The Origin and Evolution of the Joint Analysis Center at RAF Molesworth

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The story of how critically important US intelligence centers in Europe came to operate in a rural setting far from any major headquarters illustrates the many ways in which the fortunes of the intelligence profession can be affected by technology, fiscal conditions, expediency, and radical changes in the global security environment.

The Cambridgeshire countryside west of Huntingdon exemplifies classic rural England. Its gently rolling hills are covered by lush farm fields. Scattered villages often contain medieval churches, and some local roads still follow routes laid out by the Romans. Modern wind farms take advantage of the area's frequent blustery weather. Amid this bucolic scene, three of the most important joint and combined intelligence centers maintain watch for very modern threats across Europe and Africa.

The Royal Air Force (RAF) station Molesworth hosts the US European Command's (USEUCOM) Joint Analysis Center (JAC, now called the Joint Intelligence Operations Center Europe Analytic Center, is most often simply referred to as "JAC Molesworth"), the NATO Intelligence Fusion Centre (NIFC); and US Africa Command's (USAFRICOM) Intelligence and Knowledge Development Directorate, Molesworth Detachment (J2-M).

Each organization is the primary intelligence analysis and production center directly supporting two US geographic combatant command headquarters in Stuttgart, Germany and NATO supreme headquarters in Mons, Belgium. Such dramatic geographic separation of senior commanders from their intelligence capabilities is unique within the US military command structure.

The story of how and why these critically important intelligence centers came to operate in such a rural setting, far from any major government or military headquarters, speaks to an aspect of intelligence usually lost in histories that most often focus on covert operations, collection, collection systems, and analysis. The history of Molesworth as an intelligence installation illustrates the multiple ways in which the fortunes of the intelligence profession and those who labor within it can be affected by technology, fiscal conditions, expediency, and radical changes in the global security environment.

There are two major threads to the Molesworth story. The first is the military history of the site itself; the second is the evolution of US and NATO command and intelligence capabilities during and after the Cold War.

Bomber and Missile Base

The Molesworth story began during the Second World War, when the RAF and the US Army Air Force established numerous airfields across East Anglia and Lincolnshire to enable the Allied Combined Bomber Offensive against Germany and

The views, opinions, and findings of the author expressed in this article should not be construed as asserting or implying US government endorsement of its factual statements and interpretations or representing the official positions of any component of the United States government.

Figure 1: US Army Air Force ground personnel observing flight operations from the control tower of RAF Molesworth during WWII. Parked at the side of the building is a B-17. Photo: © FOR ALAN/Alamy Stock Photo

Nazi-occupied Europe. One of several Class A bomber airfields built in and around Cambridgeshire was called RAF Station Molesworth after a nearby small village.

After brief use by the British, RAF Molesworth became home in 1942 to the US 303rd Bombardment Group with B-17 Flying Fortresses. The unit compiled an impressive record of success in the 8th Air Force's daylight bombing campaign over Europe (figure 1). The 303rd's legacy includes having the first B-17 and its crew complete 25 combat missions in Europe and having two Medal of Honor recipients.[1] Not long after the end of the war, RAF Molesworth and the other airfields in the area were gradually reduced to caretaker status, as local agriculture reclaimed its land.[2]

During the Cold War in the 1950s, RAF Molesworth came back to life briefly as a base for an American special purpose air unit and then as a support site for other nearby US bases.[3] Like many WWII airfields across England, Molesworth's concrete runways were removed to provide hardcore for local road construction in the late 1970s and early 1980s.[4] The site gained significant attention during the mid-1980s when the United States invested $91 million to rebuild it as the second base for nuclear-armed intermediate-range BGM-109G "Gryphon" ground-launched cruise missiles in the UK[5] (figure 2).

British antinuclear and peace protesters established a "peace camp" at the edge of the base and attempted to block deployment of the missiles.[6] Just after Molesworth's missiles achieved operational status, the United States and the Soviet Union signed the Intermediate-Range Nuclear Forces Treaty on 8 December 1987. This treaty soon eliminated the protested missiles and all intermediate-range ballistic missiles from Europe.[7] Thus, RAF Molesworth became a base with brand new facilities and no mission.

