



**Kanematsu Invests in MIT Spin-Off Startup Foundation Alloy**  
**— Contributing to Solving Manufacturing Challenges through Next-  
Generation High-Durability Metals—**

Kanematsu Corporation (“Kanematsu”) announced that it has made an equity investment in Foundation Alloy Technology Explorations, Inc. (“Foundation Alloy”), a U.S.-based startup originating from the Massachusetts Institute of Technology (“MIT”) that develops and commercializes next-generation engineering alloys through MetalsFIRST™, a fully integrated, solid-state metallurgy process. Kanematsu has acquired equity stake in the company by participating in Foundation Alloy’s Series A third-party allocation of new shares. Going forward, Kanematsu will broadly supply Foundation Alloy’s next-generation alloys and parts both in Japan and overseas, enabling faster, simpler manufacturing cycles, capital-efficient industrial scale up, and access to alloy compositions and properties inaccessible to legacy melt processes.



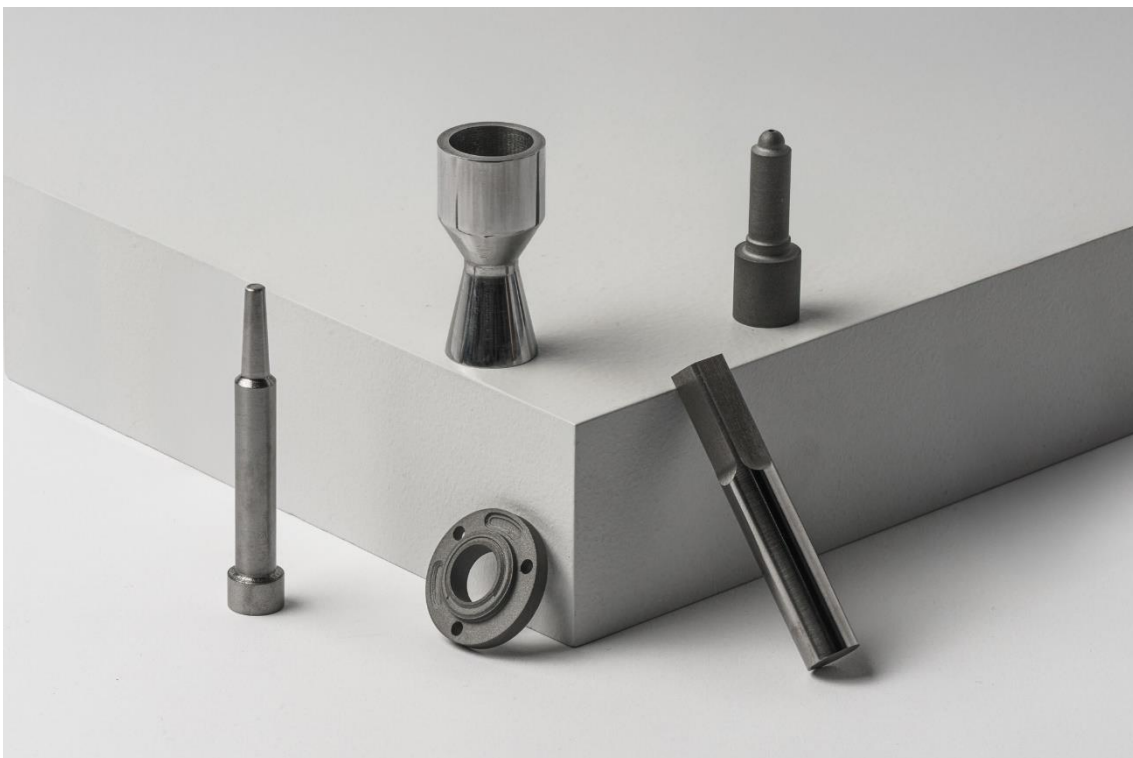
Close-up image of Foundation Alloy molybdenum-alloy forging die

Engineering alloys are the fundamental materials for advanced industrial manufacturing. In recent years, manufacturing sites have faced increasing demands for enhanced performance—such as higher strength, superior corrosion resistance, and improved heat resistance—driven by industrial advancement and cost-reduction pressures. Next-generation alloys are new classes of metals that meet these needs through advanced material design and innovative technologies.

