

# ARCHIVED REPORT

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## Military Rifles (Europe)

### Outlook

- European designs continue to drive the international market
- Meanwhile, survival in the international market continues to force corporate consolidation among European players
- We expect production of military rifles and carbines from all European sources to average at least 137,000 weapons annually

### Orientation

**Description.** Military-pattern, bolt-action, semi-automatic, and automatic shoulder-fired small arms.

**Sponsor.** European contractors and arsenals develop, produce, and market various rifle and carbine designs.

**Licensees.** Several international players produce European rifle designs, with or without license.

**Status.** Development through serial production.

**Total Produced.** Through 2023, we estimate European contractors produced at least 22.88 million military rifles and carbines since 1980 inclusive.

**Application.** The standard infantry individual shoulder weapon for both offensive and defensive operations.

**Price Range.** In 2024 U.S. dollars, European rifles carry unit prices ranging from \$67 for the AK-47 to \$13,000 for Accuracy International's AW50 series rifle.

### Contractors

#### Prime

Accuracy International Ltd	<a href="http://www.accuracyinternational.com">http://www.accuracyinternational.com</a> , PO Box 81, Portsmouth, Hampshire, United Kingdom, Tel: + 44 0 23 9267 1225, Fax: + 44 0 23 9269 1852, Email: <a href="mailto:ai@accuracyinternational.org">ai@accuracyinternational.org</a> , Prime
BAE Systems plc	<a href="http://www.baesystems.com">http://www.baesystems.com</a> , 6 Carlton Gardens, Stirling Sq, London, United Kingdom, Tel: + 44 1252 373232, Fax: + 44 1252 383991, Prime
Beretta Holding SA	<a href="http://www.berettaholding.com">http://www.berettaholding.com</a> , 9 rue Sainte Zithe, Luxembourg, Luxembourg, Tel: + 352 030 8341 1, Fax: + 352 030 8341 399, Prime
Ceska Zbrojovka AS	<a href="http://www.czub.cz">http://www.czub.cz</a> , Svatopluka Cecha 1283, Uhersky Brod, Czech Republic, Tel: + 420 572 65 11 11, Fax: + 420 572 63 36 65, Email: <a href="mailto:info@czub.cz">info@czub.cz</a> , Prime
FN Herstal SA	<a href="http://www.fnherstal.com">http://www.fnherstal.com</a> , Voie de Liège 33, Herstal, Belgium, Tel: + 32 4 240 81 11, Fax: + 32 4 240 88 99, Email: <a href="mailto:info@fnherstal.com">info@fnherstal.com</a> , Prime

## Military Rifles (Europe)

<b>Federal State Unitary Enterprise, Rosoboronexport, Rosoboronexport State Corp</b>	<a href="http://www.roe.ru">http://www.roe.ru</a> , 27/3 Stromynka St, Moscow, Russian Federation, Tel: + 7 495 534 6183, Fax: + 7 495 534 6153, Prime
<b>General Dynamics European Land Systems, Santa Bárbara Sistemas</b>	<a href="http://www.gdels.com">http://www.gdels.com</a> , Via de los Poblados 3, PE Cristalia Edificio 7/8, Madrid, Spain, Tel: + 34 91 585 04 55, Fax: + 34 91 585 02 18, Email: info.sbs@gdels.com, Prime
<b>Heckler &amp; Koch GmbH</b>	<a href="http://www.heckler-koch.com">http://www.heckler-koch.com</a> , Heckler & Koch Strasse 1, Oberndorf a. Neckar, Germany, Tel: + 49 74 23 79 0, Fax: + 49 74 23 79 23 50, Email: hkinfoboard@heckler-koch.de, Prime
<b>Nexter Munitions</b>	<a href="http://www.nexter-group.fr">http://www.nexter-group.fr</a> , Route de Villeneuve, La Chapelle, Saint-Ursin, France, Tel: + 33 02 48 68 71 71, Fax: + 33 02 48 68 70 54, Prime
<b>Rheinmetall</b>	<a href="http://www.rheinmetall.com/en">http://www.rheinmetall.com/en</a> , Rheinmetall Platz 1, Düsseldorf, Germany, Tel: + 49 211 473 01, Fax: + 49 211 473 4727, Email: info@rheinmetall-defence.com, Prime
<b>Steyr Mannlicher GmbH &amp; Co KG</b>	<a href="http://www.steyr-arms.com">http://www.steyr-arms.com</a> , Ramingtal 46, PO Box 1000, Kleinraming, Austria, Tel: + 43 7252 896 0, Fax: + 43 7252 896 53, Email: office@steyr-mannlicher.com, Prime

Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 75 Glen Road, Suite 302, Sandy Hook, CT 06482, USA; rich.pettibone@forecast1.com

## Technical Data

<u>Caliber</u>	<u>Designation</u>	<u>Type (Action, Fire Modes, Magazines)</u>
<u>Manufacturer – Accuracy International Ltd</u>		
7mm Magnum	Super Magnum	Bolt action, 5-rd mag
7.62x51mm NATO (.308 Winchester)	PM Rifle System	Bolt action, 10-rd mag
7.62x51mm NATO (.308 Winchester)	Covert PM	Bolt action, 10-rd mag
7.62x51mm NATO (.308 Winchester)	Model AW	Bolt action, 9-rd mag
7.82x66.55mm (.300 Win. Magnum)	Model AWM-S	Bolt action, 5-rd mag
8.59x55mm (.338 Lapua Magnum)	AWM Super Magnum	Bolt action, 4-rd mag
12.7x99mm (.50 caliber)	AW50 AI	Bolt action, 5-rd mag
<u>Manufacturer – BAE Systems plc</u>		
5.56x45mm NATO (.223 Remington)	Cadet GP L98A1	Manual, single-shot, 30-rd mag
5.56x45mm NATO (.223 Remington)	L85A1	Gas, selective, 30-rd mag
5.56x45mm NATO (.223 Remington)	Sterling SAR 87	Gas, selective, 30-rd mag
7.62x51mm NATO (.308 Winchester)	L1A1	Gas, selective, 20-rd mag
<u>Manufacturer – Ceska Zbrojovka AS</u>		
5.45x39.5mm	CZ2000 (LADA)	Gas, selective, 30-rd mag
5.56x45mm NATO (.223 Remington)	CZ2000 (LADA)	Gas, selective, 30-rd mag
7.62x51mm NATO (.308 Winchester)	CZ537	Bolt action, 4-rd mag
7.62x51mm NATO (.308 Winchester)	CZ700 series	Bolt action, 10-rd mag
7.62x39mm M1943	Model 58 series	Gas, selective, 30-rd mag
<u>Manufacturer – Fabbrica D'Armi Pietro Beretta SpA</u>		
5.56x45mm NATO (.223 Remington)	AR70	Gas-operated, selective fire, 30-rd mag
5.56x45mm NATO (.223 Remington)	SC70	Gas, selective, 30-rd mag
5.56x45mm NATO (.223 Remington)	SCS70	Gas, selective, 30-rd mag
5.56x45mm NATO (.223 Remington)	AR70/90	Gas, selective, 30-rd mag
5.56x45mm NATO (.223 Remington)	SC70/90	Gas, selective, 30-rd mag
5.56x45mm NATO (.223 Remington)	SCS70/90	Gas, selective, 30-rd mag
5.56x45mm NATO (.223 Remington)	SCP70/90	Gas, selective, 30-rd mag
7.62x51mm NATO (.308 Winchester)	Beretta Sniper	Bolt action, 5-rd mag

