

Revealing the remote history of Dartmoor: Virtual reality recreations exploiting aerial and underwater digital surveys

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As with many similar large and inhospitable landscapes across the UK, Dartmoor's most valuable historic sites and artefacts exist in remote, often hazardous locations. Recent developments in the use of drones and autonomous marine systems have revolutionised the process by which detailed, geo-accurate Virtual and Augmented Reality (VR/AR) models of such locations can be developed in a very short space of time.



Autonomous surface vessel and *Inspire* quadcopter.

The results can then be used to raise the awareness of visitors and students of all ages, through the provision of engaging and educational interactive experiences. From the search for World War II aircraft crash sites in dangerous mires to the underwater mapping of flooded valley beds, and from the detailed 3D construction of historic building remains to the mapping of large and historically important mining and quarrying sites, this paper will describe a selection of recent case studies and lessons learned.



Whiteworks tin mine remains at Foxtor Mire (drone image).



Burrator reservoir bed VR-converted sonar scan.