



NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY

Office of Corporate Communications

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(20-25 min keynote, 5-10 min Q&A optional)
On-Stage Conversation with Jack Dangermond
1015-1045

Introduction

Thank you, Jack, for that kind introduction and the invitation to speak to the Federal Users Conference. This is the first time I have been able to speak at this important conference, and I am honored to be here.

I also want to thank you, Jack, and everyone for the significant contributions you make every day to NGA's success.

And I want to acknowledge the important changes to the Conference you have made this year. I was especially pleased to see the new National Security Immersion Summit focused on cyber security.

In fact, some of you here today may not realize that NGA plays an important role in helping the Intelligence Community – the IC – carry out its cyber security mission. We help identify the physical infrastructure and connections between FOREIGN cyber facilities and networks.

As you know so well, everything has to be somewhere at some time. NGA's task is to know where that thing is and how it changes over time. We study FOREIGN cyber networks as part of our support to the policy maker, the warfighter, and the intelligence analyst.

But understanding cyber networks is only a small, though vital part of NGA's national mission. We support a broad range of customers from the President, to the warfighter on the ground, to the first responder fighting forest fires.

In fact, with our wide-ranging missions from counterterrorism to disaster response, NGA is a very interesting place to work and an excellent opportunity to serve national security in a unique way.

What makes NGA even more interesting in my view is that we are no longer doing business as usual. Obviously, the world is changing rapidly, and NGA is changing with it.

I am here today to share with you how NGA is transforming from a traditional product



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provider—static maps, charts, analytic products—into a dynamic content and services provider.

As the provider of this dynamic GEOINT, we deliver advanced analysis, drive integrated intelligence, constantly evolve critical geospatial content, and offer expert service.

Yet, what NGA does has the same foundation that everyone here shares – Geography as a common language and a global platform for understanding our world through time and place.

More and more often in NGA’s work, understanding our world means understanding social media and human networks and what they mean to our challenges.

All of these changes mean that NGA must transform more rapidly than ever before to keep pace with the fundamental importance, perhaps even dominance, of geospatial information in our work and our lives.

Realities Facing NGA

Only by embracing transformation can NGA face numerous realities that pose increasingly difficult challenges to national security:

Data *is* a commodity in a world dominated by smartphones and digital devices.

The consumer—like all of you here today—*is* a major producer of geospatial data.

The demand for the Intelligence Community to become more transparent *is* increasing.

The “new normal” *is* that we face the most difficult threats that we have faced since the Cold War, and the financial reality *is* that we face a starker budget landscape.

Power of GEOINT Faces Challenges

To face these realities, NGA has a Vision - to put the power of geospatial intelligence – GEOINT – in the user’s hands. That includes into the hands of everyone here today who works for or supports our customers and partners across the US government.

To realize our Vision, we have two goals:

- 1) To provide online, on-demand access to our GEOINT knowledge, and
- 2) To broaden and deepen our analytic expertise – which in turn – produces new value for our customers.

Every day, NGA makes progress toward these goals and demonstrates our ability to face these realities.



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During my talk, I will share with you how NGA recently demonstrated the power of GEOINT.

We used that power to support the international efforts to help the Philippines recover from the devastating Super Typhoon Haiyan last November.

In a number of major steps forward, we gave US military and international disaster response organizations online, on-demand access to our content and expertise. GEOINT saved lives.

As the response shifted from crisis to recovery, I received an email from ADM Sam Locklear, Commander of the Pacific Command – PACOM – and the US lead for our disaster response.

He said, and I quote, “The efforts of your team undoubtedly contributed to saving countless lives and alleviated much suffering. The positive impact will long endure in the minds of the people of the Philippines.”

I don’t know about you, but feedback like that is why I come to work every day. And that is what NGA does every day. Through our advanced tradecraft, technology, and content, we make a real difference to critical national and international security missions.

NGA’s Value Proposition Drives the Power

Our value proposition drives the power of NGA:

Our mission is to be the *indispensable* provider of timely, accurate, relevant GEOINT to policy makers, warfighters, intelligence analysts, and first responders.

Our data and our analysis lay the *foundation* for multi-source integration across all of the intelligence disciplines.

And our people are the *catalyst* for cross-Community collaboration that can anticipate—and increasingly— predict what happens next.

These unique characteristics empower NGA to ensure that we can see what others cannot, know what we should know, and act first.

Three Phases in Evolution of Intelligence Integration

Now let me turn to a historic shift that also is shaping NGA’s transformation.

Behind every transformation is a history of evolution. The evolution of intelligence integration is a story of an ever greater ability to discover new knowledge that helps decision makers take action.



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I believe the Intelligence Community has evolved through three phases that have dramatically improved our ability to discover that essential new knowledge.