US Intelligence in Europe, 1988

The full story of the development of US and NATO intelligence capabilities and organizations from the late 1940s until the late 1980s is beyond the scope of this article, but a short description of the intelligence architecture in Europe in 1988 provides context for Molesworth's modern development. Since WWII, US national security policy focused command authorities, responsibilities, and, particularly, resources through the Departments of the Army, Navy, and Air Force, rather than through

Figure 2. RAF Molesworth in 1987, showing bunkers for ground-launched cruise missiles deployed there briefly that year.

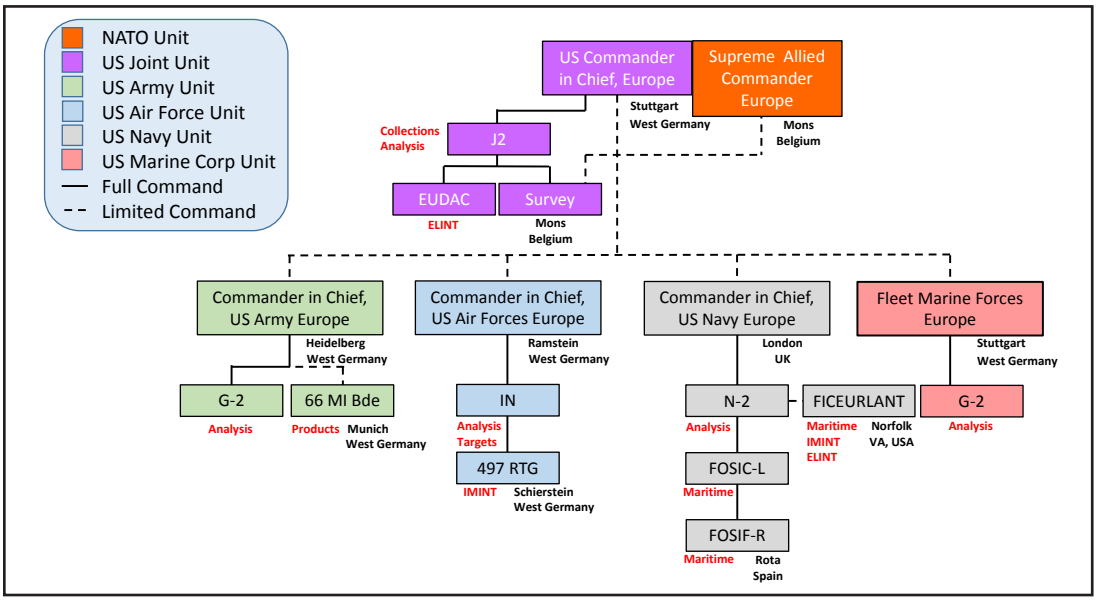

Figure 3. US command and intelligence organizations in Europe in 1988 were distributed over nine locations.

unified joint commands.[8] The Goldwater-Nichols Department of Defense Reorganization Act of 1986 changed US policy to empower joint force commanders, making them directly responsible to the secretary of defense, with full authority to organize and direct assigned military forces.[9] This was a profound policy change that had a huge impact on joint and component commands; it was just starting to reshape doctrine and command relationships throughout DoD in 1988.

US military doctrine considers intelligence as an inherent function and responsibility of command.[10] Since command authorities had been focused in the military service component commands, the majority of US defense intelligence capabilities in Europe were controlled and operated by the military service component commands. Most major theater-level intelligence organizations were subordinate to component commanders, focused primarily on their missions and interests, and located at or near the component command headquarters.

Theater intelligence units were perceived as duplicative but also not responsive to requirements of the joint forces commander. Intelligence capabilities were geographically separated, often among multiple countries. Some duplication and separation were accepted to provide redundancy and improve survivability, while primarily meeting the needs of each service warfighter. Actual theater-level US intelligence capabilities for Europe (as depicted in figure 3) included:

