

Teaching cars to see: Meet Florian Petit, founder of Blickfeld

We spoke to Florian Petit, founder of Blickfeld, about the power of LiDAR sensor technology, his thoughts on Elon Musk, and why he loves being a founder.

What is Blickfeld?

Founded in 2017, Blickfeld is a fast-growing startup that develops revolutionary LiDAR sensor technology for autonomous vehicles and many industrial applications. In short, LiDAR sensors send out laser impulses, detect the light beams that are reflected by objects in their way, and are thus able to calculate the distance of the object accurately to the centimetre. This capability predestines LiDAR for countless applications.

I am one of three cofounders, and our vision is to produce LiDAR-based sensing solutions that are very powerful and at the same time inexpensive to produce in high volumes. This is possible because of the technology we invented, and we have more than 30 patents pending. The secret is that the core of our technology, the so-called MEMS detection unit, is silicon-based and we can fall back on well-proven semiconductor production routines.

Since the early days of our company, we have been convinced that LiDAR technology can bring benefits in numerous applications and fields of use cases. However, it would have to become easier to work with. Therefore, we

developed a perception software stack called Blickfeld Percept. It basically extracts the information out of the raw LiDAR data, condenses them, and makes it actionable and easy to use.

We are in close cooperation with Universities like TU Munich and TU Ingolstadt, and many other private and governmental organisations. Among our investors are Continental, one of the largest automotive suppliers worldwide, and the high-tech photonics company Osram.

We are working together with a huge variety of companies like Audi, Mercedes-Benz, Innogy, and Fraport AG, the operator of Frankfurt and Baltimore Airport, among others.

What sets your startup apart from competitors?

Blickfeld's vision is capturing the real world for a smarter, safer and more efficient future, and we aim to do this by creating actionable data from our innovative LiDAR technology combining hard and software solutions. What sets us apart is our unique LiDAR solution, and our incredibly dedicated and talented team of experts that comprises very specialised skills in optics, laser- and semiconductor technology, data processing, and many others.

We are growing very fast, and, at the moment, we are 120 people strong, and are hiring several new employees every month, even if it is not easy to find people with the specialised skills we search for. That is why we are greatly increasing our recruiting efforts. The exploratory spirit in the Blickfeld office is just incredible, making it a place where I love to go every day – at least when the COVID situation allows it.

From a technological point of view, our combination of hard- and software sets us apart.

At CES 2022, we announced the world's first LiDAR sensor with the complete high performance software stack on the device. That is a huge step forward to the wider spread of LiDAR technology.

What also sets us apart is the nearly uncountable number of possible use cases

in which our sensors can be applied. In addition to the field of autonomous driving, we currently have projects at fair shows and airports to measure people flow to reduce waiting times; to measure volumes of bulk material in the construction industry; and we even provided sensors to the University of North Carolina Wilmington to research storm events on the coastline that are resulting from climate change, to help understand them and take appropriate protection measures.

Florian Petit, CEO and founder of Blickfeld

What is your favourite thing about being a founder?

It is the total package, a combination of several things; in my heart, I am an engineer and I love doing research and inventing astonishing things. But what is even more exciting to me is the challenge to turn research results into market-ready products and lead them to success. This requires a completely different skillset than the invention itself, and so I see myself often in new roles.

One common theme is that I learn new things every day; on the one side I am learning about a new application and how LiDAR technology can add value there, and on the other side I find myself playing Santa Claus in a LiDAR point cloud photo shooting for our Christmas cards, which is one of my favourites every year. It is a thrill to see that what we are doing has a real impact; we are growing internationally and developing groundbreaking new products.

Most importantly, I can do this every day in an amazing, fast-growing team with highly talented people from all over the world. I would not know any better place to be – or any better thing to do.

Which founders or businesses do you see as inspirational?

One of the most impressive personalities for me is Elon Musk – I know that I am certainly not alone in this opinion. It is amazing how he literally created the market for electric cars and gave them a sexy image practically as a one-man show.

However, this does not mean that I agree with him that autonomous cars do not need to be equipped with LiDAR sensors, or even radar sensors. In my

opinion, this is absolutely wrong and even dangerous. It is certainly not enough to compensate for the lack of sensors with downstream artificial intelligence like Elon Musk tries. The AI just simply cannot process any data that it has not received.

Having an objective look at the strengths and weaknesses of the various types of sensors – it cannot be denied that we need a diverse set of sensors in autonomous cars to make them safe. This includes cameras, radars, ultrasonic sensors, and LiDARs to reliably detect objects in the surroundings of the vehicles. We cannot do without one of them and we will have to make sure that the data they deliver is constantly aligned to perceive the surroundings as correct and as detailed as possible.

What has been your biggest business challenge?

One of the most important tasks in my role in the founders' team is to make Blickfeld and our idea known to the industry, the stakeholders, and the public in general. In the first years, this included going to countless events, congresses and trade shows, and pitching our idea to thousands and thousands of people.

We participated in many startup awards and were lucky enough to win quite a few of them, including the most highly endowed German prize 'Start Me Up,' an award given by several organisations including Daimler and the early Google investor Andy Bechtolsheim. That was tremendously exciting, and the positive feedback was very encouraging.

However, the biggest challenge lies right in front of us, since we are on the verge of strengthening and expanding our business internationally.

We received an extension of our Series A funding recently, which we are now up to use to open offices in the US and in Asia. We're growing the team globally and are working on trailblazing additions to our solutions portfolio. Our biggest challenge today is to scale the business and secure sustainable success, and I am convinced we are on an exceptional journey here.

What's in store for the future?

Today, all our eyes are on the development of Smart LiDARs. The future of LiDARs will be defined by software solutions that make the analysis of the gathered data much easier and more effective. Software-defined LiDARs open completely new application areas because they are much more flexible, and can be applied easier to countless applications. To adapt LiDARs to new use cases is necessary to rebuild the hardware of sensors, which often is quite a huge effort. In the near future, such adaptations can be made by relatively small changes in the code – which means an incredible reduction of effort and costs.

At CES 2022, we introduced the very powerful LiDAR software product, Blickfeld Percept, that customers can operate easily using their standard web browser. Later this year, we will deliver the first prototypes of a completely new era of LiDAR. Called Qb2, the sensor will combine hardware and software on one device. That is a world first and we expect it to increase the spread of LiDAR sensors to a high extent.

Florian Petit is founder of *Blickfeld*.

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