MISSION ACOMPLISHED: WE HAVE INTEGRATION LIFT OFF!

WE LIVE IN A WORLD OF INTEGRATION.



Mobile Mapping spherical image view and coverage overview using Orbit Mobile Mapping Publisher. ©BPG Designs

Integration is central to the success of our individual communities, global businesses, and maybe most importantly to our emerging-technologies prolific (there is some kind of special punctuation needed to put "maybe most importantly" in a list). For the purpose of this article we will define integration, at its core, as the process in which two or more discrete objects are "tethered" together for an optimal solution. These objects can be as diverse we can literally imagine. as The process of integration can applied between peoples, be cultures, or even software and hardware solutions.

Now... Think back to this morning when you got out of bed. It is not uncommon to wake up these days, roll over, and fire up our smartphones. At a quick glance, this mobile technology has changed the way humanity navigates its future. In the palm of our hands we are now integrated with all the people we know and don't know through social media applications, we have integrated our work spaces with our home lives through the use of digital means, and we can even track our geographic position and plot the quickest route to work. While these are only a few examples, the importance and influence of this integration can be seen across the board and throughout our day-to-day lives. I might even go so far as to say that without this automatic integration, I fear that our younger generations might be completely lost!

Integration in the Mapping Business

The question then comes to my mind,

why are we not as successfully integrated at work when it comes to the technology solutions we leverage every day to satisfy our client's needs? If my mother can send me a Snapchat, but I am unable to get two different mapping software packages to talk, we have a problem. It baffles me that we live in this world of "workplace technology interplay denial." Possibly you have a complex program directory or if you have ever worked on a CAD project, which needed to be quickly and properly integrated into a GIS, you know my pain!

This scenario was no different at my workplace, BPG Designs (BPG). To give you some background: BPG is a mediumsized design and construction company focusing mostly in the telecommunication and utility markets. The industries BPG works in are all fast paced, reactive, and need high-end attention to detail. The group I manage at BPG happens to



At work @ BPG Designs. Plenty of screens filled with Orbit GT software for optimal analysis and insights

be one of the four main departments out of the mapping, design, construction, and networking technologies teams. In the mapping group we specifically focus on survey, mobile mapping, static LiDAR collection, BIM, UAV dataset processing, and custom GIS-mapping solutions. Some of the programs we utilize on a daily basis include AutoCAD, ArcGIS Server, Geoclean, Mobile Mapping Office, Spatial Factory, Virtual Geomatics, Orbit GT, Carlson CAD, Pix4D, Revit and Cyclone. As you can see, we use a plethora of software and hardware solutions in our daily workflow. We are not tied to a single brand or process, rather we use the right tool for the job. However, having this many software packages has proven to be extremely difficult to manage. The integration of these systems, files, and services with a team of 20 mapping specialists and nearly 50 drafters has been

a bit of a headache to say the least. We needed a better way to help manage this. Orbit GT was the solution to our problem.

Orbit GT Integrates...

Orbit GT provided a software solution that "plays nice" with the others. Orbit Feature Extraction immediately became our go to solution for LiDAR feature extraction, replacing other unstable programs. Orbit's software accepted LiDAR data from two different mobile LiDAR systems and two different processing software packages with no hassle. The data can be exported from Orbit in a variety of different formats that can be accepted by most other software that our company uses. The extracted data also went right into our previous list routines in Carlson CAD, meaning there was no change in workflow for QC and submittal processes.

Orbit also provided Mobile Mapping plugins for ArcGIS and AutoCAD that fit seamlessly into our workflow, and the Mobile Mapping Publisher software was the perfect tool to present our LiDAR data to end users, both inside and outside of our company. With point features cleverly created along our Mobile Mapping trajectories, we could easily calculate X & Y locations that plug into a hyperlink that would lead the user right to the exact location in the LiDAR data that they were looking for. This solution tied right into our ArcGIS web apps that we present to clients already, meaning the only change they saw in the deliverables was a better LiDAR viewer than Virtual Geomatics could provide.

...and improves our workflow beyond anticipation

But the real magic started when we

began to integrate Orbit, SQL Server, and ArcGIS.

By creating a database connection in ArcMap, to the SQL Server database that Orbit Feature Extraction already populates, we suddenly become Orbit power users. All feature extraction jobs could now be cast real time in ArcMap or ArcGIS Online, creating an abundance of new possibilities. Feature extractions could now be tracked from a performance standpoint, with up to the minute statistics of features extracted per minute or a calculated average of distances extracted over time. These XY and XYZ features can also be made in to ArcGIS Online Feature Layers, allowing extractions to be presented to non-ArcMap users through web maps and web apps.

Orbit Feature Extraction has now gone from "just an extraction software" to the highly integrated backbone of our department. Orbit did not drive, or change, our workflow. Instead, it nestled itself right into all aspects of it, and some places that we did not even anticipate. Orbit even managed to integrate aspects of our work that we couldn't have done without it.

Thinking back to the cell phone example that I gave you earlier, Orbit is now that piece that integrated things we knew and didn't know that we could do.

About the author

Nikolas Smilovsky is Mapping Department Manager at BPG Designs. He runs a comprehensive mapping team that is dedicated to providing high-end geospatial services. Some of the main services they provide are GIS asset mapping, custom online web mapping applications, mobile LiDAR collection, static LiDAR collection, and UAV data set processing.

ABOUT BGP DESIGNS

BPG Designs is a turn-key design build company, specializing in utility and telecommunication services. Over 16 years old, BPG Designs is known for their innovative approach with the adoption of new technology. Focusing on mapping, permitting, design, construction, and specialty networking services BPG Designs provides their clients the most robust and intuitive project support. No matter the size or complexity of the project, BPG brings a unique approach to the utility and telecommunications industries by providing cutting-edge deliverables.

Located in the southwest United States, BPG services clients globally.

www.bpgdesigns.com



Double screen showing ArcGIS network design and Orbit Mobile Mapping Feature Extraction solutions working side-by-side



Triple screen showing ArcOnline, Orbit Feature Extraction and ArcGIS sharing the same content from BPG Designs' servers and databases