

Working paper 2

China North Industries Corporation



International Peace Information Service vzw &
Omega Research Foundation
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Editorial

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Working paper 2 on China North Industries Group Corporation

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Front Cover Image: CS/VA1 Light Strike Vehicle - © Robin Ballantyne / Omega Research Foundation - photographed at IDEX 2013

International Peace Information Service (IPIS) is an independent research institute, providing governmental and non-governmental actors with information and analysis to build sustainable peace and development in Sub-Saharan Africa. The research is centred around four programmes: Natural Resources, Business & Human Rights, Arms Trade & Security, and Conflict Mapping.

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The Omega Research Foundation (Omega) is an independent UK-based research organisation. We are dedicated to providing rigorous, objective, evidence-based research on the manufacture, trade in, and use of, military, security and police (MSP) technologies.

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Introduction

The International Peace Information Service (IPIS) and the Omega Research Foundation (Omega) have undertaken a comprehensive review of one of China's largest state-owned companies.

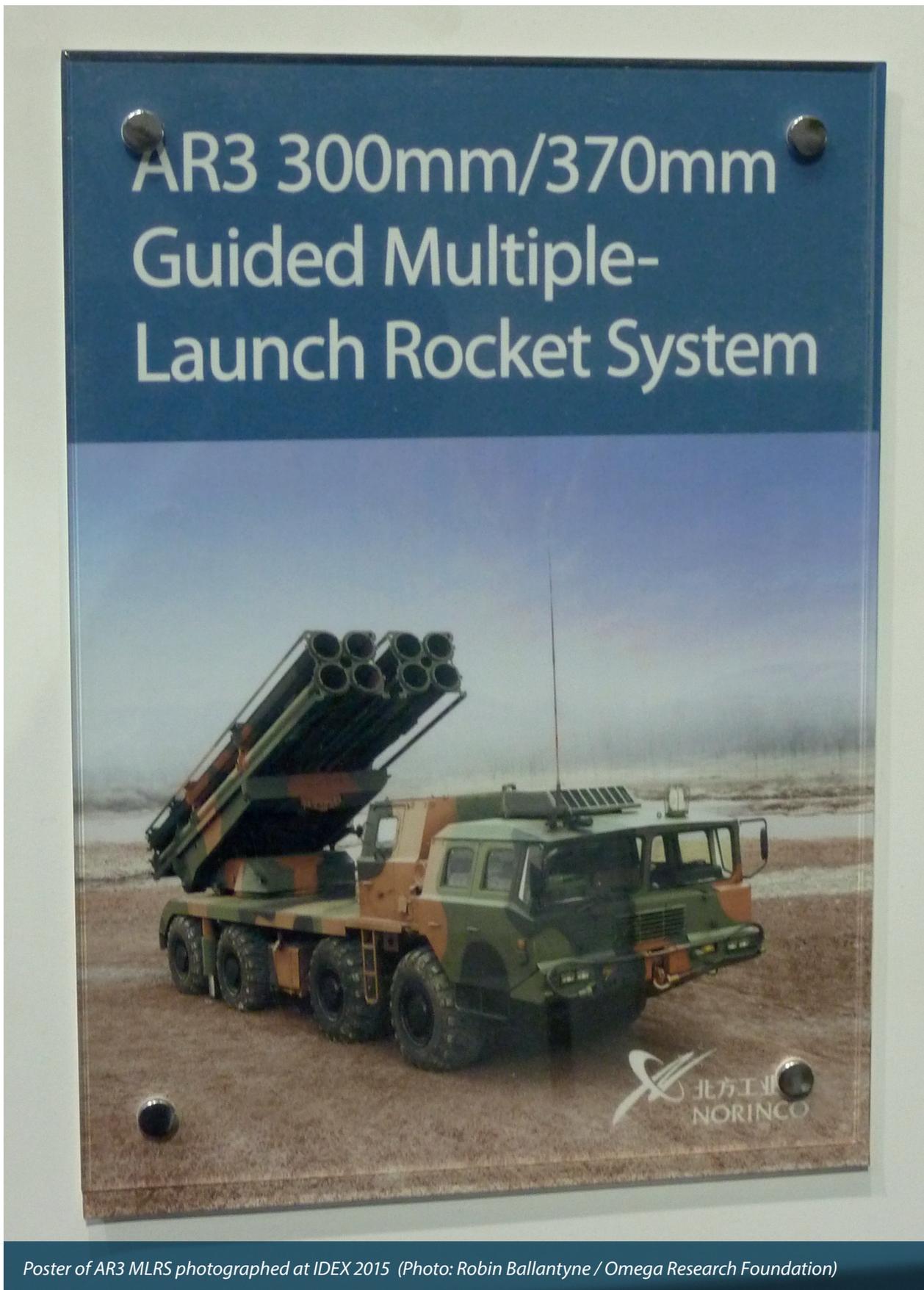
Norinco – known formally as China North Industries Group (CNGC) was established in 1999 and it consists of at least 46 member units which then have several subordinate companies, joint ventures and associate companies. CNGCs main purpose is to research, develop and manufacture weapons and military equipment for the Chinese armed forces. To accomplish this primary task CNGC combines military research objectives with civil development and production enterprises and often the two are difficult to separate. CNGC is also involved in other industries such as mining and petroleum (often overseas) as well as the associated processing industries – which provide raw materials for CNGC and other Chinese companies as well as giving China and CNGC access to international markets. In early September 2016 the State-owned Assets Supervision and Administration Commission announced it had signed major restructuring deals with eight state-owned enterprises, including Norinco, to spur capability advancement.¹

Our previous Working Paper (October 2014) focussed on the structure of CNGC, listing its Member Units and the associated subsidiaries, joint ventures and associate companies. In this paper we focus our attention upon one Member Unit, namely China North Industries Corporation (Norinco). Based upon publicly available sources we try to unravel its many subsidiaries, joint ventures, activities, etc. We believe that this information shows the complex interaction between the civilian and military sections, with supposedly civilian enterprises manufacturing equipment or components for the military, or providing them with raw materials. We hope this will make policy makers and export control departments more aware of the issue of exporting equipment and technology to China.

The lists are still incomplete and we would welcome any additions or clarifications you may have.

