GERMANY

Overview

The past year was significant for Germany's Armed Forces as Germany continued to increase in its NATO responsibilities as its global role steadily evolved. Having made the decision to participate in the Implementation Force (IFOR) in Operation Joint Endeavor, Germany deliberately, yet carefully, entered into a new era. Their participation in the Stabilization Force (SFOR) further solidified their role as a full partner in NATO. As a result of the events of this past year, the German Armed Forces are now planning for deployable forces in the form of the Crisis Reaction Corps, with the tactics and equipment to support them.

This evolution comes at a challenging time. With German fiscal policy being shaped to comply with European Monetary Union standards, rising unemployment and the continued high costs of integrating the former DDR, defense budgets are declining in real terms. At the same time the operational costs for out-of-country missions and requirements for new equipment are increasing.

The 1997 German defense budget was set at DM 46.3 billion (US $29 billion), down from DM 48.24 billion (US $30 billion) the year prior, with several key programs canceled or initially going unfunded. Investment accounts for 22.5%, with the remainder devoted to personnel and operating expenses. Included in investment costs are procurement, research & development, testing, and construction, with a total of DM 2.8 billion (US $1.75 billion) earmarked for R&D and testing, and DM 5.4 billion (US $3.375 billion) earmarked for procurement. While Germany's goal is to have 30% of the overall defense budget allocated for investments during the 1998-2000 time frame, fiscal realities have kept them from realizing that goal.

The German Government introduced the "Bundeswehr Plan, 1994 - 2006," in December 1992, and it remains the cornerstone of defense planning today. This plan reduced procurement spending by DM 24 billion (US $15 billion). These cuts were in addition to the DM 43.7 billion (US $27.3 billion) reductions of the 1993 plan. These reductions will be realized through the extension of procurement schedules, program cancellations, and reduced purchasing. The cabinet also ordered a reduction of DM 863 million (US $539.4 million) in the 1993 defense budget shortly after the adoption of the 1994 Bundeswehr Plan.

Defense Industry Environment

Although Germany does not seek to become self sufficient in defense production or have firms solely reliant on arms contracts, domestic firms receive approximately 85% of defense spending which includes research and development, procurement, and maintenance.

Virtually all defense contractors in Germany are privately owned, but many have stock owned by federal states or banks. Competition is allowed for contracts at all stages, from program definition to final production. With regard to industry structure, the German industrial giant Daimler-Benz acquired the aircraft manufacturer MBB. This action became the focal point of restructuring the German defense industry, which is one of the most technologically advanced in the world. Daimler-Benz has also incorporated the aircraft firm Dornier, engine manufacturer MTU, and the electronics firm AEG. Daimler Benz Aerospace (commonly referred to as DASA), a group within Daimler-Benz, has combined the proficiency of Dornier, Motoren und Turbinen-Union (MTU), Telefunken Systemtechnik (TST), and MBB. These acquisitions have made Daimler-Benz the seventh largest defense firm in the world, and the third largest in Europe.

As a condition of the Daimler-MBB merger, the Federal German Economics Ministry insisted that Telefunken Systemtechnik and MBB disburse their naval projects. These endeavors were renamed DMT Maintechnik and MSG Marine-Und Sondertechnik. Bremer Vulkan purchased both firms and integrated them into Systemtechnik Nord (STN). DASA, as another condition, was required to accept the financial risk of the production responsibilities of MBB in the Airbus Industrie, and to sell all Krauss-Maffei shares it possessed. Almost 80% of German industrial capabilities in the aerospace sector are controlled by DASA. The German defense and aerospace market, as well as an increasingly competitive European market, are expected to be dominated by DASA. In an effort to improve its financial health, DASA sold off troubled Fokker (NL) in 1996.

The Diehl Group, in collaboration with Matra, acquired Bodenseewerk Geraetetechnik (BGT), the latter taking a 20% stake in the consolidation.

Analysts expect the German defense industry to undergo further concentration in an effort to reduce overcapacity. In 1996, German defense firms faced a mixture of challenges from within Germany and Europe as well as from the U.S. The shrinking defense marketplace, strict arms export laws, a cautious approach to intra-European consolidation, high labor costs, and an unfavorable exchange rate have all had an impact on the German defense industry. Also giving them cause for concern was the record number of U.S. corporate mergers, the most recent being between Boeing and McDonnell Douglas. Consolidations and mergers of German and European firms will generally not achieve the same efficiency as those of U.S. firms. While consolidation in pursuit of efficiency is favored, government officials at all levels find downsizing and layoffs politically difficult to accept. Structural impediments within multinational corporations, many resulting from the legally binding conditions of program Memoranda of Understanding, will remain for the foreseeable future.

Recognizing the difficulties inherent in multinational mergers, top officials of Daimler-Benz Aerospace, AG, Munich, now appear to favor a national consolidation of Germany's defense industry before looking for structural alliances abroad. This is a turnaround from their previous position. This, according to one company official, would give German industry a stronger hand when negotiating mergers with other European companies. It would also ensure that German companies do not disappear by being absorbed into pan-European behemoths. Following such national consolidations, German firms could take the next step - European

consolidations. A suggested "core" would be the Airbus Industrie consortium of Aerospatiale, Daimler-Benz-Aerospace, British Aerospace and Spain's Construcciones Aeronauticas, SA. While this discussion centered on aerospace firms, it typifies the German corporate landscape. German defense firms maintained close contact in 1996 with their members of Parliament. Regardless of party platforms, parliamentarians are more willing to listen to defense industry leaders in hopes of reducing the high levels of unemployment in their districts. These contacts are expected to increase in 1997.

Nevertheless, these factors, combined with fewer orders from the government, are causing a number of German defense companies to join cooperative efforts with other European and U.S. firms and trans-Atlantic teaming, whether strategic or project related, is becoming more common.

Germany has traditionally used foreign military sales (FMS) channels when purchasing systems from the U.S. However, commercial sales over the last ten years have increased proportionately. Cooperative programs are also gaining increased emphasis and interest. With a goal of reducing costs and obtaining the best technology available, the U.S. Department of Defense has initiated discussions to facilitate longer range bi- and multilateral planning, with a goal of increased harmonization of future requirements which could lead to more cooperative programs.

Defense Opportunities

The sophisticated German market offers a wide variety of defense opportunities in the areas of equipment upgrades and new equipment. U.S. firms should be aware that Parliamentary approval is required for any program valued at over DM 50 million (US $31.25 million). This additional scrutiny in the political arena not only evaluates the military requirement and the program's capability to meet those requirements, it also evaluates the impact on German jobs. This final factor is becoming increasingly critical to a program's support and continuation.

The environment of European politics and military posture has changed dramatically in the past few years. These changes have forced a united Germany into a reorganization of its military structure, required the military to perform new missions, and caused a re-evaluation of planned defense spending. The strength of the German Armed Forces was reduced to 370,000 personnel by the end of 1994, and further reductions are planned. In addition, the larger than expected costs of unification have caused restraints in the military procurement budget. The combination of budget restraints and the limits imposed by export laws, is putting pressure on German firms to find cost-sharing partners for production, and research and development of defense merchandise. U.S. firms can profit, even in the current restrictive spending environment of Germany, by joining with German firms in efforts to fulfill defense requirements.

