

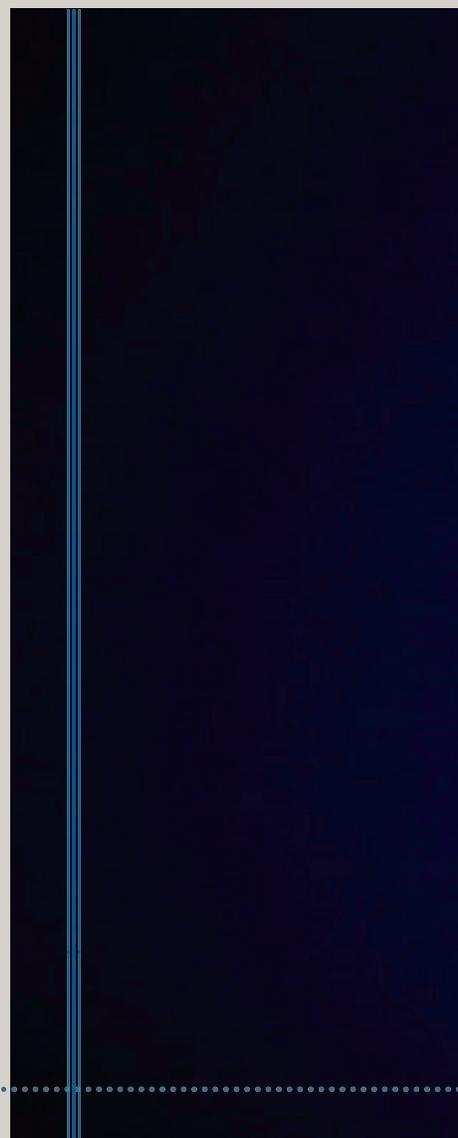


In the Beginning

the Origin of the Army Space Organization

BACKGROUND

At the time of Army Space Initiatives Study, there were some Army organizations with Space in their titles. These organizations were in the intelligence and communications mission areas where the Army had already become a major user of Space products. Communications Electronics Command was recognized as the lead for the development of Satellite Communications ground terminals and user equipment for all the services. The one arguably definitive Space developer was the Tactical Exploitation of National Capabilities Program Manager/Army Space Program Office. The TENCAP Program Manager office had significant influence in defining capabilities of new national systems – particularly in the 1970s and 1980s. This influence was one of the factors giving confidence to Army leadership that great Space capabilities could be obtained for the Army with minimum Army commitment of resources. The Army Space Program Office demonstrated the ability to quickly solve issues related to getting data from National Systems to Army users. |.....



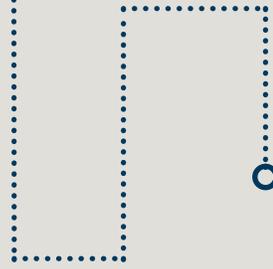
inning



A night view of the
Global Positioning
System Satellite
dish at 1879th
Information Services
Squadron, Falcon Air
Station, Colorado.