1 Chinese defence companies sign restructuring deals, *Janes Defence Weekly*, 14 September 2016.

China North Industries Corporation (Norinco)
(中国北方工业公司)



Poster of AR3 MLRS photographed at IDEX 2015 (Photo: Robin Ballantyne / Omega Research Foundation)

1. Overview: Industries in which Norinco is active

1 Military Security Police equipment (MSP)

- a) Armoured vehicles: Main Battle tanks (Type 62; ZTZ99; MBT2000; MBT3000); WZ551 (ZSL-92) series 6X6 wheeled armoured vehicles ; ZBL-09 (VN1) 8 × 8 wheeled armoured vehicles; WMZ551; VN3; VN4; GSL131 mine clearing vehicle; ZBD-04 (WZ502) infantry fighting vehicle;
- b) Long-range suppression/artillery: howitzers (Type 83 152mm self-propelled; PLZ05 155mm self-propelled); artillery (PTL02 100 mm self-propelled; 105mm self-propelled; PTL-05 120 mm self-propelled mortars); 122mm multiple rocket launcher systems;
- c) Air defense and anti-missile: PGZ95 self-propelled anti-aircraft artillery; 25mm AA; 35mm AA
- d) Precision strike weapons: HJ-09 antitank missile systems; Red Arrow 8;
- e) Effective damage: extended range full bore ammunitions
- f) Anti-riot/law enforcement: tear gas; ZFB-05 4x4 wheeled armoured anti-riot vehicle; WZ901 armoured vehicle

2 Resource extraction

3 Construction

4 Chemical engineering

5 Heavy-duty Equipment: GJT-210 and GJT 211 armoured bulldozer;

6 Logistics

7 Import & Export

8 Opto-electronic Information Technology

China North Industries Corporation (Norinco) (中国北方工业公司)

DETAILS OWNERS	TYPE of WORK	DETAILS		SOURCE
<p>China North Industries Group Corporation.</p> <p>Note: Norinco is also the name of an import / export organization that is 50% owned by the Norinco group and 50% owned by the China South Industries Group Corporation (CSG). (China's Trade in Tools of Torture and Repression, Amnesty International, ASA 17/042/2014)</p>	<p>Military Security Police equipment (MSP)</p> <p>Resource extraction</p> <p>Construction</p> <p>Chemical engineering</p> <p>Heavy-duty Equipment</p> <p>Logistics</p> <p>Import & Export</p> <p>Opto-electronic Information Technology</p>	<p>– industrial manufacturer of vehicles, machinery, optical-electronic products, oil field equipment, chemicals, light industrial products, explosives and blast materials, civil & military firearms and ammunitions etc</p> <p>– petroleum & mineral resources exploitation, international engineering contracting, vehicles and logistics operation, etc.</p>	<p>www.norinco.com</p>	<p>www.norinco.com; http://www.cccme.org.cn/shop/ccme0012/index.aspx</p>

2. Subsidiaries

CONSTRUCTION:

SUBSIDIARY: Medallion Engineering

2008

China promised the Ugandan Ministry of Defence a sh2.3 billion grant to train the UPDF (Ugandan army) and purchase military equipment. Negotiations between Norinco and Luweero Industries to upgrade latter. Excellent relationship hailed between the UPDF and Medallion Engineering / Norinco. (UPDF to get sh2b technology grant, New Vision, 30 November 2008)

2010

The Ugandan president commissioned the construction of a military barracks by Medallion Engineering Ltd, an affiliate of China North Industries Corporation (Norinco). (Ugandan president commissions Chinese constructed military barracks, 13 April 2010, People's Daily Online)

SUBSIDIARY: China Wanbao Engineering Corp (中国万宝工程公司)

China Wanbao Engineering Corp engages in construction of military and civil engineering projects, including factories to manufacture solid rocket and missile propellants. The company is based in Beijing, China. China Wanbao Engineering Corp operates as a subsidiary of China North Industries Corporation. (<http://www.bloomberg.com/research/stocks/private/snapshot.asp?privcapId=24572176>)

2011

Cooperation talks between China Wanbao Engineering Corporation and Aerospace Long-March International Trade Company Limited (ALIT) (航天长征国际贸易有限公司) concerning international engineering projects. (<http://www.alitchina.com/en/bencandy.php?fid=53&id=58>, accessed 14 May 2012)

ALIT authorized by Chinese government to export and import defence, anti-terrorism and anti-riot equipment and technologies. (<http://cloud.alitchina.com/en/?c=about&catid=2>, accessed 15 June 2016)

2015

Memorandum of Understanding signed between Ugandan Ministry of Defence and China Wanbao Engineering Corporation to manufacture commercial emulsion explosives. The joint venture, Kyoga Dynamics Limited, will be based at Luweero Industries Ltd (LIL) in Nakasongola District. Production should start late 2016. Norinco Vice Chairman Tang Deng Jie signed on behalf of China Wanbao Engineering Corporation. "This will be the only manufacturer of commercial emulsion explosives in the East and Central African region. The products will therefore, have a big market.", said Gen. James Mugira. The commercial emulsion explosives are required for mining operations in the region. Luweero Industries currently manufactures small arms ammunition, and tools and spare parts for arms. It refurbishes infantry fighting vehicles, small arms, and weapons of all calibers. (UPDF starts explosive plant, 16 November 2015, Eagle Online)

RESOURCE EXTRACTION:

SUBSIDIARY (wholly-owned): Wanbao Mining Company Limited (万宝矿产有限公司)

Subsidiaries:

- Myanmar Wanbao Mining Copper Limited (Myanmar)
- Myanmar Yang Tse Copper Limited (Myanmar)
- Feza Mining sprl (Democratic Republic of Congo)
- Kambove Mining sprl (Kamoya Copper-Cobalt Mine Project) (Democratic Republic of Congo)
- Global Platinum Resources (Private) Limited (Zimbabwe)

(<http://www.wbmining.cn/aboutwanbao/companystucture/index.htm>)

(<http://www.wbmining.cn/mainbusiness/resourcedevelopment/index.htm>)

Joint Ventures

- Mewitang Nickel Project (Myanmar, 2012) (<http://www.zjky.cn/english/tabid/1017/Infoid/29258/frtid/941...>)

Mining company, its activities include exploration, mining, ore processing, smelting, trade in mineral products, investment... (<http://www.wbmining.cn/aboutwanbao/ourcompany/index.htm>)

Mineral resources including copper, cobalt, nickel, chrome, etc. and planning to invest and exploit tantalum, columbium, lead, zinc, precious metals etc (<http://norinco.com/GB/61/91/93/index.html>) (<http://www.wbmining.cn/aboutwanbao/ourcompany/index.htm>)

Approved by Chinese Customs as a Class-A Management Import/Export Enterprise. (http://www.norinco.com/c1024/english/newscenter/content_120.html)

