

*The completed scientific and research work № PR/317- number 2008 “Development of scientific-methodical supply and software for identifying advanced areas of innovation technologies development on the level of large companies, industries and regions based on the technology of prediction” (Educational and scientific complex “Institute for Applied System Analysis” of NTUU “KPI” — Research Advisor N.D. Pankratova).*

A systematic methodology of scenario analysis procedure to construct scenarios of future developments in different areas of innovation using methods of qualitative analysis has been introduced. The hierarchical system of qualitative analysis methods of solving prediction problems comprises methods of SWOT analysis, cross impact, morphological analysis, hierarchy analysis, a modified method of hierarchies analysis for situational risk assessment and risk of expert assessments subjectivity in identifying advanced areas for new technologies development on the basis of point and fuzzy/interval estimates. The on-line questionnaires have been developed; alternative scenarios regarding problems on priority measures for transport and public utilities in Kyiv have been built and evaluated.

A mathematical supply has been adapted for solving technological prediction problems with the aim to identify long-term ways of implementing critical technologies in the area of “Energy and Energy Efficiency”. With the involvement of qualified experts we have received answers to several issues suggested in the questionnaires. By adopting a methodology for scenario analysis the alternative scenarios have been created to identify long-term ways of implementing the critical technologies in the area of “Energy and Energy Efficiency”.

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

*The results of the research have been used in the construction of 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 project defence on the basis of conducted work results a training manual has been prepared, a PhD thesis has been defended, 14 articles have been published, and 13 presentations have been made at conferences, including 9 International ones. 8 students have been involved in the research work. According to the results of research students defended 6 master's theses.