INSA Leadership Dinner – 11/15/2022
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Remarks as prepared for delivery

Good evening and thanks for inviting me to join you. Tish, I appreciate the warm welcome.

The NRO has a strong relationship with INSA, and it's always a pleasure to engage with your membership on issues related to intelligence and national security.

I'm honored to represent the team of dedicated and talented professionals at the National Reconnaissance Office.

This is an exciting opportunity to talk about what we're doing now and our vision for the future, some of which you saw in the opening video.

Right now is a pivotal time in our nation's history.

The United States has never before been more reliant on our capabilities in space. Our national security and our modern way of life depend on it.

At the same time, our world and our competitors are becoming more complex and posing significant challenges – on land and sea, and increasingly in space. For 60 years, America's dominance in space was largely unchallenged. That's not the case anymore:

- Satellites are being launched in record numbers. The number of satellites in orbit has grown from about 500 back in 1987, to nearly 5,000 now – and it's still growing.
- Our competitors, especially China and Russia, are developing tools on the ground and in space that put our assets and our advantages at risk.

They're developing weapons to destroy or interfere with our satellites kinetically or via directed energy from locations on the ground and in space. This includes cyber intrusions and cyberattacks that will be a perennial threat to all of our systems.

- Space has turned from a peaceful domain to a competitive one. A few months ago DNI Avril Haines summed this up best – QUOTE – "Make no mistake. Space is a warfighting domain today, and an ever increasingly contested one at that."

Since the beginning of time, humans have looked to space as the realm of infinite possibility. Stars brought light to the darkness, gave order to their seasons, and illustrated their stories. When their own world was small, space was immeasurable.

We, too, see the limitless potential of space.

As we look to the future, we at the NRO are working to modernize our architecture in space and on the ground – to have more capabilities… and to become faster… more innovative… more agile… and more resilient.

It's the only way we will stay ahead of our competitors and fully execute our mission of keeping America safe.

There are several things we are already doing:

- We're building a diversified, proliferated architecture – this includes large and small satellites, both national and commercial, in multiple orbits. We can spend more time over a given area, and we can have a faster revisit rate. By minimizing the time between observations, paired with a greater diversity of systems and capabilities, we get both more capability and a higher degree of resilience.
- We are building our capabilities in space and on the ground, finding new ways of doing things. This includes applying advanced technologies and techniques like enhancing overhead tasking, collection, and processing capabilities to accelerate delivery to the end user. We're adding automation and multi-intelligence processes, artificial intelligence and machine learning. These technologies are helping us reduce timelines and decrease the burden on users. These capabilities also increase our resilience!
- We're building tools that deliver the right information at the right time. These have proven vital during the crisis in Ukraine. We're seeing increased demand for our wide array of tracking technologies that offer a better understanding of the situation.
- We're building resilience into our systems and capabilities—from the ground through space. In a challenging environment, we must be able to address vulnerabilities and assure all of our functions, systems, and information remain available so we can continue to execute our mission. This will help us anticipate and adapt to current needs, emerging customer demands, and future threats.

All of this growth presents both challenges and opportunities. As we add more satellites with more capabilities, we will be more aware of situations around the globe and in space – but we will have much more data and systems to manage.

We are developing innovative ways to manage its flow. To that end, we are challenging ourselves, our partners and our customers to change our mindset.

As the data we collect from our constellation becomes ubiquitous, we have an opportunity to evolve how we find the answers we need, knowing the data can come from more than a single source. This means we must employ more automation to manage our constellation of satellites to efficiently collect the data we need.

So our path to an answer may not be a linear one – meaning we will no longer task a satellite but instead ask the constellation to choose the correct satellite at the correct time with correct characteristics.

This means that we will rely more on Artificial Intelligence and Machine Learning to manage our constellation and the data derived from multiple sources. A great benefit of this is we will be able to update tasking at the speed of machines.

Further, as we proliferate and modernize our architecture, we must guard against adding complexity for our users. It is essential that we simplify interfaces and focus on the basic intelligence question. We must let machines enabled by AI and ML focus on the "what" and "how," and allow humans to focus on what they do best—answering the "why."

Dramatic increases in capacity and access mean our challenges—and opportunities—are greater. With new entrants into the marketplace and the significant capital investments we're seeing, there will be more sources of data to harness.