## Military Rifles (Europe)

<u>Caliber</u>	<u>Designation</u>	<u>Type (Action, Fire Modes, Magazines)</u>
<u>Manufacturer – FN Herstal SA</u>		
5.56x45mm NATO (.223 Remington)	FNC	Gas, selective, 3-rd burst, 30-rd mag
5.56x45mm NATO (.223 Remington)	F2000	Gas, selective, 30-rd mag
7.62x51mm NATO (.308 Winchester)	FAL	Gas, selective, 20-rd mag
7.62x51mm NATO (.308 Winchester)	Model 30-11	Bolt action, 10-rd mag
<u>Manufacturer – General Dynamics European Land Systems, Santa Barbara Sistemas</u>		
5.56x45mm NATO (.223 Remington)	Model L CETME	Delayed blowback, selective, 20/30-rd mags
5.56x45mm NATO (.223 Remington)	Model LC CETME	Delayed blowback, selective, 30-rd mag
5.56x45mm NATO (.223 Remington)	HK50	Gas, selective, 30-rd mag
7.62x51mm NATO (.308 Winchester)	Model C	Delayed blowback, selective, 20-rd mag
7.62x51mm NATO (.308 Winchester)	Model R	Delayed blowback, selective, 20-rd mag
7.62x51mm NATO (.308 Winchester)	Model C-75	Bolt action, 5-rd mag
<u>Manufacturer – Nexter Munitions</u>		
5.56x45mm French	FAMAS F1	Delayed blowback, selective, 25-rd mag
5.56x45mm French	FAMAS Commando	Delayed blowback, selective, 25-rd mag
5.56x45mm French	FAMAS Export	Delayed blowback, selective, 25-rd mag
5.56x45mm NATO (.223 Remington)	FAMAS G1	Delayed blowback, selective, 25-rd mag
5.56x45mm NATO (.223 Remington)	FAMAS G2	Delayed blowback, selective, 20/30-rd mags
7.62x51mm NATO (.308 Winchester)	FR-F2	Bolt action, 10-rd mag
7.62x51mm NATO (.308 Winchester)	FR-G1	Bolt action, 10-rd mag
7.62x51mm NATO (.308 Winchester)	FR-G2	Bolt action, 10-rd mag
7.5x54mm French	FR-F1	Bolt action, 10-rd mag
<u>Manufacturer – Heckler &amp; Koch GmbH</u>		
4.73x32.8mm OH DE11 (caseless)	G11K3	Gas, selective, 45-rd round drum
5.56x45mm NATO (.223 Remington)	HK33E	Delayed blowback, selective, 20-rd mag
5.56x45mm NATO (.223 Remington)	HK53	Delayed blowback, selective, 25/30-rd mags
5.56x45mm NATO (.223 Remington)	G41	Delayed blowback, selective, 20/30-rd mags
5.56x45mm NATO (.223 Remington)	HK50/G36 series	Gas, selective, 30-rd mag
5.56x45mm NATO (.223 Remington)	SLS-2	Gas, semi-auto, 30-rd mag
7.62x37mm	SL9 SD	Gas, semi-auto, 10-rd mag
7.62x51mm NATO (.308 Winchester)	G3	Delayed blowback, selective, 20-rd mag
7.62x51mm NATO (.308 Winchester)	G3 SG/1	Delayed blowback, selective, 20-rd mag
7.62x51mm NATO (.308 Winchester)	G8	Delayed blowback, selective, 20/50-rd mags
7.62x51mm NATO (.308 Winchester)	PSG 1	Delayed blowback, single-shot, 5/20-rd mags
7.62x51mm NATO (.308 Winchester)	MSG90	Delayed blowback, semi-auto, 5/20-rd mags
7.62x51mm NATO (.308 Winchester)	MSG90A1	Delayed blowback, semi-auto, 5/20-rd mags
<u>Manufacturer – IZHMAASH – Izhevsk Ordnance Plant/Kalashnikov (Rosoboronexport)</u>		
5.66x15.11mm (.22 Long Rifle)	SV-99	Bolt action, 10-rd mag
5.45x39mm	AK-74	Gas, selective, 30-rd mag
5.45x39mm	AK-74M	Gas, selective, 30-rd mag
5.45x39mm	AKS-74	Gas, selective, 30-rd mag
5.45x39mm	AK-105	Gas, selective, 30-rd mag
5.45x39mm	AK-107	Gas, selective, 30-rd mag
5.45x39mm	AN-94 (Nikonov)	Gas, selective, 30-rd mag
5.56x45mm NATO (.223 Remington)	AK-101	Gas, selective, 30-rd mag
5.56x45mm NATO (.223 Remington)	AK-102	Gas, selective, 30-rd mag
5.56x45mm NATO (.223 Remington)	AK-108	Gas, selective, 30-rd mag
7.62x39mm M1943	AK-47	Gas, selective, 30-rd mag
7.62x39mm M1943	AKM	Gas, selective, 30-rd mag
7.62x39mm M1943	AK-103	Gas, selective, 30-rd mag
7.62x39mm M1943	AK-104	Gas, selective, 30-rd mag
7.62x51mm NATO (.308 Winchester)	SV-98	Bolt action, 10-rd mag
7.62x54mm	SVD	Gas, semi-auto, 10-rd mag
7.62x54mm	SVD-S	Gas, semi-auto, 10-rd mag
7.62x54mm	SV-98	Bolt action, 10-rd mag
9.3x64.9mm (9.0 SN)	SVDK	Gas, semi-auto, 10-rd mag

**Military Rifles (Europe)**

<b>Caliber</b>	<b>Designation</b>	<b>Type (Action, Fire Modes, Magazines)</b>
<b>Manufacturer – KBP Instrument Design Bureau (Rosoboronexport)</b>		
5.45x39mm	5.45A-91	Gas, selective, 20/30-rd mags
5.45x39mm	OTs-14 Groza series	Gas, selective, 20-rd mag
5.45x39mm	AKS-74U	Gas, selective, 30-rd mag
5.56x45mm NATO (.223 Remington)	5.56A-91	Gas, selective, 20/30-rd mags
5.56x45mm NATO (.223 Remington)	OTs-14 Groza series	Gas, selective, 20-rd mag
7.62x54mm	OTs-03AS (SVU)	Gas, selective, 10-rd mag
7.62x39mm M1943	A-91	Gas, selective, 20-rd mag
7.62x39mm M1943	7.62A-91	Gas, selective, 20/30-rd mags
7.62x39mm M1943	OTs-14 Groza series	Gas, selective, 20-rd mag
9x39mm SP-5	9A-91	Gas, selective, 20-rd mag
9x39mm SP-5	VSK-94	Gas, selective, 20-rd mag
9x39mm SP-5	OTs-14 Groza series	Gas, selective, 20-rd mag
9x39mm SP-6	9A-91	Gas, selective, 20-rd mag
9x39mm SP-6	VSK-94	Gas, selective, 20-rd mag
9x39mm SP-6	OTs-14 Groza series	Gas, selective, 20-rd mag
12.7x107mm	OSV-96	Gas, single-shot, 5-rd mag
<b>Manufacturer – Kovrov Mechanical Plant (Rosoboronexport)</b>		
5.45x39mm	5.45A-91	Gas, selective, 20/30-rd mags
5.56x45mm NATO (.223 Remington)	5.56A-91	Gas, selective, 20/30-rd mags
7.62x39mm M1943	A-91M	Gas, selective, 20-rd mag
7.62x39mm M1943	7.62A-91	Gas, selective, 20/30-rd mags
9x39mm SP-5	9A-91	Gas, selective, 20-rd mag
9x39mm SP-5	VSK-94	Gas, selective, 20-rd mag
9x39mm SP-6	9A-91	Gas, selective, 20-rd mag
9x39mm SP-6	VSK-94	Gas, selective, 20-rd mag
12.7x107mm	OSV-96	Gas, single-shot, 5-rd mag
<b>Manufacturer – Mauser-Werke Oberndorf GmbH (Rheinmetall Defence)</b>		
7.62x51mm NATO (.308 Winchester)	Model SP66	Bolt action, 3-rd mag
7.62x51mm NATO (.308 Winchester)	Model 86	Bolt action, 9-rd mag
7.62x51mm NATO (.308 Winchester)	Model SR93	Bolt action, 5-rd mag
<b>Manufacturer – Sako Ltd (Fabbrica D'Armi Pietro Beretta SpA)</b>		
5.56x45mm NATO (.223 Remington)	M76	Gas, selective, 30-rd mag
5.56x45mm NATO (.223 Remington)	M78	Gas, selective, 15/30-rd mags
5.56x45mm NATO (.223 Remington)	M90	Gas, selective, 30-rd mag
5.56x45mm NATO (.223 Remington)	M95	Gas, selective, 30-rd mag
7.62x39mm M1943	M60	Gas, selective, 30-rd mag
7.62x39mm M1943	M62	Gas, selective, 30-rd mag
7.62x39mm M1943	M76	Gas, selective, 30-rd mag
7.62x39mm M1943	M78	Gas, selective, 15/30-rd mags
7.62x39mm M1943	M90	Gas, selective, 30-rd mag
7.62x39mm M1943	M95	Gas, selective, 30-rd mag
7.62x51mm NATO (.308 Winchester)	M78	Gas, semi-auto, 15/30-rd mags
7.62x51mm NATO (.308 Winchester)	TRG-21	Bolt action, 10-rd mag
<b>Manufacturer – Steyr Mannlicher GmbH &amp; Co KG</b>		
5.56x45mm NATO (.223 Remington)	Sturmgewehr 77	Gas, selective, 30/42-rd mags
7.62x51mm NATO (.308 Winchester)	SSG69	Bolt action, 5/10-rd mags
7.62x51mm NATO (.308 Winchester)	Police Rifle	Bolt action, 5/10-rd mags
7.62x51mm NATO (.308 Winchester)	Scout	Bolt action, single shot
15.2mm Special	AMR 5075	Long recoil, semi-auto, 5-rd mag
<b>Manufacturer – TsKB SOO (Rosoboronexport)</b>		
7.62x39mm M1943	OTs-14 Groza	Gas, selective, 30-rd mag
9x39mm	OTs-14 Groza	Gas, selective, 20-rd mag
7.62x54mm	OTs-03AS/SVU	Gas, selective, 10-rd mag

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<u>Caliber</u>	<u>Designation</u>	<u>Type (Action, Fire Modes, Magazines)</u>
<u>Manufacturer – TsNIITochMash (Rosoboronexport)</u>		
5.66x150mm MPS	APS	Gas, selective, 26-rd mag
9x39mm SP series	VSS Vintorez	Gas, selective, 10/20-rd mags
9x39mm SP series	SR-3 Vikhr	Gas, selective, 10/20-rd mags
9x39mm SP series	AS Val	Gas, selective, 20-rd mag



Accuracy International .338 Lapua Magnum AWM Sniper Rifle System

Source: Accuracy International Ltd

## Variants/Upgrades

**Variants.** Not generally applicable. To have the greatest degree of product differentiation and largest range of products, small arms manufacturers usually give modified or upgraded models of their military rifles and carbines different designations.

