# CHIPS.

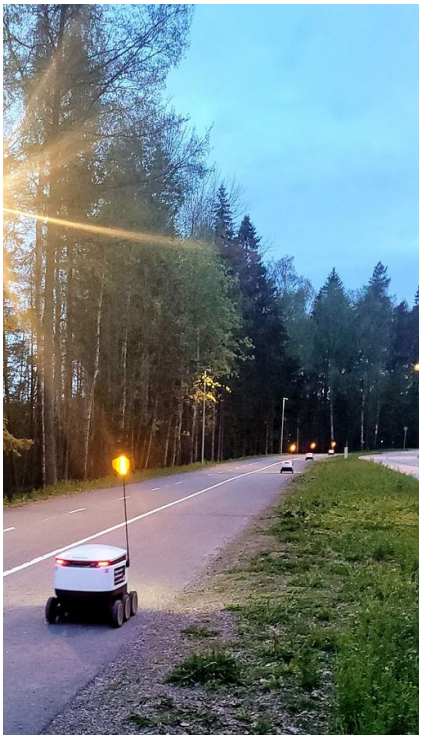
Newsletter
May 2022

**Be careful what you choose.
You may get it.**

*Colin Powell*

## CEO's Note

Dear Reader,



It's wonderful to see, what can be made with our products. One of my favorites is the delivery service Starship Deliveries (https://starshipdeliveries.com/campus/). Starship was an early adopter of our epc660 chip, years ago. At that time when they got the first epc660 chips on chip carrier, we just knew that this is a startup company with a great idea. Providing goods delivery at the last mile. I saw a report in the Swiss National TV News some years ago which showed tests with the first prototypes of the Starship delivery robots. The comments from the off were not very promising. "It's maybe the future, but it will take time". And I remember a comment like "it's maybe not possible in Switzerland". Now it's here. Delivery after delivery service is opened and starts providing locals with food, goods, and postal service.

Starship robots are revolutionizing food and package deliveries, offering people convenient new services that improve everyday life. Starship's proven ability to harness technology combined with their experience providing services to millions of people make this a reality today. Launched in 2014 by Skype co-founders, Ahti Heinla and Janus Friis, Starship Technologies today operates in several cities across the world completing tens of thousands of autonomous deliveries every day.

Already thousands of delivery robots are in operation around the world. I read that they completed already more than three million deliveries until February 2022. What an achievement!

We are very happy to count Starship Deliveries among our valued customers. Such delivery robots would not be possible if they would not have eyes to see their environment in 3D, day and night, reliable, in every weather condition. In Milton Keynes, California, Espoo, etc.

Back to Switzerland. The Swiss National News TV reported somehow, that this is nothing for Switzerland. At least this was the echo in my ears some years ago when a big department store made some trials in Zurich. Guess what? They stopped the trials. No future, probably, too early. Anyhow, it's here now. But not in Switzerland (yet) to my knowledge. Albert Einstein once murmured, that he wished to die in Switzerland. Because everything takes twenty years longer there.

Einstein was quite correct, except that 3D camera chips came from Switzerland long time before anybody considered this technology to become important. The roots of ESPROS' 3D camera technology go back to the Nineties and the first mass produced camera sensors utilizing this technology were sold from 2003 by CEDES (www.cedes.com) in Switzerland. This long history of working and implementing solid state 3D camera technology is for sure a strong basis for the success of our products. And, we still keep pushing the limits.

Beat De Coi

## Luljeta, Operator

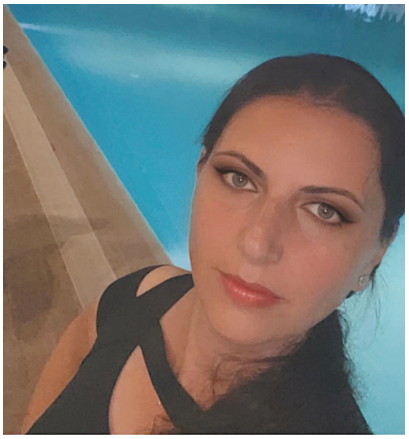
**What is your job at ESPROS?**
I'm a production assistant.

