



## NEWSLETTER – DECEMBER 2004

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By François Ploye

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# PHOTOND'OR 2004

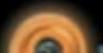
## Varioptic Selected Most Innovative Company of the Year : Its Liquid Lenses



A drop of genius for an optical revolution

A Better Solution  
to the  
Ubiquitous Problem  
of Focusing Light

Cell phones



Digital cameras

Medical applications

Industrial applications

Automotive

Telemetry

Military applications

varioptic

The Photon d'Or has been attributed to Varioptic from the hands of Costel Subran, vice-president of the French Optical Society and treasurer of France's National Optics and Photonics Committee, awarded the trophy.

The Opto 2004 trade show organized an "Innovation Showcase" in partnership with the magazine Photoniques to display innovative products and expertise developed by French optics/photonics research and development teams to event visitors. Open to all existing or soon-to-be-created companies and to public and private research centers, the exhibit showcased fifteen French achievements in many fields, including lasers, communication systems, integrated optics, instrumentation, components for mobile imagery, and fiber optics.

Visitors were free to explore the products featured at the "Innovation Showcase" stand, located at the center of the exhibition, and to meet the teams responsible for designing and developing them. During the first two days of the show, Opto 2004 visitors were invited to vote for the "Innovation Showcase" product they thought was the most innovative. Votes were scattered among a wide range of products, a sign of the vitality of French optics/photonics research. The variable-focus liquid microlens of the Varioptic Company (Lyon) garnered the most votes and therefore won the first Golden Photon.

"We're very happy to have won the prize," says Etienne Paillard, Managing Director of Varioptic. "Our R&D team is totally committed in developing this technology, which should spread to the entire optics market in the next few years, and we're working very hard to add other enhancements to it. Today we're proud to see our efforts rewarded by optics industry professionals..."

"We created the "Innovation Showcase" in 2003 to recognize French innovation in the field of optics," says Jean-Paul Abadie, Director of the publication Photoniques. "Spurred by its popularity and the encouragement of Opto 2003 exhibitors and visitors, we decided to create the Golden Photon, a prize that sets the standard for photonics innovations. We think French optics/photonics research deserves support, encouragement, and recognition. This trophy was created to meet that need."

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## Men and cameras driving together

By François Ploye

Each day, it seems that more-and-more electronics are added to automobiles to assist drivers, and enhance safety. The first applications assisted basic driving actions, such as braking, or turning, via the ESP (Electronic Stability Program).

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#### **Varioptic to Demonstrate New Breakthrough Technology For Liquid Lenses during Photonics West**



Varioptic, the company that holds the patents for liquid lenses made using electrowetting technology, will be demonstrating its innovative breakthrough technology during Photonics West in San Jose, California from 22-27 January 2005.

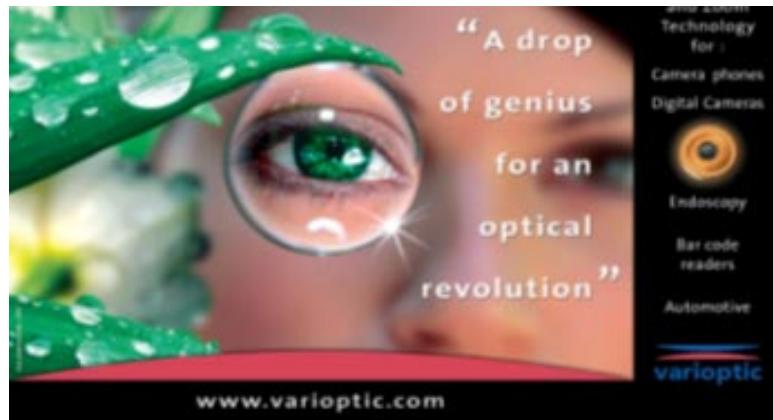
#### **Photo-enabled Cell Phone Market**

