

## Germany

### I. Current National Security Situation

Germany's national security situation in the post-Cold War era follows directly from the impact of the historic changes that have altered Europe's political landscape since 1989. The danger of large-scale aggression threatening the existence of Germany has all but vanished. Germany's territorial integrity and that of its allies do not face any substantial military threat for the foreseeable future.<sup>1</sup> This new era of security for the German state, however, is not enjoyed by all of Europe. It has been replaced by dynamic developments arising from the tension between opportunities and complex risks. The 1990's also witnessed a major attitudinal change within the German government and the German public. During this decade its military was allowed by German policy to support joint multinational coalitions involving military operations outside of Central Europe. German military forces have been used, among other places, in the coalition against Iraq in 1991, in support of UN operations in the former Yugoslavia since 1992, in Somalia in 1992, and in the Kosovo 1999 air campaign.

Germany's security situation has also been uniquely complicated by the challenges of reunification. Germany has had to create a new military force posture from the fabric of West and East Germany, in a short period of time, and under fundamentally new security conditions. New considerations included: (a) the new political reality in which Germany is in the interior of friendly nations, as opposed to being on the leading edge of conflict; (b) a broadening of the mission spectrum; a need to develop new operational concepts not focused on the NATO General Defense Plan; (c) a new categorization of forces (reaction forces, main defense forces, and base support forces); and (d) the need for inherent multinational operations; and significantly reduced manpower levels (340,000, down from the combined West and East German force strength of 665,000).<sup>2</sup>

#### *New security role*

Long the economic leader on the continent, Germany may also be increasingly called upon by the European community to assume a greater role in regional security in the new security environment, while simultaneously maintaining its traditional requirement of homeland defense.<sup>3</sup> At the same time, in recent years Germany has been experiencing a high unemployment rate, rapidly rising prices and general decrease in the international competitiveness of German industry (25<sup>th</sup> in the world in 1998). Germany has also been suffering from disenchantment with voluntary military service as a result of the absence of a proximate threat and the disenchantment with operations in the Balkans.<sup>4</sup>

Key priorities for German security policy in the first decades of the 21<sup>st</sup> century include: (a) protecting the territory of Germany and its citizens against external threats and political blackmail; (b) preventing, containing, and terminating crises and conflicts that could impair the integrity and stability of Germany and its allies; (c) developing a security relationship with the United States based on common values and similar interests; (d) creating a partnership with equal rights between a united Europe and North

America; and (e) intensifying European integration by expanding the European Union with a common foreign and security policy and European defense entity.<sup>5</sup>

### *Military requirements*

The new security role means Germany will be called upon to support a powerful, multinational rapid response capability that involves ground forces with long-distance air transport and air cover. This capability is designed for complex, low intensity conflict situations along the perimeter of Europe as well as in more distant regions, to include requirements for theater missile defense and information operations in urban and rural terrain.

### *Armament requirements*

German future warfare envisions fast highly mobile operations on a nonlinear battlefield, leading to requirements for long range surveillance and target acquisition capabilities as well as standoff weaponry.<sup>6</sup> While some of the battlefield requirements pertain to precision guided weaponry,<sup>7</sup> other key requirements include: strategic satellite reconnaissance for global observation, adapting the command and control authority to a new security order; strategic air transport; ballistic missile defense; and logistical support for German troops stationed abroad.<sup>8</sup>

To meet these requirements, Germany's plans call for streamlining and modernizing its military over the coming decades. Germany also faces block obsolescence of many of its combat systems in the early 21<sup>st</sup> Century.<sup>9</sup> Modernization will require substantial investment in new equipment. This will be progressively difficult given the near-term budgetary situation in which Germany finds itself.

The new German Crisis Reaction Force (KRC) is receiving priority for new armaments in the short term, including long range reconnaissance and communications, strategic transportation, and mobile anti-missile defense. Additionally, Army priorities include command and control systems and improved air mobility, Air Force priorities include air and missile defense and longer range precision weaponry, and Navy priorities include air defense and sub-surface warfare capabilities. Battlefield digitization, RPVs, new guns, and simulators are also general modernization priorities.<sup>10</sup> Finally, out-of-area operations also require new satellite communications systems.<sup>11</sup> A recent German General Staff analysis argued that there are two capabilities that must receive improvement: future transport aircraft, and strategic surveillance.<sup>12</sup>

Very recently, Germany also announced plans to cut significantly the end strength of its Armed Forces and also to revamp its conscription system, as well as move toward more outsourcing of administrative functions.<sup>13</sup> This is a part of fundamental and unprecedented Bundeswehr reform. Important elements will include the consolidation of logistics elements, the elimination of the distinction between crisis reaction and main defense forces, outsourcing of many functions, and the creation of true national command structure.<sup>14</sup>

### *Defense expenditures*

In 1997, Germany's military expenditures were \$32.9B (1997\$US), compared with \$47.9B (1997\$US) in 1991.<sup>15</sup> This placed Germany 7<sup>th</sup> globally in 1997.

