

Germany

Europe
January 2024

Country Primer

Political System

The Federal Republic of Germany is a federal republic, with 16 lander (states). The bicameral legislature consists of the upper Bundesrat and the lower Bundestag. The current Chancellor is Olaf Scholz who replaced Angela Merkel on 8 December 2021. The President is Frank-Walter Steinmeier since 19 March 2017.

Population

The population of Germany is about 84 million. The population is 95% German; the largest minority are Turks (2.3%). The country is primarily Protestant (45%) and Catholic (37%).

Military Posture

Threat Assessment

Germany had been the focus of attention during the Cold War, with NATO and the Warsaw Pact facing each other down along the West German and East German frontiers. With the fall of the Berlin Wall and the collapse of the USSR, Germany's strategic posture has radically changed. With the absorption of the former Democratic German Republic (DDR), and the withdrawal of the last Russian troops in 1994, Germany has returned to the world stage as a unified state.

German security policy is closely tied with NATO and the European Union. On the one hand, Germany retains strong ties to the US and NATO as a symbol of its rejection of its past;



at the same time Germany has been an enthusiastic partner with France in promoting further unification of Europe as its future. Germany does not currently face any immediate strategic threat, as Russia is now separated from its eastern border by newly independent countries including Poland, Belarus, and Ukraine. Nor does Germany face any significant internal security problems beyond lingering terrorist threats.

The lack of serious external threats and the enormous costs inherent in the absorption of the DDR has led Germany to cut back on its defense forces. In the past few years, the emphases in German defense policy have been to promote further integration with its European partners, and to begin to consider Germany's



role in worldwide peacekeeping actions, mainly under the jurisdiction of the United Nations or European Union. Germany first began deploying troops abroad after a 1998 decision to take part in peace-keeping operations in the former Yugoslavia. In early 2006, Germany had 7,700 troops abroad, rising to 9,000 by year's end. Germany had over 5,000 troops in Afghanistan in 2011-2012.

Defense Structure

Federal Ministry of Defense
 Bundesministerium der Verteidigung (BMVg)
 PO Box 1328
 W-5300 Bonn 1
 Germany
 tel: (49) 228 561

Military Attaché in the USA
 Embassy of the Federal Republic of Germany
 4645 Reservoir Rd. NW
 Washington, DC 20007
 tel: (202) 298 4000
 fax: (202) 298 4391 (Defense)

Armed Forces Overview

The German armed forces (Bundeswehr) have an active strength of about 183,000. The conscription period was nine months but was suspended in July 2011 in favor of a program of "voluntary conscription". The Bundeswehr is now in the throes of major reorganization and downsizing.

Germany still has substantial numbers of foreign troops on its soil. Germany is still headquarters for the Allied Land Forces Central Europe (LANDCENT); Allied Air Forces Central Europe (AIRCENT); Allied Land Forces Jutland and Schleswig-Holstein (LANDJUT); and Allied Command Europe Mobile Force (AMF). NATO units deployed in

Germany include Belgium, France, Netherlands, UK and USA. These forces have been steadily declining since 1991. Allied forces finally withdrew from Berlin in 1994, and the last Russian troops departed in 1994. In August 2004, the US government announced plans to substantially reduce the size of US forces stationed in Germany.

Army

The Bundesheer's main combat strength is in its Field Army, which in the early 1990s consisted of three

Corps with 12 divisions (six panzer, four panzer grenadier, one mountain,

and one paratrooper). These were reduced to six divisions in 1994 and more recently to five.

Army Equipment Inventory

Weapon System	Quantity	Source	Notes
Armored Vehicles			
Leopard 2A6	328	FRG	main battle tank; some 2A7 being acquired; 621 inc. tanks in reserve
Wiesel	223	FRG	light airborne armored vehicle
Marder A1/A2	410	FRG	infantry combat vehicle being upgraded to Marder A3
Puma	226	FRG	IFV
Boxer	144	FRG	Wheeled IFV
TPz-1 Fuchs	359	FRG	wheeled APC; includes EW variant, NBC scout vehicle
Fennek	169	Germany	Scout vehicle
Field Artillery			
155mm FH-70	100	FRG	towed howitzer
155mm M109A3G	2	USA	self-propelled howitzer

155mm PzHb 2000	148	FRG	self-propelled howitzer; on order
M270 MLRS	55	USA	multiple rocket launcher
Battlefield Support Weapons			
Milan	1,519	FRG/France	manportable antitank missile
Spike		FRG/Israel	antitank missile
TOW	210	USA	antitank missile (exc. vehicle mounts)
Air Defense			
20mm Rh 202	1,155	FRG	towed air defense gun
Stinger		USA/FRG	manportable air defense missile
Army Aviation			
Airbus Helicopters EC 135T1	14	Germany	transport helicopters
Airbus Helicopters H135	7	Germany	ADAC Heliservice
Airbus Helicopters H145	15	Germany	Kommando Spezialkrafte
Airbus Helicopters H145M LUH SAR	8	Europe	SAR; 57 more a/c ordered as interim replacements for Tiger UHT gunships
Airbus Helicopters Tiger UHT	55	Europe	combat helicopters
Bell 206	6	USA	transport helicopters
NH Industries NH90 TTH	79	Europe	transport helicopters

Navy

The Bundesmarine is headquartered at Glücksburg, with other major bases at Wilhelmshaven, Kiel, Olpenitz and Wamemunde, Eckernforde, Flensburg, and Neustadt have only limited facilities to support the navy's ships. Emden on the North Sea is not a major base but can be used for operations. The navy has about 27,000 personnel.

The Bundesmarine Fleet Command is organized into seven operational commands: Frigate; Patrol Boat; Mine-countermeasures vessels, Submarine Support Flotillas; Naval Air; Naval Communications-Electronics Command. As in the case of the Bundesheer, the Bundesmarine did not absorb much combat equipment from the former East German

navy, preferring to retire it, or sell it off.

Aside from the major warships listed below, there are numerous mine warfare and support vessels.

The Bundesmarine operates a variety of support aviation units.

Navy Equipment Inventory

Weapon System	Quantity	Source	Notes
Warships			
Type 212	6	FRG	diesel attack submarine
<i>Sachsen</i> Type 124	3	FRG	missile frigate
Type 130	5	FRG	missile frigate
<i>Brandenburg</i> Type 123	4	FRG	missile frigate
<i>Bremen</i> Type 122A	8	FRG	frigate
Gepard T-143A	10	FRG	missile patrol boat armed with Exocet
Naval Aviation			
Airbus Helicopters H135	1	Germany	HTM
Boeing P-8A		USA	MPA; eight funded; five ordered
Lockheed Martin P-3C CUP	4	USA	MPA; acquired from Dutch navy
NH Industries NH90 NFH		Europe	ASW; 30 on order; will replace Lynxes

NH Industries NH90 NTH	18	Europe	transport helicopters; last delivered early 2023
RUAG Do 228-212NG	2	Switzerland	MPA
Westland Lynx 88	22	UK	transport helicopters
Westland Sea King Mk 41	10	UK	transport helicopters

Air Force

The Luftwaffe has about 45,000 personnel. The Tactical Command controls three tactical air divisions and two air defense divisions; there are separate Transport and Training Commands. The Luftwaffe is responsible for strategic national air defense and deploys two air defense divisions. Besides the major aircraft listed below, the Luftwaffe also operates a variety of transport, VIP, and liaison aircraft.

Air Force Equipment Inventory

<i>Weapon System</i>	<i>Quantity</i>	<i>Source</i>	<i>Notes</i>
Aircraft			
Airbus Helicopters H135	3	Germany	DL Helicopter
Airbus Helicopters H145M LUH SOF	16	Europe	Kommando Spezialkrafte; five more a/c on order
Airbus Industrie A319	1	Europe	recce
Airbus Industrie A321LR	2	Europe	transports
Airbus Industrie A350-900	1	Europe	special air mission wing
Airbus Military A400M	41	Europe	transports
Bombardier Global 6000		Canada	SIGINT; one on order, three planned
Eurofighter EF2000 Typhoon	133	Europe	fighter/attack
Grob G120TP	2	Germany	jJ-PAG
Lockheed Martin C-130J	3	USA	transports; three ordered
Lockheed Martin KC-130J		USA	tankers; three on order
Panavia Tornado ECR	30	Europe	EW
Panavia Tornado IDS	76	Europe	combat aircraft
Panavia Tornado IDS(T)	6	Europe	trainers
Sikorsky CH-53G/GS	81	USA	transport helicopters
Air Defense			
MIM-104 Patriot	200		air defense missile system
MIM-23 I-Hawk	216		air defense missile system
Roland	95		air defense missile system
S-200 (SA-5)			air defense missile system

Paramilitary Forces

The Federal Border Guards of the Ministry of Interior have 24,800 personnel organized into five regional commands. They have armored personnel carriers as well as an aviation force of about 50 helicopters. The German Coast Guard has 11 inshore patrol craft, one inshore tug, and various boats.

Defense Industry

Weapons Development

Ministry of Defense Armament Department
Rüstungshauptabteilung
PO Box 1328
W-5300 Bonn 1, Germany
tel: (49) 228 121

Germany does not have a large RDT&E establishment compared to other major European powers like France or Britain. It's development

efforts are on a smaller scale, and frequently are part of multi-national European ventures with the main efforts being undertaken by multi-national

firms or by German private companies. Some of the basic research is undertaken by BMVg institutes as well as by the Wehrtechnische Dienststelle (Test Establishments).

