Appendix 1a- Data acquisition: Download urban atlas (UA) data

%Why UA?

For constructing the Local Significance index, we require reliable population estimates.

UA provides exactly this with a minimum mapping unit of 0.25 ha, which turns out to be a convenient resolution of mostly city block level.

Furthermore, we can use UA data to implement another safety net for filtering the OpenStreetMap buildings.

%The UA data / Copernicus

UA provides high-resolution urban land use data with a minimal mapping unit of 0.25 ha and 27 land use classes. The latest version of UA maps the 2018 urban land use of 788 European cities with more than 50.000 inhabitants according to the Functional Urban Area (FUA) as determined by the DG Regional and Urban Policy of the European Commission. With version v13, the UA data from 2018 has received its latest update and received population estimates for each polygon. UA is mostly based on Earth Observation data and is backed by other reference data, like commercial data, OpenStreetMap data or topographic maps. Input data is automatically classified and validated afterwards. Thematic accuracy of the urban land use product is stated to be >85%, positional accuracy < +/- 5 meters \citep{EuropeanUnion2020}.

%Downloading the data / pitfalls

Copernicus, the data provider of UA does not offer an API for downloading the data required. Consequently, we either have to use the Copernicus web page to manually download the data for each city, or we use the interface to select all cities at once and, thus, create a download request. This process requires a registration for the Copernicus web page. Also, we can only download the latest version of the UA data \citep{EuropeanUnion2020}.