Exact Date Shot Unknown





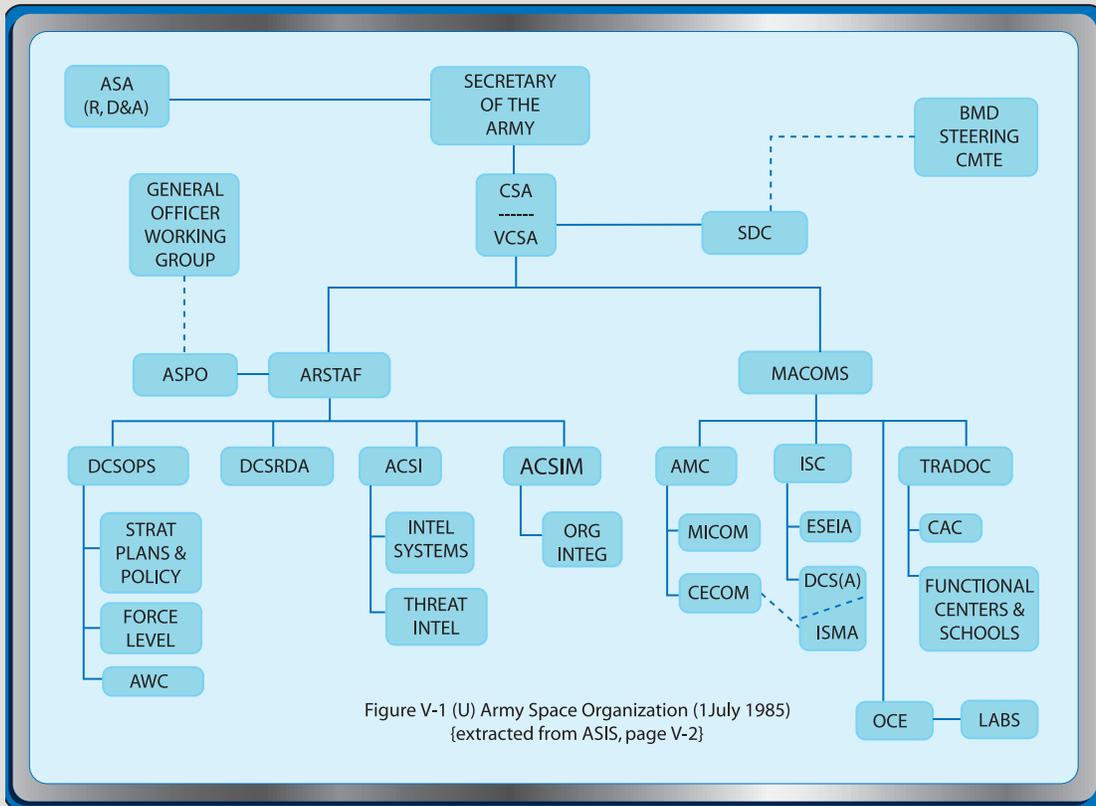
INTRODUCTION

The Army Space Initiatives Study struggled with how to develop the organizational structure within the Army to ensure the long-term survival of a critical mass of Space organizations. Such a critical mass was required to ensure that, as Army enthusiasm for Space waxed and waned, a core “Space” focused organizational structure remained viable. The Army Space Initiatives Study began by developing a task list for all of the research, development, acquisition, requirements and operations functions the Army already executed or filled, and those the Army Space Initiatives Study members recommended the Army prepare to fill. This task list was filtered through four basic objectives, quoting from Army Space Initiatives Study:

- “Provide a single voice and proponent for the Army Space effort.
- Facilitate the interaction and transfer of knowledge among Space-concerned Army institutions so that they could profit from each other’s activities and exploit emerging technologies.
- Integrate Space technologies, concepts, and operations smoothly into the framework of the Army.
- Prepare the Army for Space operations.”

The Army Space Initiatives Study view of the Army organizations in Space is shown in Figure 1, which was recreated from the original report. The Army Space Initiatives Study did a good job of identifying all the pieces of Space activity scattered across the Army. The sheer number of organizations led Army Space Initiatives Study to propose a bold “out-of-the-box” solution. First articulated by Army Space Initiatives Study team member MAJ Terry Reininger, this solution is very similar in functional concept to what exists today ... but the path from bold solution to today’s force structure was anything but straight.

FIGURE 1



ASIS

ARMY SPACE INITIATIVES STUDY PROPOSAL FOR ORGANIZATION

Initially the Army Space Initiatives Study proposed a single organization unifying research, development, acquisition, requirements and operations. This was viewed as a straightforward and single structure which would minimize personnel requirements (for organizational overhead) while concentrating sufficient personnel into a body which had a critical mass of Space knowledge/expertise.

The Army Space Initiatives Study stated “However, when ... real-world constraints were considered, this structure was judged to be unacceptable. In particular, its operation would differ substantially from current Army practices.” As a result, the Study re-did the organization to cause minimum disruption across traditional organizational boundaries ... particularly with Army Materiel Command and Army Training and Doctrine Command. Ironically, the original single organization proposal is close to what evolved into U.S. Army Space and Missile Defense Command/Army Forces Strategic Command.

The Army Space Initiatives Study tried to resolve this real-world constraint by proposing that Army Training and Doctrine Command and Army Materiel Command elements be collocated with Army Space Command in Colorado Springs.

The many organizations involved and their fates are better understood in a visual presentation which is shown in a series of charts taken from Army Space Initiatives Study and later various organizational briefings.