Weapons Production

Bundesamt für Wehrtechnik und Beschaffung (BWB)
Konrad Adenauer Ufer 2-6
PO Box 7360
W-5400 Koblenz, Germany
tel: (49) 261 4001

Germany does not follow the usual practice of major European powers in attempting to develop and manufacture a full range of weapons. In the past, it has relied on the US and multi-national programs for most of its aircraft and missiles. It has been generally self-sufficient in ground equipment and ships, although naval subsystems and weapons have often come from other countries. These procurement practices are gradually evolving with Germany favoring either domestic production, or participation with other European countries. In recent years, German weapon exports have significantly exceeded arms imports. Some of the major German defense firms are as follows:

- Airbus Group—EADS-Germany controlled many of Germany's aerospace firms. DASA (Deutsche Aerospace) was a consortium based around MBB and aimed at making German aerospace more competitive in the European and world market. Eurocopter was a joint venture between Aérospatiale and MBB aimed at satisfying European helicopter requirements including

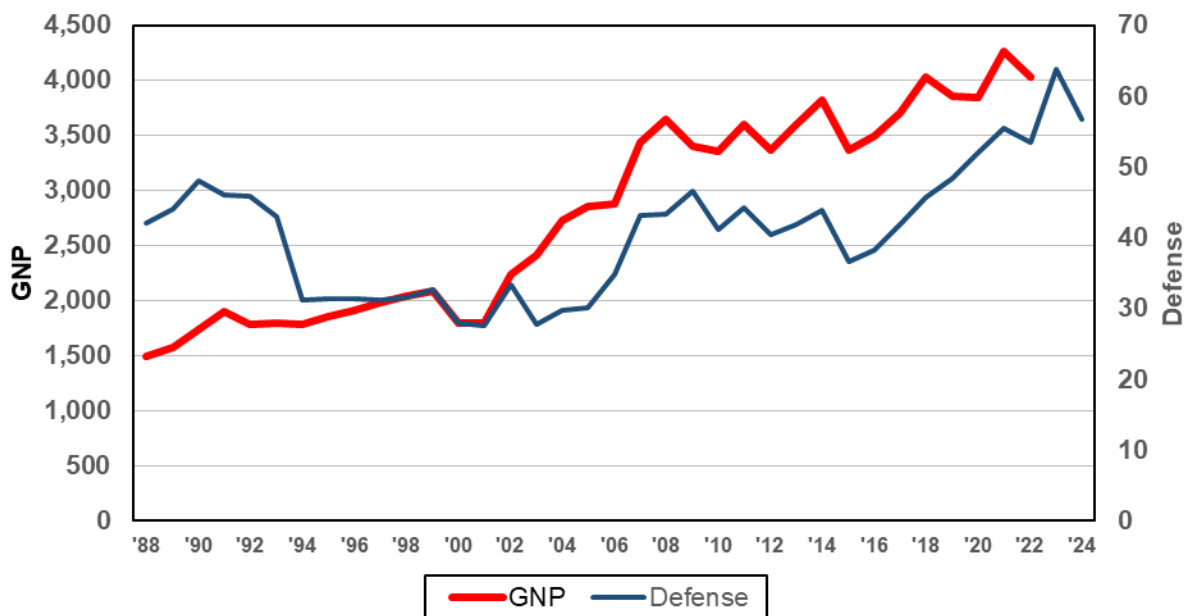
the Tiger armed helicopter program. Eurofighter Jagdflugzeug GmbH was a joint venture between DASA, BAe, Alenia and CASA aimed at producing the new Eurofighter 2000, now part of EADS. The 2014 re-branding of EADS as the Airbus Group will lead to name changes in the German portions of the industry. Airbus Group consists of three main divisions: Airbus (commercial aircraft), Airbus Defense and Space (military aircraft, missiles and space) and Airbus Helicopters (civil and military helicopters).

- Atlas Elektronik GmbH—This is one of Germany's major military electronics firms, involved in sonar, fire control and other electronic systems.
- Blohm + Voss—This is one of Germany's main naval shipbuilding firms, producing a wide range of warships and support vessels.
- Bodenseewerk Geratetechnik GmbH—BGT is Germany's main air-to-air missile firm, working on German versions of the Sidewinder as well as other missile programs. It is now part of Diehl.

- Diehl GmbH—Diehl is one of Germany's main ordnance firms, developing weapons, munitions, missile components and explosive devices, including advanced electronic subsystems for PGMs.
- Eltro GmbH—Eltro is one of Germany's main electro-optics firms, manufacturing night vision equipment.
- Faun GmbH—Faun manufactures heavy-duty equipment, especially large trucks, and construction equipment.
- Heckler & Koch GmbH—H&K is one of the world's premier small arms developers and manufacturers and supplies a large percentage of German army requirements.
- Howaldtswerke Deutsche Werft AG—HDW is one of Germany's largest naval shipyards, manufacturing submarines and other warships. It was purchased in 2004 by One Equity Partners, and then repurchased by Thyssen-Krupp.
- IVECO Magirus—Magirus is one of Germany's main manufacturers of trucks and other special purpose vehicles.

- Alfred Karcher GmbH—Karcher builds field kitchens, NBC protective systems and other military support equipment.
- Krauss-Maffei-Wegmann (KMW)—Krauss Maffei is Germany’s main manufacturer of tanks and builds other armored vehicles and recently merged with Wegmann which produces ordnance systems including tank and armored vehicle turrets. In 2015, plans were announced to merge KMW with Nexter.
- Lurssen Werft—This shipyard is best known for its widely exported missile boats and patrol craft.
- MBDA—EADS (now Airbus Group) controls two separate missile ventures, MBDA formed from BAE Dynamics, Matra Defense and Alenia, and DASA-LFK which combines former German missile firms such as MBB.
- RAM System GmbH—This is the joint venture with BGT, Diehl, MBB and Telefunken, now part of MBDA, develop and manufacture the RAM naval air defense missile.
- Rheinmetall Defence—This is one of Germany’s largest defense firms, once known for its ordnance products, but now more broadly diversified including automotive (MAN) and electronics.
- Siemens Defense Electronics—Siemens is Germany’s largest defense electronics firm, producing a wide range of electronic products including radars, computers, radio, and communication equipment, C3I and other systems.
- Thyssen Henschel—Thyssen is one of Germany’s main producers of light armored vehicles including the Marder.
- Thyssen Nordseewerke—Thyssen is a major naval shipyard, and among its current programs are the Type 212 submarines.
- Carl Zeiss—Zeiss is a world-famous optics manufacturer and produces optical devices and electro-optics for the German armed forces.

German Budget Trends (\$ Billions)



Defense Budget

Government Budget Overview

Currency:	euro (\$ = .92)
Military budget as % of GNP:	1.2%
Avg. annual GNP growth:	3%

Avg. annual inflation rate	~3%
Average Defense RDT&E (budget %)	3.7%
Average Defense procurement (budget %)	16.4%

(\$ billions, current \$)	2015	2016	2017	2018	2019	2020	2021	2022	2023	2014
Defense Budget	36.6	38.3	41.8	45.5	48.4	52.1	55.5	53.4	63.7	56.8
Gross National Product	3,370.0	3,480.0	3,700.0	3,950.0	3,860.0	3,840.0	4,260.0	4,030.0	n/a	n/a
Foreign Military Sales (FMS) Transactions with USA (\$ Millions)										
FMS Agreements	340.8	99.3	243.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a
FMS Deliveries	139.3	154.1	105.3	n/a	n/a	n/a	n/a	n/a	n/a	n/a
FMS Sales	n/a	38.4	222.7	127.8	1,161.1	501.5	1,097.4	440.0	n/a	n/a

Defense Budget Breakdown by Category

(€ Billions)	2004	2005	2006	2007	2008	2009	2010	2012	2014	2015
Personnel	12.6	12.4	12.1	12.1	16.7	17.2	17.4	17.3	18.7	18.2
O&M	6.08	6.47	6.5	6.37	7.52	8.0	8.4	10.3	6.1	11.3
Proc. (Army)	0.55	0.66	0.71	0.797	1.37	0.972	0.942	1.0	1.0	1.1
Proc. (Navy)	0.51	0.49	0.44	0.485	0.59	0.51	0.47	0.51	0.66	0.151
Proc. (AF)	1.84	1.72	1.75	1.78	2.11	2.19	2.12	2.4	2.2	1.567
Proc. (Other)	1.34	1.23	1.26	1.27	1.7	1.6	1.66	1.3	1.1	1.2
Construction	0.73	0.72	0.79	0.89	0.97	1.04	1.1	0.79	3.5	0.82
R&D	0.99	1.0	1.02	1.2	1.2	1.07	1.1	0.88	0.85	0.895
Total	24.71	24.7	24.6	24.7	31.2	32.6	33.2	34.5	34.4	35.4

Defense Procurement by Category

(€ Billions)	2004	2005	2006	2007	2008	2009	2010	2012	2014	2015
Aircraft	2.24	2.04	2.04	1.9	2.5	2.6	2.55	2.5	1.9	2.07
Missiles	0.132	0.146	0.172	0.178	0.171	0.168	0.164	0.171	0.016	0
Warships	0.687	0.6	0.485	0.529	0.448	0.572	0.572	0.706	0.51	0.045
AFVs	0.119	0.144	0.247	0.223	0.296	0.3	0.32	0.456	0.315	0.474
Artillery & Ordnance	0.304	0.324	0.37	0.081	0.451	0.43	0.4	0.35	0.331	0.301
Mil. Electronics	0.296	0.336	0.437	0.349	0.371	0.497	0.38	0.27	1.0	0.185

FMS Contracts

Below is a listing of all US Foreign Military Sales contracting actions that have been announced since the beginning of FY20 (10/1/19). These actions include the award of, or modification to, prime contracts with a base value of \$7 million or more.

Date	Contract Number	Obligation	Details
<u>Alliant Techsystems, Operations</u>			
09/28/2020	N00019-20-F-0271	\$7,041,566	cost-plus-fixed-fee, firm-fixed-price order against a previously issued basic ordering agreement contract action issued by the Naval Air Systems Command, Patuxent River, MD [US Navy] to provide non-recurring engineering support to address hardware and software obsolescence related to special test equipment, to include the Front End Assembly (FEA) test station, Visual Test System, Millimeter Wave (MMW) transceiver test station and the MX-12348/USM cable assembly set interface device. Work will be performed in Northridge, CA (96%), Torrance, CA (2%), and Rome (2%). The contract is scheduled to be completed by 2/28/2023.

