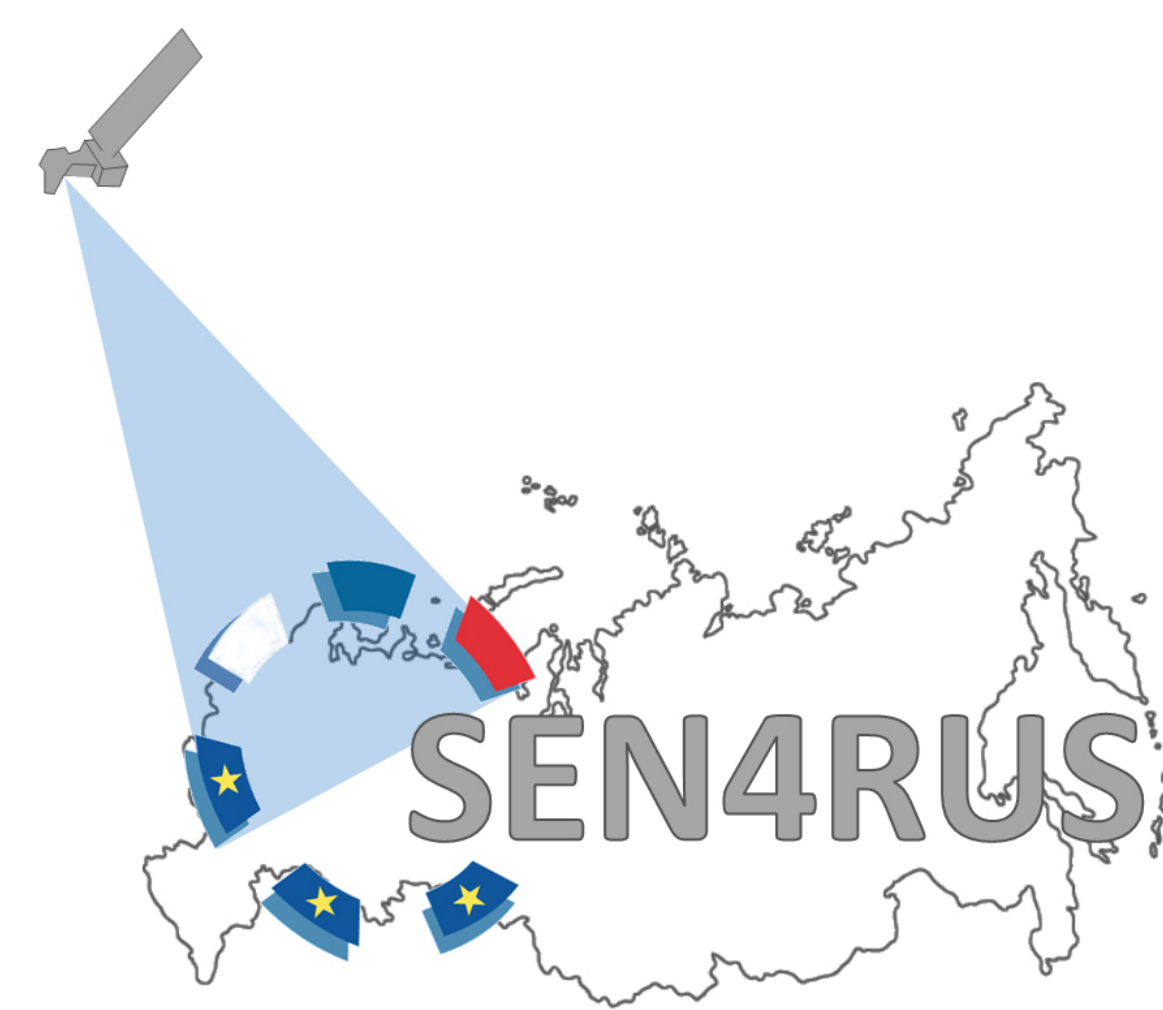
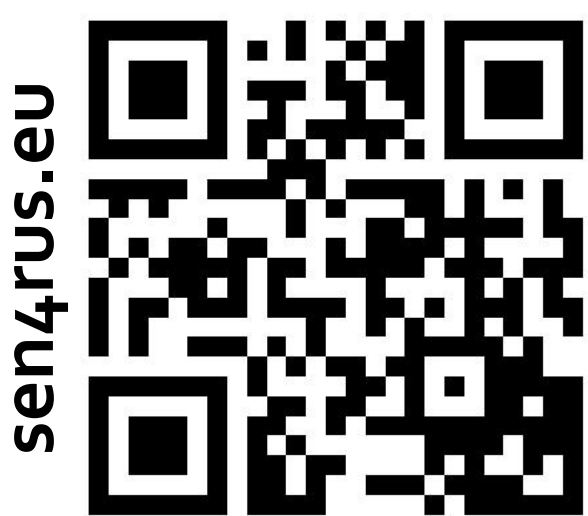