Original members of the 1st Satellite Control Battalion, now 53rd Signal Battalion. *SMDC/ARSTRAT Photo*



HEADQUARTERS DEPARTMENT OF THE ARMY STAFF RESPONSIBILITIES

Staff proponents were proposed for Assistant Secretary of the Army, Research Development and Acquisition, Assistant Deputy Chief of Staff for Operations and Plans (FD), and Assistant Deputy Chief of Staff for Research, Development and Acquisition. A Senior Executive Service, Colonel and a Colonel (dual-hatted by the same office that monitored TENCAP) each with a small staff were created for these offices during or within a year of the Study. The Assistant Secretary of the Army, Research Development and Acquisition Senior Executive Service position went away in 1993. His staff led by a Colonel continued for another year and then downsized to one GS-14 with other duties as assigned. The Assistant Deputy Chief of Staff for Research, Development & Acquisition position went away by 1992 as no "Space" budget line was created needing such oversight. The Assistant Deputy Chief of Staff for Operations and Plans (FD) position and staff waxed and waned and has evolved into the current Space and Missile Defense Division position with a Colonel and a GS-15 Deputy. The former Chief, COL Pat

Rayermann, moved to National Security Space Office and was replaced by COL Rick Schantz in July 2008. NOTE: COL Rayermann and LTG Kenneth Hunzeker are the last members of the Army Space Initiatives Study team still on active duty.

ARMY SPACE COMMAND

Army Space Command was proposed as an Army Major Command. The units proposed to be part of this new command were the 235th Signal Detachment and a reserve component Military Police Brigade. The 235th provided strategic communications at echelons above Corps. The Military Police Brigade was to provide enhanced operational security at Space control facilities in times of crisis or potential attack. None of these units actually became part of Army Space Command. Instead it was determined that Army Space Command would be a Table of Distribution and Allowances organization and its first (and initially only) operational element would be the DSCS Operation Centers scattered around the world. Over the years from its creation to its demise in 2002, Army Space Command grew substantially. First created was a Satellite Control Battalion followed by Joint

Tactical Ground Station Detachments, Army Space Support Teams, a Space Battalion, a Reserve Space Battalion, a Space Brigade and then a Missile Defense Battalion and Brigade. The details of this are more correctly left to a history of Army Space Command and its evolution to the operationally focused part of U.S. Army Space and Missile Defense Command/Army Forces Strategic Command.

ARMY MATERIEL COMMAND ELEMENT

An Army Materiel Command Space Technology Directorate was proposed to be located at Colorado Springs. Its functions included managing the Space research program and integrating Space technology throughout Army Materiel Command. The directorate was to initially be supported with 30 man-years of contractor support. Instead of being set up at Colorado Springs as a direct report to Army Materiel Command, it was named the Army Space Technology and Research Office and was stood up as part of Electronics Research and Development Command (later Laboratory Command) in Adelphi, Md. This was done by Army Materiel Command to save manpower by putting both the proposed Space Division at Headquarters Army Materiel Command and the Technology Directorate under one Colonel. It lasted about five years then began to migrate down the reporting chain losing both its ability to influence the Army and its relevance to the Space community. It initially reported to the Army Materiel Command Deputy Chief of Staff for Research, Development and Acquisition, but that General also commanded Electronics Research and Development Command and that is where it was established. It was given a budget of \$4-6M the first few years. Electronics Research and Development Command became Laboratory Command in the Army Materiel Command reorganization. Soon the Army Space Technology Research Office was reporting to the Chief of Staff of Laboratory Command and no longer functioned across the breadth of Army Materiel Command. In 1990, Army Materiel Command announced it was not funding the office after 1991. In 1992, the remnant became part of Space and Strategic Defense Command and after a couple of years the functions migrated to Huntsville where they eventually evolved into the Space Division of the Space and Missile Defense Technical Center. The Center has done a great job growing its initial two slots

