JMTC

NEWS RELEASE

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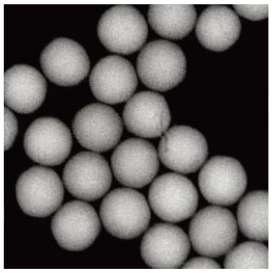
Japan Material Technologies Corporation

JMTC concluded license agreement with Sekisui Chemical for up-conversion nanoparticles

Japan Material Technologies Corporation (Head Office: Chuo-ku, Tokyo; President: Koyu Urata; "JMTC") has entered into a license agreement (“the agreement") with Sekisui Chemical Co., Ltd. (Head Office: Osaka City, Osaka; President: Keita Kato; "Sekisui Chemical") concerning up-conversion nanoparticles.

The technology that is the subject of this agreement is the manufacturing technology for up-conversion nanoparticles ("the product"), which Sekisui Chemical has independently developed. The product is a quantum dot-like nanoparticle with a particle diameter of about 10 nm that has a special wavelength conversion function that converts infrared light into visible light. This is an exclusive license agreement for the patent and know-how for the entire world.

< SEM picture >



< The products irradiated with near-infrared light >

Up-conversion materials can convert low-energy long-wavelength light into high-energy short-wavelength light, and in particular, up-conversion materials that convert near-infrared light, which has a wavelength longer than that of visible light (more than 750 nm), into visible light are attracting attention for their potential use in solar cells, artificial photosynthesis, anti-counterfeiting, biomarkers, optical sensors, etc. However, organic up-conversion materials, which are currently widely studied, have a high conversion efficiency of up to 30%, but the difference between the excitation and emission wavelengths is short, and they are prone to degradation in an oxygen atmosphere. This product is an inorganic up-conversion material with a conversion efficiency of only about 2%, but it can control the emission wavelength in a wide range from blue (around 400nm) to red (around 700nm) using near-infrared light around 980nm as the excitation wavelength. Utilizing the exclusive license acquired through the agreement, JMTC will supply the product to manufacturers who are seeking to add functionality to resin products, mainly films and inks, to commercialize this product as soon as possible.

JMTC has been working on the industrialization of materials that add functionality to resin materials, such as super engineering plastic particles, BNFO (negative thermal expansion material), and MXene (highly conductive material). JMTC will continue to actively promote the commercialization of functional materials with unique characteristics.

As a fabless functional materials manufacturer, JMTC is working on the commercialization of innovative technologies developed by Japanese companies, universities, and research institutes through licensing out and carve-outs. JMTC will continue to contribute to the creation of innovation in Japan's materials industry by promoting the commercialization of unused technologies developed by Japanese companies.