



Minimizing Cost of Mapping Projects With Correlator3D™



INTRODUCTION

It is often challenging for drone operators to determine cost savings when it comes to their processing software solution. This document describes how a higher-end software such as SimActive's Correlator3D™ can minimize overall project costs. It also quantifies them as a function of project size, since mapping expenses tend to rapidly increase as projects become larger.

CHALLENGES

Altitude restrictions, line of sight requirements and overall flight duration create unique challenges for completing larger drone projects in a cost-competitive world. Using the wrong image processing software can create inefficiencies in processing workflows and possibly lead to poor-quality deliverables. If the selected processing software limits the number of input images or crashes when processing very large image datasets, profits can disappear quickly in modifying workflows to accommodate such limitations. For example, processing software that requires to break up a large project into smaller subsets of 1,000 images means that there will be several datasets to process and somehow will need to be put back together as one.

CORRELATOR3D™ ADVANTAGES

Correlator3D™ does not limit the number of input images and by managing processing through the GPU, it processes images several times faster than any other image processing software package. As an example, if 15,000 drone images covering 5 square miles are processed as one large project, it means one dataset of seamlines to edit, color balance, and tile as opposed to 15. One dataset is obviously much more efficient than fifteen, due to the lack of redundant and overlapping tasks. Below is a cost breakdown of a typical sample project of 15,000 images. Note the overall project saving of almost 50% from using Correlator3D over competing solutions i.e., \$5,672 instead of \$8,125 leading to a reduction of \$2,453.

CORRELATOR3D

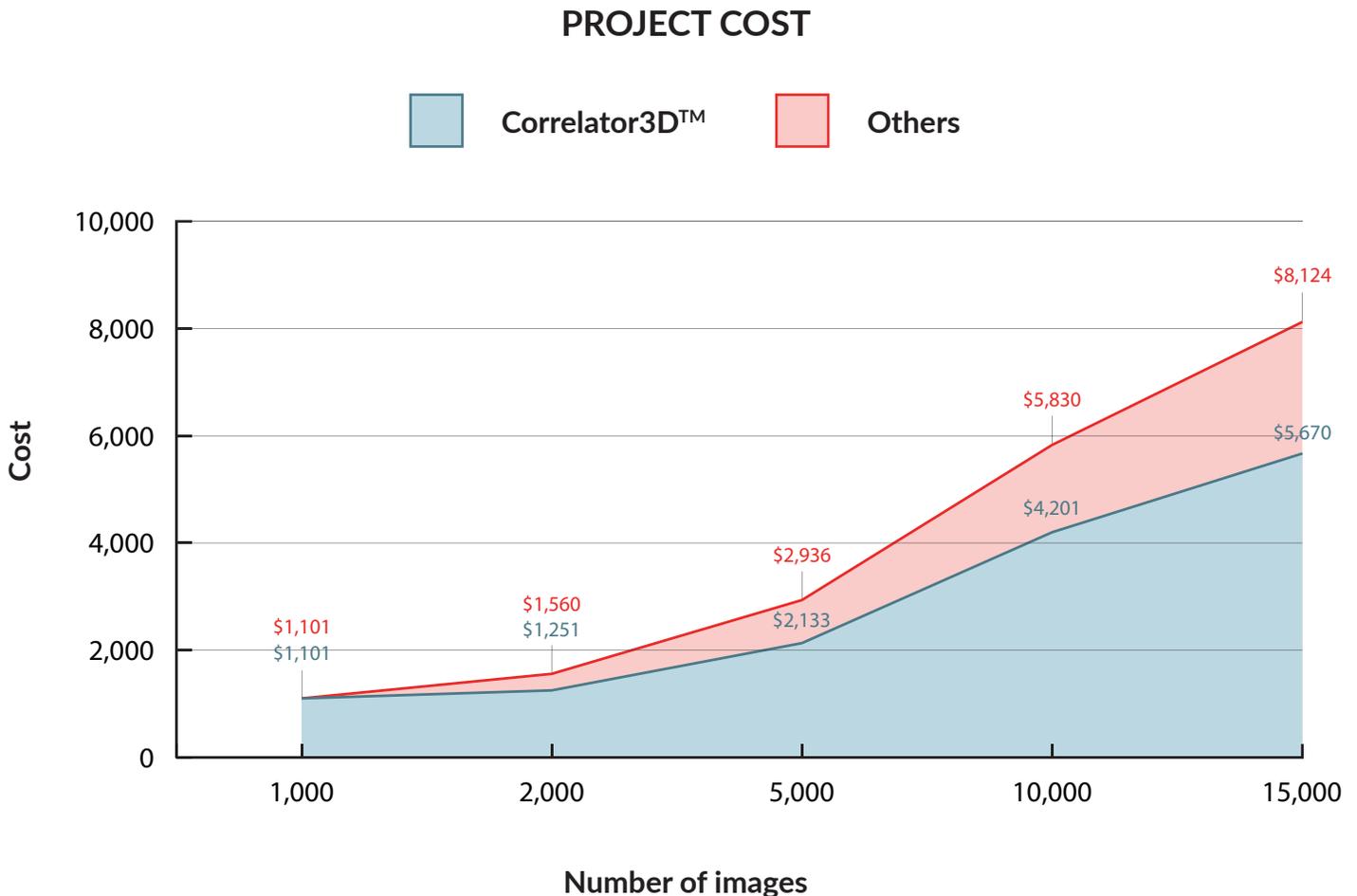
OTHER

Task	Man-hours	Fee	Man-hours	Fee
Flight Planning	0.5	\$43	0.5	\$43
Mobilization	8	\$1,200	8.0	\$1,200
Missions	15	\$2,250	15.0	\$2,250
Project Setup	0.25	\$21	3.75	\$319
Processing	7.5	\$638	15.0	\$1,275
Editing	7.5	\$638	15.0	\$1,275
QA/QC	3.75	\$563	7.5	\$1,125
Deliverables	3.75	\$319	7.5	\$638
Total Project Hours/Fee	46.25	\$5,672	72.25	\$8,125



TIME AND COST SAVINGS

In general, the larger the project is, the more efficient Correlator3D™ will be compared to other image processing software packages. The figure below shows the exponential increase in processing costs as the number of images increases. It also demonstrates that even for projects much smaller than 15,000 images, the associated savings are significant.



Note that the figure does not account for workstation processing time and rather, only for time spent by a technician setting up a project, managing the processing, editing, performing QA/QC, and creating the final deliverables. Also, it does not reflect the actual speed of processing, which for Correlator3D™ is typically several times faster than other image processing software.

DISTRIBUTED PROCESSING FOR FURTHER ACCELERATION

If the delivery schedule of a project needs to be expedited, further acceleration can be achieved with the built-in distributed processing capabilities of Correlator3D™. This unique feature allows to automatically distribute a project over several PCs to reduce processing times while maintaining data accuracy. The resulting acceleration varies linearly with the number of PCs used. For example, two PCs lead to a 2x reduction in computing time, three PCs to almost 3x, and so on.

