

# MORTAR SYSTEMS MARKET



Photo: defense.gov

## SUMMARY

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 100,000 towed/hand-held and self-propelled (SP) mortars in use worldwide. Of these, around 5,000 are SP systems. Asia-Pacific countries hold 34% of the world's towed/hand-held mortars, while Europe has 17% and Russia & the CIS countries operate 16% (Russia 14% on its own). Europe dominates in SP mortars, with 67% of the world total.

Although 81mm self-propelled (SP) mortar systems are still operated by some countries, including the U.K., there has been a trend towards the larger 120mm SP systems, which have a longer range and generally more effective ammunition. However, inversely, there is also a growing shift away from the use of 120mm due to rules of engagement restrictions imposed on using the calibre, whereby mortar crews must go through various chains of command for approval to fire, often delaying or dismissing action. Teams operating 60mm and 81mm are more autonomous.

Traditional High Explosive (HE), Illumination and Smoke ammunition is still widely used, but new HE variants and Insensitive Munitions (IM) are being introduced.

The following data is designed to provide an overview of the major market developments in the mortar systems field. It is not intended to provide an exhaustive account of all procurement and acquisition programmes but rather to outline the latest progress of interest to those involved in this domain.

*Defence IQ* is delighted to announce the return of the annual Future Mortar Systems conference. Building on the success of previous events in the series, the 2014 conference will provide a detailed insight into the front line experiences of mortar crews from a host of nations, coupled with a strategic and long-term viewpoint from senior military personnel. Future Mortar Systems Conference 2014 is a unique opportunity to learn from other military forces and share experiences and best practice techniques in a collaborative environment.

Key topics under discussion include:

- Can increased emphasis on comprehensive simulation in mortar focused training be an effective substitute for live fire training? Is there a realistic solution available that can reduce the cost of live fire training to allow for a reduction in associated ammunition costs?
- The identification of a balance between the desire for precision guided mortar technology and the need for lower expenditures in a time of austerity. Are fire control systems a viable solution to increase accuracy and thus reduce ammunition costs?
- The increased emphasis on mortar mobility as a means to improve 'shoot and scoot' capability. What are the current and future mortar mobility demands facing armed forces? How can current platforms be adapted to meet such requirements? The emphasis on the digital battle space for increased communication, integration and proficiency.



[www.Future-Mortars.co.uk](http://www.Future-Mortars.co.uk)

## NOTABLE MORTAR DEVELOPMENTS

### 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.

### Denmark

There is an upstart on the tender on a self propelled 120mm mortar system due for 2015.

### Finland

The AMOS (Advanced Mortar System) twin 120mm mortar is produced by Patria in collaboration with Haglunds of Sweden for the Finnish Defence Force (FDF). 4 Systems were delivered from 2006, but a contract for 18 AMOS, including upgrading of the 4 already in service, was awarded to Patria in 2010, with first deliveries due in 2013.

### 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.

### Germany

120mm Muzzle-Loaded Smoothbore Mortars incorporated into M113 APCs have now been withdrawn from use.

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

Are now focusing on mobility, given a shift in preference towards the use of 60mm and 80mm systems.

### 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.

In 2014, Israel's Elbit Systems unveiled SOLTAM SPEAR, its latest autonomous Recoil Mortar System for lightweight 4x4 combat vehicles now entering service with the IDF.

### Italy

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

Currently taking delivery of new 81mm mortars from EXPAL under a 4 year process valued at 20 million euros.

### Malaysia

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

### Netherlands

The numbers of 120mm Mortars are to be reduced.

With recent budget cuts, the army has been left with 18 front-line howitzers, brought together with the 120mm mortars under a single field artillery battalion. Increased cooperative mortar operations with Belgium are expected.

### Oman

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

### Poland

Close to introducing a new 120mm self propelled mortar with hopes to have ready by January 2015.

The 120mm RAK Turret Mortar System was developed by Huta Stalowa Wola (HSW) for the Polish Army. A typical deployed unit is expected to include 8 120mm Turreted Mortars mounted on tracked or wheeled vehicles, together with Command, Re-Supply and Maintenance vehicles.

Looking at the prospect of a new fire control system in collaboration with the US Army.

### 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 and is marketing the 120mm 2S31 Vena SP Gun/Mortar System. Development of the 2S31 Vena has been completed, but it has not entered Russian Army service as yet.

