CHIPS.

Newsletter
April 2022

No one can predict the heights you can soar to until you spread your wings.

Thomas Banyacya

CEO's Note

Dear Reader,

In a world becoming more automated with every passing day, sensors are the business to be in. Even better is when you realized this fifteen years ago, allowing you to develop your own technology, which offers advantages over the competition. And this is the case of ESPROS. Since our foundation in 2006, we invested a three-digit number of millions of US Dollars in technology, in products and in its locations in Sargans, Shanghai (China) and Winston-Salem (USA). Last year, the fifteenth since the company was founded, the efforts began to bear fruit: more than sixty per cent growth was achieved. About the same amount has been budgeted for 2022 and this is how it should continue.

The incredible potential was blindingly obvious to me. So it was after 20 years of growing my first sensor company, CEDES in Landquart, that I knew the time was right to move into next generation technology. The key here wasn't the hardware, but rather the chips running the applications.

Over the first five years, it was pure research work. And this was done in several divisions at the same time: semiconductor technology, microelectronic devices, like transistors and pixels, as well as process technology for semiconductor manufacturing.

Once the foundations had been laid, we began to develop products, the TOF imagers, based on this new technology. The development of such a chip is highly complex and we designed several of them over the years, while in parallel further developing the technology, and preparing mass production. At the beginning, everything was completely new: technology, applications and markets! Everything had to be invented and developed. However, in the meantime, more than fifty industrial and automotive applications are in series production at our customers. The number of applications is continuously increasing and with it the number of products.

In the corona year 2020, we sold around ten million chips. Last year, the figure was fifteen million, of which 400,000 were imagers. The breakthrough in 3D cameras and applications has been achieved, the markets are ready, and the technology is recognized worldwide as a leader.

We also make our own very advanced 3D camera sensors, based on our TOF or LiDAR technology. All these sensors perform exceptionally well in both bright sunlight and complete darkness. One may recall the 1987 Hollywood movie «Predator», where a technologically advanced alien uses its infra-red senses to hunt and kill. The big difference to us is that we detect to protect. An example is the aid for a car driver, or indeed a danger to the 'object' itself, such as a pedestrian crossing at a junction.

There are, of course, other important competitors on the global market. But we have our own unique processes and technology, which offer almost limitless potential in terms of application possibilities. We are just scratching the surface at the moment.

I'm so thankful to everyone believed in this vision. Employees, customers, suppliers and all other stakeholders.

Beat De Coi

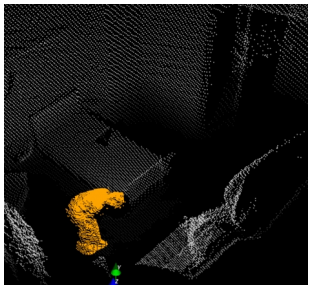
ESPROS enjoys building quality partnerships, and that's why we've started working with Kaspard in 2019. The collaboration was born around a customized module, derived from our TOFcam-660, in which Kaspard has integrated its own processing capabilities and detection logic.

Kaspard is the leader of fall detection and prevention in nursing homes, with a discreet and non-intrusive device, that sends an immediate alarm, when a problem occurs in a resident's room. The rapid response by caregivers, and the activity reports provided by the system, improve the quality of life for all.

Privacy comes first at Kaspard

Respecting privacy is Kaspard's top-of-mind concern. Therefore, finding a device that is non-intrusive and provides high-quality detection at the same time, without filming pictures, was of uttermost importance.

ESPROS TOFcam-660 has an extremely accurate point cloud



ESPROS TOFcam-660 offers the ability of creating an extremely accurate point cloud which, in combination with Kaspard detection technology directly embedded inside the sensor, perfectly satisfies the need of privacy. Furthermore the 940nm illumination is invisible to the human eye, and therefore absolutely not intrusive.

The outstanding detection accuracy of TOFcam-660 also gives Kaspard the ability to provide its customers with a 3D animation of any falls. This unique feature allows Kaspard's customers to better understand the circumstances of the event and to adapt the management of patients after unfortunate situations.

ESPROS TOFcam-660 has an exceptional ambient light suppression

In parallel, earlier this year Kaspard developed a "day mode" function, which allows the device to operate 24 hours a day, 7 days a week. The remarkable ambient light suppression feature of the TOFcam-660 was key to this development as it allows operation in any room, regardless of exposure, day or night.

Low optical power requirements and possibility of customization

Sensitive and attentive to the well-being and needs of its customers, Kaspard was also willing to develop a camera that has low maintenance requirements. The high sensitivity of TOFcam-660 sensor reduces optical power requirements, and hence allows for passive cooling, which is key for a large-scale deployment footprint. In addition, the possibility of custom modifications such as power-over-ethernet (POE) ensures that everyone's needs are met.

Meeting unique needs in a very innovative space

According to the words of Philippe Kaplan, CEO of Kaspard: "From the inception of the collaboration, we have been delighted by the ability of ESPROS' team to listen to our needs, find answers to novel questions, and create a strong and agile partnership in the development of a high-quality solution, meeting our unique needs in a very innovative space."

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