Selection of the Elements for a Continuously Operating Reference Station (CORS) Ecosystem Conceptual Model

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SUMMARY

A Continuously Operating Reference Station (CORS) allows for very accurate positioning in real time required for many applications including precise farming, emergency response, and disaster management. Since the first CORS initiatives were launched in the 1990s, a sustainable CORS business model has been subject to continuous discussion, and this is still a concern for CORS network implementation in the ongoing GNSS positioning development. Choices in policies determining the access and use of the CORS data are essential in this discussion. This paper presents the first stage of the "Access and CORS ecosystem" research which should guide CORS decision makers in their choice for sustainable access policy. In addition to the CORS network itself, the technical infrastructure, also the environment in which the CORS network operates is important for its performance. Therefore, the first step is the construction of a CORS ecosystem conceptual model. In this preliminary modelling stage, we assessed whether the concept of a Spatial Data Infrastructure (SDI) framework could be adopted to explain and understand the CORS ecosystem. Six primary elements are introduced to the context of CORS including data, human, policy, institutional framework, funding, technology and other infrastructures and standards. The findings imply that the concept of SDI can be applied to understand the CORS ecosystem. Further model development and validation are the next steps. Then the research will transform the conceptual model into a Decision Support System for CORS network implementation with a focus on sustainable access policy.