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

### Saudi Arabia

36 NEMO Turreted Mortar Systems (TMS) are on order for the Saudi Arabian National Guard (SANG) from GDLS-Canada.

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

### 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.

### Slovenia

Currently undertaking a modernisation effort as Slovenia only has the 120mm CARDOM. Slovenia is currently taking 60mm and 81mm out of storage, but is looking into the market to potentially buy two new systems, likely to be from the UK, US, or Spain. A wider barrel, offering space for additional charges, is believed to be the preferred design.



### The Israeli 120mm CARDOM entered service in 2003

Image: US Army



## NOTABLE MORTAR DEVELOPMENTS (CONT)

**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.

Believed to be looking to acquire a new 120mm system, with the new Elbit SPEAR as a probable contender.

Spain is looking for new ammunition and hopes to improve response times and accuracy.

**Switzerland**

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

**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. The first 10 are being integrated in South Africa, with the remainder to be integrated by IGG in 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) was expected to become one of the primary target acquisition radars within the US Army Field Artillery. The fielding of the AN/TPQ-50 was scheduled for the third quarter of FY13.

The U.S. Marine Corps has a requirement for a 120mm Precision Extended Range Munition (PERM). In late 2012, two-year PERM Engineering and Manufacturing Development (EMD) contracts were awarded to two consortia; ATK and General Dynamics Ordnance and Tactical Systems (GDOTS) and Raytheon and IMI, for a competitive shoot-off.

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



RUAG's Bighorn operates a 120 mm smooth bore barrel  
*Image: RUAG*



**HOLDINGS & NOTABLE PLANS**

**EUROPE**

COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
ALBANIA	81 mm	
AUSTRIA	105 M-43 120mm (+95 stored)	
BELGIUM	51 60mm 18 81mm 32 120mm	
BOSNIA AND HERZEGOVINA	1,046 60mm 82 M-69 82mm 23 2B11; 11 HADID; 7 KROM; 1 M-38; 1 M-43; 460 M-74/M-75; 30 UBM-52 120mm	
CROATIA	91 60mm 74 82mm 70 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 8 M85 PRAM 120mm SP (42 more in Store)	



COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
DENMARK	20 K6B1 SOLTAM 120mm	There is an upstart on the tender on a self propelled 120mm mortar system due for 2015.
ESTONIA	41 B455; 10 NM 95 81mm 14 2B11; 165 41D 120mm	
FINLAND	610 120mm KRH 92 and 81mm KRH71Y 18 AMOS 120mm twin SP	The AMOS (Advanced Mortar System) twin 120mm mortar is produced by Patria in collaboration with Haglunds of Sweden for the Finnish Defence Force (FDF). 4 Systems were delivered from 2006, but a contract for 18 AMOS, including upgrading of the 4 already in service, was awarded to Patria in 2010, with first deliveries due in 2013.
FRANCE	364 RTF1 120mm TDA 120R 2M 120mm SP 157+ 60mm/81mm (Gendarmerie)	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.
GERMANY	79 120mm SP	120mm Muzzle-Loaded Smoothbore Mortars incorporated into M113 APCs have now been withdrawn from use.  Has a requirement for 38 Wiesel 120mm SP Mortars. Production of the first batch of 8 systems has been completed.  Are now focusing on mobility, given a shift in preference towards the use of 60mm and 80mm systems.
GREECE	1,629 81mm 620 M-30 107MM (Inc. 231 SP)	



COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
HUNGARY	24 60mm 49 82MM	
ICELAND	400 81mm 95 120mm	
IRELAND	95 120mm 174 81mm 164 60mm	
ITALY	425 60mm Commando Mortars 253 81mm 183 BRANDT; 145 RT-F1 120mm M-106 Mortar Carriers 8 BRANDT 81mm (Marines) 4 BRANDT 120mm (Marines)	4 ARTHUR Mortar Locating Radars on order  The Italian Army has selected the TDA 120R 2M SP Mortar for installation on its Freccia 8x8 and Dardo tracked vehicles  Currently taking delivery of new 81mm mortars from EXPAL under a 4 year process valued at 20 million euros
LATVIA	24 L16 81mm 30 M120 120mm	
LITHUANIA	16 2B11; 9 M/41D 120mm 42 M-113 (with 120mm)	
MACEDONIA	81mm; 82MM 39 120mm	
MONTENEGRO	76 82MM 43 120mm	



COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
NETHERLANDS	27 L16/M1 81mm 130 120mm 12 L16/M1 81mm (Marines) 6 BRANDT 120mm (Marines)	<p>The numbers of 120mm Mortars are to be reduced.</p> <p>With recent budget cuts, the army has been left with 18 front-line howitzers, brought together with the 120mm mortars under a single field artillery battalion. Increased cooperative mortar operations with Belgium are expected.</p>
NORWAY	150 L-16 81mm 24 M106A1; 12 M125A2 81mm SP	
POLAND	96 M98 98MM 103 M120 120mm	<p>Close to introducing a new 120mm self propelled mortar with hopes to have ready by January 2015.</p> <p>The 120mm RAK Turret Mortar System was developed by Huta Stalowa Wola (HSW) for the Polish Army. A typical deployed unit is expected to include 8 120mm Turreted Mortars mounted on tracked or wheeled vehicles, together with Command, Re-Supply and Maintenance vehicles.</p> <p>Looking at the prospect of a new fire control system in collaboration with the US Army.</p>
PORTUGAL	190 81mm (inc. 21 SP); 53 M30 107MM (inc. 20 SP) 60 120mm TAMPELLA	
ROMANIA	271 M-1982 120mm	



COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
SERBIA	106 M-69 82MM 60 M-74/M-75 120mm	
SLOVENIA	8 M-52; 16 M-74; 32 MN-9 120mm	Currently undertaking a modernisation effort as Slovenia only has the 120mm CARDOM. Slovenia is currently taking 60mm and 81mm out of storage, but is looking into the market to potentially buy two new systems, likely to be from the UK, US, or Spain. A wider barrel, offering space for additional charges, is believed to be the preferred design.
SPAIN	1,200 81mm (inc. 127 on M125A1/A2s) 265 120mm Towed 192 120mm SP (on M-106s) 8 120mm SP (on BMRs)	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.  Believed to be looking to acquire a new 120mm system, with the new Elbit SPEAR as a probable contender.  Spain is looking for new ammunition and hopes to improve response times and accuracy.
SWEDEN	50 120mm 12 81mm (Marines)	
SWITZERLAND	1,200 81mm 132 M-64 120mm (SP on M-113)	RUAG has developed the 120mm Bighorn Recoiling Mortar System but there have been no known sales of this system as yet.





COUNTRY	CURRENT MORTAR HOLDING	FUTURE PLANS
TURKEY	5,813+ Including; 60mm 3,792 81mm 578 120mm 170 AMC 81mm SP 1,264 M-30 107MM SP 179 120mm SP	FNSS Savunma Sistemleri has supplied 170 AMCs fitted with turntable 81mm Mortars to the Turkish Land Forces Command.
UK	470 81mm SP (on FV432) 32 81mm (Marines)	



**HOLDINGS & NOTABLE PLANS**

**SUB-SAHARAN AFRICA**

COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
ANGOLA	250 82MM 500 120mm	
BENIN	60mm 81mm	
BOTSWANA	22 81mm 6 M-43 120mm	
BURKINA FASO	60mm 81mm	
BURUNDI	15 M-43 82MM 75 (Est.) 120mm	
CAMEROON	81mm (Some SP) 16 120mm	
CAPE VERDE	12 82MM 6 M-1943 120mm	
CENTRAL AFRICAN REPUBLIC	60mm 81mm 12 M1943 120mm	
CHAD	81mm AM-50 120mm	
CONGO	82MM 28 M-43 120mm	



COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
DRC	100 81mm 200 82MM M-30 107MM 28 120mm	
COTE D'IVOIRE	10 M-37 82MM 16 AM-50 120mm	
DJIBOUTI	25 81mm 20 120mm	
ERITREA	100+ 120mm/160mm	
ETHIOPIA	M1/M29 81mm M-1937 82MM 100 M-2/-30 107MM M-1944 120mm	
GABON	35 81mm 4 120mm	
GHANA	50 81mm 107MM 28 120mm	
GUINEA	M-43 82MM 20 M-1943/M-38 120mm	
GUINEA BISSAU	M-43 82MM 8 M-1943 120mm	



COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
KENYA	50 81mm 12 120mm	
LESOTHO	10 81mm	
MADAGASCAR	16 M37 82MM 8 M-43 120mm	
MALAWI	8 L-16 81mm	
MALI	M-43 82MM 30 M-43 120mm	
MAURITANIA	24 60mm 60 81mm 30 BRANDT 120mm	
MOZAMBIQUE	40 M-43 82MM 12 M-43 120mm	
NAMIBIA	40 81mm/82MM	
NIGER	60mm 19 81mm 17 82MM 4 120mm	



COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
NIGERIA	200 81mm 100 82MM 30+ 120mm	
RWANDA	115 81mm/82MM/120mm	
SENEGAL	8 81mm 8 120mm	
SEYCHELLES	6 M43 82MM	
SIERRA LEONE	60mm 81mm	
SOUTH AFRICA	1,190 81mm (Some SP) 36 120mm	
SOUTH SUDAN	30+ 82MM	
SUDAN	120 81mm 82MM 12 M-43/AM-49 120mm	
TANZANIA	100 M43 82MM 50 M43 120mm	
TOGO	20 M43 82MM	



COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
ZAMBIA	55 81mm 24 82MM 12 120mm	
ZIMBABWE	130 (Est.) L-16 81mm/82MM 6 M-43 120mm	
UGANDA	L-16 81mm M-43 82MM 78 SOLTAM 120mm	



**LATIN AMERICA & CARIBBEAN**

COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
ARGENTINA	492 81mm 353 120mm 28 M106A2SP 13 TAM-VCTM 70 81mm (Marines) 12 120mm (Marines)	
BELIZE	6 81mm	
BOLIVIA	250 M29 81mm; W87 81mm M30 107MM M120 120mm	
BRAZIL	453 L-16 81mm 715 M1936 AGR 77 M2 120mm 18 81mm (Marines)	
CHILE	300 M-29; 150 SOLTAM; 200 FAMA E 81mm 110 FAMA E; 60 SOLTAM M-65 120mm 36 FAMA E (On Piranha 6x6); 48 M-5L1A 120mm SP 8 81mm (Marines)	



COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
COLOMBIA	125 M1; 16 M125A1 (SP) 81mm 148 M2 107MM 210 BRANDT; 38 HY12; 52 AM50 120mm 20 81mm (Marines)	
CUBA	1,000 M-41/43 82MM/M-38/41 120mm	
DOMINICAN REPUBLIC	60 M1 81mm 4 M-30 107MM 24 ECIA 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 M-74 120mm (In Store)	
GUATEMALA	55 M1 81M 12 M30 107MM (In Store) 18 ECIA 120mm	
GUYANA	12 L16A1 81mm 18 M-43 82MM 18 M-43 120mm	
HONDURAS	400 60/81mm 60 FMK-2 120mm 30 M-66 160mm	
JAMAICA	12 L16A1 81mm	





COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
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 18 (Est.) 81mm/120mm (Marines)	
SURINAME	6 81mm	
TRINIDAD & TOBAGO	6 L16A1 81mm	
URUGUAY	98 60mm 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)	



HOLDINGS & NOTABLE PLANS

MIDDLE EAST & NORTH AFRICA

COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
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 M1064A3 120mm SP	
IRAN	5,000 60mm/81mm/82MM/M-30 107MM/M-65 120mm	
IRAQ	650 M252 81mm 550 M120 120mm	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) 120mm CARDOM SP	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.  In 2014, Israel's Elbit Systems unveiled SOLTAM SPEAR, its latest autonomous Recoil Mortar System for lightweight 4x4 combat vehicles now entering service with the IDF.



COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
KUWAIT	60 81mm 6 M-30 107MM 12 (Est.) RT-F1 120mm	
LEBANON	134 81mm 112 82MM 29 BRANDT 120mm	
LIBYA	82MM M-43 120mm M-160 160mm	
MOROCCO	1,100 EXPAL LN 81mm 550 BRANDT 120mm 32-36 M106A2 106MM SP 20 VAB APC 120mm SP	
OMAN	69 81mm 20 M-30 107MM 12 BRANDT 120mm TDA 120R 2M 120mm SP (VAB 6x6)	The TDA 120R 2M SP Mortar is deployed in the VAB 6x6.
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 (Stored) 81mm (National Guard)	36 NEMO Turreted Mortar Systems (TMS) are on order for the Saudi Arabian National Guard (SANG) from GDLS-Canada.  The TDA 120R 2M SP Mortar is operated on upgraded M113 APCs.



COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
SYRIA	<p>82MM</p> <p>400 M-1943 120mm</p> <p>M-160 160mm</p> <p>Up to 10 M-240 240MM</p>	
TUNISIA	<p>95 81mm</p> <p>48 107MM (Some SP)</p> <p>18 BRANDT 120mm</p>	
UAE	<p>114 L16; 20 BRANDT 81mm</p> <p>21 BRANDT 120mm</p> <p>72 AGRAB Mk.2 SP</p>	<p>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. The first 10 are being integrated in South Africa, with the remainder to be integrated by IGG in the UAE.</p>
YEMEN	<p>250 81mm</p> <p>144 M-43 82MM</p> <p>12 107MM</p> <p>136 120mm</p> <p>100 (Est.) 160mm</p>	



**HOLDINGS & NOTABLE PLANS**

**ASIA-PACIFIC**

COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
AUSTRALIA	296 F2 81mm	
BANGLADESH	11 M29A1 81mm 477 Type-53/87/M32 82MM 23 Type 52 120mm	Further 300 Type 87 Mortars being delivered
BRUNEI	23 81mm	
CAMBODIA	M-37 82MM M-43 120mm M-160 160mm	
CHINA	2,586 including; W-87 81mm Type 53/67/82 82MM (Some Marines) Type 71 100MM (Reported) Type 55 120mm (Some SP) Type 56 160mm	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.
FIJI	10 81mm	
INDIA	5,000+ 81mm 1,500 (Est.) 120mm 20 M-58 160mm 120mm SP 942+ 81mm (Border Security)	



COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
INDONESIA	800 81mm 75 BRANDT; 80 UBM 52 120mm 81mm (Marines)	
JAPAN	624 L16 81mm 414 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	Possible requirement for an upgrade or replacement of its artillery firefinder radar systems
LAOS	81mm/82MM/M-1938;M-2A1 107MM/M-43 120mm	
MALAYSIA	232 81mm 4 K281A1; 10 ACV-300-S 81mm SP 8 ACV-S 120mm SP	The TDA 120R 2M SP Mortar is deployed in the FNSS Armoured Combat Vehicle-Stretched.
MONGOLIA	140 82MM/120mm/160mm	
MYANMAR	Type 53 82MM 80 SOLTAM; Type 53 120mm	



COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
NEPAL	81mm 70 M-43 120mm (12 Est. Operational)	
NEW ZEALAND	50 81mm	
PAKISTAN	2,350+ including; 81mm AM-50; M-61 120mm	
PAPUA NEW GUINEA	81mm 3 120mm	
PHILIPPINES	60 M81 81mm 40 M-30 107MM	
SINGAPORE	500 81mm 36 120mm 12 M-58 160mm 81mm SP 90 120mm SP (40 on BRONCO; 50 on M113)	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.
SRI LANKA	520 81mm 209 82MM 55 M-43 120mm	
VIETNAM	82MM M-43 120mm M-43 160mm	



HOLDINGS & NOTABLE PLANS

**RUSSIA & CIS**

COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
ARMENIA	19 M120 120mm	
AZERBAIJAN	125 120mm (18 SP)	
BELARUS	66 2S12 120mm	
GEORGIA	900 82MM; 120mm	
KAZAKHSTAN	45 2B11/M120 120mm 18 CARDOM 120mm SP	
KYRGYZSTAN	6 2S12; 48 M-120 120mm	
MOLDOVA	59 (inc. 82MM; NONA 120mm SP)	





COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
RUSSIA	<p>14,000 including;</p> <p>82MM</p> <p>50+ 2B23; 920 2S12; 900 PM-38 120mm</p> <p>300 M-160 160mm</p> <p>240MM</p> <p>20 2S4 240MM SP (410 in Store)</p> <p>18 2B16 NONA-K 120mm (Marines)</p> <p>20 2S23 NONA-SVK; 75 2S9 NONA-S 120mm SP (Marines)</p>	<p>Russia has developed 120mm laser-guided mortar bombs.</p> <p>Russia also developed the 120mm Anona 2S9 SP Gun/Mortar System, based on the BTR-D APC and is marketing the 120mm 2S31 Vena SP Gun/Mortar System. Development of the 2S31 Vena has been completed, but it has not entered Russian Army service as yet.</p> <p>A prototype of a 120mm 2S34 SP Mortar integrated onto 2S1s and MT-LBs has also been developed, but is yet to enter production.</p>
TAJKISTAN	10 120mm	
TURKMENISTAN	<p>31 82MM</p> <p>66 PM-38 120mm</p>	
UKRAINE	603 120mm	
UZBEKISTAN	5 2B11; 19 2S12; 18 PM-120 120mm	