BAE Systems, Information & Electronic Systems Integration - Electronic Solutions

12/28/2020	N00039-21D4000	\$0	increment as part of an \$86,910,000 indefinite-delivery/indefinite-quantity contract action issued by the Naval Information Warfare Center - Pacific, San Diego, CA [US Navy] for systems engineering and integration of Multifunctional Information Distribution System Low Volume Terminals (MIDS-LVTs). MIDS-LVTs provides secure, high-capacity, jam-resistant, digital data and voice communications capability for the Navy, Air Force and Army platforms, and the platforms of France, Italy, Germany and Spain. Work will be performed in Wayne, NJ (98%), and Paris (2%). The contract is scheduled to be completed by 12/31/2025. Program involvement: MIDS-LVTs.
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BAE Systems, Platforms & Services

04/28/2021	N00024-21-C-5393	\$19,395,557	cost-plus-fixed-fee and cost-only contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] for MK 41 Vertical Launching System mechanical design agent services to provide design and system engineering support, logistics, and ship/missile integration services. Work will be performed in Minneapolis, MN (42%), Norfolk, VA (18%), San Diego, CA (18%), and 4 other locations (22%). The contract is scheduled to be completed by 4/30/2026. Program involvement: Mk 41 VLS. RDT&E involvement: 0604307N.
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Boeing, Defense, Space & Security - Commercial Derivative Aircraft

09/27/2021	N00019-14-C-0067	\$756,634,580	fixed-price-incentive-fee modification to a previously awarded contract action issued by the Naval Air Systems Command, Patuxent River, MD [US Navy] for the production and delivery of five Lot 12 P-8A aircraft for the government of Germany. Work will be performed in Seattle, WA (98.2%), Huntington Beach, CA (1.2%), and various locations (.6%). The contract is scheduled to be completed by 2/28/2025. Program involvement: P-8.
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Boeing, Defense, Space & Security - Mobility, Surveillance & Bombers

05/10/2023	N00019-14-C-0067	\$10,482,918	cost-plus-fixed-fee modification to a previously awarded contract action issued by the Naval Air Systems Command, Patuxent River, MD [US Navy] to add scope and provide non-recurring engineering in support of mission systems hardware and software to develop a unique configuration of the P-8A aircraft for the government of Germany. The contract is scheduled to be completed by 12/31/2024. Program involvement: P-8.
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CAS

02/26/2020	W31P4Q-18-A-0018	\$35,505,220	modification contract action issued by the Army Contracting Command - Redstone Arsenal, Redstone Arsenal, AL [US Army] for technical engineering services in support of the Lower Tier Project Office. The contract is scheduled to be completed by 2/28/2021. RDT&E involvement: 0604114A.
02/25/2021	W31P4Q-18-A-0018	\$24,137,540	modification contract action issued by the Army Contracting Command - Redstone Arsenal, Redstone Arsenal, AL [US Army] for technical engineering services in support of the Lower Tier Project Office. The contract is scheduled to be completed by 2/28/2022. RDT&E involvement: 0603305A.

CFM International, (joint venture)

11/20/2023	N00019-23-C-0051	\$47,775,000	modification to a previously awarded firm-fixed-price contract action issued by the Naval Air Systems Command, Patuxent River, MD [US Navy] to procure three CFM56-7B27AE spare engines, two for the Navy and one for the government of Germany, in support of the P-8A Poseidon aircraft. Work will be performed in Villaroche (53%), Durham, NC (43%), and Peebles, OH (4%). The contract is scheduled to be completed by 12/31/2023. Program involvement: CFM56, P-8, F108.
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Chemring Australia

01/30/2024	N00019-21-C-0081	\$8,739,500	increment as part of a \$31,096,730 modification to a previously awarded firm-fixed-price contract action issued by the Naval Air Systems Command, Patuxent River, MD [US Navy] for the production and delivery of 19,570 MJU-68/B Flare Infrared Countermeasures in support of the Joint Strike Fighter program (12,918 for the Navy; 1,152 for the Air Force; 1,176
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for the government of Italy; 1,152 for the government of Belgium; 868 for the government of Great Britain; 816 for the government of Japan; 720 for the government of the Germany; 672 for the government of Denmark; and 96 for the government of Poland). Work will be performed in San Diego, CA (38%), Lara (32%), Toone, TN (27%), and 2 other locations (3%). The contract is scheduled to be completed by 2/28/2025. Program involvement: MJU-68, F-35.

DCS

06/01/2021	FA8730-21-C-0031	\$2,512,799	increment as part of an \$11,330,717 time and materials contract action issued by the Air Force Life Cycle Management Center - Hanscom, Hanscom AFB, MA [US Air Force] for the Agile Global Mobility (AGM) bridge contract. This contract provides continuous maintenance and development of its newly fielded, unit-level mission planning software to support real-world global flight operations for Air Mobility Command (AMC) aircraft (KC-46, KC-10, KC-135, C-130J, C-130J, C-130 AMP, C-17, and C-5) in support of US military missions as well as mission planning for Foreign Military Sales (FMS) variants of the AMC Aircraft. Work will be performed in various locations . The contract is scheduled to be completed by 9/6/2022. Program involvement: KC-46, KC-10, KC-135, C-130, C-17, C-5. RDT&E involvement: 0401840F.
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Design West Technologies

09/29/2021	N63394-21-C-0011	\$24,408,265	firm-fixed-price contract action issued by the Naval Surface Warfare Center - Port Hueneme, Port Hueneme, CA [US Navy] for the manufacture, assembly, test and delivery of MK 5 Mod 2 and MK 6 Mod 1 launch sequencers and associated kitted material. The contract is scheduled to be completed by 12/31/2023. Program involvement: MK 41 VLS.
09/16/2022	N63394-21-C-0011	\$26,155,214	firm-fixed-price modification to a previously awarded contract action issued by the Naval Surface Warfare Center - Port Hueneme, Port Hueneme, CA [US Navy] 0011 to exercise options for the manufacture, assembly, test, and delivery of MK 5 Mod 2 and MK 6 Mod 1 launch sequencers and associated kitted material. The contract is scheduled to be completed by 10/31/2023. Program involvement: MK 5 Mod 2 and MK 6 Mod 1 launch sequencers.
09/29/2022	N63394-22-C-0008	\$15,949,902	firm-fixed-price contract action issued by the Naval Surface Warfare Center - Port Hueneme, Port Hueneme, CA [US Navy] for the manufacture, assembly, test and delivery of the Motor Control Panel and associated components in support of the MK-41 Vertical Launch System. The contract is scheduled to be completed by 9/30/2023. Program involvement: MK-41 VLS.
09/28/2023	N63394-21-C-0011	\$21,328,134	firm-fixed-price modification to a previously awarded contract action issued by the Naval Surface Warfare Center - Port Hueneme, Port Hueneme, CA [US Navy] to exercise options to procure launch sequencers and associated kitted material in support of the MK 41 Vertical Launching System. The contract is scheduled to be completed by 11/30/2024. Program involvement: MK 41 VLS.

DynCorp International

11/30/2020	W58RGZ-19-C-0025	\$52,301,773	modification contract action issued by the Army Contracting Command - Redstone Arsenal, Redstone Arsenal, AL [US Army] for support of various Army Model Design Series aircraft and equipment in support of deployed units. Work will be performed in the US, Afghanistan, Kosovo, Kuwait and Germany. The contract is scheduled to be completed by 11/30/2021.
11/22/2021	W58RGZ-19-C-0025	\$8,529,070	modification contract action issued by the Army Contracting Command - Redstone Arsenal, Redstone Arsenal, AL [US Army] for worldwide aviation maintenance. Work will be performed in Fort Campbell, KY, Fort Knox, KY, Fort Drum, NY, and 3 other locations. The contract is scheduled to be completed by 11/30/2022.

ESG Aerosystems

11/09/2020	N00189-21-D-Z007	\$2,500	increment as part of a \$64,773,941 firm-fixed-price, indefinite-delivery/indefinite-quantity contract action issued by the Naval Supply Systems Command - Fleet Logistics Center, Norfolk, VA [US Navy] to develop a curriculum and facilitate training for P-3 aircrew positions including copilots, patrol plane commander, instructor pilot, flight engineer, instructor
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flight engineer, and flight currency training in support of Naval Education and Training Security Assistance Field Activity's applicable field units and other program offices and stakeholders. Work will be performed in Starke, FL (80%), and Jacksonville, FL (20%). The contract is scheduled to be completed by 11/30/2025. Program involvement: P-3.

EUROMIDS

05/31/2022 N00039-22-D-4001 \$0

increment as part of a \$338,794,284 indefinite-delivery/indefinite-quantity contract action issued by the Naval Information Warfare Center - Pacific, San Diego, CA [US Navy] to provide Multifunctional Information Distribution System Low Volume Terminals (MIDS-LVTs), spares, engineering support and logistics to four European nations' (France, Germany, Italy and Spain) military platforms, and software support to the five MIDS nations' systems engineering and integration of MIDS-LVTs. MIDS-LVTs provides secure, high-capacity, jam-resistant, digital data and voice communications capability for Navy, Air Force and Army platforms, and the platforms of subject nations. The contract is scheduled to be completed by 6/30/2027. Program involvement: MIDS-LVT.

General Dynamics, Information Technology

12/17/2021 N68936-22-D-0013 \$0

increment as part of an \$8,215,675 firm-fixed-price, indefinite-delivery/indefinite-quantity contract action issued by the Naval Air Warfare Center - Weapons Division, China Lake, CA [US Navy] to procure 324 Avionics Test Set Cable assemblies and associated individual cable assemblies in support of testing avionics systems onboard F-15, F-16, and F-18 aircraft for the Air Force, and the governments of Germany, Taiwan, and Bahrain. Work will be performed in Chesapeake, VA. The contract is scheduled to be completed by 12/31/2026. Program involvement: F-15, F-16, F-18.

