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Digital field mapping of the Dingle Peninsular, County Kerry, Ireland

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In September 2011, a team of eight students from the University of Göttingen digitally mapped seven 10 km^2 adjoining areas on the western tip of the Dingle Peninsular in County Kerry, Ireland for their M.Sc. mapping projects. The students worked in pairs; each pair was equipped with an outdoor, waterproof, drop-proof touchscreen tablet running Windows and Midland Valley Exploration Ltd's Fieldmove software. They also used paper field-notebooks, cameras and hand compasses. The tablets have built-in GPS, two five-hour batteries, and displays that are designed to work even in bright sunlight. In preparation for the fieldwork, the topographic maps of the area (from 1890!) were scanned, geo-rectified and draped onto the DEM of the area using the Midland Valley's Move software.

The geology of the Dingle Peninsular is complex; an inlier of Ordovician rocks that were deformed in the Caledonian Orogeny, are surrounded by Devonian Old Red Sandstone (ORS) units, which were syntectonically deposited as the whole area was folded during the Variscan Orogeny. Consequently the ORS units vary in thickness tremendously and facies often vary laterally. The ORS also contains many unconformities. The area is excellently exposed at the coastline, but it is poor inland because of glacial deposits. As a consequent the students required the software to record bedding planes, cleavages, fold axes and unconformities, as well as standard geological information.

The work went well, despite the weather (the post tropical cyclone Katia!). It was far quicker to complete the map compared to working on a paper map, after the students had got used to the software and the tablet controls. The GPS in the tablet was deemed to be inaccurate and locations on the map were ascertained using standard techniques. It was also extremely useful to export tectonic data in the evening for stereonet projection analysis. Each 10 km^2 area was mapped at 1:10000 in approx. 2 weeks. Because the tablet requires two hands, it is even more a necessity that the students map in pairs.