"Wanbao Mining was established by Norinco and the Wanbao Engineering Co. Its registered capital is RMB 100 mln (USD 12.08 mln). It is mainly engaged in overseas resources developing, smelting, and mineral products trading. The company already has mineral production projects in Africa and Southeast Asia and secured exploration rights and mining licenses for copper, cobalt, and ferrochromium mines." (Norinco's Wanbao Mining launches copper and cobalt smelting, *China Metals Report Weekly*, 15 April 2005)

The Monywa project has been operated by Wanbao Mining Ltd. (Wanbao Mining), a wholly owned subsidiary of NORINCO, since 2010 when it was taken over by the military-owned conglomerate, Union of Myanmar Economic Holdings Limited (UMEHL) and Norinco (Open for Business? Corporate Crime and Abuses at Myanmar Copper Mine, Amnesty International, ASA 16/003/2015)

SUBSIDIARY: Wanbao Mining (Myanmar) Copper Company (万宝矿产 (缅甸) 铜业公司) Myanmar Yang Tse Copper Ltd.

Open cast copper mining project in Myanmar. (<http://www.myanmaryangtse.com.mm/>)

"Myanmar Yang Tse Copper Limited (Myanmar Yang Tse), a wholly owned subsidiary of Wanbao Mining operates the S&K mine, Myanmar Wanbao Mining Copper Limited (Myanmar Wanbao), another subsidiary, operates Letpadaung in partnership with the military-owned conglomerate, Union of Myanmar Economic Holdings Limited (UMEHL)." (Open for Business? Corporate Crime and Abuses at Myanmar Copper Mine, Amnesty International, ASA 16/003/2015)

SUBSIDIARY: Kamoya Copper-Cobalt Mine Project

Mining project located in Kambove (Katanga, DR Congo). In 2014 Norinco and the Compagnie Minière de Kambove (Comika) signed an Engineering, Procurement and Construction agreement. (<http://norinco.com/GB/61/387.html>) (http://www.norinco-intl.com/en/yewu_xx.php?kid=148&id=20&pid=1&k=2&w=1)

SUBSIDIARY: Wanbao Resources

The United States Geological Survey lists Wanbao Resources Corp. As one of the partners in the Feza Mining SPRI joint venture. (Kim B. Shedd, "Cobalt". In: *2006 Minerals Yearbook*, U.S. Geological Survey.)

SUBSIDIARY: Wanbao Mining (Hong Kong)

March 2012, the Burmese government denied allegations of corruption as reported by The Voice Weekly. It is alleged that the Burmese Ministry of Mining sold 50 per cent of a mining project to Union of Myanmar Economic Holdings (UMEH), but was paid by Wanbao Mining (Hong Kong) instead. (<http://www.irrawaddy.org/archives/924>) UMEH is an industrial conglomerate run by the Burmese military. (<http://consult-myanmar.com/2016/02/22/grand-andaman-and-umehl-to-harvest-birds-nests-in-tanintharyi/>)

SUBSIDIARY: Wanbao Rexco Ltd

Wanbao Rexco China a joint venture partner of Zimbabwe Mining Development Corporation (ZMDC) in Global Platinum Resources (Pvt) Limited (GPR). In 2013 Africa Confidential reported that Zimbabwe bartered mining concessions to China and Russia for military equipment. (Arms-for-minerals trades exposed, *Africa Confidential*, 4 December 2013) More on the Russian barter deals in: Arms-for-platinum deal, *Africa Confidential*, Vol. 55 No. 14, 11 July 2014.

JOINT VENTURE: Wanbao Mining Ltd. Zimbabwe (万宝津巴布韦矿业有限公司)

"Zimbabwe Mining Development Corporation, in association with the Zimbabwe Defence Industries (ZDI), had also entered into a joint venture with Norinco to explore chrome at ZMDC mining claims in Ngezi. ZMDC and ZDI will hold 20 percent each while Norinco will have a 60 percent controlling stake. The new company is registered as Wambao Mining Zimbabwe and drilling at Ngezi has already commenced." (ZMDC to Revive Closed Mines, Explore Minerals, *Africa News*, 12 July 2006)

"Through Wanbao Mining of China, Norinco also holds mineral rights for chrome covering 7,005 ha. through Wanbao Zimbabwe (Pvt) Limited." (Arms-for-minerals trades exposed, *Africa Confidential*, 4 December 2013)

SUBSIDIARY: Wanbao Shinex

"ZMDC entered into a joint agreement with Wanbao Shinex to form Zimbao Mining Ventures in which the former has a 49 percent stake while the Chinese company owns the balance. Under the new company, projects earmarked for development include the revival of Mhangura Copper Mines, Lomagundi Smelting and Mining and Sanyati Copper Fields where the geological study revealed large ore deposits. They would also develop the Chimanimani Gold Project." (ZMDC Seeks U.S. \$300 Million, *The Herald*, 29 November 2006)

"Norinco ... holds copper claims through Zimbao Mining Ventures, a joint venture between the ZMDC and Wanbao Shinex of China. The mining rights for this business are situated in the Sanyati mine for copper, with total size of 9,100 ha. The claim has a reserve of 14.4 million tonnes of proven copper complex sulphide ores accessible to mining and other mineral resources like lead, zinc, gold and silver." (Arms-for-minerals trades exposed, *Africa Confidential*, 4 December 2013)

JOINT VENTURE: Zimbao Mining Ventures

"Zimbabwe Mining Development Corporation entered into a joint agreement with Wanbao Shinex and formed Zimbao Mining Ventures in which the former has 49 percent equity while the Chinese company owns the balance. Under the new company, projects earmarked for revival include Mhangura Copper Mines, Lomagundi Smelting and Mining and Sanyati Copper Mines where the geological study revealed large ore deposits. They would also develop the new Chimanimani Gold project." (ZMDC to Revive Closed Mines, Explore Minerals, *The Herald*, 12 July 2006)

"By July 2006, the first venture was launched: Zimbao Mining Ventures. Zimbabwe Mining Development Corporation (ZMDC) owns 49%, and 51% is held by Wanbao Mining, a wholly-owned Norinco subsidiary established the previous year. Zimbao is to develop mines at Mhangura, Lomagundi, and Sanyati." (*Africa Confidential*, vol. 2, N° 9, 1 July 2009)

