

# Povak SSS

[00:00:00] Good morning, ladies and gentlemen, and welcome to the Schriever Space Power Series. I'm Kevin Chilton, Explorer Chair for the Mitchell Institute's Space Power Advantage Center of Excellence. Today, the threats the United States faces, both on Earth and on orbit, are greater than ever before. Our adversaries, like Russia and China, both field increasingly threatening anti satellite capabilities.

[00:00:40] They have also proved willing to challenge the international status quo, be it in the Ukraine... The Taiwan Straits or the South China Sea. The ability to collect and analyze threat information and activities in key regions underpins the United States ability to avoid strategic surprise [00:01:00] and deter escalation.

[00:01:02] From its earliest days, the U. S. Space Program has been used to gather intelligence, as exemplified by the Corona Program, which began in 1959. In today's challenging environment, Ensuring a capable and resilient intelligence gathering architecture is crucial. Fortunately, space based sensing is proving to be an increasingly expansive and accessible tool, as smaller satellites and commercial satellite providers become more common.

[00:01:32] To discuss the changing space intelligence environment, we have with us today Major General Christopher Povac. As Deputy Director of the National Reconnaissance Office, or the NRO, He assists in managing the strategic and tactical priorities of the NRO, including the design, acquisition, launch, and operation of the nation's satellite reconnaissance capabilities.

[00:01:57] Additionally, as the commander of the Space [00:02:00] Force elements to the NRO, General Povac leads the military personnel assigned to the NRO, manages the associated service resources, and serves as the senior advisor to Mr. Chris Scalise, the director, on all military matters. So with that, General Povac, welcome to the Space Power Series.

[00:02:19] It's really a pleasure to have you with us today and help our audience better understand what the NRO does and how you're evolving in today's environment. Thank you, General Chilton. It's great to be here. And on behalf of Dr. Scalise and the men and women of the National Reconnaissance Office, So happy to be here today with this forum.

[00:02:37] That's great. Why don't we begin by giving you an opportunity to give us just a thumbnail overview. Of course, sir. For those who may not be completely familiar with the National Reconnaissance Office, our agency is responsible for research and development, acquisition, launch, integration, and operation of the nation's vast constellation of space based intelligence, reconnaissance, and surveillance capabilities.

[00:02:58] We also develop and operate data [00:03:00] processing systems and information technology networks associated with those ISR platforms. As a defense agency and an element of the intelligence community, the NRO collects intelligence and information to support national level and Department of Defense missions. And we also aid numerous civil agencies across the U.

[00:03:19] S. government to support their scientific research, disaster response, and many vital efforts. To accomplish our mission, the NRO maintains close and productive partnerships across government, industry, academia, and coalition nations, especially with our functional managers, NSA and NGA, the combatant commands and military services.

[00:03:39] Overall, NRO's mission is to work with our partners to gain and maintain the nation's intelligence advantage during peacetime and throughout periods of crisis and conflict around the world. It's the reason we were established 62 years ago, and today, the NRO remains the world leader in developing and operating space intelligence [00:04:00] capabilities.

[00:04:01] But our job is getting harder. For decades, the United States has been the undisputed leader in space technology. No one came close. And this is no longer the case. Competitors across the globe are posing unprecedented challenges and gating on our technology advantage at a rapid pace. China in particular is closing a technology gap.

[00:04:21] They're investing significant money, manpower, and resources to challenge America's dominance in space. developing increasingly capable military space systems, a troubling array of new sophisticated and lethal weapons systems all enabled by space, and a growing arsenal of anti satellite capabilities.

[00:04:41] Today, several nations, notably China and Russia, are actively developing ground and space based weapons specifically designed to interfere with or destroy our systems in space. These counter space capabilities include missiles and weapon systems designed to deliver direct energy, electronic

warfare, and cyber attack [00:05:00] defense, all of which threaten our ability to freely access and operate in space.

[00:05:05] At the NRO, we're answering these challenges by advancing the capabilities we put in space and on the ground. We're employing cutting edge technologies and providing more information faster than ever before. So our warfighters, analysts, and policymakers can receive real time situation awareness and vital intelligence they need, when they need it.

[00:05:26] This situational awareness and vital intelligence provided by NRO systems has proven especially critical in supporting national decision makers, U. S. European Command, our European partners, NATO allies, during the ongoing conflict in Ukraine. For example, NRO, working with NGA, has augmented national collection with electro optical imagery.

[00:05:47] radar imagery and radio frequency data from U. S. commercial companies. And in response to Russia's Russia's troop buildup and subsequent invasion of Ukraine, we moved quickly to modify existing [00:06:00] contracts to add scope and value, which enabled surge collection and support of our mission partners and allies.

[00:06:06] This unclassified, shareable nature of our commercial satellite data makes it an especially valuable source of situational awareness and intelligence sharing amongst U. S. agencies, our allies, and other foreign partners. Commercial imagery providers, on their own accord, also share products with the media.

[00:06:22] This has provided an unprecedented level of transparencies into Russia's troop buildup and ongoing military actions. It also provided the world with a clear lens into the extent and impact. of Russia's unlawful invasion and atrocities experienced by the Ukrainian people over the past 20 months. The information needed to fully understand the evolving situation in Ukraine and in areas around the world illustrates the benefits of a modern, hybrid intelligence architecture.

[00:06:52] Fortunately, the NRO is already building the largest and most capable, diverse, and resilient overhead constellation in our history. [00:07:00] We're also putting new capabilities on orbit, on ground, and everywhere in between. And we're making great strides in expanding our capacity, our persistence, and our accuracy.

[00:07:11] Within the next decade, NRO expects to quadruple the number of satellites we currently have on orbit. Different sizes, different orbits, both commercial and national. These satellites will deliver over 10 times as many signals and images that we're collecting today. The proliferation and diversification of our architecture will provide increased coverage, greater capacity and resilience, and more timely delivery of data.

[00:07:35] We'll create more persistent coverage over any area on the Earth, provide faster and revisit rates, and increase the accuracy and fidelity of our data. Such improvements will increase the competence and the relevance of NRO capabilities, which are already the world standard of excellence for space based ISR.

