

Evonik and Holst Centre enter next phase of joint partnership introducing iXsenic technology into mass production

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Over the last two years, Holst Centre supported Evonik in optimizing material and process of the new semiconductor technology iXsenic® S. Now the cooperation enters the next phase by extending the contract and introducing the revolutionary technology into mass production at a key customer

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During the successful partnership Holst Centre and Evonik worked on the further optimization of the iXsenic technology. For the outside world visible highlights were:

- High performance solution processable semiconductor iXsenic® S driving a flexible AMOLED display on Polyimide foil presented on SID 2014
- Development of an 8-bit thin-film microprocessor together with Panasonic showing the ability of iXsenic® S to be used also in a printing process; this device was presented on this year's ISSCC

Now the cooperation enters a new phase: One of Evonik's key customers will introduce the revolutionary iXsenic® S material combined with the well-established slot-die (slit) coating process in one of its fabs. This will be facilitated by Holst Centre and supported on-site in Asia also by Evonik's recently inaugurated Application Technology Center.

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"Evonik has the best n-type soluble oxide semiconductors in the world. In this recent cooperation, Holst Centre was able to demonstrate in a reliable process charge carrier mobilities exceeding 10 cm²/Vs uniformly on large areas with a iXsenic® S" said Gerwin Gelinck, Organic and Oxide Transistors program manager at Holst Centre. "This state-of-the-art material and process will now be introduced in mass production which could be the beginning of a new era in display manufacturing."

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“Due to their outstanding know-how Holst Centre has done an excellent job supporting the optimization of our iXsenic technology” said Ralf Anselmann, vice president at Evonik. “In this next phase having left the development phase Holst Centre is the best choice facilitating a quick and successful introduction of the process into mass production.”

iXsenic® S is a solution-processable inorganic metaloxide semiconductor which is applied via slot-die coating. No vacuum environment is necessary which results in process simplifications, outstandingly high yield and cost advantages. Application areas include high-resolution LCDs and OLED displays, with or without flexible properties.

For further information please visit our websites www.iXsenic.com (English) and www.iXsenic.com.cn (Mandarin).

Company information

Evonik

Evonik, the creative industrial group from Germany, is one of the world leaders in specialty chemicals. Profitable growth and a sustained increase in the value of the company form the heart of Evonik's corporate strategy. Its activities focus on the key megatrends health, nutrition, resource efficiency and globalization. Evonik benefits specifically from its innovative prowess and integrated technology platforms.

Evonik is active in over 100 countries around the world. In fiscal 2013 more than 33,500 employees generated sales of around €12.7 billion and an operating profit (adjusted EBITDA) of about €2.0 billion.

Evonik Industries has been producing specialty chemical products in the Greater China region (Mainland China, Hong Kong and Taiwan) since the late 1970's; with wide-ranging trading relations already in place prior to this in the region. Evonik regards Greater China as one of the driving forces of the global economy and we consequently endeavour to grow our business in the region. The company now has around 3,200 employees in the Greater China region, the regional sales reached over €1 billion in 2013.

Holst Centre

Holst Centre is an independent open-innovation R&D centre that develops generic technologies for Wireless Autonomous Sensor Technologies and for Flexible Electronics. A key feature of Holst Centre is its partnership model with industry and academia around shared roadmaps and programs. It is this kind of cross-fertilization that enables Holst Centre to tune its scientific strategy to industrial needs. Holst Centre was set up in 2005 by imec (Flanders, Belgium) and TNO (The Netherlands) with support from the Dutch Ministry of Economic

Affairs and the Government of Flanders. It is named after Gilles Holst, a Dutch pioneer in Research and Development and first director of Philips Research. Located on High Tech Campus Eindhoven, Holst Centre benefits from the state-of-the-art on-site facilities. Holst Centre has over 180 employees from around 28 nationalities and a commitment from close to 40 industrial partners.

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