- USEUCOM had a rather small Joint Intelligence Directorate (J2) staff, an electronic intelligence (ELINT) production center—European Defense Analysis Center (EUDAC)[11]—and the Joint Collection Management Office at its headquarters in Stuttgart, West Germany, with a detachment (Survey Section) at NATO headquarters.
- The Air Force component was US Air Forces in Europe (USAFE) with its headquarters at Ramstein Air Base, West Germany. Air Force intelligence capabilities were split among multiple locations in West Germany and the UK. A sizable Intelligence (IN) Staff with analysis and targeting functions was at Ramstein. The theater-level imagery intelligence (IMINT) processing, exploitation, and production center (497th Reconnaissance Technical Group) was at Schierstein, West Germany, near Wiesbaden, across the Rhine River from most USAFE bases. The 497th had a subordinate squadron (496th Reconnaissance Technical Squadron) at RAF Alconbury, UK, and a detachment at Ramstein.[12]
- The Army component was US Army Europe (USAREUR), with its headquarters at Heidelberg, West Germany. Army intelligence capabilities were also split among multiple locations in West Germany. The USAREUR Intelligence (G2) staff was at Heidelberg, but the Army's Intelligence and Security Command managed theater-level intelligence capabilities in Europe through its 66th Military Intelligence Brigade (MI Bde) was in Munich. Army IMINT personnel were colocated with the Air Force at Schierstein.[13] For exercises and in wartime, the USAREUR G2 and elements of

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the 66th MI Bde would deploy as a mobile unit with the Army headquarters.

- The Navy component was US Navy Europe (USNAVEUR), with its headquarters in London, but its commander was dual-hatted as the NATO commander of Allied Forces Southern Europe, with a separate NATO headquarters in Naples, Italy. A small USNAVEUR Intelligence (N2) staff in London exercised operational control over the Fleet Ocean Surveillance Information Center–London (FOSIC-L) and the Fleet Ocean Surveillance Information Facility–Rota (FOSIF-R), in Spain. The US Navy concentrated theater-level IMINT, ELINT, and analysis in regional fleet intelligence centers. USNAVEUR was supported by the US Atlantic Fleet's Fleet Intelligence Center Europe and Atlantic in Norfolk, Virginia.[14]

At this time, NATO policy considered intelligence support to be the responsibility of each member nation. Thus, NATO headquarters had only very small combined intelligence staffs, with no real capabilities for analysis or production. Several key NATO military commands were led by dual-hatted commanders of US service component commands, with the expectation that these NATO commanders could receive US intelligence support through their US component command headquarters.

New Strategy, Doctrine, and Architecture

During the 1980s, US military thinkers developed a more offensive strategy for the defense of Europe, which was described in the doctrinal concepts of AirLand Battle and Follow-On Forces Attack.[15,16] This strategy leveraged the so-called Revolution in Military Affairs, which asserted that new sensors and command, control, communications and intelligence (C3I) technologies enabled much faster operational decisionmaking, and deeper attacks on enemy second- and third-echelon forces.[17]

As the AirLand Battle name implies, these concepts relied upon coordinated plans and operations by joint force commanders. The new intelligence, communications, and data-processing systems necessary to implement these new concepts were large, expensive, and required significant infrastructure. This made wartime survivability for these capabilities a vital concern. To be survivable, C3I capabilities had to be either in hardened or protected facilities or be mobile and deployable. They also required redundant, backup or reconstitution capabilities, preferably out of the enemy's reach in the rear area of the theater.[18]

In 1986, to coordinate and synchronize the intelligence capabilities required by the AirLand Battle concept and the Revolution in Military Affairs, the USEUCOM J2 developed the Allied Command Europe Interface Architecture (AIA) as the centerpiece of its Theater Intelligence Architecture Program. The AIA goal was to provide timely US intelligence directly to NATO commanders by establishing the Joint Intelligence Support Center to integrate staff analysts and ELINT capabilities at USEUCOM with Air Force IMINT and targeting capabilities and Army analysts in a protected facility in the theater rear. The planners believed that centralizing advanced computers for processing, analyzing, and producing intelligence would achieve cost-savings, while recent advancements in communications technology would link such a center in the rear to forward-based collection systems and commanders in near-real time.

The AIA leveraged new direction and authority in the Goldwater-Nichols DoD Reorganization Act and JCS Pub 0-2 to centralize separate component command IMINT, ELINT, analytic, and targeting capabilities in a joint center, under joint direction and control. The new center would reduce duplication of effort among the component commands, and improve efficiency by centralizing major intelligence, communications, and computer capabilities.

