

5 Questions to Philippe Simard, President of SimActive



Why has SimActive recently added Lidar to its point cloud processing solution and launched a new training programme for unmanned aerial vehicle (UAV or 'drone') mapping? 'GIM International' touched base with Philippe Simard, president of the Canada-based company to find out more. Besides Lidar and UAV mapping, this Q&A also zooms in on artificial intelligence (AI) and machine learning and envisions the advances in photogrammetry we may expect in the coming years. We also took the opportunity to ask him how the coronavirus outbreak is affecting business.

How is the coronavirus outbreak impacting your business?

The entire [SimActive](#) team is working from home and remains fully operational. As a software company, we have a definite advantage and not only our R&D efforts are unaffected, but also the service that we provide to our clients. We keep providing technical support through phone calls and emails, as well as training through customized online sessions. On the client side, we are definitely seeing a slowdown in Europe and America, but some Asian countries are gradually going back to normal. While mapping projects may be delayed while special measures are being taken, we believe they will still take place later in the year.

You recently added Lidar to your point cloud processing solution – Correlator3D. Is this a logical step to anticipate on the increasing popularity of Lidar among mapping and surveying professionals?

There has been a recent increase in the use of Lidar sensors for mapping, due to the technology now being available to drone platforms. The sensors are becoming not only much smaller and lighter, but also significantly cheaper and hence more accessible. It was thus necessary for our software to be adapted for such data. The main need for our users was to be able to fuse 3D point clouds with imagery, as photos are almost always collected as well in Lidar projects. We thus added new functions to register Lidar data with photos, so that colourized point clouds as well as seamless orthomosaics could be easily generated by our [Correlator3D](#) software.

Can you tell us a bit about your new training programme for UAV mapping?

With an exponentially growing number of firms doing mapping with drones, there has been an equally quickly increasing demand for training. While UAV platforms can be acquired easily, and photos collected /processed by virtually anyone, the field of photogrammetry remains complex. Neophytes in mapping quickly realize the benefit of increased knowledge and are turning to us to provide them with the proper guidance. We thus offer both on-site and online training sessions that are tailored to clients' needs. Our specialists are able to cover aspects of data collection to optimize the quality of the derived mapping products, as well of course as the whole processing workflow from aerial triangulation, to the generation of DSM, DTMs, point clouds and 3D models, as well as the production of orthomosaics.

It is safe to say that artificial intelligence (AI) and machine learning are likely to play an ever-increasing role in the future of drone mapping. What is your vision on this?

My graduate studies were in the field of computer vision, so I have been exposed to the research that was being done in the early 2000's on AI. While there have been recent advances, the main accelerating factor has been on the computing side which now allows an incredible amount of calculations in record times. The big challenge for such technologies is the quantity and complexity of the required training datasets, which is often limit quality of results. While we foresee an increase in the use of AI for drone mapping, we believe that it will be for specific applications and not, at least in the short term, for a broader use.

Which other developments will further advance photogrammetry in the upcoming years?

It will keep being easier to collect imagery. This means larger number of photos will require to be processed in less time. Already today, a single project is often comprised of several thousands of photos, if not tens of thousands, and our users expect to be able to process them efficiently. Photogrammetry software tools will thus have to support such needs, so that mapping

products can be delivered within hours or days at most. This is true for imagery collected by drones, but also for photos gathered from aircrafts. For the latter, the popularity of airborne sensors is rising, which implies the underlying size of datasets is even bigger than for drones due to the larger-format cameras used.

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