[00:07:52] NRO investments will increase the survivability and strength of our systems by shoring up single points of failure, addressing vulnerabilities on the [00:08:00] ground, in the cyber domain, and on orbit. And they will help us anticipate and adapt to emerging intelligence needs, growing customer demands, and future threats.

[00:08:09] We're also finding new ways of doing business, and this includes applying advanced technologies and techniques like enhancing overhead tasking, collection, and data processing capabilities to accelerate delivery of data to our users. This includes adding automation and multi intelligence processes, among many, many other things.

[00:08:29] Now, these technologies are helping us reduce timeliness and increase the amount of data we provide, all while decreasing the burden on our analysts. NRO is also leveraging demonstration or pathfinder satellite systems to rapidly assess new technologies in the space environment and test new concepts of operations on orbit.

[00:08:48] The strategy is already reducing our timelines for deploying future operational systems and is allowing us to fill key intelligence gaps more quickly. So, today, the [00:09:00] integration of commercial systems into our architecture, coupled with the NRO demonstration systems, make intelligence more available and shareable for analysts across the intelligence community, commanders on the ground, and our allies.

[00:09:12] And the agility we're building into NRO's space data processing and command and control architectures is allowing us to be more responsive, and we're designing and developing systems that can provide more, uh, capability

and missions, enabling us to quickly pivot. From supporting traditional national level analytic support to supporting military requirements for events like those.

[00:09:34] To accomplish this, our expert diverse workforce is laser focusing on delivering and developing end to end ISR capabilities that are relevant to our partners. We engage with our user community throughout the entire capability development cycle, from requirements definition to system operations. We collaborate with experts across industry, academia, and the national labs to enhance existing technologies, and in some cases, push the bounds of physics to [00:10:00] continually improve capability and relevance of our systems.

[00:10:03] Together, we're meeting our goal of ensuring the right data is delivered to the right user at the right time, faster than ever before, in some cases, within seconds. We're also improving our ability to protect vital U. S. systems in space. And last month, we launched the Silent Barker system, which will serve as a neighborhood watch in space.

[00:10:22] It's a joint endeavor between the NRO and U. S. Space Force, aimed at building our nation's resilience in space through improved domain awareness. Silent Barker will give us indications and warnings to detect anything out of the norm. and enable us to figure out where our competitors are and their intent.

[00:10:39] It will also help defend our assets in space and deter aggressions. Of course, we in the NRO 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, effectiveness [00:11:00] to the American people.

[00:11:01] For example, our partnership with U. S. Space Command is rooted in years of effective collaboration. It's not new and it continues to grow stronger. At the National Space Defense Center, the NRO works closely with our Space Command counterparts fusing operational intelligence, just like we do in all other domains, to protect U.

[00:11:19] S. interests in space. Earlier, I mentioned Space Force and Silent Barker. Today, the NRO and Space Force are partnered on several efforts to include working hand in hand to shape the future space based moving target indication. or MTI systems, which will provide day, night, all weather detection and tracking of ground and maritime targets to the warfire.

[00:11:42] NRO is strengthening ties and cooperation with our traditional Five Eyes allies, taking advantage of multiple launch venues, shared satellite

investments and exchange of technologies and data. We're also establishing relationships with new international partners to advance our common interests. With industry, NRO is [00:12:00] actively creating more opportunities to engage new partners while expanding our outreach to small businesses, startups, and socially and economically disadvantaged business owners.

[00:12:08] We believe our efforts to grow traditional partnerships while exploring new relationships with non traditional partners and infusing our mission with fresh ideas will help us maintain that intelligence advantage amid this relentless pace of change. Because innovation knows no bounds. At the NRO, we are very proud of our proven ability to innovate and our track record for developing and delivering capabilities that are relevant and vital to our customers and our ability to evolve along with the challenges we face.

[00:12:38] One of the main ingredients of our success is our amazing workforce. Our blended team of military, DOD, and intelligence community civilians is the reason NRO has set the standard for space based ISR for the past six decades. We're committed to recruiting and retaining a diverse and inclusive workforce.

[00:12:56] ensuring we have a pipeline of talent and the skills necessary to [00:13:00] maintain our intelligent vantage. In 2015, NRO established the NRO Cadre Workforce, direct government hires to develop a more permanent employee base to provide continuity. We continue to grow our internship program, welcoming 75 interns this past summer from around the country.

[00:13:17] To date, roughly two dozen of those interns have returned to work for the NRO after graduation. This past summer, we unveiled a new NRO website specifically designed to help attract the best talent. And we recently began airing five videos on social media platforms as a way to introduce the NRO to the general public.

[00:13:36] The videos invite potential job candidates to get to know us and consider careers in launch, acquisition, cybersecurity, engineering, and operations, all within the NRO. And just last month, the NRO NSA, NGA, CIA, and others, all of which have their own lab capabilities. This designation will give NRO greater access to the talent and [00:14:00] innovation with academia, private corporations, and non profits through new formalized research and development partnerships with the Federal Lab Consortium.

[00:14:10] NRO's lab designations will also allow for greater exchange of expertise and resources and further the research, development, and testing of

advanced technologies and materials that are critical to safeguarding our national security. This is an exciting development for the NRO and I can't see, I can't wait to see where it takes us.

[00:14:27] It's just this kind of development we need to meet the evolving challenges we face in the dynamic environment. Now throughout recent history, our nation has served as the world leader politically, economically, culturally, militarily, and technologically. This leadership has brought us great benefit and benefits to our citizens and our allies around the world.

[00:14:48] It has also provided the U. S. and our allies influence needed to deter aggression in areas spanning across the globe. However, our past and in the world is no guarantee of our influence in the future. [00:15:00] China, among other actors, is dedicating money, manpower, and resources to challenge our influence in the world stage.

[00:15:06] Seeking new partnerships to advance our own interests, increasing their regional and global prestige, and develop more effective technology weapons to challenge and threaten us across all domains, including in space. If the U. S. and our allies would be successful in future great power competition, or in a crisis or conflict scenario someplace in the world, our ability to gain and maintain intelligence superiority will be key to the success.