Equipment Upgrades

The unification of Germany included the merging of the two armed forces and their inventories. Most of the East German equipment was supplied by the Soviet Union. Some of

this inventory is being retained by the German government. The platforms intended to be kept as interim systems include MiG-29 fighter, AN-2, IL-62, L-410, and TU-154 transport aircraft, and MI-2, MI-8, and MI-14 helicopters. Surface-to-air missiles, and surveillance and air traffic control radars will also be kept. The twenty-four MiG-29 aircraft were upgraded to improve airframe and engine reliability. Conformity to western standards was also made to cockpit instrumentation. Few additional funds are forecast for upgrades of this equipment. Scarce defense funds will be appropriated for their replacements.

Aircraft

Tornado Aircraft - The different variants of the Tornado aircraft continue to be upgraded. This effort began in 1994 with the Interdiction Strike Tornado (IDS) to improve the Electronic Warfare suite and on-board radar. Next will be the upgrade of the Electronic Combat and Reconnaissance (ECR) aircraft to include installation of a Emitter Location System (ELS), Infrared Imaging System (IIS), Forward Looking Infrared (FLIR) sensor, Combined Electronic Map Display (CEDAM), Computer Symbol Generator (CSG), Operational Data Interface (ODIN), a Global Positioning System (GPS), and various avionics improvements. Options to install a Synthetic Aperture Radar (SAR) are being reviewed. Armament upgrades include the HARM air-to-ground missile and a Litening laser designator for use with GBU-22/24 munitions. Funding is programmed through 1999. An IIS requirement was deleted in 1996.

F-4 Phantom Aircraft - Upgrades include the Improved Combat Efficiency (ICE) program (radar, airframe, and aircraft survivability suite) which will extend the F-4's operational life until 2002. DASA is the prime contractor.

Combat Vehicles

Gepard Anti-Aircraft System - Upgrades will improve its capabilities to support the Crisis Reaction Corps. A first phase contract has been awarded for 147 vehicles, including air conditioning improvements and developing improved ammunition, the (Frangible Armored Piercing Discarding Sabot (FAPDS) round, beginning in 1998. A second phase will upgrade the remaining 338 Gepards to keep them in service until 2015.

Marder I Armored Vehicles - Upgrades through 1998 will convert them from A1 and A2 status to A3. Included are weapons system and fire control improvements. The NGP is planned to replace the Marder in approximately 2007.

Leopard IA5 - The Army will retain 325 Leopard IA5 models to be used as field artillery observer vehicles due to their armor protection and night sighting capabilities. This work will begin in 1999.

Leopard 2 Main Battle Tank - The Army has upgraded 225 Leopard 2 Main Battle Tanks to the Leo 2 II configuration. An additional 125 will receive this upgrade, to be completed by 2003. The frontal armor and command and control systems will also be upgraded. The capability of the cannon and munitions will also be increased. Consideration has been given to

the impact of the upgrades on the Biber Armored Vehicle Launched Bridge so that the weight limits of both are now MLC 60.

M113 - In 1997-2000, the Army is planning to upgrade a portion of the M113 fleet. Plans call for 300 M113s with service weights over 12 MT to receive new MTU diesel motors and six speed ZF automatic transmissions. The driver's station will also be upgraded by removing the laterals and installing a conventional steering "wheel." The intention is to market this upgrade package worldwide. Additionally, Germany's remaining 1,600 M113s will receive brake upgrades.

Ordnance

DM2A1 Seehecht Torpedoes - The Navy plans to upgrade 116 DM2A1 Seehecht torpedoes to match the DM2A3 design, with an option to include 63 more torpedoes in the project. Systemtechnik Nord (STN) is the prime contractor, with Norwegian firms performing subcontract work.

Missiles

ROLAND Air Defense System - Scheduled for upgrade in the 2002-2005 time frame, Germany would consider a joint program with France in order to reduce costs. It is intended to keep this system in service until 2015. A new system (possibly MEADS), based on the GTK chassis, is planned to replace the ROLAND at that time.

Multiple Launched Rocket System (MLRS) - Development continues on the Extended Range Guided Rocket.

New Equipment

Aircraft

Eurofighter 2000 (EF 2000) - Because Germany's most highly visible defense program is frequently in the news and surrounded with controversy, it's sometimes difficult to recall that there is a viable military requirement for this aircraft. Germany is partnered with Italy, Spain and the UK. The effort was originally called the European Fighter Aircraft (EFA), but in 1992 Germany decided not to proceed with production plans of the EFA as designed. Changes in the program resulted in the new Eurofighter 2000. This effort is an attempt to fill the recognized necessity of a new fighter for Germany, to be introduced around the year 2000. Following negotiations in January 1997, the partners agreed to produce a total of 620 aircraft at an estimated cost of DM 85.8 billion (US $53.6 billion) with the U.K. buying 232, Germany 180, Italy 121, and Spain 87.

With respect to German funding for the EF 2000, an additional DM 2 billion over the funding contained in the current defense budget is required for development between 1998 and 2001. In a unique solution, it is proposed that half of this DM 2 billion (U.S. $1.2 billion) will

come from within the existing defense budget and half from a special finance ministry allocation, with a decision expected by March 1997. The ripple effect on other defense and social programs bears watching. As of January 1997, no decision has been made on a simulator.

NH 90 (NATO) Helicopter - This is another joint international program including Germany, France, Italy and the Netherlands. Two versions are to be produced: the *NATO Frigate Helicopter (NFH-90)* is a Frigate based variant which will perform anti-submarine warfare (ASW), search and rescue (SAR), and anti-shipping missions; and the *Tactical Transport Helicopter (TTH)* is intended for use by the ground forces. As of October 1996, current production figures are: Germany 243 (reduced from 272); France 160 (down from 220); Italy 224 (up from 212); and the Netherlands 20. Germany's decision to slip its in-service date for the NFH-90 leaves only the Netherlands expecting deliveries prior to 2005. The other NATO partners have decided to delay NFH-90 deliveries until 2007. This has opened a discussion whether to delay the preproduction contract for the naval variant by two or three years. France and Germany have agreed to have one production line for each model they order, and Germany wants both to be produced at Eurocopter Germany. A additional NFH-90 production line is planned to be at Italy's Augusta.

Super Lynx Helicopters - Because of the slip in deployment of the NFH-90, Germany announced in October 1996 that they will purchase seven Super Lynx helicopters, valued at $156.6 million. Westland officials hope that this will lead to upgrade work on Germany's 17 MK88 Sea Lynx helicopters, bringing them up to the same standard as the Super Lynx. Negotiations are underway to have Westland retrofit the first helicopter, with Eurocopter Germany upgrading the other 16 under Westland subcontract. With regard to the Army version, France has delayed the fielding of the Troop Transport Helicopter (TTH) until 2011.

Unterstützungshubschrauber (UHU) (Tiger) - Under development by France and Germany, the UHU is to be used in anti-tank missions and for combat support. Although test flights began in 1991, a final decision of the exact configuration of the UHU will vary between France and Germany. Germany plans to purchase 212 aircraft and the French 215. French deployment is slated to begin in 2003. Germany and France are pressing to conclude negotiations regarding consolidation of the assembly lines. Without consolidated assembly lines, it is unlikely that Germany and France will be able to achieve the 10 percent cost reduction per aircraft they strongly desire.

UH-1D Helicopters - The German Federal Border Police (Bundesgrenzschütz) plan to replace their fleet of UH-1D helicopters with twin engine models specially equipped to perform border patrol missions. Reportedly, the Eurocopter-135 has been selected to fill the Observation Helicopter requirement. Selection of a helicopter to fill the Light Transport Helicopter requirement is pending, as of August 1996. Bell Helicopter Textron, Inc. signed a Memorandum of Understanding with Dornier Lufthart GmbH.