"Norinco ... holds copper claims through Zimbao Mining Ventures, a joint venture between the ZMDC and Wanbao Shinex of China. The mining rights for this business are situated in the Sanyati mine for copper, with total size of 9,100 ha. The claim has a reserve of 14.4 million tonnes of proven copper complex sulphide ores accessible to mining and other mineral resources like lead, zinc, gold and silver. Zimbao Mining Ventures has also been given gold claims in Chimanimani, over which it holds a special grant covering 30,000 ha., an area that also has vast alluvial gold deposits... All the indications are that many of these deals are also barter deals for current or past arms shipments." (Arms-for-minerals trades exposed, *Africa Confidential*, 4 December 2013)

JOINT VENTURE: Global Platinum Resources

"On a 50-50 shareholding basis, ZMDC and Norinco are expected to open a new platinum mine operating as Global Platinum Resources." (ZMDC to Revive Closed Mines, Explore Minerals, *Africa News*, 12 July 2006)

"Norinco's Wanbao Rexco China is a joint venture partner with the ZMDC in Global Platinum Resources (Pvt) Limited (GPR). GPR's claims are in Selous on the Zimbabwe Great Dyke... Its claims, known as Hopewell Platinum claims, cover 8,681 ha." (Arms-for-minerals trades exposed, *Africa Confidential*, 4 December 2013)

"China's Global Platinum Group, owned by arms manufacturer North Industries Corporation (Norinco), owns another part of the confiscated Zimplats land which it is trying to sell." (*Africa Confidential*, Vol 55 No 5, 7 March 2014)

JOINT VENTURE: Fuli Corporation

Copper-cobalt smelting plant located in Democratic Republic of Congo. Operational since 2005. (<http://www.wbmining.com/zyyw/zykf/project04/index.htm>)

"The Wanbao Mining Co., Ltd. (Wanbao Mining) a subsidiary of Chinese state owned conglomerate Norinco launched the operation of its copper and cobalt smelting plant in Katanga in the Democratic Republic of the Congo on April 13 [2005]... Wanbao Mining's subsidiary Wanbao Mining (Hong Kong) holds a 51% stake of the joint venture company Congo (Kinshasa) Fuli Corporation, while its Congolese partner Comide holds the remaining shares." (Norinco's Wanbao Mining launches copper and cobalt smelting, *China Metals Report Weekly*, 15 April 2005) (Note: Comide, partnership between Gecamines and DGI International.)

JOINT VENTURE: Feza Mining

"In April, 2005, Wanbao Mining inaugurated a new copper alloy and cobalt plant in Katanga in Democratic Republic of Congo. The metals are deemed strategic for its parent company's armaments and construction operations. The company that operates the unit is Feza Mining and its partner is Congolaise des Mines pour le Developpement." (Providing Iron for Chinese Armaments, *Africa Mining Intelligence*, 1 February 2006)

JOINT VENTURE: Jinbao Mining Industry Co.

"Zijin Mining is currently cooperating with China North Industries Group (North Industries) to explore a laterite nickel mine in the Union of Myanmar. Zijin Mining and North Industries both hold a 50% stake in the joint venture called Jinbao Mining Industry Co." (Zijin Mining Expands Overseas Mines, *Resource Investor*, 17 April 2007, <http://m.resourceinvestor.com/2007/04/16/zijin-mining-expands-overseas-mines>)

OPTO-ELECTRONICS:

SUBSIDIARY: Norinco Optech (Norin-Optech) (北方光电科技股份有限公司)

Manufacturer of binoculars, rifle scopes, range finders and telescopes. (<http://www.norin-optech.com/>)

SUBSIDIARY: Kunming Yuanda Optical Co. Ltd (昆明远达光学有限公司)

Norinco-Optech subsidiary; Yuanda, a trademark of NORINCO OPTECH Co., Ltd, manufactures binoculars, scopes... (<http://www.norinco.com.cn/GB/27/41/index.html>) (<http://www.yuandaoptics.cn>).

SUBSIDIARY: AKM Electronics Industrial Co., Ltd. (安捷利电子实业有限公司)

(<http://www.norincogroup.com.cn/cn/stock.aspx?id=12>); (<http://www.norinco.com.cn/GB/27/41/index.html>); (www.akmcompany.com)

SUBSIDIARY: Zhongshan Precision Optics Company

(<http://www.norinco.com.cn/GB/27/41/index.html>); (<http://www.norin-optech.com/d272470851.htm>)

PETRO-CHEMICAL:

SUBSIDIARY: China Zhenhua Oil

Engaged in petroleum exploration, extraction and trade (http://www.norinco.com.cn/c1024/english/newscenter/content_130.html; http://www.norinco.com.cn/c1024/english/newscenter/content_92.html; <http://www.norinco.com.cn/GB/61/91/92/index.html>)

JV: Goldpetrol

China Zhenhua Oil had a 40% stake in Goldpetrol. The remainder was held by Interra Resources. (Interra Resources in the fast lane into local content, *The Edge Singapore*, 7 May 2012)

JV: Dalian North Oil Petroleum Logistics Company Ltd

Petroleum distribution company. China Zhenhua Oil had a 54% stake in the joint venture. The remainder was held Dalian Port Company (20%) and Panjin Asphalt Company (26%). (China's Dalian port to add crude storage in 2011, *Platts Oilgram Price Report*, 12 August 2010)

SUBSIDIARY: Liaoning Jinhua Chemicals Group

Chemica engineering subsidiary of China Zhenhua Oil (Global ethylene production continues advance in 2009, *Oil & Gas Journal*, 26 July 2010)

LOGISTICS:

JV: Norimc Logistics Co.

Logistics company in which Norinco held a 51% stake. Other partner was HK International Marine Carriers Co Ltd. Subsidiaries included: Shanghai Normic Logistics, Shanghai NRS - Norinco Logistics co ltd, Shenzhen North International Logistics, Norinco Push International Development co ltd (<http://www.norimc.com>)

SUBSIDIARY: Norinco International Cooperation (北方国际合作股份有限公司)

"Also in 2006, ZMDC signed a joint-venture arrangement with Norinco International Cooperation and ZDI [Zimbabwe Defence Industries] for chrome exploration in Ngezi. The two local companies have 20% each; Norinco International holds the rest." (*Africa Confidential*, vol. 2, N° 9, 1 July 2009)

	(Listed company)	www.norinco-intl.com	http://www.norincogroup.com.cn/cn/stock.aspx?id=2 http://www.norincogroup.com.cn/cn/stock-pri.aspx?id=2; http://finance.sina.com.cn/stock/t/20140331/050218660896.shtml
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Norinco pistols photographed at DSA 2006 (Photo: Robin Ballantyne / Omega Research Foundation)

