NEW REQUIREMENTS OF INFORMATION SYSTEMS IN TODAY'S CRITICAL INFRASTRUCTURE

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This paper analyzes the cyber vulnerabilities, threats and risks to critical information infrastructure in the information age with large and intensive developments in information and communications technology. This virtual dimension is very important for information systems, communications networks, surveillance, control and warning systems and their critical information flows, which ensure the management of the global and national critical infrastructure. These systems are regarded as the backbone of critical infrastructures and as very necessary to the continuity of the information and knowledge management in order to provide specific services. Therefore, the information and communications technology systems must be robust, reliable, sustainable, secure, redundant, adaptive, etc. to meet the cyber threats and risks challenges.

Keywords: *critical information infrastructure, information systems, information and knowledge management, cyber threats, cyber security.*

T he *Wikipedia* online dictionary defines cyberspace as an electronic medium of computer networks, in which online communication takes place. In current usage, the term "cyberspace" stands for the global network of interdependent information technology infrastructures, telecommunications networks and computer processing systems. As a social experience, individuals can interact, exchange ideas, share information, provide social support, conduct business, direct actions, create artistic media, play games, engage in political discussion, and so on, using this global network. The term has become a conventional means to describe anything associated with the Internet and the diverse Internet culture [1].

In the U.S.A., cyberspace is defined as the interdependent network of information technology infrastructures, and includes the Internet, telecommunications networks, computer systems, and embedded processors and controllers in critical industries. Common usage of the term also refers to the virtual environment of information and interactions between people [2].

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