



**If you want to build a ship, you need wood and nails, but even more the desire of the people for the beautiful wide sea.**

*Antoine de Saint-Exupéry*

## CEO's Note

Dear Reader,

Nothing is easy. And the simple is even more difficult. Goethe found that out 200 years ago. That is why there is a principle in warfare that the plan must be simple. Because if it's complicated, it will fail. Why? Because the many individual things that have to work together will not be perfect. and when one is dependent on the other, friction occurs automatically. And these have to be fixed with a lot of effort. But effort means time and money. You might not have both. Or even neither nor!

Why on earth are we designing semiconductor chips. You can't imagine anything more complicated than that. Of course there are more complicated things. But when you're playing in the league of time-of-flight chips, you're faced with very specific chal-

lenges. For example, timing. If the timing distributed across these large chips does not arrive at the same time, the chip is unusable. If you now know that the propagation time of the signals on a chip is quite slow, you understand the difficulties to manage the speed of thousands of signals, that they arrive "on time".

True to Antoine de Saint-Exupéry, without the desire to master this difficult task, one will never reach the goal. At the beginning of May we again achieved such a goal. A TOF chip measuring 11.5 x 9.5 mm and with 6.4 million transistors has been taped out. It will herald a new era in three-dimensional imaging. It will be able to generate around 15 million 3D pixels per second. What an achievement! Thanks to my colleagues who made it!

Beat De Coi

## Camera Module production steadily increases

As ESPROS continues to grow the camera modules production department plays an ever more important role in that growth. At full capacity ESPROS can produce approx. 2,000 – 2,500 TOF-cams per month.

ESPROS offers both standard TOF cameras and customized solutions. The standard products are suitable for a wide range of applications and provide an excellent basis for various fields of application. The company works closely with their customers to meet their individual requirements and offer customized TOF solutions. In doing so, ESPROS can adapt existing products or develop completely new solutions specifically tailored to the needs of a particular customer.

"The modules production team is currently smaller than our neighbors in Semi (chips) production, but we are very highly motivated by the increasing demand for our products and as a compact team there is a great atmosphere of teamwork. I'm really proud of what the team has achieved in such a relatively short space of time", says Head of Production Modules, Flavio Piperno. The Modules production department currently has a compact team of five, which works a regular single shift, manufacturing various TOF cameras that have found their place in different application markets."

The number of process steps required to assemble a TOF-cam can vary depending on the model. However, the production process usually involves about 8 to 10 steps. These steps can include various tasks such as

assembling components, attaching housings, performing joining and soldering operations, performing quality control checks, and calibrating and testing the finished camera.

The last step, testing, is one of the most important steps. This is how we ensure the quality and functionality. Cameras are programmed to configure the specific functions and parameters according to requirements. After programming, each camera goes through a calibration. Here, precise adjustments are made to ensure the camera can make accurate and reliable measurements. And last but not least, the cameras go through the end test. Only when a camera has successfully

passed all three steps is it labeled and made ready for delivery. Furthermore, great importance is attached to accurate and

clean work, as well as compliance with the specified standards. In production, dust is the greatest enemy. Dust particles can affect the performance and accuracy of TOF cameras. Special precautions are adopted to prevent contamination of the chips and ensure that they remain free of dust during the production process. Electrostatic discharge (ESD) also has to be carefully managed. To prevent damage to components, appropriate measures are utilized. These include grounding and the wearing of dissipative protective clothing.



*Snapshot into the Module Production*

**What is your job at ESPROS?**

I work as the head of order processing and purchasing. This area is the hub between customers, suppliers and the internal departments. As Head of Purchasing and Order Processing, I'm basically responsible for organizing everything that comes in as well as everything that goes out! I work very closely with our suppliers whom we consider as invaluable partners. The recent supply chain issues have been a real challenge,(and to a certain extent they are still there). But with a calm professional approach there's always a solution to be found. I also have a lot of internal dealings with the production departments to see what supplies need to be organized, and Sales & Marketing for what products need to be shipped out. It's a real team effort. That's the great thing about a SME it's small enough to be able to quickly deal with the relevant person. Emails when documentation is necessary but I like direct personal contact by phone or, if necessary, face to face. That way I know people got my message, and they know I got theirs."



**How long have you been working at ESPROS?**

I started with ESPROS on 1 November 2022. So I'm still pretty new and I'm learning something exciting every day.

**What do you most enjoy about your job?**

I like working with people. Finding the balance between internal, external suppliers and customers is a challenge that I happily try to implement every day. I also like my workplace, with lots of light and peace when I need to concentrate.

**What is your strongest point?**

I'm accurate and I never give up until I have all the information I need to fulfill my customers desire.

**What is your weakest point?**

I'm accurate and I never give up until I have all the information I need to fulfill my customers desire. Sometimes, colleagues don't like me 😬.

**Where are you from and where do you now live?**

I'm a genuine Graubünden native. I was born in Chur and grew up in Zizers in the Chur Rhine Valley. I lived in Landquart and Mastrils for a few years and now I've been living in Zizers for a good five and-a-half years.

**What do you like to do in your spare time?**

My long-term partner and I like cars, especially vintage cars from the 70s, 80s and 90s. From time to time we can be found together at a rally or at a similar event and in summer we also enjoy spontaneously driving through a few mountain passes. In my free time, I also take to the stage for theatrical performances including with the Zizers Theater Association, of which I am also the president. To relax, I like to go for a leisurely walk in nature, cook or bake and read books. In the photo you can see me on the way to the Schlagerparade (a kind of a pop festival) in Chur, where we took part with our Murphy, a three-door limousine of the type Audi 100 C1 from 1974.

**Visit ESPROS at Automatica in Munich, 27. - 30. June 2023**

Automation and AI continue to grow in importance. Both are the focus of Automatica 2023, 'The Leading Exhibition for Smart Automation and Robotics', taking place at the end of June in Munich. Here ESPROS will exhibit its comprehensive range of line imagers and 3D-Time-of-flight sensors for industrial applications such as, level monitoring, access control, logistic robots, security systems etc. ESPROS looks forward to welcoming you to its booth Hall B5 booth 108. If you would like an exhibition ticket please email [sales@espros.com](mailto:sales@espros.com).

The logo for Automatica 2023, featuring a stylized orange and white grid icon. Below the logo, the text reads: "automatica", "The Leading Exhibition for Smart Automation and Robotics", "June 27-30, 2023 | Munich", and "Hall B5 / booth 108".

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