Foundation Alloy's core strength lies in its fully-integrated, solid-state process MetalsFIRST, which is built on many years of research at MIT. This innovative process which covers composition design, mechanical alloying, shape forming, and sintering, produces engineering alloys without ever melting. By leveraging this process, Foundation Alloy has developed next-generation alloys that maintain high strength and excellent wear resistance, even in high-temperature environments. This achievement had previously been considered technically challenging. These materials are expected to find applications across a wide range of industries, including forging dies, die casting molds, cutting tools, and industrial components. Foundation Alloy's MetalsFIRST process operates as an integrated, end-to-end system covering everything from development to manufacturing, allowing it to provide products to a variety of customers.

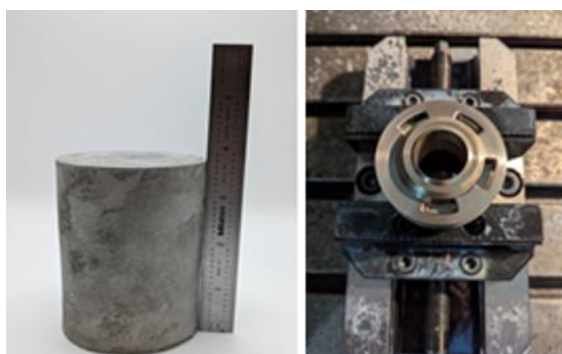
Through decades of trading operations in metal fields such as steel products, its Specialty Steel Foreign Trade Department has cultivated extensive expertise and built strong domestic and international networks. By supporting the social implementation of Foundation Alloy's next-generation alloys through this investment, Kanematsu will promote a solution-oriented business model in the metals field that further evolves beyond its traditional trading functions. In line with its Medium-Term Management Plan "integration 1.1," which envisions Kanematsu as "a solutions provider leading the transformation of efficient and sustainable supply chains," the company will approach manufacturing challenges from the metals domain to deliver tangible value to production sites. (Click [here](#) for Kanematsu's Specialty Steel Trading business)

### ■ Foundation Alloy's Next-Generation Metals



Example of product using Foundation Alloy's Next-generation alloys

Foundation Alloy is developing next-generation alloys, including high-strength molybdenum-based alloys\*<sup>1</sup>, for applications such as hot forging dies\*<sup>2</sup> (MC-X) and die casting molds\*<sup>3</sup> (MC1200). These materials address key challenges associated with conventional tool steels, including high-temperature softening, thermal fatigue, and wear. They exhibit excellent hardness retention even at temperatures of approximately 1,000°C, as well as outstanding durability against thermal shock and thermal fatigue. In addition to delivering fully machined parts, the company can also provide materials in billet form after the sintering process. Foundation Alloy's process supplies finished parts and materials across a broad range of industrial customers and applications. (For product images, please see below. Click here for the [catalog](#))



After sintering

After machining

In addition, Foundation Alloy is actively advancing new material development in collaboration with partner companies, with a view toward expanding into cutting-edge fields requiring operation under more extreme conditions. These include applications such as cutting tools and blades in the near term, and in the mid- to long-term, aerospace components and next-generation energy technologies.

※<sup>1</sup> Molybdenum-based alloys: Metal materials composed primarily of molybdenum, featuring high heat resistance and strength, and capable of maintaining hardness and shape in harsh high-temperature environments.

※<sup>2</sup> Hot forging die: Metal molds used to shape red-hot metal materials under high pressure to manufacture automotive parts, industrial machinery components, and other products.

※<sup>3</sup> Die casting mold: Metal molds used to mass-produce complex and precise metal products by injecting molten aluminum, zinc, magnesium alloys, etc. at high pressure and speed.

#### **FOUNDATION ALLOY TECHNOLOGY EXPLORATIONS, INC Company Profile**

Name	FOUNDATION ALLOY TECHNOLOGY EXPLORATIONS, INC.
Establishment	2022
Representative	Jake Guglin
Headquarters	Boston, USA
Business	Development, design, and manufacturing of next-generation alloys and components
URL	<a href="https://www.foundationalloy.com/">https://www.foundationalloy.com/</a>

#### **【Contact】**

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<https://www.kanematsu.co.jp/en/inquiry/>