



NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY

Office of Corporate Communications

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**Remarks as Prepared for
Robert Cardillo
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for the
Community Commercial Imagery Forum
Wednesday 11 March**

Good morning and thanks for inviting me to speak at this wonderful forum. It is great to see such a mix of mission partners and industry experts.

The forum is often cited as the chief source of information on how agencies can find, access and use CI, as well as an opportunity to hear the latest in sensor capabilities and applications, emerging technologies, CI policy and user success stories.

Today, I would like to talk about how I see commercial GEOINT services and analytics supporting NGA's mission going forward. I'll start by discussing the small-sat revolution, and will end with a discussion of spatial and temporal dominance.

But first, I'd like to frame my discussion with some context about the operating environment for NGA. The world has been growing markedly less stable for some time now. There are traditional geopolitical matters such as the ongoing conflict between Russia and Ukraine, Iran's nuclear aspirations, and North Korean provocations. Emerging threats such as cyber actors and religious extremism challenge us. Humanitarian crises caused by diseases such as Ebola, or natural disasters such as tsunamis and wildfires, need our attention.

One constant is that the US (and its allies) remains a world leader in addressing this complexity. As the nation's primary provider of geospatial intelligence, NGA holds the privileged responsibility of providing dynamic, persistent, and pro-active intelligence to guide our customers' decisions, operations, actions and positions. Our success is defined by their success.

So, here at NGA, we're viewing all of this through a new lens: consequence. In other words, NGA exists for one reason – to enable mission consequences for those we serve. By consequence, I mean the positive outcomes customers achieve by using our work. We must convey our content within context and with exquisite insight so that customers can apply GEOINT to their decisions.

The wave of commercial innovation that many of you here are driving is a critical part of our future – and consequential – success. That is allowing NGA to focus our limited resources on how we can add value for our customers that commercial efforts cannot. I

realize that commercial capabilities change rapidly, that makes it even more urgent that we collaborate and coordinate our capabilities.

Recently, I have been talking about an opportunity that NGA has to be more relevant, more consequential than ever before. Leading edge developments in commercial earth observation satellites will help make NGA more consequential to our customers. And unmanned airborne systems will help us achieve our goal of persistent GEOINT.

Going forward, we need industry to help integrate and expand multi-layer capabilities: satellite – both conventional NTM and small sats – airborne, ground based, and open sources. But these satellites and systems are only the technological means to achieve persistence.

I define persistence, not as a system, but as a mindset. It is our job to persist with investigating every intelligence problem to create insight and understanding for our customers so they can make decisions. The means we use to persist depends on the intelligence problem. The new small sat revolution, the explosion on social media, our multi-layered systems, and our cross-INT integration all will contribute to our ability to develop far better insights and greater understanding.

Today, we benefit greatly from the investments and incredible imaging capabilities created by our industry and international partners. Their efforts have set a high bar. Small sat companies, like Google's Skybox and Planet Labs, play a revolutionary role. This revolution presents NGA and the IC with huge opportunities, but equally huge challenges.

The biggest challenge may be a new paradigm-shift from buying primarily access to data to buying analytic services. It will be especially helpful in more rapid, more accurate disaster response and recovery around the world.

The small satellite revolution and the democratization of geospatial information are both intriguing and inspiring. First and foremost we should approach this as a great opportunity to expand global coverage. We no longer have a monopoly on high-resolution imagery. The commoditization of imagery can help us to reprioritize highly capable national resources to focus on harder targets or areas of the world that are currently underserved. It will allow us to prioritize highly capable and expensive means only where they are most needed. This step could also make it less expensive for the customer.

We as partners should be thinking about how to use small satellites from a whole government and cross-Intelligence Community approach, rather than just an imagery approach. These same types of satellites may also be able to carry communications platforms or other valuable payloads. This type of game-changing collection platform will exponentially increase the amount of data that we need to process, store and retrieve.

Unless we approach this holistically, we could wind up with huge inefficiencies if numerous IC and DoD entities enter into contracts to acquire the same information.

Ingesting data from so many sources will quickly overwhelm our systems. We need to look ahead at how we can 'pre-process' these images to derive the most relevant content. We must follow uniform data standards and develop more robust analytics.

Because I expect that in ten or so years, NGA will not be known for analyzing imagery, a capability that will generally be available as a commodity. Instead, we will be known for geospatial analysis of big data.

NGA's analysts won't spend their days searching images and recording changes. They will instead explore the massive collections of georeferenced observations that we get from many sources. They will make intelligence assessments not from direct observations, but by discovering relationships hidden in the sum total of that collection.

There is still much to be done to get us to that place, but I'm excited to be a part of NGA's ongoing engagement with small sat providers to better understand and capitalize on the opportunities they afford for government and commercial applications. These risk takers are leaning forward and putting their careers, and in some cases their livelihoods, on the line to realize their dreams. The small satellite revolution will enable NGA to solidify its role in spatial and temporal dominance of GEOINT.

Our GEOINT delivers security, spatial awareness, temporal context, insight and (ultimately) understanding.

Spatial and temporal dominance – as more people carry more handheld devices to more places – and the emerging Internet of Things demonstrate what you and I have long known: Everything, everywhere, everyone exists in a time and place.

What are the three components of spatial-temporal dominance? I have already alluded to them, but let me explain briefly.

First is awareness that comes from content, observation, and analysis so we can tip and cue the best collection methods to address the problem.

Second, after we have gathered the content we need and put it into context, we use deeper analysis to develop insight.

Third, that insight leads to understanding that we convey to our customers.

If we can offer understanding and something of value to our customers, we will have done our jobs.

Our goal is to dominate the understanding of spatial and temporal events so we can convey it to our customers and give them the decision space they need to succeed. The dependence of all of the billions of handheld devices and social media links on their georeferenced makes what we do – spatio-temporal analysis – the bridge to the future of commerce, cooperation, transparency, and security.

We look at questions from a broad, spatio-temporal, geographic point of view. We use geospatial data to analyze questions with geospatial scientific methods that give unique perspectives grounded in reality.

Our unique point of view makes us increasingly valuable in the future in which everything and everyone is interconnected and geospatial data is “democratized” and available to all.

We are already recognized for our positive contributions to national and international humanitarian assistance and disaster recovery and we are natural integrators. Every modern local, regional, and global challenge – climate change, future energy landscape, and many more – has geography at its heart. And NGA is the best agency to integrate all of this geospatial content and put it into exquisite context to drive consequences for our customers.

Consider Team NGA’s response to the Ebola crisis:

We are the first intelligence agency to create a World Wide Web site with open access to our relevant unclassified content on Ebola. It is open to everyone – no passwords, no closed groups.

Since October 23, when we launched our site, we have posted one-fourth of all of our available content. In fact, 99% of our Ebola-related content is unclassified.

Consider these numbers: Since October 23, the number of data layers has grown from 12 to 495 data layers. We have published 202 – products – including 111 maps of Sierra Leone from the United Kingdom. And the United Nations has shared large scale maps of Liberia. 100% of our elevation data is available. In short, we have conveyed transparent content and context at unprecedented levels on this website. And we are working daily to make even more of our own and our partners’ content public.

We have excelled in the past in a closed system – we must excel in the open. How, you might ask. Reduce the barriers between our system and the explosion in the commercial market.

In conclusion, let me end by reiterating that we hold a privileged responsibility for an indispensable country in a markedly less stable world. One thing is certain. We cannot sit still. We cannot rely on our past to propel us into the future. We will have to find ways to embrace this ongoing revolution and help bring its benefits to our customers. Working together, I know we can do so.

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