3. Military Security Police Equipment Production (non-exhaustive list)

Air-defence systems²

- SKY DRAGON Medium-Range Surface-to-Air Missile³: Sky Dragon 12⁴, Sky Dragon 50⁵...
- Type 90 (PG99) 35mm anti-aircraft twin-gun.⁶
- Yitian short-range air defence missile weapon system (SHORAD).⁷
- CS/SA1 self-propelled air defence system, fitted with a locally manufactured Oerlikon Contraves twin 35mm GDF series anti-aircraft gun system.⁸
- Giant Bow II air-defence system.⁹
- LD 2000 Close-In Weapon System (CIWS).¹⁰
- PGZ95 (Type 95) self-propelled anti-aircraft artillery (SPAAA) system for low-level air defence.¹¹
- AF902A FCS/Twin 35mm AA Gun/PTFP Ammunition Air Defence System.
- AF902 FCS/T35mm AA Gun/PL9C Missile Integrated Air Defence System.¹²
- SWS2 self-propelled anti-aircraft gun/surface-to-air (SPAAG/SAM) system.¹³

Air-launched weapons¹⁴

- Cluster bombs
- Fuel-air-explosive bomb
- Thermobaric bomb
- Low-altitude / low-drag HE bomb,
- Pre-fragmented HE bomb
- Incendiary munitions
- GB1 500kg laser guided bomb weapon system
- OC5 Laser-IR Pod
- CS/BBS1 250kg Carbon-Fiber Aerial Bomb
- GB2A 500kg Glide Range-Extended Satellite Guided Bomb
- 200 kg low-drag low-altitude penetration bomb
- Blue Arrow 7 air-to-surface missiles

Precision guided munitions produced by Harbin Jiancheng Group Co Ltd, a CNGC subsidiary.¹⁵

2 <http://www.norinco.com/GB/61/76/83/index.html>

3 China's shooting stars, Eurosatory News 2012 (ihs.com), 13 June 2012.

4 Norinco Sky Dragon 12 at AirShow China 2014, *Army Recognition*, 11 November 2014; Sky Dragon 12 GAS5 Short-Range Surface-to-Air Defense Missile System, *Army Recognition*, 20 January 2016.

5 Sky Dragon 50 GAS2 Medium-Range Surface-to-Air defense missile, *Army Recognition*, 24 January 2016.

6 Indonesia has performed live firing tests with Chinese-made Type 90 35mm anti-aircraft gun, *Army Recognition*, 28 August 2016.

7 China weapon systems are under scrutiny, *Iindex 2009 – Jane's*, 23 February 2009.

8 China weapon systems are under scrutiny, *Iindex 2009 – Jane's*, 23 February 2009.

9 China seeks export customers for Yitian SHORAD system, *Jane's Rockets and Missiles*, 19 March 2009.

10 China develops LD 2000 CIWS, *Jane's Defence Weekly*, 9 March 2005.

11 <http://www.sinodefence.com/army/antiaircraft/pgz95.asp>

12 Indonesia thinks to the possibility to purchase Chinese-made AF902 FCS/35 air defense system, *Army Recognition*, 6 March 2016.

13 China develops SWS2 mobile air-defence system, *Jane's International Defence Review*, 6 July 2016.

14 <http://www.norinco.com/GB/61/76/81/index.html>

15 Norinco unveils array of new PGMs, *Jane's Rockets and Missiles*, 29 November 2012.

Airborne weapon systems

- aircraft guns,
- gun pods,
- Gatling guns;
- Etc.

Ammunition¹⁶

- Tank gun ammunition.
- 155mm howitzer ammunition¹⁷ (incl. cluster munitions; fuel-air-explosives; GP1 laser guided projectile¹⁸; GP2 laser guided projectile¹⁹; GP5²⁰; GP6 LGP²¹; GS1 155mm smart projectile...).
- 122mm howitzer ammunition.
- 122mm²², 220mm, 300mm, 370mm, 107mm rockets (incl. cluster munitions, fuel-air-explosives,...)(BRE3 300mm guided; BRC3 300mm unguided with a cargo warhead; BRC4 300mm unguided with a cargo warhead; and BRE2 unguided with a high-explosive warhead..)(BRE6 370mm guided; BRE8 370mm guided)
- Small arms and light weapons ammunition (7.62x17; 7.62x25; 9x18; 9x19; 5.56x45; 7.62x39; 7.62x54R; 12.7x108; 14.5x114; ...includes Ball, AP, Tracer, Incendiary...²³)(rocket grenades: three caliber series of 40mm, 80mm and 120mm with a variety of ammunition types like HEAT, HE, fortification assault, thermobaric,...)²⁴
- Mortar ammunition (60mm M-83 HE; 81mm HC smoke Mk4; 82mm Type 83 illuminating; 100mm Type 71 HE; ...)²⁵

Anti-tank weapons

- 120mm self-propelled anti-tank gun (SPATG)²⁶



Norinco stand photographed at DSA 2008 (Photo: Robin Ballantyne / Omega Research Foundation)

16 <http://www.norinco.com/GB/61/76/80/index.html>

17 China refines its 155 artillery system capabilities, *Jane's International Defence Review*, 8 January 2009.

18 Asia enhances towed artillery capability, *Asian Military Review*, February 2011.

19 Wheeled firepower, *Africa Aerospace & Defence* 2016, 14 September 2016, <http://www.janes.com/article/63725/wheeled-firepower-aad16d1>.

20 Artillery packaged, <http://www.janes.com/article/39788/artillery-packaged-es14e5>.

21 China completes development of 155 mm AH4 howitzer, *Jane's International Defence Review*, 18 July 2016.

22 Rocket science: China goes for range and precision with new launchers, *Jane's International Defence Review*, 5 May 2011.

23 *Jane's Ammunition Handbook* 2009-2010.

24 <http://www.norinco.com/GB/61/76/87/index.html>.

25 *Jane's Infantry Weapons* 2009-2010.

26 *International defence digest*, Chinese 120mm self-propelled anti-tank gun revealed, *Jane's International Defence Review*, 1 May 1996.

