



## TRANSCRIPT

Argos-4 Launch and Mission Media Briefing

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Hosted by NOAA NESDIS Public Affairs

Media Advisory: <https://www.noaa.gov/media-advisory/experts-to-preview-october-launch-of-argos-4-instrument>

Amanda (Operator):

Welcome and thank you for standing by. I would like to inform all participants that your lines have been placed on a listen only mode until the question and answer session of today's call. Today's call is being recorded. If anyone has any objections, you may disconnect at this time. I would now like to turn the call over to John Bateman. Thank you. You may begin.

John Bateman:

Thanks, Amanda. Good afternoon everyone, and thank you for joining this media teleconference to highlight the upcoming launch and mission of the Argos-4 instrument. I'm John Bateman with NOAA Communications, and I'll be facilitating today's teleconference. Argos-4 is an instrument dedicated to studying it and protecting the environment. Under our joint agreement between NOAA and the French Space Agency, Centre National d'Etudes Spatiales, or CNES, the Argos-4 instrument will be a hosted payload aboard the General Atomic Gazelle commercial satellite. Once in orbit, Argos-4 will provide a better understanding of earth's physical and biological environment, including its weather and climate, ecosystems, biodiversity, as well as assist with maritime security, offshore pollution, and humanitarian efforts. Experts from NOAA, CNES, General Atomics, Wildlife Computers, and the Hawaii Institute of Marine Biology are joining us today to provide their perspectives on the technology and partnerships that are critical to this mission, as well as discuss the benefits Argos-4 will provide once in operation.

John Bateman:

Our experts will also be on hand to answer questions from the media during our Q and A session after their presentations. And with that, I will introduce our speakers. Our first speaker is Elsayed Talaat, the Director of Office of Projects, Planning, and Analysis at NOAA Satellite and Information Service. Our second speaker is Scott Rogerson, NOAA program manager for the Argos data collection and location system. Next will be Sophie Coutin-Faye, head of the Argos Project Office at the French Space Agency CNES, followed by Melinda Holland, the chair of Argos Alliance and CEO of Wildlife Computers, a major provider of Argos telemetry instruments for marine animal studies. Our next presenter will be Kim Holland, research professor at the Hawaii Institute of Marine Biology. And lastly, we will hear from Greg Burgess, Vice President Space Systems at General Atomics Electromagnetic Systems Group. And with that we'll kick off our presentation with Elsayed Talaat from NOAA.

Elsayed Talaat:

Thank you, John. Argos-4 is an instrument provided to NOAA by the French Space Agency CNES, our partner in this mission for continuation and improvement of the Argos data collection system, which helps take the pulse of the global environment. NOAA will launch Argos-4 as a hosted payload aboard the General Atomics Gazelle satellite. With this launch, the Argos system will be improved and extended, which will benefit all current and future users around the world. There are several thousand individual users or programs using Argos to track more than 13,000 objects today, primarily for wildlife tracking. The United States is the largest Argos user of a hundred plus countries that have Argos applications, and the NOAA Fishery service is the largest United States user with more than 30 individual programs for seals, turtles, and many other aquatic species in the Atlantic, Pacific, Gulf of Mexico, Arctic and Antarctic.

Elsayed Talaat:

Argos platforms also include a wide variety of meteorological and oceanographic applications, from drift buoys to profiling floats to remote weather stations. Data from these worldwide platforms are provided to the world meteorological organizations global telecommunication system for use in weather and ocean prediction models. NOAA's honored to have been a partner with CNES for the provision of the Argos system since the late 1970s and thrilled that this Argos-4 mission will take us to 50 years of cooperation. And now we'll hear from Scott Rogerson.

Scott Rogerson:

Thank you, Dr. Talaat. Good afternoon. The Argos Data Collection and location system is an environmental data collection and relay program that provides global coverage and platform locations. The Argos program is administered under a joint agreement between NOAA and the French Space Agency CNES. Additional partners include the European Organization for the Exploitation of Meteorological Satellites, EUMETSAT, and the Indian Space Research Organization, ISRO.

Scott Rogerson:

The Argos system consists of thousands of in situ data collection platforms equipped with sensors and transmitters that send information to Argos payloads provided by CNES on polar orbiting satellites. Using polar orbiting satellites provides worldwide coverage and allows for locating the platforms using Doppler shift calculations. This eliminates the need for an embedded GPS, which allows for very small and low power transmitters. CNES subsidiary companies, CNIUS in France and Woods Hole Group in the US process the data and deliver it to Argos users. After 45 years of continuous improvements, we are entering the most exciting era yet.

