

Simulation and Optimization of Critical Infrastructures PUMA - Public Management Analytics

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ABSTRACT

Society depends decisively on the availability of infrastructures such as energy, telecommunication, transportation, banking and finance, health care and governmental and public administration. Even selective disruption of one of these infrastructures may result in disruptions of governmental, industrial or public functions; in general in public management. Vulnerability of infrastructures therefore offers spectacular leverage for natural disasters as well as criminal actions. Threats and risks are part of the technological, economical, and societal development. Increasing complexity of our critical infrastructures exacerbates consequences of natural and/or man-made disasters. Not only primary effects but also cascading effects as result of increasing dependencies and interdependencies of our technological and societal systems demand intelligent simulation and optimization techniques in the area of operations research, system dynamics and public management:

A comprehensive safety and security management should be part of a modern public management.

In this overview talk, we present the ongoing projects RIKOV and REHSTRAIN as well as a special game-theoretic approach for a complex environmental resource management problem which occurred in Paris in December 2015 during the climate conference. It will be part of a new international curriculum.