

St Gallen Globe – online (<https://3dglobe.ch>)

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Abstract:

The physical St. Gallen Globe from the 16th century, a combined terrestrial and celestial globe, is one of the most important objects of the cultural heritage in Switzerland. Due to the sheer size of the instrument, the original in the Swiss National Museum in Zurich (as well as the functional replica in St. Gallen) reaches its museum didactic limits. The online globe, on the other hand, should make it possible to conveniently view all parts of the 2.3-meter-high instrument, regardless of location and time. Exploration takes place both from home and on-site in the museums, where it will be embedded in a didactic concept. As a platform, the globe will visualize knowledge and enable citizen science projects.

A corresponding basic model of the St Gallen Globe – online (SGO) was built jointly by the Swiss National Museum, the Abbey Library of St. Gallen and the Central Library of Zurich in collaboration with the Zurich University of the Arts (ZHdK). Recent results in historical research were taken into account as well as new concepts and algorithms of cartographic 3D modeling (see references).

The SGO was made known to the general public at the beginning of November 2022. Although substantial further developments are still planned, people will be able to follow the milestones of the project online (<https://3dglobe.ch>) according to Open Science.

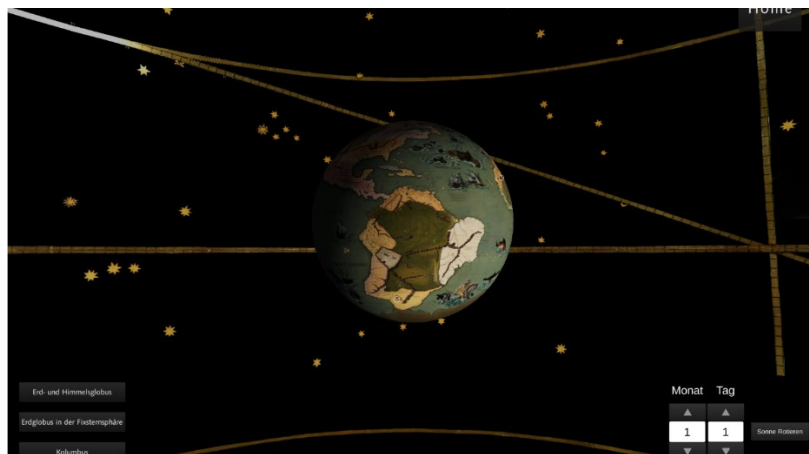


Figure 1. *St Gallen Globe - online (SGO): Visualization of the Earth within the fixed star sphere.*

The website developed so far (Fig. 1) makes it possible for the first time to explore the terrestrial globe within the celestial sphere, immersing oneself in the cosmology of the 16th century in a vivid way. Setting any date causes the sun to move to the appropriate location in its apparent orbit around the earth. In doing so, one can learn, among other things, how the different seasons were explained in the 16th century. As the original globe focuses on the voyages of discovery and thus the beginning of European expansion, the SGO is intended to convey the history of globalization of the last 500 years. Thus, the online globe pursues an important original goal of the original globe, namely the transfer of knowledge. Another function of the original globe was (and still is) to stimulate conversation between the people viewing it. In about two years, the SGO should be able to assume this role.

Moreover, the content of the SGO could also be reused in an atlas by means of storytelling concepts. The ETH Institute of Cartography and Geoinformation (IKG) is currently working on prototypes of storytelling techniques with the maps of the Atlas of Switzerland – online (ASO; Fig. 2). Using the *intrinsic storytelling approach* developed by the ASO team, atlas users will be able to learn about certain events on the map through a short narrative, or explore new relations and

findings through combinations of map topics. Intrinsic storytelling – in contrast to extrinsic "scrolly telling" – is applied directly on the map, which allows users to switch from the story back to the map (and vice versa) at any time. Intrinsic storytelling can be applied to both *timeline-based* events (e.g., depicting a journey), and *exploration-based* events (revealing new parts of the story depending on the camera position and viewing direction). From a user's point of view, both types can be arranged freely or in a so-called "slideshow" mode. In the "slideshow" mode – suitable for the content and concept of SGO – the story is told by moving one slide forward to the next story event, with the option to explore the event's surroundings on the map.

This creates the conditions for integrating the St Gallen Globe-Online into the ASO both as an individual map and, in the medium term, as a story. In this way, a win-win situation can be created in that the ASO can take over substantial parts of the SGO application and the SGO will thus become known to an expanded, international user group.

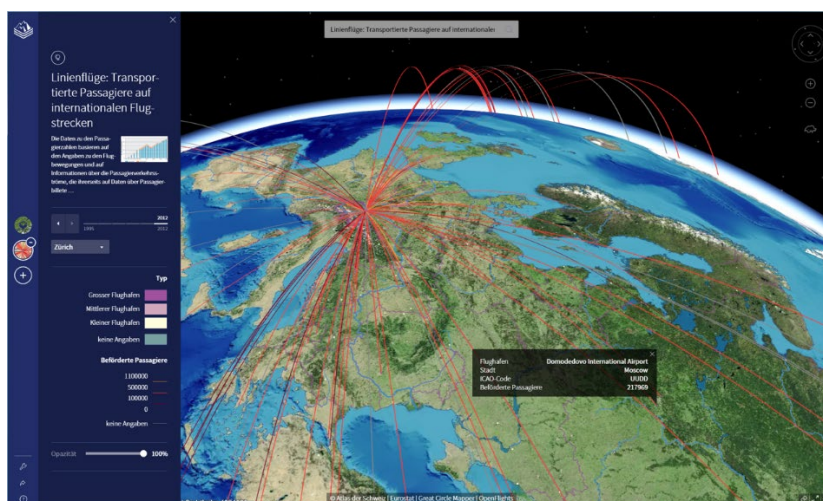


Figure 2. *ATLAS OF SWITZERLAND – ONLINE (ASO)*: GUI and virtual globe with 3D flight lines.

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