

Resource Allocation Modeling and Simulation in Border Security Application

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Abstract : Homeland security and border safety is an issue for any country. This paper takes the border security of US as an example to discuss the usage and efficiency of simulation tools in the homeland security application. In this study, available resources and different illegal infiltration parameters are defined, including their individual behavior and objective, in order to develop a model that describes border patrol system. A simulation model is created in Arena. This simulation model is used to study the dynamic activities in the border security. Possible factors that may affect the effectiveness of the border patrol system are proposed. Individual and factorial analysis of these factors is conducted and some suggestions are made.

Keywords : resource optimization, simulation, modeling, border security

Conference Title : ICIEMS 2014 : International Conference on Industrial Engineering and Management Sciences

Conference Location : Paris, France

Conference Dates : July 21-22, 2014