CH-53 Helicopters - As Germany continues to plan for out-of-country operations, equipment to support such operations will be required. While exact requirements are being developed, it is likely that they will mirror the U.S. priorities, albeit modestly. However, in

response to budget realities, the Bundeswehr canceled the requirement for an interim Combat Search and Rescue Helicopter and will upgrade 19 CH-53Gs. Due to the lower cargo capacities of the NH-90, service life extensions for at least a portion the CH-53 fleet are envisioned, bringing its useful life out to approximately the year 2030.

Maritime Patrol Aircraft (MPA) - Although the German Navy is currently seeking funding to upgrade their Atlantique MPA fleet to extend its useful life to 2010, the German and Italian Navies have signed a cooperative agreement to procure 10 and 17 new MPA aircraft, respectively, with deployment beginning in 2007. Emphasis is being placed on an off-the-shelf procurement, possibly the latest Atlantique or P-3 Orion model.

Allied Ground Surveillance (AGS) - The U.S. candidate, the Joint Surveillance and Target Attack Radar System (JSTARS), is being recommended as a NATO solution using the NATO Owned - Joint Operated (NOJO) concept which was previously used in the NATO AWACS program. The flying platform consists of a Boeing 707-300, which has been equipped with a multi-functional radar with Synthetic Aperture Antenna (SAA). The sensor comprises the following operational modes: Wide Area Surveillance (WAS), Moving Target Indicator (MTI), Synthetic Aperture Radar (SAR), and Fixed Target Indicator Radar (FTIR). Manufacturer Northrop-Grumman is actively discussing teaming and manufacturing arrangements with European partners. At the NATO National Armaments Directors Conference in November 1996, they were unable to agree that the AGS system was an urgent NATO requirement. This would have enabled the AGS to become a fast track procurement. In 1997, NATO will explore two options: an immediate AGS buy and an alternative plan would push acquisition beyond 2000. The decision is expected by the fall. The program is expected to cost several billion dollars over a decades-long development and production schedule, as Germany favors the deliberate plan due to budgetary constraints. Another significant milestone will be obtaining agreement on NATO's operational requirements.

Future Transport Aircraft (FTA) - The status of this program, also referred to as the Future Large Airlifter (FLA), will be tenuous for several years. While German funding for procurement has been planned beginning in 2005, no research and development funding has been identified. FLA participants are Belgium, Britain, France, Germany, Italy, Portugal, Spain, and Turkey. The major players, France, Germany, and the U.K., have reached agreement on the framework of the program, which is of significant interest to their aviation industries. Germany has a requirement for 75 FTAs and France 50 FTAs. Germany envisions replacing most of its C-160 aircraft with the FTA. The governments of both nations wish to utilize the single phase commercial approach for this program. However, this does not appear to be the desire of their respective industries which prefer government funding throughout.

Enhanced Fighter Maneuverability (EFM) X-31 - This program, which provided data to improve the maneuverability and survivability of fighter aircraft and was pursued by a joint venture of DASA and Rockwell International, was successfully completed in 1995. Discussions were held to explore using the X-31 aircraft for further tests, first in the Multi-Axial Non-Tail Experiment (MANX) and then in the Advanced ESTOL Nozzle and Tailless (ADVENT) programs. No future U.S. or German funding has been identified.

Ships

To maintain minehunting capability, the Navy initially ordered ten Type 332 Minehunter Vessels. With additional funding, two additional ships were ordered from STN Atlas for an estimated DM 330 million (US $206 million). The government approved the purchase of six type 404 Depot Ships for 1994, intended to replace the Navy's Rhein Class. Four KSV 90 (Type 702) Combat Support Ships are to be purchased and entered into service around the year 2000. The first two ships are to be built after 1998, the remaining two after 2006. The Navy will replace existing Type 724 tugs with six Type 725 tugs. Delivery is expected between 1994 and 1997.

124 Class Frigates - The aging Lutjens-Class destroyers are to be replaced by the 124-class Frigates around the year 2000. The new frigates will be the result of an international effort between Germany, the Netherlands and Spain. The German Navy has taken delivery of all Frigate 123s (ASW) and the German parliament has approved the purchase of three Type 124 frigates with an option to procure a fourth at a later date. The contract is worth DM 2.9 billion (US $1.8 billion). The first commissioning is scheduled for 2002. Currently, the Advanced Phased Array Radar (APAR) system is being developed for the F-124s. Should difficulties be encountered, the AEGIS radar would be considered.

U-212 Attack Submarines - A new attack submarine was needed in the 1990's for deployment in the North Sea. As a result, the German Navy signed contracts in 1994 for four U-212 submarines, to be delivered between 2003 and 2006 by HDW and TNSW. The central element of the U-212 program is the air independent fuel cell propulsion system based on hydrogen-oxygen electrolysis which would enable the submarine to move underwater for 20 days. An additional benefit of this technology is that it is both a "quiet" and a "cold" propulsion system. Germany has signed an MOU with Norway and the two nations will share common command and control systems, periscopes, torpedoes and sonar systems. In October 1995 the Italian parliament agreed to the procurement of two U-212s, with an option for two more. The German Navy is seeking to upgrade the MK 2A3 torpedo to the new MK 2A4 to take advantage of the Sonar 90's capabilities. The German and Italian Navies are also cooperating on a new heavyweight torpedo which is wire and acoustically guided.

MA2000 Minehunting System - Germany, with one of the largest mine warfare fleets in NATO, is continuing efforts to improve the effectiveness of its aging ships. DASA is the lead contractor and systems integrator for the Navy's MA2000 (Minenabwehr Ausrüstung 2000) minehunting system. Westinghouse, Systemtechnik Nord (STN), Lockheed, Arge, Atlas Elektronik, Diehl, Rhode & Schwarz, Thetis, Institut Für Sicherheitstechnik/Verkehrssicherheit, and Marinetechnik are also involved. The project is currently in its second stage which will be followed by a one-year definition stage, then a 3 to 4 year development stage. All stages are open for bidding.

Missile Patrol Boats - The introduction of a new class of large missile patrol boats is still a requirement, but plans have been affected by budget restrictions.

Type 750 Research Ship - The Navy is also in need of a replacement for its existing type

750 research ship. The purchase of a Swath-type was to meet this requirement, but the 1993 Bundeswehr plan canceled the order. Two type 749 large multipurpose vessels were to be purchased during the 1990's; however, this program has been deferred until after 2005 because of budget restrictions.

Missiles

Medium Extended Air Defense System (MEADS) - In 1996, two contracts valued at $80 million each were awarded by the NATO MEADS Management Agency to two international teams for the Project Definition-Validation (PDV) phase of the Medium Extended Air Defense System (MEADS). France declined to sign the EMD Phase MOU, so the participating nations are now Germany (25%), Italy (15%) and the United States (60%). MEADS is intended to replace the Hawk Air Defense systems, as well as to act as a low-mid-tier ATBM protection system. The NATO MEADS agency opened its office in Huntsville, AL, on December 16, 1996. New partners are being sought from the NATO nations to further reduce national costs. The contracting authority for this program is the NAMEADSMA General Manager, Lakeside 1, 620 Discovery Dr., Huntsville, Alabama 35806.

Stinger Missile - The Stinger program includes the Netherlands, Greece, Turkey, and Germany. Under U.S. government license, Dornier is producing the missile and will do so until 2001.

Rolling Airframe Missile (RAM) - The U.S. and Germany are involved in a 50-50 production effort being pursued by Hughes and Ram Systems GmbH (a partnership of Bodenseewerk Gerätechnik, Diehl, and DASA). The missile is a ship borne, anti-ship, defense weapon. Germany has recently approved an additional DM 93 million ($58 million) for the program.