Scott Rogerson:

The Argos space segment will be transformed over the next two years with Argos-4 launches provided by ISRO and NOAA in 2022, and a constellation of 25 small satellites by CNIUS in 2023 and 2024. Argos-4 on Gazelle will be NOAA's 15th Argos mission since 1978, with three of the past 14 launches still in service today, NOAA 15, 18 and 19. Seven early satellites carried first generation Argos instruments beginning with TIROS-N in 1978. Six carried second generation Argos instruments, culminating with NOAA-18, which was launched in 2005, and NOAA-19, which was launched in 2009 as an Argos-3 instrument. Looking forward, Argos-4 and the upcoming CNIUS small satellite launches will provide the most advanced system improvements yet. Thank you, and now I'd like to introduce my good friend Sophie Coutin-Faye from the French Space Agency to elaborate further.

Sophie Coutin-Faye:

Thank you, Scott. Good afternoon everyone. My name is Sophie Coutin-Faye. As the CNES Head of ARGOS project Office, I'd like to tell you a few words about the new system to be launched in a few days. ARGOS is one of the very first space system designed by CNES engineers in the seventies. Thanks to the historical partnership with NOAA, we have been able

to deploy this system for the benefit of the environmental user community. It has never stopped since! which demonstrates its usefulness.

This new GAZelle program will bring the current Argos constellation to eight polar-orbiting satellites.

With each generation, the Argos system has vastly improved. This ARGOS next generation instrument onboard GAZelle is very promising. Indeed the Argos-4 system has an expanded frequency band (6 times larger) for receiving data from platforms, greater data volume transmission capacity for more demanding platforms, to be received simultaneously, and improved sensitivity for low power transmitters which will allow even smaller platforms than those which are already in service. For example, ARGOS-4 will be able to monitor large migrations of birds or various animal species thanks to its ability to capture very low signals from miniaturized beacons.

These improvements and the expanded coverage that the upcoming launches will provide, will make it easier for current and new users to collect more data, from many more beacons, across the globe and with much better data timeliness.

The ARGOS-4 system will then pave the way for larger-scale deployments by giving the reference in term of clock synchronization and frequencies distribution to the whole system, when joined in orbit by the future 25-nanosatellite additional Kinéis constellation, with miniaturized ARGOS instrument onboard. Kinéis, which is a CNES subsidiary created in 2018, will be launching its constellation to be fully operational by mid-2024. Thank you for your attention, and now I'd like to introduce MELINDA HOLLAND from the ARGOS Alliance.

Melinda Holland:

Thank you, Sophie. I have been working with the Argos system for over 30 years, and I'm very excited for this upcoming launch of this new generation Argos-4 satellite receiver. As you've heard, Argos is unique. No other satellite system has the same global coverage, supports very small, low powered transmitters, and has transmissions that require less than one second. This makes Argos the only currently available satellite system suitable for briefly surfacing marine animals such as whales, seals, and sea turtles, and even non-air breathing animals such as billfish, sharks and rays. Along with the unique capability to calculate location via the Doppler shift, these features support a wide variety of programs critical to the US and global interests, which you are hearing about.

Melinda Holland:

The Argos Alliance came to be in 2016 to support the launch of this Argos-4 instrument. In February of 2016, the then president's FY 2017 budget outlined a significant reduction of funding for the Argos-4 launch, causing serious concern within the Argos user community. The non-government Argos user community, including academics and industry, wanted to ensure Congress understood the importance of Argos and of preventing a canceled launch. It became clear that it was time to get together with one united voice. A volunteer group of Argos users along with CLS France and the Woods Hole Group, who are the providers of the Argos satellite data, moved quickly to formalize the Argos Alliance. This is an advocacy group consisting of Argos system stakeholders, including researchers and manufacturers of transmitters or tags that use the Argos satellite system.

Melinda Holland:

Our goal is to combine forces to advocate and educate policy makers in Washington about the critical importance of the Argos system and to support NOAA funding requests. I was chosen as chair because of my deep experience with the Argos system and relationships with broad community of Argos researchers and other manufacturers.

Melinda Holland:

From 2016 through 2021, letters, calls and in person meetings were made with congressional members and staff urging support for the full funding of the launch. And our voices were heard. Congress fully funded over 60 million dollars for this launch of Argos-4.

Melinda Holland:

The mission of the Argos Alliance is not over. We will continue to serve as a liaison between the user community, policy makers, and satellite technology providers. Thank you, and I'd like to now turn the mic over to Dr. Kim Holland.

Kim Holland:

Thanks, Melinda. This is Kim Holland, research professor at the University of Hawaii's Institute of Marine Biology, and I'm one of the very large community of scientists at universities and government agencies and research groups in this country and around the world that are dependent on Argos satellites for conducting their research. Argos is a crucial tool for marine biologists interested in the movement patterns of animals. These tracks can be everything from crabs to tuna, sharks, seals, whales, turtles, seabirds, and so on. In my case, I focus on the movement patterns of tunas and sharks.

