

# "We don't plan on slowing down"

Dr Fernando de la Vega, founder and CEO of the conductive nano-inks manufacturer PV Nano Cell, sat down with OPE journal to talk about the latest developments and projects in his company, which is based in Migdal Ha'emek, Israel

**OPE journal:** Dr de la Vega, your company produces a range of nanometric conductive inks. Can you give us a short overview about their functionalities and fields of application?

**Dr Fernando de la Vega:** PV Nano Cell's family of Sicrys nano silver and copper inks are constantly being expanded to cover a broader range of applications. There are many different fields of application for our Sicrys inks including sensors, OPV, photovoltaics, antennas, touch screens, and printed circuit boards, just to name a few. Each of these applications, in addition to electrical properties, require different additional functionalities, for example adhesion, environmental durability, and others.

**OPE journal:** It seems fair to say that the last year has been rather busy for your company. When you look back at the previous 12 months, is there a development within your company that stands out for you?

**F. de la Vega:** Yes, 2015 was certainly a very busy year, and we don't plan on slowing down in 2016 at all. Last year, the development that stood out the most was our newest ink, designed for use in humid and aqueous environments with enhanced durability. This ink led to our being chosen as the winner of an IDTechEx Award for "Best Development in Materials for 3D Printing" and as one of the Global Cleantech "100 Ones to Watch".

**OPE journal:** In October 2015, your company has announced a co-operation with a leading printed circuit board manufacturer. What do you expect from this collaboration?



## Dr Fernando de la Vega

**F. de la Vega:** We established this collaboration with the goal of implementing the first ever mass production inkjet printer in an industrial environment printing printed circuit boards. The co-operation is continuing as planned and we hope to reach our goal this year.

**OPE journal:** Most recently, you also came up with a new conductive ink that enables 3D printing on plastic, fabric and even paper. What are its properties and possible fields of application?

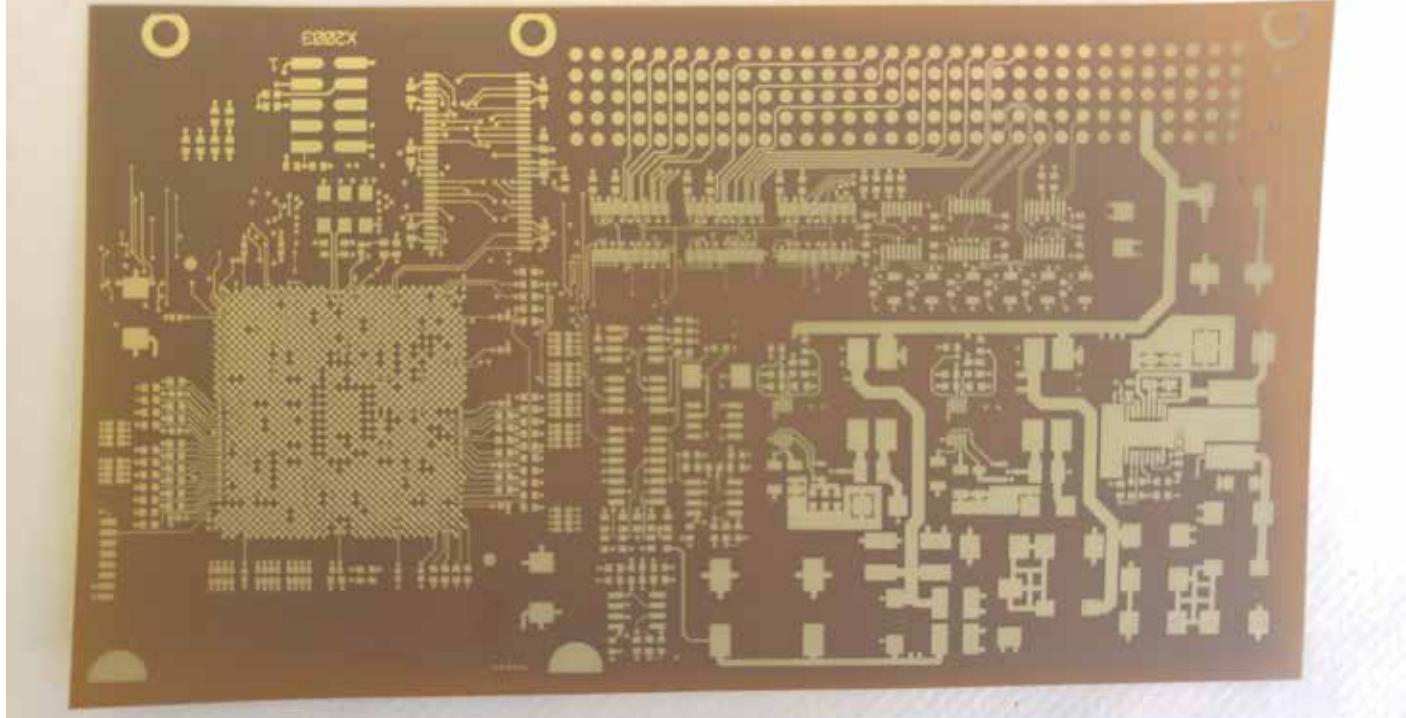
**F. de la Vega:** We are seeing a lot of interest in adding electronic capabilities to 3D printing and also 2.5D (on non-flat surfaces). The idea is to print 3D conductive patterns embedded in 3D printed objects to impart electrical functionality to these

objects – and also to replace complicated production processes when a conductor is needed on a non-flat surface by a one-step printing process. This will open new alternatives for the industry, not only on customised and flexible electronics, but also on thinner, lighter and less expensive products. There are many possible fields of application including printed circuit boards, sensors, customised electronics, and antennas to name a few.

**OPE journal:** How would you describe the current market situation for manufacturers of conductive inks? What is PV Nano Cell's strategy to make a difference compared to other competitors?

**F. de la Vega:** There are quite a few nano silver ink sources in the market. We believe that our Sicrys family of nano metal conductive inks differentiates itself from other inks with its properties and performance, as well as stability and robust printability. Our inks are designed to support mass production applications in industrial environments. Also, our very efficient and "green" process allows us to price our inks to enable mass production applications, to outperform competing technologies. PV Nano Cell has also developed its "complete solution" approach, which together with equipment producers delivers equipment, a process and the inks to the customer. When needed, PV Nano Cell is a single point of contact to implement digital conductive printing in the industry.

**OPE journal:** In 2015, you have expanded your business to North America. Can you give us a first assessment of this expansion?



A printed circuit board printed with PV Nano Cell's Sicrys ink

**F. de la Vega:** We have a few ongoing activities in the US market, however, we cannot name any details as per customers' requests. We are also planning the entrance of our digital conductive copper inks for the production of solar cells, mainly in the United States. In parallel, we are also working to expand our activities in the production of printed circuit boards mainly in Asia.

**OPE journal:** Printed electronics keeps on evolving from a promising "future technology" to a mature field of business. What kind of role do you want to play in this development?

**F. de la Vega:** We see ourselves as a main leader in this field, enabling a broad implementation of digital printed electro-

nics in mass production applications. We believe we will see a large market growth for conductive inks over the next five years, with implementation in solar cells, printed circuit board production, mobile phones and customised 3D printed electronics.

---

bst 1/2