

**I burnt my mouth often.  
I named dumb things dumb.  
I would do it again.**

*Udo Jürgens*

## CEO's Note

Dear Readers,

Thinking out of the box is ok. But thinking loud out of the box is not. It was not opportune in the Middle Ages where people ended up in prison or with a death penalty when they said something which was not approved by the clerics or the church. Galileo Galilei stated «and it is still revolving» (maybe he didn't say this!), after he was on trial being punished because of his statement, that the earth is not flat. Because all the «experts» at that time said, the earth is flat. Well, you may state that this dark time is gone and we live in peace and freedom in an enlightened world. My perception is that evangelism is still going strong. But typically, evangelisms fail, if someone presents the evidence of the opposite.

Don't mind, I do not give again a statement about the climate change discussion. Also not one regarding Mr. Trump's policy. Too many evangelists are around 😊.

However, there is one example of such an evangelistic mechanism we were faced with directly. When we presented our high performance imager process OHC15L for the first time at a French Space Agency Congress (CNES) in Toulouse in 2011, some (maybe most) of the attending experts did not believe what our CTO, Dr. Martin Popp presented:



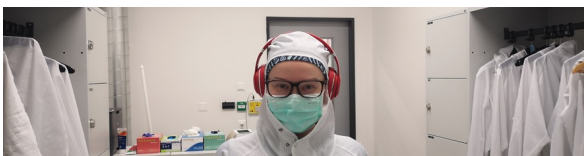
*What's that?*

a high performance CCD imager with more than four 9's of CTE on CMOS and with a quantum efficiency of more than 70% at 900nm. One of these experts asked Martin Popp during the question session, "is the QE curve you presented «kind of» simulation?" The answer of Martin was short: "no, measurement data"! Trust me, no one in the audience believed this because such data was impossible at that time. Impossible for all the experts which discussed that time heavily CCD vs. CMOS. Like Catholics and Protestants. Anyhow, we just did it and the evangelists left the scene!

*Beat De Coi*

## Name: Zuzana Čutová ; Function: Deputy Foreman Production

Since May 2015, Zuzana is working for ESPROS Photonics AG. She is working in our clean room in the production.



*Zuzana before she enters the clean room*

Her main job is building-up chip carriers and the chip-end-test. However she is experienced in all production areas. Zuzana is very cooperative and together with Heiko, our Production Foreman, she manages the Production team. That's why colleagues sometimes say «Zuzana, is our good soul».

When you ask Zuzana, «why do you like, what you are doing here at ESPROS»? She answers, that she likes to work in a high-tech company, where you can work on future technology.

In her free time, she loves to travel and her favorite place is Southeast Asia. More or less she is there

once a year. And if you talk to her, you can see her eyes light up when she is telling her stories about all the things she has experienced there.



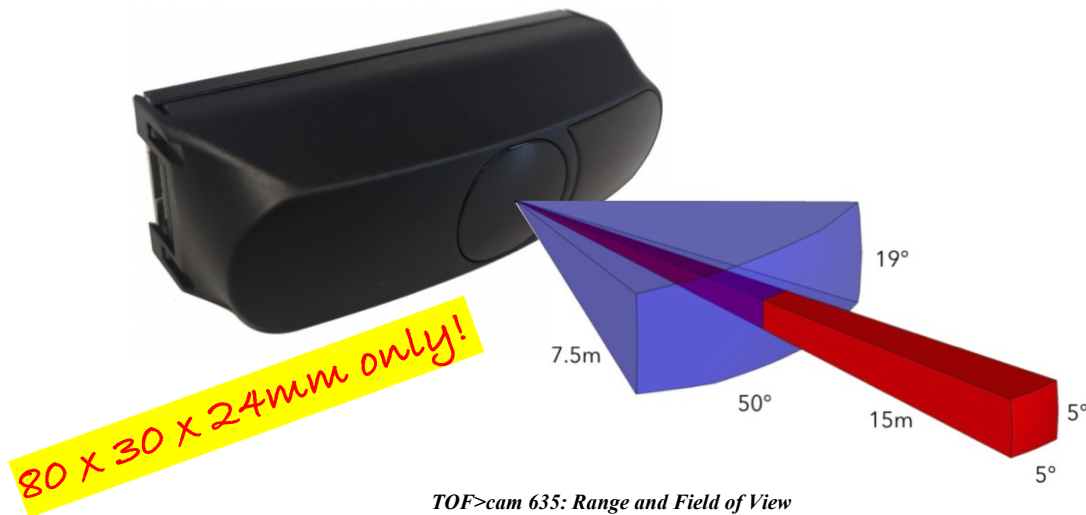
*Zuzana in Vietnam in one of her vacation*

## TOF>cam 635 – Ready for the market

ESPROS made it! This month we rolled out the first series production modules of our brand new TOF>cam 635. In recent months, we showed our camera at various events and the response was absolutely fantastic. This module is based on our 160 x 60 pixels epc635 chip with outstanding ambient light suppression which makes this tool perfect for your outdoor applications. The camera controls the illumination and the imager chip, to simultaneously obtain distance and grayscale images; this, combined with integrated software algorithms allows it to determine and to react accordingly to overexposure and to multi-path reflection.

The key features are:

- Dual beam system
- Distance range for Wide FOV: 0.1 – 7.5m Distance range for narrow FOV: 1.0 - 15m
- Sun- and ambient-light tolerant up to 100 kLux
- Scanner for SLAM data acquisition in mobile robots
- ROS driver support
- Automatic integration time mode



Clever software controls invalid distance information in case of edge detection or motion blur and allows to eliminate these pixels from the current data set or to replace it with the last valid values. A 5° x 5° focused center beam allows early detection of objects within a 15m distance range. With all these smart features the TOF>cam 635 is the perfect tool for your mobile robotics or for entrance control applications. The 3D TOF camera modules come with an ROS driver so they can be implemented into existing robot platforms with very little effort. Thus, the user can focus on his application software instead of dealing with rather complex camera operation. The result is a faster time-to-market of our customers robots. With an optional USB converter and the clever GUI software included, you get started immediately with reliable 3D data of the full field of view.

The spacial resolution is good enough for applications such as obstacle detection, people counting and many industrial use-cases.

We kept the spacial resolution low intentionally in order to offer an extremely cost effective solution for applications such as

- Service robots and AGVs
- Humanoid robots
- Robot vacuum cleaners
- Door control and people counting
- Drones
- etc.

Please contact our sales team [sales@espros.com](mailto:sales@espros.com) for more information. We also offer a full custom module design & manufacturing service.

See YNG Inc. with their epc660 / FPGA based TOF camera  
Laser World Photonics in Munich June 24 – 27, 2019  
Hall B2; Booth 142

**YNG OPTICS**

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