Locating the center in a protected facility in the theater rear would improve security and survivability. The USEUCOM J2 and USAFE IN staffs expended considerable effort in 1986 and 1987 to identify a site for the new center at an existing US installation in the UK. At that time, USAFE had a sizable presence in the UK, with seven wing-level main operating bases, and several smaller installations.[19] After performing site surveys at several installations, the USAFE staff recommended building the center at RAF Feltwell, an old airfield a few miles north of the USAFE

bases at RAF Lakenheath and RAF Mildenhall. Budget reductions and the collapse of communism in East Europe reduced planning for the new center to a low priority. Dropping the requirement for a protected facility reduced the cost significantly.

Jointness and the "Peace Dividend"

The Goldwater-Nichols Act drove efforts to strengthen the authority of joint commands to control all US military activities within geographic regions. Over the next several years, the DoD developed policies, doctrine, and procedures to implement and enforce jointness. For defense intelligence matters, the secretary of defense signed the "Strengthening Defense Intelligence" memorandum in 1991, directing implementation of the "Plan for Restructuring Defense Intelligence." Among other actions, this plan directed the commanders of each unified command to consolidate "existing Unified and Specified Combatant Command and component intelligence processing, analysis and production activities into regional Joint Intelligence Centers."[20]

By 1991, the political and military situation in Europe had fundamentally changed. The Cold War had ended with the fall of the Berlin Wall, the breakup of the Soviet Union and the Warsaw Pact, and the beginning of German reunification. The Conventional Armed Forces in Europe Treaty codified massive reductions in fielded military forces across Europe.[21] The United States and other NATO member countries eagerly took a "peace dividend" from the situation, by cutting military forces and budgets while closing numerous military installations. Thus, the multiple pressures for considerable reductions in military forces in Europe and the consolidation of redundant and duplicative military service intelligence capabilities came together to drive major changes in the US intelligence architecture in Europe.

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Several factors had played in Molesworth's favor in this plan. As noted above, the base already had first-rate physical security measures and its isolated location reduced its profile to threats. Several new buildings existed that, while not built for intelligence activities, could be rapidly adapted for that mission. There was ample open ground at RAF Molesworth for any required new facilities. Local support capabilities and facilities (including such things as logistics, a new medical clinic, barracks and family housing, dependent schools, a base exchange, and a new commissary) had excess capacity since the withdrawal of the missile unit.

RAF Alconbury was the main US base in the area, and it was then projected to retain a robust flying mission. An Air Force IMINT unit (the 496th Reconnaissance Technical Squadron) was already at Alconbury, and it had established a strong relationship with the British Joint Aerial Reconnaissance Intelligence Centre at nearby RAF Brampton.[24] Also, the then British prime minister, John Major, owned a home a very short distance from Alconbury, which was in his constituency. Local authorities did not want to lose the boost American personnel gave to the economy.[25]

Building the JAC

Establishing the USEUCOM JAC at RAF Molesworth would involve moving the USAFE and associated Army IMINT processing, exploitation, and production capabilities and personnel, plus a supporting Air Force communications group from Schierstein and Ramstein to the UK. By this time, USEUCOM had established a JIC at USEUCOM Headquarters in Stuttgart by integrating existing ELINT production, collection management, and all-source analysis capabilities and personnel. This organization would also move from Stuttgart to the UK. Some additional Army personnel from Munich would join the Army IMINT personnel to form an Army detachment in

the UK. These actions allowed the Schierstein compound to close and led to relocation of several hundred US personnel from Germany.[26]

When USEUCOM and the Air Force requested approval from the British government to establish the JIC at Molesworth, the proposal was well received. The British government did request that the name of the JIC be changed. There are two versions of the rationale for this request. The first is that the British government had operated its Joint Intelligence Committee since WWII as the highest-level group to oversee and direct national-level intelligence activities, and it did not want a new organization within Britain using the same acronym. The other is that the UK government wanted to downplay the presence of a theater-wide US "intelligence" capability at Molesworth because memories of major antinuclear and peace protests at Molesworth were still fresh. In either case, USEUCOM J2 agreed to change the name of the new organization to the "Joint Analysis Center," and thus "JAC Molesworth" was formally established on 1 October 1991 and primarily occupied by Air Force and Army personnel.[27]

