

*The completed scientific and research work № 2144-p “Development of Methods and Scenarios of Future Events Modelling Techniques” (Educational and scientific complex “Institute for Applied System Analysis” of NTUU “KPI” – Research Advisor N.D. Pankratova).*

We have established scientifically based approaches, models, methods and principles of scenarios for future events modelling and practical procedures for expert assessment taking into account the different nature of uncertainty and risk factors, methods and techniques for comprehensive evaluation of sensitivity, grades reverse, estimation of results of qualitative analysis methodology reliability; we have also developed system methodology for scenario analysis as a tool of technological prediction for the study of future scenarios at the level of large cities, businesses, regions and state as a whole, aimed to support decision making in the innovation development of Ukraine.

On the basis of developed tools for solving problems of technological prediction implementation for the metallurgical plant “ArcelorMittal” (Kryvyi Rig) at the stage of short-term predictions we have created alternative scenarios aimed at enhancing the effectiveness of plant logistics system functioning during all the stages of metallurgical production. Commissioned by the State Agency of Ukraine for Investments and Innovations the new strategic plan for the Crimea and Sevastopol has been developed. Commissioned by the Ministry of Education and Science of Ukraine alternative scenarios to identify long-term ways of implementing critical technologies in the area of “Energy and Energy Efficiency” have been created.

*Results of the work have been implemented in the educational process of teaching such disciplines as “Fundamentals of System Analysis”, and “Decision-making Support Systems”. The new master's specialities on strategic planning and systematic management of sustainable development of Ukrainian cities, large enterprises, industries based on the prediction technology in the framework of the National Technical University of Ukraine “KPI” – “Complex analysis and strategic planning for the development of life support systems of major cities and regions of Ukraine” – have been introduced.*

*The results of research have been used in constructing scenarios of future metallurgical plant “ArcelorMittal” (Kryvyi Rig); in the development of a strategic development plan for the Crimea and Sevastopol (State Agency of Ukraine for Investments and Innovations); creating alternative scenarios to identify long-term ways of implementing critical technologies in the area of “Energy and Energy Efficiency” (Ministry of Education and Science of Ukraine).*

During the year of paper defence on the basis of the research work results a training manual has been prepared, a PhD thesis has been defended (2 are prepared for defence), 16 articles have been published, 16 presentations at conferences have been made, including 16 at the international ones. In the process of research conducting 12 students have been involved. According to the research results students have defended 15 master's theses.