L3Harris Technologies

12/28/2022 N00019-20-C-0056 \$14,298,819

firm-fixed-price modification to a previously awarded contract action issued by the Naval Air Systems Command, Patuxent River, MD [US Navy] to add scope for the production and delivery of 17 BRU-75A and BRU-76A Bomb Rack Unit ship sets (nine for the Navy, five for the Government of Germany, two for the Commonwealth of Australia, and one for the Republic of Korea) for the P-8A Lots 12-13 aircraft. The contract is scheduled to be completed by 5/31/2026. Program involvement: P-8, BRU-75, BRU-76.

Laurel Technologies Partnership

06/03/2022 N63394-22-C-0003 \$11,989,125

firm-fixed-price contract action issued by the Naval Surface Warfare Center - Port Hueneme, Port Hueneme, CA [US Navy] for production of Launch Control Unit (LCU) MK 235 Mod 17 and Mod 18 and associated components in support of the MK 41 Vertical Launch System (VLS). The LCUs are used to select and issue prelaunch and launch commands to selected missiles in the VLS. The contract is scheduled to be completed by 7/31/2023. Program involvement: MK 41 VLS.

Lockheed Martin, Missiles & Fire Control

01/30/2020 W31P4Q-19-F-0003 \$77,064,274

Foreign Military Sales contract action issued by the Army Contracting Command - Redstone Arsenal, Redstone Arsenal, AL [US Army] for Phased Array Tracking Radar to Intercept on Target, Advanced Capability-3. The contract is scheduled to be completed by 1/31/2023. Program involvement: MIM-104.

06/10/2020 W31P4Q-20-C-0023 \$1,042,250,000

modification contract action issued by the Army Contracting Command - Redstone Arsenal, Redstone Arsenal, AL [US Army] for incidental services, hardware, facilities, equipment, and all technical, planning, management, manufacturing, and testing efforts to produce Phased Array Tracking Radar to Intercept on Target Advanced Capability-3 missiles. Work will be performed in Huntsville, AL; Camden, AR; Chelmsford, MA; Grand Prairie, TX; and Lufkin, TX. The contract is scheduled to be completed by 10/31/2024. Program involvement: MIM-104.

02/13/2023 W31P4Q-23-F-0003 \$25,796,949

cost-plus-incentive-fee contract action issued by the Army Contracting Command - Redstone Arsenal, Redstone Arsenal, AL [US Army] for the Phased Array Tracking Radar to Intercept on Target Advanced Capability-3 software task. The contract is scheduled to be completed by 2/12/2024. Program involvement: MIM-104.

06/14/2024 W31P4Q-24-F-0015 \$65,548,326 cost-plus-incentive-fee contract action issued by the Army Contracting Command - Redstone Arsenal, Redstone Arsenal, AL [US Army] for Phased Array Tracking to Intercept of Target Advanced Capability-3 software. Work will be performed in Bahrain, Germany, Japan, Kuwait, Netherlands, Poland, Qatar, Romania, Saudi Arabia, South Korea, Sweden, Switzerland, United Arab Emirates, and Grand Prairie, TX. The contract is scheduled to be completed by 6/30/2026. Program involvement: MIM-104.

Lockheed Martin, Rotary & Mission Systems

02/14/2020 N00024-20-C-5310 \$46,607,377 increment as part of a \$233,036,890 firm-fixed-price undefinitized contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] for the procurement of Mk 41 Vertical Launching System vertical launcher module assemblies, modernization kits and spare components. Work will be performed in Baltimore, MD (40%), Indianapolis, IN (36%), Farmingdale, NY (9%), and 8 other locations (15%). The contract is scheduled to be completed by 3/31/2025. Program involvement: Mk 41 VLS.

Northrop Grumman, Innovation Systems

03/12/2020 N00019-19-C-0049 \$164,954,564 modification to a previously awarded firm-fixed-price contract action issued by the Naval Air Systems Command, Patuxent River, MD [US Navy] to procure Lot Nine, full rate production of Advanced Anti-Radiation Guided Missiles (AARGM). This modification includes the conversion of Advanced Guided Missile-88B High Speed Anti-Radiation Missiles into 253 AGM-88E AARGM all up rounds for the Navy, and two Captive Air Training Missiles for the government of Germany. Work will be performed in Northridge, CA (80%), and Ridgecrest, CA (20%). The contract is scheduled to be completed by 3/31/2023. Program involvement: AARGM, AGM-88.

11/29/2021 N00019-21-C-0013 \$46,161,550 firm-fixed-price modification to a previously awarded contract action issued by the Naval Air Systems Command, Patuxent River, MD [US Navy] to procure full rate production Lot 11 Advanced Anti-Radiation Guided Missiles (AARGM) to include the conversion of 51 AGM-88B High Speed Anti-Radiation Missiles (HARMs) into AGM-88E AARGM all-up-rounds, as well as related supplies and services necessary for their manufacture, spares, and fleet deployment for the government of Germany. Work will be performed in Northridge, CA (80%), and Ridgecrest, CA (20%). The contract is scheduled to be completed by 3/31/2025. Program involvement: AGM-88, AARGM, HARM.

Northrop Grumman, Mission Systems

03/02/2021 N00164-21-D-JQ81 \$239,430 increment as part of a \$9,120,770 firm-fixed-price, indefinite-delivery/indefinite-quantity contract action issued by the Naval Surface Warfare Center - Crane Division, Crane, IN [US Navy] for the procurement and sustainment of inertial measurement units. Sustainment efforts include test, teardown and evaluation, failure analysis and repairs. Work will be performed in Salt Lake City, UT. The contract is scheduled to be completed by 3/31/2026.

RAMSYS

02/22/2023 N00024-23-C-5404 \$43,288,563 firm-fixed-price contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] for fiscal 2023 for German Navy's requirements for German Rolling Airframe Missile Block II Guided Missile Round Pack recertification. Work will be performed in Überlingen (36%), Schrobenhausen (34%), Röthenbach (15%), and 2 other locations (15%). The contract is scheduled to be completed by 8/31/2027. Program involvement: RIM-116 RAM, Rolling Airframe Missile.

Raytheon Technologies, Raytheon Missiles & Defense

09/18/2020 N00024-18-C-5431 \$60,484,968 cost-plus-fixed-fee modification to a previously awarded contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] for design agent and engineering support services for the Rolling Airframe Missile (RAM) MK-31 Guided Missile Weapon System improvement program. The MK-31 RAM Guided Missile Weapon System is a cooperative development and production program conducted jointly by the US and the Federal Republic of Germany under memoranda of understanding. Work

			will be performed in Tucson, AZ (99%), and Louisville, KY (1%). The contract is scheduled to be completed by 12/31/2021. Program involvement: RIM-116 Rolling Airframe Missile. RDT&E involvement: 0604756N.
03/12/2021	N00024-17-C-5410	\$9,231,000	cost-plus-fixed-fee modification to a previously awarded contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] to provide funding for engineering and technical services in support of Standard Missile (SM-2/6). Work will be performed in Tucson, AZ (85%). The contract is scheduled to be completed by 12/31/2021. Program involvement: RIM-67 Standard Missile, SM-2, SM-6. RDT&E involvement: 0604366N.
09/27/2021	N00024 17-C-5420	\$25,382,157	firm-fixed-price modification to a previously awarded contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] to procure Standard Missile-2 (SM-2) Zumwalt-class spares, deliver and install MK 698 guidance missile test set (GMTS), and MK 698 GMTS spare parts/material. Work will be performed in Tucson, AZ (90%), and El Ferrol (10%). The contract is scheduled to be completed by 1/31/2025. Program involvement: RIM-67 Standard Missile, Zumwalt-class, SM-2, Mk 698.
09/29/2021	N00024-21-C-5408	\$358,028,032	firm-fixed-price contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] for support of the fiscal 2021-2023 Evolved Seasparrow Missile (ESSM) Block 2 full rate production requirements. Work will be performed in Tucson, AZ (46%), Edinburgh (8%), San Jose, CA (7%), and 19 other locations (39%). The contract is scheduled to be completed by 3/31/2025. Program involvement: RIM-162 ESSM, Seasparrow .
12/17/2021	N00024-21-C-5411	\$578,314,177	firm-fixed-price modification to a previously awarded contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] to procure Standard Missile-2 (SM-2) production requirements including all up rounds, instrumentation kits, engineering services and spares; and to definitize the long-lead-material undefinitized contract action in support of the Navy and the governments of Korea, Denmark, Taiwan, Netherlands, Spain, Chile, Japan and Germany. Work will be performed in Tucson, AZ (45%), Huntsville, AL (9%), Andover, MA (8%), and various locations (38%). The contract is scheduled to be completed by 12/31/2026. Program involvement: RIM-67 Standard Missile, SM-2.
04/28/2022	N00024-21-C-5401	\$55,397,519	firm-fixed-price modification to a previously awarded contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] to exercise options for fiscal 2022 US and German Navy German Rolling Airframe Missile (RAM) Mod 5 Guided Missile Launching System (GMLS) requirements and spares. Work will be performed in Ottobrunn (43%), Louisville, KY (26%), Moorpark, CA (9%), and various locations (22%). The contract is scheduled to be completed by 2/28/2025. Program involvement: RIM-116 RAM, Rolling Airframe Missile.
05/25/2022	N00024-17-C-5410	\$9,726,488	cost-plus-fixed-fee modification to a previously awarded contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] to exercise options and incrementally fund existing contract line items for engineering and technical support of Standard Missiles 2 and 6 (SM-2/6). Work will be performed in Tucson, AZ (82%), Huntsville, AL (5%), Joplin, MO (5%), and various locations (8%). The contract is scheduled to be completed by 2/28/2025. Program involvement: RIM-67 Standard Missile, SM-2, SM-6. RDT&E involvement: 0207161N/0203801A.
09/30/2022	N00024-21-C-5408	\$55,472,695	firm-fixed-price modification to a previously awarded contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] for shipping containers and spare parts, including options for additional spare parts in fiscal 2023, in support of the fiscal 2021-2023 Evolved Seasparrow Missile (ESSM) Block 2 full rate production requirements. Work will be performed in Raufoss (38%), Tomago (15%), Tucson, AZ (13%), and 11 other locations (34%). The contract is scheduled to be completed by 3/31/2025. Program involvement: RIM-162 ESSM, Evolved Seasparrow Missile.
11/09/2022	N00024-22-C-5400	\$60,423,838	firm-fixed-price modification to a previously awarded contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] to exercise options for fiscal 2023 U.S. Navy and Federal Republic of Germany procurements for Rolling Airframe Missile Block 2B guided missile round pack requirements. Work will be performed in Ottobrunn (62%), Bedford, NH (12%), Glenrothes Fife (9%), and various locations (17%).