In 1992 the government introduced the "Bundeswehr Plan, 1994-2006" to fund the process of military reunification.<sup>16</sup> The plan reduced government procurement spending through the extension of procurement schedules, some program cancellations, and reduced purchasing. The armament budget constituted only 22.5 percent of military expenditures. Germany's goal was to have 30 percent of the overall defense budget allocated for armaments during the 1998-2000 time frame.<sup>17</sup> With this deficit, modernization of Germany's new reaction force became the first priority.<sup>18</sup>

In 1998, principally to meet the need to modernize the new German Crisis Reaction Force, the Bundeswehr Plan 99 called for a 40 percent annual increase in the procurement budget over the period 1998-2002. This also corresponds to an increase in the fraction of the defense budget spent for armaments from a level of about 26 percent in 1999 to 28.8 percent in 2002, with a planned growth to 30 percent in 2004.<sup>19</sup> However in 1999, the German government proposed a significant cut in the 2000-2003 defense budget, including a significant cut in the armaments budget.<sup>20</sup>

These cuts were dictated by a slumping economy with few signs of sustained recovery, and high levels of government spending, leading to a requirement for major austerity programs.<sup>21</sup> One German analyst believes that these cuts mean that German defense companies will be unlikely to receive significant additional contracts from the German government beyond their current ones over the next several years.<sup>22</sup> On the other hand, Defense Minister Rudolf Scharping has consistently argued for more investment funds to allow restructuring of the armed forces.

## **II. National Defense Industrial Base**

In 1955, when Germany joined NATO and rearmed, there was negligible domestic defense production capability. However since then a substantial defense industrial base has developed. Major companies include Alcatel (telecommunications), the Diehl Group (missiles, land vehicles, ammunition), Daimler-Benz Aerospace (DASA) (broad range of products, especially combat aircraft, defense electronics, ground and naval systems), ESG (systems engineering and software), Henschel (armored vehicles), Krauss Maffei (armored vehicles, systems integration), Rheinmettal Group (armored vehicles), HDW (Submarines) and Siemens (defense electronics).<sup>23</sup>

By government policy, Germany's defense industrial base lies almost entirely within the private sector, although many have stock owned by federal states or banks. There are no government defense production plants, and most defense industries are also heavily involved in civilian markets. Private industry executes about 85 percent of all military research, development, procurement, and maintenance.<sup>24</sup>

The Armaments Division of the Ministry of Defense has responsibility for planning and managing the armaments sector. Subordinate to this, the Federal Office for Military and Technology and Procurement (BWB) procures all armaments and also staffs seven armaments research and testing centers, each responsible for a specific class of systems. However some major joint projects (e.g., Tornado) are executed independently of BWB auspices.<sup>25</sup>

### *German Global Top 100 Defense Industries*

In 1991 Germany had seven companies in the global top 100 defense industries as measured by annual defense revenue. Those seven companies had a combined defense revenue of about \$7.7B (1991\$US).<sup>26</sup> By 1999 that number had dropped to three with a combined revenue of about \$2.4B (1999\$US).<sup>27</sup> Those three companies are Rheinmetall, Krauss-Maffei AG, and Deihl Stiftung. (Daimler Chrysler Aerospace, which prior to 1999 had been the largest German defense company, was now a part of the newly formed transnational EADS, a French company.) Annual defense revenues for the largest German defense company in 1999 are \$1.2B, compared with \$3.6B in 1991. The largest German company (in terms of annual defense revenue) ranked 25<sup>th</sup> globally in 1999, compared with 14<sup>th</sup> globally in 1991.

### **III. National Armament Strategy**

Self-sufficiency in defense production is not a goal for the German state. However, domestic firms receive approximately 85 percent of armament spending. Competition is practiced for contracts at all stages, from program definition to final production. In making contract awards, Germany has no legal requirement to use only German products for specific armaments or components. However the law does allow exceptions under situations which directly impact on national security. The potential loss of critical defense industrial capacities is viewed to be one of those classes of situations.<sup>28</sup>

Expected governmental funding levels for the German defense industrial base are not currently viewed to be sufficient to maintain that base at a minimum level of capabilities. In at least some of the German armament sectors (e.g., armor) there is concern that future domestic programs may not be of sufficient magnitude to allow the German defense industrial base to maintain sufficient developmental capacities or systems integration skills over the next decade.<sup>29</sup> As a result, German exploitation of the trends toward rationalization of the global defense industrial base, international cooperation in armaments development, and the increasing globalization of the armaments sector are essential for survival. At the same time, the overall German goals are the maintenance of a core of national defense industrial capabilities, achieving closer cooperation with France, creating a basis for European-wide armaments development, and ensuring trans-Atlantic cooperation in armaments development.<sup>30</sup>

### *Cooperative development*

Germany's armament strategy places a high priority on cooperative arms development. About 70 percent of Germany's major procurement items are developed and produced via international projects.<sup>31</sup> Over 30 cooperative programs for the German Army were operative in the latter half of the 1990s. These involved partnerships with over 15 nations. France, the United Kingdom, Italy, the Netherlands, and the United States are Germany's primary partners for defense industrial cooperation. In 1997 German companies participated in more than 100 bilateral or multi-national cooperative programs globally.<sup>32</sup>

Major cooperative programs include: the NH-90 transport helicopter, the Tiger combat helicopter, the new medium-range guided missile (EURAAM) for the Eurofighter, the PARS 3 antitank missile for the Tiger, the POLYPHEM fiber-optic guided missile, the upgraded ROLAND air defence system, the MEADS replacement for the HAWK Missile, and the IRIS-T replacement for the SIDEWINDER missile.<sup>33</sup> However recently announced cuts in the German defense budget may impede German participation in some of these programs including the NH-90 helicopter and the Future Large Aircraft military transport.<sup>34</sup> Further German participation in the anti-tank missile TRIGAT program is also questionable, which places the overall program at risk.<sup>35</sup>

