TECHNISCHE UNIVERSITÄT DRESDEN

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Lenticular Creation of Thematic Multi-Layer-Models

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Overview

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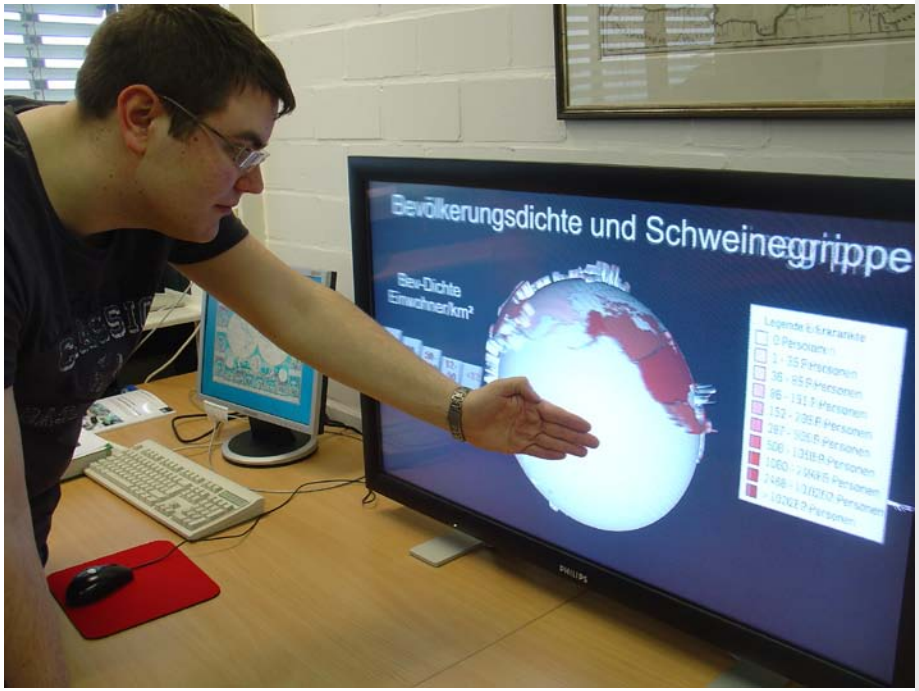

Fig.1: Lenticular display

Project partners

- Cooperation between Institute for Geography of the Ruhr-University Bochum & Institute for Cartography of the Dresden University of Technology (TU)
- Prof. Dickmann (BO) & Prof. Buchroithner (DD)
- TU Dresden: competence in cartographic 3D-solutions
- Ruhr-University Bochum: experiences in thematic mapping

Fig.2: 3D-Content

Lenticular foil technique

- Lenses on screen – no need for glasses
- „free-to-move“-feeling → several optimal viewing points (sweet spots)
- Vividly representation of true-3D-content