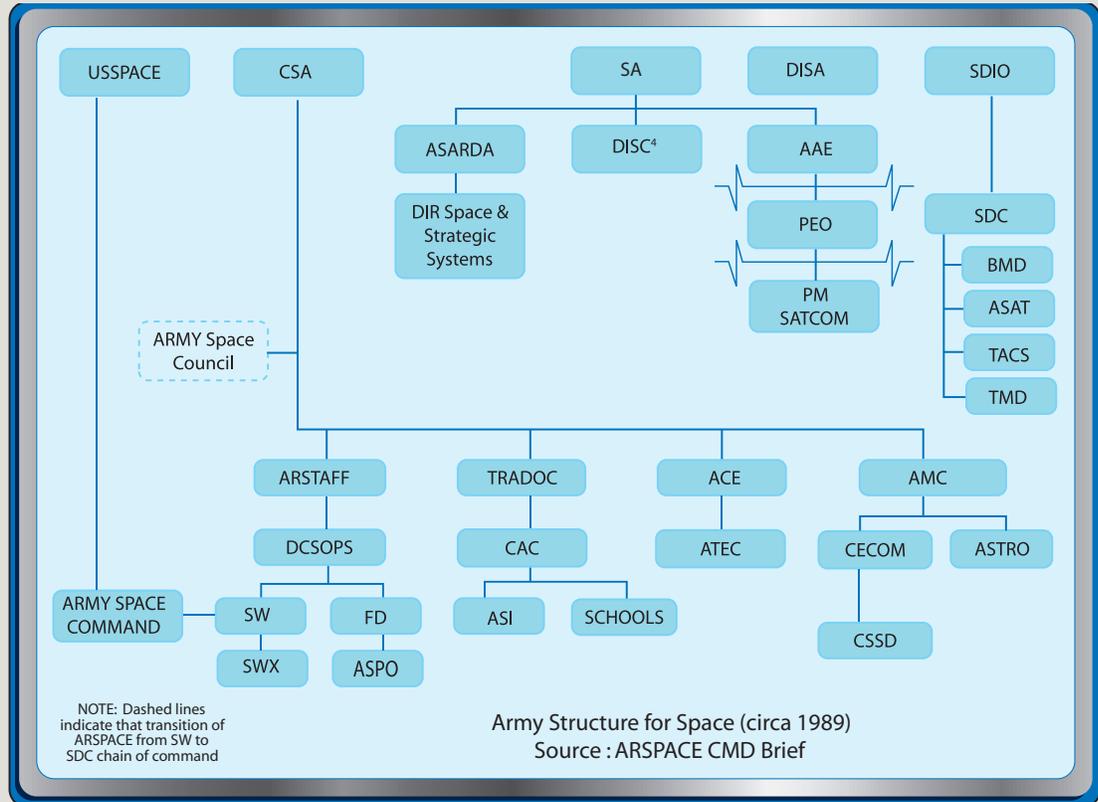
to what exists now with a budget of over \$19M, roughly twice the size (after inflation) of the old Army Space Technology Research Office.

Army Materiel Command's major subordinate commands were supposed to establish a Space office or point of contact as appropriate. The only command that did was Communications Electronics Command. Although its exact organizational location and function have evolved over the years, there is still a Space and Terrestrial Communication element at Communications-Electronics Research Development and Engineering Center. Its focus is primarily on ground terminals required for Space activities – particularly communications.

ARMY TRAINING AND DOCTRINE COMMAND ELEMENT

An Army Training and Doctrine Command Space Requirements Directorate was proposed to be located in Colorado Springs. It was given the functions of working with the Army Materiel Command element in the development of new systems and concepts for Space support of joint/combined operations. Additionally, it was the Army Training and Doctrine Command focus for Space and Space operations at echelons above Corps. It was tasked to conduct studies to determine operational feasibility and cost effectiveness of new system concepts and make recommendations on future systems development. In actual practice, Army Training and Doctrine Command went far beyond this recommendation at the direction of GEN Maxwell Thurman (then Commanding General, Army Training and Doctrine Command). The Army Space Institute was established under Combined Arms Center at Fort Leavenworth, Kan., and incorporated several of the Army Space Initiatives Study group members into its organization. It was chartered to act as an Army Training and Doctrine Command level organization with functions approaching those of other Army Training and Doctrine Command Centers and Schools. The Colonel in charge was designated a Commandant. Unfortunately, with the departure of GEN Thurman, the Army Space Institute faded and was disbanded by 1992. Some of its functions went to Army Space Command, some to its replacement Training and Doctrine Command Program Integration Office Space (which remained at Fort Leavenworth), and

FIGURE 2



some to the various Schools and Centers.

At Headquarters, Army Training and Doctrine Command, a special staff element run by a Colonel was established to coordinate Space across Army Training and Doctrine Command. That office has grown and weakened over the years but still exists.

EVOLUTION OF ARMY STRUCTURE FOR SPACE

Just like the rest of the Army, the structure for Space has evolved. The following figures capture the evolution with “snapshots” in time. The changes shown are representative of the changes going on during the period but are not definitive. I.E. additional changes in organizational names and reporting chains may not have been fully documented

By 1989, as illustrated in Figure 2, there are five principal organizational elements for Space. This represented the “high water” mark

of the Army implementation of the Army Space Initiatives Study recommendations.