[00:15:31] And space will continue to be a vital domain where we compete for this information advantage. Today, the NRO's space based ISR capabilities are without a doubt the best in the world. However, in an era of growing competition in space, our imperative is to develop the technologies, tools, capabilities, and space minded expertise to stay that way.

[00:15:51] With our amazing products, partnerships, and people, we, and the NRO, have confidence in our ability to succeed. Thank you very much. And [00:16:00] thank you, sir. I'm happy to take your question. That's great. Thanks. What? What a great overview. And what strikes me is giving my past experience with the NRO, which is ancient history since I retired.

[00:16:11] Um, how much the organization has evolved? And part of that's been driven by other outside education. Uh, forces, uh, most notably, I think, would be the advent of commercial reconnaissance photography, et cetera, however, whatever you want to call it from space. And, and that's, that would be something that we didn't envision.

[00:16:33] 15, 20 years ago, but now it's there and it's refreshing to hear that the national intelligence community and the NRO is looking for ways to leverage that. So I guess my first question would be about, um, they seem to be playing a pretty important role in the Ukrainian. Um, conflict, the invasion by Russia into Ukraine.

[00:16:55] Do you see this playing a similar role, uh, to support U. S. [00:17:00] forces, whether they be in the Pacific or Europe or anywhere else in the world, specifically combatant commanders? Yes, sir. Well, you're absolutely right in the fact that the commercial marketplace for capabilities such as ISR has grown significantly over the last decade plus over the last two years, the NRO has led the contracting efforts with many traditional and new providers for commercial ISR capabilities through our strategic commercial enhancements, broad area analysis, or BAA, which is really a in contracting terms, a way to bring a wide array of commercial companies into the four, um, to test out their capabilities to determine the relevance and create a path to get new R and D capabilities.

[00:17:47] into test and ultimately into operations in the hands of our customers across the enterprise. We have done that over the last two years with electro optical imagery. We've done that with radar imagery, RF data, and [00:18:00] also hyperspectral. So now we have an array of a community of industry partners that are working hard to get some of these commercial available products.

[00:18:10] Uh, into our, uh, into our architecture, I would say that, that, uh, to get to your question about how these systems will work. We are, like you said, seeing this today around the world, one of the benefits of, uh, leveraging commercial integrated with our national systems is the availability and share ability of commercial data to our command partners and to our allies around the world.

[00:18:33] Um, obviously working with, uh, with our functional managers and GNN NSA to do this. Um, and lastly, sir, I think the, the benefits of commercial is not, uh, them on their own. It's how they're integrated with our infrastructure. And we are built at working with the community now to build an architecture that allows the consumer now to not focus on, I know that company X has this capability.

[00:18:57] And now I have to figure out how I, how I [00:19:00] secure that information is our customer. We want our customers to be able to think through the intelligence problems that they have. The needs that they have and have confidence that the network is going to allow us to get the capabilities, the



specific requirements and the specific products that are relevant to them at a timeline that's relevant to them.

[00:19:16] Okay, great. Now, traditionally, excuse me, your customers have been the NGA and the NSA, excuse me, in this case, it's a combatant commander and they have a different operational tempo than the strategic reconnaissance analysis. That's done by the NGA, for example, to provide indications and warning and general global assessment at this, at the presidential level.

[00:19:39] Their ops tempo and engagement is much faster. Their need for information quicker. It is required for them to be operationally relevant. So do you see building those links where the commercial? Uh, assets can be not only, um, supporting an NGA and NSA, but also directly supporting a COCOM [00:20:00] on the timelines that they require.

[00:20:01] Sure. And that's absolutely our job is as the lead agency for contracting with, uh, current and emerging, uh, commercial companies focusing on intelligence, surveillance and reconnaissance. Our job is to take requirements from NSA and GA, our IC partners, and from the DoD. And we are working closely with both the Department of Defense and the IC to have a better understanding of the timeliness requirements, the specific capabilities, the coverage, the revisit rates, um, the fidelity of collection to ensure that as we're going out to the marketplace to determine what is available.

[00:20:36] to ensure that we're getting those capabilities at a timeliness that's relevant to all of our customers. Great. So you, you could envision raw data being provided directly, uh, to a combatant commander and let them do their own analysis and determine how that would affect their operations or tactical activities?

[00:20:52] Yeah, we are, we are working very hard to get, uh, dissemination of the data, uh, data to the last tactical mile. [00:21:00] And that is absolutely a partnership between us, uh, NSA, NGA, and the Command's working closely together. And our job is to ensure that we have the contract mechanisms in place, and that we have the integrated architecture that allows us to process and to disseminate that data based on our users needs.

[00:21:16] So it'd be fair to say the NRO doesn't care who tasks them. They're going to, they want to be responsive to whoever the customer is. That's true. Okay, very good. You also brought up international partnerships. Um, I can

recall having the opportunity to look at one of our allies capabilities from space from from a reconnaissance perspective years ago.

[00:21:35] Do you see an opportunity to integrate international partners capabilities into Transcript This type of architecture in time of conflict. Yeah. So, uh, the original question you asked me was on the in broad, uh, commercial application, future operations, military operations, um, you know, we absolutely do care who we're partnering with.

[00:21:58] And like I said before, is our, [00:22:00] our ability to succeed with a broad, uh, You know, customers that we have is going to be a critical partnership across all the people who are relevant NSA and G. A. R. command commands and our international partners. Um, you know, as we are working the contract relationships, the capabilities that I saw our commercial eyes are can provide our partners in space force or working in other domains, such as space domain awareness.

[00:22:25] Uh, telecommunications, satellite telecommunications, and doing the same calculus as that, how do we bring all of these new capabilities to the market to integrate them with the capabilities that the, that the d o d and the i c are building? Uh, my boss uses the term, uh, you know, our, our, our, you know, our motto in the n r O is to, you know, buy what we can and build what we must.