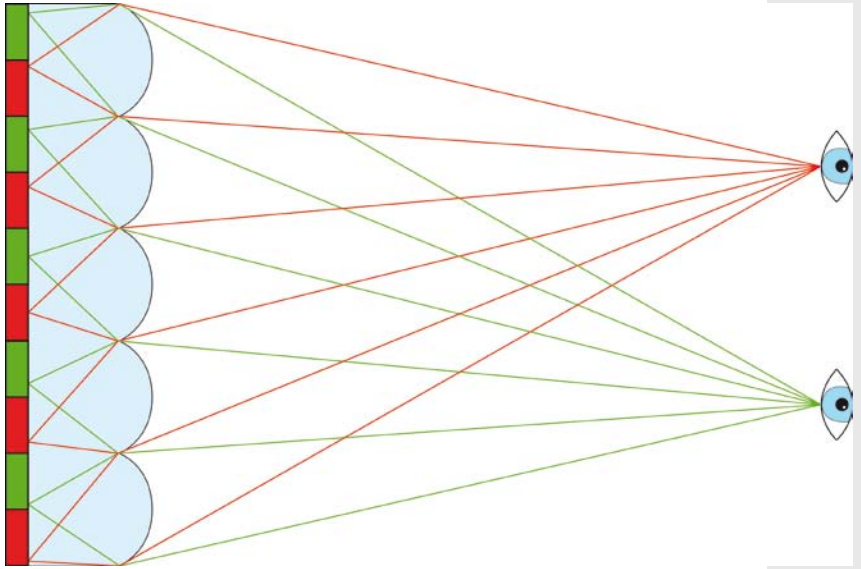

Fig.3: Principle of the Lenticular foil technique

Lenticular foil technique

- Chance to show multi-layer information maps

→ More information in one map

→ Much easier for user to get the needed information

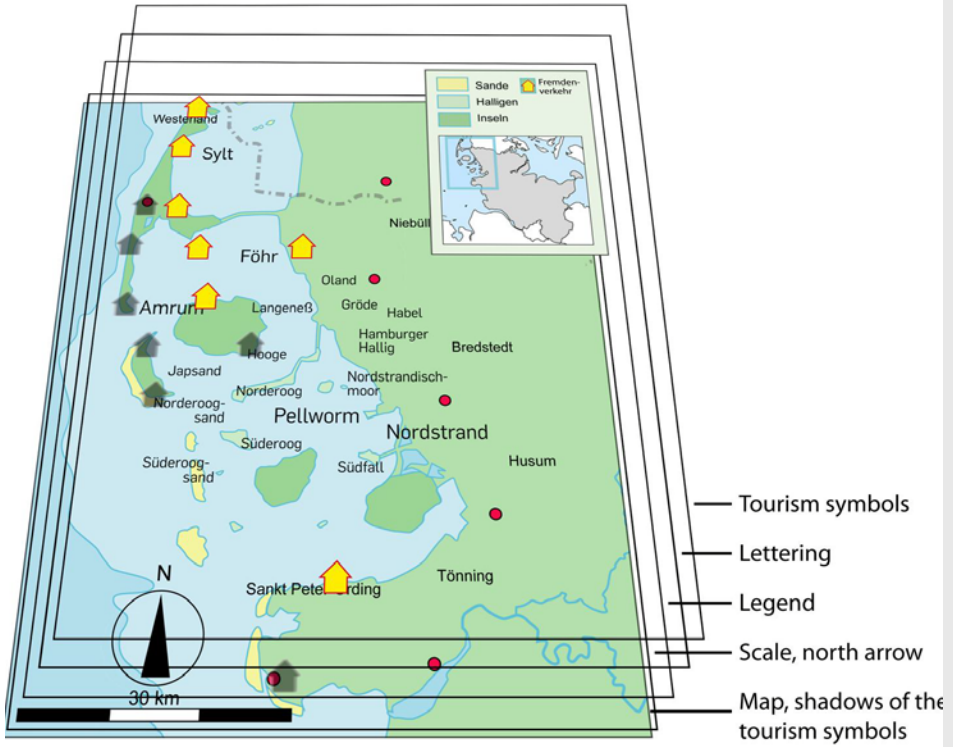

Fig.4: Northern Frisian Islands – arrangement of different layers

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Project aims

- Partners want to point out how useful the lenticular foil technique is for cartographic demands
- Several reasons have to be kept in mind
  - Blur, caused by the lenses
  - Resolution problems

State of the art

- Although there seems to be a high potential for thematic map use of true-3D-displays, there are no empirical studies on this aspect
- Deficit: the systematic investigation of the use of this technique for cartography based information transfer

Working objectives

- The examination of thematic map elements, such as the suitability of fonts and font sizes and their arrangement options under lenticular foils

