



## **Hydroinformatic on spatial, high density topobathymetric lidar datasets**

Frank Steinbacher, Ramona Baran, Wolfgang Dobler, and Werner Benger  
AirboneHydroMapping GmbH

For evaluating flood risks and modelling sediment transport along rivers, their hydraulic conditions must be known and for hydraulic modelling high quality terrain data of the riverbed and neighboring foreland are required. Conventional terrain models are based on airborne topographic laser-scanning (red wavelength) and terrestrial surveys along the river course. Latter are carried out for cross-sections, because these lasers do not penetrate into the water column. Therefore, geometrical data of the riverbed with high spatial resolution and coverage compatible with data density of the topographic laser-scanners are sparse. In this study, newly developed topobathymetric laser systems (green wavelength, VQ820-G & VQ880-G, Riegl LMS) had been used to survey the Mangfall river between Rosenheim and Feldkirchen-Westerham. Detailed data of the riverbed, the riverbanks and foreland had been acquired using a single sensor (point densities 30-50 points/m<sup>2</sup>). The visualization of these data, inclusive the numerical results of a CFD simulation, will be shown with the software framework 'HydroVish'. The resulting visualization shows that even mass data of terabyte size can be rendered in real time with HydroVish.