[00:22:46] And there is now with a growing number of capabilities across the I S R. What we're responsible for, and we're seeing from our partners in Space Force and the other domains is that there's more that we can, we, we can procure on the, on the commercial market. Our [00:23:00] challenge is that how do we integrate that and how do we get it out to our customers?

[00:23:02] Right. Right. I mean, that's always been a challenge working with allies in any domain. It's how do we integrate their force structure into our force structure, whether it be air, land, and sea. And, uh, having the opportunity to do that in space would just add resilience and deterrence, I would suspect, going forward.

[00:23:16] I, I, yes, I agree with that. Great. Um, responsive space. Now, this is something we've talked about for years, and really have never gone in that direction for a variety of reasons. Uh, lack of a, uh, fully fleshed out concept of operations and funding to actually support it. But recently we've heard that, uh, through a program called Victus Knox was the mission.

[00:23:38] The NRO partnered with commercial space and went from a cold start. I'm not sure how that's quite defined, but said go. And 27 hours later had a satellite on orbit. Can you, can you explain to our audience a little bit why that's important to the NRO to start looking at this more rapid capability to launch systems into orbit?

[00:23:59] Yes, sir. Well, let [00:24:00] me, let me first say that Vicksa Stocks was actually a Space Force led initiative. Thank you. Thank you. Okay. So, but we, we are, we in the NRO are absolutely interested in responsive space and responsive space to us means that we want to be able to be prepared, um, to launch a payload as soon as that payload is ready and we want to make sure that we have flexibility in our launch capabilities that we can integrate the right requirements for launch Uh, and risk tolerance, uh, to that payload, the uniqueness of that payload.

[00:24:32] Um, you know, our, our job is to ensure that as new capabilities emerge and as we get systems from R. N. D. to acquisition operations that we're reducing the timeline to get new capabilities into hands are users and we're looking in partnership with Space Force and others on how do we reduce the timelines, uh, launch transport, uh, launch payload integration.

[00:24:55] And also on pad operations. And we're doing that through our, our, our [00:25:00] office of space launch, working with the space capabilities and U. S. Space Force, uh, launch capabilities in U. S. Space Force. I'm sorry. And then, uh, you know, obviously, uh, responsive space to us is not just in the launch domain is that I mentioned before that we are working on how do we bring new technologies like, uh, data automation.

[00:25:19] Machine learning to improve the, uh, the processing and the, the, uh, integration of data across all of our TC pad or tasking, collection, processing, exploitation and dissemination capabilities that we provide to our customers across the enterprise. And then we're ensuring that since we are now building an expanded proliferated constellation to include include the traditional large, exquisite capabilities.

[00:25:44] With some more commercially provided, uh, bus systems that we can integrate new payloads onto is that that proliferation allows us the ability to respond to emerging requirements from our customers by increasing the revisit rate, improving our [00:26:00] ability to do custody of any part, any part of the world or any object in that part of the world, um, and then, uh, improving the ability to get data Uh, quicker to our customers.

[00:26:10] Okay. So it would it be fair to say Space Force is looking at responsive launch capabilities and you at the NRO want to make sure that you have all the systems and processes in place to be able to leverage that. Absolutely. Okay. That's probably a better way to look at it from your perspective. So we, we absolutely.

[00:26:26] So our office of space launch is working closely with, uh, with Space Force, um, on next generation launch contracts. Um, and SSL phase three is one of those. Okay. To ensure that we have the flexibility built in that contract from the beginning, absolutely a Space Force led activity that we're in lockstep with them.

[00:26:44] And then we are working with Space Force to ensure that we have the ability to launch from multiple locations across the country. Uh, our traditional places, uh, like Cape Canaveral and Vandenberg, but also the NRO is, uh, launching out of [00:27:00] Wallops Island. We launched, uh, three times out of New Zealand. So we're, we're looking in partnership with the Space Force and on our own accord of how we can get capabilities into orbit and, uh, and then data processed and into the hands of our customers.

[00:27:13] More quickly. Yeah. Great. And do you see this as part of a replenishment concept in time of conflict? Yeah. So that, I think that is a, a general outcome that could be achieved with now, not just the ability of commercial practices, launch, um, more diversity of launch capabilities, but also in how we are creating new spacecraft, this proliferated systems we are going, I mentioned before, quadrupling the number of satellites, uh, our production lines of systems instead of taking more.

[00:27:42] Uh, six to eight years to create one specific satellite. We're now producing multiple satellites every year with that inventory, with that production line, uh, things like replenishment and reconstitution are becoming much more, um, uh, potential for us than certainly they were 10 or [00:28:00] 15 years ago. And then I was looking at what opportunities those might provide to us and our ability to be responsive to our customers.

[00:28:07] Great. Um, that is a sea state change. That's really, uh, has great potential if, uh, if everyone pulls together in the same direction. But having the hot production lines is huge, I would think, as opposed to one satellite every few years, as you, as you commented on. We're making significant strides. It's a big change, big change.

[00:28:25] Could I, I want to shift the conversation to space domain awareness. I know this is a top priority for U. S. Space Command. In fact, I think they're number one priority, as any commander would want to know. Is what's going on over the next hill or hold down over the horizon. In our case, looking up into space or looking laterally in space.

[00:28:42] So I'm glad you brought up silent Barker. And I was wondering if you could give us a little more detail on how that might contribute to space domain awareness. In a large sense, and then also maybe the difference or maybe augmentation it provides to the current GSAP, [00:29:00] uh, constellation at geosynchronous altitude.

[00:29:02] Okay, sir. So we, we have a, uh, you know, we, the U. S. have by far the world's most capable and sophisticated, uh, domain awareness capabilities, um, and, you know, a lot of those are now, uh, on, on the ground, radar systems, optical systems, um, although they are exquisite in their capabilities. Um, you know, geosynchronous orbit is 24, 000 miles from Earth.

[00:29:26] Um, our ability to detect smaller and smaller objects to a more precision to provide, um, warning at a timeliness that's relevant to Space Command and our other partners, uh, is a challenge, um, and a challenge that we're working to overcome. And silent Parker is just one of those capabilities. Um, that system is designed to, uh, specifically focus on, um, indications and warning, monitoring the geosynchronous belt from the geosynchronous belt.

