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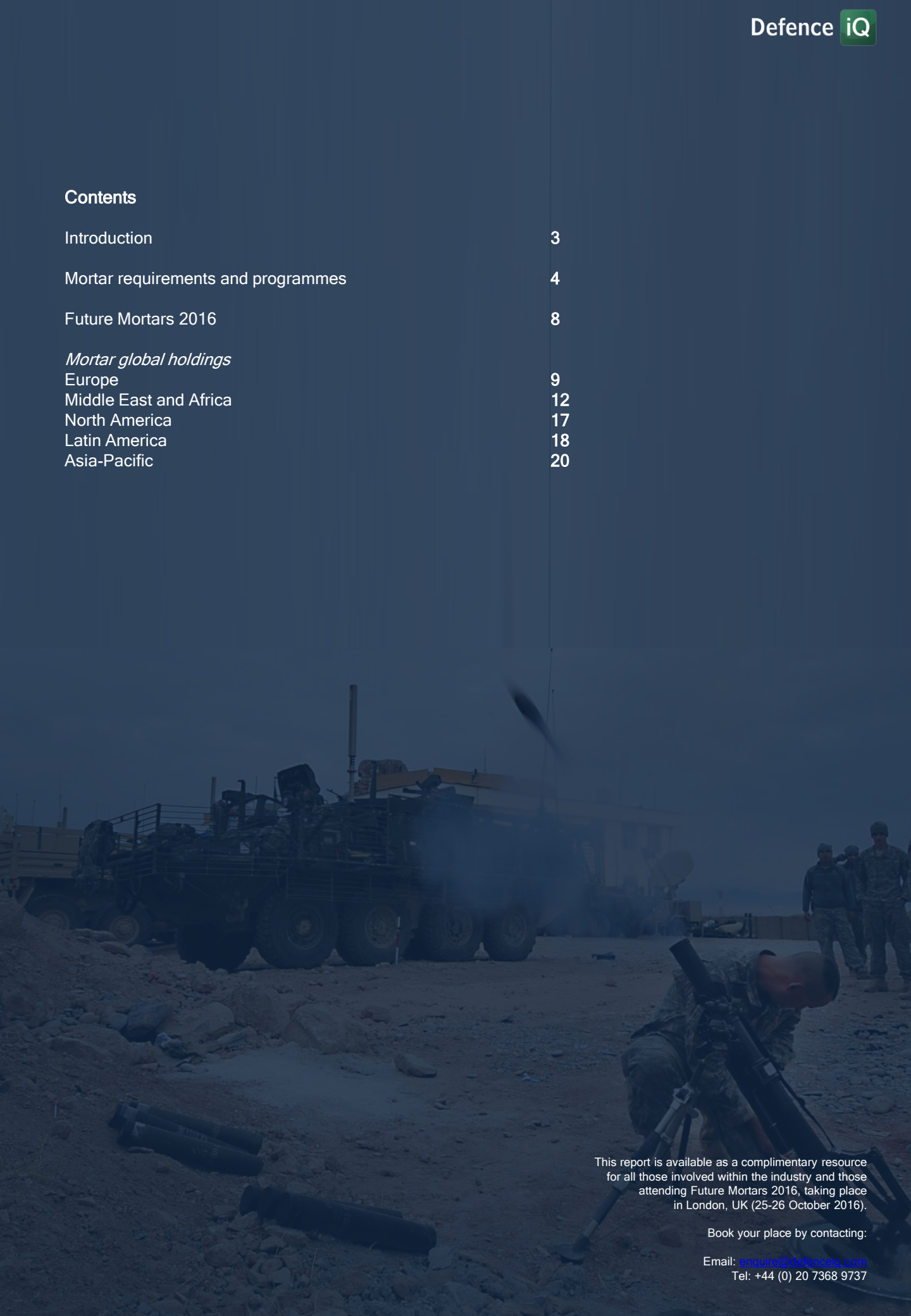
FUTURE MORTARS

REQUIREMENTS AND HOLDINGS REPORT

2016

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This report is available as a complimentary resource for all those involved within the industry and those attending Future Mortars 2016, taking place in London, UK (25-26 October 2016).