Like the problem-solvers who came before us, we need to ask "what if?" and explore big ideas.

At NRO, we are exploring big ideas, and how to achieve this vision:

- We are investing heavily in recruiting, retaining, and educating a dynamic workforce that represents our country and empowering them with the resources they need to succeed.
- We are developing reliable systems faster. We have recently delivered demonstration projects that most recently went from the drawing board to orbit in less than three years. Our exquisite systems are delivering data within days of launch – that is a remarkable breakthrough and a testament to our innovation and people.
- Our Advanced Systems & Technology group is looking at the things people dream about and figuring out how to make them a reality in the next 5, 10, 20 years. I am happy to share with you tonight that after a pandemic-induced hiatus, the AS&T Tech Forum will once again be held in person this spring. It will bring together scientists, technologists, and visionaries to discover, develop, and deliver solutions to NRO's hardest problems.
- We know we can't solve today's challenges on our own. We depend on our relationships with other government agencies, other nations, academia and the private sector to identify new opportunities to optimize our talents, tools, and effectiveness. One of the most critical of these relationships is with the U.S. Space Force. We look forward to

working with its new commander, General Chance Saltzman, and building on the great foundation General Raymond established.

I'm confident we can do this. The NRO is used to taking on big challenges – we've done it ever since our inception at the dawn of the space age more than 60 years ago.

We have a long history of seeing the infinite possibilities in space and going above and beyond.

In my three years as director, the NRO has had more than a dozen launches placing over twice as many payloads into orbit – further indication that we are moving out with the new architecture.

Each launch has been designed to fit our diverse needs – different coasts… different launch partners… different rocket types… and different conditions – day and night, and in every season, we get it done.

This past summer, one launch reused a booster for the first time. Four launches were from New Zealand. We are now working with the United Kingdom on the first-ever commercial rocket to launch from Western Europe.

All of that helps us advance our mission – to develop, acquire, launch, and operate the ISR capabilities that are the foundation of America's advantage and strength in space.

We know we are doing what no one else is.

The NRO makes the world a better place by providing information we can only get from the vantage point of space. Our global view of the world shows us how things are interconnected. The persistence of our architecture gives us a nearly continuous look at the Earth. We understand the pattern of life in ways you only get when you can see the entire planet.

That's a privilege and a responsibility we take seriously. When we talk about "big data," we see it as an opportunity. All of the information we are collecting, processing, and delivering serves a critical purpose – protecting our way of life.

And I ask you to join us in taking a broader view of national security – it's not just about defense, but all the things we touch, now and in the future:

- We have access to denied areas – we can look at and listen to places humans aren't able to reach safely:
    - NRO systems are often the only tools able to access hostile territory or rugged terrain, and we can collect critical information without risking lives or infringing on other nations' territorial sovereignty.

- We can track the development of weapons of mass destruction and next-generation weapons.
- This gives us a better understanding of our adversaries' intentions and helps policymakers make good decisions.

- We also get a big-picture view of our planet:

  - Our space-based sensors collect data that can help scientists understand climate change and predict a population's movements, economic dislocations, and overall life patterns.
  - Our data can help detect, mitigate, and address food security, water resources, and land use. One example – satellite imagery is helping the State Department and UN World Food Programme track the flow of refugees in places like Yemen and Niger, helping them meet basic needs and build stability in those countries.
  - And our data can support disaster relief and humanitarian efforts, especially in areas that are distressed or difficult to get to after crises like wildfires and earthquakes. We can look for where the lights aren't and know exactly where power has been cut to populated areas. And we can do this in real time – this is a huge help to first responders who need to know how to deploy limited resources as quickly as possible to the areas most in need.

- And we know what's happening in war zones. In times of conflict, we're not looking for a fair fight. We want our military to have every possible advantage so we can make sure we bring our sons and daughters home safely.

That is our "why." Why we invest in research.

Why our architecture in space and our operations centers on the ground have the world's most advanced technology.

Why we partner with the private sector to benefit from industry's capabilities.

Why we recruit the best and brightest to join our team.

And why we are building innovation and agility and resilience into everything we do – so that we can continue to have the best space-based ISR in the world.

Enjoy your dinner, and I look forward to YOUR questions.