

# SINERGIJA MED UMETNO INTELIGENCO IN SISTEMSKO DINAMIKO

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Sistemska dinamiko lahko razumemo kot pristop k analizi in modeliranju sistemov skozi čas, ki poudarja zanke povratnih informacij, dinamične vzroke in posledice ter kompleksnost odnosov med različnimi spremenljivkami. Umetna inteligenca (UI) s svojimi metodami in tehnikami za analizo in vizualizacijo podatkov lahko pomembno prispeva k observabilnosti, transparentnosti sprejemanja odločitev in upravljivosti sistemov. Z diagrami vpliva modeliramo, kako spremembe enega elementa v sistemu lahko vplivajo na druge elemente skozi čas. Identificiramo povratne zanke, kar je ključno za obvladovanje sistemov na različnih področjih, vključno z znanostjo, tehnologijo, gospodarstvom in družbo.

Pri odločanju nam UI poleg analiz podatkov lahko predstavlja kopilota tudi v izgradnji modelov za sprejemanje odločitev pri zagotavljanju ciljev sistema. Tako si lahko z generativnimi modeli UI, kot je npr. ChatGPT, pomagamo do ustreznih atributov upravljanja in njihovih povezav. Preference in seveda končna ocena, ostanejo v rokah človeka upravljalca. Z uporabo metod UI nikakor ni potrebe, da bi prepuščali odločanje stroju in njegovim algoritmom.

**Ključne besede:** umetna inteligenca, sistemska dinamika, diagrami vpliva, odločanje

## SYNERGY BETWEEN ARTIFICIAL INTELLIGENCE AND SYSTEM DYNAMICS

System dynamics is an approach to the analysis and modelling of systems over time that emphasises feedback loops, dynamic causes and effects, and the complexity of relationships between different variables. Artificial intelligence (AI), with its methods and techniques for data analysis and visualisation, can significantly contribute to the observability, transparency of decision-making and controllability of systems. Causal loop diagrams are used to model how changes to one element in the system can affect other elements over time. We identify feedback loops, which are key to managing systems in various fields, including science, technology, economy and society.

In decision-making, AI can represent a co-pilot in constructing models for decision-making to ensure system goals. Thus, with generative AI models, such as ChatGPT, we help identify the appropriate management attributes and their connections. Preferences and, of course, the final evaluation remain in our hands, the hands of human beings. By using AI methods, there is no need to leave the decision-making to the machine and its algorithms.

**Keywords:** artificial intelligence, system dynamics, influence diagrams, decision making