In the past, Germany also procured significant levels of new armaments from the United States, and then shifted to licensed production. Today Germany wants to go substantially beyond those arrangements and participate as full a partner in the initial development process.<sup>36</sup>

#### *European armaments cooperation*

Germany has had cooperative armaments development relationships with the major European countries for many years. Germany receives over half of the import funds from the French armaments program.<sup>37</sup> Spain also values German armaments for their quality, and Germany is the only country participating in all three major Spanish modernization programs (the Eurofighter, the Leopard tank, and the F-100 frigate).<sup>38</sup> Germany and the UK have a long-standing history of cooperative developments, especially in combat aircraft starting with the Tornado in 1969. In 1998 Germany and the UK also signed a new MOU focused on future concepts and technology research.<sup>39</sup> Germany has also been an important source of armaments for Switzerland.<sup>40</sup> Germany has bilateral working groups on armaments cooperation with France, the UK, the Netherlands, Spain, and Sweden, and project-by-project cooperative efforts with Greece, Turkey, Belgium, Portugal, Norway, Austria, Switzerland, Poland, Hungary, and the Czech Republic.<sup>41</sup>

Germany has also committed to procure 180 Eurofighter 2000 combat aircraft in favor of the cheaper Lockheed Martin F-16. The overall EF-2000 program buy of 620 airplanes (being developed and produced collaboratively by Germany, Spain, Italy, and the UK) is expected to keep 100,000 workers in Europe employed. It will also result in the development of many new technologies and the modernization of aircraft production facilities. Germany has a 30 percent work share. At the same time, some German critics argue that the EF-2000 is a Cold War relic and should not be procured at all since it no longer matches combat needs. Counter arguments, however, emphasize that Russian Su-

27 fighters are successfully being sold on world markets (and the EF-2000 would be a lucrative competitor for those sales).<sup>42</sup>

Germany strongly supports the development of a consolidated European armaments process. She heavily supports the efforts of the 13 Western European Armament Group (WEAG) countries to eventually create a European Armaments Agency (EAA), recognizing that there are still many obstacles. These include the political issues associated with surrendering some aspects of national economic, social, and security plans to a European structure. From 1997-1999 a German official served as president of the WEAG and actively promoted those objectives.<sup>43</sup>

To help accelerate the consolidation process, in November 1996 Germany, along with France, Italy, and the UK, became a signatory to the establishment of the Organization Conjointe de Cooperation en matière d'Armement (OCCAR). The German intent is that OCCAR pave the way toward an effective EAA by focusing on the short term possibilities for rationalization and increased efficiency in armaments development.<sup>44</sup> The intent of OCCAR is to improve the management, speed, and cost-effectiveness of cooperative programs, starting with five specific existing programs: the HOT, MILAN and ROLAND missiles, the BREVEL drone, and the TIGER helicopter.<sup>45</sup>

Germany also supports the process for a full European identity in armaments development and a consolidated European armaments market. These are especially important in light of the restructuring that has occurred in the US defense industry and the increased market share of US defense companies on the world market. Germany's Minister for Aerospace has even argued publicly that Europe's aerospace industry "would have no future without integration."<sup>46</sup> In July 1998, Germany also became a signatory, with four other countries (France, The UK, Italy, and Sweden), to a Letter of Intent to pursue better conditions for defense-industrial integration, eventually leading to a common framework for defense industrial restructuring.<sup>47</sup>

Some German views of European cooperation favor the emphasis on comparative advantage. For example, based on historical specialties, Germany dominates armored land vehicles and submarines, the UK dominates combat aircraft, and France dominates missiles and defense electronics. However the current German position is not focused on creating large single pan-Europeans suppliers in specific armaments sector. Rather it desires to create a situation in which individual companies are free to compete for orders, and privately owned ones (e.g., the German companies) are not at a significant disadvantage in competitions against state-owned companies (e.g., French companies) supported by national financial resources.<sup>48</sup>

Germany is focused on securing a role for her defense industries in the context of a European-wide defense industrial base focused on European interests. This approach is in contrast to the French approach, which Germany characterizes as being focused on restructuring France's defense industrial base in accordance with French national interests, while at the same time working toward dominance in key armament sectors. Germany thus favors the creation of transnational European defense companies.<sup>49</sup> Key

principles of the German approach include renouncing the principle of *juste retour* as the basis for deciding work share among the partners in cooperative programs, favoring interdependence instead of the dominance of any one country in a given armament sector, and favoring free and open competition instead of monopoly.<sup>50</sup>

#### *The acquisition process*

Germany has a well-developed defense procurement process with significant capacity for indigenous R&D and production of advanced systems, although the trend towards multinational production is strong.<sup>51</sup> Organizationally, the Secretary of the State for Armaments is the coordinating authority within the MoD for all armament matters, be it national procurement, international armaments cooperation, or sales of German Armed Forces' equipment to third countries. He oversees all armament activities initiated by the Inspector General of the German Armed Forces, the Head of the Armaments Division (who is also the National Armaments Director), the Chiefs of the Services and the Budget Director. The main work of the procurement process, however, is by Service commands and the Federal Office for Defense Technology and Procurement (BWB), which as the national procurement agency is the contracts partner both for industry and for foreign governments in the case of non-commercial third country sales.

