

## **Paper Abstract: Development of an Archaeological Spatial Data Infrastructure (SDI): Democratising Tools and Data**

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The creation and use of digital spatial data within archaeology and its associated disciplines has become increasingly prevalent over the past decade. Data sets ranging from archaeological excavation plans recording stratigraphic relationships to the high resolution LIDAR models detailing the three dimensional nature of an archaeological landscape and its monuments have enabled archaeologists and other interdisciplinary experts to catalogue, analyze and visualize cultural heritage information. This information can then be used to discover trends and explain archaeological theories and concepts. Traditionally, the GIS technology used to view and interrogate spatial data has been expensive desktop based software solutions, but in recent years technological developments have enabled the delivery and exploration of spatial data within an Archaeological Spatial Data Infrastructures (SDI). SDI is the collective name for a group of technologies and supporting measures that enables access to spatial data. Besides, an SDI is more than a single data set or database, since it hosts geographic data and attributes; sufficient documentation (metadata); a means to discover, visualize, and evaluate the data (Catalogues and Web mapping); and provides methods to access to the geographic data. Sharing archaeological information and spatial data sets is, in general terms, the basic goal of any Archaeological SDI, since it considers that maximizing the access to spatial data is minimizing the production cost of spatial information. Each discrete data set is stored only by the cultural heritage organization that created or with an elected archive for smaller independent data creators, and served out to be shared by the community as a whole. The benefits for this are numerous: the financial and technical cost of maintaining the data lies with the creator and provider, not with the user; elimination of the duplication of effort in the generation and maintenance of spatial data; and the currency of the data much greater as the user's data is consistent with that of the data creators, and can become part of the research resource rapidly.

Consequently, an Archaeological SDI is consistent with sustainable development policies and the democratization of data access. This is especially pertinent for spatial data that has already seen public finances contributing to its generation, which in areas in economic regression, like rural ones, is particularly significant and useful to all agents involved in its management. This paper discusses the components of an Archaeological SDI, including web catalogue portals, discovery metadata, web mapping applications and web mapping services. This paper also explores the supporting mechanisms needed to create the environment for the establishment of an ASDI. The final component of this paper will highlight the development of a web mapping application component of the Archaeological SDI and the web mapping services that enables the public and interest groups access to archaeological landscape data.

**Keywords:** *GIS, SDI, web mapping, OGC, data democratisation*