Armoured vehicles²⁷

- Norinco Type 90 fully tracked armoured personnel carrier²⁸
- Norinco Type 89 (ZSD89) fully tracked armoured personnel carrier: includes 10 variants: baseline model, ambulance, anti-tank carrier with Red Arrow 8 missiles; a command post vehicle; a mine layer; an obstacle-removing vehicle; a radar carrier; a reconnaissance vehicle; a recovery vehicle; a supply vehicle; and a refuelling vehicle.²⁹
- WZ501 (Type 86) armoured infantry fighting vehicle.³⁰
- WZ551 (6 x 6) armoured personnel carrier (WZ551, WMZ551B, VN2)
- WMZ551B chassis forms basis of family of vehicles: basic WMZ551B, Infantry Fighting Vehicle WMZ551B, a 105mm low-recoil assault gun version, PLL-05 120mm self-propelled mortar version, SM4 120mm self-propelled mortar version, ambulance, command-post vehicle, artillery forward observer vehicle³¹; 105mm Assaulter tank destroyer³² (WMA301 105 mm "Wheeled Tank Destroying Vehicle")³³; Yitian short-range air defence system³⁴, VN2C mine resistant vehicle³⁵.
- WZ551B powered by the Deutz³⁶ BF8L413FC air-cooled turbocharged diesel.³⁷
- VN1 (8x8) amphibious armoured personnel carrier.³⁸
- VN1 chassis forms basis of family of vehicles: armoured recovery vehicle (ARV), command post variant (CPV) and a mortar carrier³⁹; ST1 105mm tank destroyer⁴⁰; ZBD09 (ZBL09, Type 07P) (8x8) armoured infantry fighting vehicle; CT3 infantry field command and reconnaissance vehicle⁴¹; SWS2 SPAAG/SAM⁴².
- VN3 / ZBD-09 (8x8) family wheeled armoured vehicle: assault gun, APC, ambulance, recovery, reconnaissance.⁴³
- VN4 light armoured vehicles.⁴⁴
- VN5 infantry fighting vehicle.⁴⁵
- VN6, VN6A infantry fighting vehicle⁴⁶
- VN9 infantry fighting vehicle⁴⁷
- VN10 (ZBD-03 or WZ506) ultra-light tracked infantry fighting vehicle.⁴⁸
- VN11 (Type 97 IFV/ZBD-04 or WZ502) tracked infantry fighting vehicle: armoured recovery vehicle variant, command post vehicle, a 122 mm self-propelled artillery system and a mortar carrier.⁴⁹
- VN12 tracked armoured infantry fighting vehicle.⁵⁰
- VP1 tracked armoured personnel carrier.⁵¹
- VP6 armoured personnel carrier.⁵²

27 <http://www.norinco.com/GB/61/76/77/index.html>; Jane's Armour and Artillery 2009-2010.

28 Tactical missiles, Norinco improves Red Arrow anti-tank missile, *Jane's Rockets and Missiles*, 1 June 1998.

29 China expands Type 89 family of amphibious APCs, *Jane's Defence Weekly*, 7 April 2005.

30 China upgrades WZ 501 infantry fighting vehicle, *Jane's Defence Weekly*, 12 July 2006.

31 More roles for Chinese APC, *Jane's Defence Weekly*, 24 June 2004.

32 China develops tank destroyer, *Jane's Defence Weekly*, 4 April 2001; Norinco Assaulter up for export, *Jane's Defence Weekly*, 4 May 2005.

33 Roll out the dragon, *Jane's International Defence Review*, 10 January 2013.

34 China develops a new mobile SAM system, *Jane's Rockets and Missiles*, 14 March 2005.

35 Norinco develops VN2C mine-resistant vehicle, *Jane's International Defence Review*, 19 July 2016.

36 The Deutz diesel engines are manufactured under license by Hebei Huabei Diesel Engine Company Ltd ("Huachai")(<http://deutzchbdp.com/>). Huachai is a subordinate unit of the China North Industries Group (CNGC) member unit North General Power Group Co. Ltd.

37 Armed forces, exports expected on Chinese APC, *Jane's Defence Weekly*, 15 January 1997.

38 China weapon systems are under scrutiny, *Index 2009* (ihs.com), 23 February 2009.

39 Norinco expands roles for VN1 wheeled APC, *Jane's International Defence Review*, 2 December 2010.

40 ST1 105mm tank destroyer 8x8 armoured vehicle, *Army Recognition*, 8 March 2016.

41 Norinco develops CT3 command and reconnaissance vehicle, *Jane's International Defence Review*, 20 July 2016.

42 China develops SWS2 mobile air-defence system, *Jane's International Defence Review*, 6 July 2016.

43 Norinco expands roles for VN1 wheeled APC, *International Defence Review*, 2 December 2010; Norinco develops new turret for ZBD-09 assault gun variant, *Jane's Defence Weekly*, 2 August 2011.

44 Norinco expands roles for VN1 wheeled APC, *International Defence Review*, 2 December 2010.

45 China adds another lightweight IFV to the stable, *Jane's International Defence Review*, 7 August 2012.

46 <http://www.norinco.com/GB/61/76/index.html>; Norinco markets VN6A IFV, *Jane's International Defence Review*, 17 December 2012.

47 <http://www.norinco.com/GB/61/76/index.html>

48 China adds another lightweight IFV to the stable, *Jane's International Defence Review*, 7 August 2012.

49 China pushes exports of latest VN11 IFV, *Jane's International Defence Review*, 11 June 2012.

50 New VN12 IFV at AirShow China 2014, *Army Recognition*, 17 November 2014.

51 More details emerge on VP1 tracked APC, *Jane's Defence Weekly*, 2 July 2010.

52 <http://www.norinco.com/GB/61/76/index.html>

- VP10 (8x8) wheeled armoured vehicle.⁵³
- 8x8 all-terrain vehicle Lynx.⁵⁴
- CS/VA1 light strike vehicle.⁵⁵
- ZBD05 (VN18) amphibious infantry fighting vehicle.⁵⁶
- ZTL05 (VN16) light amphibious tank.⁵⁷
- Type 63A light amphibious tank.⁵⁸
- Type 59 MBT.⁵⁹
- Type 69 MBT.⁶⁰
- Type 80 MBT.⁶¹
- Type 85 MBT.⁶²
- ZTZ 96 MBT.⁶³
- ZTZ 98 MBT.
- ZTZ 99 MBT.⁶⁴
- VT2 (Type 96A⁶⁵; Type 96B⁶⁶) main battle tank.
- MBT-2000 main battle tank.⁶⁷
- MBT-3000 (VT4) main battle tank.⁶⁸
- VT-5 main battle tank.⁶⁹

Artillery systems⁷⁰

- Various 155mm gun-howitzer with different carrying mode and barrel length (PLZ-45 155mm Self-Propelled Gun Howitzer⁷¹; PLZ-52 155mm Self-Propelled Gun Howitzer⁷²; SH-1 155mm Self-Propelled Gun Howitzer⁷³; PLL-01 155 mm 45-calibre towed artillery system; AH-1 155 mm 45-calibre towed artillery system; AH-2 155 mm/52-calibre system⁷⁴; AH-4 155mm 39-calibre towed howitzer⁷⁵).
- Various 122mm howitzer with different carrying mode (PLZ-07 122 mm full-tracked SP artillery system⁷⁶; PLZ-89 SP howitzer⁷⁷; SH-2 122 mm 6x6 artillery system⁷⁸; SH-3 122 mm full-tracked self-propelled howitzer⁷⁹; 122 mm D-30 (Type 96) towed howitzer⁸⁰;).
- 5 types of 105mm howitzer (SH-5 105mm Self-Propelled Howitzer⁸¹;...).

