# THE PROBLEMS OF THE SECURITY OF INFORMATION TRANSPORT AND LOGISTICS SYSTEMS

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The level of informatization of modern society is determined by the introduction and use of the latest information technologies, information and telecommunication systems, automated management systems, transport and logistics and information and analytical systems - those systems that directly affect the defense of the country, the traffic junction, human life safety, the economy , education, science and the like.

The issues of ensuring information security of transport infrastructure facilities in the last few years are in the first place in all processes of the vital activity of the transport industry. A special role was played by transport safety in connection with the mutual integration of the Ukrainian and European markets and in a competitive environment.

When these systems function, information processing (its collection, introduction, fixation, transformation, reading, transmission, storage, destruction) is performed with the help of hardware and software and information and telecommunication systems that are part of the domestic and global network infrastructure.

Information security - the state of protection of vital interests of a person, society and the state, in which harm is prevented through: incompleteness, untimeliness and unreliability of the information used; negative information impact; negative consequences of the application of information technology; unauthorized distribution, use, violation of integrity, confidentiality and accessibility of information.

The complexity, multidimensionality and specificity of the problem of information security, including in the information systems of transport logistics, makes it necessary to solve it only in a dynamic development - from the traditional protection of information in its processing systems to the integrated security of information protection objects processed in institutions and organizations that constitute the service , commercial, professional, personal secret and other types of restricted access information.

The level of information security today is largely determined by the process of informatization of the modern world, and, as a consequence, the need for diverse protection of information, regardless of the location of its carriers; wide use of specialized transport and logistics systems and global

information systems in the management bodies, accumulating and transferring huge amounts of valuable information and, at the same time, vulnerable to uncontrolled access to protected information, increasing the risk and danger of unauthorized impacts on information in these systems; the relatively large amount of danger of internal information threats, the widespread use by criminal structures of devices for secretly obtaining information, the inability to predict and identify these threats in a timely manner, correctly assess the danger and take adequate measures to eliminate them.

Security, as a state of security of the system, is determined by the possible vulnerabilities of the system and threats aimed at its destabilization. The algorithm for assessing vulnerability data includes the following main steps (Fig. 1).

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┌──────────────────┐   ┌──────────────────┐   ┌──────────────────┐
│ Data on objects  │   │ Analysis of      │   │ Data on the      │
│ of transport     │──▶│ measures taken   │◀──│ structure of the │
│ infrastructure   │   │ to ensure        │   │ transport process│
│                  │   │ information      │   │                  │
└──────────────────┘   │ security in the  │   └──────────────────┘
                       │ transport process│
                       └──────────────────┘
                               │
                               ▼
┌──────────────────┐   ┌──────────────────┐
│ Data on the      │   │ Analysis of ways │
│ possible infringer│──▶│ to implement     │
│ (the model of    │   │ information      │
│ the infringer,   │   │ threats in       │
│ model of threats)│   │ transport        │
└──────────────────┘   │ logistics systems│
                       └──────────────────┘
                               │
                               ▼
                       ┌──────────────────┐
                       │ Determination of │
                       │ the list of      │
                       │ missing          │
                       │ information      │
                       │ security measures│
                       └──────────────────┘
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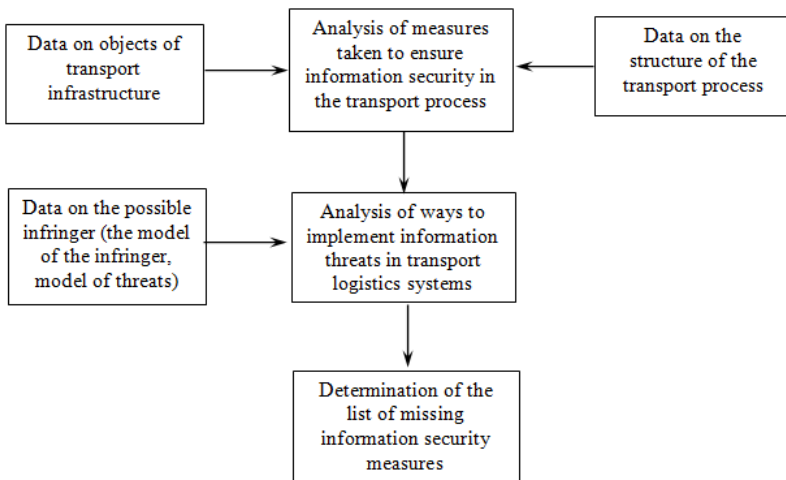
Fig. 1. Algorithm for assessing the vulnerabilities of transport infrastructure facilities

The safety of the functioning of transport infrastructure objects depends very much on the nature of the objects and their interaction with the external environment. If you exclude cargo and vehicles from the concept of transport infrastructure, you can identify the following objects of information and transport security: transport routes (roads, railways, seas and rivers, air corridors, pipes) and transport and logistics nodes.

In conclusion, it should be noted that the security of transport infrastructure should be approached in a comprehensive manner. Only with the coordinated participation of several agencies it is possible to develop a

system of measures, means and mechanisms for interaction of all participants in the transport process in the information security system based on the principles of regulatory, software and cryptographic protection. When organizing such an information security system, it should be borne in mind that the concept of the security of the transport infrastructure is complex and combines the measures of both transport and information security, while the object to which the security action is directed should be considered as a structural object with various composite parts of different levels of organization and with different principles of functioning and management.

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