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- **Applications:** Transparent conductive films
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November 26, 2009

Dear Readers,



not just yet we are involved into snowball fights, however, a load of information is thrown at you in this PolyIC newsletter.

In the section 'Network' you will be informed about the roadmap on organic and printed electronics that was created within the Organic Electronics Association (OE-A).

Both in the section 'Technology' and in the section 'Applications' you will read about the transparent con-

ductive film that is produced by PolyIC in a newly developed production process.

The printed memories which were developed by PolyIC jointly with a Norwegian/Swedish company, are also produced in a roll-to-roll process. Read more about this in our second section 'Applications'.

Another new offer by PolyIC is electronic authentication. More information on the topic Authentication Check can be found in the third section 'Applications' with solutions to check the originality of products.

I wish you an exciting read.

Yours sincerely

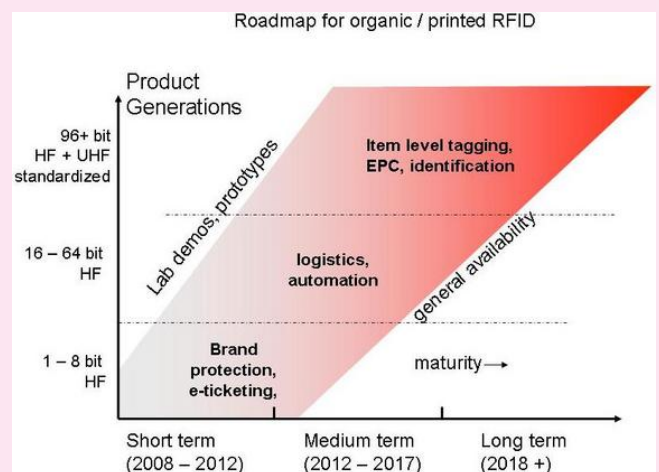
Wolfgang Mildner
Managing Director PolyIC

PolyIC is a member of:



Network:

OE-A Roadmap



The roadmap for organic and printed electronics is a key activity of the OE-A. Organic electronics is a platform technology that enables multiple applications which are very widely in their specifications. Since the technology is still in its early stage - and also in the transition from lab-scale and prototype activities to production - it is important to develop a common opinion about when and what kind of products, processes and materials will be available.

For this third version of the OE-A Roadmap, key teams of experts in nine applications and three technology areas developed roadmaps for their fields. The resulting roadmap is a synthesis of these results representing common perspectives of the groups.

A white paper for the current version will be released later in 2009. In the 09-Edition there will be discussions about the following applications: organic photovoltaic cells (OPV), printed RFID, organic memory, organic sensors, flexible batteries, smart objects, Organic Thin Film Transistors (OTFT), flexible displays, electroluminescence (EL) and organic LED (OLED).

For further details or the OE-A Roadmap White paper please contact the OE-A office (www.oe-a.org) in Frankfurt/Germany.

Applications:

Authentication check by electronic security labeling



Brand Protection - is it an issue for you?

Nowadays product piracy becomes a more and more sensitive issue worldwide. Therefore, protecting your own brand and your products becomes more and more essential.

Problems arising from inappropriate brand protection are damage to the brands image, warranty and liability problems and decreasing sales figures.

Electronic authentication check

PolyIC offers electronic tags that can be read contactless in order to check authentication. These tags work through RFID (radio frequency identification) and are produced on the technological basis of printed electronics. They can be read with a reading device manually or automatically without the necessity of line of sight.

The tags can be tucked away as a thin flexible film into products or packaging.

This automatable solution is especially suitable for mass products.

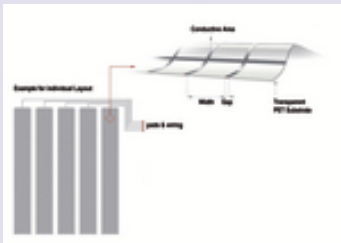
With our product lines, PolyID® und Polylogo®, it is even possible to choose from various security levels and tag types.

No doubts if its an original

You have the following advantages by protecting your product with printed electronics, for example: automatic reading, unique result, hidden integration into products, thin and flexible tags, authentication check within seconds, combination with further security elements such as holograms and low cost solutions.

Technology:

Transparent conductive films



In a newly developed production process PolyIC is able to produce thin conductive layers on flexible and transparent film. The flexible film where metals are used as conductive material is transparent over a wide range of the wave

length.

According to the customers preference the sheet resistance is adjustable individually. The sheet resistance of the tracks is selectable between 0.4 - 1 Ohm/sq. The layout of the tracks is also freely configurable with extremely high resolution. The film is made of polyester. A typical example is shown in the picture. Please read the following section to learn more about the applications of these films.

Applications:

Transparent conductive films



The new conductive films can be used for applications such as displays, touch sensors, heating elements or for transparent flexible electrodes.

Currently, for these applications ITO films or thin integrated metal rods are

mainly employed.

PolyIC's new technology allows the fabrication of conductive films in terms of patterned, thin metal tracks with both high conductivity and transparency.

These conductive structures are generated on thin and flexible films by means of a roll-to-roll process in high volume.

Market Information:

Roll-to-roll printed memory



Functional re-writable polymer memory products produced in a high-volume roll-to-roll printing process enable next-generation interactive toys, games and more.

The re-writable memory together with a reader/writer provides a platform for Toy and Game designers to create the next generation of interactive and evolvable toys and games where the memory could be linked to the on-

line world. Now, companies can add interactivity to their existing product lines as well as create entirely new toys and games with added value for both consumers and brand owners. In particular, brand owners can tailor their marketing to the behaviour of the consumers and also provide them with unique features, collections and offers. With these printed memories the opportunities are endless.

The printed memories are done in collaboration with Thin Film Electronics ASA.

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