

## Selected achievements

**2019–2023:** The National Institute of Oncology enhances quality assurance and quality control in diagnostic and interventional radiology.

**2017:** The operational license for all four units of the Paks nuclear power plant is extended by 20 years.

**2016:** The Aerosort Laboratory at the Institute of Nuclear Research in Debrecen is established to identify atmospheric particulate matter pollution and its sources.

**2011:** The analytical laboratory at the Centre for Energy Research of the Hungarian Academy of Sciences is upgraded and a pilot plant for wastewater and effluent treatment is commissioned and installed.



Diverse equipment provided through the TC programme for quality control at the National Institute of Oncology, Centre of Radiotherapy. (Photo: National Institute of Oncology, Centre of Radiotherapy)

## Project successes

### Human health

With IAEA support, Hungary has strengthened quality assurance and control programmes in diagnostic and interventional radiology at the National Institute of Oncology. This has resulted in enhanced capabilities of medical physicists and improved knowledge sharing.

The IAEA provided the instruments to carry out systematic quality control tests and organized the publication of the IAEA manual on medical physics in Hungarian.

This ensured sustained improvements in diagnostic and interventional radiology practices, fostering long term advancements in medical physics across Hungary's healthcare system.

### Energy planning and nuclear power

Between 2010 and 2018, Hungary executed a comprehensive lifetime extension programme for Units 1 to 4 at the Paks Nuclear Power Plant. This involved modifying technical procedures to meet nuclear regulatory and safety conditions for long term operation.

The IAEA facilitated the completion and approval of licence renewal documentation by the Hungarian Atomic Energy Authority between 2012 and 2017.

## National priorities

- Nuclear and radiation safety and security
- Emergency preparedness and response
- Radioactive waste management
- Environmental monitoring
- Human health
- Sustainability of nuclear institutions and nuclear knowledge management

## Main areas of IAEA support

- Human resource development
- Utilization of nuclear technology
- Nuclear knowledge management
- Sustainability of nuclear institutions
- Nuclear safety review missions
- Technical assistance
- Safety enhancement of near-surface repository in Püspökszilág

This has ensured a further two decades of safe and low-carbon electricity generation, contributing to Hungary’s sustainable energy future.

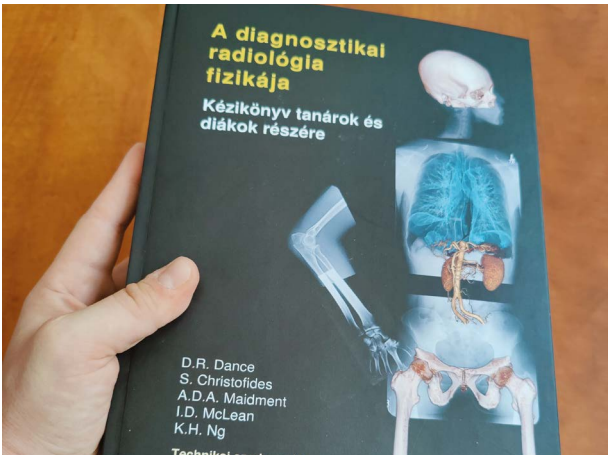
**Water and the environment**

Hungary has been addressing water quality issues resulting from industrial and agricultural activities as outlined in the 2006 Development Plan.

The IAEA provided training and helped Hungary’s Institute for Energy Security and Environmental Safety develop the infrastructure needed to apply ionizing radiation to improve treatment techniques for drinking water, sewage, and sludge.

This collaboration laid the foundation for developing advanced treatment technology and fostering international partnerships, including a successful collaboration with China.

Long term, these efforts have led to a sustained improvement in water quality and an ongoing commitment to protect the environment.



Physics manual entitled “Physics of Diagnostic Radiology” translated into Hungarian under the TC programme. (Photo: National Centre for Public Health and Pharmacy (NCPHP, Budapest), Department of Radiobiology and Radiohygiene)

**Participation in the major initiatives**

- ZODIAC

**IAEA support received in the 21st century**



**Contributions to South-South and triangular cooperation**

