HydroVISH

Partners

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universität innsbruck
www.uibk.ac.at

LSU
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& TECHNOLOGY
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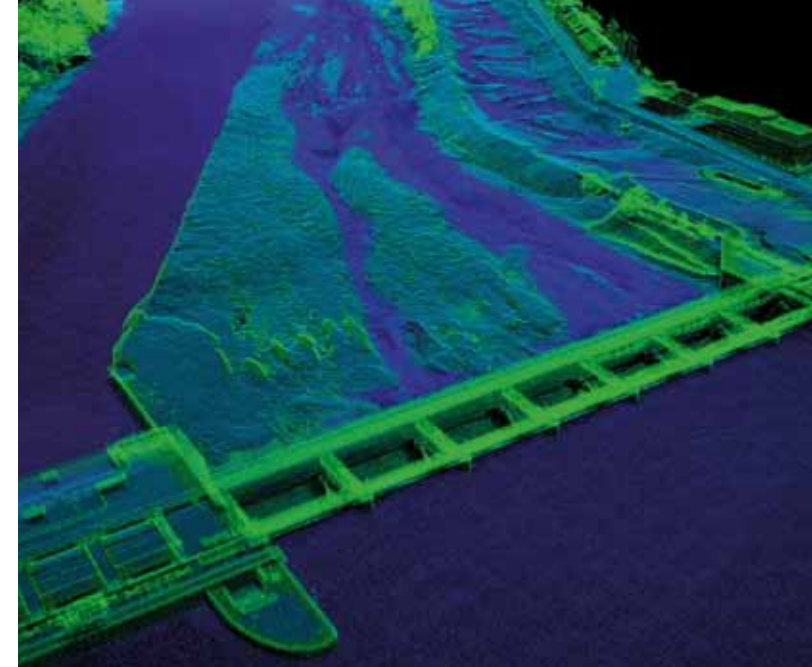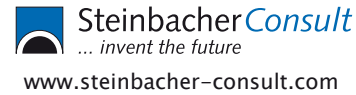
HydroVISH is build upon the visualization shell framework VISH, which originates from the development of experts in the field of scientific research and visualization. The requirements of visualization tasks led to a highly flexible, fast and powerful C++ framework having a solid basic core and using modern graphics and processing techniques. The viewer versions offer our customers an easy entry into the future handling of lidar and multisensor mass data within their authorities.

AirborneHydroMapping OG

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VISH –
your step into handling spatial massdata
on your own.

**AHM** AIRBORNE MAPPING

AHM AIRBORNE MAPPING

HydroVISH adds a set of features and modules to VISH that are designed to solve basic surveying tasks of lidar and multisensor data, including full waveform analysis. A simple user interface allows navigation and visualization within the data. The combination of modules in a network (or directed graph) solves more complicated tasks such as filtering, classification, analysis or computation of data.
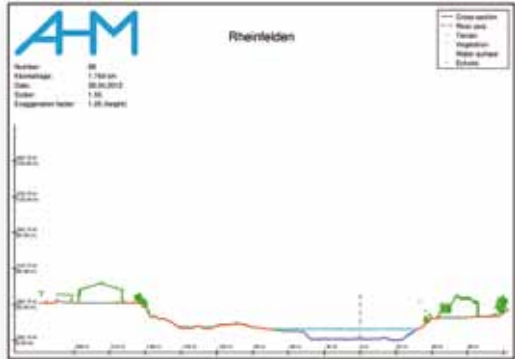
Generation of classified point cloud cross-sections
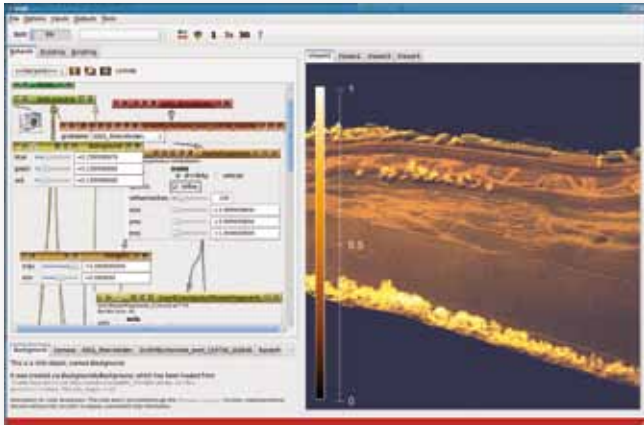
Mesh generation for hydraulic purposes
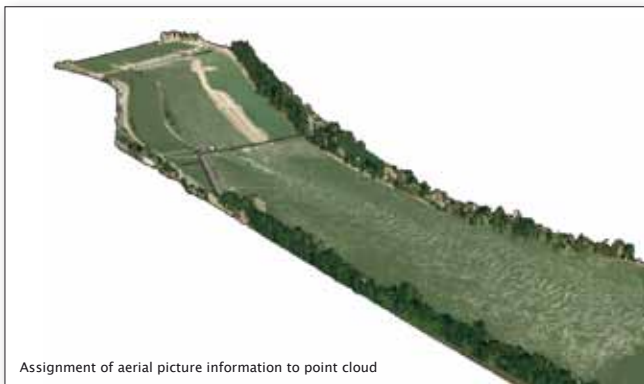
Assignment of aerial picture information to point cloud

Operating Platforms …

… run the software from a usb-stick.
For higher performance available on:
· Linux
· Windows (on request)
· MacOS (on request)

Basic Features

· highly modular design
· combination of modules in a task network
· scripting language
· support of huge datasets
· Network View
· several 3D Views
· unified data model
· HDF5-based file handling
· support of different coordinate systems and transformations
· interactive visualization
· camera animation and movie rendering
· combination of point clouds, shapes and satellite images
  for visualization and computational analysis
· possibility to combine simulation and observation data

Bathymetric Features

· distance and angle measurements
· definition of river axis including side axes
· extract cross sections
· pdf export of cross sections
· various data import:
  +LAS format
  +ASCII point data
  +ESRI Shapefiles
  +TIF/GeoTIF
· user defined named point selections
· computation modules can be restricted to work on
  selections
· geometric analysis of point clouds
· automated topographic and bathymetric filter and classification
· water/surface extraction
· level of detail point cloud rendering
· different render modi:
  +color by scalar data field (e.g. classification)
  +color by height
  +color by images
  +surface shaded points

Case studies

· Hydropower plant Rheinfelden (Energiedienst AG)
· Innercity rivers Munich (City Munich Administration)
· Baltic Sea (Schleswig-Holstein, Coastal Protection, National
  Parks and Ocean Protection)

Collaborators

· Unit of Hydraulic Engineering, University of Innsbruck,
  Austria
· Center for Computation and Technology,
  Louisiana State University, USA
· Institute for Photogrammetry and Remote Sensing,
  Technical University of Vienna, Austria
· RIEGL Laser Measurement Systems GmbH, Austria
· Clockstone Software GmbH, Austria