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Pitney Bowes Refocuses on the Operational Intelligence of Location



Matt Ball on June 10, 2013 - in Analysis, Interview

Pitney Bowes teamed with Autodesk in January of 2012 to bring their GIS and BIM/CAD products more closely together. The partnership has been focused on technology integration, and has rolled out several solutions, including one focused on state and local government and community assessments of capital assets. Informed Infrastructure (I2) editor Matt Ball spoke recently to Ahmed Abukhater, global director of product management at Pitney Bowes, about the ongoing integration effort, and the ideas behind the tighter integration.



I2: When we recently chatted at the Geospatial World Forum, you mentioned that Pitney Bowes has recently undergone some exciting initiatives, and a refreshed focus on location as an enabler across your offerings.

Abukhater: There is a new focus on location intelligence as a major driver for the company. Location is at the heart of everything that we do, and we are looking to increase our reach and serve our customers better. This opens up a lot of opportunities, to collaborate and partner with other vendors of location and geospatial intelligence to deliver solutions for our customers that we can take to market and help their business operations.

I2: You've done a lot in the infrastructure space alongside Autodesk including data add-ons. Is the packaged solution aimed at those working in planning and development?

Abukhater: The short answer is yes. The Autodesk partnership was launched last year, and since then we've been working aggressively with them to ensure that we deliver integration and interoperability between the two breeds of products. We are now in a position where we can deliver a comprehensive solution to manage infrastructure projects.

The reason why we entered into this partnership to start with is that we realized it created a unique offering to manage large infrastructure projects. There are challenges in managing the project lifecycle from planning, designing, construction and ultimately managing the project after it is built. Technology has certainly been very helpful, and it is used in different capacities at different scales throughout all the phases of this process, but unfortunately they aren't well-connected pieces.

When we are talking about infrastructure planning, planners use location intelligence and GIS to do analysis. Then we move to design and construction, where designers rely on Building Information Modeling (BIM). There has been a disconnect between the GIS and BIM/CAD world, and this disconnect has been difficult, making stakeholder collaboration and the development approval process tedious and long. The process spans across many different stakeholders and departments, where there has been technology limitations related to the lack of ubiquitous data access through all phases.

The difficulty translates to issues of slow planning and construction phases, which costs a lot of money. There is a pronounced delay in the construction, with a seven to ten year average from the time a project is designed and planned to the time it is actually built. This provided us with the best motive to expedite the planning and implementation of these large infrastructure projects.

We have been working with our partners at Autodesk to expedite the integration and communication between software. The implementation should be applicable across the whole lifecycle, where people can use cutting-edge spatial analytics in

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support of visioning and strategic planning and powerful 2D and 3D visualization tools to support design and construction.

I2: What are some examples where GIS can be most helpful in the planning process?

Abukhater: GIS can play a more instrumental role when it is placed in the hands of the business users where they need it the most to do plans- rapidly generating and evaluating different planning options. Then, we move to the design stage, where the planning data is able to translate across the different products. This provides a comprehensive management solution for infrastructure, because you're all looking at the same data, providing this common operating picture with a single point of truth where planners and community developers can plan along with architects and designers.

GIS for example helps to understand where the project should be located and what it will look like using both 2D and 3D simulations along with BIM technology. With operational tools, like AutoCAD, you can create operational drawings for execution. Finally, the management of that facility benefits with as-built details to facilitate efficient and safe performance that meets expectations.

Ultimately our end-to-end solution reduces the amount of effort in data integration, and time wasted finding data and making sure that it is compatible across different software vendor products. We provide one solution, and believe that this is a game changer for the AEC industry.

I2: Historically, Pitney Bowes has been a leader in GIS for marketing, and spatial analysis around business objectives. Is that part of this effort, with a look toward demographics and the makeup and desires of the local population to fuel new development?

Abukhater: Absolutely, the target for this connection is local government, departments of planning and transportation, and ultimately the whole AEC industry. That relates to infrastructure from highways, to community planning, and all aspects of physical planning be it a street, a building, or underground infrastructure. Infrastructure projects that require that multiple stakeholders are involved, collaborating, and making decisions is where this solution fits the most.

We are actually pivoting from focusing on GIS as an IT system to focusing on business operations, turning location intelligence into operational intelligence, combining data with spatial location to deliver measurable business outcomes for our customers. Nobody uses technology for the sake of technology, they use it because they have a problem that they need to solve. That problem relates to a business challenge, deliverables or execution. In the context of governments this means saving money, making money, reducing risk, and serving the interests of the citizens and community.

The idea of GIS as a specialty is the biggest threat to the GIS industry, because that meant compartmentalization of GIS in a single department, and isolated GIS knowledge rather than expanding that knowledge throughout the whole organization, and deploying the cutting-edge GIS tools and capabilities in an enterprise-like solution.

We tend to rely on the GIS person in the department to compile data, do analysis and produce a map. That's not the way business decisions are made however, decisions are more fluid than we tend to think. In general, there are six pillars to GIS – software, data, hardware, people, methods and operations. In the GIS-centric world, the methods used are variant, the operations are segregated, and people are becoming too specialized, with advanced degrees needed to use the software. As a result, the software is too hard to use, the data is too restricted, and the software and data are stranded and siloed. People have data they don't know that they have, which causes great inefficiencies and difficulties to collaborate. Hardware platforms are also becoming increasingly incompatible, with desktops, mobile, tablets, and web mapping all competing.