# Copernicus Sentinels for Urban Planning in Russia: The SEN4RUS Project



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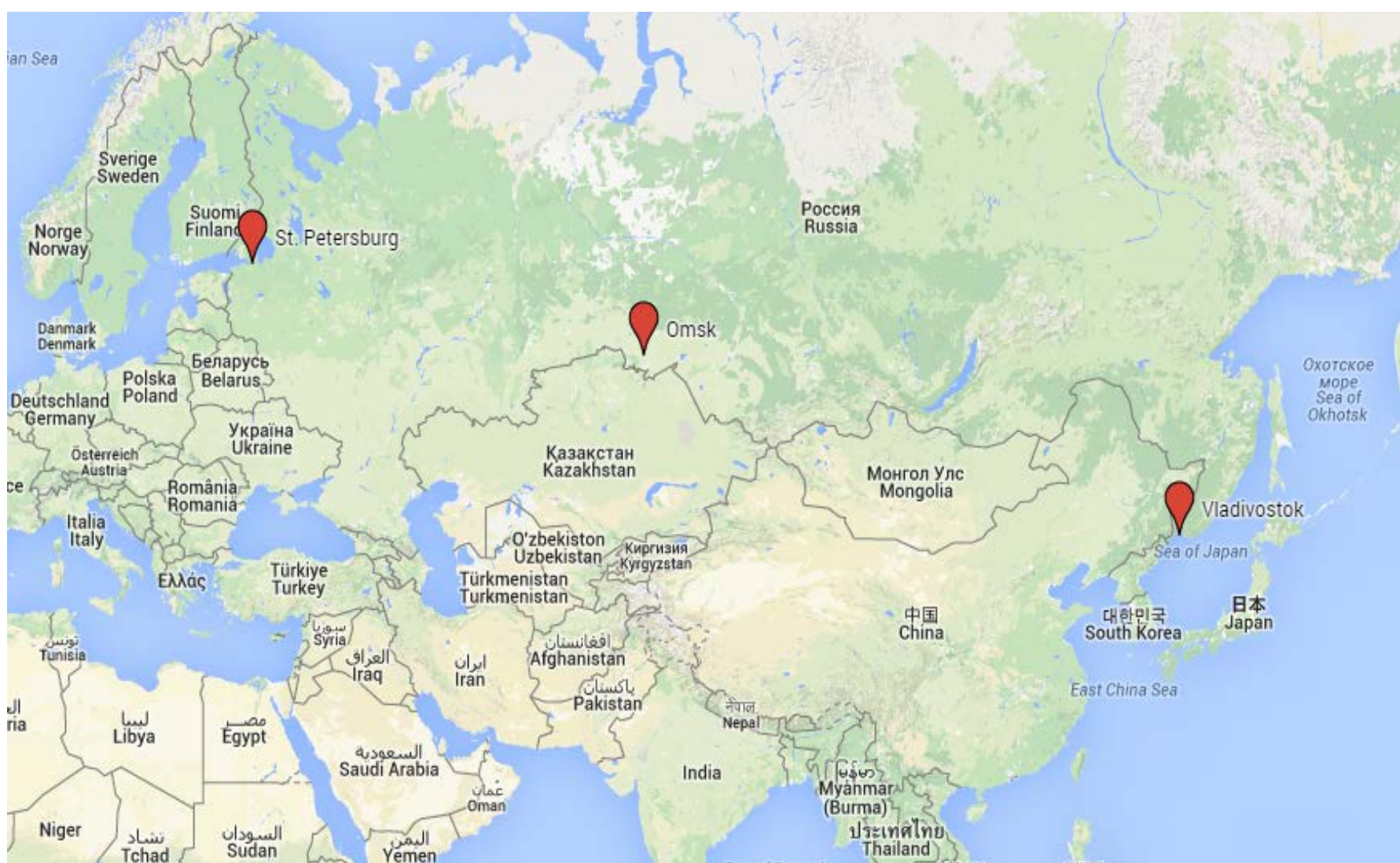
## Objectives

SEN4RUS project is a recently launched project funded by **ERA.Net-RUS Plus**. Its main objective is to account for the **specific requirements** of spatial and urban planning in Russia to **develop** urban planning **indicators**. SEN4RUS will effectively and efficiently exploit the information content provided by **Sentinels** mass data streams in support of city and regional planning. A **Web-based Information System (WIS)** will be developed to on-line evaluate these indicators and to provide them in a form that allows **direct implementation** into urban planning procedures.