Book your place by contacting:

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Introduction

The most commonly operated towed or hand-held indirect fire mortar calibres are 60mm, 81mm and 120mm, but others, such as 82mm and 107mm are also in use. There are over 85,000 towed/hand-held and self-propelled (SP) mortars in use worldwide. Of these, around 5,500 are SP systems. Asia-Pacific countries hold 41.5% of the world's towed/hand-held mortars, while Europe has 14.5% and the Middle-East has 16.9%. Europe dominates in SP mortars, with 62% of the world total.

Although 81mm self-propelled (SP) mortar systems are still operated by some countries, including the U.K., there is now a trend towards the larger 120mm SP systems, which have a longer range and generally more effective ammunition. Traditional High Explosive (HE), Illumination and Smoke ammunition is still widely used, but new HE variants and Insensitive Munitions (IM) are being introduced.



PROGRAMMES AND REQUIREMENTS



Azerbaijan

The 2531 Vena tracked 120mm gun/mortar system has been exported by Russia to Azerbaijan.

The CARDOM was integrated on the Soviet-designed BMP-1 tracked IFV for an undisclosed customer and deliveries are reported to have begun. This client may be Azerbaijan, which acquired 10 CARDOM systems in 2008.



Cameroon

Recent export customers for the CARDOM include Cameroon, which acquired 8 systems mounted on a Mercedes-Benz 4-wheel drive cross-country truck chassis.



China

A modified version of the NORINCO WZ551 6x6 APC is used as the basis for the 120MM SP mortar PLL-05 which entered service before 2009.

China has also developed 120MM laser-guided mortar bombs.

Unveiled in late 2014, the NORINCO CS/SM2 is another 120MM system housed on an 8-wheel drive chassis, and may be the same as the Type 07PA, which was offered by Poly Technologies from 2012, based on the Type 07P 8-wheel drive APC.

The People's Republic of China (PRC) also offers the PLZ-05A, based on the ZBD-08 Infantry Fighting Vehicle (IFV).



Finland

In December 2010, Patria Hägglunds received a contract to produce 18 AMOS systems integrated on Patria 8x8 AMV chassis for the Finnish Army. Four pre-production vehicles were used for evaluation which were later brought to the full production standard, including a computerised FCS. The first systems were delivered in 2012.



France

The TDA MO 120 RT 120MM Rifled Towed Mortar is in-service in many countries (including France). The TDA 120R 2M SP Mortar is also deployed by the French Army.

In French service, it is usually towed by the VTM 120, a variant of the VAB 4x4 APC.



Germany

Germany has a requirement for 38 Wiesel 120MM SP Mortars. Production of the first batch of 8 systems has been completed.



Iraq

18 AN/TPQ-48 Artillery/Mortar Locating Radars are on order.



Israel

The 120MM Computerised Autonomous Recoil Rapid Deployment Outrange Mortar (CARDOM), known as the Keshet, is deployed by the Israeli Defence Force (IDF) on upgraded M113A3 APCs.

PROGRAMMES AND REQUIREMENTS



Italy

The Italian Army has selected the TDA 120R 2M SP Mortar for installation on its Freccia 8x8 and Dardo tracked vehicles.



Malaysia

The TDA 120R 2M SP Mortar is deployed in the FNSS Armoured Combat Vehicle-Stretched.



Oman

The TDA 120R 2M SP Mortar is deployed in the VAB 6x6.



Philippines

RDM has exported 28,642 mortar bombs to the Philippines.



Poland

In Poland, Huta Stalowa Wola has developed the Rak family of wheeled and tracked 120 mm self-propelled mortars.

Poland has a requirement for an initial 12-16 units, and could ultimately procure as many as 64 on the Rosomak and 32 on tracked hulls, if funding permits.



