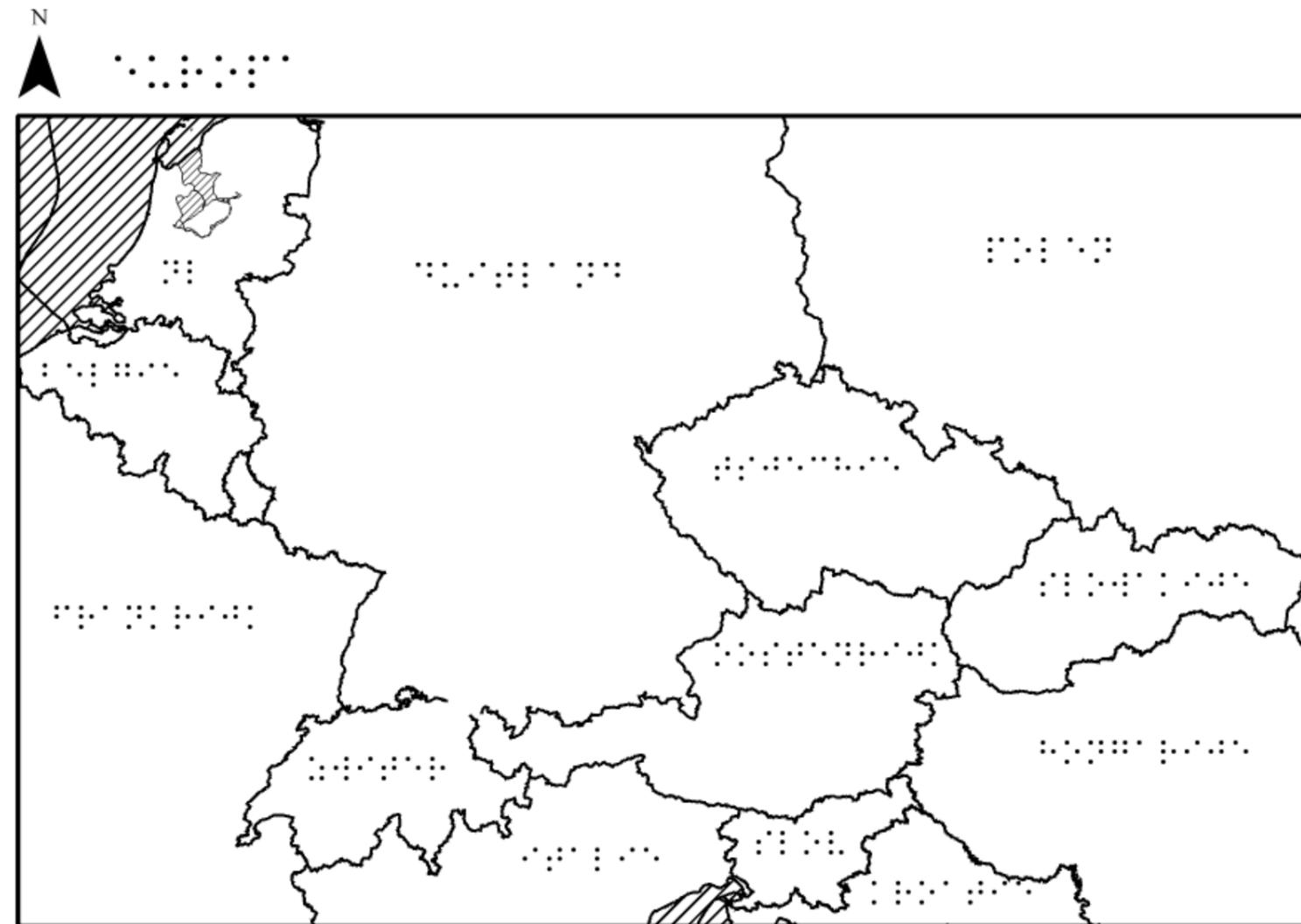


Using the power of touch to bring tactile maps to life

“Our aim is to make all geodata from Kadaster available and accessible to everyone. For blind and visually impaired people, the best way is to create tactile maps. Open Maps For Europe provided an easy way to access official topographic data from different countries and apply the production process we have developed for The Netherlands to other parts of Europe.”

