

JOŽEF STEFAN INSTITUTE RECEIVES GOLDEN ORDER OF MERIT ON THE 60TH ANNIVERSARY OF THE TRIGA REACTOR

Ljubljana, 25 May 2026 – The Triga reactor has been one of the most recognizable symbols of the Jožef Stefan Institute and the Slovenian nuclear science community for six decades. The reactor's 60th year of operation was marked today with a ceremony at which the president of the Republic of Slovenia dr. Nataša Pirc Musar awarded the Golden Order of Merit to the Jožef Stefan Institute for its exceptional contribution to the development of Slovenian science, nuclear safety, energy independence, and the international recognition of the Republic of Slovenia.

The TRIGA reactor of the Jožef Stefan Institute first reached criticality on 31 May 1966, after mere years after the decision on its construction. From the very beginning, it was designed as a versatile infrastructure for research, education, and practical applications. Its international reputation has been built on the excellent performance of teams of renowned experts who have worked and continue to work at the reactor.

President of the Republic of Slovenia, dr. Nataša Pirc Musar: "Sixty years of the operation of the TRIGA reactor is a milestone that underscores the exceptional importance of scientific progress and investment in research. At the same time, it serves as a guide in shaping our nuclear future. I would therefore like to sincerely congratulate the Jožef Stefan Institute and everyone who has contributed, continues to contribute, and will continue to contribute to this remarkable story of the TRIGA nuclear reactor. Slovenia is proud of you."

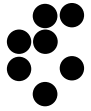
During its first decades of operation, the reactor played a pivotal role in educating nuclear scientists in Slovenia. It served as a training ground for generations of researchers, engineers, and operators working in nuclear energy, medicine, radiation protection, and other fields. It contributed significantly to the development of neutron activation analysis, neutron radiography, and the production of radioactive isotopes for medicine and industry. At the same time, it served as an important hub of knowledge, giving rise to numerous fundamental research and technological achievements.

Jožef Stefan Institute Director prof. dr. Leon Cizelj: »In its sixty years of operation of the TRIGA reactor, the Jožef Stefan Institute has experienced unprecedented development. Today, we are an internationally renowned research institution exploring numerous areas that are not even directly connected to nuclear energetics: from artificial intelligence and new materials to biotechnology and physics, energy, environment, and robotics. 1300 employees at JSI utilize their diversity and excellence to build and fortify this global hub of interdisciplinary research and breakthrough technologies in natural and technical sciences.

Even after 60 years, the TRIGA research reactor continues to be an important part of the identity and mission of the Jožef Stefan Institute. It contributes to all the key elements of the institute's operations: state-of-the-art and interdisciplinary research infrastructure, outstanding achievements in science, collaboration with the industry, integration of various disciplines, education and training new generations of researchers and experts, as well as science communication and engaging the public in understanding the technologies of the future."

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Dr. Bruno Feignier, Deputy Chair of the CEA: “Research and technology organizations, such as the Jožef Stefan Institute and CEA, are at the centre of cutting-edge research, contributing to sustainable and resilient societies and providing them more control over their own future.”

The 60 years of the TRIGA reactor have also been marked by its ability to adapt. The fact that the reactor along with all its research and experiments continues to be relevant today is because it is constantly opening up to new areas, from education and isotope production to the current highly specialized research. Today, TRIGA is focused on cutting-edge research and has a distinctly international role.

Head of the TRIGA reactor, dr. Anže Jazbec: “We participate in projects, such as upgrades at CERN and the development of the ITER fusion reactor, but we have also established ourselves as a leading facility for neutron irradiation and the testing of detectors and electronic components under extreme conditions. We are also a key partner to the French CEA. Yet, what remains crucial today is the same as it was 60 years ago: knowledge, teamwork, and responsibility. This ensures the reactor remains safe, reliable, and scientifically relevant even today, and provides a solid foundation for its further development.”

About the Jožef Stefan Institute’s TRIGA Mark II reactor, which represents 60 years of knowledge, collaboration, and international excellence:

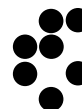
For six decades, the TRIGA Mark II research reactor in Podgorica near Ljubljana has been one of the most recognizable research centres both at the Jožef Stefan Institute and in Slovenian nuclear science. The reactor was first started up on 31 May 1966, mere years after the decision to construct it. From the very beginning, it was designed as a versatile infrastructure for research, education, and practical applications, which it continues to perform with great success to this day.

The TRIGA reactor is part of a family of research reactors renowned for their inherent safety and exceptional robustness. The fuel made of uranium alloy and zirconium hydride enables a fast negative feedback loop, meaning that the reactor remains safe even during rapid changes in power. It has a nominal thermal power of 250 kW, and a unique capability for pulsed operation, during which the power can briefly increase to 1 GW. These characteristics have made TRIGA an ideal tool for experimental reactor physics, materials testing, and education for decades.

Its role as the central research infrastructure in nuclear technology positions the TRIGA reactor at the core of nuclear sovereignty, as it enables the development of knowledge and expertise that cannot be replaced by relying on foreign services or external facilities. It is part of international programmes and research networks, serving as a recognized educational platform for students, doctoral candidates, and experts from abroad, significantly contributing to the international recognition of Slovenian nuclear expertise and to knowledge exchange at the highest professional level. This constant interconnection of domestic and international nuclear professionals working on the reactor ensures the existence of an independent, highly qualified Slovenian professional core, which is crucial for the safe use of nuclear technology, effective regulation, and long-term, well-considered decision-making regarding the nation’s energy future.

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During the 1960s and 1970s, Europe built several new research reactors each year, but only a few have survived to this day. The TRIGA reactor at the Jožef Stefan Institute is one of the few that has maintained and enhanced its role over the decades, primarily due to its ability to continuously adapt to scientific developments, research needs, and market conditions. Its flawless operation has also been made possible by numerous upgrades, which have kept the reactor technically and scientifically relevant. Thus, despite 60 years of operation, it participates in the most demanding international projects, such as CERN, ITER, and the activities of the CEA (France). At the same time, an overarching insight has been gained: nuclear energy has been part of our society for more than 50 years and it is the safest, cleanest, and above all, most competitive energy solution that will continue to play a significant role in the future.

Sixty years after the TRIGA reactor began operations, it remains a vital, modern, and future-oriented research infrastructure. Its past is a testament to the exceptional dedication of its staff, while its present demonstrates international excellence and the unique role it plays in cutting-edge research. Its future is already taking shape in the development of a new Slovenian research reactor infrastructure.

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