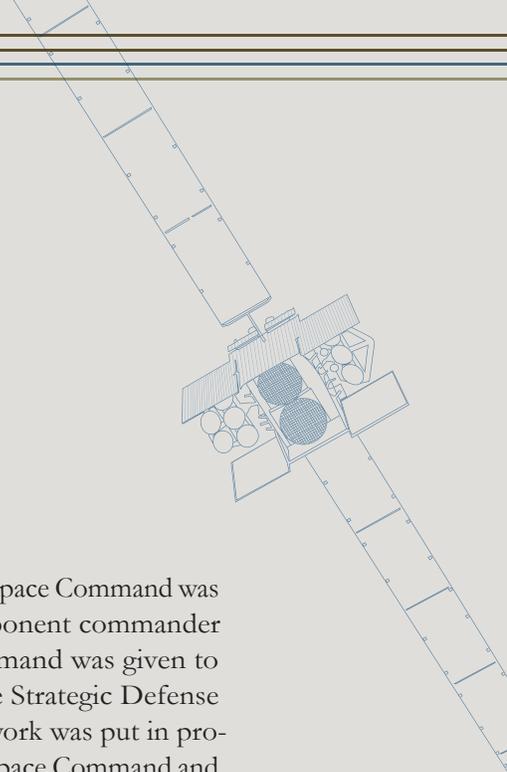
- 1 – Army Space Command is a field operating activity under the Space and Special Weapons Directorate of the Headquarters Department of the Army Deputy Chief of Staff for Operations;
- 2 – Army Space Program Office (i.e. Tactical Exploitation of National Capabilities) is a field operating activity under Force Development of the Headquarters Department of the Army Deputy Chief of Staff for Operations;
- 3 – Army Space Institute is under Combined Army Center with the same organizational status as an Army Training and Doctrine Command School;
- 4 – Communications Electronics Command Space System Division is responsible for satellite ground terminal development and has remnants of the Space system developers who created the first generation of military satellites;
- 5 – Army Space Technology and Research Office reported to the Deputy Chief of Staff for Research, Development and Acquisition of Army Materiel Command.

Coordination was done across these organizations to achieve unity of purpose by the Colonels in command of each organization meeting quarterly in a Space Council of Colonels. This group also provided the focus of issue moving on to the Army Space Council. The Space Division (SWX) of the Space and Special Weapons Directorate of Army Operations orchestrated the council's meetings.

By 1991, several major changes began or were concluded. As a result of a Headquarters Department of the Army reorganization, Space and Special Weapons Directorate was slated to be disbanded since one of its major functions (nuclear weapons) had gone away with removal of Army nuclear weapons from Europe. That meant that a new chain

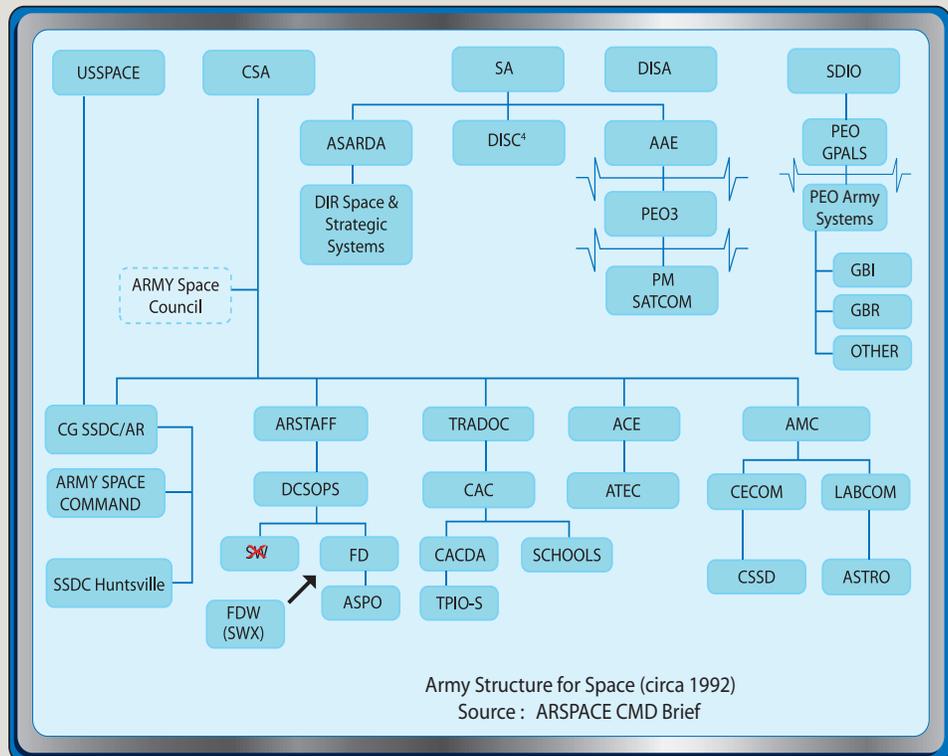
of command for Army Space Command was necessary. So the component commander hat to U.S. Space Command was given to the Commander of the Strategic Defense Command. The paperwork was put in process to combine Army Space Command and Strategic Defense Command to form a new command of Space and Strategic Defense Command. It is worth noting that at this time (and until 2002), the Commanding General Space and Strategic Defense Command (later Space and Missile Defense Command) was viewed to command two organizations (i.e. wore two hats) – the Major Command (Space and Strategic Defense Command) and the Service Component Command (Army Space Command). This meant that each organization had its own staff and functioned to a large extent independently of each other. Army Space Command reported to Space and Strategic Defense Command in the Army chain of command but its day-to-day activities were in support of Commander in Chief, U.S. Space Command. The situation was further complicated by the fact that some of the Major Command staff and the Commanding General was in Crystal City, Va., while other staff principals were in Huntsville.