The JAC initially moved into buildings that had been built to support the cruise missile wing. JAC planners documented the need for construction of a new facility for a long-roll wet-film processing capability to support national- and theater-level U-2 IMINT missions flown from RAF Alconbury and for the major communications and computer systems required by the JAC. This would become the only building specifically constructed for the JAC.[28]

At the outset, US Navy participation in the JAC was minimal. The Fleet Intelligence Center Europe and Atlantic in Norfolk formed the basis of the US Atlantic Command JIC in 1991, while USNAVEUR retained control of its intelligence units at London and Rota. In 1995, USNAVEUR decided to shut down its intelligence facilities in London and Rota and integrated their functions and personnel into the USEUCOM JAC. This significant influx of Navy leadership and personnel had a major impact on the operations and culture of the JAC[29] (figure 4 below).

JAC Operations

The JAC was the only joint intelligence center geographically separated from its combatant command headquarters. USEUCOM planners in the 1980s had counted on having sufficient secure high-speed and high-volume communications capabilities available to ensure that intelligence analysis and production could seamlessly support the commander and the headquarters staff despite the geographic separation. The realignment also benefited from the experience of USEUCOM staff, which had been used to routinely

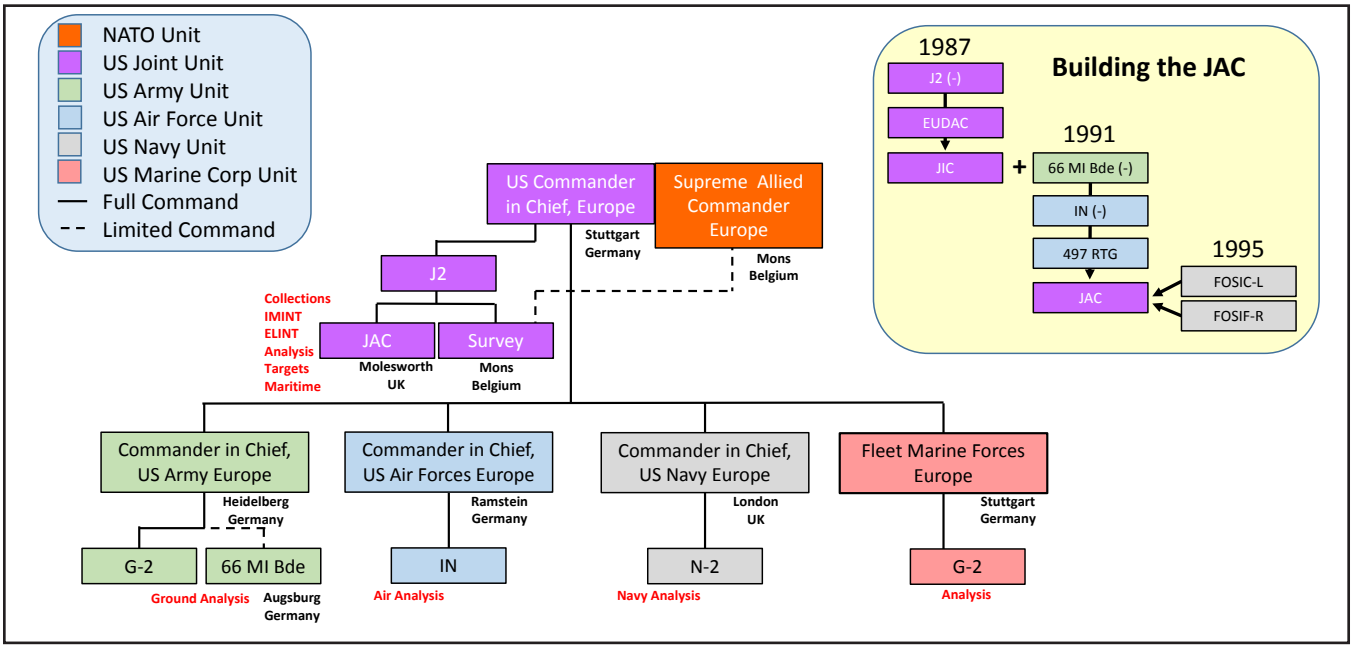

Figure 4. The building of the US command and intelligence structure as it stood in Europe in 1995 took place over 8 years in five phases.

supporting NATO leadership in Belgium.[30] Moreover, JAC leaders consciously drew on Molesworth's heritage to build unit esprit.