[00:29:56] It allows us the ability to, um, uh, to [00:30:00] collect smaller and smaller signals and to maintain custody of, of those, uh, of those objects, um, uh, throughout, you know, throughout their entire life so that there is a very little opportunity of us to be surprised in the geosynchronous domain. And you mentioned being able to detect smaller objects because that's kind of a threat we're seeing at all altitudes.

[00:30:21] Is that fair to say? Yeah, as technology increases and the capabilities of our competitor nations are increasing, the ability to put smaller and smaller systems into orbit and to include in geosynchronous orbit is certainly becoming real. And we want to make sure, like I said, is that we're never strategically or tactically surprised by anything that happens in that domain.

[00:30:42] Uh, you asked about GSAP and, uh, I would characterize that Silent Barker is a partner with GSAP. Okay. Silent, uh, Silent Barker is looking at the entirety of the geosynchronous belt, um, uh, consistently. And, uh, GSAP at CERA, as you know, uh, the Geosynchronous Situation, Space Situational

Awareness [00:31:00] Program is responsible for doing, uh, characterization to detect anomalies.

[00:31:05] or provide intricate, um, uh, characterization of, uh, of satellites in the geosynchronous orbit. It's looking at, um, one satellite at a time and providing us the ability and by the way, providing us that ability with an emphasis on, uh, space, uh, spacecraft safety. Um, and doing this in a safe and professional manner, um, it provides us, uh, intricate understanding of, uh, specific, uh, specific satellites, what they are, and do they pose a threat or not.

[00:31:34] Now, when you partner that with our ability now to continuously monitor the geosynchronous, uh, the geosynchronous belt with, uh, Silent Park, it's a really powerful, uh, combination. Great. You know, again, I'm, I'm trying, I'm focusing on, or, uh, Surprised, I shouldn't say surprised, but happy to see the changes, uh, in the evolution of the NRO over the years.

[00:31:55] I think in, in the way back machine, you'd never heard what [00:32:00] Silent Barker was. It would have just been quiet and classified. And, and so there had to have been a, a Uh, discussion internally in the NRO just as there was in the Air Force Space Command when General Shelton was in charge about revealing G SAP, about revealing Silent Barker and its deterrent effect in revealing.

[00:32:17] So, for those discussions held in the NRO as well as, and and come to the conclusion was better to tell people it existed than not? Well, first, let me just say that, uh, working in, uh, and for Air Force Space Command under the reign of General Chilton, it was a good time to be part of the space community.

[00:32:34] And thanks for your continued leadership, sir. Um, but, uh, we have certainly come a long way and in the NRO and our ability to talk about the important mission that we do, the, uh, the important partnerships that we have and the amazing people that we have in our organization. And we're proud of all three.

[00:32:50] I would also say, sir, that Silent Barker is not just an NRO activity from the design. through the acquisition, [00:33:00] through the test, and now into operations. This has been a magnificent partnership with the U. S. Space Force. Excellent. And, as you mentioned, uh, U. S. Space Command, who has the role of leading space domain awareness, uh, for the, for the country.

[00:33:14] Um, uh, we are ensuring that the data for Silent Barker, once we get into operations, will seamlessly get to, uh, Space Command through their

National Space Defense Center. Um, which is, uh, NSD's in and of itself is a partnership between, uh, the D. O. D. through space command, the intelligence community and the National reconnaissance office.

[00:33:34] We are committed to ensuring that the tools and the capabilities like silent Barker are relevant to N. S. D. C. as it conducts its important mission to monitor to warn. Um, to plan and to defend our equities in space. Terrific. I'm sure there's a lot of lessons learned in partnering with the Space Force on a major acquisition program like this.

[00:33:57] Are those lessons being applied to the [00:34:00] GMTI from space programs that you're working on today on behalf of the Space Force? Yes, sir. So, uh, like you said, Uh, with Silent Barker, we've been partnered with Space Force for over five years now on ensuring that the requirements for that system are accurate, that they're staffed appropriately through our user community.

[00:34:22] Um, that the acquisition, uh, as it continued was meeting the requirements that were agreed upon and, uh, that this will, that we have the con ops in place to get the most out of the system when it gets into operations, that same strategy is exactly what we're doing with, uh, moving target indication or MTI.

[00:34:42] Is, uh, as, as, uh, Secretary Calvelli has said, is the NRO was, is, has, uh, decades of experience in, uh, ISR, uh, development, ISR operations. Now that coupled with, um, with the operational mindset and the capabilities of Space [00:35:00] Force, uh, and with our partners in NGA and, and, and across the IC are going to be relevant in how we define the requirements, which is certainly, uh, being led by the Department of Defense.

[00:35:11] Um, how we manage the acquisition and the milestone decision authority for every key activity as we get from where we are in design into operational delivery will be led by the D. O. D. And, um, and the NRO will be responsible for now contracting and acquiring that M. T. I. Capability. Great. You know, we're in a gap now because the joint, I think the last JSTARS was retired.

[00:35:37] Uh, in the past, when a combatant commander needed GMTI capability, In his or her area of operations, they would request to have that asset chopped to them so that they had authority to task it to support their operations. Um, now that it's moving to space, this GMTI capability, do you see the tasking authority devolving as it did [00:36:00] when we had air breathing assets doing

this to the combatant commanders, so that the combatant commanders priorities are served first?

[00:36:07] From A G M T I perspective in their a o R. Yeah. So where, where we are with, uh, M T I is, uh, uh, d o D and specifically Space Force has been designated the lead for, uh, determining the requirements, uh, for this capability. Mm-hmm. , um, and they're, they, they're working, uh, hard with the community to, to codify those and get those approved up through the, through the Joint Requirements Oversight Council.

[00:36:30] Um, they are all, they Space force, uh, on, on behalf of the D O D are also. leading the concept of employment and they're doing that actually in partnership with the NRO and with uh, with uh, entities across the uh, the enterprise. Um, and they're working, the Space Force in partnership with us and NGA and others are working closely with the combatant commands to ensure that the system that we're building in space And the ground architecture to do processing and dissemination are meeting the command commands requirements.