High Speed Anti-Radiation Missile (HARM) - Germany, Italy and the U.S. are cooperating on a program to upgrade a portion of the current inventory and additional new production. This comes following U.S. approval for an exception to the National Disclosure Policy regarding HARM technology. It is anticipated that a trilateral MOU will be signed in mid 1997.

Fiber Optic Guided Missiles - Germany and the U.S. are discussing cooperative solutions to satisfy their requirements for these missiles for Army and Navy applications. The naval variant would be used for submarine launched anti-helicopter defense. The German system is Euromissile's Trilateral Fiber Optic Missile (TriFOM) or Polyphem and the U.S. system is a marine variant of the Army's Enhanced Fiber Optic Guided Missile (EFOGM). The Polyphem missile would be launched from a torpedo tube and fly out on its fiber optic tether to attack anti-submarine helicopters and potentially, marine patrol aircraft. Tests of the naval variant are planned for 1997 and include 16 and 26 kilometer firings. The Polyphem missile is forecast to have a range of 60 kilometers while the EFOGM's range is 15 kilometers. The U.S. Navy has submitted the German system for inclusion in the U.S. Foreign Comparative Testing Program.

ANS (Anti-Navire Supersonique) - This new anti-ship missile is being developed by Aerospatiale and MBB. The ANS is intended to replace the Kormoran and Exocet missiles. Germany is also one of eight countries involved in the development of the Seasparrow.

Panzerabwehrraketensystem (PARS) 3 (Trigat) - This missile being developed by France and Germany with the intention of replacing the Milan, HOT, TOW II and Swingfire Anti-Tank Missiles. Initial requirements are 3,600 for France and 2,544 for Germany. Other countries that may become involved in the project include Belgium, France, the Netherlands, and the U.K. There is international cooperation at the corporate level. Ground and helicopter variants are being developed and fielding time lines with the UHU helicopter are being coordinated. Additionally, two systems are being developed within the program: a medium range, laser beam riding, direct attack missile, and a long range, passive infrared homing, missile. Both nations have funding planned, beginning in 1998. In addition, the French-German-Italian Polyphem program is intended to develop a fiber-optic guided missile to serve ground forces against ground targets.

APACHE Standoff Air to Ground Missile - This program has been deleted from the current budget because the German requirement has changed. Germany is proceeding with its own TAURUS program. The Modulare Abstandswaffe (MAW) (Modular Standoff Weapon) (TAURUS) has had DM 450 million (US $281 million) funding approved for the development phase and DM 200 million (US $125 million) has been spent. Reportedly, France is continuing the development of two versions of the APACHE missile. France is forecast to procure 100 of each type from the year 2000 on.

Combat Vehicles

Panzerhaubitze 2000 (155mm Self-Propelled Howitzer) - A new generation of self-propelled artillery has been developed to replace part of the existing stock of M109G howitzers. The PzH 2000, is being produced by Wegmann and Mak, and is intended to fill this requirement. It is capable of firing up to nine rounds per minute out to ranges 30 km. The crew has been reduced from eight to five. The PzH 2000 is scheduled to enter service with the German Army in 1998 with the initial delivery of 185 howitzers. The total German requirement is 594 howitzers. Norway and Italy have joined as partners. Otobreda (IT) concluded a licensing agreement with Wegmann, GmbH, and is expected to produce approximately 100 howitzers for the Italian Army. There is a potential for some component commonality with the U.S. Crusader program. Discussions regarding this issue continue.

GTK Armored Personnel Carrier/Infantry Fighting Vehicle - In cooperation with France and the U.K., the German Army's GTK program will replace the existing M113 and Fuchs vehicles. Up to 1,000 vehicles are required by the Army with initial fielding beginning in 2004. Requests for proposals will soon be published and decisions on cooperation in the development phase will be made in 1997. The value of the combined contract is estimated at $5 billion.

The Crisis Reaction Corps has a high priority for this system. The requirement is to equip four infantry battalions, two of which are motorized in two-ton trucks. Plans call for the trucks to be replaced with the GTK, beginning in 2004. Combat service support capabilities will be

upgraded with other heavy transporters. The Ministry of Defense recognizes the need for fielding, but fiscal constraints are the overriding concern.

Neuepanzerteplatform (NGP) Armored Vehicle - Germany is beginning a concept study for this new armored vehicle which is intended to provide high mobility, increased crew comfort, state of the art combat information transfer, and utilize modular construction.

Zobel's Wheeled Amphibious Light Reconnaissance Vehicle - Army plans are to purchase 266 of these vehicles in 1996. The Army is also seeking a 40mm grenade launcher as primary armament for this vehicle.

Wiesel II Air Defense Transporter for the OZELOT Missile System - While upgrades on the Wiesel I have been suspended, the Wiesel II will be introduced in 1999. It will be larger than its predecessor and represents a reasonable compromise for a light (3.9 MT) armored vehicle which is air transportable by the CH-53G.

Panzerschnellbruecke II (Armored Vehicle Launched Bridge) - This is a Franco-German program which Germany intends to continue at its original level. France, however, is still seeking funding. Simultaneously, the first version is being upgraded to MLC 60 to accommodate the increased weight of the Leopard 2 II.

Keiler Mineclearing Tanks - Based on the M-48 chassis, 24 of these vehicles are being fielded to the Crisis Reaction Corps. It incorporates a hydraulically driven arm which has a rotating flail which either destroys or throws the mines and debris to the side of the vehicle. It can clear to depth of 25 cm and a path 4.7 meters in width, with a confidence rate of 98%. Each mechanized engineer company will receive three vehicles.

Ordnance

HE dual-purpose (HEDP), low-velocity, 40mm, grenade cartridge - Developed by Rheinmetall, it is intended to fill the military's requirement for a new 40mm grenade. However, production of the grenade is in question, due to budget restrictions.

DM2A3 Torpedo Propulsion System - Germany, France, and Italy are involved in a program which includes the replacement of this system. STN Systemtechnik Nord has been working on the new DM24, which features a new propulsion system and improved electronics.

G36 Rifle and MG36 Machine Gun - These weapons are anticipated to be temporary solutions for the Army's requirement to replace the G3 assault rifle and MG2 machine gun.

Drones

"Kampfdrohne des Heeres (KDH)" - This program includes the development of a combat drone for deep attack of artillery and armored units. Operations testing is scheduled to take place in April 1998. Funding for production is planned in order to begin fielding the system in 2001.

France will make a program decision following the operational testing.

Anti-Radar (DAR) System - This ground-launched drone is still being developed by Dornier, although procurement of the system had been canceled by the 1993 Bundeswehr Plan.

Unmanned Aerial Vehicles - The Army has presented a concept paper to Parliament. Initial concepts are for unarmed aerial reconnaissance and artillery reconnaissance. The LUNA will provide this capability in the close battle area. The AAMIS is envisioned to perform mine reconnaissance. The MÜCKE is being developed as an EW drone. Lastly, the Taiphun (Typhoon) is a long range reconnaissance UAV.

Satellites and Electronics

Communications and Reconnaissance Satellites - To support out-of-country operations, the German Ministry of Defense has expressed an interest in satellite communications. Having a limited system of their own, they are analyzing all options with both the U.S. and European partners. The initial requirement is to support their forces in SFOR. A follow-on cooperative program is envisioned with development of satellites and ground stations.

Germany and France have agreed in principle to continue development of the HELIOS II reconnaissance satellite. With little funding available, no actual program will be initiated in the near term. No agreement has been signed.