**Modernization and Retrofit Overview.** Not generally applicable. Contractors usually integrate upgrades as production cut-ins.



FN Herstal 5.56x45mm NATO (.223 Remington) F2000 Integrated Weapon System

Source: FN Herstal SA

## Program Review

**Note:** *In an effort to maintain the focus of this report on military-pattern rifles and carbines, we limit our discussion of specialized sniper rifles and anti-materiel rifles to those weapons that already have had, or demonstrate the potential to have, a significant impact on the international small arms market.*

**Background.** The military shoulder weapon remains the primary infantry weapon and the single most common class of weapons within any armed force. In addition to serving as the primary weapon of the

infantryman, rifles and carbines provide a level of self-defense for combat support and non-combatant personnel. The military shoulder weapon has evolved into two distinct types:

- The full-caliber 7.62mm battle rifle, firing cartridges such as the Russian 7.62x54mm and the 7.62x51mm NATO (.308 Winchester)
- The intermediate-cartridge battle carbine, firing rounds such as the Russian 5.45x39mm and

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7.62x39mm, and the 5.56x45mm NATO (.223 Remington)

### *Standardization Issues*

NATO-member states have in the past worked toward standardization of the 5.56x45mm NATO (.223 Remington) cartridge throughout their respective armed forces. However, the more recent influx of former Warsaw Pact member states into NATO tends to complicate this process. Several of these new NATO member nations (including Poland and the Czech Republic), as well as the Russian Federation, have developed weapons in the NATO-standard 5.56x45mm and 7.62x51mm chamberings.

Nevertheless, the massive expense of abandoning the existing inventory of weapons chambered for the Soviet-era 5.45x39mm, 7.62x39mm, and 7.62x54mm cartridges in favor of new weapons and ammunition is something many countries simply cannot afford.

### Austria

*Steyr Mannlicher GmbH & Co Kg.* A member of the European old school of small arms manufacturers, Steyr Mannlicher continues to be active in a variety of military and industrial areas.

### *Sturmgewehr 77/AUG*

In the more than two decades since the Austrian Army adopted the Steyr AUG (Armee Universal Gewehr) as the Sturmgewehr 77, at least 24 countries have accepted the weapon into service. Among 5.56x45mm NATO (.223 Remington) battle carbines, the Steyr AUG is second in terms of export sales only to the American M16, a weapon that enjoys the considerable benefit of U.S. government-subsidized Foreign Military Sales.

The following countries have purchased the Steyr AUG in quantity: Argentina, Austria (80,000+), Australia (67,000), Bolivia, Cameroon, Djibouti (400), Ireland (13,500), Jordan, Malaysia, Morocco, New Zealand (18,000), Oman, Pakistan, Qatar, Saudi Arabia, Tunisia, United States (1,600 with U.S. Customs), Vanuatu, Venezuela, and Zimbabwe. Additional customers remain unidentified. In 1992, the Falkland Islands Defence Force selected the Steyr AUG, ordering 80 weapons.

In 1995, Italy placed an order (quantity unknown) for the AUG to arm its airborne brigade. In doing so, Italy became the first NATO member to procure the Steyr AUG in quantity. In July 1995, Luxembourg accepted the first of a 1,000-Steyr AUG order. In late 1995, Denmark and Norway both shortlisted the weapon, and Portugal may soon place an order, most likely to manufacture the AUG under license.

The simple, modular design of the Steyr AUG plays a significant role in the weapon's success. The AUG design facilitates easy fieldstripping, repair, adaptation for left-hand fire, and relatively cheap production. While the sighting ring of the integral 1.5-power optical sight is hardly suitable for precision firing, shooters find it especially easy to use and reasonably accurate. In 1997, Steyr Mannlicher introduced the AUG A2 model, featuring a new sight design that allows for easy removal and replacement by a Weaver or Picatinny rail mount.

In 1986, New Zealand ordered 18,000 AUG battle carbines. Steyr delivered 5,000 directly from Austria; the Small Arms Factory in Lithgow, Australia, produced the rest under license. The Lithgow factory engaged in production for Australia's own armed forces (total requirement, 67,000).

### *SSG69 and Police Rifle*

The SSG69 and Police Rifle are bolt-action sniper weapons that are essentially the same. The Mannlicher historical reputation has ensured healthy sales of these weapons, although Steyr has not revealed the names of the customers. Open-source reporting indicates the Austrian security forces employ the highly accurate Scharfschützengewehr 69 rifle. Both the original SSG69 and the Police Rifle remain in production on an as-needed basis. Greece manufactures this weapon under license.

### *Jeff Cooper's Scout Rifle*

The Steyr Scout is the production model of the 7.62x51mm NATO (.308 Winchester) scout rifle design advocated by the renowned Col. John Dean "Jeff" Cooper, U.S. Marine Corps (Ret.). Entering production in 1997, the innovative Steyr Scout is a bolt-action lightweight rifle that boasts the following features:

- A forward-mounted low-power scope (a Leupold M8 mounted on the integral Picatinny rail)
- A synthetic stock with an integral flush-mounted bipod
- A three-point sling attachment system that is compatible with the CW, or "Ching Sling," arrangement

The Scout also utilizes Steyr's Safe Bolt System as a major safety feature. Steyr makes available a number of other features and options for the Scout, which is currently in serial production for unidentified customers and commercial sales.

Although the Steyr Scout rifle is not a military rifle per se (Colonel Cooper designed the Scout primarily as a

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hunting rifle), the Scout's light weight, compact size, and high level of accuracy with the 7.62x51mm NATO cartridge make the Scout a serious contender in the international sniper rifle market.

### Belgium

**FN Herstal SA.** The world-famous FN line of weapons continues to command a significant share of the international small arms market.

The FN FAL (Fusil Automatique Léger) remains one of the best 7.62x51mm NATO (.308 Winchester) battle rifles ever produced, with a record that few other rifles (and no privately funded rifle) can match. FN Herstal will remain a force to be reckoned with in the international small arms market over the next 10 years.

### ***Enter the SCAR Family***

On November 5, 2004, the U.S. Special Operations Command (USSOCOM) awarded FN Herstal an indefinite delivery/indefinite quantity (IDIQ) contract for the Special Operations Forces Combat Assault Rifle (SCAR) family of weapons. USSOCOM selected the FN Herstal SCAR prototype after a competitive evaluation for development in two threshold configurations:

- The 5.56x45mm NATO (.223 Remington) Mk 16 Mod 0 SCAR-Light (SCAR-L)
- The 7.62x51mm NATO (.308 Winchester) Mk 17 Mod 0 SCAR-Heavy (SCAR-H)

The SCAR family of weapons was to be exclusive to USSOCOM, replacing the Colt M4A1 carbine currently in service with USSOCOM operators. The procurement contract was expected to involve the procurement by USSOCOM of 124,000 SCAR-L and 34,000 SCAR-H weapons in various configurations. Deliveries reportedly commenced in May 2005. However, in July 2011, USSOCOM decided not to spend any more of its own funds procuring additional Mk 16 SCAR-L weapons. Instead, USSOCOM will continue to acquire M4A1 carbines through the U.S. Army.

FN Herstal's wholly owned subsidiary, FN Manufacturing Inc (Columbia, South Carolina), produces several small arms for the U.S. Department of Defense. In 1988, the U.S. Army selected FNMI to produce 267,000 M16A2 battle carbines at a cost of \$112 million. FNMI continues to produce the M16A4 and the M4 carbine for the U.S. Department of Defense under a \$29.78 million firm-fixed-price contract.

### ***Ever-Popular FAL***

More than 90 countries have adopted the 7.62x51mm NATO (.308 Winchester) Fusil Automatique Léger; a

number of other countries produced their own variants of the FN FAL under license. Although FN initially ceased production of the FAL in 1987, continued worldwide demand forced FN to restart FAL production. FN continues to produce the FAL, as do at least five licensees. The FN FAL remains the standard battle rifle for many nations. FN has also marketed the FAL as the Light Assault Rifle, or LAR.