			The contract is scheduled to be completed by 1/31/2026. Program involvement: RIM-116 RAM, Rolling Airframe Missile.
12/09/2022	N00024-21-C-5401	\$20,838,954	firm-fixed-price modification to a previously awarded contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] to exercise options for fiscal 2022 Egyptian Navy Rolling Airframe Missile (RAM) Mod 5 Guided Missile Launching System (GMLS) requirements and German Navy power supply spares. Work will be performed in Otobrunn (46%), Tucson, AZ (13%), Louisville, KY (13%), and various locations (28%). The contract is scheduled to be completed by 3/31/2025. Program involvement: RIM-116 RAM, Rolling Airframe Missile.
03/29/2023	N00024-17-C-5410	\$19,112,607	cost-plus-fixed-fee modification to a previously awarded contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] to exercise options and incrementally fund existing contract line items for engineering and technical support of Standard Missiles 2 and 6 (SM-2/6). The contract is scheduled to be completed by 2/29/2024. Program involvement: RIM-67 Standard Missiles, SM2, SM-6. RDT&E involvement: 0604366N/0604881C/0604880C.
<i><u>Raytheon, Integrated Defense Systems</u></i>			
03/27/2020	SPRBL1-20-C-0002	\$7,800,000	firm-fixed-price, one-time-buy contract action issued by the Defense Logistics Agency - Land & Maritime, Aberdeen Proving Ground, MD [Defensewide] for spare parts in support of the Patriot Routing Logic Relay Interface Units Communication Enhancement 3. Work will be performed in Massachusetts. The contract is scheduled to be completed by 5/14/2023. Program involvement: MIM-104.
<i><u>Raytheon, Missile Systems</u></i>			
03/27/2020	N00024-19-C-5404	\$18,300,496	firm-fixed-price modification to a previously awarded contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] for fiscal 2020 Navy and Foreign Military Sales (FMS) funds to Korea for Rolling Airframe Missile Mod 5 Guided Missile Launching System requirements. Work will be performed in St. Petersburg, FL (36%), Louisville, KY (21%), Tucson, AZ (15%), and various locations (28%). The contract is scheduled to be completed by 12/31/2022. Program involvement: RIM-116 Rolling Airframe Missile.
03/27/2020	N00024-20-C-5400	\$146,076,524	firm-fixed-price contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] for Rolling Airframe Missile Block 2/2A Guided Missile Round Pack and spare replacement components. Work will be performed in Otobrunn (44%), Tucson, AZ (35%), Rocket Center, WV (9%), and various locations (12%). The contract is scheduled to be completed by 6/30/2025. Program involvement: RIM-116 Rolling Airframe Missile.
<i><u>Rolls-Royce</u></i>			
09/28/2021	FA8504-17-D-0002	\$82,957,980	delivery order under a basic requirements contract action issued by the Air Force Life Cycle Management Center - Robins, Robins AFB, GA [US Air Force] 0002 for the procurement of engines to support the C-130J aircraft fleet. The contract is scheduled to be completed by 12/31/2024. Program involvement: C-130, AE2100.
<i><u>RTX, Raytheon</u></i>			
08/31/2023	N00024-23-C-5401	\$10,029,711	cost-plus-fixed-fee modification to a previously award contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] to exercise options for design agent and engineering support services for the Rolling Airframe Missile. The contract is scheduled to be completed by 3/31/2028. Program involvement: RIM-116 Rolling Airframe Missile.
12/13/2023	N00024-23-C-5401	\$34,286,466	cost-plus-fixed-fee modification to a previously awarded contract action issued by the Naval Sea Systems Command, Washington, DC [US Navy] for design agent and engineering support services for the Rolling Airframe Missile. The contract is scheduled to be completed by 3/31/2028. Program involvement: RIM-116 Rolling Airframe Missile, RAM.
12/29/2023	FA8681-23-C-B001	\$344,619,301	modification to previously awarded contract action issued by the Air Force Life Cycle Management Center - Eglin, Eglin AFB, FL [US Air Force] for StormBreaker® (SDBII, GBU-53/B) Production Lot 10, for additional all up

rounds, containers and trainers. The contract is scheduled to be completed by 8/30/2028. Program involvement: StormBreaker.

Torch Technologies

05/23/2024 W31P4Q-23-F-C002 \$9,296,371

modification contract action issued by the Army Contracting Command - Redstone Arsenal, Redstone Arsenal, AL [US Army] for technical services support for aviation mission systems. Work will be performed in Madison, AL. The contract is scheduled to be completed by 5/7/2028.

Procurement Programs

Procurement

The table below lists German annual procurement through domestic

manufacture as reported in the annual United Nations Register of Arms.

(Units)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Fennek AFV	47	10	—	—	—	—	—	—	—	—
Boxer IFV	—	—	50	69	39	9	—	—	—	10
Puma IFV	—	—	—	—	—	19	37	59	71	72
Wiesel AFV	—	17	—	—	—	—	—	—	—	—
Eurofighter Typhoon	11	17	16	17	13	3	10	5	4	9
Tiger attack helicopter	1	—	7	9	5	7	8	9	10	4
U212 submarine	—	—	—	—	—	—	—	1	—	—
K130 Corvette	3	—	—	—	—	—	—	—	—	—
Taurus missile	120	21	—	—	—	—	—	—	—	—
RBS 15 missile	—	—	6	19	—	—	—	—	—	—

Aircraft

F-35 Fighter

On 28 July 2022, the US Congress was notified of a letter of offer to Germany valued at \$8,400.0 million for 35 F-35 JSF fighters, 105 AIM-120C-8 AMRAAM; 75 AGM-158B/B2 JASSM-ER; 344 GBU-53 SDB-II; 75 AIM-9X Block II+ Sidewinder, associated equipment, and technical support.

On 14 December 2022, Germany signed a letter of acceptance to join the F-35 JSF fighter program as a replacement for its Tornado fleet. Deliveries are expected to start in 2026 and be completed by 2030.

FCAS Future Fighter

In 2017, the Luftwaffe began open discussions about possible replacements for the Tornado fleet under the Future Air Combat System (FCAS). In March 2017, the Luftwaffe requested a briefing from the United States about the F-35 as a possible solution. The defense ministry responded in December 2017 advocating acquisition of more Eurofighters

for the requirement. The political response by the Merkel and Macron government was to begin talks over a possible multi-national effort to replace the Tornado with a European design. This seems like more of a long-term solution than the Tornado requirement since those aircraft will begin to be retired around 2025, much too soon for the development of a European F-35 equivalent.

Future Combat Air System is now being used to refer to a future Franco-German fighter effort. It is also called *Système de combat aérien futur* (SCAF) by France and *New Generation Fighter*. The two governments gave their official approval to the program at the ILA airshow in Berlin on 26 April 2018. An industrial agreement was announced at the 2019 Paris air show and a joint concept study was initiated early in 2019. Spain joined in 2019. The 18-month Phase 1A demonstration phase was formally approved in February 2020. In September 2021, the three partners agreed to fund Phase

1B in 2021-2024 with €3.6 billion, or €1.2 billion each. However, the actual execution of Phase 1B was significantly delayed until November 2022 when the partners agreed on workshakes.

The aim of Phase 2 was to have a technology demonstrator flying by 2027, a prototype in the early 2030s and the first operational aircraft in 2040. The New European Fighter Engine effort is being led by Safran and MTU.

Germany's commitment to the program has been questioned by France after Berlin announced plans to join the F-35 fighter program.

Eurofighter Typhoon

Germany is one of the main partners in the Eurofighter program. The program was well over budget, with the initial planned budget of DM5.76 billion escalating to DM9 billion by 2000.

The procurement objective fell from 250 to 180, with enough aircraft for four squadrons plus an attrition

pool. Germany finally committed itself to procurement in the summer of 1997, although Britain awarded its first production contracts in October 1996. Initial procurement funding was in the 1998 budget. The first service aircraft was delivered in 2002 and the last is scheduled for 2014. Germany has 44 Tranche 1, 70 Tranche 2 and 68 Tranche 3 aircraft planned. The Tranche 2 production contract was scheduled to be signed in July 2004, but this was delayed. Senior executives at Franco-German EADS corporation blamed the UK for holding up the Tranche 2 contract, adding that if no deal was signed before the end of July, the delay could add up to €2 billion in costs. The German parliament approved the Tranche 2 purchase in July 2004.

The first Taifun were deployed with the 73rd Fighter Squadron for training and the first combat aircraft to the 74th Fighter Squadron in mid-2006. Deliveries in 2006 were 12 aircraft and in 2007 were 6. Deliveries in 2016 were 5 aircraft.

In late 2009, the government announced plans to accept the last Tranche 3B totaling 37 aircraft but made clear that it plans to export them. All 31 aircraft under Tranche 3A will be deployed with the Luftwaffe. There are some plans to incorporate the Austrian order into the German figures which could reduce the number of Typhoons exported. The 2010 defense review recommended dropping the planned Tranche 3B acquisition, and the 2011 defense review left the acquisition objective at only 140 aircraft with no Tranche B aircraft. As of 2018, there were 120 in service and a further 8 to be delivered.

In April 2020, the government outlined plans to acquire 138 new combat aircraft including 93 Typhoons, and 45 Boeing F/A-E/F Super Hornets and E/A-18 Growlers. However, later in the year, the government noted that the actual final contracting decision on this program would be kicked down the road to

2022-2023 except for the Project Quadriga batch of 38 Typhoon described below.