This created a segregation of GIS workflows from the business workflows, separation of knowledge in different departments, and organizational inefficiency. We think there is a Holy Grail of GIS away from a specialty and into an operational intelligence that is integrated into the business workflow, to expose GIS knowledge throughout the enterprise for more fluid and informed decision making. This way, we are able to put the power of GIS into the front office, where decisions are being made.

I2: With Autodesk, they're moving more into parametric modeling to speed the ability to present initial designs and gain stakeholder buy-in. Is the Pitney Bowes piece helping to determine the parameters that are important for the design, such as density of a development or projected traffic volumes?

Abukhater: In the planning stage, GIS definitely helps identify the demographics and the socioeconomic characteristics of the community, and understanding the local planning culture. There are various science-based analytical capabilities that can be

used to determine for example the best location for a specific infrastructure, such as a new highway, school or cultural facility.

Understanding the context in which a specific piece of infrastructure operates is very critical in the planning stage. Awareness of the state of the community, and where we are, formulating a vision about where we want to be, and determining a strategy to help us get there all happens before the design stage. With spatial analytics and mapping we can turn data into information and insight to inform decisions and share with different stakeholders.

With GIS, you can look at critical socio-economic and environmental factors such as, community assets, terrain models, population density and profiles of the community, educational attainment and average income, in addition to a host of environmental factors, like prime agricultural land or floodplain areas.

Pulling all this data together helps the planner determine where to locate or not locate new development as well as where and how to mitigate adverse impact. That is all pre-design, and once you get to design all the nuances should be fully exposed and investigated to unravel understanding. When you get to design, the data is interoperable with Autodesk modeling tools, with seamless data flow across various products and throughout the full project lifecycle.

I2: In terms of the visualization flow, would the user have both products open, maybe on different screens, in order to view data and explore the information simultaneously as they design?

Abukhater: The idea is to make sure that we eliminate a layer of inefficiency. Most people spend a lot of time in data conversion, interoperability, and data management. That shouldn't be a user problem; it should be a vendor problem. When you're looking at two breeds of technology solutions it gets complicated for users. The types of users are different, architects and planners are encouraged to collaborate, but in reality it doesn't happen enough. The technology providers can deliver the opportunity to enable them to collaborate.

Back to your question, it's definitely a goal of ours to allow planners to analyze different parameters, while at the same time designers are doing flexible iteration of the design to match the analysis, and going back and forth between the different products to look at two different land views. They are accessing the same data to facilitate collaboration between the traditional GIS and CAD parts of the project. We're trying to make the sharing of the design and analysis easier to be able to connect the design to its impacts on the fly. This is where GIS meets BIM, and analysis meets the design.

I2: Autodesk is moving toward the cloud, I guess they call it infinite computing, using network-based servers to offload some of the computing load and to ease the integration of tools and functionality. Is that part of the integration plan?

Abukhater: We have two goals for this partnership; a short term and a long term goal. The short term goal is to achieve better interoperability between the two products, with integrated solutions that complement each other throughout the lifecycle. The long-term strategy is to deliver vertical industry solutions with both on-premise and cloud solutions. Because not all customers are ready for the cloud at this point, due to data privacy and sovereignty issues, we want to deliver the two flavors of deployment.

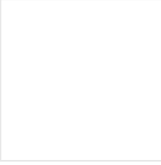
Today, Autodesk and Pitney Bowes both have on-premise and cloud-based offerings. Pitney Bowes has solutions that are deployable on the cloud or on-premise and a host of spatial platforms with different modules and capabilities, such as location intelligence, data management, geocoding, mapping and visualization to name a few. These platforms become the operational hub that glues everything together in a centralized way.

I2: Do you share a common goal with Autodesk on this integration?

Abukhater: It's again all about solving the challenges that our customers are faced with. Need is the mother of invention, and we have the opportunity for invention to become the mother of need. We have "big data," and it's a challenge as well as an opportunity. This big data trend requires big changes including us working together with a common interest, and I see it happening more often in the future.

If we want to provide meaningful solutions to the problems our customers face, it's mostly about aggregation, and it's only on the technology side that the process is deadlocked. We could stand on the sidelines or be mavericks and lead the way. We decided to take a step forward and solve the technology bottleneck for the next generation, with a focus on operations. We could focus solely on business intelligence forever, or we could turn it into location intelligence and turn location into insights.

That's where we see ourselves providing context for better understanding of the natural and the built environment, the interaction between humans and their surroundings, and understanding the magnitude of the impact of development projects. It's also about determining who and what should be benefiting to include education, employment, crime rate, and the whole socioeconomic base. Connecting people, places and things through spatial patterns allows us to improve our community and create better places to live. This is profound.



About Matt Ball

Matt Ball is founder and editorial director of V1 Media, publisher of Informed Infrastructure, Earth Imaging Journal, Sensors & Systems, Asian Surveying & Mapping and the video news site GeoSpatial Stream.

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