D5-1 Visualization tool for HAQT measurement and forecast AQ data
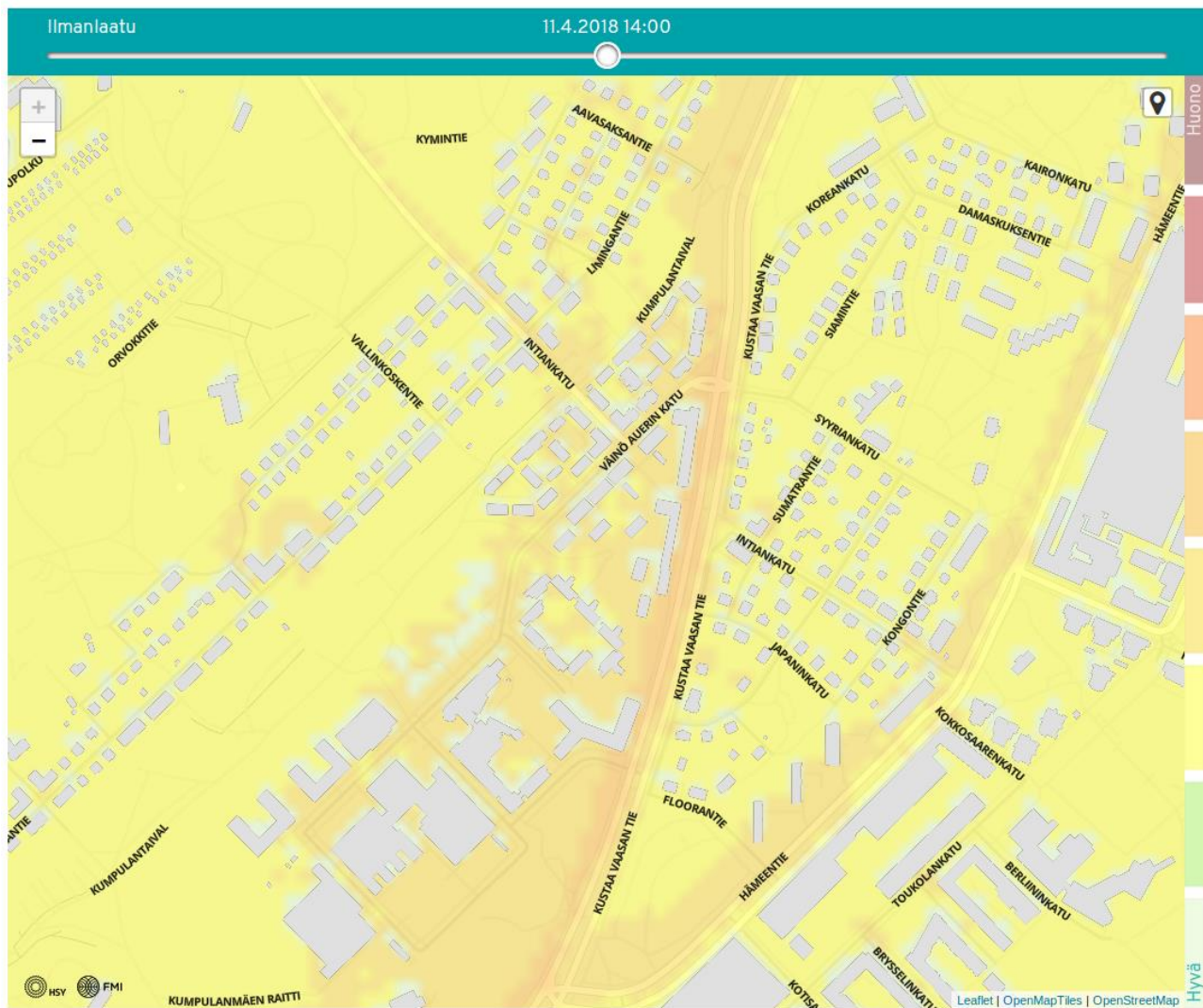
Figure 1. A zoomed view of the air quality map.

The Helsinki metropolitan area high resolution air quality map (Figure 1) was launched in February 2018 at the HSY website https://ilmanlaatukartta.hsy.fi. The map is based on the ENFUSER model. In the model, air quality information produced by HSY's measurement network is combined to the factors influencing the local air quality situation, such factors being, among others, weather conditions, geographical features, land use, traffic volume, long-range transportation and emission estimates for wood burning. The model estimates the respective concentrations of the most important pollutants (NO_2, SO_2, CO, O_3, PM2.5, PM10) and calculates the air quality index, which is then shown on the map, visualized with the help of a colour scale.

The map presents the current air quality situation in the whole Helsinki metropolitan area as well as air quality from the past 12 hours and forecasts for the coming 12 hours.

Air quality is presented in a 12 x 12 m resolution, on an hourly basis. The map always opens at the current hour. By moving the white circle in the center of the upper panel, the user can monitor the hourly air quality at ±12 hours from the current hour. The user can zoom in and out on the map and look at the air quality in specific locations. By zooming in, buildings become visible. At the zoom level where buildings can be seen, the user can also open a pop-up graph (Figure 2) which shows the air quality 12 hours backwards and forwards from the current hour at the location of the user's choice.
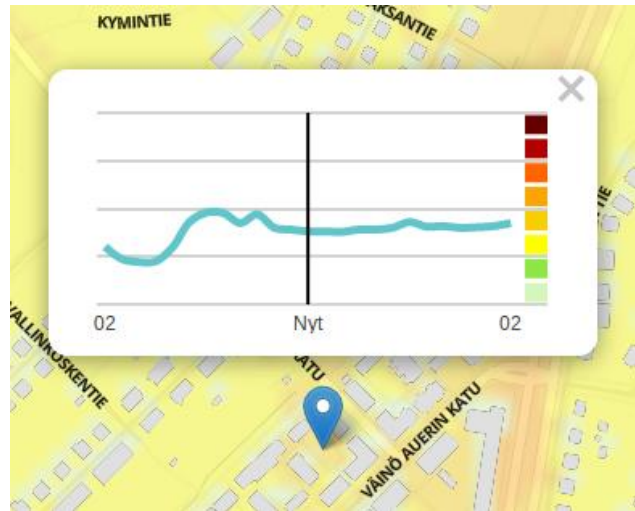

Figure 2. Air quality pop-up graph with information ranging to ±12 hours at a user

In the future, it is possible that other variables, such as the concentration of PM10, will be presented on a map in addition to the air quality index. The modelling of street dust situations will improve when data from salting, dusting and road cleaning activity are added to the model. The map could also include the measurement data from the newly-implemented HAQT sensors or other sensors. In the project framework, this is not the case – the model utilizes data from sensors but the actual sensor data as such is not visible on the map.