The Army Space Institute was disbanded with its functions moving to the Schools and Army Space Command with a small 10 person remnant becoming an Army Training and Doctrine Command Proponent Integration Office for Space and sliding down the chain of command to work for Combined Arms Combat Development Agency.



1992

FIGURE 3



As Figure 3 shows, the integration of Army Space Command and Space and Strategic Defense Command was completed in 1992 and the Commanding General Space and Strategic Defense Command was wearing two hats – one for Army Space Command and one for the old Strategic Defense Command now generically called Space and Strategic Defense Command, Huntsville. Space and Special Weapons Directorate was dissolved and the old office has become part of Force Development as the Space Division. Army Space Technology Research Office has been demoted in the Army Materiel Command chain to working for the Laboratory Command Chief of Staff and is about to cease to exist.

The Senior Executive Service position and office in Assistant Secretary of the Army, Research Development and Acquisition is done away with.

Only one person (GS-14) remained to handle Space stuff. The Army Space Technology Research Office was dissolved and the functions and two personnel were transferred to Space and Strategic Defense Command (initially in Crystal City). By 1993, the Combined Arms Combat Development Agency was eliminated and the Army Training and Doctrine Command Program Integration Office-Space closed down. Its functions were to be picked up by a branch at Headquarters Army Training and Doctrine Command with the integration functions to be handled by Battle Command Battle Lab. In 1994, Army Space Technology Research Office's old functions moved to Huntsville but the personnel remained in Crystal City and were absorbed into the Space and Strategic Defense Command Headquarters staff. Space and Strategic Defense Command Huntsville stood up an embryo Space

division “out-of-hide.”

In Figure 4, changes primarily dealing with Army Space and Missile Defense Command and Army Space Command which occurred during the mid-1990s are shown. There are several significant events. First is the creation of Army Space and Missile Defense Command from the old Space and Strategic Defense Command. This was possible because of a Memorandum of Agreement with Army Training and Doctrine Command which reached agreement that Space and Strategic Defense Command would perform the Army Training and Doctrine Command functions with respect to Space as a whole. Although specific functions remained with specific schools, Army Training and Doctrine Command acknowledged Space and Strategic Defense Command as its agent for Space and this was further codified by Headquarters Department of the Army creating and assigning the Space Proponent function to Space and Strategic Defense Command.

The importance of the control of the Defense Satellite Communications System payloads was recognized by the Army with the creation of the 1st Satellite Control Battalion (first Commander, Lynn Weber and second commander COL Pat Rayermann — both Army Space Initiatives Study team members). Building on these changes Space and Strategic Defense Command transformed to Army Space and Missile Defense Command.

(The 1st Satellite Control Battalion was renamed to 53rd Signal Battalion in 2004, when it transformed from a Table of Distribution and Allowances Battalion to a Table of Elements Battalion.)