### ***FNC***

The FNC is a modern, light, 5.56x45mm NATO (.223 Remington) battle carbine that reflects FN's experiences in NATO Small Arms Comparative Trials conducted from 1977 to 1980. The FNC is available in long- and short-barrel versions, with two different barrel riflings available. FN also markets a law enforcement model, capable of semi-automatic fire only. To date, FN has sold the FNC to Belgium, Indonesia (licensed production), Latvia, Sweden (licensed production), and Venezuela (licensed production).

### ***F2000 Bullpup***

In 2000, FN introduced the 5.56x45mm NATO (.223 Remington) F2000 as a fully integrated modular weapon system. The soldier can easily and rapidly adapt the bullpup-design weapon to a number of configurations without special tools. The molded polymer furniture of the weapon features a military-standard Picatinny rail for a variety of sighting systems, as well as integral notch-and-post sights. The F2000 is a true ambidextrous weapon, with all controls mounted for easy use by right- or left-handed shooters. The weapon accepts standard 30-round M16 magazines.

The modular design accommodates a 40mm grenade launcher, with a true fire control system. This system (by Noptel of Finland) mounts on the Picatinny rail, replacing the standard F2000 optical sight. A battery pack to operate the fire control system mounts in the butt of the weapon. FN specifically designed the F2000 to be usable while the shooter is wearing night vision goggles.

FN continues to develop the F2000. One feature currently under development is an electronic rate-of-fire control. Yet, at the March 2001 IDEX Weapons Fair, FN maintained that the then-existing form of the F2000 was available for orders.

In June 2006, the Slovenian Ministry of Defense selected the F2000 as the next standard shoulder arm for the Slovenian armed forces. In a deal worth \$18.7 million, the ministry placed an initial order for 6,500 weapons and 250 40mm grenade launchers.

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### Czech Republic

In 1996, the Czech government began investigating the possibility of licensed production of the British L85A1 5.56x45mm NATO (.223 Remington) battle carbine, pursuant to the Czech requirement to switch from former Warsaw Pact to NATO-standard ammunition. However, continuing bad publicity over the L85A1's performance may have allowed this option to die a quiet death.

*Ceska Zbrojovka AS.* This formerly state-controlled organization has produced a variety of small arms. Closely allied with the Brno organization for years, Ceska Zbrojovka later completely absorbed Brno.

### ***CZ2000 Program***

Development of the most recent CZ weapon, called the CZ2000, was initiated in 1983. The CZ2000 program is developing a rifle, carbine, and light machine gun chambered for either the Russian-pattern 5.45x39mm cartridge or the standard 5.56x45mm NATO (.223 Remington) cartridge.

The CZ2000 will supposedly replace the M58 battle carbine, the M59 light machine gun, and the Skorpio machine pistol in Czech service. After a protracted (20 years and counting) design and development evolution that survived the breakup of the former Czechoslovakia, the CZ2000 program should have benefited from the recent decision to switch to NATO-standard small arms ammunition. However, the Czech government has yet to implement this switch; serial production of the CZ2000 family of weapons has consequently suffered. In an attempt to recoup something from the program, CZ is marketing the CZ2000, chambered in Russian 5.45x39mm, on the international market.

### ***CZ537 and CZ700***

In the area of sniper rifles, Ceska Zbrojovka produces the 7.62x51mm NATO (.308 Winchester) CZ537, a bolt-action sniper rifle with a four-round magazine, and the improved CZ700 Sniper. The CZ700 is offered with two barrels: one chambered for the standard 7.62x51mm NATO cartridge and one for the subsonic version of the same cartridge. The improved CZ700 M1 Sniper is in production for unidentified customers.

### Finland

*Sako Ltd.* Beretta now owns this famous small arms firm. The Sako 7.62x39mm M60/M62/M76 series weapons, based on the re-engineered AK-47 design, are available in a number of configurations. The M76 is also available chambered for the 5.56x45mm NATO (.223 Remington) cartridge. The 7.62mm version of the M76 is in service in Finland, Indonesia, and Qatar.

The M78 is a long-barreled version of the M76, having a heavier barrel with a bipod at the front and a carrying handle. In addition to the two chamberings offered for the M76, the M78 is available in the 7.62x51mm NATO (.308 Winchester) chambering.

### ***M90/M95***

The M90 is a further improved M76, and the M95 is the latest manifestation of the M60/M62/M76 line. Sako modified the original design for ease of operation and maintenance. Like the M90, the M95 is available in two chamberings: 7.62x39mm M1943 and 5.56x45mm NATO (.223 Remington). Serial production of the M95 has been dormant since completion of the latest order; Sako continues to market the weapon.

### France

In 1995, the French Army initiated a program to eventually replace the FAMAS F1 (G1/G2) 5.56x45mm NATO (.223 Remington) battle carbine.

### ***Polyarmes Projectiles Program***

Under the Arme Infanterie Future program, Giat Industries (now Nexter) in 2010 won the contract to begin deliveries of the new Polyarmes Projectiles weapon. The French Army foresees the Polyarmes Projectiles as a multirole weapon, similar in concept to the U.S. Army's Objective Infantry Combat Weapon. The French doctrine, however, favors a higher degree of indirect-fire target perforation against a wider variety of targets than encompassed in the NATO-U.S. direct-fire doctrine.

FN Herstal SA (formerly a subsidiary of Giat Industries) is developing the weapon's architecture, while Nexter Munitions (formerly Giat's Weapons and Ammunition division), in conjunction with Lacroix, is developing the 35mm airburst munitions. The ODS component of Société de Fabrication d'Instruments de Mesure (SFIM) is developing the fire control component of the weapon. The French Army will integrate the developed weapon into the Système Combattant integrated soldier combat system.

*Nexter Munitions.* Despite the failure in 1997 of the deal to acquire Fabrique Nationale and its subsidiary arms firms – Beretta, FN Manufacturing, Browning USA, and U.S. Repeating Arms (Winchester) – the contractor formerly known as Giat Industries remains the leading power in the French arms industry.

### ***Corporate Evolution***

In October 2006, Giat Industries announced a corporate reorganization, under which the contractor changed its name to Nexter. Giat was reorganized into four core operations:

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- Nexter Systems
- Nexter Munitions
- Nexter Electronics
- Nexter Mechanics

The move reportedly better prepared the firm for consolidation with another corporate entity.

In 2015, Krauss-Maffei Wegmann and Nexter finally – after years of on-again, off-again discussion – signed an agreement on a merger plan.

As part of the process, the two companies contributed their shares into a newly incorporated joint holding company based in the Netherlands. They each received 50 percent of the shares of this company, which became the sole shareholder in KMW and Nexter. Completion of the merger of KMW and Nexter was formally announced in January 2016.

The newly merged firm is the third-largest land defense contractor in the world, behind General Dynamics and BAE Systems. Ownership is split between the French government's Giat Industries holding company and KMW parent the Wegmann Group (controlled by Germany's Bode family). The single entity employs around 6,000 people and has an order book of approximately EUR9 billion (\$9.9 billion), with turnover of around EUR2 billion.

### *FAMAS Series*

The 5.56x45mm (French) FAMAS F1 first entered service in France in 1979. The 5.56x45mm NATO (.223 Remington) FAMAS G1 and G2 models, as well as several other specialized models, followed the F1 in production. The contractor has produced nearly 600,000 FAMAS weapons of all types. Yet, the French Army remains by far the primary FAMAS user, with export sales unusually weak. France has sold the FAMAS to Djibouti (400), Gabon (5,000), Lebanon (1,000), Senegal, and the United Arab Emirates.

Nexter Munitions also produces other variants of the FAMAS, including the Export (a semi-automatic version) and the Civi (similar to the Export but with a shorter barrel), primarily for the commercial export market. The Commando is a shorter version of the F1, intended for special operations forces. The most recent variant is the FAMAS G2, another variant aimed at the export market. The FAMAS G2 bore features a faster 1-turn-in-228mm rifling optimized for both 5.56x45mm NATO (.223 Remington) rounds: the SS109 and the original M193. The G2 accepts M16-pattern magazines. Nexter Munitions no longer offers the earlier FAMAS G1, with its slower 1-turn-in-305mm rifling optimized for the M193 cartridge.

In March 1995, the French Navy awarded Giat a contract worth \$46 million for the production of 25,000 FAMAS F1 weapons. Then, in 1996, the French Army Reserve and French Navy awarded Giat the first significant procurement contract for the FAMAS G2, purchasing 20,000 weapons for \$60 million. The contractor delivered these weapons between 1997 and 2000.