In the first phase early in the Community's history, knowledge was disconnected. I call that first phase "separation." It was very difficult to put together a common intelligence picture. Data was isolated, systems were incompatible, and disciplines were stovepiped. We "coordinated" to solve problems.

Lessons from the Cold War and the Gulf War drove the second phase—connection. We began to connect the disciplines, foster mutual support, and encourage intelligence sharing. We "collaborated" to solve problems.

During this phase, the National Imagery and Mapping Agency – NIMA, our previous name—was established to fuse mapping and imagery and form a new discipline – GEOINT.

Then, the attacks of September 11, 2001 demonstrated the limits of collaboration and drove the third phase—integration. This phase is progressing today as the entire IC is integrating its infrastructures through the IC Information Technology Enterprise or IC ITE. IC ITE will allow analysts from across the IC to fuse their information, create a common picture, and thereby gain deeper insights into hard problems.

The Director of National Intelligence – the DNI – has championed the transition to integration as his highest priority. And across the IC, we are making substantial progress toward fulfilling the DNI's goal.

As we make progress, we are perceiving the world in new ways. The power of intelligence integration is leading to the possibility of a fourth phase of intelligence. I call it "immersion."

In the not-too-distant future, analysts may "live within the data" immersed in a multi-sensory, fully integrated environment. They may be equipped with advanced visual, auditory, and tactile tools and technologies. The promise of immersion may offer an exciting future for intelligence analysis in 2020 and beyond.

Four Initiatives Drive Transformation

But first we have to face today's realities. To optimize NGA's services for our customers, drive integration, and deliver the promise of GEOINT, NGA has four critical strategic initiatives.

These initiatives are Open Information Technology, the Map of the World, the Globe user experience, and Activity Based Intelligence.

They are creating a completely integrated GEOINT enterprise. All four support and reinforce each other.



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And we need our industry partners to continue to develop innovative solutions to help us to create that enterprise.

Open IT

The first initiative—Open IT—lays the infrastructure for all the rest. NGA has adopted open IT standards and taken a lead role in IC ITE.

NGA is completely committed to IC ITE and the equivalent in the Department of Defense – the Joint Information Enterprise. The success of NGA’s transformation depends on their success.

NGA is showing the way toward this integrated enterprise. We pioneered the concept by implementing an open IT environment when we moved to our new campus in 2011.

We have been operating “in the cloud” since then. And our significant improvements in productivity, user satisfaction, and the ability to integrate different types of GEOINT with other intelligence information strongly support the DNI’s integration vision.

Map of the World

The next initiative—and ultimately the bedrock for intelligence integration—is the Map of the World.

In the past, you had to access multiple databases and search by hand for hours or days to identify needed data. But in our rapidly changing world, customers need access to all of our GEOINT knowledge quickly and easily.

We have created The Map of the World to be the home for all GEOINT-related and multi-source content—data, knowledge, analysis, and reporting.

The Map of the World provides a single, seamless, and integrated environment. IC analysts can “live within the data,” record their observations, and integrate all of their information about any object of interest.

You may wonder how this Map of the World differs from the commercially available maps. The Map of the World serves a broad and deep national security mission.

It includes geospatial content that goes far beyond commercial offerings. For example, our detailed maritime and aeronautical safety of navigation data are critical for conducting military operations. And all content is tailored to meet specific Defense, Intelligence Community, and Senior decision makers’ requirements.



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The Map of the World will function as the foundation for intelligence integration because the common elements among all data are location and time. Everything exists, every activity occurs, and everyone is somewhere at some time. Knowing where everything is located is the province of GEOINT.

The Globe User Experience

But without quality service and easy access, the best content may not be useful to the customer.

The heart of NGA's customer service experience is a single web portal for access to all GEOINT data and knowledge. Ultimately, all intelligence will be available—at any time, from any location through any desktop or mobile device. We call this online initiative the Globe.

We realize that today, we must provide an online experience similar to that of the best commercial websites. But rather than have an order system for a book or a pizza, we have a far greater undertaking: to expose all of our data, analysis, and knowledge so senior leaders can solve hard problems, the military can plan safe and effective operations, and as Admiral Locklear stressed, first responders can save lives.

Through the Globe, users will gain access to The Map of the World and all GEOINT content.

That content will be curated—that is, vetted for quality and usefulness—based on the customer's needs.

Steps Forward During Typhoon Haiyan Response

Our collaboration with our partners during the response to Typhoon Haiyan shows the progress we are making in delivering online, on-demand access with a quality customer experience.

As the typhoon gathered strength, we created an Event Page on our unclassified web site. The site enabled the international disaster response community to access NGA data, submit requests for information, and share their data. True online, on-demand access.

More importantly, the Event Page allowed our partners to see and use damage assessments as they were created and updated. We enabled the responders with our own deeper analysis and helped them create more timely, more accurate reports.