Portugal

The Soltam 120mm Computerised Autonomous Recoil rapid Deployed Outrange Mortar (CARDOM) is in service with the the Portugese Army (General Dynamics Land Systems 8x8 Stryker) and other export customers.



Russia

Russia has developed 120MM laser-guided mortar bombs. Russia also developed the 120MM Anona 2S9 SP Gun/Mortar System, based on the BTR-D APC.

A prototype of a 120MM 2S34 SP Mortar integrated onto 2S1s and MT-LBs has also been developed, but is yet to enter production.

The successor to the Nona is the Vena, which was launched with the 2S31 Vena on a modified BMP-3 chassis. Kurganmashzavod provides the hull and the mortar is a product of Motovilikha. The 2S321 Vena is also expected to be integrated with the Russian Army's new-generation Kurganets-5 tracked armoured vehicle family expected to enter production in 2017.

Saudi Arabia

The TDA 120R 2M SP Mortar is operated on upgraded M113 APCs.

The Armoured Vehicles & Heavy Equipment Factory (AVF) has overhauled and upgraded a number of Saudi Arabia's Panchard General Defense AML 60 armoured cars (armed with 60 mm mortars). The Saudi Arabian National Guard (SANG) ordered 724 General Dynamics Light Armoured Vehicles (LAV) in 2011. This included 36 equipped with the NEMO Turreted Mortar System (TMS). Deliveries began in 2012 and 34 systems had been delivered by 2015, with the remaining 2 to be delivered by the end of 2016.

PROGRAMMES AND REQUIREMENTS



Singapore

The 120MM Super Rapid Advanced Mortar System (SRAMS), developed by Singapore Technologies Kinetics (STK) is in-service with the Singapore Armed Forces. It is fitted on the Bronco All Terrain Tracked Carrier (ATTC), also produced by STK.



Spain

Spain is procuring an 81MM variant of CARDOM, mounted on VAMTAC 4x4 vehicles. The first 6 units, under a \$8.5 million contract, were delivered in mid-2012.

4 ARTHUR Mortar-Locating Radars are on order.



Switzerland

RUAG has developed the 120MM Bighorn Recoiling Mortar System but there have been no known sales of this system as yet.

RUAG also now offers its Cobra 120MM mortar, which was unveiled earlier this year. After initial integration on the Piranha-II, RUAG will work to adapt the system for the Piranha-III and M113.



Tanzania

In 2013, Tanzania became the first export customer for the Chinese Type 07PA, with 10 delivered by 2014.



Thailand

The US has exported the M1064A3 mortar carrier to Thailand.



Turkey

FNSS Savunma Sistemleri has supplied 170 AMCs fitted with turntable 81MM Mortars to the Turkish Land Forces Command.



UAE

SRAMS is in production for the International Golden Group (IGG) of the UAE as part of the Agrab Mk.2 Mobile Mortar System, incorporated into the BAE Systems RG31 Mk.6. 72 Agrabs were ordered in 2011 for the UAE Armed Forces. DLS has exported 36 mortars to the UAE.



USA

As part of the US Army's Field Artillery Modernisation Strategy for 2020, the HMMWV mounted AN/TPQ-50 Lightweight Counter Mortar Radar (LCMR) is expected to become one of the primary target acquisition radars within the US Army Field Artillery.

The 120MM Computerised Autonomous Recoil Rapid Deployment Outrange Mortar (CARDOM), is deployed by the U.S. Marine Corps on Stryker 8x8 LAVs.

The BAE Systems M1064 is the standard 120MM self-propelled mortar in service with US Army armoured brigade combat teams. The system consists of a 120MM smoothbore mortar mounted in the rear of a BAE Systems M113A3 APC.

A variant of the AMPV will be capable of carrying a 120MM mortar.

PROGRAMMES AND REQUIREMENTS



Venezuela

The 2531 Vena tracked 120mm gun/mortar system has been exported by Russia to Venezuela.