Recently, Germany's "Armed Forces Plan '97" introduced a complete reform of the structural expenditure process for defense acquisition.<sup>52</sup> Attention is now focused on task-oriented, multi-service priority decisions designed to reduce costs and rationalize expenditures for major programs. The planned rapid increase in the armaments share of the defense budget (to at least 30 percent) has been complicated by drastic cuts in the overall 30<sup>th</sup> Financial Plan of the German government. The situation indicates the need for stringent economic principles for the defense industrial base, to include: enhanced standardization, including adoption of commercial standards whenever possible; the use of commercial products; critical review of defense procurement organization and procedures; and drastic reduction of procurement time. The greater usage of commercially supplied products (either COTS or special adaptations) is viewed to be a way to drastically reduce both cost and developmental risk.<sup>53</sup>

#### *Arms import level*

Germany's arms import level in 1997 was \$0.75B (1997\$US), down from \$3.2B (1997\$US) in 1991.<sup>54</sup> This placed Germany 16<sup>th</sup> globally.

#### **IV. Perspectives on the International Arms Export Market**

Increasing exports to world markets is considered to be very important to Germany's strategy for maintaining essential minimum capabilities within her defense industrial base. This could require changes to regulations and attitudes that guide Germany's foreign defense sales. Some feel that German's political leadership has not supported arms exports as aggressively as the leadership of other countries, and this difference has inhibited Germany's success to date globally.<sup>55</sup>

### *Products and services*

German exports include a wide range of armaments, including anti-tank and air defense guided missiles, the Leopard main battle tank and German submarines. Yet defense exports have been in steady decline since 1991.<sup>56</sup> Furthermore, a significant portion of the arms exports have been due to foreign policy initiatives that provided German surplus armaments abroad, and not the result of defense industrial competitive successes. The combined effects of the CFE agreement, the dissolution of the Soviet Union, and German reunification left the Bundeswehr with a substantial number of older surplus weaponry.<sup>57</sup> At the same time, Germany believes that the sale of surplus armaments give her a specific competitive advantage that can be used to gain a foothold in new markets, with strong potential for follow-on maintenance services contracts.<sup>58</sup>

### *Markets*

Specific targets for new German arms exports include the Eastern European countries, Russia and Ukraine. Germany also is involved in strong competition against China, France, Russia, and the UK in niche markets such as Sweden, Switzerland, Finland, Spain and South Africa. Recently German companies were on the winning teams supporting the major South African strategic rearmament program for naval forces. Germany has also become an established supplier to Australia, which values German armaments for their quality and their reliability of supply.<sup>59</sup> Asia is especially viewed as an important new market and Germany has already established bi-lateral agreements with Thailand, South Korea, and the Philippines. Germany does not currently have significant arms exports to India, Pakistan, or China, and does not envision that this situation will change.<sup>60</sup>

The Persian Gulf is also an important Germany market. Recently, in spite of divisive opinions within the new Social Democratic government, the German Minister of Defense, Rudolf Scharping, has personally supported the efforts of German defense companies to secure a strong position for arms exports to region, with the U.A.E. being a principal target. Germany's offer to U.A.E includes the sale of 50 second hand Alfa Jet trainers, the Mako missile, and joint technology base development focused on flight testing and also software development, testing, and integration.<sup>61</sup>

The services and upgrade markets are also being targeted. For example, a new Russian-German joint venture, MAPS, is promoting upgrades and life-extension programs for the Soviet-produced MiG-29 aircraft currently in the inventories of six East European countries. MAPS is owned 50 percent by DASA, with the remainder owned by the Russian Aircraft Building Corporation MiG (34 percent) and Rosvooruzheniye (16 percent).<sup>62</sup>

### *Export controls*



Germany has had both an export control policy that prohibits exports to areas of tension, and also a history of accused violations of that policy due to ineffective monitoring. German policy also prohibits export of arms to crisis areas or to countries violating human rights. In 1992, in response to unfavorable international publicity, Germany created a new governmental monitoring agency. However some argue that German companies still can and have circumvented the policy via third party supply, co-production, licensed production or sales of dual use products or technologies.

At the same time, Germany is interested in developing coordinated approaches to export restrictions to world crisis regions. She actively participates in discussions on this topic with other key exporting nations (US, Russia, UK, France, and Italy) within the framework of the Wassenaar Agreement. However there have not yet been specific results.<sup>63</sup> The German Economics Ministry, which has principal responsibility for implementation of Germany's arms control policies, is also currently updating the export guidelines, originally prepared in 1982, in accordance with the Wassenaar framework.<sup>64</sup>

German defense industrial criticism of existing German export control policies argue that they are more restrictive than those of the other European nations, too complicated procedurally, and take too long for approval.<sup>65</sup> This situation makes it difficult for German firms to operate successfully in the international markets now deemed to be necessary for survival.<sup>66</sup> An example cited is the recent delivery of a single Leopard 2 tank to Turkey for testing as a part of the evaluation process for the very large Turkish procurement for a new Main Battle Tank.<sup>67</sup>

#### *Arms exports*

Germany's arms exports were \$0.75B (1997\$US) in 1997, compared with \$2.8B (1997\$US) in 1991.<sup>68</sup> This placed Germany 7<sup>th</sup> globally.