In December 2020, the government announced plans to acquire a Tranche 4 of Typhoons including 38 aircraft (three IPA instrumented production aircraft, two attrition spares, 33 twin-seat). These will be fitted with the Captor-E radar and will be used to replace aged Tranche 1 aircraft. These are also called the Project Quadriga batch and are a portion of the 93 Typhoons outlined in the April 2020 plan.

In 2022, the German government revived the Tornado follow-on program with the expectation that the acquisition will consist of 55 more Eurofighter Typhoon in the ground strike configuration and 30 F/A-18 Super Hornets. Instead, in March 2022, the Bundeswehr announced that it had selected a mixture of 35 F-35 JSF, 15 Eurofighter Typhoon ECR as well as 15 EF-18 Growler electronic warfare aircraft.

NH-90 Helicopter Program

Germany has been one of the main participants in the NH-90 transport helicopter program. Its original procurement objectives were stated to be 264 helicopters (30 TFH-90s for the Bundesmarine, 114 TTH-90s for the Luftwaffe and 120 TTH-90s for the Bundesheer). The Bundeswehr planned to order 118 NH 90s between 2003 and 2009 and a total of about 60 naval MH 90s. Funding for procurement began in 1996. The contract for the NH-90 program signed in July 2000 included 134 army and air force NH-90 helicopters for Germany. The eventual procurement objective was 215 helicopters. The initial army portion of the order 50, followed by another 30 after exercising a contract option in 2007, bringing the total to 80. The 2006 air force requirement was pegged at 42 NH90 and the navy has a requirement for 30 MH90 which have not been ordered to date. The Luftwaffe had planned to allot 12 of its NH-90 to the SAR role

but attempts to integrate suitable systems to the airframe were unsuccessful and there have been discussions of acquiring these separately. In March 2013, Germany trimmed its army acquisition objective from 122 to 82 aircraft. However, the Bundesmarine added an order of 18 NFH90, so the final total of Germany dropped to 100. Delivery was badly behind schedule with only 33 in operation in early 2015.

As of 2018, there were 53 army TTH in service with 19 more to be delivered.

The delivery of the first NH90 Sea Lion in the Tranche 1 configuration took place on 24 October 2019. The Navy began flight operations at the beginning of June 2020. The delivery of the 18 NH90 Sea Lions in Tranche 1 configuration was completed.

In 2019, the Bundesmarine selected the NH90 Multi Role Frigate Helicopter (MRFH) Sea Tiger as the replacement for its Sea King, with 31 Sea Lions ordered. The first NH90 MRFH was scheduled to be delivered in November 2025 and delivery of the remainder of the NH90 MRFH by April 2030..

Uhu/Tiger Armed Helicopter

Airbus Helicopter (formerly EADS, Eurocopter) is currently manufacturing the Tiger armed helicopter for French and German requirements. German plans originally were pegged at 122 helicopters, which they now call Uhu (Owl) and these were ordered in 2001-09.

Due to the cutbacks in the 1997 defense budget, defense minister Volker Rühle ordered a postponement in the decision on the procurement of the U-Tiger until 1998. France and Germany signed the original production contract for 80 Tigers in June 1999. As of mid-2002, the procurement objective was pegged at 110 helicopters but since then has been trimmed back to 80 and the 2010 defense review recommended trimming it to 40. The first production helicopter was delivered in March 2002.

Plans called for having 50 in service by 2006 which has slipped; there were only five on service as of mid-2007. Deliveries in 2006 were only one Tiger and three in 2007, with total deliveries of only 11 by early 2013. In March 2013, the German government trimmed the order from 80 to 57, with plans to put 40 in operation and use the remainder for spares. Forty-nine Tigers were delivered in 2007-2016 and delivery was completed in 2019. Germany dragged its feet regarding participation in the Tiger Mk. 3 upgrade program and in 2023 confirmed that it will retire its Tiger force by 2038 in favor of light helicopters. In April 2022, the German parliament was informed that only 9 of its 51 Tiger helicopters were operational, and reliability has been a lingering problem for the type. In 2024, the date of withdrawal of the Tiger from service was advanced with plans to take them out of operational use in 2032.

H145M Light Helicopter

The German MoD released a White Paper in January 2016 outlining future acquisition plans. One of the few new-starts in the plan is a light utility helicopter, with preference for an off-the-shelf acquisition. The Airbus H145M is the most likely candidate with 15 already in service.

In May 2023, Germany announced that it would retire its Tiger attack helicopters in favor of the Airbus A145M light utility helicopter. An initial order was placed in December 2023 for 62 helicopters with an option for 20 more. The H135M is being designated as the LKH (Leichter Kampfhubschrauber) and will be fitted with the HForce weapons system. Delivery is expected in 2024-2028.

Heavy-lift Helicopter

The German and French governments began discussions with Boeing in the summer of 2001 over their requirements for a heavy lift helicopter, potentially based around the CH-47F

design. Eurocopter has proposed developing a new Heavy Transport Helicopter, but discussions have also been undertaken with the US about possible co-production of an upgraded CH-53 or follow-on. Recently, Germany has decided to embark on a CH-53 modernization program to extend its service life to 2025. In October 2018, the heavy-lift helicopter acquisition was put on hold, only to be revived in November. The requirement is for 60 helicopters and the CH-47E and CH-53 are expected to be the competitors. The decision was expected in 2020 with an order for 44-60 helicopters and deliveries starting in 2023. In October 2020, the government announced that the tender had been cancelled since the prices offered for both programs exceeded the plans. In June 2022, Germany decided to acquire 60 CH-47F Block II helicopters for its heavy helicopter requirement. On 11 May 2023, the US Congress was notified of a letter of offer to Germany valued at \$8,500.0 million for 60 CH-47F Block II cargo helicopters.

P-8A Poseidon

In 2017, France and Germany began discussing a possible Maritime Airborne Warfare System. This was aimed at replacing the French Atlantiques and German P-3 Orions. The aircraft would probably be based on the Airbus A320. However, on 12 March 2021, the US Congress was notified of a letter of offer valued at \$1,770.0 million for Five P-8A Poseidon maritime patrol aircraft. This was followed by an initial contract of \$756.6 million on 27 September 2021 with delivery expected by the end of 2025. In 2022, the program was extended with plans to acquire up to 12 Poseidons.

Global 6000 Pegasus ISR

The German government had planned to acquire the RQ-4A Global Hawk for its SIGINT requirements as described below. In 2020, the government decided to acquire three

Bombardier Global 6000 aircraft for the Pegasus program (PErsistent German Airborne Surveillance System). System uses the Hensoldt Pegasus Integrated Signal Intelligence System (ISIS). The cost of the program is €1.54 billion.

A400M Grizzly Transport

Germany had been one of the supporters of European efforts to develop a C-130 Hercules equivalent. The 1992 defense plan included provision for the Future Large Aircraft beginning in 1999 with DM 1.2 billion. Due to the cutbacks in the 1997 defense budget, development of the Future Transport Aircraft/FLA was not covered in the medium term (1997-2000) budgets. In June 2000, Germany formally announced plans to participate in the A400M venture with a requirement for 178 aircraft. This objective was trimmed back in more recent defense budget projections to 73 aircraft at a cost of DM 12 billion, but the recent budgets contain funding for only 40 aircraft. The German parliament did not agree to fund the 40 aircraft until March 2002 and put off signing up for the additional 33 aircraft until after the September 2002 elections. Germany committed to 60 aircraft at an expected cost of €8.3 billion with deliveries starting in August 2010 and continuing to 2016. The problems plaguing the A-400M program have led to some doubts whether the program will proceed, and if it does proceed, whether the signatory countries will acquire the total number of aircraft originally planned. One compromise suggested in 2009 was that the countries would maintain their funding obligations but receive a smaller number of aircraft than planned. As of the 2011 defense deliberations, the objective was cut from 53 to 40 aircraft. Germany plans to sell off the surplus 13 aircraft. Deliveries through June 2016 were three aircraft.

As of 2018, 18 were in service with 35 to be delivered.

Missiles

Air Defense Initiative

In 2011, Germany and the US decided to end the air defense missile program once RDT&E is complete and not to proceed to the procurement phase. However, in 2015, Germany revived the program with plans to award a procurement contract in 2017; this date slipped and in 2021 the program was cancelled with plans to upgrade the existing Patriot missile system instead. The German government established a program for Patriot 2030+ with an aim to keep the Patriot in service to 2048. As part of this effort, in January 2024 MBDA announced that it would locally manufacture 1,000 Patriot 2 missiles in Germany. Other upgrades to the system are anticipated.

Arrow 3 Missile

Germany had a requirement for an anti-ballistic missile territorial missile defense program called Waffensystem Territoriale Flugkörperabwehr (WaSysTerrFKAbw). The Israeli Arrow 3 was selected and contract negotiations were completed in July 2023. Due to US content, the US government approved the purchase on 17 August 2023. A pre-contractual declaration of commitment to the procurement was signed on 28 September 2023. The €25 million template for the procurement contract was approved on 18 October 2023 by the Budget Committee of the German Bundestag approved. The full contract was signed on 23 November 2023. The program has an estimated cost of \$3.6 billion. Initial sensor technology is expected in 2025, and full capability by 2030.

Meteor AAM

The Luftwaffe acquired 328 AIM-120 AMRAAMs from the US to rearm its F-4F Phantoms, down from original plans for 400. Germany has ordered 96 AMRAAMs and further procurement is in doubt. BAe was developing the S.225 with Sweden as an alternative to AMRAAM, but in

1994, DASA announced it was planning to develop its own contender, called the A3M. In 1996, DASA agreed to join a multinational effort called Meteor to develop an AM-RAAM equivalent. In 2000, Britain selected the Meteor for its future requirement, tied to German assurances of participation in the program. Germany was planning to acquire 480 Meteor starting in 2011 but the 2010 defense review recommended cutting this total.