Because of the geographic separation from headquarters, the JAC had requirements for, and capabilities in, a number of areas unlike other JICs. The JAC had to build and operate its own information technology capabilities because it could not leverage the existing capabilities at USEUCOM headquarters. The JAC had to establish its own systems and communications directorate, with about 250 personnel, to operate and maintain computer, communications, and IMINT and ELINT processing and production capabilities.

This directorate was the theater lead for joint secure intelligence-data-handling systems across Europe, for both US and NATO organizations. To facilitate this theaterwide mission, the JAC established capable local planning, programming, budgeting, contracting, and implementation teams. Because support entities in Stuttgart did not provide services outside of Stuttgart and the host Air Force unit provided only basic facility and infrastructure support, the JAC had to establish its own specialized support services for facilities management, logistics, and personnel at Molesworth. These were essential to JAC operations but also absorbed a large portions of the JAC budget and manpower. This situation haunted the JAC during major resource cuts after 2010, because USEUCOM had more manpower at the JAC than did most other combatant commands at their JICs.

Significant numbers of individual augmentees became a normal feature

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of the JAC workforce, drawn from a wide variety of active and reserve component forces. The numbers fluctuated based on mission requirements, to a high of some 200 during the Operation ALLIED FORCE air campaign against Serbia in 1999.

Also affecting circumstances in the late 1990s was the Air Force decision to cease flying operations at RAF Alconbury. The local base support that had helped justify locating the JAC at Molesworth became excess to Air Force requirements. Successive Air Force commanders have tried to close down RAF Alconbury and RAF Molesworth several times since at least 1995.[31] These efforts plus significant manpower and funding cuts to the local air base squadron or group created great tension between the JAC and its host base units. For many years, the Air Force could argue that it would reap significant savings by closing two (or even three, counting the USAFE medical clinic at RAF Upwood) bases. The counterpoint from USEUCOM and the Intelligence Community was always that they could not afford the high cost to build suitable facilities and infrastructure for the JAC elsewhere in the theater, a bill the Air Force was not willing to pay either.

Nevertheless, RAF Molesworth was proving its worth. The ability to remotely support the commander, in both his US and NATO roles, and multiple US and NATO headquarters staffs during combat operations was first put to the test during Operation ALLIED FORCE. While the JAC encountered several technical challenges, the overall impression after the operation was that remote intelligence support had worked[32, 33]

New Intelligence Missions—NATO and AFRICOM

The JAC's success in its intelligence mission plus its robust communications and computer infrastructure encouraged NATO and USAFRICOM to establish their intelligence centers at Molesworth. There had been a small presence of personnel from a few NATO member nations at the JAC since the establishment of the combined Peace Implementation Force in Bosnia in 1995. The Multi-National Intelligence Coordination Cell was a cooperative venture by six NATO member countries to assign intelligence personnel at Molesworth to facilitate sharing of intelligence among participating members and across the Linked Operations-Intelligence Centers Europe (LOCE) network to all NATO members.[34]

NATO senior leaders recognized the need for a similar but enhanced capability to support the International Security Assistance Force in Afghanistan. The NATO Intelligence Fusion Centre (NIFC) was established at Molesworth in 2006, with the United States as the framework (sponsoring) nation and the UK as the host nation.[35] During the next 10 years, this organization grew to include more than 200 personnel from 26 NATO member states, plus one North Atlantic Council–approved non-NATO state.[36] Colocating the NIFC with the JAC permitted it to

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closely interact with JAC analysts, as well as access robust communications architecture. Incidentally, the US personnel assigned to the NIFC are officially carried within the JAC's manpower documents, which again made the JAC appear much larger than other JICs.

