

# Development of innovative low-cost, high-quality mass production technique for gallium oxide substrates (FOX Co., Ltd.)



City	Year of Establishment	Founder
Sendai, Miyagi	2024	Ko Onodera Kei Kamada Kiichi Ogura Yasuhiro Shoji Akira Yoshikawa Taketoshi Tomida Kochurikihin Vladimir

Partner VC	Latest round of Fundraising	Valuation
Macnica Investment Partners	Series A	JPY 8.5 million

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- Business Plan  
Aiming at social implementation of  $\beta$ -Ga2O3, which is expected to be a next-generation power semiconductor material, we will reduce the manufacturing cost and improve the quality of substrates using precious metal crucible-free crystal mass production technology.  
In this STS phase, we will demonstrate the bulk  $\beta$ -Ga2O3 crystals with 2-inch diameter and 2-inch length and low defects.
- Research Outline  
In this project, we will develop an innovative crystal mass production technology that does not use precious metal crucibles, and put into practical use a technology to produce gallium oxide ingots and substrates with low defects comparable to Si at a lower cost than SiC.By achieving the development items listed below, we aim to achieve the overall goal of the STS phase of this project, which is to produce 2-inch diameter by 2-inch long crystals with low defects.  
(1) Longer and larger diameter crystals  
(2) Improvement of crystal quality of substrate  
(3) Development of processing technology for crystals

Business Area/Field	Research Period	Research Grant Amount	International collaborative technology demonstration
Materials	STS 2024~2025FY	JPY 500 million	-