### **V. Transformation in the Defense Industrial Base**

Between 1989 and 1994, Germany's armaments budget was cut by 48 percent and its R&D budget by 17 percent. In the face of massive cuts in armaments funding due to the reunification of Germany, the new German defense industrial base faced critical issues that threatened to put the level of indigenous defense industrial capacity below a minimum threshold.<sup>69</sup> German industry argued that European-wide companies were needed for stability, especially in light of significant global competition. Countries that develop the key industries and technologies that will give a strategic competitive advantage will emerge as winners. This leads to the further argument for European wide joint efforts in R&D, uniformity in export guidelines, and a common European armaments market in order to enhance European competitiveness and its continuing role as a strategic partner of the United States.<sup>70</sup> Consequently, international armaments cooperation should be the main focus of Germany's defense industrial base during the current period of transition.<sup>71</sup>

Germany has a privatized defense industrial base. However some German industrial leaders believe that privatization of the defense industries of the other key European countries (e.g., France) is an essential condition for such a European-wide rationalization to occur, since the resulting entities have to be able to operate in accordance with the rules governing private enterprises.<sup>72</sup>

High-ranking officials at some German corporations, however, appear to favor a national consolidation of Germany's defense industry before building structural alliances abroad.<sup>73</sup> This represents a change from previous attitudes. This approach could give Germany's defense industry a stronger hand during negotiations for mergers with other European companies. It could also help ensure that German companies do not disappear by being absorbed into giant pan-European entities. Following such national consolidations, German firms could take a next step: European consolidations. Some German industrial leaders further argue that, because of the criticality of commercial technologies to armaments, restructuring of some aspects of commercial industry (e.g., Airbus) is "inseparably linked" to the restructuring required in the defense industrial base.<sup>74</sup>

Many analysts also believe that consolidations and mergers of German and European firms likely will not achieve the same perceived efficiency as those of U.S. firms. German government officials, while favoring efficiency, consider downsizing and layoffs to be politically difficult. As a result, structural impediments within multinational corporations, many of which result from legally binding agreements, will likely remain for the foreseeable future.

### *DASA*

Daimler Benz Aerospace (DASA) has been on the leading edge of restructuring and mergers and acquisitions. DASA has restructured around its strengths, including guided missile and air defense systems, C4ISR, defense electronics, and civilian telecommunications. DASA core capabilities lie in systems integration. DASA manages these within a single business unit, Defence and Civil Systems, in order to facilitate market access and the development of complementary technologies. DASA also has executed several key acquisitions to strengthen its core areas and also to increase overall profitability. DASA is interested in further acquisitions to strengthen its guided missile and UAV business areas.<sup>75</sup>

In 1997, DASA undertook negotiations to merge with British Aerospace, but the subsequent BAe decision to merge instead with GEC-Marconi undercut that initiative. Instead, DASA agreed to acquire the Spanish aerospace company Construcciones Aeronauticas S.A. (CASA). DASA also entered negotiations to acquire elements of Celsius (Sweden) in order to both strengthen DASA's position in Europe and also to open new Asian-Pacific markets as a result of the acquisition of Celsius Pacific. DASA reportedly also is interested in an acquisition or merger in the US and also the acquisition of Racal (UK).

## *EADS*

As a part of multi-lateral discussion about ways to improve the European armaments processes and the competitiveness of the collective European defense industries, at the end of 1997 the governments of Germany, France, and the UK stated their intent to work together toward a restructured aerospace sector. This would lead to the gradual establishment of a single company, the European Aerospace and Defence Company (EADC).<sup>76</sup> However the 1999 BAE decision to merge with GEC-Marconi to form BAE Systems, in German views, undercut the movement toward the EADC.

Subsequently, in October 1999, DASA, in conjunction with CASA and Aerospatiale Matra (France), announced the merger and formation of the transnational consortium European Aeronautics, Defense, and Space Company (EADS). With the merger, EADS becomes the third largest world aerospace company (after Boeing and Lockheed Martin). EADS holds global positions in terms of revenues as No. 2 in commercial aircraft, No. 1 in helicopters, No. 1 in commercial launcher systems, No. 4 in military combat aircraft, and No. 4 in missile systems. EADS is a fully integrated pan-European company, with co-chairmen for the Board of Directors from Germany and France and joint CEOs from Germany and France.

The company will operate as five business units focused separately on: Airbus, headed by a Frenchman; Aeronautics (military combat aircraft and helicopters), headed by a German; Military Transports, headed by a Spaniard; Space, headed by a Frenchman; and Defense and Civil Systems, headed by a German. EADS plans on fully integrated multi-national operations, while at the same time maintaining national identities and cultures, which EADS management believes to be a competitive strength that will help EADS better support a wide range of global customers.<sup>77</sup> At the same time, the preservation of individual identities also makes it possible to dissolve the corporation at a future date if it does not meet expectations. Reportedly, DASA is prepared to leave the EADS consortium agreement if profitability is inadequate.<sup>78</sup>

### *Other acquisitions*

Other German defense industries also have been engaged in acquisition activities. For example, HDW, the leading German submarine builder, has planned to acquire Kockums (Sweden) and also to gain 49 percent of the Australian Submarine Consortium with option to subsequently acquire the remainder. Similarly, Rheinmetall has acquired Oerlikon-Bührle Holding (Switzerland) to strengthen its position as a European leader in cannon and ammunition.<sup>79</sup>

### *Trans-Atlantic issues*

German defense industry considers itself to be at a significant competitive disadvantage with respect to the US defense industry.<sup>80</sup> The principal reasons include: (a) the comparative size of their respective national defense markets (the US procurement budget is about three times as large as the combined procurement budgets of Germany,

France, and the UK); (b) the established US position (over 50 percent market share and associated worldwide dependencies) in the global arms export market deemed essential for the survival of German defense industry; and (c) the creation of the three US defense giants, (especially the Boeing-McDonnell Douglas merger which gives the new company established experience in the commercial aerospace market).