Electronic Warfare Training - The Multi-Service Electronic Warfare Support Group (MEWSG) is a NATO project to create a realistic electronic warfare (EW) training environment for all NATO forces. Stage one covered maritime surface EW training equipment and is complete. Stage two includes airborne standoff jamming capability. Stage three involves a mobile land EW training unit. The final stage will modernize and update equipment.

The Bundeswehr, in attempts at cost savings and environmental protection, is establishing a standard practice of using a wide variety of simulations for training exercises, from warship to aircraft simulators.

ADA programming support environments (APSE) - Ten European and North American countries, including the U.S. and Germany, are cooperating to develop a program intended to enhance APSE. The program includes three main areas of concern: to develop and demonstrate software tools for the APSE to be implemented on two particular computer architectures, using a recognized interface set; to develop tools and methods to evaluate APSEs, and illustrate this technology on the results of the project; and to standardize the requirements and specifications for APSEs to be recommended for use by NATO and participating nations.

Counter Battery Radar (COBRA) - Scheduled to enter production in 1997, it is being developed by Germany (14 systems), France (10 systems) and the U.K. (9 systems). Industry talks continue in an effort to minimize costs. The system must have the ability to counter the threat of long-range artillery and rocket systems.

Defense Procurement Process

Within Germany, the Services create the requirements and submit them to the Armaments Directorate of the Ministry of Defense to approve and prioritize the requirements within a national plan. If required, parliamentary approval is obtained and finally, the requirements are turned over to the Federal Office of Defense Technology and Procurement (Bundesamt für Wehrtechnik und Beschaffung, or BWB in Koblenz) which will fill the services' requirements. While this is a somewhat simplified description, it clarifies the key difference from the U.S. system where the services are heavily involved throughout the entire acquisition process. It is interesting to note that BWB is a "joint" procurement agency.

During the approval and prioritization process, the National Armaments Director and Minister of Defense must present certain programs to the Parliament's Armaments Appropriation Committee. Programs involving acquisition projects of special significance to the national security and policy, international MOUs, contracts with a value of over DM 50 million (US $31.25 million), and bills submitted for legal or technical reasons (reallocation of funds or cost overruns for example) must be referred to this seven member committee.

When a program is initiated, it is addressed in close association with the defense industry. Most of Germany's military contracting is done through the BWB. The BWB enters the process at the project definition stage and is responsible for the contracting of pre-development work. If the program is sanctioned, the BWB also awards contracts for full development and procurement.

The BWB will focus on the following areas within the procurement process:

- Project Management
- Systems technology (integration of technical components into a project or complex equipment item)
- System technology in the preconcept phase
- Other R&T tasks not allocated to the establishments
- Procurement (contracts and prices)
- Central/joint technical tasks (at a reduced scope), including quality control tasks
- Central/joint administrative tasks
- Those tasks of the (BWB) division "BA" (POL and equipment) that have not been allocated to the technical centers
- Overall control

The following areas will be handled the Federal Armed Forces' (FAF) research and technical centers:

- Research and technology (R&T) projects, outside those that have been allocated to the BWB
- Technical tasks, not covered by system technology and integration, for the entire material development cycle.

Contracting Process

Contracts in Germany are awarded under one of the three systems of bidding described below.

Public Competitive Bidding - Contracts are awarded after a public invitation for bids to an unrestricted number of bidders. Notices are published in several publications such as the local and technical press and the Federal Tender Gazette (Contact: Bundesausschreibungsblatt, Postfach 20 01 80, 40099 Dusseldorf).

Restricted Bidding - If especially high quality requirements or other specific reasons exclude public bidding, a selected number of companies, chosen under a formal procedure, will be requested to submit bids.

Negotiated Bidding - Negotiated bidding procedure is utilized if use of the formal restricted bidding procedure is not possible for particular reasons such as reliability, special experience, special installations, or type of implementation. Orders are then placed by negotiated contracting. Several firms are requested to bid on a competitive basis. After one company has been selected, the contract is placed after negotiations and on a non-competitive basis.

EBMAT Procedure

Before a new weapon system or equipment can be procured, it is subject to the EBMAT, a procedure for the development and procurement of defense material. The EBMAT is divided into logical sequential phases. The end of each phase is marked by a phase document to prove success. This document forms the basis for the decision to enter into the next phase. One of the criteria in the preparation of the document is whether the project represents value-for-money.

The types contracts that are awarded to industry within the various phases of the EBMAT includes the following areas:

- Study, research and development contracts in the pre-phase, definition phase, and development phase.
- Purchasing contracts within the procurement phase
- Maintenance and repair contracts during the in-service phase.

A brief description of the EBMAT process is outlined below:

Pre-Phase - Document specifies tactical/technical requirements (TTF), and contains the tactical concept (TAK).

Definition Phase - Document specifies military, technical, and economic requirements (MTWF), and contains: final specifications, selection of the prime contractor for the development phase, and a work, time, and finance plan (AZF).

Development Phase - Document contains the approval for introduction into service (EFG), and comprises approval of design, clearance for prototype manufacture, clearance for production of ships, pre-production contract (as appropriate), certificate of functional readiness and operational safety, type approval, certificate of technical qualification, certificate of logistic support capability, certificate of operational use, and design freeze.

Procurement Phase - Document contains the final report called the ASB.

In-Service Phase - The Western European Armaments Group (WEAG) is an association of the European NATO Nations under the auspices of the WEU. Within the European market for defense material, the WEAG Nations periodically issue information sheets on procurement, termed "bulletins." These bulletins provide information on the following topics

- Intended contracting
- Requests for bids
- Awarding of single-source orders
- Contract award after receipt of competitive offers
- Subsequent information
- Opportunities for subcontractor work

Subscription information for these bulletins may be obtained from the following address.

- Verlag Recht und Verwaltung
  Tharandter St. 23-27
  01159 Dresden, Germany
  Tel.: [49][351] 418 2200
  Fax: [49][351] 418 2260

Although there are no restrictions on foreign competition for contracts in Germany, the current recession has affected the German defense industry and is causing high levels of intense competition for the limited resources within the federal budget. Although procurement agencies in the Government do not wish to support a branch of industry solely by arms contracts, it is also undesirable to allow the defense industry as it is, to dissolve due to a lack of contracts. Research and development spending of more than DM 10 million (US $6.25 million) now requires special approval of the Defense Ministry.

Germany follows the GATT Agreement on Government Procurement. The Procurement Code provides transparency and fairness in government procurements. In areas where this Code does not apply, federal and state laws and regulations apply. Additionally, there is limited legal structure to redress contract disputes. Where there is some structure, jurisdiction may be blurred between the Lander (states) and the federal courts. Cases generally move more slowly than in the U.S. and there appears to be a reluctance to settle out of court.