## The SEN4RUS approach

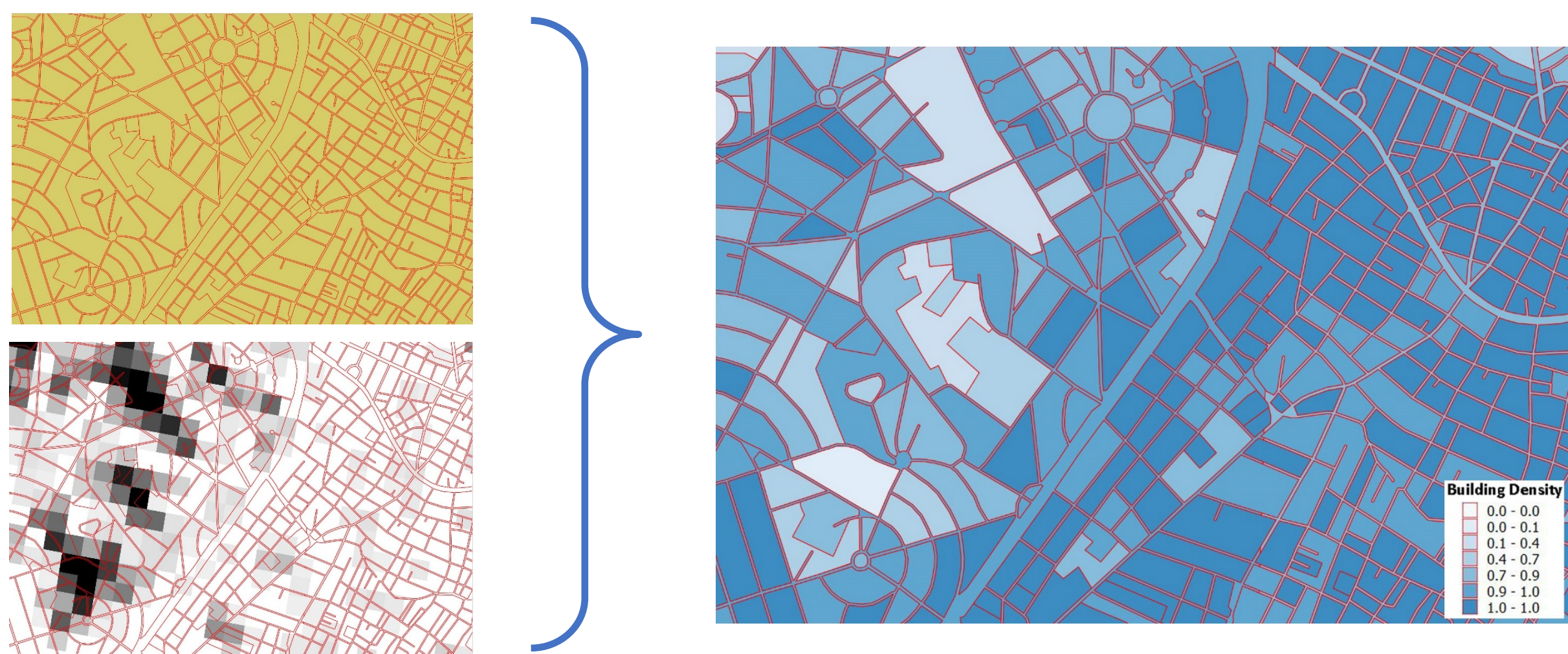
### The Case Studies

Three Russian cities with different typologies and planning perspectives.



### Urban Planning Indicators

The approach developed in GEOURBAN project will be adopted:



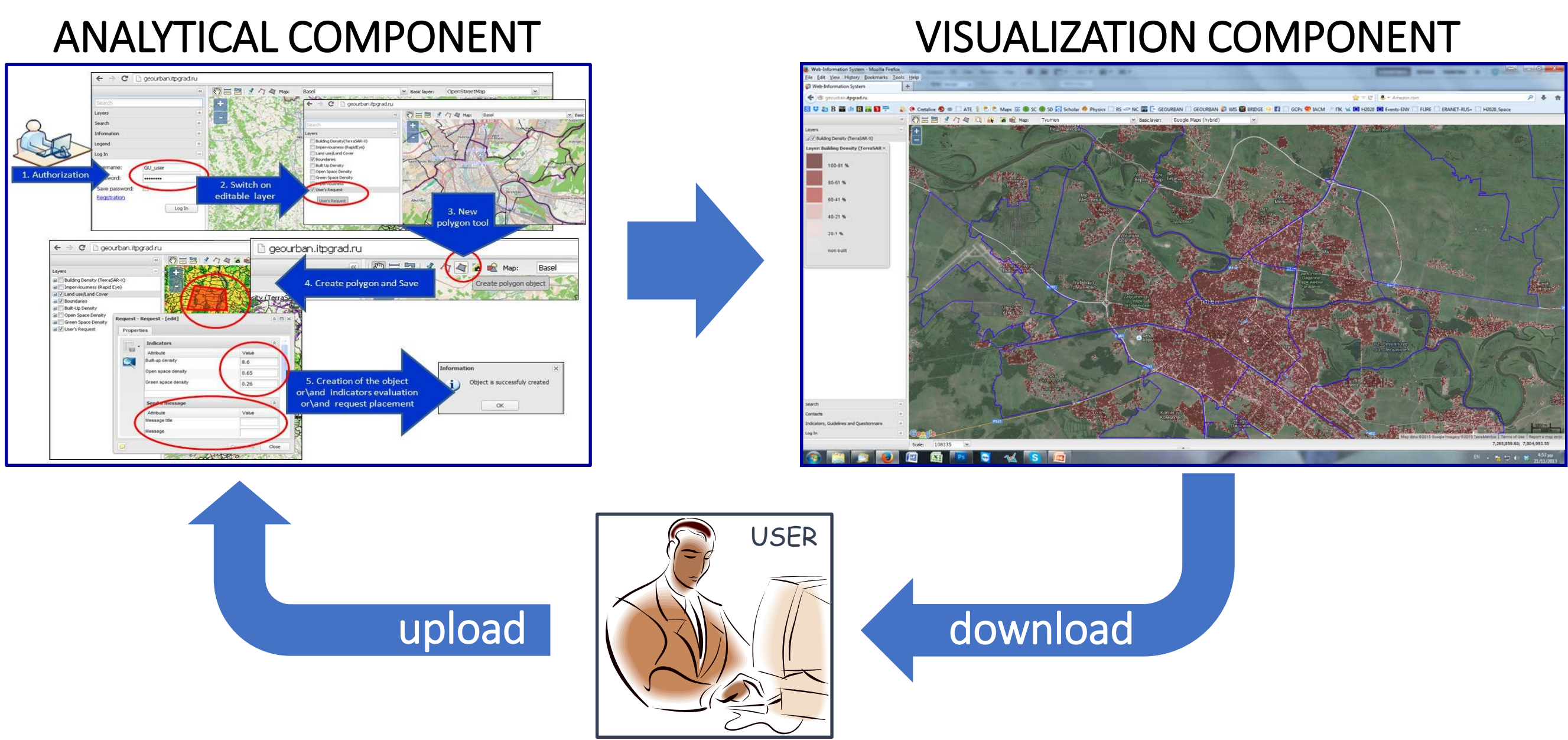
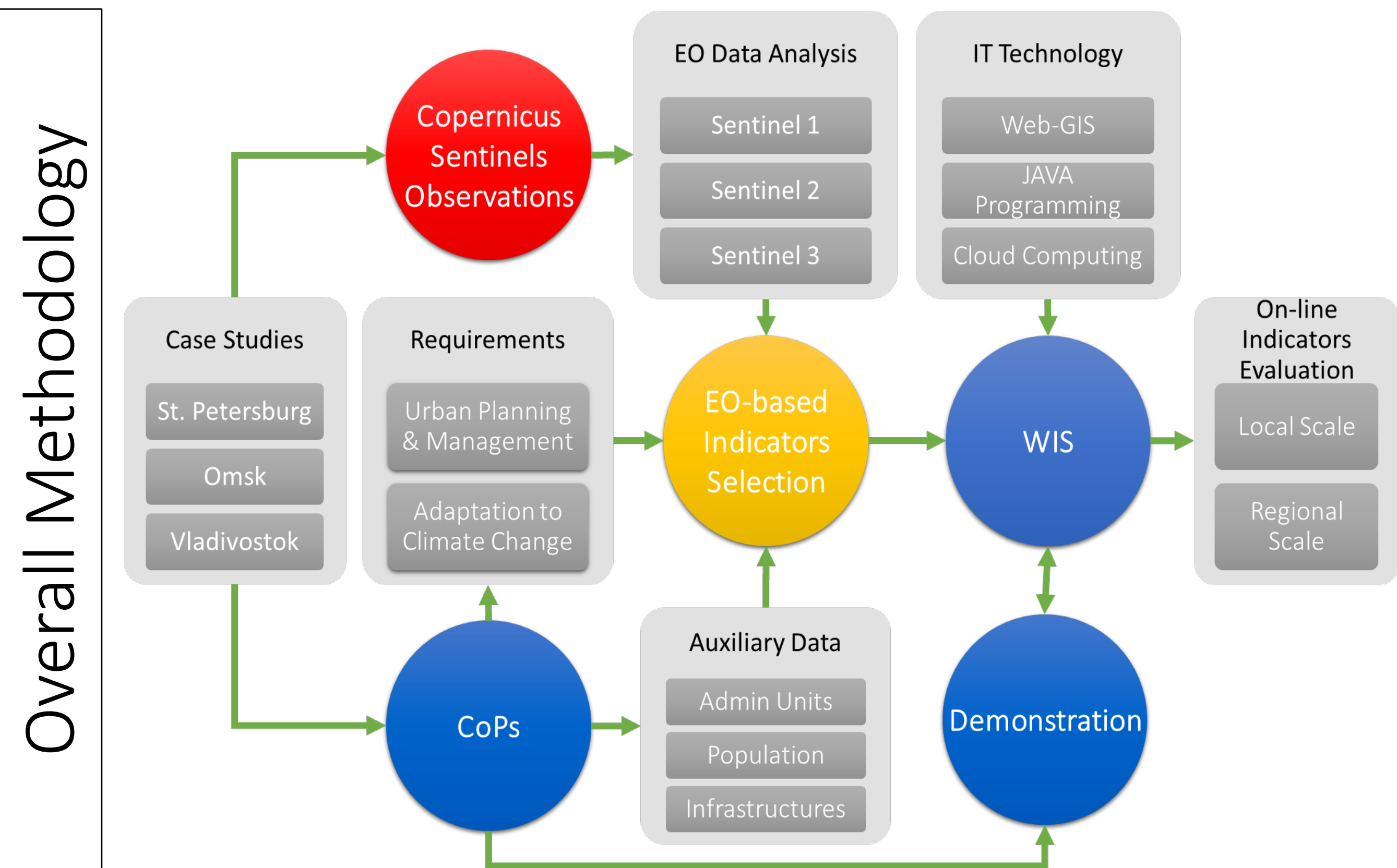
Chrysoulakis, N., Feigenwinter, C., Triantakostas, D., Penyeyskiy, I., Tal, A., Parlow, E., Fleishman, G., Düzgün, S., Esch, T. and Marconcini, M., 2014. A Conceptual List of Indicators for Urban Planning and Management Based on Earth Observation. *ISPRS International Journal of Geo-Information*, 3, 980 - 1002.

