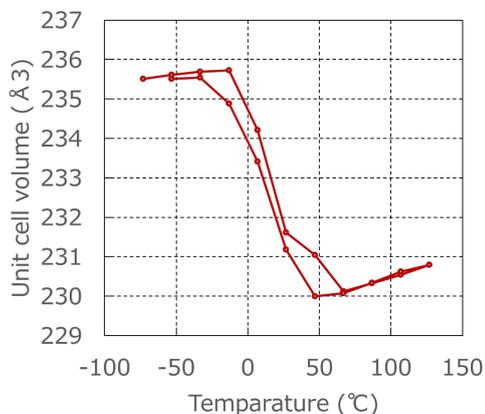


## JMTC concludes an exclusive licensing agreement for a negative thermal expansion material with Tokyo Institute of Technology and commences sales of samples

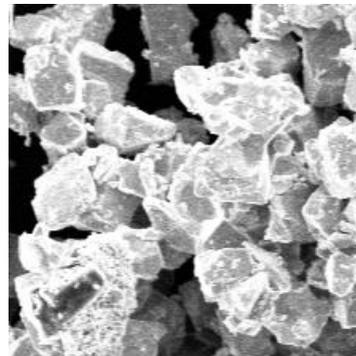
Japan Material Technologies Corporation (JMTC; Head Office: Chuo-ku, Tokyo; CEO: Koyu Urata) is pleased to announce that JMTC has concluded an exclusive licensing agreement (hereinafter referred to as “the Agreement”) for negative thermal expansion material  $\text{BiNi}_{1-x}\text{Fe}_x\text{O}_3$  (hereinafter referred to as “the Material”) with the Tokyo Institute of Technology (Tokyo Tech). Sales of samples of the Material will also be commenced in accordance with the Agreement.

The Material is an oxide-based ceramic material having a Perovskite structure and exhibits negative thermal expansion coefficient of 187 millionths per degree of temperature rise in temperature ranges near room temperature. The temperature range where negative thermal expansion occurs can be controlled by changing the composition ratio of nickel and iron. JMTC concluded a joint research agreement with Tokyo Tech and Kanagawa Institute of Industrial Science and Technology in September 2018 and has been conducting studies to establish industrial production technology for the Material. The Agreement was concluded with Tokyo Tech based on the progress of this joint research, which will enable commercialization of the Material.

Volume change  
(Unit cell volume measured with powder  
X - ray diffraction)



SEM photo



In addition to the Material, JMTC has been engaged in the commercialization of highly heat-resistant resin materials such as low-chlorine epoxy resin, double-decker silsesquioxane and trifunctional benzoxazine. Market needs for highly heat-resistant resin materials, such as the suppression of CTE (coefficient of thermal expansion) which the Material is expected to resolve, are rapidly increasing and diversifying as development of electronic components for 5 (fifth-generation mobile communication system) advances. JMTC intends to continue actively engaging in commercialization of unique highly heat-resistant resin materials.

JMTC is a fabless startup company specializing in functional materials. The company is focused on the use of licensing agreements and carve-outs to commercialize innovative technology developed by Japanese corporations as well as universities and research institutions. JMTC will continue to contribute to creating innovation in the materials industry in Japan by commercializing unutilized technologies developed by corporations.