

RoboSpect

Advanced NDT & Robotics for Nuclear Power Plants

About RoboSpect

RoboSpect, Croatia is dedicated to developing and delivering advanced robotic solutions and Non-Destructive Testing (NDT) technologies for the global nuclear energy sector. RoboSpect brings together over 20 experts which will be providing NDT Solutions to Nuclear Power Plant in India & around, including engineers, PhDs, and certified NDT specialists (ISO 9712, ASNT, EPRI). The company operates under a certified ISO 9001:2015 quality management system, with ongoing development aligned with ISO 27001 and ISO 22301 standards.

Core Capabilities:

- **Field Services:** PSI and ISI execution, qualification of procedures & equipment
- **Turnkey Inspection Systems:** For PWR, PHWR, VVER & SMR plants
- **Development:** of custom-made, special-purpose robotic inspection solutions
- **Modernization Programs:** Upgrading legacy tools with new robotics & sensor technology.
- **Lifecycle Support:** Spare parts logistics, remote diagnostics & rapid on-site intervention.
- **Software Solutions:** Custom platforms for manipulation or control, visual and eddy current testing with cross-platform and AI-enhanced capabilities.



Robospect Expertise:

- 25+ global projects across Europe, Asia, the Middle East, & North America
- Proven solutions deployed in over 14 nuclear facilities
- Extensive experience with VVER and PWR reactor types
- Contribution to international research, including work on IFMIF-ONES (fusion materials testing facility)

Mission:

To enable nuclear operators and service providers to perform inspections that are safer, faster, and more cost-effective through reliable robotics, robust engineering, and uncompromising quality standards.

Why RoboSpect

- **Multidisciplinary Team:** Expertise in mechanical, electrical, software, automation, and NDT domains
- **Innovation-Focused:** In-house design of manipulators, tooling, and inspection software
- **Trusted Performance:** Long-term cooperation with OEMs, EPCs, and utilities worldwide
- **Compliance & Independence:** Fully owned by Croatian citizens; no ties to sanctioned entities
- **Documentation & Certifications:** Full traceability, performance records, and internationally recognized qualifications

Where Robospect Work:

Selected experience of our experts includes:

- Kudankulam NPP (VVER, India)
- Loviisa NPP (VVER, Finland)
- Surry NPP, North Anna NPP (PWR, USA)
- Krško NPP (PWR, Slovenia)
- Novovoronezh, Leningrad (VVER, Russia)
- Cernavodă (CANDU, Romania)
- Kozloduy (VVER, Bulgaria)
- Metsamor (VVER, Armenia)
- Maansahn (PWR, Taiwan)
- Barakah (PWR, UAE)

R&D Project Portfolio

Robospect team has extensive experience in developing advanced R&D solutions for non-destructive inspection across the nuclear energy sector. The listed projects reflect the diverse and complex systems our engineers have designed, developed, and deployed. This hands-on involvement showcases our capability to deliver reliable, high-performance systems tailored to meet the demanding requirements of nuclear safety and efficiency.

Reactor Pressure Vessel & Core Inspection Systems:

- Internal RPV inspection system (UT, ET, VT)
- External visual inspection system for core barrel and internals (VT)
- Modular system for flange surface and bolt hole inspection (UT, ET)
- RPV nozzle inspection system with thruster navigation and integrated locking (UT, ET, VT)
- RPVH – J-groove and CRDM penetration inspection system under the reactor head (UT, ET, Repair)
- Core Basket inspection system (UT)

Steam Generator Inspection Solutions:

- PWR–ECT inspection system with fingerwalker type manipulator for SG tubes (Bobbin, MRPC, ECA, Tube plugging module)
- VVER – SG Inspection system for tubes and collector welds (ET, UT and VT with swappable modules, Tube plugging)
- VVER – Mechanical isolation plug for SG collector inlet
- PWR/VVER – Automatic plug installation module for defective SG tubes

Pipe & Elbow Weld Inspection Systems:

- UT inspection system for circumferential welds (Du133–Du850)
- UT inspection system for pipe elbows (Du300–Du850)
- VT & UT system for control rod guide tubes (including diameter transitions)

Bolt And Thread Inspection Systems:

- UT/ET system for bolts ranging from M36 to M170
- UT/ET system for internal threads from M36 to M100



Certification & Compliance Overview

RoboSpect operates in full alignment with international standards and regulatory frameworks relevant to nuclear industry operations.



Quality Management:

- Certified according to ISO 9001:2015 for design, production, and delivery of NDT systems and services
- Implementation in progress: ISO 27001 (Information Security) and ISO 22301 (Business Continuity)

Personnel Certification (All key inspection personnel are certified in accordance with):

- EN ISO 9712 (Level II and III – UT, ET, VT, PT)
- ASNT SNT-TC-1A and EPRI QDA programs for U.S. clients
- Individual performance records and CVs available upon request

This foundation ensures our clients receive safe, traceable, and regulatory-compliant solutions, with full transparency throughout the inspection lifecycle.



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Technology Partner