By comparison, Europe's defense industrial market is highly fragmented among fifteen domestic markets. Each has its own distinct armament process, developmental policy, and export control regulations. There is also fear that as US restructuring becomes complete, US industry will turn its attention to the fragmented European market, and German companies will not be able to compete effectively, losing even further domestic market share.<sup>81</sup>

There is also fear that the European countries will not be able to rapidly implement a consolidation plan. If this happens, European companies, faced with financial pressures, may be willing to be acquired by American companies. This would eventually lead to a de-facto American defense industrial base distributed across the Atlantic.<sup>82</sup> The recent acquisition of the Spanish company Blindados Santa Barbara (BSB) by General Dynamics is cited as an example that hurts the European armored vehicle industry. Since BSB produces the Leopard tank for Spain, there is also German concern of technology transfer to the United States that will hurt future German competitiveness in global markets.<sup>83</sup>

Germany also has problems with US export controls. In September 1999, Germany stated that they would not accept the delivery of the Patriot Advanced Capability (PAC) 3 missile defense system if the system has within it the standard black box methods used by the United States to protect sensitive classified technology from being copied.<sup>84</sup> After eight months of negotiations, this point was successfully resolved in favor of an agreed technology-sharing plan.<sup>85</sup> The PAC 3 system forms a key part of the MEADS missile defense capability that is one of Germany's priority procurements.

### *Protectionist policies*

Some German leaders also advocate restricting European market access to those countries allowing fair competition from abroad in their own domestic defense markets.<sup>86</sup> The United States is the principal target for these sentiments. Protectionist policies are one leverage point that Germany is clearly willing to use. For example, in June 2000, Germany awarded the contract for the NH-90 helicopter engines to a Rolls Royce, who was in a competition with a team led by General Electric Aircraft Engines (US) with Italian and Germany partners. Subsequently, Germany was accused of political pan-European favoritism in the award by the US and Italian governments.<sup>87</sup> Additionally, in that same month, it was reported that the German government probably will oppose the joint US-European development of an engine for Ariane and US rockets. This opposition is based on the risk to future European access to those markets, and especially the Ariane program, which was originally established based on a work share agreement.<sup>88</sup>

## **VI. Risks and Concerns**

- Required industrial and force modernization will require substantial investment in new equipment. This will be progressively difficult given Germany's the near-term budgetary situation. This may mean that German defense companies are unlikely to receive significant additional contracts from the German government beyond their current ones for the next several years. In at least some armament sectors (e.g., armor) there is concern that future domestic programs may not be sufficient to allow the German defense industrial base to maintain sufficient developmental capacities or systems integration skills over the next decade.
- There is a risk of German involvement in European armament cooperation. Domestic changes in political priorities, security perceptions and defense funding affect Germany's ability to adapt its defense industrial basis to its desired national position as a leader on the European continent. Industry leaders appear to favor a national consolidation before building structural alliances abroad to help ensure that German companies do not disappear by being absorbed into giant pan-European entities.
- German defense industry considers itself to be at a significant competitive disadvantage with respect to the US defense industry. There is also fear that as US restructuring becomes complete, US industry will turn its attention to the fragmented European market, and German companies will not be able to compete effectively, losing even further domestic market share. Finally, if the European countries are not able to rapidly implement a consolidation plan, then European companies, faced with financial pressures, may be willing to be acquired by American companies. This would eventually lead to a *de facto* American defense industrial base distributed across the Atlantic

## **VII. Some Observations**

- A new security role means Germany will be called upon to support a powerful, multi-national rapid response capability that involves ground forces with long-distance air transport and air cover.
- Self-sufficiency in defense production is not a goal for the German state. However, domestic firms receive approximately 85 percent of defense spending, which includes R&D, procurement and maintenance. Almost all defense contractors in Germany are privately owned, but many have stock owned by federal states or banks.
- In making contract awards, Germany has no legal requirement to use only German products for specific armaments or components. However the law does allow exceptions under situations which directly impact on national security. The potential loss of critical defense industrial capacities is viewed to be one of those classes of situations.

- In 1991 Germany had seven companies in the global top 100 defense industries as measured by annual defense revenue. By 1997 that number had dropped to three.
- Germany heavily favors European-wide integration in the creation of a common defense market and armament process. Key principles of the German approach include: renunciation of the principle of *juste retour* as the basis for deciding work share among the partners in cooperative programs; favoring interdependence instead of the dominance of any one country in a given armament sector; and favoring free and open competition instead of monopoly.
- German defense industry feels to be at a significant competitive disadvantage with respect to US defense industry. Some German leaders also advocate restricting European market access for US defense companies unless the United States also allows reciprocal fair competition from abroad in the US domestic defense market.
- Asia and the Persian Gulf are viewed to be particularly important markets for Germany's defense industry.
- A significant portion of the level of arms exports during the 1990s was as a result of foreign policy initiative that provided German surplus armaments abroad, and not the result of defense industrial competitive successes. Germany believes that the sale of surplus equipment will give her a rapid foothold in new markets with strong potential for follow-on maintenance services contracts.

---

#### ENDNOTES

<sup>1</sup> *White Paper 1994: White Paper of the Federal Republic of Germany and the Situation and Future of the Bundeswehr*, The Federal Ministry of Defense, Bonn, 1994.

<sup>2</sup> Brigadier General Christian Helwig, Chief of Artillery, Bundeswehr, "The German FA Today and Tomorrow," *Field Artillery*, February 1995, pp. 32 and 34.

<sup>3</sup> *White Paper 1994*, op. cit.

