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Paper 0033:

BIM applications for the management of road infrastructure assets. Practical experience of Intelligent Safety Management in Road Maintenance: BIMSAFETY - ROADS

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Topic 34:

Road Infrastructure asset management: Case studies, research results, practical experiences

Abstract:

The article presents the results of an experimental study in which the BIM model of a road infrastructure was used as a case study for the development of a tool for intelligent safety management of road maintenance.

Initially, a general review is made of the state of the art and the main challenges that arise in BIM applications for road infrastructure, followed by a discussion of the innovative contribution of the implementation of BIM methodology and its associated technologies to asset management in general, the problems associated with it and the particularities of its use in road maintenance.

The problem of road safety management and the potential contribution of BIM to it, whose use would enable an *"Intelligent Management of Safety in Road Maintenance"*, is also analyzed.

The BIMSAFETY - ROADS platform is described, which is not a commercial software tool but a specific development resulting from a research carried out within the framework of an R&D&I initiative, where the BIM methodology is used for the collection and analysis of data related to road safety, occupational risk prevention and service quality indicators during the management of road maintenance and preservation operations. A general description is given and the basic lines of action on which the implementation evolved are pointed out. The BIM management modules developed and the control and data analysis panels incorporated are also detailed. All this is completed with Virtual Reality applications that fit in with the experience carried out.

As a final conclusion, it is expressed the point of view of the authors about the scope and achievements of the presented development and also the challenges for the future in the application of the BIM methodology and its associated technologies to road maintenance.

Links to other publications where this development is presented and explained:

✓**BuildingSmart Spanish Chapter:**
 https://www.buildingsmart.es/2022/05/23/bim-y-la-seguridad-en-la-conservaci%C3%B3n-de-carreteras/
✓**Catenda:**
https://catenda.com/case-study/bimsafety-roads-intelligent-safety-management-for-road-maintenance/
✓**Copasagroup:**
https://www.copasagroup.com/es/copasa-certifica-como-id-un-proyecto-que-une-ia-realidad-virtual-y-metodologia-bim/

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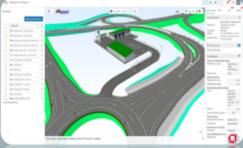PRAGUE 2023

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