Key Ministries and decision makers regarding procurement of defense items are as

follows:

- Federal Office of Defense Technology and Procurement (BWB)
  Konrad-Adenauer-Ufer 2-6
  56068 Koblenz, Germany
  Tel.: [49][261] 4001

- German Liaison Office for Defense Materials USA/Canada (BWB's Office in the U.S.)
  11150 Sunrise Valley Drive
  Reston, VA 22091
  Tel.: [703] 715 8261
  Fax: [703] 715 8240

- Federal Office for Defense Technology and Procurement
  Aircraft Equipment Division/Ref. LG
  Postfach 7360
  56068 Koblenz, Germany
  Tel.: [49][261] 400 7700
  Fax: [49][261] 400 7630

- Ministry of Defense
  Hardthoehe
  Postfach 1328
  53123 Bonn, Germany
  Tel.: [49][228] 1200
  Fax: [49][228] 125 357

- Armed Forces Headquarters
  Pascalstrasse 10
  Postfach 1328
  53123 Bonn, Germany
  Tel.: [49][228] 1292 00/01

- Federal Armed Forces Material Office
  Alte Heerstrasse 81
  53757 Sankt Augustine, Germany
  Tel.: [49][2241] 15-26/27
  Fax: [49][2241] 152657

- Federal German Army (Bundeswehr)
  Postfach 1328
  53123 Bonn, Germany
  Tel.: [49][228] 124500/9402

- Federal German Navy (Bundesmarine)

Postfach 1328
53123 Bonn, Germany
Tel.: [49][228] 5701

- Federal German Air Force (Luftwaffe)
  Postfach 1328
  53123 Bonn, Germany
  Tel.: [49][228] 9636
  Fax: [49][228] 126988

- Ministry of Foreign Affairs
  Adenauer Allee 99 - 103
  53113 Bonn, Germany
  Tel.: [49][228] 170
  Fax: [49][228] 173 402

Diversification/Commercial Opportunities

Germany's large and diversified economy offers a wide variety of dual-use and commercial business opportunities for U.S. firms.

Privatization/Demilitarization

The privatization of defense production, and research and development firms in Germany is a continuing process with many opportunities for U.S. investors. The most notable transaction of this kind was the acquisition of Industrieanlagen-Betriebsgesellschaft MBH (IABG), based in Ottobrunn, by the U.S. firm, BDM International, Inc. (BDM). IABG provides aerospace testing, systems analysis, operations research, and simulation.

Included in the plan to reorganize the military structure of Germany, is the relocation of many members of the armed services. As a result, almost 75% of the facilities belonging to the former National People's Army of East Germany will no longer be used by the now unified military. Reconstruction of approximately 600 remaining barracks, troop billets, storage sites, training areas and installations, underground installations, dockyards, and airfields is currently underway. The remainder of the 2,285 installations are being transferred to the federal property offices.

There are also hundreds of U.S. and other allied military installations throughout Germany. The reduction of the allied presence in Germany is leading to the release of many of these installations for private investment. These facilities include shopping centers, hospitals, universities, storage areas, housing units, and airfields. The potential for investment opportunities made possible by the release of these installations is enormous.

Telecommunications

The telecommunications industry is widely regarded as one of the driving forces behind future economic growth in Germany. Whether in the areas of multi-media, mobile communications, or the Internet, telecommunications is the key to unlocking German potential for future economic development. Germany is not only one of the fastest growing markets for mobile equipment, but is also very well prepared for any future technology in this sector. Thousands of miles of high quality fiber optical cable have been installed, especially in the new eastern German states, and make the country ready for the applications of the future. The immense changes in the legal infrastructure and the coming privatization of voice telephony will add momentum to the positive trend. U.S. exports to Germany significantly exceed German exports to the United States, a trend which is expected to continue.

The German telecommunications market is in the process of major changes as the formerly exclusively state-controlled industry is undergoing privatization.

In August 1996, the German Telecommunications Bill (TKG) was enacted. Its purpose is to allow full competition to telecommunications services and to guarantee a functioning telecommunications market in Germany beginning January 1, 1998, as mandated by the EU. The two major milestones of the TKG are the opening in 1996 of an already existing infrastructure for corporate networks to third parties in the field of data transmission in 1996, and full liberalization of telecommunications services on January 1, 1998. The TKG will impact all elements of telecommunications services in Germany, clearly extending far beyond classic telephony. “Telecommunications” is defined in the law as the transmission, conveyance, and receipt of any type of information in the form of signals, speech, pictures or sound, by means of telecommunications equipment.

The authority for all regulations in the future telecommunications market in Germany will be an independent bureau attached to the Federal Economics Ministry. It will represent the interests of the FRG in international telecommunications and postal affairs. A separate ordinance covering the regulatory authority will be issued in August 1996.

Deutsche Telekom AG (DT)

Opportunities for foreign firms have been increasing as the liberalization of the telecommunications market has progressed. Market deregulation notwithstanding, Deutsche Telekom AG (DT) is still the principal customer in Germany for telecommunications equipment and fiber optics, accounting for two-thirds of demand. Worldwide, DT ranks third, after AT&T and Japan's NTT, with international activities including long-distance communications and satellite services.

DT is not involved in manufacturing, and procures its equipment from outside sources. Under its "mixed" management structure (four board members were appointed from the past Deutsche Bundespost Organization while the other five transferred to DT from similar positions in private industry), DT will apparently purchase equipment independent of industrial policy or political considerations, and traditional German suppliers will no longer be given preferential

treatment.

With the help of global sourcing, DT intends to realize desperately needed cost-savings, a policy that should open opportunities for U.S. suppliers. For complex systems and equipment, close coordination between DT experts and potential vendors must take place at a very early stage. This coordination may range from a development discussion to temporary strategic alliances, open to all manufacturers worldwide.

Of utmost importance to DT's procurement are vendor-support in finding cost-effective solutions, low logistics costs, sophisticated local service availability, and easy coordination where specifications are interpreted differently. Most U.S. vendors already in business with DT, including AT&T, Bell Atlantic, CNET, COMSAT, Cooper Group, DEC, Hewlett-Packard, IBM, Intelsat, ITT, McDonnell Douglas, Metrison, Murray, Raychem, Raynet, Signatron, Tandem Computers, Tektronics, Tel/Com Sciences, Transpacific Communications, Unisys, and Western Union International, have found it necessary to establish a subsidiary or support facility in Germany.

According to DT's executive director for purchasing, DT will, "... largely refrain from using its own specifications; instead it will apply international standards (ITU-S, ETSI)." DT's management also claims that, in procuring equipment, key factors will be high quality and reliability, reasonable prices and timely delivery, and preference will be given to innovative and future-oriented technology.

DT's purchasing activities are based on a variety of regulations, such as the EU Utilities Directive 90/531/EC in connection with the GATT Agreement, the relevant laws, and the VOL/VOB (Verdingungsordnungen fuer Leistungen/Verdingungsordnungen fuer Bauleistungen), which are federal regulations governing the purchasing activities of all federal agencies. DT has the obligation not to discriminate against individual bidders or countries. Contracts have to be awarded to the bidder with the most economical offer.

Invitations to tender are published in the Official Journal of the European Union and simultaneously in, the "Bundesausschreibungsblatt."

The Supplement to the Official Journal of the EU is published every day, except Sunday and Monday. Contact:

- Official Journal of the EU
  2, Rue Mercier
  L - 2985 Luxembourg
  Tel.: [352][499] 284 260-8
  Fax: [352][490] 003

  or

- Bundesanzeiger Verlag (Publisher of the Federal Gazette)

Breite Strasse 78-80
Postfach 10 05 34
50445 Koeln
Tel.: [49][221] 202 9-0

Also available from this publishing house are the VOL (contract rules for the award of goods and services contracts), and the VOB (contracting rules for the award of public works contracts).

The Bundesausschreibungsblatt is the national gazette for public contracts awards and it is published every Monday, Wednesday, and Friday. Contact:

- Bundesausschreibungsblatt GmbH
  Postfach 40 0 99
  Graf-Adolf-Platz 7-8
  40213 Duesseldorf
  Tel.: [49][211] 370 848-49

In addition, all announcements can be retrieved via the Datex J service of Deutsche Telekom AG.

DT has implemented a prequalification procedure for specified product lines. Procedures are announced in the Official Journal of the EU. These procedures allow the contract awarder to judge interested companies objectively and help to reduce the time required for purchasing activities.

