

GIM INTERNATIONAL INTERVIEWS

JOHANNES RIEGL

A Highly Innovative Technology Company



The Riegl laser scanner company has been innovating laser scanning technology for the past 30 years. Nowadays, the company's equipment can be found in the most remote and challenging locations around the world, and even in space. Dr Johannes Riegl offers a look behind the scenes at Riegl and explains how the various laser scanning technologies have evolved over the years. Looking ahead, UAVs will increasingly be equipped with both laser scanning and cameras. Furthermore, emerging markets are already key to the RIEGL company's business growth and Dr Riegl expects that they will play an even greater role in the future.

You're founder and CEO of the company, which is named after you. Can you tell our readers about the company's origins and why you started it?

I had been working since 1970 at the Technical University of Vienna, Austria, on the (self-defined) topic of measuring short distances using optical pulsed radar technology. I was keen to continue that technical/scientific-based work focused on industrial and commercial use and applications, so I founded the RIEGL company as a spin-off.

What is your basic product development philosophy and business model?

From the beginning, it was – and still is – our aim to not only meet, but also exceed our customers' expectations with regards to reliability and longevity, the highest possible technical performance, and the usefulness of our products. We accomplish all of these things while also retaining a compact size and weight of our equipment and offering it for an affordable price.

We have a very long heritage of introducing unrivalled, market-changing Lidar solutions. For instance, some 10 years ago we were the very first firm worldwide to introduce waveform technology in commercial laser scanning. This technology offers incredible value and performance and has enabled RIEGL to approach new performance levels, and allowed our customers to address new applications and markets. At the same time, we have improved the pulsed-radar measurement precision to levels that everybody – including ourselves – would have considered impossible not too long ago.

Which major developments do you foresee in Lidar technology, both airborne and terrestrial, in the next five years?

I expect the bar to be raised even higher in the years ahead with regard to even higher sampling rates and longer ranges, at even smaller sizes and weights – in airborne, static and also mobile laser scanning. Moreover, I believe we will see the widespread use of multiple-wavelength topographic and bathymetric airborne sensors, installed in all types of manned aircraft as well as in UAVs.

We always endeavour to be at the forefront in further pushing back the limits. For instance, we just recently introduced a new class in airborne laser scanning, our LMS-Q1560 airborne mapping system. This fully integrated system can be operated at a maximum pulse repetition rate of 800kHz while operating at high altitudes in demanding projects. We are able with our own proprietary software RiMTA to resolve range ambiguities automatically and thus handle up to 10 pulses in the air simultaneously. This gives users great advantages in their flight planning and in using their sensors more efficiently than any other systems on the market.

Today's UAVs are mainly equipped with small, lightweight digital cameras. How do you see the future of UAVs and laser scanning?

I am convinced that in the near future UAVs will be simultaneously equipped with airborne laser scanners and cameras for increased overall performance. Both the market demand for and the availability of UAV sensor platforms are evolving at an impressive pace right now. We're fully aware of that, and of course consider these specific new challenges in our decision-making and product planning. One good example of a powerful, high-end UAV scanner system has resulted from the partnership between RIEGL and the Austrian high-tech firm Schiebel.

[Read the full version of the interview here.](#)

