

## Challenging Cartography in ArcGIS from Esri Switzerland

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### Extended Abstract

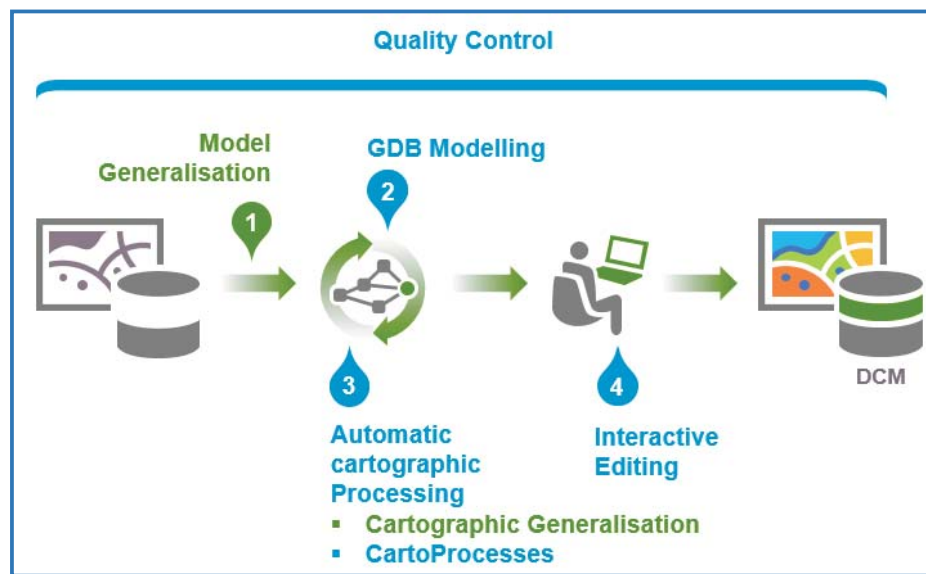
Esri the leading international supplier of Geographic Information System (GIS) software has in the past often been shunned by the Cartographic community for concentrating too much on GIS and too little on cartography.

Since the arrival of Cartographic Representations in ArcMap 9.2 however Esri has put a concerted effort into responding to this criticism and have since come a long way in their cartographic support. Esri have also responded to the steadily increasing interest in both model and cartographic generalisation by extending the palette of tools available in both ArcMap as well as in the Production Mapping Extension with each new release.

Both of these developments have predominantly been driven by the National Mapping Agencies (swisstopo, BEV etc.) interest in starting to use their in-house GIS systems to produce the National map sheets instead of using an alternative graphic based software solution. The National map sheets not only have a very high cartographic standard to maintain but are also often now being derived and produced from a single large scale Topographic reference model and then being automatically generalised into a number of different scale Digital Cartographic Models (DCM's).

Esri Switzerland have taken the existing cartographic possibilities offered in Esri's ArcMap and gone one step further. In collaboration with swisstopo and numerous other cartographic customers the Carto-Tools have been developed which contain a number of Cartographic Processes (CartoProcesses) and tools to help automate map production. These tools automate identified time consuming cartographic processes as well as supporting the cartographers when manually adding the final cartographic touch.

This presentation will step through a possible cartographic production workflow, based on OpenStreetMap Geo-Data and proceed through each of the steps as shown in Figure 1.



**Figure 1.** A potential cartographic production workflow

For each of 4 positions shown within the production workflow the following will be presented:

Step 1: Presenting the concepts and an overview of the tools available for Model Generalisation.

Step 2: Will show how an existing Data-Model can be enhanced to support various cartographic features, as well showing how the required symbol catalogue can be applied to the data.

Step 3: Here the tools and concepts for Cartographic Generalisation will be presented, followed by an overview of the CartoProcesses. The CartoProcesses automate identified cartographic symbolisation tasks to help increase the general cartographic quality and final appearance of the end data.

Step 4: Finally a selection of interactive editing tools will be presented. These tools have been developed to help maximise the efficiency of the cartographer by offering a simplified user experience and various tools for supporting complex editing work such as paralleling line features to one another.