There are three purchasing procedures used by DT, depending on the service to be rendered, the contract value and the completion dates:

- Open procedure (publication without tender restrictions)
- Restricted procedure (provision of information to a restricted group of bidders only)
- Negotiation procedure (single tender action after an international announcement with subsequent competition)

These procedures are characterized by so-called "Phases."

"Phase 1" is the publication of the tender, which for all procedures takes place in the Official Journal of the EU, and in the "Bundesausschreibungsblatt" (the national gazette for public award contracts). The objective of this first announcement is to inform the Telekom' research and technology center (Forschungs- und Technologiezentrum - FTZ) in writing of their interest in the appropriate project. The FTZ is not only Telekom's research branch but also the main contracting party for equipment purchases.

"Phase 2" specifies the deadline for the submission of an application. This phase is not applicable for open purchasing procedures. For restricted and negotiation procedures the

deadline may be 10-30 days after the publication. With the application, companies which have not had contact with the FTZ before, must submit a company profile, providing information product line, production capacity, quality assurance system, and references.

"Phase 3" describes the mailing of the tender documents, which takes place 6 days after the receipt of the application in the case of open procedures, and 21-41 days after the receipt of the application in the case of restricted and negotiation procedures. The tender documents include a fixed completion date for the project in question.

"Phase 4" is the submission of the offer, which for open procedures has to be made within 36-52 days, in all other cases within 21 days after the receipt of the tender documents. Submissions must meet the following requirements:

- Correspondence must be in German;
- Prices must specify DM amounts;
- Companies that have had no previous contact with DT must provide references; and
- Responsible points of contacts have to be named..

"Phase 5" is the contract award.

DT's German offices as well as its subsidiaries abroad provide information for interested potential suppliers. Information can also be obtained from DT's German headquarters of the FTZ which takes into account the requirements of the various DT divisions for particular types of equipment**.**

To obtain general supplier information contact:

- Ms. Annette Kielmeyer
  Deutsche Telekom Forschungs- und Technologiezentrum (FTZ)
  Section E 21 (Purchasing Methods)
  Postfach 10 00 03
  64276 Darmstadt, Germany
  Tel.: [49][615] 183-6230
  Fax: [49][615] 183-6314

  or

- Mr. Juergen Zepp
  Generaldirektion
  Deutsche Telekom
  Section F33 (International Purchasing Marketing)
  Postfach 20 00
  D-53105 Bonn, Germany
  Tel.: [49][228] 181-8320
  Fax: [49][228] 181-8967

  Questions can also be addressed to International Purchasing Support Managers in DT's

U.S. subsidiaries:

Mr. Friedel Schwarz
Deutsche Telekom, Inc.
Suite 850
1020 19 Street, N.W.
Washington, D.C. 20036
Tel.: [202] 452-9100
Fax: [202] 452-9555

Headquarters and Eastern Region
Deutsche Telekom, Inc.
666 Fifth Avenue, 34th Floor
New York, NY 10103
Tel.: [212] 424-2900
Fax: [212] 424-2989

Central Region
Deutsche Telekom, Inc.
3 First National Plaza
70 West Madison, 14th Floor
Chicago, IL 60602
Tel.: [312] 214-3214
Fax: [312] 214-3215

Southern Region
Deutsche Telekom, Inc.
1201 Peachtree Street
400 Colony Square, Suite 200
Atlanta, GA 30361
Tel.: [404] 870-9149
Fax: [404] 870-9150

Western Region
Deutsche Telekom, Inc.
44 Montgomery Street, 5th Floor
San Francisco, CA 94104

Tel.: [415] 955-0512
Fax: [415] 955-0513

FTZ Divisions - Within the FTZ, there are three divisions responsible for purchasing:

Purchasing of Systems and
Networks, Division E2
Contact: Mr. Reinhold Sperl
Am Kaveleriesand 3
64295 Darmstadt
Tel.: [49][615] 183-62 00
Fax: [49] [615] 183-30 61

Purchasing of Data Processing
Equipment, Cables, Materials,
Motor Vehicles and Services, Division E3
Contact: Mr. Hans-Werner Rieper
Am Kaveleriesand 3
64295 Darmstadt
Tel.: [49][615] 183-62 70
Fax: [49][305] 5332-7 81

Purchasing of Phone Terminal
Equipment, Division K6
Contact: Mr. Paul-Juergen Arens
Am Kaveleriesand 3
64295 Darmstadt
Tel.: [49][615] 183-57 00
Fax: [49][615] 183-41 39

Aerospace

The commercial aircraft/aerospace industry in Germany is very compact and competitive. DASA, a major international concern, is dominant in the domestic market. Much like U.S. firms, DASA is experiencing the effects of reduced defense spending. DASA and other defense companies in Germany have recognized the need to diversify their products to meet commercial requirements. The struggle of DASA and its competitors to receive both defense and commercial contracts has reduced the window of investment and contract opportunities for foreign participation in the market. At the same time, cost reduction programs and downsizing have also continued.

The situation within the industry is in contrast to the growth in German air traffic, which at more than 7 percent per year is slightly above the worldwide average, thus creating demand for fleet renewals and replacement. The best growth segments are short range commuter aircraft, cargo aircraft, avionics for new and retrofit applications, and other aircraft parts and components. The U.S. is a major supplier of aerospace products to Germany and the favorable dollar exchange rate versus the D-Mark has spurred demand for equipment from U.S. sources. .

Airport Ground Support Equipment

The investment volume required at Germany's 16 international and 30 regional commercial airports is around US $1.8 billion annually. The target is to increase airport capacity to 120 million passengers per year by the turn of the century. Investments in Germany's largest airport in Frankfurt alone amounts to US $430 million annually, plus a US $300 million investment project for Cargo City South in Frankfurt, to be completed in 1997. U.S.-made ground-based air traffic control equipment and aircraft maintenance tools enjoy an excellent reputation, while competition from German and European manufacturers is very strong in the airfield equipment and vehicles segment.

Environment

The legacy of environmental damage, left by the withdrawing powers in Eastern and Central Europe, is of great concern to the German population. Training areas of the former GDR military are a specific focus. Endeavors to clean the environment, especially in Eastern Germany, are continuously undertaken.

Germany now intends to retain more ex-Soviet military hardware belonging to the former GDR, than was originally proposed. Despite these plans, huge amounts of equipment, including most aircraft of the GDR Air Force and approximately 300,000 tons of ammunition, need to be destroyed.

Other Sectors

German medical/diagnostic equipment manufacturers are among the principal suppliers of this type of equipment to the international market, competing even with the U.S. Although

existing technologies are often purchased locally, improvements, or even new systems (e.g. new laser technologies), from abroad are welcomed by the domestic medical industry.

The infrastructure in the Eastern regions of Germany is in desperate need of attention. The road network, industrial base, port structure, and housing are in such extraordinarily poor condition that the entire region's interior needs modernization, or even replacement.

Domestic firms providing law enforcement equipment in Germany have historically furnished law enforcement agencies with remarkably high quality, and very competitive, products. These firms have also found very receptive markets elsewhere, including the U.S..

Agency Contacts

Agencies with procurement responsibilities for various product areas are listed below.