<sup>4</sup> Henry Van Loon, "Crisis of Confidence: Post-Cold War Germany Gripped By Malaise," *Armed Forces Journal International*, May 1998, pp. 32 and 34.

<sup>5</sup> *White Paper 1994*, op. cit., pp. 42-43.

<sup>6</sup> Helwig, op. cit., p. 33.

<sup>7</sup> Unattributed, "Future Developments in Weapons Technology," op.cit., and Sollorz, op. cit.

<sup>8</sup> Joerg Schönbohm, State Secretary of Defense, "Perspectives on Weaponry Technology," *Soldat und Technik*, May 1994.

<sup>9</sup> Franz-Ferdinand Lanz, "The German Procurement System and the German Army Armament," *Military Technology*, No. 3, 1997, p. 62, and David Saw, "The German Defence Industry: Confronting the Challenge of Change," *Asian Military Review*, October 1999, p. 31.

<sup>10</sup> Dr. Martin Guddat, German National Armaments Director, interviewed in "Stressing the Trans-Atlantic Relationship," *Military Technology*, Special Supplement 1998, p. 7.

<sup>11</sup> Ministerial Director Hanspeter Oelmeier, Head of the Budget Department, German Ministry of Defense, "The Defence Budget And Its Investment Share," *Military Technology*, February 1999, p. 30.

<sup>12</sup> Unattributed, "Germany: DCI Suffers Lack of Funding," *Jane's Defence Weekly*, June 14, 2000, p. 69.

<sup>13</sup> John G. Roos, "Bundeswehr Embraces Defense Reform," *Armed Forces Journal International*, July 2000, p. 20.

<sup>14</sup> Gen. Harald Kujat, Chairman, German General Staff, interviewed in "One On One," *Defense News*, July 24, 2000, p. 62.

- 
- <sup>15</sup> *Worldwide Military Expenditures and Arms Transfers, 1998*, Department of State, Bureau of Arms Control, Washington DC, January 2000.
- <sup>16</sup> Unattributed, *European Diversification and Defense Market Guide*, U.S. Department of Commerce, 1997. [<http://www.doc-bxa.bmpcoe.org/iddma-guides-europe.html>].
- <sup>17</sup> Ibid.
- <sup>18</sup> Helwig, op. cit., p. 32.
- <sup>19</sup> Col. I.G. Wold D. Landheld, Branch Chief Long-Term Armament Planning, German Ministry of Defense, "The German Armed Forces Long-Term Armaments Planning," *Military Technology*, February 1999, pp. 19 and 24.
- <sup>20</sup> Jack Hoschouer, "Germany's Planned Funding Cuts Raises Fears," *Defense News*, September 13, 1999, p. 1.
- <sup>21</sup> David Saw, op. cit., p. 30.
- <sup>22</sup> Jack Hoschouer, "German Industry Hamstrung By Government Policies," *Defense News*, October 18, 1999.
- <sup>23</sup> Unattributed, "Suppliers to the German Army," *Military Technology*, Special Issue, 1997, pp. 102-112.
- <sup>24</sup> *European Diversification and Defense Market Guide*, op. cit.
- <sup>25</sup> Ibid.
- <sup>26</sup> Unattributed, "Worldwide Defense Companies Ranked by Estimated Defense Sales for 1991," *International Defense Review*, Defense'93, pp. 33-55.
- <sup>27</sup> Unattributed, "Defense News Top 100," *Defense News*, August 7, 2000, p. 14.
- <sup>28</sup> Guddat, op. cit., p. 6.
- <sup>29</sup> Rolf Himes, "Germany's 20-year Armor Plan Mixes Old and New," *Jane's International Defence Review*, September, 1997, p. 76.
- <sup>30</sup> Gunnar Simon, State Secretary of the German Ministry of Defense, "The German Defense Industry Towards Year 2000," *Military Technology*, April 5, 1997, p. 11.
- <sup>31</sup> *European Diversification and Defense Market Guide*, op. cit.
- <sup>32</sup> Lanz, op. cit., p. 62.
- <sup>33</sup> Dr. Hans-Eberhard, Managing Director, German Aerospace Industries Association (BDLI), "The Defence Capacities of the Member Companies of the BDLI," *Military Technology*, Special Issue, 1999, pp. 7-9.
- <sup>34</sup> Jack Hoschouer, "Planned Budget Cuts Burden German Firms," *Defense News*, November 22, 1999, p. 4.
- <sup>35</sup> Douglas Barrie and Luke Hill, "Germany Backs Off Plans to Cut Trigat Purchase," *Defense News*, July 24, 2000, p. 1.
- <sup>36</sup> Guddat, op. cit., p. 4.
- <sup>37</sup> Jean-Yves Helmer, French National Armaments Director, in "Cooperating with Germany in Defence Procurement," *Military Technology*, Special Issue, February 1999, p. 126.
- <sup>38</sup> Gen. Miguel Valverde Gomez, Spanish Director General of Armament and Material, in "Cooperating with Germany in Procurement," op. cit., p. 127.
- <sup>39</sup> Sir Robert Walmsley, KCB, FEng Chief of Defence Procurement, in "Cooperating with Germany in Procurement," op. cit., pp. 134 – 138.
- <sup>40</sup> Toni J. Wicki, Head of the Swiss Defence Procurement Agency, in "Cooperating with Germany in Procurement," op. cit., pp. 128-132.
- <sup>41</sup> Brig. Gen. Dipl.-Ing. Peter Kuhn, Director of Equipment and Technology for Land Forces, German Ministry of Defense, "International Cooperation for Army Equipment and Technology," *Military Technology*, February 1999, p. 120-121.
- <sup>42</sup> Van Loon, op. cit., p. 32.
- <sup>43</sup> Simon, op. cit., pp. 12-13.
- <sup>44</sup> Ibid., p. 12.
- <sup>45</sup> Kuhn, op.cit., pp. 119-120.
- <sup>46</sup> Norbert Lammert, German Minister for Aerospace, quoted in Van Loon, op. cit., p. 32.
- <sup>47</sup> Jean-Yves Helmer, February 1999, op. cit., p. 126.
- <sup>48</sup> Simon, op. cit., pp. 13-14.
- <sup>49</sup> Ibid., p. 15.
- <sup>50</sup> Ibid., p. 11.
- <sup>51</sup> Lanz, op. cit., pp. 62, and Rolf Himes, op.cit.
- <sup>52</sup> Simon, op.cit.

