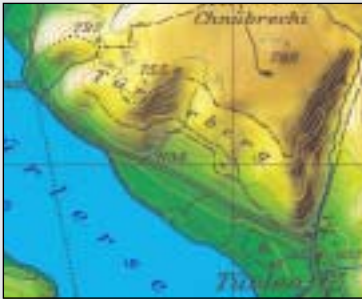


# SCOP++



SCOP++ is well-proven DTM software for most demanding terrain modeling projects.



Merging different DTM views  
(contours, hill-shading and Z-coding)  
with a raster map

## SCOP++ – Well-proven performance for terrain modeling.

**SCOP++ is designed for efficient handling of DTM projects of any size, with data coming from LIDAR, photogrammetry or any other source. SCOP++ provides unsurpassed quality of DTM interpolation, filtering, management, application and visualization.**

All modules of **SCOP++** are made for processing many millions of DTM points. With its integrated database system **SCOP++** is especially well-suited for very large DTM projects, up to nation-wide DTMs.

**SCOP++** works with a very efficient hybrid DTM data structure and flexible, advanced interpolation methods. This

guarantees for rigorous consideration of break lines.

A complete solution for powerful filtering, classification, quality control and editing of LIDAR data is offered with LIDAR Box, consisting of SCOP++ Kernel, SCOP++ LIDAR and inpho's DTM editing station DTMaster.

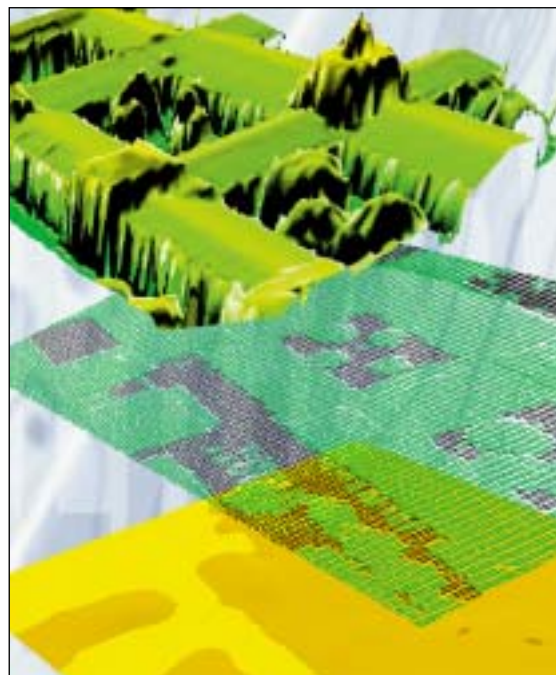
Image Capture

Aerial Triangulation

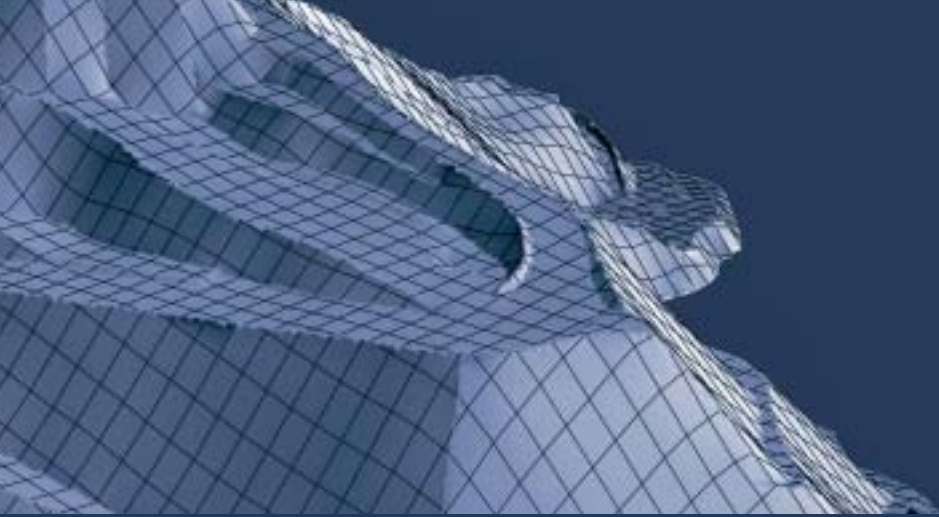
Data Capture

Terrain Modeling

Orthophoto Processing



SCOP++ LIDAR filtering with  
classification for terrain points  
and off-terrain points