Ministry of Economic Cooperation
Fredrich-Ebert Allee 114 - 116
53113 Bonn, Germany
Tel.: [49][228] 5350
Fax: [49][228] 535 202

Ministry of Economics
Villemombler Strasse 76
53123 Bonn, Germany
Tel.: [49][228] 615-1
Fax: [49][228] 615-4436

Ministry of Finance
Graurheindorfer Strasse 108
53117 Bonn, Germany
Tel.: [49][228] 682-0
Fax: [49][228] 682-4420

Ministry of Health
Am Probsthof 78A
53121 Bonn, Germany

Tel.: [49][228] 941-0
Fax: [49][228] 941-4900

Ministry of Postal and
Telecommunication Services
Heinrich-V.-Stephen Strasse 1
53175 Bonn, Germany
Tel.: [49][228] 14-0
Fax: [49][228] 14-8 872

Ministry of Research and Technology
Heinemannstrasse 2
53175 Bonn, Germany
Tel.: [49][228] 59-0
Fax: [49][228] 59-3 601

Ministry of Transportation
Robert-Schuman-PL. 1
53175 Bonn, Germany
Tel.: [49][228] 300-0
Fax: [49][228] 300 3428

Doing Business in Germany

U.S. companies intending to export to Germany must take into account German demography. To a far greater degree than its European neighbors, Germany's population and industry are decentralized and evenly distributed. Major cities and businesses dot the countryside in a landscape which features no single business center. A U.S. supplier seeking sales in Germany must be careful to ensure that its distributor, or its own dealerships, have a country-wide capability. Too often U.S. companies seek to cover Europe from a single European base, or even through periodic visits. The German commercial customer expects to be able to pick up the telephone, talk to his or her dealer, and have replacement parts or service work immediately available. U.S. exporters should avoid appointing distributors with impossibly large geographic areas, without firm commitments regarding parts inventories or service capabilities, and without agreements on dealer mark-ups.

Success in the German market, as elsewhere around the world, requires long-term commitment to market development and sales back-up, especially if U.S. companies are to overcome their natural geographic handicap with respect to their European competitors. One of the most commonly voiced complaints still heard from the German business community is about the American penchant for being here today and gone tomorrow. While this approach can produce occasional one-time deals, it is not the way of the competition, whether it be third-country or German, and is definitely not the way to establish a solid position and reputation in the German market.

U.S. suppliers are too often perceived by Germans as being unreliable, too quick to defer processing an export order in favor of a subsequent domestic order; too likely to bypass a successful distributor to deal directly with the customer; and interested in export sales only when domestic order books are unfilled or there is a fortuitous slip in the exchange rate. Many U.S. companies are not seen as long-term players in the market, and are not viewed as likely to provide adequate after-sales support.

In addition to exhibiting at a German trade fair, in most cases advertising is considered a suitable promotion method. Regulation of advertising in Germany is a mix between judicial rules and voluntary guidelines developed by the major industry associations. Legal rules were established at the beginning of the 20th century by the "Law Against Unfair Competition." This law continues to be valid today, although it has been modified over time. In essence, this law allows competitors to bring suit if advertising "violates good manners."

Many advertising practices that are common in the U.S., such as offering premiums, would not be allowed in Germany. Any planned advertising campaigns should be thoroughly discussed with a potential business partner or an advertising agency in Germany. Contact the German Association of Advertising Agencies:

- Gesamtverband Werbeagenturen E.V.
  Friedensstr. 11
  60311 Frankfurt A.M., Germany

Tel.: [49][69] 235096
Fax: [49][69] 236883

There are numerous technical or specialized periodicals that deal with all aspects of technology and doing business in Germany. In addition, Germany has a well-developed array of newspapers and magazines, which offer the opportunity to gather information and advertise products and services.

For nearly all facets of doing business, there appears to be an industry or trade association that is active in a particular field and which can often serve as a suitable point of contact when trying to establish a partnership.

Selling to German government entities is not always an easy process. However, although a delay in implementing all facets of the EU Utility Directive -- Germany had not installed appropriate review mechanisms -- led to Germany being threatened with U.S. sanctions under Title 7 of the Trade Act Report, it is safe to say that, in general, German government procurement is non-discriminatory and generally appears to comply with the GATT Agreement on Government Procurement (the Procurement Code) and the European Community's procurement directives. That said, it is undeniably difficult to compete head-to-head with major German or other EU suppliers with long-term ties to German government purchasing entities.

Safety standards not normally discriminatory but sometimes zealously applied, may complicate access for many products. To the extent EU-wide standards are developed, there is a high probability that the existing German standard will form the basis for the eventual European standard. Information on standards and appropriate testing offices is available in the U.S. from:

- National Center for Standards and Certification Information (NCSCI)
  National Institute of Standards and Technology (NIST)
  Building 411, Room A 163
  Gaithersburg, MD 20899
  Tel.: [301] 975 4040
  Fax: [301] 975 2128

Debate over whether or not the restraining arms export policies of the country should be eased has been continuing for some time. Government policy has traditionally made it difficult to export arms outside of NATO, although legislation of 1982 officially allows sales to countries that are considered "in the vital interests of the Federal Republic." Sales to "crisis areas" however, are still forbidden by law. Also in 1982, the government did agree not to veto sales by international cooperative efforts.

Import License/End-User Certificate Regulations

A request for transfer of defense related articles usually must be supported by end-use and retransfer assurances from the proposed recipient. If the initial recipient is not the final end-user, the final end-user must be identified and appropriate end-use and retransfer assurances provided

by both the intermediate and final recipients.

U.S. approval of any third party transfer is heavily dependent on accurate identification of the ultimate end-user and the proposed use of the defense article. If proposed recipients are unable, or unwilling to identify the final end-user and end-use of the defense articles or services and provide nontransfer assurances, the transfer will not be approved. Timely acquisition and submission of the required end-use and retransfer assurances will significantly expedite approval of third party transfer requests, if policy considerations will permit such approval.

Restrictions on Foreign Competition

While procedures vary depending on the nature of the award, Government tendering in Germany is generally open to all qualified suppliers on a competitive, non-discriminatory basis. This means that, with few exceptions, German government purchasing entities are required to award contracts based on objective criteria which, at least in theory, neither directly nor indirectly favor domestic German companies over foreign suppliers.

Technology transfer does not seem to be obstructed by official impediments or other barriers. German patent laws have to be observed. In order to be able to benefit from German research grants however, it is advisable for a U.S. company to establish a presence in the country.

Teaming with Local Firms

Although there are no requirements for foreign firms to team with domestic companies in order to obtain contracts, high development costs have caused many European countries, including Germany, to search for combined efforts in attempts to meet military requirements. In Germany, possibilities of such a cooperative endeavor are investigated at the earliest stages of a program. Discussions with other countries that may have similar demands begin as soon as a requirement has been defined.

U.S. Government Points of Contact

Listed below are helpful points of contact for U.S. firms interested in the German market. The Office of Defense Cooperation (ODC) provides assistance in defining defense requirements for Germany, and promoting the purchase of U.S. defense products. The ODC also monitors joint efforts between the U.S. and the F.R.G.

U.S. Embassy

U.S. Embassy in Germany
Deichmanns Aue 29
53179 Bonn 2, Germany
Tel.: [49][228] 339-1
Fax: [49][228] 339-2663

Chief, Office of Defense Cooperation (ODC)
American Embassy
Box 340
APO New York 09080
Tel.: [49][228] 339-2713/2715/2716
Fax: [49][228] 334-505

Foreign Commercial Service (FCS)
Tel.: [49][228] 339 2895
Fax: [49][228] 334 649

Research and Development A
Liaison Group - Army
Tel.: [49][228] 339 2749

Research and Development B
Liaison Office - Air Force
Tel.: [49][228] 339 2768

U.S. Chamber of Commerce

U.S. Chamber of Commerce
Rossmarkt 12
60311 Frankfurt, Germany
Tel.: [49] [69] 283 401