Vietnam

Vietnam's principal defence industry capabilities are in the manufacturing of small arms and small arms munitions. These include mortars.



FUTURE MORTAR SYSTEMS

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THE AGENDA**



25 - 26 October, 2016 | London, UK

For six years, Defence IQ has hosted the Future Mortar Systems conference; the premier international forum for military thought-leaders, procurement representatives and industry experts to engage with and debate the most pertinent issues surrounding contemporary and future mortar systems and the drivers of indirect firepower technology. The long-standing success of this event lies in its emphasis on solution-driven dialogue between key stakeholders in the field, and we look forward to continuing this trend in 2016.

The international event offers practitioners and technical experts a platform to discuss their current capabilities, future requirements, and new or enduring challenges they face with the efficacy and deployment of their equipment. In previous events, leading figures from defence have offered their insight on conventional and simulation training in infantry firepower; precision-guided munitions and mechanized

mortar systems; and equipment deficiencies and platform upgrades. Whilst the 2016 conference will continue to advance these important issues, it will also seek to explore emerging topics that are at the forefront of innovations in tactical and strategic military thinking; in particular, the cyber vulnerabilities of digitized weapons systems, doctrinal transformation, and light and medium-weight precision-guided munitions.

The event also provides an important international dimension to the discussions, with guaranteed speaker and attendee representation from Europe, the MENA region, and North America. This has allowed a diverse range of military representatives to share their experiences and seek valuable insight from foreign contemporaries, as well as strengthen the ties between key thinkers in the global mortars and infantry firepower community.

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COUNTRY	CURRENT MORTAR HOLDING	FUTURE PLANS
Albania	81 82MM 12 120MM	
Austria	90 sGrW 86 120MM (+10 stored)	
Belgium	39 81MM 52 120MM	
Bosnia and Herzegovina	100 M75 120MM	
Bulgaria	215 2S11 120MM SP	
Croatia	29 LMB M96 82MM 70 M-75; 5 UBM 52 120MM	
Cyprus	170 E-44 81MM (70+ M-1/M-9 in Store) 20 M2/M30 107MM 112 RT61 120MM	
Czech Republic	40 M1982 120MM (42 more in Store) 8 SPM-85 120MM SP	
Denmark	20 K6B1 SOLTAM 120MM	
Estonia	41 B455; 10 NM 95; 80 M252 81MM 14 2B11; 165 41D 120MM	
Finland	261 KRH 92 120MM 4 XA-361 AMOS 120MM twin SP	
France	LRR 81MM 128 RTF1 120MM 81MM (Gendarmerie)	
Germany	86 120MM SP	Requirement for 38 Wiesel 120MM SP Mortars
Greece	1,700 81MM 620 M-30 107MM (Inc. 231 SP)	
Hungary	50 82MM 1 M43 120MM	
Ireland	95 120MM 400 81MM	

COUNTRY	CURRENT MORTAR HOLDING	FUTURE PLANS
Italy	212 BRANDT; 58 EXPAL 81MM 183 BRANDT; 142 RT-F1 120MM 13 BRANDT 81MM (Marines) 10 BRANDT 120MM (Marines)	4 ARTHUR Mortar Locating Radars on order
Latvia	28 L16 81MM 25 M120 120MM	
Lithuania	5 2B11; 10 M/41D; 15 M113 WITH TAMPELLA 120MM	
Luxembourg	6 81MM	
Macedonia	39 120MM	
Montenegro	76 82MM 43 120MM	
Netherlands	27 L16/M1 81MM 16 BRANDT 120MM 12 L16/M1 81MM (Marines)	
Norway	24 M106A1; 12 M125A2 81MM SP 150 L-16 81MM	
Poland	89 M-98 98MM 95 M120 120MM	
Portugal	164 81MM (inc. 21 SP); 31 M30 107MM (inc. 20 SP) 54 120MM TAMPELLA	
Romania	266 M-1982 120MM	
Serbia	106 M-69 82MM 57 M-74/M-75 120MM	
Slovenia	50 MN-9/M-74 120MM	
Spain	887 81MM 461 120MM	4 ARTHUR Mortar-Locating Radars on order
Sweden	84 120MM 212 80MM 12 81MM (Marines)	
Switzerland	250 M72/91 81MM SP	