### Communities of Practice

To engage the users in the project, a Community of Practice approach will be employed, which means that in each case study city, **local stakeholders** and **scientists** of the SEN4RUS project will **meet on a regular basis** in order to **learn from each other**.

### The SEN4RUS WIS

SEN4RUS will develop **robust techniques** for information extraction and derivation of **geo-information products** from Sentinels data in combination with an improved **WIS** that is adapted to and optimized for the **Russian urban and regional planning system** and can be easily understood and controlled by **non-experts**.



Chrysoulakis, N., Esch, T., Parlow, E., Düzgünd, S. H., Sazonova, A. and Tal, A., 2014. Earth Observation in Sustainable Urban Planning and Management: the GEOURBAN Project. In Muscio, A. (ed.): In Proceedings of the Third International Conference on Countermeasures to Urban Heat Island, held in Venice, October 13 - 15, pp. 770 - 781.

Triantakostas, D., Chrysoulakis, N., Sazonova A., Esch, T., Feigenwinter, C., Düzgün, S., Parlow, E., Marconcini, M. and Tal, A., 2015. On-line Evaluation of Earth Observation Derived Indicators for Urban Planning and Management. *Urban Planning and Design Research* (in press).

## The Vision

SEN4RUS will develop EO-based methods for evaluating environmental indicators, enabling its integration into operational services for **urban planning in Russia**, by providing indicators for both **urban and peri-urban areas**.

This will lead to more efficient **routine** urban planning, as well as to more efficient climate change **mitigation** and **adaptation**, at local scale. A **new business model** will be developed, based on the exploitation of the new generation of

**European satellites** (i.e., Copernicus Sentinels) by an international consortium (**public-private partnership**), to develop **EO-based services** for urban planners and applications in **Russia**, as well as in other countries in **Central Asia**.

## The Consortium

