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EuroMoonMars Field Campaign: Geology traverse planning using orbital sub-m imagery

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Most of the information we have from Moon and Mars surface, comes from satellite observations. During the selection of landing sites and planning of traverses on unfamiliar planetary sites, satellite images of high resolution is crucial. But what information are we missing from these images? What kind of surprises can be expected when exploring an area that has only been investigated from satellite images?

During ILEWG EuroMoonMars 2013 campaign at MDRS Utah we made a comparative study where we looked at satellite images with a spatial resolution of 50-60 cm per pixel, something that is comparable to the resolution of MRO HiRise on Mars or LROC on the Moon.

We then planned traverses at MDRS that were as similar to geomorphological features seen at the Gale crater as possible. Following this, we explored these traverses with a rover, drone and walked them in a Mars EVA simulation mode, before taking rocks and soil samples.

We shal also discuss the usability of a drone for imaging reconnaissance.

The poster will present the results, experiences and lessons learnt from this campaign concerning geological traverse planning based on high resolution satellite images.