SCOP++'s flexible architecture allows for a variety of DTM operations and visualizations

## Features

- With its task-oriented modular structure, SCOP++ can be easily adapted to customers' needs. SCOP++ Kernel is mandatory. All other modules are optional extensions.
- SCOP++ Kernel
  - Precise DTM interpolation with or without filtering
  - Generation of DTMs consisting of up to one billion (10<sup>9</sup>) points
  - Contouring with cartographic quality
  - Basic profiling
  - Flexible Z-coding and hill-shading
  - Integrated raster and vector graphics
  - Combination of geo-referenced raster graphics (e.g. digital map) with DTM views like hill-shading or contours
  - Supported formats:
    - Data: Winput, DXF, XYZ, ArcInfo Generate
    - Graphics: DXF, HPGL, TIFF, JPEG, PDF
    - DTM: RDH, ArcInfo Grid, XYZ, DTED, VRML, Winput, DXF
- SCOP++ LIDAR
  - Filtering of air-borne laser scanning data for automatic classification of the raw point cloud into terrain and off-terrain points, i.e. for extracting the true ground points for further DTM processing
  - Efficient robust interpolation techniques with flexible adaption to terrain type and terrain coverage
  - User-controlled hierarchical process using point cloud pyramids
  - Elimination of gross errors in any DTM data
- SCOP++ Visualizer
  - Perspective DTM views in form of raster graphics generated by SCOP++ Kernel, or of wire-frame models
  - Panoramic views with annotation of geographic names
  - Silhouette views

- SCOP++ Analyzer
  - DTM algebra (including difference DTMs)
  - Volume computation
  - Profiling, cross-sections
  - Digital slope models and slope maps
- SCOP++ TopDM
  - Topographic Data Management designed for storing, managing and archiving nation-wide digital elevation information
  - Geocoded relational data base
  - Georeferencing (map projections and coordinate transformations, geodetic datum transformations)
  - Management of DTM data: DTM selection and export; merging DTMs; extracting parts from DTMs; DTM resampling
  - On request: interfacing with ORACLE databases
- Additional functionality coming soon:
  - DTM quality layer and derivation of quality measures from DTM data
  - Data densification, data reduction and extraction of topographic features
  - DTM interpolation from distant river profiles (e.g. sonar data)

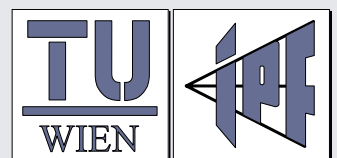
## Benefits

- Well-proven, advanced DTM technology.
- High productivity through effective, high-capacity data processing and batch processing capabilities.
- Suited for seamless management of nation-wide DTMs.
- Unsurpassed DTM quality through precise interpolation and filtering.
- Advanced modules available for pre- and post-processing of DTM data.
- Easy integration into any third-party workflow.

## Recommendations

- High-end PC workstation
- 512 Mbyte RAM or more
- Windows XP/2000
- To complete the workflow of DTM processing, in addition to SCOP++, inpho's product DTMaster is recommended for quality control and editing of DTM data.

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inpho's development partner for SCOP++ is the Institute of Photogrammetry and Remote Sensing of the Technical University Vienna, Prof. Dr.-Ing. K. Kraus, [www.ipf.tuwien.ac.at](http://www.ipf.tuwien.ac.at)

Image Capture

Aerial Triangulation

Data Capture

Terrain Modeling

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