Isorg and Raynergy Tek Join Forces to Develop Organic Photodetectors for Consumer Electronics Market

This collaboration marks an important step towards advancing OPD SWIR technology to launch next generation products

Limoges, France, September 14th, 2023 – Isorg, a pioneer in Organic PhotoDetectors (OPDs) and large area image sensors, and Raynergy Tek, a leader in organic semiconductor announce the signature of a Joint Development Agreement to accelerate the development of OPD technology for short-wave infrared (SWIR) image sensors and detectors, which can be applied on next-generation biometric authentication on consumer electronics products.

According to Yole Group, an expert in the analysis of technology markets, the SWIR image sensor value market is expected to reach $2.9 billion by 2028, as SWIR imaging provides more detailed information than visible and near-infrared lighting. The existing silicon-based CMOS image sensors have no spectral response to SWIR light, and alternative inorganic semiconductors, such as InGaAs are too expensive to be integrated into consumer electronics products.

On the contrary, organic semiconductors can achieve SWIR light response by designing the molecular structure of polymers; this allows to create a photodetection layer using non-toxic and heavy-metal free materials with low-temperature, non-vacuum and fast processes, which bring more benefits than competing technologies.

This partnership is a major step forward for the development of OPD SWIR technology. Isorg has a strong technical background in OPD processes on different types of substrate including CMOS wafer, as well as device manufacturing, while Raynergy Tek is an expert in organic semiconductor materials: The combined focus of both companies will ensure the success of OPD technology in high volume applications in consumer electronics.

"We have been very active to develop evaluation platforms and application prototypes to address smartphones, VR headsets, healthcare and biometry applications. The collaboration with Raynergy Tek is an important activity to achieve the successful integration of SWIR based on OPD technology for next generation products" said Dieter May, CEO of Isorg.

Phoebe Tan, CEO of Raynergy Tek emphasized "we recently had a breakthrough in R&D, our proprietary materials showed remarkable SWIR response, the detectivity is up to 10^{11} Jones at 1300nm wavelength. The collaboration with Isorg is very important to demonstrate readiness and viability of our material for commercial development at fab level."

About Isorg
Isorg is a pioneer in organic and printed electronics for large area photodetectors and image sensors. It offers a new generation of high-performance imagers with the capability for easy integration into systems with various shapes or form factors. Its flexible image sensors have application in consumer electronics, ID security and access control, IoT and medical devices. In 2020, it launched the first worldwide demonstrator of full-screen sized Fingerprint on Display (FoD) for smartphones. A year later, it received the first worldwide FBI certificate for an organic photodiode-based fingerprint module for the security & ID market. Founded in 2010 and partnering with CEA-Liten, a leading French innovation center for new energy technologies and nanomaterials, Isorg has attracted substantial investments.
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About Raynergy Tek
Raynergy Tek, the leader in innovation, research and development, manufacturing and commercialization of Organic-based Semiconductors (OSCs) materials. Their proprietary material is used for cutting edge optoelectronics devices on image sensing electronics products and energy harvesting solar cells.
www.raynergytek.com