- 
- <sup>53</sup> COL. Joachim Priegnitz, Head of the Material and Exploitation Department, German Army Support Command, "Future Armoured and Non-Armoured Vehicles in the German Army," *Military Technology*, February 1999, pp. 43 and 47.
- <sup>54</sup> *Worldwide Military Expenditures and Arms Transfers, 1998*, op.cit.
- <sup>55</sup> Unattributed, "German Defence Exports: Facts & Figures," *Military Technology*, July 1998, pp. 62-64
- <sup>56</sup> *Ibid.*, pp. 62-64.
- <sup>57</sup> *Ibid.*, p. 62.
- <sup>58</sup> Simon, op. cit., p. 17.
- <sup>59</sup> Col G. M. McCormack and Col. K.A. Alexander, Office of the Australian Defense Attache, Bonn, in "Cooperating with Germany in Defence Procurement," op. cit., p.125.
- <sup>60</sup> Simon, op. cit., p. 17.
- <sup>61</sup> Douglas Barrie and Gopal Ratnam, "German Defense Chief Pushes Exports to Gulf," *Defense News*, November 29, 1999, p. 1.
- <sup>62</sup> Simon Saradzhyan, "Russian-German Joint Venture Positions to Win MiG Upgrades," *Defense News*, July 10, 2000, p. 18.
- <sup>63</sup> Guddat, op. cit., p. 6.
- <sup>64</sup> Douglas Barrie and Jack Hoschouer, "Fallout Develops from Country's Release of Single Tank to Turkey," *Defense News*, November 22, 1999, p. 4.
- <sup>65</sup> "German Defence Exports: Facts and Figures," op. cit., p. 64.
- <sup>66</sup> Hoschouer, October 18, 1999, op. cit.
- <sup>67</sup> Jack Hoschouer, "German Export Laws Entangle Local Industry," *Defense News*, June 26, 2000, p. 60.
- <sup>68</sup> *Worldwide Military Expenditures and Arms Transfers, 1998*, op. cit.
- <sup>69</sup> Brigitte Sauerwein, "Pooling Resources for Prevention," *International Defense Review*, May 1995, p. 70.
- <sup>70</sup> Jurgen Schrempp, Chief Executive Officer, Daimler-Benz Aerospace, in Sauerwein, op.cit., p. 70.
- <sup>71</sup> Simon, op. cit., p. 10.
- <sup>72</sup> Wolfgang Piller, Board Member, DASA, "From Consolidation to Cooperation: DASA's Viewpoint," *Military Technology*, March 1998, p. 86,
- <sup>73</sup> "European Diversification and Defense Market Guide," op. cit.
- <sup>74</sup> Piller, op. cit., p. 85.
- <sup>75</sup> Werner Heinzmann, President, DASA Defence and Civil Systems Business Unit, interviewed in "Shaping the Future," *Military Technology*, July 1999, pp. 86-88, and Unattributed, "Daimler Chrysler Aerospace AG," *Asian Military Review*, October 1999, p. 32.
- <sup>76</sup> Jean-Yves Helmer, February, 1999, op. cit., p. 126.
- <sup>77</sup> Unattributed, "ILA 2000: East Meets West," *Aviation Week and Space Technology*, April 24, 2000, pp. S4-S21.
- <sup>78</sup> Jack Hoschouer, "German Consolidation Slows in Wake of EADS," *Defense News*, June 26, 2000, p. 58.
- <sup>79</sup> Saw, op. cit., p.33.
- <sup>80</sup> Piller, op. cit., p. 85.
- <sup>81</sup> *Ibid.*, pp. 85 and 87.
- <sup>82</sup> *Ibid.*, p. 87.
- <sup>83</sup> Hoschouer, June 26, 2000, op. cit.
- <sup>84</sup> Colin Clark, "Germans Balk at US Control Over PAC-3," *Defense News*, November 22, 1999, p.3.
- <sup>85</sup> B.G. John Urias, Program Executive Officer for PAC 3 and MEADS, in Colin Clark, "Germany, U.S. Resolve MEADS Tech Dispute," *Defense News*, May 29, 2000, p. 1.
- <sup>86</sup> Piller, op. cit., p. 87.
- <sup>87</sup> Colin Clark, "Losers Complain Politics Steered Germany's Engine Choice for NH-90," *Defense News*, June 19, 2000, p. 2.
- <sup>88</sup> Walter Kroell, Chairman of the Board, German Aerospace Center, in Peter B. de Selding, "Germany to Oppose U.S.-European Engine Development," *Defense News*, June 26, 2000, p. 32.