COUNTRY	CURRENT MORTAR HOLDING	FUTURE PLANS
Turkey	3,792 81MM 578 120MM 1,264 M-30 107MM SP 179 120MM SP	
UK	360 81MM SP (on FV432) 32 81MM (Marines)	
Armenia	12 M120 120MM	
Azerbaijan	5 CARDOM; 107 PM-38 120MM	
Belarus	61 2S12 120MM	
Georgia	14 2S12; 33 M-75; 18 M-120 120MM	
Kazakhstan	45 2B11/M120 120MM 18 CARDOM 120MM SP	
Moldova	52 82MM 7 PM-38 120MM	
Russia	4,196 including; 800 2B14 82MM 700 2S12 120MM 430 2S4 240MM SP (IN STORE) (1,000 2S12; 900 PM-38 120MM; 300 M-160 160MM IN STORE) 24 2B16 NONA-K 120MM (Marines) 12 2S23 NONA-SVK; 30 2S9 NONA-S 120MM SP (Marines)	
Tajikistan	10 120MM	
Turkmenistan	31 82MM 66 PM-38 120MM	
Ukraine	190 2S12; 30 PM-38 120MM	
Uzbekistan	5 2B11; 19 2S12; 18 PM-120 120MM	



MIDDLE EAST AND AFRICA

COUNTRY	CURRENT MORTAR HOLDING	FUTURE PLANS
Algeria	150 M-37 82MM 120 M-1943 120MM 60 M-1943 160MM	
Bahrain	12 L16 81MM 12 M113A2 120MM SP	
Egypt	50 M125A2 81MM 500 82MM 1,800 M-1943; 48 BRANDT 120MM 30 M160 160MM 65 M106A1; 35 M106A2 107MM SP 36 M106A3 120MM SP	
Iran	5,000 60MM/81MM/82MM/M-30 107MM/M-65 120MM	
Iraq	500 (EST.) M252 81MM 450 (EST.) M120 120MM M-240 240MM	18 AN/TPQ-48 Artillery/Mortar locating Radars on order
Israel	250 81MM 1,100 81MM/650 120MM/18 SOLTAM M-66 160MM (All in Store)	
Jordan	359 81MM 50 M-30 107MM 300 BRANDT 120MM 50 81MM SP	
Kuwait	60 81MM 6 M-30 107MM 12 (Est.) RT-F1 120MM	
Lebanon	134 81MM 112 82MM 29 BRANDT 120MM	
Libya	M-160 160MM	
Morocco	1,100 EXPAL LN 81MM 550 BRANDT 120MM 32-36 M106A2 106MM SP 20 VAB APC 120MM SP	

COUNTRY	CURRENT MORTAR HOLDING	FUTURE PLANS
Oman	69 81MM 20 M-30 107MM 12 BRANDT 120MM	
Qatar	26 L16 81MM 15 BRANDT 120MM 4 VAB VCAC HOT 81MM SP	
Saudi Arabia	70 81MM/107MM 110 BRANDT; 37 M12-1535 120MM 70 81MM SP 150 M30 107MM SP 81MM (National Guard) 119 LAV-M 120MM (National Guard)	36 NEMO Turreted Mortar Systems (TMS) are on order for the Saudi Arabian National Guard (SANG)
Syria	82MM M-1943 120MM M-160 160MM M-240 240MM	
Tunisia	95 81MM 48 107MM (Some SP) 18 BRANDT 120MM	
UAE	114 L16; 20 BRANDT 81MM 21 BRANDT 120MM 72 AGRAB Mk.2 SP	
Angola	250 82MM 500 120MM	
Benin	81MM 120MM	
Botswana	22 81MM 6 M-43 120MM	
Burkina Faso	15 82MM BRANDT 81MM 12 120MM	
Burundi	15 M-43 82MM 75 (Est.) 120MM	