HOLDINGS & NOTABLE PLANS

**NORTH AMERICA**

COUNTRY	CURRENT MORTAR HOLDING	NOTABLE DEVELOPMENTS
CANADA	100 81mm 24 BISON 81mm SP	
USA	2,000 M224 60mm; M224A1 60mm 450 M252 81mm 1,000 M120/M120A1 120mm 417 M1129 STRYKER SP 500 81mm; 120mm (Marines) 50 LAV-M SP (Marines)	<p>As part of the US Army's Field Artillery Modernisation Strategy for 2020, the HMMWV mounted AN/TPQ-50 Lightweight Counter Mortar Radar (LCMR) was expected to become one of the primary target acquisition radars within the US Army Field Artillery. The fielding of the AN/TPQ-50 was scheduled for the third quarter of FY13.</p> <p>The U.S. Marine Corps has a requirement for a 120mm Precision Extended Range Munition (PERM). In late 2012, two-year PERM Engineering and Manufacturing Development (EMD) contracts were awarded to two consortia; ATK and General Dynamics Ordnance and Tactical Systems (GDOTS) and Raytheon and IMI, for a competitive shoot-off.</p> <p>The 120mm Computerised Autonomous Recoil Rapid Deployment Outrange Mortar (CARDOM), is deployed by the U.S. Marine Corps on Stryker 8x8 LAVs.</p>

Sources for Mortar Holdings: MILTEC World Defence Almanac 2013/IISS Military Balance 2013/Stephen Philpott

**GEOGRAPHICAL BREAKDOWN OF WORLD MORTAR INVENTORY**

COUNTRY	CURRENT MORTAR HOLDING	SELF-PROPELLED MORTARS
EUROPE	16,644 (17%)	3,170 (67%)
SUB-SAHARAN AFRICA	4,503 (5%)	Too few to factor
LATIN AMERICA	9,377 (10%)	186 (4%)
MIDDLE EAST & NORTH AFRICA	13,602 (14%)	361 (8%)
ASIA-PACIFIC	32,707 (34%)	403 (8%)
RUSSIA & CIS	15,887 (16%)	151 (3%)
NORTH AMERICA	4,050 (4%)	491 (10%)
<b>TOTAL</b>	<b>96,770</b>	<b>4,762</b>



5th Annual  
**FUTURE  
 MORTAR  
 SYSTEMS**

29 – 30 October, 2014  
 London, UK

### Exploring cost-effective, yet meticulous solutions to enhance future mortar capability

*Defence IQ* is delighted to announce the return of our annual [Future Mortar Systems Conference](#). Building on the success of previous events in the series, our 2014 conference will provide a detailed insight into the front line experiences of mortar crews from a host of nations, coupled with a strategic and long-term viewpoint from senior military personnel. Future Mortar Systems Conference 2014 is a unique opportunity to learn from other military forces and share experiences and best practice techniques in a collaborative environment.

#### Key themes to be addressed at the Future Mortar Systems Conference 2014 include:

- Can increased emphasis on comprehensive simulation in mortar focused training be an effective substitute for live fire training? Is there a realistic solution available that can reduce the cost of live fire training to allow for a reduction in associated ammunition costs?
- The identification of a balance between the desire for precision guided mortar technology and the need for lower expenditures in a time of austerity. Are fire control systems a viable solution to increase accuracy and thus reduce ammunition costs?
- The increased emphasis on mortar mobility as a means to improve 'shoot and scoot' capability. What are the current and future mortar mobility demands facing armed forces? How can current platforms be adapted to meet such requirements? The emphasis on the digital battle space for increased communication, integration and proficiency.

#### Why you should attend Future Mortar Systems Conference 2014:

- Explore the potential for a cost –effective middle ground between simulation and live fire training that can avoid skill atrophy without being a financial burden.
- Discover how technological advances will change the future of mortar capability, including improving precision and reducing weight.
- Examine the rationale for greater integration of mortar systems into the digital battlespace, from the forward observer to fire control systems

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