On 19 July 2023, the US Congress was notified of a letter of offer to Germany valued at \$2,900 million for 969 AIM-120C-9 AMRAAM missiles.

IRIS-T Missile

IRIS-T (IR Imaging Sidewinder-replacement with Tail-control) is the first stage of a German effort to field a new short-range air-to-air missile to replace the AIM-9 Sidewinder. The IRIS seeker was originally developed as a possible AIM-9 upgrade, but in 1994, the Luftwaffe decided to opt for a whole new missile with a new engine and airframe. The program began the definition phase in 1996 and will transition to a 54-month engineering phase in 1997. Current plans are to field the new missile by 2002. Germany is currently trying to strike an agreement with Canada, Denmark, Greece, Italy, Norway, Portugal, and Sweden to co-develop the missile as a Sidewinder replacement. The prime German contractor is BGT. The German requirement was for 2,560 missiles with 912 to be ordered in 2002-2009, now reduced to 1,250 IRIS-T short range AAM at a cost of €550 million.

On 22 December 2023, the BAAINBw signed a framework agreement with Diehl Defence for the procurement of more than 1,200 IRIS-T short-range air-to-air missiles (AAMs) for the German armed forces.

IRIS-T SL Low-Altitude SAM

In June 2023, Berlin announced plans to purchase six IRIS-T SL air defense systems for its air force at a total cost of some €900 million.

On 25 January 2024, Germany's military procurement agency, the Federal Office for Bundeswehr Equipment, Information Technology and In-Service Support (BAAINBw), signed a development contract today with the ARGE NNbS (Short- and Very Short-Range Air Defence System Consortium) for the "Air Defence System, Short- and Very Short-Range", or LVS NNbS. ARGE NNbS has three member companies: Rheinmetall Electronics GmbH of Bremen, Diehl Defence GmbH & Co. KG of Überlingen, and Hensoldt Sensors GmbH of Taufkirchen. The contract is worth around €1.2 billion, with Rheinmetall accounting for €607 million, Diehl for €339 million, and Hensoldt for €284 million, reflecting their respective workshares. The new system is expected to be based around the IRIS-T SLM missile system with an improved network of sensors and command-and-control elements.

German UAV Programs

The Eurodrone Brevet/Tucan was a cooperative Franco-German effort to field a reconnaissance UAV for divisional surveillance and artillery spotting requirements by the end of the decade. The program has suffered from funding shortfalls and production was delayed with, France backing out of its commitment to the Brevet in the late 1990s. Germany has acquired six Tucan systems of 10 drones each. Germany is considering adopting at least two other versions of the system, the Taifun, an anti-radar drone, and the Mucke, a communications jammer version. Due to the cutbacks in the 1997 defense budget, defense minister Volker Rühle ordered a postponement in the decision on the development of the army Tai-

fun UAV. The army has also acquired several low-cost Luna UAVs which were used in Kosovo. Germany is also acquiring other mini-UAVs such as the Aladin.

Germany was also examining a ship-based UAV system under its SEAMOS program for the K-130 corvettes, but with the cancellation of SEAMOS will have to look at other options. Germany has begun acquiring the small Schiebel Camcopter for this role.

Germany began the acquisition of Global Hawk UAVs, called locally Euro Hawk, with a local sensor payload which will be used primarily in a SIGINT role. The program cost is expected to be about €650 million.

The first aircraft was delivered in 2009, but the program was subsequently cancelled amidst considerable controversy. The program was revived in 2015 with plans to acquire the navalized MQ-4C Triton version. This program was cancelled in favor of the procurement of the Global 6000 ISR aircraft.

Germany has been leasing Israeli Heron UAVs for operations in Afghanistan, and is expected to acquire an off-the-shelf MALE UAV, the Heron TP, over the next few years.

In the long term, Germany is a partner in the multi-national EuroMALE program. The global contract for development, procurement and initial use was signed in February

2022 with the official start of the contract on 1 March 2022 by OCCAR. The German Airbus Defense & Space GmbH serves as the prime contractor. The Preliminary Design Review, originally planned for September 2023, was postponed since not all subsystems had the required technological maturity to enter the formal PDR process. The Critical Design Review (CDR) was scheduled for September 2024 but could be impacted by the PDR delays.

The first flight of the EuroMALE prototype is scheduled for January 2027. The delivery of the first aircraft and a ground control station for Germany is planned for April 2030.

Armored Vehicles

Main Ground Combat System (MGCS)

In 2018, France and Germany decided to proceed with a joint next-generation MBT to replace Leclerc and Leopard 2 based on plans to merge Nexter and KMW. This is called the MGCS (Main Ground Combat System). Nexter, KMW and Rheinmetall were given the go-ahead for the program on 20 May 2020 for a System Architecture Definition Study Part 1, lasting 18 months. Production is expected in the mid-2030s.

In 2022, Rheinmetall unveiled its KF51 Panther design concept for a next-generation MBT.

MRAV Boxer Wheeled IFV

The MRAV (Multi-Role Armored Vehicle) was developed by a new international consortium called ARTEC which consists of KMW (Krauss-Maffei-Wegmann), MAK Systems, Alvis, and Stork. It was at one time envisioned as a multinational design to satisfy German, British, and French requirements. The MRAV began as a French and German requirement for a future generation of armored infantry transporters. Although France pulled out in favor of a GIAT program, in April 1997, the Netherlands announced plans to

join the MRAV program, based in part on the success of German/Dutch cooperation on the Fennek scout vehicle. The first MRAV demonstrator was completed at GKN in the UK in mid-June 1998. In early 2001, the UK began to study plans to reorient its future AFV requirements under the new title FRES (Future Rapid Effects System) with a requirement for 1,500 vehicles. This could combine the MRAV with other requirements such as the Tracer reconnaissance vehicle test-bed effort being undertaken with the US. In May 2003, Britain announced it would withdraw from the MRAV program, although it has continued to fund development.

In early 2006, the German government received assurances from the ARTEC consortium that costs would be kept down, so plans have shifted to an initial tranche of 272 vehicles in three baseline versions: 135 APC, 65 command and 72 ambulances. In December 2006, the German parliament confirmed the purchase. Initial deliveries were made to the Bundeswehr in 2009. In late 2011, the German army decided to acquire all Boxer in the so-called "Afghan" configuration which has a variety of upgrades including an IED jammer, improved

protection against IEDs and a remote-control weapon station. This was introduced from vehicle No. 41 and on and was retrofitted to earlier vehicles. In December 2015, Germany ordered a further 136 Boxers for delivery in 2017-2020 on top of the 192 previously delivered. These are in the APC configuration and are intended to replace the earlier Fuchs vehicles.

Puma Infantry vehicle

Germany had a long-term requirement for a future infantry vehicle to replace the Armored Vehicle 2000 program that was cancelled. Originally dubbed NGP (New Gun Platform), and then Schutzenpanzer 3 Panther, the program was again killed in July 2002 as being "too national" and too costly. In the meantime, the Bundesheer was considering updates to the Marder IFV as an interim solution. An upgraded Marder called Marder 3 was displayed in 2000, and a new IFV program was dubbed Igel. The program has been reconfigured again, now called Puma, with a prototype delivered from a consortium of Rheinmetall and Krauss-Maffei in December 2005. The army has a requirement for 410 vehicles. On 8 November 2007,

the German parliament approved a procurement program for 405 Puma by the Projekt System Management GmbH consisting of the Krauss-Maffei Wegmann and Rheinmetall Landsystem team. A contract was awarded to the team on 6 July 2009 at a cost of €3.1 billion (\$4.3 billion). Initial delivery of the first of nine battalions is expected in 2014. In July 2012, the procurement objective for Puma was cut from 405 to 350 vehicles. The first production Puma was delivered in June 2015.

Leopard 2 Upgrades

The Bundesheer currently operates the Leopard 2A6 after having retired earlier variants. In April 2015, plans were announced to increase the size of the force from 225 to 328. Germany received the first 20 Leopard 2A7 in December 2014 and may upgrade the rest of the fleet. A contract awarded in September 2017 will upgrade 104 Leopard 2 to the Leopard 2A7V configuration. The first Leopard 2A7Vs were delivered in September 2021.

Dingo Protected Vehicle

Germany has selected the Krauss-Maffei-Wegmann Dingo for its re-

quirement for a lightly protected vehicle for peacekeeping operations. The baseline vehicles are built on a Unimog U1550L 4x4 chassis but there are plans to field a Dingo 2 on the Unimog U5000 chassis which is available either in a 3.25-m wheelbase configuration like the Dingo 1, or on an extended 3.85-m wheelbase which is more suitable as a troop carrier. Germany planned to order the first batch of 52 in 2004, followed by options for up to 1,600 more vehicles. The German government subsequently ordered three batches of the follow-on Dingo 2 (52+149+43) and most recently in March 2010, the German BWB awarded KMW another contract for 41 Dingo 2 APVs and in April 2010 for 44 Dingo 2 APVs configured for battlefield recovery; this brings orders to date for the Dingo 2 to 340 vehicles in all configurations.

Germany's future requirements were called GFF (Geschützte Führungs und Funktionsfahrzeuge: Fire Control and Operations Vehicle). This comes in four weight/protection classes, the GFF 1 through GFF 4. The Bundeswehr has already selected the Swiss MOWAG Eagle IV for an initial tranche of 160 vehicles with an eventual objective of 486

vehicles. In July 2008, the Bundeswehr ordered 20 Mowag Eagle IV protected vehicles based on an immediate requirement and followed this up in November 2008 with an additional order for 173 vehicles. In January 2011, the government placed an order for an additional 195 Eagle IVs and an additional 76 Eagle Vs in March 2014.

In 2013, Germany decided to acquire 100 Eagle V vehicles for the remainder of the GFF Class 2 requirement.

