

## INTEGRATION OF INTELLIGENT INFORMATION SYSTEMS INTO THE ARCHITECTURE OF NATIONAL ECONOMIC SECURITY WITHIN THE FRAMEWORK OF EUROPEAN DIGITAL TRANSFORMATION

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**Abstract.** The rapid digitalization of European economies has fundamentally transformed traditional approaches to national economic security, creating a strategic need to integrate intelligent information systems (IIS) into state-level governance and financial architectures. Within the framework of European digital transformation and integration, the modernization of economic security mechanisms requires interoperability between national systems and European digital infrastructures. The study addresses the relevance of developing an architectural model for embedding IIS into the system of national economic security to enhance resilience, transparency, and evidence-based policymaking. The aim of the research is to determine how intelligent information systems can optimize decision-making and risk prevention within the economic security framework of states pursuing European digital integration. The object of study is the national economic security architecture influenced by artificial intelligence, big data, and automated monitoring technologies.

The research applies a mixed-method approach combining system analysis, economic modeling, and comparative evaluation across EU and candidate states. The theoretical basis rests on the principles of digital governance, cyber resilience, and systems theory of economic security. Methodologically, the study employs multicriteria decision modeling (MCDM) and regression-based simulation using Eurostat and Digital Economy and Society Index (DESI) indicators to assess the

effectiveness of IIS modules. Structural-functional and expert analysis methods are applied to identify causal links between intelligent monitoring systems and economic stability indicators, including fiscal transparency, financial control, and cyber resilience.

Model simulations demonstrate that the implementation of IIS-driven monitoring mechanisms can reduce financial fraud, accelerate cyber incident response, and increase the efficiency of budget resource allocation. Consequently, the integration of intelligent systems enhances early threat detection, data interoperability, and coordination between national and European institutions responsible for economic stability. The results confirm that IIS integration contributes to a measurable rise in the national resilience index and strengthens compatibility with the European Economic Security Framework and Digital Europe Programme priorities.

The practical value of the study lies in the proposed architectural model that unites analytical, infrastructural, and institutional layers of economic security governance. It provides a roadmap for harmonizing national security systems with the European Union's standards of digital sovereignty and sustainable growth. Thus, the integration of intelligent information systems emerges as a crucial instrument for achieving long-term economic stability, innovation capacity, and digital independence within the evolving landscape of European digital transformation.

**Keywords:** artificial intelligence; digital transformation; economic security; intelligent information systems; European integration.