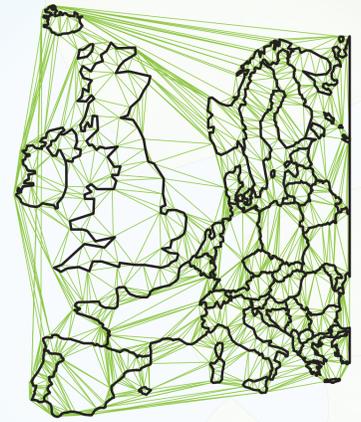


# ACCENTUATING FOCUS MAPS VIA PARTIAL SCHEMATIZATION

Thomas C. van Dijk, Arthur van Goethem, Jan-Henrik Haunert, Wouter Meulemans, Bettina Speckmann  
Universität Würzburg TU Eindhoven Universität OsnaBrück TU Eindhoven TU Eindhoven

## Creating focus areas

**Focus maps** continuously combine an enlarged region with a small scale map. The method by Haunert and Sering (Proc. InfoVis 2011) requires a connected graph and does not take **area** into account. Using a **constrained Delaunay triangulation** as input solves both problems, but overly constrains the input, causing large deformations (*right*).



× CDT is too rigid



× Country deformation

The **stretch factor** of two vertices is the ratio between their graph- and Euclidean distance. The **bottleneck edge** is the edge between the pair of vertices with the highest stretch factor. By adding bottleneck edges up to a given threshold we can control the **rigidity**.

Adding insufficient bottleneck edges allows areas to be severely deformed (*above*). A different rigidity for sea- and land faces allows distortions to be **transferred to sea faces** giving improved results (*right*).



✓ Sea deformation

## Making space

**Thematic information** may require corridors to be enlarged. Scaling these areas causes undesired **deformations** in neighboring countries (*left*). Excluding these edges from affecting the **distortion** at their endpoints while adding a constraint on their scale prevents this (*right*).



× Deformation

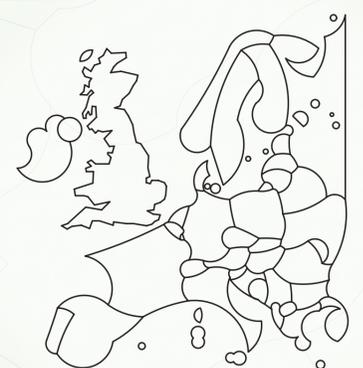
✓ Displacement

## Schematizing context

We schematize the distorted focus map to emphasize the focus region. Depending on the use case we assign different **weights** to each vertex. By allowing a weighted error margin across the map, we can **locally** increase or decrease the schematization. **Circular arcs** help to create a strong visual cue on schematization.



Gradual



Uniform

## Results