One of the subsequent organizational changes was the creation within Army Space and Missile Defense Command of the Force Development and Integration Center. In many ways it revived the functions of the old Army Space Institute. It was located with the Army Space and Missile Defense Command Headquarters element in

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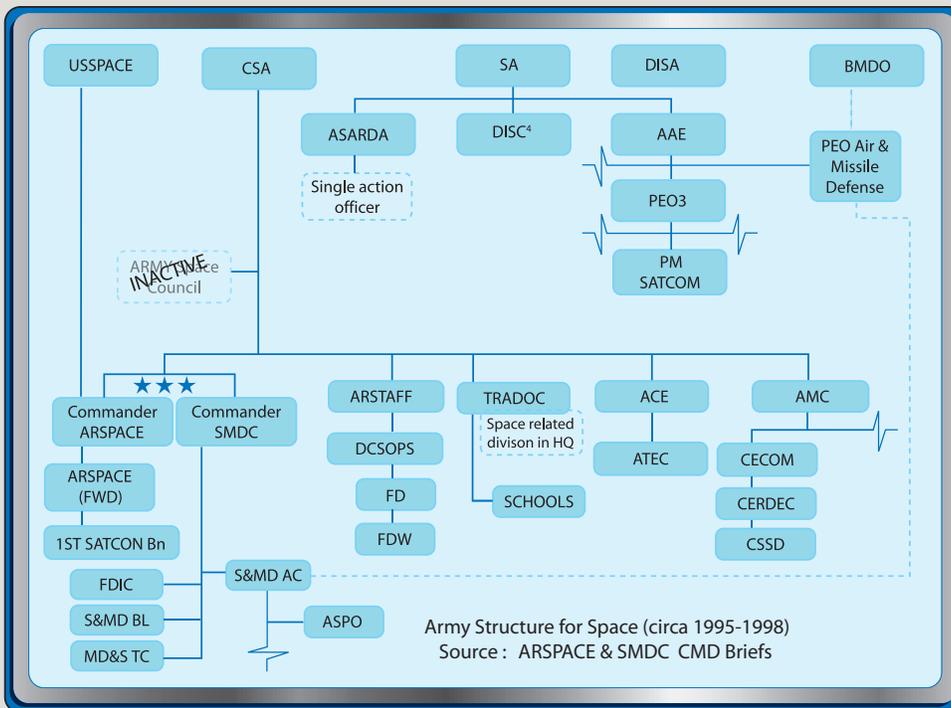


FIGURE 4

Crystal City, Va. Additionally, the embryonic Space Battle Lab (which had been created out of the demonstration elements of Army Space Exploitation and Demonstration Program in Colorado Springs) was combined with the Missile Defense Battlefield Integration Center (Huntsville) to create a new Space and Missile Defense Battle Lab with a Senior Executive Service in Huntsville as the director. During this same period, there was a jockeying of organizations on the acquisition side with the Program Executive Office functions being done as another “hat” by the Deputy Commanding General, Army Space and Missile Defense Command. Eventually the Army Acquisition Executive forced this perceived conflict of interest (i.e. Program Executive Office function in Army Space and Missile Defense

Command) to be resolved by breaking that position out of the Command resulting in the evolution of the Army Space and Missile Defense Command, Deputy for Research, Development and Acquisition position.

Army Space Command continued to evolve with the establishment of the 1st Space Brigade (Provisional). The National Aeronautics and Space Administration Detachment appeared for the first time but was part of Army Space Command from its earliest days. Army personnel assigned to the NASA Detachment were under the control of NASA and Army Space Command provided administrative support only. The Research, Development and Acquisition side of Army Space and Missile Defense Command reorganized to more definitively report through the Deputy for