Among the many ways we supported online, on-demand access was a ground-breaking step with the International Red Cross. For the first time, working under our agreement with the State Department and the US Agency for International Development, we gave the Red Cross open access to our data.



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Their field teams downloaded the data to their tablets and smartphones to improve the accuracy of their ‘ground truth’ assessments. As important, they were able to update those assessments as they worked. The users were producers of critical geospatial knowledge.

Furthermore, thanks to our agreement with Digital Globe, we released for 30 days all of our related commercial imagery to everyone who needed it. This public release made a major difference to the Philippines government’s understanding of the situation on the ground.

In addition, since we exposed our data, unexpected users took advantage of it to produce their own disaster relief products.

How did this happen? First, NGA exposed all of our relevant data to our federal partner, FEMA – The Federal Emergency Management Agency.

FEMA then made it available to the responders through the GeoPlatform map service in partnership with the Federal Geographic Data Committee.

After the release, with pure self-service, the unexpected customer, a United Nations agency, used NGA data for the first time to create its own multi-layered area maps.

The lead US military component, PACOM made NGA data available to its public network of choice for sharing information – the All Partners Access Network or APAN.

APAN data is available to all of PACOM’s international partners across its area of interest in the Pacific and Asia.

All of these steps forward demonstrate *exactly* what we set out to do when we established our Vision—expose all of our GEOINT knowledge to our users as quickly as we can.

These steps also show how effective that integration can be when you willingly share your data, knowledge, and analysis with your partners.

The Event Page, **the** easy access, and **the** ease of collaboration all point the way toward the quality user experience that we are developing now through the Globe.

Activity Based Intelligence

Collectively, the Open IT infrastructure, our dynamic content in The Map of the World, and the Globe portal establish the vital underpinning for the ultimate purpose of our transformation:

That purpose is to serve as the foundation of intelligence integration and to deliver advanced GEOINT insights. In turn, these insights give our customers a decisive time and information advantage.



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In the second phase of collaboration, we continued to do what we had always done - watching what we know and looking where we think we might find something. We have always been very good at that – from the Cuban Missile Crisis in 1962 to North Korean missile developments today.

But today’s crises—often sudden, rapidly evolving, and influenced by social media—mean that we can no longer do analysis that way.

Instead, we must focus on discovering the unknown unknowns hidden in the masses of data created every day. We must discover them more quickly than ever before. One way of getting at these unknowns is through an advanced analytic tradecraft that we are pioneering called Activity Based Intelligence or ABI.

Using “big data” analytics, automated processing, and our ABI tradecraft, we are discovering critical surprises hidden in the masses of data as well as secrets our adversaries are trying to hide.

Automated processing frees the analyst to think more deeply, answer intelligence questions more quickly, and generate new perspectives for their customers.

The result is more decision space and deeper insight so policy makers and warfighters can determine better courses of action.

Initiative Summary

The success of NGA’s transformation depends on the success of all four initiatives—Open IT, Map of the World, the Globe, and ABI. And their success depends on each other as well.

These initiatives are so critical that we have realigned hundreds of millions of dollars across our budget for the next five years to support them. These investments will drive NGA to achieve our planned future state by 2018 – That state is a fully integrated GEOINT enterprise.

That enterprise will ensure that GEOINT *is* the foundation for intelligence integration. It will ensure that we can see what others cannot, know what we *should* know, and act first.

Call to Action

To achieve that state, NGA faces a number of challenges I would like to take a moment to share with you. For industry, we need your help in developing these critical capabilities:

- Technology solutions that give access to the Map of the World in remote environments with limited bandwidth.
- Automated production of standard maps and charts for the Map of the World.
- Technology that automatically collects video from trusted users/partners.



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- Identity management. Obviously, we must be able to match users and their credentials and give them access only to what is appropriate for them to have.
- And a fast-editing capability so we can rapidly update our digital map data in a crisis.

For my government colleagues, we need you to:

- Adopt open standards for your data
- Meta-tag your data
- Expose your data – make it accessible
- Expose your apps and make them available

Let us expand collaboration and integration beyond the Intelligence Community and Department of Defense to federal, state, and local governments as appropriate.

Conclusion

I would like to conclude with this key point: I have stressed the powerful realities that are reshaping our world. These forces have created a relentless momentum driving total intelligence integration. That momentum is transforming NGA into a dynamic content and services provider. Our contributions during Typhoon Haiyan confirmed we are moving in the right direction.

This is our vision and our clear direction. Our momentum is building. We need you to help us realize our Vision. We welcome—from anyone—good ideas that will push these initiatives forward.

We can succeed in achieving our vision and completing our transformation **ONLY** if you, our partners and innovators across the community, join us.

I urge you to seize this unprecedented opportunity.

We cannot succeed without your service. And for your service to the nation, I thank you.

END