



Key achievements in the Czech Republic

- 2018: Safety assessment methodologies are developed, with IAEA assistance, for advanced reactor design concepts, focusing on molten salt reactor systems.
- 2018: New technologies are used for the environmental remediation of former uranium mines.
- 2016: Accident simulations and impact evaluations are conducted at nuclear power plants to ensure emergency preparedness and response capabilities.

Atoms for peace and development

Widely known as the world's 'Atoms for Peace and Development' organization within the United Nations family, the IAEA is the international centre for cooperation in the nuclear field. The Agency works with its Member States and multiple partners worldwide to promote the safe, secure and peaceful use of nuclear technologies.

The IAEA's technical cooperation (TC) programme helps countries to use nuclear science and technology to address key development priorities in areas including health, agriculture, water, the environment and industry. The programme also helps countries to identify and meet future energy needs. It supports greater radiation safety and nuclear security, and provides legislative assistance.



Recent project successes

Nuclear safety and security

The IAEA provided assistance to strengthen nuclear safety infrastructure in the Czech Republic. Nuclear power plant accident simulation training was provided to improve impact evaluations and ensure emergency preparedness and response mechanisms are effective.

Advanced reactor designs

Until recently, the Czech Republic has primarily focused on establishing 'water-water energetic' nuclear power reactors. Knowledge of more advanced molten salt reactors (MSR), where a liquid salt mixture is the main coolant, was limited. The IAEA provided support for young Czech professionals to participate in a research project on a system calculation of all potential MSR states, enabling them to gain a deep understanding of salt chemistry and material characteristics. This allowed safety assessment methodologies to be developed for the new MSR systems as well as for other new reactor designs.

Environmental remediation

With IAEA assistance, staff from DIAMO, a state-owned organisation responsible for environmental remediation of former uranium mining sites, were trained in Germany during a two-week scientific visit. Additional training was provided for representatives from the nuclear regulatory authority and technical staff from supporting organizations, focusing on water treatment management, waste rock dump sites, remediation of tailings ponds (which recycle water for industrial use), and on issues associated with radon gas at the mining site, its circulation and emissions in urban areas.

The IAEA supported training on environmental remediation for DIAMO staff, representatives from the nuclear regulatory authority and technical staff from supporting organizations. (Photo: B. Dostalova/DIAMO)

Active national projects

- Strengthening Human Resources Capacity, Nuclear Knowledge, Skills Preservation, Supplementary Enlargement of Knowledge and Expertise in Relevant Fields of the Peaceful Use of Nuclear Energy (CZR0009)
- Strengthening Human Resources Capacity, Nuclear Knowledge, Skills Preservation, and Expertise in Relevant Fields of the Peaceful Use of Nuclear Energy (CZR0010)

The Czech Republic also participates in 31 regional and 4 interregional projects, mostly in the area of energy planning and nuclear power.

Previous IAEA support to the Czech Republic

The IAEA has provided support by strengthening relevant skills at the regulatory body, research institutions, universities and medical facilities. Assistance also helped ensure the reliable provision of nuclear equipment and services, and supported the planning phase of nuclear constructions (including radioactive waste and spent fuel repositories).



A 'loss of coolant accident' vessel used in reactor accident simulations. The IAEA supported a fellowship for a staff member from the nuclear research institute, ÚJV Řež, to the Argentinian National Atomic Energy Commission (CNEA) to build capacities to evaluate the environmental impact on electrical components in nuclear power plants. (Photo: Z. Sarsounova/ÚJV Řež)

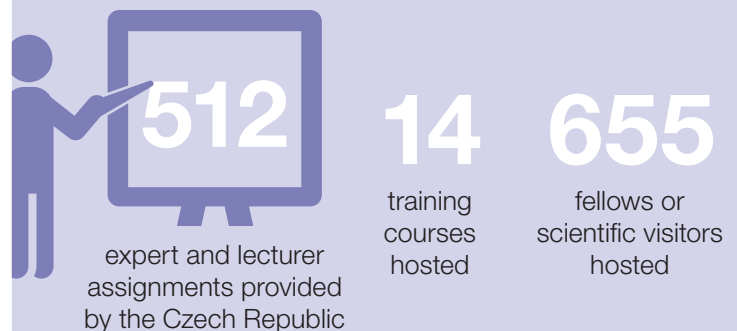
IAEA support to the Czech Republic, 2009–2019



Priority areas of support

- Strengthening nuclear safety
- Supporting nuclear power
- Improving nuclear applications in human health and science, including radiation protection
- Ensuring the sustainability of nuclear institutions and knowledge management

The Czech Republic's contribution to South-South and triangular cooperation, 2009–2019



Based on data available as of April 2020

Strategic documents supported

- Country Programme Framework 2016–2021, signed in September 2015

www.iaea.org/technicalcooperation

The IAEA collaborates with National Liaison Officers and Permanent Missions to deliver its TC programme.