[00:36:58] Absolutely. That [00:37:00] includes how the command commands ensure that they're getting the tasking that's relevant to their timeliness, their operational planning and execution. Um, and how we're ensuring that the data that comes out on the, uh, at the end is, is, uh, is sent to, uh, the right customers that there are timeliness that's relevant to their operations.

[00:37:20] Great. So it might be fair to say that you don't care who has tasking authority. You're going to be responsive to their needs. And if the tasking authority is given to whether it's us space command or the space components, say at Indo paycom, that you'll provide the, uh, make sure that the capabilities provided on the timelines and the product that the appropriate product that they need.

[00:37:42] The NRO's responsibility is to build the space. And the processing and dissemination capabilities that allow the flexibility for tasking to do that. No matter the customer. That's great. That's great to hear. Um, the other thing that's changed, I think, is, um, from a [00:38:00] command and control perspective, there was kind of, there was always this separation.

[00:38:04] between NRO command and control of their assets and Air Force Base Command back in the day control of their assets. Uh, now we're starting to see a merger, not so much necessarily in authorities, but in cooperation in this particular area, where you have the C SPOC still at Vandenberg, you got the



NSDC, you still have the National Reconnaissance Office command and control elements.

[00:38:26] So these three different centers, uh, one of which is new. Uh, the NSTC now having the potential to work more closely together. Can you comment on the changes you've seen throughout your career with regard to that? Sure. Um, well, the NRO's operational center or NOC is responsible for, um, providing situation awareness, uh, operational status of NRO capabilities.

[00:38:50] Um, ensuring that we have knowledge of the intelligence communities, assessments of potential threats in space, um, and maintaining awareness and [00:39:00] providing status to my boss, Dr Scalise and the leadership of the NRO. On the, on the operational availability and operational status of NROs, entire constellation of space and ground-based systems.

[00:39:11] Um, uh, N S D C, as you know, sir, is responsible for, uh, providing awareness, providing warning, providing, uh, a planning and defense of all space capabilities. And the SP CPAC is focusing on how space capabilities can be relevant to war fighting operations. Um, three distinct missions. The important that importance thing that we're seeing, and I have personally seen over the last five years is how the synergy across those three operation centers, how do we share data across common tools and capabilities?

[00:39:42] How do we plan together? How do we operate together? And then how do we share information when it becomes available? Um, that that that has been the priority of over the last several years, and we think that we've seen significant operational partnerships across those three operation centers, and we expect to see that continue.

[00:39:58] Great. Certainly the [00:40:00] threat has driven this, this, the need to cooperate more in that area, I would think. Yeah. You know, uh, some of our new capabilities coming on board. I think you mentioned this in your open remark. We talked about different ways of handling the data on board, processing on the sat, processing on the satellite.

[00:40:16] So you should send out an almost complete product to whoever is asking for it. I mean, that's kind of the commercial model today. You know, it's, I've been, I take a picture. If you want the picture, it can come right almost immediately to you. If not in minutes, not days, um, versus processing on the ground, which adds an element of delay.

[00:40:35] Do you see more of the processing? Processing of data moving into the satellite and away from the ground or continued mostly on the ground or a balance in between. Well, I'll give you the engineering answer. It depends. It depends on the complexity. Yeah, whatever allows us to get data more quickly to our customer, we are certainly going to pursue [00:41:00] that.

[00:41:00] Okay. In some cases, though. There's just so much raw data that is being collected by these, uh, ISR platforms in space that it absolutely makes more sense to process it on the ground. But we are going to look at, um, you know, technology advancements to ensure that if the more and more that we can do at the place of collection.

[00:41:20] To get data more directly down to our to our customers. We're absolutely looking at that. Um, there were always, I'm not going to say always, uh, there for now, there is still significant, um, processing that's done on the ground. But even with that, we're, uh, ensuring that we have the IT fabric in place that allows us to process and to disseminate data in a matter of seconds and minutes.

[00:41:42] Great. The other change that I think's happened over the last 20 years is the, the cyber threat now to every, every domain, uh, and any, every command and control element. Uh, any thoughts you might want to share with how the NRO is addressing that threat to your systems? Yeah, [00:42:00] um, so the NRO manages one of the largest IT backbones in the world.

[00:42:04] Uh, and the cyber threat is real and we take it extreme, extremely seriously. So as we're looking at the resilience of NRO systems, we're looking at for how do we provide defensive measures to our systems in space? How do we build resiliency and flexibility in our systems in space? How do we share the infrastructure of the processing nodes that we have around the world?

[00:42:28] And then how do we, uh, uh, operate, uh, operationally, I'm sorry, monitor and defend our IT networks? And we're placing a significant amount of time and effort on how we improve that. In partnership with, uh, U. S. Space Force, um, as we create capabilities, people, training, and tools that allow us to have more capacity, more capability to monitor and defend.

[00:42:50] Great. Another, uh, that we had 15 years ago was with the expertise in the [00:43:00] acquisition community. I would say an Air Force Space Command at the time, and it, it, part of that discussion went, we get some really sharp engineers come in at all levels, as second lieutenants, captains, and then a

subset of those get sent to the NRO, never to be seen again in Space and Missile Systems Command, and they grew into great professional commanders.

[00:43:24] which is not something you can just do right out of college. You need to have some scar tissue and experience. Whereas the turnover out at, at then SMC, now Space Systems Command, um, just never provided the opportunity for expertise to develop. And so, at the time, General Hamill was the commander out in El Segundo, and he, uh, He tried to initiate a program to have some flow back and forth there so you could leverage some of the expert Air Force expertise resident in the acquisition world at the NRO back into, uh, then Air Force Space Command, now the Space Force, um, has that moved [00:44:00] forward?

[00:44:00] And are we starting to see some partnership there to, um, to level out the expertise and help both organizations today? Yes, and not just on the Space Force side. I would say across our workforce, and we have members from the intelligence community to include the CIA as part of our workforce. We have our own cadre of NRO government civilians, and we have military members from across Space Force, Air Force, the Navy, the Army.