53 Norinco's VP10 8x8 wheeled armoured vehicle started testing phase, *Army Recognition*, 13 July 2015.

54 http://www.armyrecognition.com/aad_2016_online_show_daily_news_-_coverage_-_report/norinco_from_china_has_developed_new_8x8_all-terrain_vehicle_called_lynx_11409164.html

55 Norinco light strike vehicles to hit harder, *Jane's International Defence Review*, 4 October 2012.

56 Chinese ZBD-05 Infantry Fighting Vehicles to participate in Army Games 2016, *Army Recognition*, 27 July 2016.

57 Venezuelan marines induct Norinco VN-16, VN-18 amphibious vehicles, *Jane's Defence Weekly*, 23 October 2015.

58 <http://www.army-guide.com/eng/product4147.html>

59 *Jane's Armour and Artillery 2009-2010*.

60 *Jane's Armour and Artillery 2009-2010*.

61 *Jane's Armour and Artillery 2009-2010*.

62 Norinco markets improved Type 85, *Jane's Defence Weekly*, 3 June 1995.

63 <http://www.sinodefence.com/army/tank/type96.asp>.

64 <http://www.sinodefence.com/army/tank/type99.asp>.

65 Norinco details export-model VT2 MBT, *Jane's Defence Weekly*, 2 May 2012.

66 China's Norinco develops new Type 96 MBT variant, *Jane's Defence Weekly*, 12 July 2016.

67 Norinco reveals new features on MBT-3000, *Jane's Defence Weekly*, 11 September 2014.

68 Norinco reveals new features on MBT-3000, *Jane's Defence Weekly*, 11 September 2014.

69 NORINCO details VT5 lightweight MBT, *IHS Jane's International Defence Review*, 1 November 2016.

70 <http://www.norinco.com/GB/61/76/78/index.html>; *Jane's Armour and Artillery 2009-2010*.

71 China offers complete artillery package, *Jane's Defence Weekly*, 20 May 1998.

72 China details latest PLZ52 155 mm self-propelled artillery system, *Jane's International Defence Review*, 19 October 2012.

73 China develops new 155 mm SP artillery system, *Jane's Defence Weekly*, 28 February 2007.

74 China expands tube artillery capability, *Jane's International Defence Review*, 15 April 2009.

75 Norinco from China ready to produce new AH-4 155mm 39 caliber lightweight tower howitzer, *Army Recognition*, 24 July 2016.

76 China refocuses heavy artillery calibre, but revitalises the smaller 122 mm fleet, *Jane's International Defence Review*, 11 February 2010.

77 <http://www.army-guide.com/eng/product4153.html>

78 Keeping it wheeled: wheeled self-propelled artillery, *Jane's Defence Weekly*, 27 November 2008.

79 China unveils new self-propelled howitzer system, *Jane's International Defence Review*, 28 November 2008.

80 China unveils new self-propelled howitzer system, *Jane's International Defence Review*, 28 November 2008.

81 China markets SH-5 105mm self-propelled Artillery to foreign countries, *China Defense Mashup*, 27 July 2011.

- Various 120mm mortar (WMA029 (PLL-05) 120mm Self-Propelled Howitzer-Mortar⁸²; CS/SM2 (possibly Type 07PA) 120 mm self-propelled mortar system⁸³; SM4 120mm self-propelled mortar system⁸⁴ ...).
- various 152mm howitzers (Type 83; Type 66 9D-20; ...)
- various 130mm cannons.
- artillery rocket weapons with various launching platforms of different calibers like 370mm, 300mm, 273mm, 122mm and 107mm, ... (Type 63 107mm; Type 81 107mm; Type 90 122mm ARS; Type 90B Artillery Rocket System⁸⁵; AR-1 300 mm system⁸⁶; AR-2 (PHL-03) 300mm system⁸⁷; AR-3 370mm/300mm GMLRS⁸⁸; SR5 Guided Multiple Launch Rocket System⁸⁹; 273mm WM-80 ARS⁹⁰; 273 mm WM-120 ARS⁹¹ ...).
- 100mm mortars (Type 71...)⁹²
- 81mm mortars (Type W84; W87; W91; W99⁹³; 81 mm mobile mortar system,...).⁹⁴
- 82mm mortars (Type 63-1; W99 rapid-fire...)⁹⁵
- 60mm mortars (Type 67; Type 83A; Type W90; Type WX90...)⁹⁶

Engineering Equipment⁹⁷

- River-Crossing And Bridging Equipment
- Armoured Bridge Layer
- Military Engineer Machinery
- GSL130 Tracked Comprehensive Mine-Clearing Vehicle
- Scatterable Mine-Laying System
- Camouflage Equipment
- Engineer Reconnaissance Equipment