Artillery Modernization

KMW's Panzerhaubitze 2000 self-propelled 155mm gun is the centerpiece of German artillery modernization. Plans called for procuring 185 guns in 1998-2004 with a long-term objective of 594 systems. An initial production contract was awarded to Wegmann in early 1996. The official handover of the first service vehicles was on 1 July 1998. By June 2000, about 80 had been delivered and by 2008, 180 were in service. Italy was the first export customer for the gun. In early 2023, there were statements that the Bundesheer would probably extend production of the PzHb 2000.

Ordnance

German Army Equipment Requirements

The recent shift in emphasis away from heavy mechanized forces and towards light mobile units is expected to be reflected in future procurement programs. There are currently plans underway to completely revamp the German uniform including a new light Kevlar helmet, Goretex camouflage clothing, improved protective vests, and new small arms in NATO 5.56mm caliber are being procured. Rapid-response forces will be the first to receive the new equipment and other units will be equipped after the year 2000.

Future Soldier System

The Bundeswehr has embarked on a future infantry program originally called "Der Infanterist der Zukunft" (IdZ). The program was initiated in 1999 when the Bundeswehr realized it was falling behind other NATO armies. The program took place in three phases: an immediate procurement effort to acquire needed systems on an ad hoc basis for urgent requirements; an intermediate package deploying elements of the system in 2004; and an optimal package to be ready around 2008 including elements with higher technological risk or more advanced technology. The basic elements of the program were

approved on 10 July 2001. An initial contract for 100 IdS-BS (Basic System) was awarded to EADS with the first 50 systems being delivered to the ISAF contingent in November 2004, and the remainder in 2006-2007. A contract for 1,000 "Gladius" IdZ-ES (Erweitertes System-Extended System) was ordered from Rheinmetall defense Electronics in August 2006 for delivery in 2009-2015. The Bundesheer is expected to consider extending acquisition after 2015 once an evaluation is made of the effectiveness of the system in use in Afghanistan. In 2015, the Bundesheer announced plans to retire the G36 assault rifle in favor of a new design.

Naval Systems

Type 125 Baden-Wuerttemberg Frigate

The Bundesmarine sought parliamentary approval for the new F125 frigate class in the 2006 budget with an aim towards commissioning four of them starting in 2012 at two-year intervals with final delivery in 2019. The new frigate will be designed primarily for “stabilization” missions, that is, overseas peace-keeping operations and maritime interdiction. The initial batch of four frigates were expected to cost €2.2 billion. A €2 billion contract was awarded to ARGE F125 consortium headed by Thyssen Krupp Marine Systems in late 2007 for the construction of the four frigates. Delivery of the first two ships was scheduled for completion in 2017, and the next two ships of the class in 2019. This schedule slipped with the first delivered in June 2019, a second in June 2020, a third in April 2021 and the final ship in late 2021.

Type 130 Braunschweig Corvettes

The German navy has a stated requirement to replace its Type 143 and Type 143A missile boats with the new Type 130 with initial deliveries in 2007. A total of 15 in three batches was planned and these would replace the entire inventory of fast missile boats then in service, but this was trimmed back to only five in 2000. In July 2000, the defense ministry selected Blohm+Voss for the project, awarding the firm a contract for DM1.9 billion (\$925 million) for the five lead ships. The five were to be delivered in 2007-2008 but this was delayed with two being delivered in 2007 and the last in 2013. There have been associated funding problems with the missile systems for the ship

and delays in ordering the associated RBS-15 missile from Sweden.

In October 2016, plans were announced to purchase five more K130 corvettes to make up for the shortfall caused by delays in the MKS 180 program. Plans are to deliver two ships in 2019 and the remaining three by 2023. This was held up in 2017 after the Federal Cartel Office ruled that the new procurement would require the contract to be re-bid. The sixth ship of the class, the Koln, was laid down in 2019 with delivery expected in 2024.

Type 126 (Multi-Purpose Combat Ship 180)

The Bundesmarine began design studies for the K131 Medium Surface Combatant with a plan to eventually acquire six of this new class, subsequently called MKS 180 and now Type 126. This was trimmed back to four ships. There was a two-year tendering phase from 2015 to 2017 between the three competitors. In October 2016, the government announced that another six months was needed to select the final design. Recent plans expected to award a construction contract in 2017 but did not anticipate first delivery until 2023. The slow pace of the program prompted the Bundesmarine to order additional K130 corvettes. The recent budget plans put off the final decision on the program until 2019, with the program expected to include four ships with an option for two and a cost of €3.9 billion with a lead ship delivered in 2023.

The Bundesmarine in 2020 selected a team of the Dutch Damen shipyard, German Lurssen shipyard and Thales Deutschland for the new F-126 frigate. The frigate is modularly designed to permit multiple

mission configurations. Construction began as scheduled on 5 December 2023, initial keel-laying was expected in 2024 with delivery of two ships in 2028-2031, and two more in 2032-2033.

Type 127 Frigate

The Bundesmarine has begun design studies for a new frigate with a focus on anti-air warfare to complement the Type 126. The requirement is for 6 frigates by 2035.

Type 212 Submarines

The Bundesmarine was procuring the Type U 212A class submarine to replace its earlier Type 206 and 205 classes. They are being built by the Howaldswerke in Kiel and Thyssen in Emden. A total of 12 had been planned, with the first entering service in 1997, however, the first production tranche was only four boats. The unit cost was placed at DM650 million, and the fourth submarine entered service in 2007. A second tranche was ordered in September 2006 with delivery in 2012-13.

In July 2021, a joint Norwegian/German contract was signed for six new U-212CD (Common Design)submarines with two of the boats for Germany for delivery in 2032 and 2034 and the other four for Norway.

The Preliminary Design Review was completed in November 2022 with the Critical Design Review milestone in 2024. Production of the first boat was scheduled to begin in September 2023

Combat Support Ships

In July 2019, the Bundesmarine selected the Type 707 for its new replenishment tank requirement to replace the Type 704 class.

Space Systems

Surveillance Program

Germany's SARLupe radar imaging satellite was put into orbit on 19 December 2006 by a Russian Cosmos-3M from Plesetsk; the second and third were launched in July and November 2007 and the fifth and last was orbited on 22 July 2008. The core sensor was developed by Alcatel

Alenia Space and the prime contractor for the network is OHB System in Bremen. The system offered limited capability by December 2007 and was declared fully operational on 1 October 2008. In 2015, plans were announced to develop a follow-on system, currently called SARah. Germany has an agreement with France and Italy over shared imagery, with Germany receiving access to the

French Helios 2 optical imagery satellite.

Germany is a partner in the MUISIS (Multinational space-based imaging system) with France, Belgium, Spain, and Greece with France responsible for the optics portion. Italy and Germany are responsible for the radar portion. The plan encompassed the launch of three satellites in 2021.

Teal Group Analysis

The retirement of Angela Merkel at the end of 2021 ended a long chapter in German governance. The new Chancellor, Olaf Scholz, is a member of the Social Democratic Party. The SDP has formed a coalition with The Greens and the Free Democratic Party (FDP), creating a centrist-leftist government.

The Russian invasion of Ukraine in late February 2022 has caused a sea-change in German defense policy. Scholz announced that Germany would take steps to finally reach the goal of spending the equivalent of two percent of GDP on defense, starting with an immediate program to add \$113 billion to the defense budget aimed at several delayed/deferred programs such as the F-35 fighter, Typhoon ECR, helicopters and surveillance aircraft. A jump to the two-percent mark would mean a German budget climbing from the \$55B range to about \$80 billion.

The three coalition parties generally support strengthening the Bundeswehr but have enough differences on various defense issues that policy

conflicts are inevitable. This involves several issues such as armed drones and Germany's role in international arms exports. This may complicate future cooperative ventures in Europe since German opposition to arms exports to the Middle East could derail the sale of European systems involving German content. As such, it may cause concern in France over investment in future systems such as FCAS/SCAF and Eurodrone 2025 if German positions undermine potential exports.

Germany has been slow to reorient its force structure to accommodate new global realities, and despite its avowed desire to play a greater role in international peacekeeping since the 1999 policy change. It has been hamstrung from doing so by budget limitations and the constraints of its legacy forces.

German future procurement programs are still weighted towards legacy missions in Europe. Eurofighter Typhoon/Taifun has little immediate role in overseas commitments as it is a dedicated interceptor with no

ground attack capabilities until the late production batch. Had it been available for the Kosovo crisis, it would have played little significant role, and it is hard to foresee what role it will play in missions such as Germany's recent role in Afghanistan. The same applies to other weapons systems developed for Cold War needs such as the Tiger attack helicopter, the U-212 submarine, and the Puma IFV. Mobility enhancements such as the A400M were delayed, and Germany has been forced to adopt hasty improvisations such as the Dingo/Eagle protected vehicle program to permit its limited overseas deployment. The slow pace of procurement reorientation has been forced on the government by the recognition that an abrupt change in these programs would have significant economic consequences in the defense and aerospace industry that have already been hard hit over the past two decades by the massive cuts in the wake of the Cold War.

Forecast

Defense Budget Forecast

(\$ Billions)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
R&D	2.6	2.8	3.0	3.2	3.4	3.7	3.9	4.2	4.5	4.7
Procurement	12.5	13.4	14.4	15.4	16.4	17.6	18.8	20.1	21.5	23.0
Other*	43.2	46.2	49.4	52.9	56.6	60.5	64.8	69.3	74.1	79.0
Total	58.3	62.4	66.8	71.4	76.4	81.8	87.5	93.6	100.2	106.7

*Includes O&M, construction, personnel, etc.

Domestic Production Forecast

(units)	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Aircraft										
Typhoon	7	7	7	7	7	7	7	7	—	—
A400M Transport	6	—	—	—	—	—	—	—	—	—
NH90	7	7	7	—	—	—	—	—	—	—
Armored Vehicles										
PzHb 2000	10	10	10	—	—	—	—	—	—	—
Warships										
U-212CD Submarine	—	—	—	—	—	—	—	—	1	1
Type 126 Frigate	—	—	—	—	1	1	1	1	1	1
Type 127 Frigate	—	—	—	—	—	—	—	—	1	1
Type 130 Corvette	2	—	—	—	—	—	—	—	—	—