[00:44:27] In all those cases, um, we are seeing a, um, I would say, uh, sharing of resources back and forth between the parent service and NRO, meaning that people will come into the NRO for a tour, they'll go back into their parent service. So you mentioned SSC, we, we certainly have a great collaboration with General Gutlein how we recruit talent from SSC, from our, uh, our choir pool.

[00:44:53] And then once they've had a tour in the NRO, how they go back to Space Force, and we're seeing that in the operational and the cyber domains [00:45:00] as well. Um, the Navy and the Army do the same, um, even with our NRO cadre, we are creating opportunities for them to get seasoned in other parts of the IC and the DOD and then come back into the NRO.

[00:45:13] Great. At all, at all points in their career. Great. So, looking at how do you develop a future, um, uh, future senior program manager. Or, uh, uh, or a senior ground station, uh, operator, um, or even uh, the chief of facility of a future ground station is how are we do, uh, what, what is the career path that we need to develop for our civilians?

[00:45:34] Part of that is within the n r o. Part of that is how do you get. experience in other parts of the, uh, the enterprise, and we're building that into our career, uh, our workforce. That's great. Thank you for that. Flexibility is

really important on the Space Force side. It's important across all of our diverse, diverse workforce.

[00:45:51] Terrific. That's great news. And this will be a real broad question. Sure. Is you've been involved with the NRO since early in your career. I think as a captain, probably [00:46:00] your first assignment, and so you've seen changes that maybe I haven't asked you about that, you know, are positive and moving in the right direction.

[00:46:07] Some of these have been threat driven. Others have just been evolutionary. Is there anything we haven't talked about that you'd like to highlight that are changes that you've seen over your career in NRO operations and openness, et cetera? Sure. Well, uh, Thank you. You're welcome. You said that I've been in the in the NRO for a long time, uh, in and out.

[00:46:28] Yeah, that's that's true. Um, uh, you mentioned people who have gone behind the curtain in the NRO and never left. I'm not quite there, but I have quite a few tours in the NRO for sure. Um, so what have I seen? Um, you know, when I got when I got introduced to the National reconnaissance office for the first time back in 1994, before.

[00:46:48] Um, our organization was literally coming from behind the black curtains. Uh, it was a classified fact to even say the National Academy of Arts and Sciences office. And now we're here with you talking to the extent that [00:47:00] we can about the important capabilities, the important partnerships, and the great people that we have working here.

[00:47:06] Um, obviously a lot of what we do still remains classified for, for justifiable reasons. Um, but we think that it's really important that the public has a better understanding of who we are, why we exist, the importance of what we do, and the importance of where we are in our history, and the fact that space, which provides a lot of capabilities, not just ISR, is becoming, and quite frankly is, more congested, more contested, and way more competitive than it was back in the 1990s.

[00:47:36] So the NRO plays a critical role. And in continuing to maintain an information advantage for the nation, and we think that it's important that the public understands that I'd say the other area is that, you know, the scale, the, the enteros capabilities, the, the, our, our ability to leverage commercial certainly has dramatically increased.

[00:47:57] I can remember working, uh, [00:48:00] on the Hill, um, as, uh, during a legislative, uh, fellowship, um, and just as the, probably the dawn of this idea of what commercial companies could do in the way of ISR, and there were certainly some roadblocks to that. And now where we are today. Where we have not just one or two, but myriad companies that are finding their ability to develop relevant capabilities and now getting the path of how we get those new ideas and not just once a year, but multiple times a year into an ability to assess.

[00:48:31] And then to integrate capabilities when they're ready into an integrated framework that's providing what we think is really important, uh, coverage capacity to our customers. And then I think the last thing is just the amount of work that the NRO is continuing to do as we talked about these proliferated constellations that are providing, you know, increased coverage, revisit rate, um, over the next 10 years and, uh, increased data throughput for our systems.

[00:48:59] We in the [00:49:00] NRO are working across all of our portfolios, uh, GeoINT signals, uh, and our ground processing, um, to incorporate these new proliferated constellations to, uh, to the benefit of the IC and the DoD. I would think it would have to help dramatically with morale in the organization. Um, not that they, I'm sure they are very proud of what they did over the years, but when you, when you work someplace and all you can say when someone asks you what you do is, I can't say, I can't talk about it.

[00:49:30] To be able to now have the curtain at least partially open to the wonderful service that the members of the NRO provide to our nation. It's got to really not only help with internal morale, but with recruiting. And I was really impressed by, um, some of your recruiting initiatives, the internships, et cetera.

[00:49:48] Is there anything else you'd like to add about that? Yeah, sure. Um, you know, uh, obviously, uh, we are growing our internship program for our inter or cadre workforce. As I mentioned in my opening comments, uh, we welcome 75 [00:50:00] interns from across the country, uh, universities from across the country. Um, uh, they spent two plus months with us.

[00:50:06] You get to work on real life problems. Uh, contribute, learn, and then we want to get them excited about coming back into the organization, and we've had a significant success rate in doing so on the military side. Um, we and, uh, and our space force element have opportunities through both the Air Force and Space Force.

[00:50:25] Um, to secure advanced academic degree opportunities, we have about 20 plus, uh, chances with both the Space Force and the Air Force to get our members, uh, masters and PhD degrees in STEM, uh, STEM career fields and then bring them back into the NRO when they're, when they're completed and to maintain, uh, you know, contact with our students.

[00:50:48] When they're at their academic universities, whether it's, um, at Air Force Institute of Technology or someplace else, and helping to shape some of the research so that it's relevant to the student, relevant to the [00:51:00] NRO. That's great. And then this new, uh, this new, uh, federal lab designation is going to open up a myriad of possibilities, uh, of us to engage with industrial institutions, with academia.

[00:51:11] Uh, and with other federal labs to ensure and improve the, uh, the ability to, uh, advance technology, to transition technology, and to share ideas across the Federal Lab consortium. Great. Um, we have some questions here on the laptop. Great. That have come in. Uh, North Korea has recently said they're, they're trying to launch a spice satellite.