### *FR-F1 and FR-F2*

The contractor has sold the FR-F1, chambered for either the French 7.5x54mm cartridge or the 7.62x51mm NATO (.308 Winchester) round, to France and Mauritania; this weapon is no longer in production. In 1984, Giat Industries placed a new version of the FR-F1 sniper rifle, the FR-F2, on the market. The FR-F2 is essentially the same as the FR-F1 but fires the standard 7.62x51mm NATO round. The FR-G1 and FR-G2 represent improved versions of the FR-F2, with a different type of bipod. Nexter Munitions produces these weapons on an as-needed basis.

### Germany

Following the failure of the ambitious G11 program in 1991, the German Army (Bundeswehr) required 20,000 rifles as an interim augmentation of its aging 7.62x51mm NATO (.308 Winchester) G3 inventory. Because Germany was, up to that point, one of the few major NATO members not fielding a 5.56x45mm NATO (.223 Remington) weapon as its standard shoulder arm, the Bundeswehr specified that the new interim weapon (an off-the-shelf design designated G36) be a 5.56x45mm weapon.

### *Bundeswehr Selects HK50*

In 1995, following a competitive evaluation, the Bundeswehr selected the Heckler & Koch HK50 as the G36. The HK50, developed with private funding, features rifling optimized for the standard 5.56x45mm NATO (.223 Remington) SS109 cartridge. The initial contract specified the delivery of 33,000 rifles by the end of 1998, with an option for 17,000 more. The Bundeswehr awarded a second contract, for 99,500 weapons, in 1998.

Although it initially procured the HK50/G36 as an interim weapon, the Bundeswehr may ultimately procure several hundred thousand G36 battle carbines by the end of the national procurement program. Nepal (65,000 required) and Spain have both selected the HK50 as their next standard shoulder arm; the HK50 has generated interest in several other nations as well.

*Heckler & Koch GmbH.* The fame of Heckler & Koch stems primarily from the extensive sales of its rugged G3 rifle and MP5 submachine gun line. In addition,

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Heckler & Koch was a major player in the U.S. Army's now-defunct XM8 battle carbine program, a component of the Project Manager Soldier Weapons program to develop a successor to the M16-series battle carbine.

### *G3 Rifle*

The 7.62x51mm NATO (.308 Winchester) G3 remains one of the most successful military 7.62mm rifle designs worldwide, in use with the armed forces of more than 60 nations. In addition, 14 countries have produced the G3 under license. H&K continues to produce the G3 for the Bundeswehr; the G3 will most likely see service in the Bundeswehr well into this century.

### *PSG 1 and MSG90*

The PSG 1 and MSG90 sniper rifles both exhibit Heckler & Koch's delayed-blowback principle of operation. They are, in fact, extensively modified semi-automatic variants of the 7.62x51mm NATO (.308 Winchester) G3 rifle. The two variants differ from each other primarily by their stocks, with the PSG 1 featuring more of a competition-style stock. The U.S. Marine Corps evaluated the MSG90 (as the MSG90A1) for possible procurement in 1995.

### *HK33E and HK53*

The HK33E, firing the 5.56x45mm NATO (.223 Remington) round, is a scaled-down variant of the G3. It is in service in Brazil, Chile, Malaysia, and Thailand (license manufacture), as well as in a number of other nations in Africa and Latin America. The HK53 is essentially a shortened variant of the HK33E, which H&K markets as a "short assault rifle." The HK53 is in production for undisclosed customers.

### *HK50/G36*

In 1995, the Bundeswehr selected this privately developed battle carbine as the G36 (see preceding paragraphs). The HK50/G36 is a fairly conventional 5.56x45mm NATO (.223 Remington) weapon featuring an optical 3-power sight and conventional open sights built into the carrying handle. The HK50/G36 has a skeletal butt-stock assembly and plastic furniture. The weapon is ambidextrous, with the selector switch accessible from both sides of the receiver; the cocking handle is located on top of the receiver. Three versions of the G36 are currently in production:

- The standard battle carbine
- A light support weapon with a heavier barrel for sustained firing
- Two short-barrel variants (G36C and G36K)

In 1997, H&K began marketing an export version of the G36, the G36E; this weapon differs only in the sights. In June 1998, Spain became the first major export customer, selecting the HK50 as its next standard rifle; Nepal selected it in 2002.

### *G11: Ahead of Its Time?*

The 4.7mm G11 is a truly revolutionary battle carbine and was to have been the standard military shoulder weapon for the Bundeswehr of the 1990s. This advanced bullpup design fires the innovative 4.73x33mm OH caseless ammunition. Troop trials of the G11 began in July 1988; the Bundeswehr Plan 90, approved by the German Parliament in May 1988, authorized the acquisition of 200,000 G11 rifles between 1990 and 2002. In October 1989, the Bundeswehr type-classified the weapon as the G11. By 1991, the Bundeswehr had issued 4,000 G11s to a number of specialized infantry units.

Full-scale serial production was to have commenced in 1991 at an initial rate of 10,000 rifles per year, increasing to 20,000 rifles per year by 1996. However, the Bundeswehr indefinitely suspended the entire procurement program in 1991. While the G11 proved to be an accurate weapon (supposedly fully certified for service use), developmental problems with the weapon design and its caseless ammunition created insurmountable hurdles in the view of the ever-conservative Bundeswehr. In a time of shrinking defense budgets, the Bundeswehr simply could not justify spending more money on such a radical concept.

*Mausser-Werke GmbH.* Mauser is perhaps the most famous name in the field of small arms. In April 1995, Rheinmetall Defence (then Rheinmetall Industrie) acquired a controlling interest in the Mauser firm. The firm's current offerings in the military rifle market are a series of bolt-action sniper rifles:

- The Model SP66
- The Model 86SR
- The Model SR93

The SP66 and the 86SR fire the standard 7.62x51mm NATO (.308 Winchester) round, and the SR93 is available chambered for the 7.62x51mm NATO standard cartridge, the 7.82x66.55mm (.300 Winchester Magnum) cartridge, or the 8.61x69.2mm (.338 Lapua Magnum) cartridge.

The SP66, 86SR, and SR93 all feature competition-style furniture and provision for a variety of sights. The 86SR is more modern in design and features a newly developed bolt action. All three weapons feature a muzzle brake; the SP66 can also mount an optional suppressor. The SR93, introduced in 1993, follows the

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same general pattern as the other bolt-action rifles; it is, however, a modular-type weapon of especially user-friendly design. Mauser produces the 86R and SR93 on an as-needed basis.

### Italy

*Fabrica D'Armi Pietro Beretta SpA.* Reputedly the oldest family-owned small arms firm in Europe (established in the 16th century), Beretta remains one of the major players in the European small arms market. While perhaps more famous for its development and sale of sidearms, the firm continues to be active in other fields of small arms, including military rifles. In August 1995, Beretta purchased the Luigi Franchi firm; Beretta has also acquired Sako of Finland.

### **AR70/223**

The AR70 represents Beretta's first entry in the 5.56x45mm NATO (.223 Remington) battle carbine field. Begun in 1968, the AR70 program borrows features from the M1 Garand, AK-47, and M1 carbine. Since 1974, Beretta has developed several versions of the AR70. For example, the SC70 has a folding stock, and the SC70 Short has a folding stock and a shorter barrel. Beretta has sold the AR70 to special units of the Italian Army, Jordan, Malaysia, and unidentified nations in Africa. In 1997, production of the AR70/223 went dormant.

### **70/90: The Next Step**

Building on the AR70, Beretta designed the 70/90 primarily as a competitor for the 1984 Italian Army requirement for 200,000 rifles to replace the BM 59. The AR70/90 is essentially a product-improved version of the AR70/223. In June 1990, the Italian Army selected the 70/90 for procurement into the late 1990s. In 1996, Beretta won a contract worth \$53 million for 40,000 weapons. During operational use in Somalia, Italian troops were reportedly impressed with the 70/90's performance. Beretta has also developed a carbine version (SC70/90) and a light machine gun variant (AS70/90). Beretta continues to produce these weapons for Italy and for undisclosed clients.

### Russian Federation

The small arms industry of the Russian Federation continues its tortured transformation from the centrally controlled infrastructure of the former Soviet Union to a collection of separate, often state-owned design authorities and manufacturing facilities. The organizational confusion of this process often makes it difficult for the outside observer to accurately determine which entity designs small arms and which (possibly the same) actually produces those arms. Despite this confusion, the Russian arms industry remains a leading

supplier of world-class military small arms for the international market.

*FSUE Rosoboronexport.* This organization acts as the primary conduit between the Russian defense industry and the international market. All individual Russian contractors thus effectively operate under the auspices of Rosoboronexport. Major Russian contractors involved in the military rifle and battle carbine market include IZHMAH/Kalashnikov Izhevsk Ordnance Plant. This is the leading organization for the development of military small arms in the Russian Federation and carries what is arguably the most recognizable small arms name in the world, Kalashnikov. The world-famous Kalashnikov design bureau now operates as the semi-autonomous IZHMAH organization at Izhevsk Ordnance Plant.