**What does that involve?**
I perform shear tests, soldering, and applying the underfill. I am also responsible for end tests, and ultimately packaging.

**How long have you been working at ESPROS?**
I started in May 2019. I came here, after spending more than 10 years working at the Swiss branch of ElringKlinger, which produces technological advanced solutions for the automotive industry.

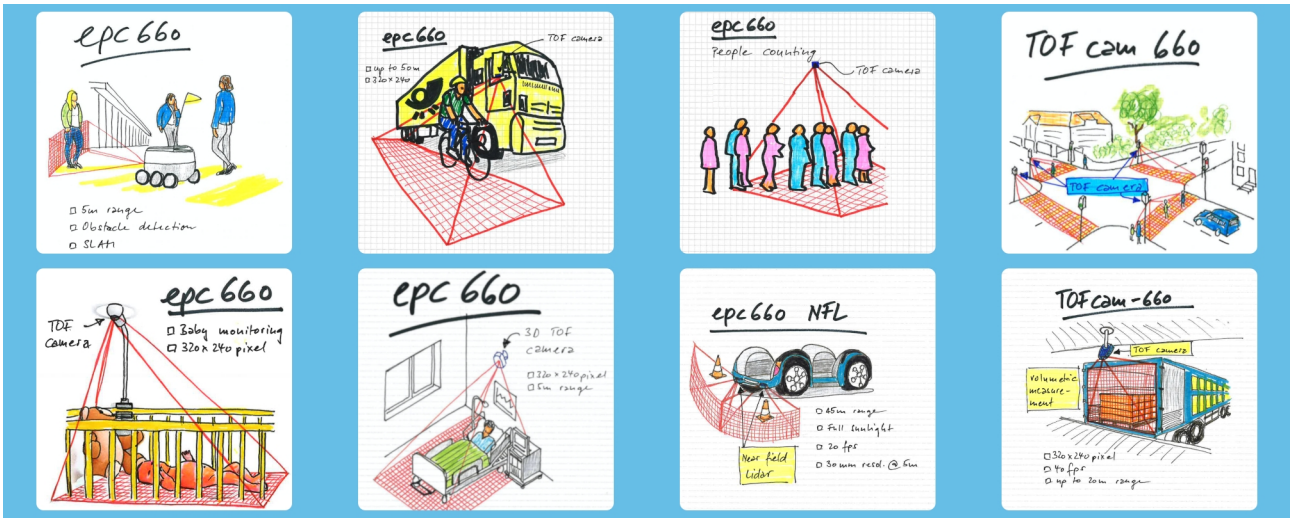
**What do you most enjoy about your job?**
I love the team-spirit in the production department, as well as being part of a company that develops new technology. Of all my responsibilities, I most enjoy the soldering.

**Where are you from originally, and where do you live now?**
I am from Kumanovo, in North Macedonia. It is a town of about 70,000 people in the northeast of the country. Now I live in Trübbach, in the beautiful Rhine Valley.



**What do you like to do in your spare time?**
I am very family oriented, so I spend most of it with them, and I also like visiting my relatives.

## All the possibilities of epc660




Autonomous deliveries, blind spot detection, people counting, pedestrian crossing detection, baby and patient monitoring, robot taxi, and truck volumetric measurement: these are some of the possible applications of the ESPROS' epc660.

This 3D-TOF imager has a resolution of 320x240 pixels (QVGA). Data communication is done through a high-speed digital 12-bit parallel video interface. Even for mobile devices, only a few additional components are needed to integrate 3D camera capability.

Sixty-five full frame TOF images are delivered in maximal configuration. By using the advanced operation modes, this can be boosted up to more than 1,000 TOF images per second! The high degree of integration lays the basis for a straightforward camera system design with minimal part count.

The extremely high quantum efficiency allows long distance measurement, at a limited optical power. Furthermore, our epc660 has an outstanding ability to handle ambient light, which allows applications to perform very well in full sunlight, and offers the capacity of creating a very accurate point cloud.

All this makes of epc660 an incredibly versatile product, ideal solution for a very wide range of applications.



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