# Historical Context of the D-21 Program


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(As prepared)

Despite the United States first successfully launching signals collection and imagery reconnaissance satellites in 1960, the National Reconnaissance Office would continue to seek solutions to a pressing problem—how to gain intelligence from space during an international crisis.

As a historian, part of my responsibility is to describe the historical conditions and factors that lead to matters of historical significance. That is what I hope to do briefly this evening by providing the historical context for the investment in the D-21 drone program by the United States through the National Reconnaissance Office, the nation's agency for developing, launching, and operating the nation's reconnaissance satellites.

The United States launched its first successful reconnaissance satellite in June 1960. The satellite was known as the Galactic Radiation and Background or Grab satellite. It was intended as an experimental satellite to test whether or not the US could detect Soviet radars from space. It proved to be even more successful than simply proving the US could detect the radars—it identified types of radars and coverage of those radars—critical intelligence information if the US needed to carry-out a retaliatory attack in response to a Soviet first strike using nuclear weapons.

To identify where those weapons—Soviet ICBMs—were located, the US successfully launched a photo-reconnaissance satellite in August 1960. The satellite was known in classified circles as Corona. Before Corona, the US had no reliable means for comprehensively understanding the development pace for Soviet nuclear forces. For the first decade and a half after World War II the United States depended on peripheral flights near Soviet and Warsaw pact nation borders to try and image or pick up signals associated with Soviet nuclear weapon development and deployment. Those aircraft could offer no intelligence of value concerning activities deep within the vast Soviet land mass. Beginning with its first successful test flight in 1955 through the downing of the Gary Power's piloted U-2 over the Soviet Union in 1960, the US developed a limited means for gaining intelligence on the areas denied to regular and comprehensive observation. Finally, the US had developed very limited intelligence from human sources within the Soviet Union during the 1950s and 1960s.

Satellites like Grab and Corona would quickly provide the most comprehensive understanding of the Soviet nuclear threat posed to the United States. For example, the first Corona satellite returned more imagery of the Soviet Union from its first mission, than all the missions over the Soviet Union by the U-2. By the late fall of 1960, the director of the Defense Department's national reconnaissance program was able to report to President-elect John Kennedy that the Soviet Union had been imaged to the point that he could confidently conclude the Soviet Union did not possess more strategic nuclear weapons than

the US—a conclusion that could not have been reached even three months earlier based on available intelligence at that point in time.

Despite the rapid and impressive gains in intelligence on the strategic nuclear threat by reconnaissance satellites, the United States remained vulnerable to surprise actions by the Soviets and others, surprises that quickly arose such as the one described in this newsreel from 1962..

The Cuban missile crisis demonstrated the limited means for the United States to gain intelligence during a crisis. There were no satellite imagery or signals collection resources available during the 13 day crisis. The United States depended on aerial observation, but this means brought the crisis to a peak on 27 October when forces on Cuba downed a U-2, a previously declared redline for carrying out a military response by the US. Demonstrating great patience, President Kennedy instead sought more information on the downing of the U-2 allowing for both sides to step back from the precipice of exchanging nuclear weapons. The Cuban missile crisis reinforced the United States' determination for developing a reliable means of gaining intelligence during a crisis from denied areas.

Other events would follow such as the Six-Day war between Israel and neighboring Arab nations in 1967. Like with the earlier Cuban missile crisis, information on opposing forces was limited and gaining information using conventional military resources was fraught with risk. In the 1960s US imagery satellites returned their images on film from space. They were only on orbit for limited periods of time each year. Because of these limitations and others, satellites were often not available to capture intelligence to assist in managing a crisis.

In some instances those, such as the 1968 invasion by Soviet Forces to put down liberalization efforts in Czechoslovakia, the US did have an imagery satellite in operation during the crisis. The satellite in fact captured images of the Soviet forces massing along the Czech border prior to the invasion. Unfortunately those images were not deorbited and developed for examination by intelligence analysts until after the invasion had occurred, providing no warning.

As a consequence of limited information about vast denied areas of the earth, the United States persisted in developing technical means for collecting intelligence over those denied areas. One of those means, developed and tested by the National Reconnaissance Office was the D-21 drone. My colleagues this evening will discuss more about the D-21 program and its significance. The need was real and pressing in order to provide critical intelligence for the President of the US and other senior leaders to make informed decisions.

Eventually the US would obtain more reliable means for gaining crisis intelligence and more comprehensive intelligence. The backdrop for deciding on this program was yet another crisis in the Middle East. During 1970 tensions between the Israelis and Egyptians and other Arab forces resulted in nearly daily military exchanges in the Sinai. The Nixon administration pressed cessation of military activity, putting heavy pressure on the Soviet Union to discontinue arms shipments to the region. Nixon was very frustrated because he could not obtain regular intelligence during the crisis to affirm the

Soviets had stopped shipments as they had committed to. By 1972 still influenced by the 1970 crisis, Nixon approved a new satellite that would incorporate yet undeveloped technology for obtaining reconnaissance images from space in near-real time. Some four years later, that satellite, known as Kennen (the German verb “to know”) was successfully launched. For the first time, the US would have reliable near-real-time intelligence for use during a crisis. This breakthrough brought capability that was hoped for from the D-21 program—intelligence information that would displace uncertainty to better preserve the security and peace of the nation.