Daan Rijnberk
Kadaster
The Netherlands

The Netherlands Cadastre, Land Registry and Mapping Agency (Kadaster) is committed to making its information easily accessible to everyone. To enable blind and visually impaired people to benefit from its data, it is developing a series of tactile maps for navigating by touch.



Challenge

Tactile maps are expensive to produce as they require special paper and ink as well as the Braille used to ‘read’ them. Whilst Kadaster wanted to improve the style and coverage it offered, it also needed to assess if there was sufficient demand to justify developing a production process, and if so, how best to apply it to other countries in Europe.

Benefits

- Provides access to European maps based on official geospatial data for blind and visually impaired people.
- Demonstrates demand and need for tactile mapping.
- Reduces production costs as based on open data that is easy to access.
- Builds on user needs to ensure maps meet requirements of blind and visually impaired people.
- Enables national production process developed for The Netherlands to be automatically applied to countries included in EuroRegionalMap open data.
- Pioneers new standards for tactile mapping based on user needs.

Solution

Kadaster started by creating a tactile map for The Netherlands. Users navigate the map using black ink that is raised off the special white paper after heat is applied. The symbols, such as airplanes for airports and stars for sports stadiums, are complemented by Braille descriptions of features, including town and city names.

White space is key to producing tactile maps, so content is carefully chosen to ensure the information is clear and objects can be easily identified by touch alone. Due to the amount of space needed to include Braille, feature names are abbreviated and labelled by number. The corresponding name or information is confirmed by a separate legend.

Focus groups run in association with the Bartimeus Institute for the Visually Impaired confirmed the need and demand for tactile maps, and also provided feedback on the most user-friendly style and content.

Daan Rijnberk, an intern who developed the maps under the supervision of Vincent van Altena and Tony Baving, explains: *“We got very nice responses; some people said that was the best map they had tried as many of the currently available maps are drawn rather than being based on official data. We could also test different font sizes to find the best one to meet user requirements.”*

Following the success of The Netherlands map, which is printed by a specialist company, Kadaster applied the production process to data for other European countries.

The launch of Open Maps For Europe enabled it to extend coverage using EuroRegionalMap as the basis for the tactile maps. The seamless 1:250 000 scale topographic harmonised open data is created using official map, geospatial and land information from 31 National Mapping, Cadastral and Land Registration Authorities (NMCAs).

“A key benefit of Open Maps For Europe is that the downloads, as well as the data, are easy to work with,” says Daan. *“We chose EuroRegionalMap because everything we had developed for The Netherlands could be automatically applied to other parts of Europe using our production process.”*

“Tactile maps are now under development for all countries included in EuroRegionalMap and as a result, we will also have a complete map of Europe.”