→ Goal: minimum dimension of lenticular map symbols

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Working objectives

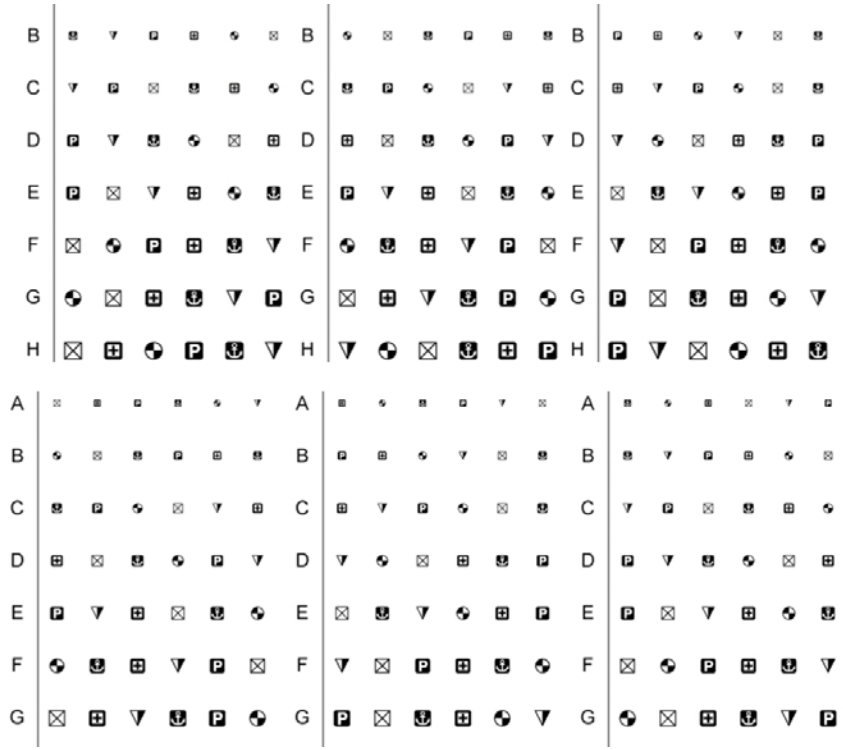

Fig.5: Test pattern 1

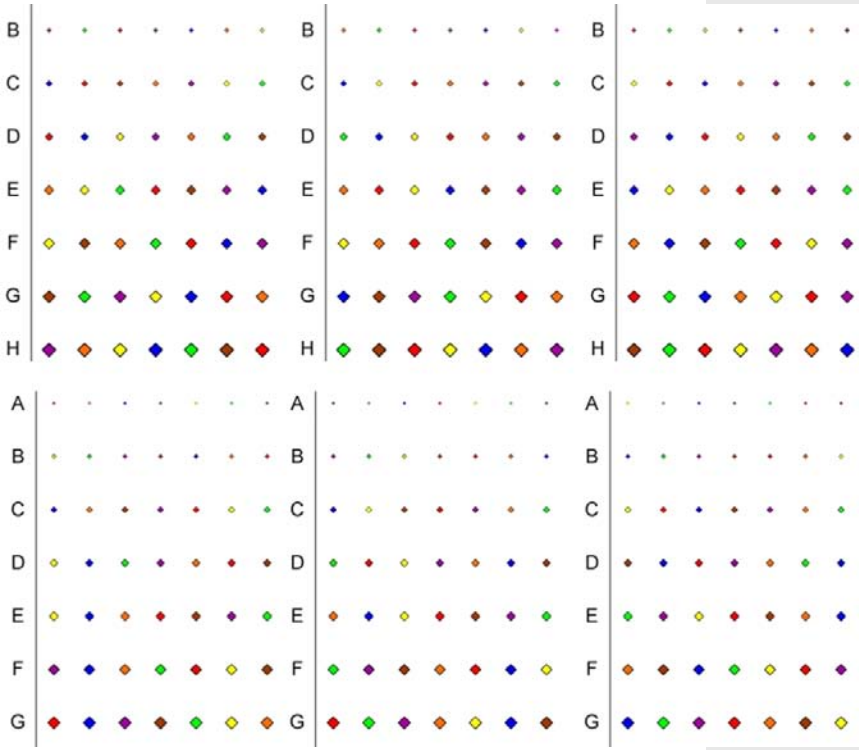

Fig.6: Test pattern 2

Outlook

- As the first period of pre-tests finished now, it is on the project partners to analyse the collected data from the test patterns
- The results of this evaluation shall help to create the maps for the main tests, which are expected to start during the second half of this year

Fig.7: free floating map symbols