### **AK-47/AKM/AK-74 Series**

Izhevsk Ordnance Plant currently produces at least six different military shoulder arms. IZHMAH ceased production of the 7.62x39mm AK-47 in the mid-1980s; the 7.62x39mm AKM production line is now only active for the supply of spare parts. Current production focuses on the 5.45x39mm AK-74/AKS-74 series of battle carbines. Besides the standard-issue AK-74, IZHMAH produces the improved AK-74M, featuring black synthetic furniture in place of the standard laminated wood. Unconfirmed reports suggest IZHMAH is also developing a bullpup version of the AK-74; no firm data have surfaced regarding this variant.

IZHMAH also produces the AKSU-74, a specialized, compact version of the AK-74 featuring an integral flash suppressor and folding stock. While the Russian-produced AKSU-74 fires the standard 5.45x39mm round, at least two foreign-produced versions are available chambered for the 5.56x45mm NATO (.223 Remington) cartridge.

### **Dragunov Sniper Rifle (SVD)**

A 1950s design, the SVD sniper rifle made its operational debut in 1962. Exhibiting the Kalashnikov action of the AK series, the Dragunov fires the powerful 7.62x54mm (rimmed) cartridge, which the Imperial Russian Army first adopted in 1891 for the Mosin-Nagant "three-line" bolt-action rifle. The 7.62x54mm cartridge holds the distinction as the oldest small arms cartridge in continuous active military service.

The SVD remains in production, in both the original version and the improved SVD-S model. The SVD-S features a side-folding tubular metal stock, a shorter barrel with a redesigned muzzle, synthetic (plastic) furniture, and an optional bipod. The standard PSO-1

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optical sight and 10-round detachable magazine of the original SVD remain. KBP produces an even more compact version, the OTs-03AS/SVU (see KBP Instrument Design Bureau entry).

### *SVDK: Extending Range*

Based on combat experience in Afghanistan, Izhevsk upgraded the standard SVD design to fire a new, heavier round, the 9.3x54.9mm 9.0SN. With this new round, the SVDK is much more effective at longer ranges. This upgraded weapon enjoys 70 percent parts commonality with the standard SVD. Izhevsk began serial production of the SVDK in 2001; production continues at this time.

### *AK Hundred Series*

One of the last design programs emanating from Mikhail Kalashnikov is the Hundred Series, a family of weapons available in three chamberings. As might be expected from any Kalashnikov design, the Hundred Series weapons share the basic AK (Avtomat Kalashnikov) action, in this case, the AK-74M design. Each of the Hundred Series weapons features a black phosphate finish and black synthetic furniture, leading to the collective term of Black Kalashnikov for the Hundred Series. We discuss the three submachine gun members of this family in our "Submachine Guns (Europe)" report.

The AK-101 Hundred Series weapon is a full-size selective-fire battle carbine, firing the 5.56x45mm NATO (.223 Remington) cartridge. The AK-101-1 is a semi-automatic version, and the AK-101-2 features a three-round burst feature. The AK-101-N2 and N3 versions mount night sights. The AK-102 is a compact version of the basic AK-101.

Sharing the basic AK-101 design, the AK-103 is another full-size selective-fire battle carbine, this time chambered for the Russian 7.62x39mm M1943 cartridge. The AK-103-N2 and N3 models mount night sights. The AK-104 is the compact version of the AK-103.

The AK-105 is another compact weapon, essentially an AK-104 chambered for the Russian 5.45x39mm cartridge. The AK-105-1 is a semi-automatic version, and the AK-105-2 features a three-round burst mode. The AK-105-N2 mounts a night scope.

Each of the Hundred Series weapons has provisions for mounting a variety of optical sights, as well as the GP-25 grenade launcher. These weapons reportedly exhibit superb workmanship, firing up to 15,000 rounds without malfunction. The AK-101 competed with the AN-94 for selection as the Russian Army's next standard shoulder weapon, a competition that the AN-94 design

reportedly won. Nevertheless, the Hundred Series provides a line of modern battle carbines, carrying the cachet of the Kalashnikov name.

On May 17, 2005, the Venezuelan government and Rosoboronexport signed an agreement worth \$54 million for procurement by Venezuela of 100,000 AK-103 battle carbines, plus handbooks, spare parts, and accessories. The agreement also provides for Russian assistance in establishing a Venezuelan AK-103 licensed assembly facility. Under the terms of the agreement, Rosoboronexport completed the initial delivery of 100,000 weapons in 2006. During the same year, 45 Venezuelan technicians and engineers attended training in AK-103 production in Russia. This agreement marked both the first export sale of the AK-103 and the first licensing agreement for the weapon.

### *AK-107/AK-108*

These are not members of the Kalashnikov Hundred Series. In this case, the AK stands for Alexandrov/Kalashnikov, describing Yuri Alexandrov's integration of his gas system with the standard Kalashnikov action. This gas system reduces recoil and muzzle climb, enhancing accuracy. The two Alexandrov/Kalashnikov weapons differ only in their chambering:

- The AK-107 fires the Russian 5.45x39mm round
- The AK-108 fires the 5.56x45mm NATO (.223 Remington) round

Both weapons feature semi-automatic, automatic, and three-round burst firing modes. The AK-107 and AK-108 can mount a variety of optical sights, as well as the GP-25 grenade launcher. Both the AK-107 and AK-108 are available for orders; IZHMASH is actively marketing these weapons for export.

### *AN-94*

In 1992, reports of a new rifle designated Abakan appeared in the Russian press. However, we subsequently learned that the term *Abakan* actually referred to the competition for the Russian Army's new standard rifle. The weapon that reportedly won that competition was the AN-94, a 5.45x39mm battle carbine designed by the IZHMASH design bureau.

The AN-94 is also known as the Nikonov, named after its designer, Gennadiy Nikonov, a protégé of Mikhail Kalashnikov. While the AN-94 clearly displays the Kalashnikov influence, it also features a number of unique design elements. Among these is a selective-rate firing system, based on what the designer describes as a blowback shifted-pulse operating system. In this system, the two-round burst and semi-automatic modes

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of operation are normal; in the automatic mode, the first two rounds fire at an 1,800-round-per-minute cyclic rate, after which the rate automatically lowers to 600 rounds per minute. This feature allows accurate fire of the first two rounds before the recoil impacts the shooter.

Like the Hundred Series, the AN-94 can mount the 40mm GP-25 grenade launcher, which is rapidly becoming a standard appendage of Russian small arms, much as the American 40mm M203 grenade launcher is with the M16 series.

While the Russian Army selected the AN-94 as its new standard shoulder arm in 1995, IZHMASH has yet to initiate full-scale serial production at its Izhevsk plant. Due to the financial straits of the Russian Federation, full-scale fielding of the AN-94 will likely proceed at a snail's pace for the foreseeable future.

### *SV-98 and SV-99*

These two weapons are bolt-action sniper rifles derived from Russian competition rifles. IZHMASH offers the SV-98, derived from the Record-1 rifle, in the Russian standard 7.62x54mm, 7.62x51mm NATO (.308 Winchester) and 8.61x69.2mm (.338 Lapua Magnum) chamberings. Feeding from a 10-round magazine, the SV-98 features a fully free-floating barrel, a PKS-07 optical sight, and several other features.

The SV-99 is a specialized sniper rifle, firing the 5.5x15mm (.22 Long Rifle) cartridge from its 10-round magazine. Based on the Biathlon competition rifle, the SV-99 can be broken down for ease in transport. The rifle features a 4x34 telescopic sight, with no provision for open (iron) sights. Both the SV-98 and SV-99 are in serial production.

**KBP Instrument Design Bureau.** A legacy of the old Tula Arsenal, the government-owned KBP Instrument Design Bureau has been responsible for production of a number of famous small arms and automatic cannon since its establishment in 1927.

### *A-91*

Kovrov Mechanical Plant has produced the KBP A-91 light battle carbine, a 7.62x39mm bullpup design, in extremely limited numbers. Possibly reflecting disenchantment with the newer 5.45x39mm cartridge, KBP designed the A-91 (also known as the A-91M) around the older 7.62x39mm M1943 cartridge of the AK-47/AKM series from the outset. The selective-fire A-91 is a modern-design compact weapon, about the size of a submachine gun. KBP has reportedly developed at least three versions of the A-91. The A-91

has yet to secure a major order; KBP's marketing effort continues.

### *OTs-03AS/SVU*

The new OTs-03AS (called the SVU in its basic iron sight form) is the latest KBP manifestation of Kalashnikov's SVD sniper rifle. In a departure from the original SVD design, this weapon features a bullpup configuration and an automatic-fire capability. First employed during operations in Chechnya in 1994, the OTs-03AS, which carries the Russian designation "sniper assault rifle" (however oxymoronic that may be to the rifle purist), is significantly shorter than the SVD while firing the same 7.62x54mm cartridge. Common to bullpup designs, the selective-fire OTs-03AS mounts its trigger group forward of the magazine well.