COUNTRY	CURRENT MORTAR HOLDING	FUTURE PLANS
Cameroon	81MM (Some SP) 16 BRANDT 120MM	
Cape Verde	12 82MM 6 M-1943 120MM	
Central African Republic	81MM 12 M1943 120MM	
Chad	81MM AM-50 120MM	
Congo	82MM 28 M-43 120MM	
DRC	100 81MM 400 82MM M-30 107MM 28 120MM	
Cote D'Ivoire	10 M-37 82MM 16 AM-50 120MM	
Djibouti	25 81MM 20 BRANDT 120MM	
Eritrea	100+ 120MM/160MM	
Ethiopia	M1/M29 81MM M-1937 82MM M-1944 120MM	
Gabon	35 81MM 4 BRANDT 120MM	
Ghana	50 81MM 28 120MM TAMPELLA	
Guinea	M-43 82MM 20 M-1943/M-38 120MM	
Guinea Bissau	M-43 82MM 8 M-1943 120MM	
Kenya	50 81MM 12 120MM	

COUNTRY	CURRENT MORTAR HOLDING	FUTURE PLANS
Madagascar	16 M37 82MM 8 M-43 120MM	
Malawi	8 L-16 81MM	
Mauritania	24 60MM 60 81MM 30 BRANDT 120MM	
Mauritius	2 81MM	
Mozambique	40 M-43 82MM 12 M-43 120MM	
Namibia	40 81MM/82MM	
Niger	19 BRANDT 81MM 17 82MM 4 BRANDT 120MM	
Nigeria	200 81MM 100 82MM 30+ 120MM	
Rwanda	115 81MM/82MM/120MM	
Senegal	8 BRANDT 81MM 8 BRANDT 120MM	
Seychelles	6 M43 82MM	
Sierra Leone	27 (EST.) 81MM 2 82MM 2 120MM	
South Africa	1,190 81MM (Some SP) 36 120MM	
South Sudan	82MM/120MM	
Sudan	81MM 82MM 120MM	
Tanzania	100 M43 82MM 50 M43 120MM	
Togo	20 M43 82MM	

COUNTRY	CURRENT MORTAR HOLDING	FUTURE PLANS
Uganda	L-16 81MM M-43 82MM 78 SOLTAM 120MM	
Zambia	55 81MM 24 82MM 12 120MM	
Zimbabwe	140 (Est.) L-16 81MM/82MM 6 M-43 120MM	



NORTH AMERICA

COUNTRY	CURRENT MORTAR HOLDING	FUTURE PLANS
Canada	100 81MM 24 BISON 81MM SP	
USA	990 M252 81MM 1,076 M120/121 120MM 441 M1129 STRYKER 120MM SP 535 M252 81MM (Marines) 49 EFSS (Marines) 50 LAV-M SP (Marines)	

COUNTRY	CURRENT MORTAR HOLDING	FUTURE PLANS
Argentina	492 81MM 353 BRANDT 120MM 25 M106A2SP 107MM 13 TAM-VCTM 120MM 58 81MM (Marines) 12 120MM (Marines)	
Belize	6 81MM	
Bolivia	250 M29 81MM; TYPE W87 81MM M30 107MM M120 120MM	
Brazil	453 L-16 81MM 715 M1936 AGR 77 M2 120MM 18 M29 81MM (Marines)	
Chile	303 ECIA L65/81; 175 FAMAE; 266 SOLTAM 81MM 16 FAMAE; 93 SOLTAM M-65; 173 ECIA L65/120 120MM 36 FAMAE (ON PIRANHA 6x6); 36 SOLTAM (ON M113A2) 120MM SP 16 81MM (Marines)	
Colombia	1,374 81MM 108 120MM 74 81MM (Marines) 8 120MM (Marines)	
Cuba	1,000 M-41/43 82MM/M-38/43 120MM	
Dominican Republic	60 M1 81MM 4 M-30 107MM 24 EXPAL L 120MM	
Ecuador	400 M29 81MM M30 107MM 12 SOLTAM M-66 160MM 32+ 60MM/81MM/120MM (Marines)	
El Salvador	151 M29 81MM 12 UBM 52 120MM 12+ M-74 120MM (In Store)	