Kim Holland:

The benefits of this type of research are not just academic. The scientific product of these projects have real world conservation and commercial impacts. For example, Argos mediated research can help in reducing bycatch in commercial fisheries, thereby making them more profitable. It can inform managers about where are important areas to protect stocks and whereby ensure productivity. And including the kind of work that I do, it can help explain why shark attacks are more prevalent in certain areas than in others.

Kim Holland:

Very exciting is the fact that the most recent generation of tags can now transmit information not only about the movement of the animals, but also about the structure of the ocean through which they're moving. For instance, whales can monitor the movement of the melt of glaciers. Seals and turtles and sharks are relaying information about the thermal structure of the ocean. And this kind of information can then be used to inform operational oceanographic and meteorological models. So for all these reasons and many others, the research community is very appreciative of NOAA's continuing support and rejuvenation of the Argos satellite system. And with that, I'll pass the mic over to Greg.

Greg Burgess:

Aloha! I'm calling in from Maui today, home of the honu, the Hawaiian Green Sea Turtle, one of the many animals tracked by the Argos system. I'm Greg Burgess, Vice President of GA Electromagnetic Systems Space Systems Division, which is based in Centennial, Colorado.

Greg Burgess:

General Atomics is honored to host the Argos-4 payload to expand the Argos environmental monitoring constellation. The Gazelle spacecraft is hosting two payloads, the NOAA provided Argos-4 tracking data collection payload, and the commercial Rad Mon Radiation Monitoring system.

Greg Burgess:

We are proud to join our partners at NOAA, CNES, the US Space Force, KSAT, and Rocket Lab to launch this critical capability to capture, process, and distribute environmental data globally. The Gazelle Spacecraft is the first satellite that General Atomics has built as part of our science and weather program. It is the same platform used for the orbital tested one satellite launched in 2019, as well as this platform being used for the NASA [inaudible 00:15:32] two spacecraft scheduled for launch in 2024.

Greg Burgess:

Lofting the Argos-4 payload will significantly increase the speed and reach of the Argos constellation, joining its sisters in space to collect global animal movement and migration data. For this program, General Atomics is providing a true end to end commercial space capability by designing and building the satellite, hosting a payload for our customer, and performing all of the testing and operations of the satellite. We have procured the launch service from Rocket Lab and contracted with KSAT to provide a commercial path for rapidly getting the data to researchers worldwide.

Greg Burgess:

Gazelle will be the 31st mission of the Electron three stage launch vehicle. The motto for the launch is, "It Argos goes up from here." Electron is targeting a circular sun-synchronous orbit at an altitude of 750 kilometers and an inclination of 98.27 degrees. We've completed all spacecraft checkouts at Rocket Labs Launch Complex in New Zealand, and the Gazelle spacecraft is now mounted to the Electron rocket. Roll out to the pad is planned for Thursday US time.

Greg Burgess:

Over the weekend is the wet dress rehearsal, where the Electron rocket is rotated to its vertical position, fully fueled, and then functional tests are performed. The rocket is then drained of fuel and returned horizontal to await launch. Launch is currently scheduled for 11:04 AM Mountain daylight time on October 5th. Gazelle will take a nine minute ride to orbit, followed by separation from the kick stage 55 minutes after launch.

Greg Burgess:

We know that our spacecraft will deliver an enduring legacy for many years to come. Understanding the movement and habits of animals help us better understand the amazing species we share the planet with and helps humanity learn how to be better stewards of all life on Earth. Back to you, John.

John Bateman:

All right, thanks so much, Greg. And now we'll open the brief into questions from the media. If you know which expert you'd like to answer your question, please feel free to specify that. Amanda, could you please remind everyone how to ask a question and then please queue up the first question.

Amanda (Operator):

Thank you. If you'd like to ask a question, please press star one. Again, that is star one if you would like to ask a question. One moment please.

Amanda (Operator):

And at this time we have no questions on the phone line. John, I'll hand the call back to you.

John Bateman:

All right, thanks so much, Amanda. Then we are going to wrap up the telecom for the Argos-4 launch and mission. I'd like to thank all of our presenters and participants for joining us today. If anyone from the media has additional questions or informational needs, please feel free to reach out to John Leslie and myself, John Bateman, at, and I will spell it, nesdis.pa@noaa.gov. That is nesdis.pa@noaa.gov. Our contact information is also available in the media advisory. Thanks for joining us.

Amanda (Operator):

That concludes today's conference. Thank you for participating. You may disconnect at this time.

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