The weapon also features a redesigned lock mechanism, as well as a combined flash and sound suppressor at the muzzle. The OTs-03AS mounts the PSO-1 optical sight and an integral bipod. This weapon is in serial production by KBP for both domestic sales and export.

**TsKIB SOO.** This design authority (the Russian acronym stands for Sporting and Hunting Guns Central Research and Design Bureau) is in Tula.

### *OTs-14 Groza*

The OTs-14 Groza program represents a family of battle carbines sufficiently accurate for employment in a sniping role. Broadly based on the AKS-74U, the OTs-14 is modular in nature, accepting several specialized accessories, such as a 40mm grenade launcher, a suppressor, and various sights. The OTs-14 can also accept a short barrel. Each of the four basic versions, distinguished by their accessories, carries a different sub-designation.

The OTs-14 originally fired the 9.2x38.5mm cartridge (the Groza 9/40); the current design fires the 7.62x39mm M1943 cartridge (the Groza 7.62/40). TsKIB SOO has produced small quantities of the OTs-14 at its own facilities; the KBP Instrument Design Bureau has also undertaken some limited production.

**TsNIITochMash.** This organization, the Institute of Precise Mechanical Engineering, is another creature of the old Soviet design and production infrastructure. Located in Izhevsk, this organization has developed and manufactured several specialized weapons.

### *AS and VSS*

In 1993, TsNIITochMash introduced two new specialized weapons chambered for the unique 9x39mm subsonic cartridge. Both are selective-fire weapons

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designed for specific missions. The AS (or Val) is a "silent" weapon featuring a Kalashnikov action and an integral suppressor in conjunction with the SP-6 cartridge. The AS also features a folding stock and provision for a variety of sights.

The VSS (or Vintorez) is essentially an AS optimized for use as a sniper rifle. Also known as the BSK Silent Sniper Complex, the VSS fires the 9x39mm SP-5 and SP-6 subsonic cartridges. These new rounds are reportedly highly effective against up to level III body armor at a 400-meter (437.4-yd) range. Production of both weapons is reportedly ongoing for domestic and unidentified export orders.

### *SR-3 Vikhr*

The SR-3 Vikhr is a so-called small assault rifle chambered for the 9x39mm SP-series subsonic cartridge, as well as the PAP-9 Armor Piercing round. One could almost consider this very compact gas-operated weapon a submachine gun. The SR-3 features a 10- or 20-round magazine and a selective-fire capability. To date, TsNIITochMash has produced at least two submodels of the SR-3 in preproduction quantities; these submodels differ in minor details, such as the sights.

### *APS*

Another new weapon, the APS fires another unique cartridge, the 5.66x150mm MPS. The selective-fire APS is a specialized variant of the basic Kalashnikov action optimized for use underwater. The underwater range is a function of the depth, up to 30 meters (32.81 yd) at a depth of 5 meters (16.4 ft). The weapon's effective range on land is only around 100 meters (109.4 yd). The APS is in production for special units of the Russian armed forces, as well as for unspecified export customers.

### Spain

*General Dynamics European Land Systems, Santa Barbara Sistemas.* The 7.62x51mm NATO (.308 Winchester) CETME series of rifles first entered service in 1956 with the introduction of the Model A. The Centro de Estudios Tecnicos de Materiales Especiales (CETME) organization designed the weapon with heavy assistance from Germany. CETME introduced the Model C in 1964. The Spanish armed forces subsequently adopted the 7.62x51mm NATO round in place of the original 7.92x57mm (8mm Mauser) round of the CETME Models A and B. The Model C is still available on an as-needed basis. Models D and E exist only as prototypes; they have never entered full production. The Model R, with a shortened barrel and without a butt-stock assembly, serves as a firing port weapon.

### *Models L and LC*

In the early 1980s, CETME began development of a new weapon, the Model L, chambered for the 5.56x45mm NATO (.223 Remington) cartridge. The Model LC features a shorter barrel and folding stock. These delayed-blowback, selective-fire weapons are fairly conventional in design; they were in production for the Spanish Army between 1986 and 1991. CETME did not export these weapons.

In late 1995, reports surfaced that the Spanish Army and Marines were not satisfied with the CETME Model L, citing frequent feed malfunctions and jamming. Reports also suggested that heavy use destabilized the barrel, reducing accuracy. Additionally, the Partido government learned that the unit price (then equivalent to \$1,240) was significantly higher than for similar weapons on the international market. Consequently, a commission was formed to examine options for replacing the Model L with a 5.56x45mm NATO (.223 Remington) weapon.

Following evaluations of the Galil, HK50/G36, and SG550, the Spanish government selected the HK50/G36 for procurement in 1998. The Spanish planned to import the first 15,000 weapons from Germany; Santa Barbara would produce the rest of the 100,000-unit order under license at a new facility located in La Coruna.

In 2001, General Dynamics acquired Santa Barbara (including CETME). The contractor now operates as General Dynamics European Land Systems, Santa Barbara Sistemas.

### United Kingdom

The Electronic Individual Weapon program continues to dominate British small arms development efforts. Begun in 1995, this program is associated with the larger Future Infantry System Technology program. Based on the standard 5.56x45mm NATO (.223 Remington) L85 battle carbine, the EIW will feature electronic weapon control and new electronically activated ammunition. The various technologies in development for the prototype weapon will impact the design of the British Army's next standard shoulder weapon.

### *Barrett Crosses the Pond*

In 1997, the British Army issued a requirement for a new large-caliber anti-materiel rifle. After evaluating a number of designs, from 9.7mm to 20mm, the Army selected the Barrett 12.7x99mm (.50-cal) weapon. See the "Military Small Arms (United States)" report in this service for further discussion of the Barrett weapons.

## Military Rifles (Europe)

**Accuracy International Ltd.** This firm has earned a considerable reputation for sniper rifles that feature extensive accessories and options. In March 2005, AI entered receivership. Since then, the company has reorganized and returned to the small arms business.

In addition to the British Army, which uses the 7.62x51mm NATO (.308 Winchester) PM Sniper Rifle System (the L96A1; 1,212 delivered), 31 mostly unidentified nations in Europe, Southeast Asia, the Middle East, and Africa have purchased AI rifles.

Accuracy International now offers an improved model, the AW. AI has thus far sold the AW to more than 30 nations, including Australia, Germany, the Netherlands, Spain, and Sweden.

### *Retiring the AE*

In October 2013, Accuracy International announced that production of the 7.62x51mm NATO (.308 Winchester) AE model would end. Accuracy International continues to support all versions of the AE as it has done with its AW series, which has had upgrades throughout its life.

At the request of the law enforcement community, in 2001 the contractor introduced the AE with a basic black, fixed stock; a fixed cheekpiece; and a 24-inch barrel. The AE has been popular with law enforcement and civilian shooters worldwide. It evolved through two product improvement stages, the AE Mk II and AE Mk III, featuring an AW-style three-position safety, a removable trigger group, a standard adjustable cheekpiece, and redesigned five- and 10-round magazines.

### *Beyond Traditional Calibers*

Another AI offering is the .338 Super Magnum Sniper Rifle. This highly accurate rifle has a number of advanced features for ease of maintenance and operation. However, of greatest interest is the fact AI has chambered this weapon for several cartridges not normally used in the military, including the 8.61x69.2mm (.338 Lapua Magnum) cartridge. With these non-traditional chamberings, this weapon can effectively engage personnel and materiel well beyond 1,000 meters (1,093.6 yd). Another popular AI product is the AW Covert sniping rifle system, a complete sniping kit based on the suppressed AWMP rifle firing a subsonic version of the 7.62x51mm NATO cartridge.

The latest offering from Accuracy International is the AW50, a 12.7x99mm (.50-cal) anti-materiel rifle. AI designed this bolt-action weapon to the lowest weight currently possible. The AW50FT version, with titanium components, weighs 12.73 kilograms (28.006 lb). In 2001, Australia selected the AW50 and a complete package of accessories for its heavy sniper rifle.

### *Upgrading the Old Remington*

Accuracy International has also developed an upgrade program for the Remington Model 700 sniper rifle, the Accuracy International Chassis System (AICS) kit. This upgrade offers new metal and composite furniture (or "chassis," as the firm calls it), which allow the barrel to be self-centering and retain the zero setting for a much longer period. AI plans similar upgrades for other sniper rifles.

In September 2006, the U.S. Navy awarded AI's Oak Ridge (Tennessee) operation a contract potentially worth \$8.5 million for up to 8,000 Mk 13 Sniper Rifle Stock Systems (SRSSs) and 64,000 .300 Winchester Magnum magazines. USSOCOM will use these components to upgrade its inventory of Mk 13 Mod 0/1/2 sniper rifles.

