Interregional Workshop on the Practical Usage of Decision Support Systems in Nuclear and Radiological Emergency Management

KIT, Karlsruhe | 28 September – 2 October 2026 | IAEA Technical Cooperation Project INT9188

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Workshop overview

The Interregional Workshop on the Practical Usage of Decision Support Systems in Nuclear and Radiological Emergency Management, held at KIT in Karlsruhe from 28 September to 2 October 2026 within IAEA Technical Cooperation Project INT9188, focused on the role of decision support systems within the broader framework of nuclear and radiological Emergency Preparedness and Response (EPR). The workshop addressed the organizational, technical and decision-making arrangements required throughout the different phases of an emergency, from preparedness and the early response to protective actions, communication and longer-term recovery. JRodos was presented in this context as a practical decision-support tool that integrates information such as meteorological data, release estimates and radiological monitoring, and translates it into forecasts of contamination, doses and potentially affected areas to support, rather than replace, decisions by the responsible authorities.

The program also highlighted the importance of preparedness measures surrounding such a system, including clearly defined responsibilities, appropriate staffing and expertise, reliable data flows, communication of results and the interpretation of uncertainties. A further presentation introduced current research on AI-enhanced decision support, including approaches that couple JRODOS with simulation and AI-based methods to support more robust and uncertainty-aware preparedness and protective-action planning; this forward-looking topic attracted particular interest among the participants. Through presentations, demonstrations and exchanges of operational experience, the workshop provided participants with a broader understanding of how decision-support capabilities can be integrated into national EPR arrangements and how they can contribute to more consistent, timely and informed radiological emergency management.

The workshop brought together 29 participants from 15 countries of the Arab world: Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Oman, Saudi Arabia, the State of Palestine, Sudan, Syria, Tunisia, and Yemen.