

**Introductory Remarks**  
**Dr. Robert A. McDonald**  
**Director Emeritus, Center for the Study of Reconnaissance**  
(Remarks as prepared)

Why did we come some 700 miles from Chantilly, VA outside the Nation's Capital, to the Southern Museum in Birmingham, AL today? I'm not sure the answer would work if I said, "We're from the government, and we're here to help." A more acceptable answer might be, we're here to share some stories about national reconnaissance: First, to explain some of the back story about this particular 1960s era D-21 artifact that had been in the NRO's collection of heritage assets, and we now have provided it to the Southern Museum on an extended, long-term loan; second to discuss the declassification of a significant NRO collection of records about the D-21, and share some of the secrets being revealed today for the first time—secrets from a program that had been protected under the then classified codeword, "Tagboard."

There are two opposing realities about the D-21. On the one hand, while the D-21 is a 1960s era piece of reconnaissance hardware, it is an example of technology, design, and capabilities that not only are amazing for a half century ago, but still may be unbelievable for today. On the other hand, it is a program that existed only developmentally, and the Air Force cancelled it as it was becoming operational. Yes, not all experimental reconnaissance programs become operational, but all developing programs reveal, insight and lessons, as this one particularly does. Developing the best reconnaissance system comes as a result of exploring numerous options, and this was an option the NRO and Air Force explored in detail.

What is surprising is that this contraption is a product of the 1960s. The NRO had engineered, produced, demonstrated, and operationally tested this highly-advanced, unpiloted, supersonic reconnaissance aircraft that has unbelievable characteristics. This reconnaissance drone could fly at speeds over M 3.3 at an altitude over 90,000 feet, and the NRO designed it using low radar observable technologies suggestive of 21<sup>st</sup> century stealth technology. During the middle of the 20<sup>th</sup> century, the NRO and others had been conducting limited experimentation with drones, but it was the NRO that made a spectacular effort with the D-21. The D-21 validated that unpiloted aircraft were possible and could have a role in reconnaissance. The NRO's work in the middle of the 20<sup>th</sup> century had anticipated what was to come in the 21<sup>st</sup> century. It set the stage for what would become a 21<sup>st</sup> century proliferation of UAVs. (Robarge, 2012; NMUSAF, 2015)

This drone would be launched from an airborne carrier aircraft, the mother ship, at some distance from the target that was to be imaged, fly its mission, and return to a preprogrammed location in international waters. There the D-21 would jettison its payload of film so that a C-130 could snag the package in midair. The drone would self-destruct with a barometrically activated explosive device. (Robarge, 2012)

The D-21 experienced a number of challenges during its developmental life span. There were crashes, death of a crew member in the mother aircraft, lost film packages, and incomplete operational missions. In 1971, the USAF terminated the program. But the D-21's legacy lives on. It operationally demonstrated the feasibility and concept for unpiloted aerial reconnaissance; it provided insight and

lessons about camera operations and reconnaissance target acquisition; it developed a stealth design that had applications for future Air Force combat aircraft such as the F-22 Raptor. (NMUSAF, 2015; USAF, 2015)

The termination of the D-21 program probably was more a victim of NRO successes in the area of space reconnaissance. The challenge in the 1950s and 1960s had been to find a way to do overhead reconnaissance without subjecting aircrews to risk. A 1919 International Convention for aerial navigation made it clear that a nation had complete and exclusive sovereignty over the air space above its territory. The US found out early in the Cold War that the Soviet Union meant to protect its air space sovereignty. During the Cold War the Soviet nuclear threat was great, and the US needed intelligence,<sup>1</sup> but piloted aerial reconnaissance had consequences, the potential loss of aircrews. On 8 May 1954, a Soviet MiG 17 attacked a USAF RB-47E when it was on a reconnaissance mission over the Kola Peninsula (Hall, 1996, p 35); on 1 May 1960, during an overflight of the USSR over Sverdlovsk, a Soviet SA-2 surface-to-air missile shot down the U-2 reconnaissance aircraft flown by Francis Gary Powers.

During this time frame the NRO had been developing and perfecting a capability to conduct reconnaissance from space. The Corona film-return photoreconnaissance satellite had made a revolutionary breakthrough in August 1960 by imaging the Soviet Union from space. The NRO went on to develop other photo-reconnaissance satellites, namely the high-resolution Gambit system and the wide-area search Hexagon system. There no longer was a need to refine and perfect the Tagboard D-21 drone for overflight. But it has an amazing story and legacy, which we shall share with you. (McDonald & Widlake, 2012).

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<sup>1</sup> US policy maker saw the treat of nuclear war such that once a Soviet attacked was launched, it would be extremely difficult, of not impossible to recover and successfully counterattack (Hall, p 29)

## References

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