**BAE Systems plc.** RO Defence, long known as Royal Ordnance, is now a component of BAE Systems.

### *The L85/SA80 Family*

As the last military shoulder arm developed and produced by Royal Ordnance, the 5.56x45mm NATO (.223 Remington) L85A1 Individual Weapon, also known as the SA80 Weapon System, replaced the 7.62x51mm NATO (.308 Winchester) L1A1 self-loading rifle (SLR) and the 9x19mm Parabellum L2A3 Sterling submachine gun in British Army service.

The old Royal Small Arms Factory in Enfield developed four variants of the L85A1:

- The L85A1 individual weapon
- The L86A1 light support weapon
- The Enfield carbine
- The Enfield Ensign rifle

At the end of 1988, the Enfield Small Arms Factory closed; production of the L85A1 subsequently moved to the Nottingham Small Arms Factory. Nottingham produced its first L85A1 in June 1988, with full-scale production starting in August of the same year. The British Ministry of Defence awarded two production contracts for the L85A1, specifying delivery of 332,092 weapons in several variants. Nottingham completed production under these contracts in 1995.

The weapon has not done very well on the export market, with the largest reported sale being of 600 weapons to Jamaica.

### *All-Around Disappointment*

The poor performance of the L85A1 during Operation Desert Storm (1991) exposed the entire program to

## Military Rifles (Europe)

intense scrutiny. A report from the British House of Commons released in 1993 criticized the development, management, and procurement of the weapon. The report placed the total cost of the program at GBP384 million (\$575 million). The L85A1 had proved to be a fragile weapon, prone to serious malfunctions, various stoppages, and broken components. In addition, the L85A1 exhibited trouble feeding non-British ammunition. RO repaired 32 identified design faults, at a cost of GBP24 million. However, the weapon's reputation had suffered damage beyond repair.

To address the major criticism that the weapon's iron sights and expensive SUSAT optical sight unit were inadequate, RO investigated the possible integration of Heckler & Koch's now-moribund G11 optical sighting unit with the L85. This equipment, now designated SA80x3, is reportedly three times lighter than the SUSAT unit. BAE Systems has also integrated the Heckler & Koch HK79 40mm grenade launcher with the L85, mounting the HK79 in place of the standard L85A1 handguard assembly.

### *A2 Retrofit Program*

After exhaustive testing in Kuwait, Brunei, and Alaska in early 2000, the British Army adopted a range of modified components for an SA80/L85 modernization and retrofit program. RO began modifying the 323,900 L85A1 and 22,391 L86A1 weapons in British service almost immediately, reissuing the modified weapons as L85A2s and L86A2s. The retrofit program, which was reportedly completed in 2006, cost GBP92 million (\$133 million) – a unit cost of GBP450 (\$651).

### *Forever Tainted*

While the Ministry of Defence maintains the L85A2 and L86A2 are now completely reliable, British troops still regard the weapons with less than enthusiasm. The Royal Marines continue to insist the weapon is fundamentally flawed. The British Special Air Service never accepted issue of any SA80/L85 weapons; members of 22 SAS Regiment continue to use the M16 series as their basic shoulder arm instead.

Despite repairs and upgrades, the SA80/L85 remains a victim of its past. Even the reportedly good performance of the L85A2 during Operation Telic (the British component of Operation Iraqi Freedom) and Operation Herrick (the British component of Operation Enduring Freedom) did little to rehabilitate the weapon's poor reputation. The Ministry of Defence continues to stand behind the SA80/L85, but MoD sources have stated that procurement of a replacement weapon will have to proceed earlier than previously planned.

**Analysis.** In the European small arms market, we see three major trends in play.

**5.56mm NATO Dominates.** First, even with the integration of the former Warsaw Pact states into the European sphere, the domination of the 5.56x45mm NATO (.223 Winchester) cartridge as the round of choice for battle carbines is nearly complete. Consider the trend of Russian small arms organizations designing their weapons for compatibility with the NATO round, despite the Russian armed forces' use of their own 5.45x39mm cartridge. Clearly, even the Russians regard the NATO round as a vital component of their international marketing strategy.

**Expanding 5.56mm Carbine Market.** This widespread acceptance of the NATO cartridge has spawned another trend – namely, the proliferation of small arms firms offering an array of battle carbines chambered for NATO-standard ammunition. As European and former Warsaw Pact armies increasingly adopt NATO-standard ammunition, the market for compatible military shoulder arms opens corresponding opportunities for small arms firms.

There is an element of national pride in play here as well. At least 16 European nations are planning to develop, have developed, or are currently producing their own battle carbines despite the number of proven designs available from established major small arms concerns such as FN Herstal, Heckler & Koch, and IZHMASH. This trend, most recently exemplified by the entrance of Croatia, Estonia, and Ukraine into the market, will continue, with Belarus likely to join the list next.

Several nations are already engaged in various stages of their next major small arms procurement cycle. Turkey, which recently opted for the HK33, is perhaps the most important in this regard. Other European nations, such as France, Germany, and the United Kingdom, will likely commence new small arms procurement programs for their armed forces by the end of the decade. The status of the Russian Federation's rearming program remains open to question. While the Russian Army has reportedly selected the AN-94 as its next shoulder weapon, the Russian economy continues to hinder any major rearming program.

So, what will happen to all the existing weapons replaced by new procurement? Even after war-reserve stockpiling and weapons issue to various reserve and militia organizations, we estimate about 4 million European weapons will become surplus during the next decade. In all likelihood, most of these weapons will find their way into the international small arms market.

## Military Rifles (Europe)

For the various European small arms manufacturers, this weapons glut in the international small arms market will precipitate an almost Darwinian competition for market share. In a buyer's market, the firms that produce the right products at the right price with the best financial terms will dominate, and thus survive.

**Market Consolidation.** The aforementioned situation leads us to another trend in the European small arms market: the eventual consolidation and market dominance of a select number of players. In the current market for specialized small arms (sniper and heavy anti-materiel rifles), we already see this trend in play.

While nearly every European arms producer markets a line of sniper and anti-materiel rifles, a select number of established producers, such as Steyr-Mannlicher, Heckler & Koch, IZHMAH, and Mauser, continue to dominate this market segment; the American firm Barrett Firearms Manufacturing holds what is essentially a near monopoly on the heavy anti-materiel rifle market.

In the mid to long term, the European small arms market will likely fall under the domination of major firms that have melded together via acquisition programs or mergers.



IZHMAH 7.62x39mm AK-103 Battle Carbine with Accessories

Source: IZHMAH

## Funding

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The various contractors, some of which are government-owned enterprises or state-owned arsenals, fund the development of military shoulder weapons in Europe.

## Contracts/Orders & Options

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Not available, as the various ministries of defense and contractors have not released contractual information regarding military small arms programs.

## Timetable

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Europe has historically been the world leader in small arms development; this position has waned in the past few decades, as demonstrated by NATO's adoption of American ammunition designs for rifles and carbines. As the 21st century progresses, the full-scale integration of advanced materials technology with military shoulder weapons will result in the introduction of several completely new designs.

## Military Rifles (Europe)

### Worldwide Distribution/Inventories

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**Export Potential.** Although European military rifle and carbine production primarily addresses domestic requirements, players such as FN Herstal and Heckler & Koch have achieved a significant level of export success. Nevertheless, the growing capability of non-U.S. and non-European players to produce shoulder weapons comparable in quality to European weapons for a lower unit price remains the greatest threat to European dominance of the market.

**Countries.** The distribution of military rifles and carbines produced by the major European players is worldwide in scope. Because most contracts go unreported and the use of many designs is so widespread, it is virtually impossible to determine the precise distribution of the shoulder weapons covered in this report.

### Forecast Rationale

Despite prospects for major new procurement programs during the coming decade, the near-term European domestic demand for small arms remains much lower than it was during the Cold War.

#### *Survival of the Fittest*

In the near term at least, the European market for military shoulder arms will continue to operate as a veritable free-for-all. The Forecast International Weapons Group expects an eventual stabilization of the market, characterized by a lesser number of major international small arms consortiums. The current European small arms market will, of necessity, evolve through the Darwinian principle of survival of the fittest.

#### *European Domination*

In the meantime, European small arms designs continue to drive the international market. Established European

players, such as FN Herstal, Heckler & Koch, and IZHMAH, clearly represent the cutting edge of military rifle and carbine development.

Indeed, as an example of this market dominance, witness Peru's procurement of 8,110 FN Herstal SCAR-Heavy 7.62x51mm NATO (.308 Winchester) rifles in a deal worth \$31.5 million.

#### *Stable Market*

Although demand has waned since the Cold War, we nevertheless expect the European military rifle and carbine market to generate a combined output averaging more than 137,000 weapons per year.

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