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Title :

Design and Evaluation of Bridges Using Mathematical Virtual Bridge Modeling.

Specific theme :
6-Analysis

Summary :
In a typical bridge construction project, work is assigned to various groups of specialists and each one carries a specific project task. Among these groups are architects, engineers, draftsmen, managers, fabricators, erectors and administrators. In each corresponding field, information technologies (IT) have progressed and several valid solutions are available on the market place. However each application has its own proprietary format and databases for input and output. This has created a major problem for the construction industry with respect to the retrieval of useful information from heterogeneous data sources. The productivity of the bridge construction industry is affected with the result that expected construction savings are not fully achieved.
Data exchange protocols are a good step forward, however further efforts in Software integration are required in order to solve the existing problems. A virtual bridge model with configurable views for various participants and end users is presented. The virtual model is aimed at the bridge designers for the design and evaluation of bridges, estimators and, incrementally, the architects, draftsmen, fabricators and erectors, as well as various other construction trades. The paper reflects on some applications of this concept to various types of steel, concrete, pre-tension and steel-wood bridges.

Key Words :
Bridge, Design, Evaluation, Virtual, Steel, Aluminium, Concrete, Pre-tension, Steel & Wood.

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