[00:51:32] Is that of a concern to the N R O or is it, is, is your concern more focused? On, uh, threats to your assets, vice adversary nations developing reconnaissance capabilities from space, which we know China and Russia already have. Yeah, I mean, uh, so absolutely, um, with the advent of technology and the ability for text transfer, uh, in this global marketplace, so we, I think we would be ignorant to, to think that, uh, [00:52:00] emerging countries and, and countries that have different political agendas that we do will never get these capabilities.

[00:52:07] And so it's not, although it's not surprising that the aspirations of North Korea to continue to, um, modernize their weapon systems and to create capabilities that can launch into space. We want to make sure that that does not pose a threat to the United States. So we want to make sure that as they make, you know, progress and technologies, we have a good understanding of what those capabilities are, how it could threaten us and what and working with Space Force, Space Command and other commands and our intelligence partners, um, what we, what mitigation steps we would have to take.

[00:52:39] Okay, very good. Um, satellite servicing. This is something new in the last few years where we see capabilities being launched to plug into old satellites to, to keep them on orbit longer because as typically they run out of fuel first before they run out of life, uh, is, is that something that, uh, the NRO is considering as part of their [00:53:00] future architecture is building satellites

that are capable of either being, um, Repaired, um, or upgraded, or refueled while on orbit?

[00:53:10] There's certainly a lot of discussion across the space, the National Security Space Enterprise, about, um, on orbit servicing. Space Command is certainly expressed its interest in the ability for continuous space operations. So, where, where that the consumables on board, whether it's power or fuel on board, is not a life limiting factor, or a limiting factor in our ability to maintain continuous operations.

[00:53:36] Um, Space Force is certainly doing research into, uh, on orbit servicing, um, and as this continues to emerge and more capabilities come to the marketplace, I think the NRO would be willing and interested in seeing which of those potential opportunities would be beneficial for our missions. Yeah, it's kind of a two edged sword.

[00:53:56] One of the arguments for [00:54:00] dispersed and more numerous constellations and hot production lines is you can keep technology up. up to pace with technology. You don't launch a satellite that's on orbit for 15 years and technology moves on. Um, so there's a, there's a tension there between extending the life of that satellite and disincentivizing new technology being launched in smaller constellations.

[00:54:22] I think the answer, General, is that it's not a one size fits all. Depends, right. You know, how do you create an integrated architecture with your space capabilities that allows you the flexibility to bring in new technologies when they're available? And then for those intricate, intricate and exquisite capabilities that you really want to ensure that you get the bang for your buck with keeping these capabilities on orbit.

[00:54:43] Those that are, are there ways that you can extend the maneuverability, the flexibility or the, or on orbit life. So it's a balance of all of those areas, I think. Yeah. Um, the recent, um, terrible attack, I mean, I can't think of a. [00:55:00] Uh, the right word to describe how awful this recent incident in Hamas murderous attack into Israel seemed to have caught, uh, at least the Israelis by surprise.

[00:55:11] And I would assume they're allies or else they would have, uh, tipped them off. And, and this is a country that has space to space reconnaissance capabilities. So, um, clearly it's, it's, it's not perfect, right? And it, it takes a lot to, to not be surprised. But, and I, do you, do you anticipate there

will be an internal look, uh, within the NRO to just, as time passes, to say, how might we adjust things to maybe avoid this really low tech.

[00:55:40] Kind of threat that was so effectively employed, uh, in a murderous way by Hamas against the Israeli citizenry. Well, I think first, uh, our hearts go out to the, the people, the citizens of Israel as they go through this horrific terrorist attack. Um, [00:56:00] you know, we in the NRO, uh, are working continuously with our, uh, our partners across the intelligence community to ensure our systems are ready to respond, are capable and are relevant to our customers.

[00:56:12] Um, you know, we, we're working to ensure that we have, uh, capacity, not just through our national systems, but also that how can commercial augment. Um, and provide integrated support to, um, uh, areas all around the world. So I'm not going to comment on, on, uh, the analytic community or what the analytic, steps the analytic community are, are going to take next.

[00:56:34] I will say though that, um, we are working very closely with NSA, NGA, and others right now to ensure that they have the resources from interlocutabilities that they need to do their jobs. Um, in fact, I was just out in the Middle East two weeks ago. Um, and, and justifiably, so a lot of time and attention is being placed right now in new pay com and you come because of the activities that are happening there.

[00:56:57] Um, but, uh, we in the NRO and our [00:57:00] partners and across the intelligence community are not losing sight that there are hotspots and potential areas of concern that happen all around the world. And that's where NRO systems, I think. Provide both a tactical and strategic advantage, you know, we can see the world, we can sense the world and we can hear everything that's happening in the world, um, at any given time.

[00:57:21] And, uh, so I wanted to go out to our teams at, uh, at across the CENTCOM AUR, we have NRO personnel at AFCENT, RCENT. And NavScent, um, ensuring that our, our critical command customers have an understanding of what NREL capabilities are, um, how to access those capabilities, and then for things like user tools that allow them to display and leverage post process data, um, how do we, uh, tune those to meet the, uh, the vexing intelligence challenges that they have at any given day.

[00:57:55] Um, so really proud of our NRO contributions, uh, uh, around the [00:58:00] world and particularly in that AOR. Well, that's important to



highlight. And I know when I was commander of STRATCOM, we had an NRO representative embedded in our headquarters. And the fact that, uh, your folks are dispersed around the world. Uh, it's probably not well known by folks.

[00:58:16] They're supporting, they're not just doing their work from locations here in the U. S., but they're out supporting our combatant commanders and other agencies. Uh, I'm sure including State Department and others around the world to accomplish their missions effectively. So, General Plovac, thanks so much for being with us here today.

[00:58:33] Uh, I'm enlightened. I'm sure our audience is too about the wonderful things that are going on at the National Reconnaissance Office. And ladies and gentlemen... We've come to the end of this Schriever Space Power Series. Again, thanks to General Povac for taking his time away from his important duties today.

[00:58:49] You can only imagine how busy he is at this point. And from all of us here at MI Space, have a great Space Power Day.[00:59:00]