With the establishment and presumably temporary location of USAFRICOM as a combatant command in 2008, its permanent location became a major political battle. The fight had two fronts. One was identifying an African country willing and able to host the headquarters. The second was addressing demands from multiple US congressmen seeking to locate the headquarters in their home districts. These battles played out throughout the first several years of USAFRICOM's existence.[37]

The resultant delay in selecting a permanent headquarters location resulted in eventually confirming the "interim" location at Stuttgart.[38] A significant portion of the new command's manpower was drawn from USEUCOM, in part because the bulk of USAFRICOM's area of responsibility had previously belonged to USEUCOM.

The transition team that planned the organization, manpower, and processes for USAFRICOM's J2 built the manpower requirements under the assumption the entire J2 organization would be colocated with the headquarters and be supported by the headquarters commandant. However, the US Army garrison in Stuttgart did not have the infrastructure to support all of the new personnel planned for USAFRICOM. The under secretary of defense for intelligence (USDI) then directed that most of the intelligence billets assigned to USAFRICOM be transferred from USEUCOM and located at Molesworth (in part to reduce USAFRICOM personnel numbers in Stuttgart, but also to save costs by keeping personnel in place at Molesworth).

USAFRICOM then had to redesign the J2 organization to have roughly 60 percent of its manpower located separately from the headquarters. The J2 decided not to repurpose intelligence billets for support functions, as USEUCOM had done with the JAC at Molesworth, but attempted instead to have the USAFRICOM Headquarters, the USDI, or the JAC provide on-site service support for the J2 detachment at Molesworth. The end result was fighting over support costs with USEUCOM and inadequate support for USAFRICOM Molesworth personnel.

Two additional intelligence-related organizations operate at Molesworth to support or enable the primary intelligence mission organizations. In 1996, the USEUCOM J2 established the European Regional Joint Intelligence Training Facility to provide joint intelligence training for personnel in Europe. In 2008, USAFRICOM personnel and resources were added to this effort.

In 2012, another mission was added to Molesworth, when the National Intelligence University established its European Academic Center there. The center provides opportunities for US personnel throughout Europe to earn Master of Science in Strategic Intelligence degrees on a part-time basis. USEUCOM and USAFRICOM volunteers serve as adjunct professors at both Molesworth and Stuttgart, with other sites linked by video teleconference.

With the establishment of the NIFC and USAFRICOM J2-M, it became clear that the existing buildings at Molesworth could not adequately support the intelligence operations of three commands. To accommodate the two new organizations, USEUCOM and USAFRICOM leased two temporary, modular, relocatable structures for the NIFC and J2-M. US public law requires that DoD actively plan to build permanent buildings to replace such leased structures. Additionally, the original cruise-missile buildings were 30 years old and in serious need of repair and refurbishment to meet the new requirements for power, communications, security, and heating/cooling. Thus, USEUCOM and the Air Force began serious planning to recapitalize the JAC, NIFC, and J2-M facilities during 2009.[39] The last known plan (ca. 2016) was to consolidate the JAC, USAFRICOM J2-M, and the NIFC in a new $240 million Joint Intelligence Analysis Complex at RAF Croughton, a US Air Force installation near Oxford, England.[40] Such a move would enable the Air Force to return Molesworth and Alconbury to the British Ministry of Defence, which intends to sell the bases for commercial development.[41]

In Sum

The colocation of the JAC, NIFC, and J2-M in an isolated former air base in the English countryside was

never the direct result of deliberate planning. It was more a case of expediently adapting existing facilities and capabilities in response to changes in the national security environment and to meet different purposes and requirements. All three organizations benefited from the out-standing professionalism and can-do attitude of assigned personnel, plus strong, mission-focused leadership. Their ability to provide top-quality intelligence for US and NATO combat operations has been consistently demonstrated in Kosovo, Afghanistan, off the Horn of Africa, Libya, and other African areas.

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The author: Robert Stiegel retired as a US Air Force colonel. Colonel Stiegel has served in numerous intelligence assignments in Europe since beginning his career as an imagery intelligence officer in 1980. Among his duties was serving as the first USAFRICOM Multi-Service Commander for J2 personnel at Molesworth during 2009–2010. He is the head of the Cyber Intelligence and Analytics Department at the National Intelligence University.

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