



Transforming Government Through Location Intelligence

An interview with Matthew Gentile,

Matthew Gentile is a principal at Deloitte Financial Advisory Services LLP and leads the Geospatial Analytics Group. Matt has more than a decade of experience providing world-class strategic consulting and software development services toward the collaborative exchange, display, and analysis of geospatial content.

Deloitte recently published a report on how location intelligence is transforming government entitled, *The Power of Zoom*. What is the concept behind the study?

What's exciting to me is how several disruptive forces are transforming geospatial technology from a "power user" analytical tool into a universal platform for decision-making. GEOINT practitioners are familiar with the evolution of geospatial software, but it's the convergence of these technologies with location-aware mobile devices and sensors, found on everything from buildings to buses, that is creating new opportunities for government. The wealth of location data provided on a daily basis by these objects — the "digital exhaust" created as a byproduct of millions of our daily lives — can power new models for gathering and delivering geospatial intelligence, help the intelligence community better understand the challenges of diverse communities, and design more effective solutions tailored to place.

The Power of Zoom discusses how this convergence of technologies changes the way policymakers and mission planners see and understand our world—when each point on the map can provide an historical and predictive perspective on the mission, and the map itself has been transformed from a static picture to a living platform for shared decision-making and real-time collaboration, we stand to make a leap in geospatial intelligence tradecraft.

In the report, Deloitte argues that the use of location intelligence is accelerating—what is driving the evolution of location intelligence?

I think there are two key factors. First is the increasing prevalence of connected devices that are able to provide location information. For example, we spoke with a team from the MIT SENSEable City Laboratory about a project they did called Trash Track. By attaching location sensors to thousands of objects and

following the objects over the course of a few months, the team was able to visualize the invisible infrastructure of our waste disposal network; in one case following a printer cartridge that traveled almost 4,000 miles from Seattle to its final resting place in Florida. It's staggering to think of the implications for government when sensor technology is so cheap we can literally throw it away.

Second, the "location-based arms race" currently going on between Apple and Google, perhaps Amazon will be next, with their mobile mapping platforms is indicative of how valuable location is as an organizing paradigm. Users love it because they can receive contextualized information that is relevant to their location at any given point in time, and providers benefit from permission-based sharing of user locations, destinations, and local search habits; data that is highly valuable to target services and customize products. Similarly for government, location services allow agencies to push context-based information to their field operators based upon where they are, while capturing a wealth of geospatial data that enables decision makers to visualize the choices individuals make, the relationships we create, and the impact of our actions based upon the relationship to place.

How will some of the topics discussed in *The Power of Zoom* affect the tradecraft of GEOINT?

This study outlines the potential of location intelligence through three lenses: seeing the big picture to make better policy decisions with geospatial analytics; finding a common focus by using place-based collaboration to improve program delivery; and creating a new frame by designing new delivery models with location-based data. I believe that all three approaches have implications for GEOINT.

Some new approaches to geospatial analytics, particularly in regards to the combination of traditional GIS and imagery with social data from the Web and social media, tells us something about human geography which we are only beginning to understand. New boundaries are emerging and old ones erased, yielding to understand communities based on behavior, not traditional geopolitical borders.

From the collaboration perspective, the GEOINT community has recognized the impact of cloud-based storage to share geodata, but something we're just starting to think about is how to use the abundance of open source data that can be (is) geo-tagged. For example, what is the appropriate role of crowd-sourced tools, such as Open Street Map (OSM) or Ushahidi, in GEOINT? How does it get integrated into decision-making? These kinds of issues are increasingly common questions for executives.

From a new models perspective, I think Sandy Pentland from the MIT Media Lab describes it well—our devices know us better than we do, and can illustrate real behaviors vs. what we believe about ourselves and our communities. The result is the ability to deliver field operators, or citizens, with the information they really want and need, based upon where they are and what they're doing.

How is location intelligence powering innovation in government?

Government is certainly at the front of the curve when it comes to imagery collection and analysis and *The Power of Zoom* report describes how innovation with location analytics and the implementation of new operating models is also happening in smaller, more nimble organizations—in nonprofits, tech startups, academia, and also in cities. In Boston, the Mayor's Office of New Urban Mechanics created a new mobile app called Street Bump that runs in the background on a user's phone and collects data about road conditions, particularly potholes, via the accelerometer in the device. Each bump gets measured and geotagged, giving the city a real-time picture of road conditions. That kind of passive geodata collection is just one example of a whole new range of possibilities for information gathering, and service delivery for government.

For more information on how to put "zoom" into practice in your organization, download the full report at www.deloitte.com/us/zoom.



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