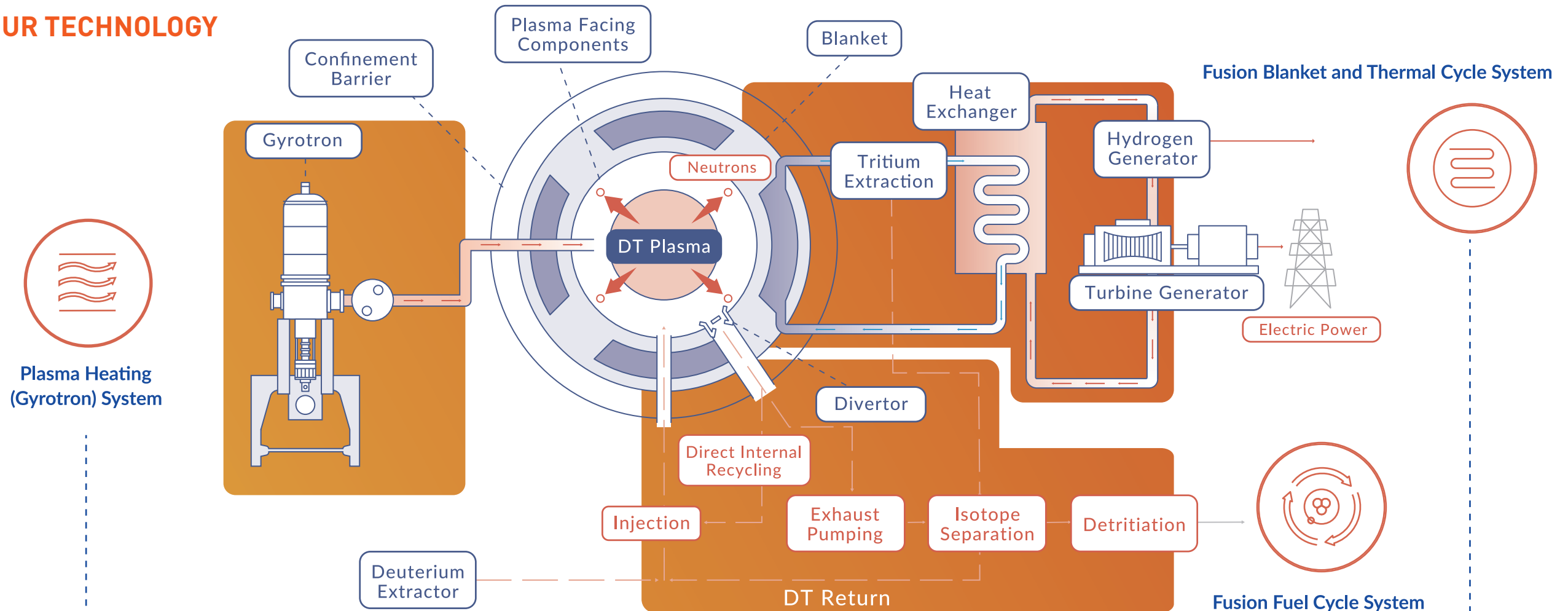
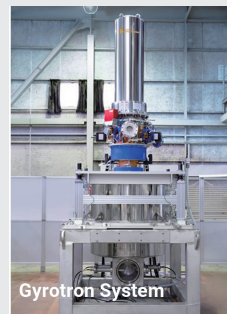


OUR TECHNOLOGY



Plasma Heating (Gyrotron) System

Gyrotrons generate the heating necessary to sustain a plasma in magnetic confinement-type fusion power plants. Gyrotrons have long been the subject of research and development by engineers at national research institutes like National Institutes for Quantum Science and Technology (QST) in Japan.



We are building on this technology by conducting R&D to improve performance and promote the global adoption of gyrotrons -- advancing multiple frequencies (104 / 137 / 170 / 236 GHz) and extending output duration to ensure their transition to industrial applications. As a private company, we prioritize excellence in product management and quality assurance, along with other aspects necessary for the successful implementation of gyrotrons.

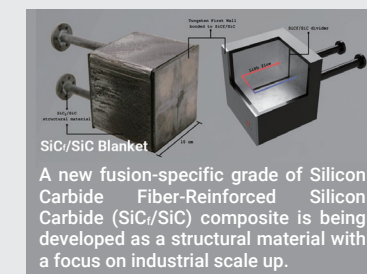
Fusion Fuel Cycle System

KF is advancing fuel cycle technologies essential for circulating hydrogen isotope gases like deuterium and tritium, heavier forms of hydrogen that are pivotal for achieving the high-energy output desired in fusion devices. UNITY-2 is an integrated test plant led by Fusion Fuel Cycles Inc., a joint venture with Canadian Nuclear Laboratories (CNL). This initiative focuses on enhancing the technological maturity of fusion fuel cycle systems. CNL's world-renowned facilities play a crucial role in this joint effort, bringing global expertise to the forefront of our research.



Fusion Blanket and Thermal Cycle System

Extracting heat efficiently from a fusion core requires innovative materials and plant designs tailored to the unique demands of fusion energy -- including the management of extreme conditions like intense neutron bombardment, powerful magnetic fields, and high temperatures. At KF, we're developing a comprehensive system that not only withstands these challenges but also achieves high thermal efficiency. Our proprietary materials and plant designs are specifically engineered to handle the rigors of fusion energy production, setting new standards in durability and efficiency.



ABOUT US

Founded in 2019, Kyoto Fusioneering (KF) is a privately funded deep-tech startup spun out of Kyoto University. The company specializes in developing the critical technologies needed for commercial fusion power plants, including gyrotron systems, tritium fuel cycle solutions, and breeding blankets for tritium production and power generation.

Our Locations



Our Team

Across regions and disciplines, our engineers, business teams, and corporate members work as one—advancing innovation through shared expertise and a unified purpose.



OUR HISTORY

- 2019: Founded Kyoto Fusioneering
- 2021: Inaugurated Tokyo Office
Founded Kyoto Fusioneering UK, Ltd.
- 2022: Founded Kyoto Fusioneering America, Ltd.
- 2023: Relocated the Head Office to Tokyo
Inaugurated Kyoto Research Centre
- 2024: Founded Kyoto Fusioneering Europe GmbH
Founded Fusion Fuel Cycles Inc.
- 2025: Launched New R&D Centre in Tokyo
Relocated the Head Office within Tokyo
Founded Starlight Engine Ltd.
- 2026: Opened Tokyo Satellite Office
Inaugurating KF Shiga Innovation Factory

About FAST Project

FAST (Fusion by Advanced Superconducting Tokamak) is a privately led, industry-academia collaborative project aimed at demonstrating fusion power generation in the 2030s. The project seeks to validate key technologies—including energy conversion from burning plasma and fuel cycle systems—using a tokamak device equipped with high-temperature superconducting (HTS) coils.

Under the leadership of Starlight Engine Ltd., the project's main entity, KF contributes to FAST by supporting its technological development and engineering efforts.



FUSION for the FUTURE

Developing fusion technology to drive a new energy industry
and impact major environmental challenges,
leading to a sustainable future



Location:
Distribution A Building, AW1-S,
Tokyo Ryutsu Center, 6-1-1
Heiwajima, Ota-ku, Tokyo
143-0006, Japan



Open Positions



Website



Interviews

