

## **Future SDI – Impulses from Geoinformatics Research and IT Trends**

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Spatial Data Infrastructures (SDIs) are managed IT infrastructures aiming at allowing users to share spatial information and tools to work efficiently in a distributed manner. The term SDI was coined in the nineties as to embrace the set of policies, technologies and institutional arrangements needed for improving the accessibility of spatial information resources. As an information infrastructure SDIs have been both influenced and affected by the evolution and trends in the mainstream Information and Communication Technologies (ICT), for example in pursuing the common objective of sharing digital resources.

SDIs are typically driven by governmental organizations, and thus follow top-down structures based on regulations and organizational agreements as is the rule in public sector affairs. Drawback is, that it makes SDIs less able to easily evolve with new trends. Actually this has led SDI development to a different panorama compared to that of the mainstream ICT. While organizations are still struggling with the implementation of SDIs, and while the outcomes hardly meet the users expectations, mainstream ICT develops at significant pace. The World Wide Web moves towards a Geospatial Web extensively supporting the spatial and temporal aspects of information. The Web of Data provides new means for organizing and sharing distributed knowledge in a global scale. Both real world and virtual world get interwoven more and more and citizens take a significant role in build up this data space. The open question is – how does this relate to the current concepts and activities in the field of SDIs and what are the perspectives.

With this talk we contribute to the discussion of future directions in the field of SDIs, and particularly INSPIRE. We provide a conceptual view on the dynamics of both SDIs, and the Geospatial Web, referring to the theory of Ole Hanseth on the complex adaptive systems (CAS) nature of Information Infrastructures. Based on the analysis of research topics in the field of Geoinformatics research and of current ICT trends we draw the picture of a future SDI, which benefits from both the already existing and the expected advancements. A special focus lies on the upcoming Web of Data and its principles on building a shared global data space. We conclude with recommendations on how to improve the adaptability of SDIs as to facilitate the assimilation of new ICT developments and trends.