COUNTRY	CURRENT MORTAR HOLDING	FUTURE PLANS
Guatemala	55 M1 81MM 12 M30 107MM (In Store) 18 ECIA 120MM	
Guyana	12 L16A1 81MM 18 M-43 82MM 18 M-43 120MM	
Honduras	81MM 60 FMK-2 120MM 30 M-66 160MM	
Jamaica	12 L16A1 81MM	
Mexico	400 M1; 400 BRANDT; 300 SB 81MM 75 BRANDT; 60 M-65; 32 RT61 120MM 100 60MM/81MM (Marines)	
Nicaragua	579 82MM 24 M-43 120MM 4 M-160 160MM (In Store)	
Paraguay	80 81MM	
Peru	350 81MM/107MM 300+ BRANDT/EXPAL L 120MM 24 M106A1 107MM SP SOME 81MM/18 (EST.) 120MM (Marines)	
Trinidad & Tobago	6 L16A1 81MM	
Uruguay	35 M1/56 LN 81MM 44 SL 120MM	
Venezuela	165 81MM 60 BRANDT; 48 2S12 120MM 21 DRAGOON 300PM; AMX-VTT 81MM SP 12 BRANDT 120MM (Marines)	



COUNTRY	CURRENT MORTAR HOLDING	FUTURE PLANS
Afghanistan	105 M-69 82MM 40 M252 82MM 521 2B14 82MM	
Australia	188 F2 81MM	
Bangladesh	11 M29A1 81MM 366 Type-53/87/M31 82MM 95 MO-120-AM-50 M67/UBM-52 120MM	Further 300 Type 87 Mortars being delivered
Brunei	24 81MM	
Cambodia	M-37 82MM M-43 120MM M-160 160MM	
China	2,586 including; Type 53/67/82/87 82MM (Some Marines) Type 89 100MM	
India	5,000+ 81MM 1,500 (Est.) 120MM 20 M-58 TAMPELLA 160MM 120MM SP 942+ 81MM (Border Security)	
Indonesia	800 81MM 75 BRANDT; 80 UBM 52 120MM 81MM (Marines)	
Japan	651 L16 81MM 428 120MM 24 Type 96 120MM SP	
Korea (North)	7,500 including; M-37 82MM M-43 120MM M-43 160MM	
Korea (South)	6,000 including; KM-29 81MM M-30 107MM	
Malaysia	232 81MM 14 K281A1; 10 ACV-300-S 81MM SP 8 ACV-S 120MM SP	
Mongolia	140 82MM/120MM/160MM	

COUNTRY	CURRENT MORTAR HOLDING	FUTURE PLANS
Myanmar	Type 53 82MM 80 SOLTAM; Type 53 120MM	
Nepal	81MM 70 M-43 120MM (12 Est. Operational)	
New Zealand	50 81MM	
Pakistan	2,350+ including; 81MM AM-50 120MM	
Philippines	M29 81MM 40 M-30 107MM	
Singapore	500 81MM 36 120MM 12 M-58 TAMPELLA 160MM 81MM SP 90 120MM SP (40 on BRONCO; 50 on M113)	
Sri Lanka	520 81MM 209 82MM 55 M-43 120MM	
Taiwan	160 M-29; T75 81MM M30 107MM K5; XT-86 120MM 72+ M-29; 72 M125 81MM SP 90 M106A2 107MM SP	
Thailand	1,900 including; 81MM M106A1 107MM 12 M1064 120MM 21 M125A3 81MM SP M106A3 107MM SP 12 M1064A3 120MM SP	
Vietnam	82MM M-43 120MM M-43 160MM	