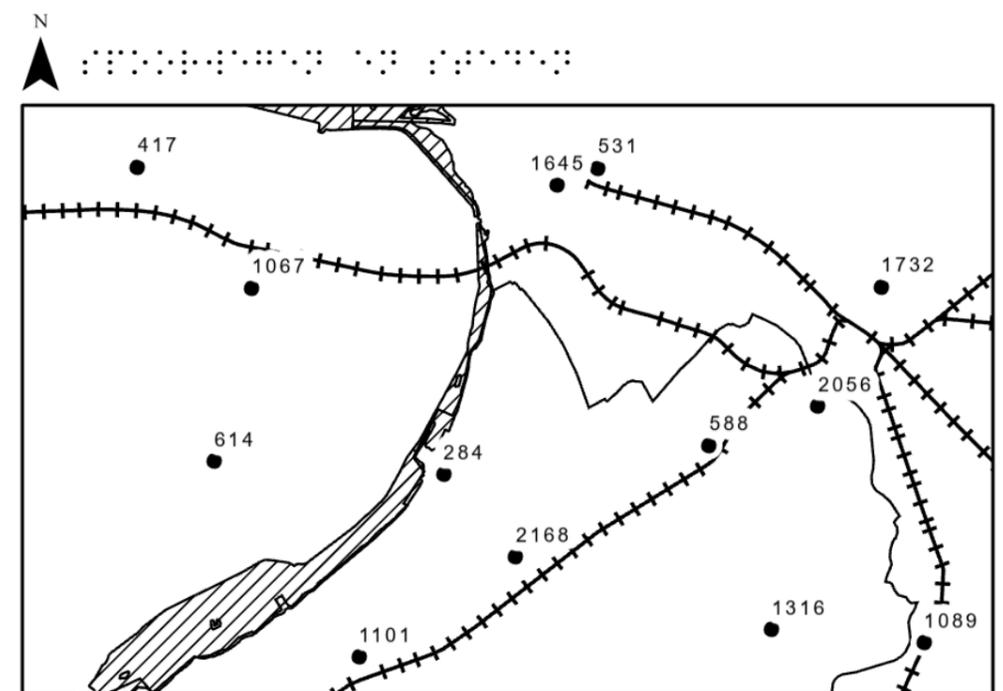
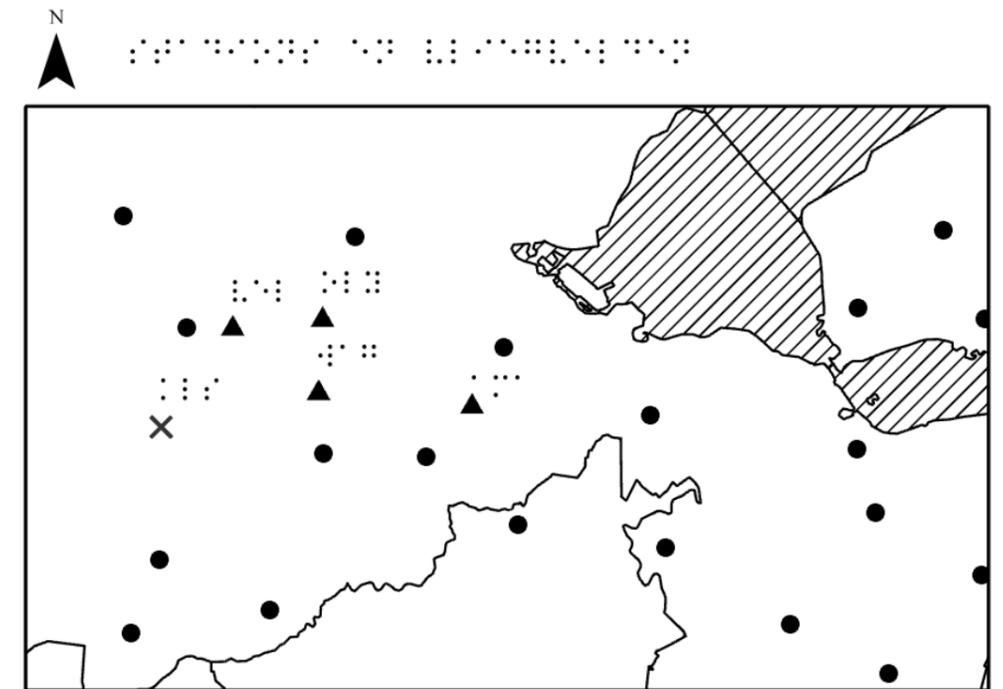
Open Maps for Europe provides easy online access to harmonised pan-European geospatial open data from official sources.

The Open Maps For Europe project is co-financed by the Connecting Europe Facility of the European Union. It is coordinated by EuroGeographics, the membership association for European NMCAs, in partnership with the National Geographic Institute (NGI) Belgium.

This is the first time that the datasets, created using EuroGeographics' unique data integration process, have been easily discoverable, accessible, and released as open data. They include topographic data, a digital elevation model, imagery, a cadastral map, and a gazetteer.



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Co-financed by the Connecting Europe Facility of the European Union