Overall mobile handset sales reached over 500 million units in 2003 and are expected to grow at an 8% - 10% CAGR (ARC Group, Strategies Unlimited) through 2008. One of the key features driving handset sales is the inclusion of a camera. Over 10% of cell phones sold in 2003 had cameras. Analysts expect this to grow to over 40% by 2008. Varioptic believes that all camera-enabled cell phones will include auto-focus or zoom features, just as all digital cameras do today. The key drivers for inclusion of these features include:

- Demand for macro functions. Cell phone cameras are frequently used for utilitarian purposes, such as taking a picture of a page of information from the newspaper. Current fixed-focus cameras cannot focus effectively at short distances. Demand for this feature among camera phone users is so widespread that some phone manufacturers in Japan sell an accessory macro lens users can hold in front of their camera phones when needed.
- Higher resolution cameras require better focus. As CCD and CMOS sensor technology improves, digital cameras have migrated toward higher pixel counts, and camera enabled cell phones are following suit. Fixed focus lenses are not sharp enough to support the quality of mega-pixel sensors.
- Zoom lenses are a standard camera feature that customers want on their camera phones as well. All but the cheapest cameras on the market today now include a zoom function, because of the convenience and usefulness of this feature.

#### **Digital Camera Market**

The digital camera (DSC) market is more mature than the camera-enabled cell phone market, and requires larger, higher quality lenses. Varioptic will initially target the smaller size DSC market, including cameras with a capacity of 2 million pixels and below. Approximately 50 million low-end DSCs were sold in 2003, and analysts expect the market to grow at a 19% CAGR through 2008. The company is also developing relationships to build high end digital cameras that take advantage of the Lens for ultra-rapid focus



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Sofinnova Partners, a risk capital company, was the first to invest in Varioptic in 2003, with two millions Euros. And one year later, for the second round, Sofinnova and the german PolyTechnos venture-partners invest ten millions more. The revolution made by the liquid lens is also well understood in Asia. A new partnership with NIF, a japanese investor, and an industrial contract with Semco, the main producer of modules for mobile phones, illustrate this recognition. Alain Rodermann, partner in Sofinnova Partners, is a board member of Varioptic. He is very confident about the value of the innovation developed by Varioptic, that was again rewarded recently by winning the gold Photon prize during Opto 2004, a professional exhibition that took place in Paris in October.

#### **Why did you decide to invest in Varioptic ?**

You have to understand the position of someone who, like me, is in the Venture capital business. Every year, we see hundreds of Business plans presenting technical innovations at different levels. In order to make the investment decision, we measure the product's potential impact on the industry and on the market. Some products are just improving what already exists; others, like the one from Varioptic, are disruptive technologies. A key element appears when we study the intellectual property (IP) rights. In the Varioptic case, we found that several existing applicative patents were already quoting Varioptic's patent. It was a very encouraging sign. Statistically, we can say that approximately one hundred patents out of one thousand give back enough money to pay off the initial investment in patents and technology. Fewer than ten will earn money, while only one out of one thousand will be a big hit. The case of Varioptic is certainly one of the best, but each year only a few patents in the world give the same hope. Hundreds of different applications can be developed with Varioptic's technology.

#### **What are the potential markets ?**

Some are quite evident, like the shooting of photographies, not only for camera phones, but also for endoscopy or embedded cameras in vehicles. Other applications are less evident and not necessarily linked to photography and video. For example, in the field of ophthalmology, Varioptic is developing in partnership with an Israeli company, making a device for opticians and ophthalmologists. The first step is to find the killer app. In this case it is the camera phone. Consequently, Varioptic's team is focusing on the industrialisation of this killer app, but at the same time, it can develop other applications. Thanks to the camera phone market, the technology will spread all over the world. Becoming famous will then help other applications to emerge. This potential growth explains why investors in the second round didn't hesitate one second.

Varioptic will continue to find the necessary capital to finance its development, either new patents or new factories.

### **What important steps lie in the future ?**

I am already enthusiastic about the progress and the feedback from the market. All the great companies in the world in the optical market are interested in the product. Technically, next step will be to develop a zoom function. From the investor's point of view, some venture capital for another twenty millions euros may be raised in the coming years. We will probably take on board other investors , in order to sustain the company's growth and develop new applications. Varioptic has definitely the potential to become a "billion dollar company".