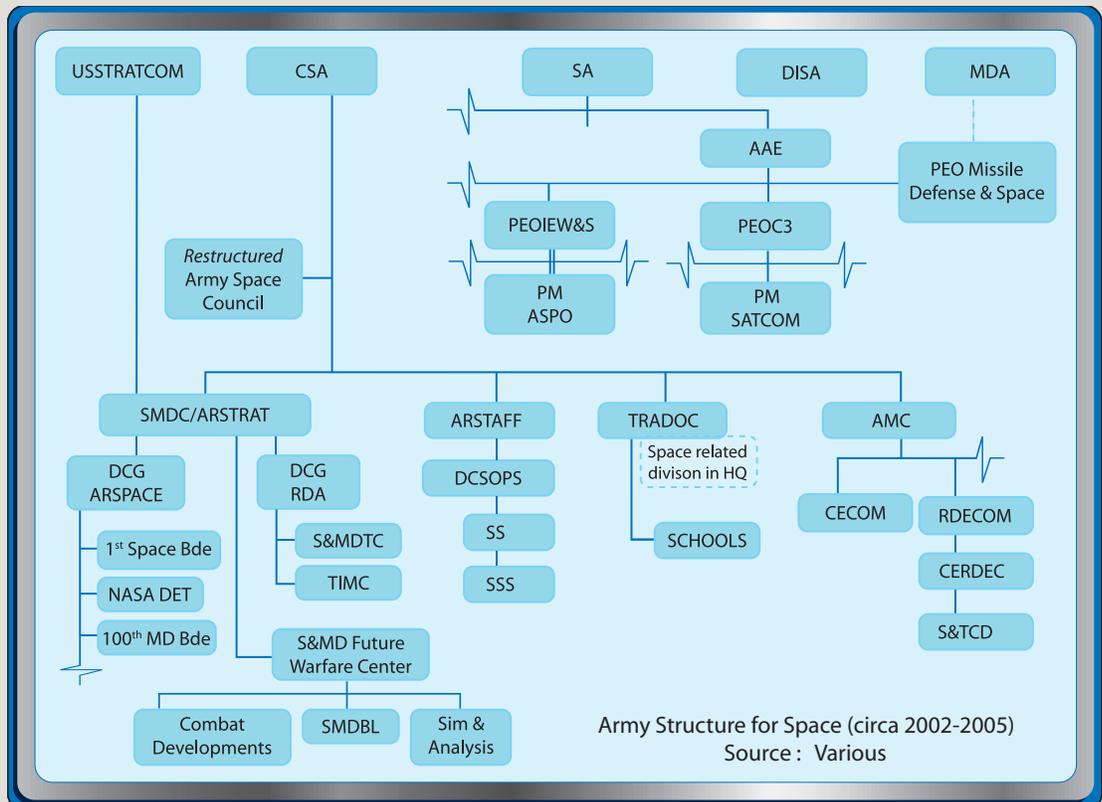


FIGURE 5

Research, Development and Acquisition to the Commanding General. The Space Research and Development activities remained in the Technology Center. In a consolidation of Army Program Managers, Army Space Program Office was moved to Program Executive Office Air and Missile Defense and that office was renamed Program Executive Office Air, Missile Defense and Space. However as seen in the next figure, it did not last.

In Figure 5, the major change to note is the creation of U.S. Strategic Command by the merger of U.S. Space Command into the old U.S. Strategic Command. Headquartered at Offutt Air Force Base, Neb., this change ushered in a vigorous reassessment of the missions and mission assignments to U.S. Strategic Command with eventually eight major mission areas being assigned. This combined with pressure from Headquarters Department of the Army to reduce headquarters staffs led to the consolidation of the old Army Space and Missile Defense Command staff in Crystal City and the separate Army Space Command staff into one staff located in Huntsville, Ala. This process was accelerated by the desire to move Army elements onto military posts rather than leased facilities. For Army Space and Missile Defense Command that meant consolidation into a new, purpose-built building on Redstone Arsenal, Ala. Other items to note – the 1st Space Brigade transitioned from provisional to fully active status; the old Force Development and Integration Center was combined with Space and Missile Defense Battle Lab to create the Army Space and Missile Defense Command Future Warfare Center; the 100th Missile Defense Brigade was activated; Army Space Program Office was moved to the Program Executive Office Intelligence and Electronic Warfare and Sensors and the last dedicated person in Assistant Secretary of the Army for Acquisitions, Logistics and Technology with Space in their job description was retired and not replaced. In Army Material Command, Research, Development and Engineering Command was created and the Communications-Electronics Research Development and Engineering Center moved from Communications Electronics Command to the Research, Development and Engineering Command. Net result of all this was that the Army Space Initiatives Study vision of one all encompassing command was obtained by eliminating the last vestiges of the Army Space Command staff but at the same time the vision was reduced by the loss of the Army Space Program Office from a Space focused

2005

Program Executive Office.

Since 2005, no significant changes have occurred with respect to Army Space organizations. Obviously such changes in the future are likely. The possibility of creating a Space Acquisition Center of Excellence to help facilitate Operationally Responsive Space actions in the Army is a hopeful sign of continued interest in Space and a recognition that the acquisition side is where the Army has the least credibility and influence with the U.S. Air Force. If the proposed center can balance its manning by including operational expertise and not all acquisition personnel, then it may have a real impact in the future. My experience and observation has been that Army personnel with operational experience have great influence with U.S. Air Force Space developers. That credibility combined with some support from acquisition-trained personnel may lead to great things in the future.

It is clear that the Army has achieved sufficient organizational “mass” to be a credible player in the development of requirements and in the execution of particular Space operations. To the extent that the Army can maintain this critical mass, it will continue to influence and benefit from the billions of dollars spent by U.S. Air Force, National Reconnaissance Office, National Aeronautics and Space Administration, commercial and foreign Space communities. |.....▲