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- 82 http://www.armyrecognition.com/chinese_china_army_wheeled_armoured_vehicle_uk/pll-05_pll05_wma029_120mm_self-propelled_mortar_howitzer_wheeled_armoured_technical_data_sheet.html.
- 83 Mortars on the move, *Armada International*, 2015: N° 4.
- 84 Norinco rolls out SM4 120 mm mortar vehicle, *Jane's International Defence Review*, 1 July 2016.
- 85 Norinco markets upgrade type 90 rocket system, *Jane's Missiles and Rockets*, 1 June 1999.
- 86 The new Chinese Multiple Rocket Launcher System AR1A 300 mm from Norinco - IDEX 2009, *Army Recognition*, 23 February 2009.
- 87 China markets AR2 multiple-launch rocket system, *Jane's International Defence Review*, 28 January 2009.
- 88 Wide range of weapons from Norinco – Eurosatory 2010, *Jane's*, 16 June 2010.
- 89 Norinco enhances SR5 rocket artillery system with precision munitions, *Jane's International Defence Review*, 18 August 2016.
- 90 A100 multiple-rocket system in PLA service, *Jane's Missiles and Rockets*, 1 October 2002.
- 91 Rocket science: China goes for range and precision with new launchers, *Jane's International Defence Review*, 5 May 2011.
- 92 *Jane's Infantry Weapons 2009-2010*.
- 93 China markets Type W99 mortar, *Jane's Defence Weekly*, 11 April 2001.
- 94 Norinco develops quick-firing 81 mm SP mortar, *Jane's International Defence Review*, 30 May 2008; *Jane's Infantry Weapons 2009-2010*.
- 95 *Jane's Infantry Weapons 2009-2010*.
- 96 *Jane's Infantry Weapons 2009-2010*.
- 97 <http://www.norinco.com/GB/61/76/89/index.html>

Guided Weapon Systems⁹⁸

- GT6 anti-tank missile system
- Red Arrow HJ-73, HJ-73B and HJ-73D anti-tank guided weapon⁹⁹
- Red Arrow 8A, 8C, 8E, 8F, Red Arrow 8L¹⁰⁰; 8FAE, 8H¹⁰¹ anti-tank
- Red Arrow 9, 9A, and 9B¹⁰²
- Red Arrow 10¹⁰³
- Red Arrow 12¹⁰⁴
- GP1 155 mm Laser Homing Artillery Weapon System (LHAWS).¹⁰⁵
- GP2 122 mm laser guided projectile.¹⁰⁶
- GP6 155mm laser-homing artillery weapon system
- GP4 120mm terminal correction mortar projectile weapon system¹⁰⁷
- 125mm laser-beam riding gun-launched missile weapon systems
- 105mm laser-beam riding gun-launched missile weapon systems
- 120mm laser-homing and laser terminal-correction mortar bombs
- 122mm Fire Dragon 40 guided missile (BRE7).¹⁰⁸
- 220mm laser guided King Dragon 60 (GR1) missile.¹⁰⁹

Naval weapons¹¹⁰

- CS/AN2 30mm Single-Barrel Naval Gun
- CS/AN2 30mm Single-Barrel Semi-Automatic Naval Gun
- H/PJ17 30mm Single-Barrel Naval Gun
- 30mm Six-Barrel Naval Gun
- 730B 30mm Seven-Barrel Naval Gun
- 23mm Single-Barrel Naval Gun
- CS/AR-1 55 mm anti-frogman rocket launcher.¹¹¹

Opto-electronic systems¹¹²

- Targeting systems
- Fire control systems for armoured vehicles, artillery, air-defence systems, aircraft, RCWS...
- Night vision equipment (infrared thermal imagers, low-light image intensifiers, ...)
- Laser range finders
- Laser designators...

98 <http://www.norinco.com/GB/61/76/79/index.html>

99 China markets upgraded anti-tank weapon, *Jane's Defence Weekly*, 23 July 2003.

100 Tactical missiles, Norinco improves Red Arrow anti-tank missile, *Jane's Rockets and Missiles*, 1 June 1998; 俄称中国已生产超3万套红箭8导弹 出口并不成功, Sina military, 23 July 2013 (<http://mil.news.sina.com.cn/2013-07-23/1518732389.html>).

101 ATGWs still hit the spot: Anti-tank guided weapons, *Jane's Defence Weekly*, 7 September 2009.

102 资料: 中国“红箭-9”重型反坦克导弹系统, Sina military, 31 July 2003 (<http://mil.news.sina.com.cn/2003-07-31/140900.html>).

103 Norinco brings Red Arrow 10 ATGW system to market, *Jane's Rockets and Missiles*, 31 July 2009.

104 NORINCO details Red Arrow 12 multipurpose missile, *Jane's Defence Weekly*, 14 June 2016; 珠海航展之中国兵器工业红箭-12反坦克导弹, Sina military, 7 November 2014 (<http://mil.news.sina.com.cn/2014-11-07/1055809807.html>).

105 Norinco develops new precision projectiles, *Jane's International Defence Review*, 29 September 2010.

106 Norinco develops new precision projectiles, *Jane's International Defence Review*, 29 September 2010.

107 Norinco develops new precision projectiles, *Jane's International Defence Review*, 29 September 2010.

108 More capable rocket system, Indodefence 2016, <http://www.janes.com/article/65130/more-capable-rocket-system-into-def16-d1>.

109 More capable rocket system, Indodefence 2016, <http://www.janes.com/article/65130/more-capable-rocket-system-into-def16-d1>.

110 <http://www.norinco.com/GB/61/76/82/index.html>.

111 Norinco unveils CS/AR-1 55 mm anti-frogman system, *Jane's Defence Weekly*, 11 November 2014.

112 <http://www.norinco.com/GB/61/76/86/index.html>.

Radar systems¹¹³

- IBIS150 3D Target Designation Radar
- RA3 Artillery Locating and Fire Correction Radar
- 905A Coast Defence Radar
- BS903A Ground Surveillance Radar

Riot Control Equipment¹¹⁴

- Grenade launchers (64mm/38mm Tear Gas Grenade Launcher; 38mm Anti-Riot Revolver Launcher; LW2 38mm Anti-Riot Launcher...)
- Anti-Riot Ammunition Series (various calibers of tear gas, stun grenades, colour-smoke grenades, rubber bullets...)
- Riot Control and Counter-Terror Vehicle (armoured riot-control assault vehicle, armoured riot-control personnel carrier, water cannon vehicle, automatic road-blocking vehicle, escalating vehicle, command and communication vehicle)
- Police Weapon, Civil Firearms and Accessories (pistols, rifles, submachine guns, sniper rifles, hunting rifles, various calibers of cartridge and accessories, police batons, handcuffs, gas masks...).
- Individual Protective Products (bullet-proof helmet, bullet-proof vest, insertion board, shield, bullet-proof glass, riot-control helmet, shield and riot-control clothes,)

Small Arms and Light Weapons¹¹⁵

- Pistols (Type 54 7.62mm; Type 59 9mm; Type 67 7.62mm; Type 77B 9mm; Type 84 7.62mm; Type 85 0.22 LR knife pistol; Type 92 (QSX92); NP22 9mm¹¹⁶; NP34 9mm¹¹⁷; NP44 Type 1911A1 45ACP¹¹⁸,....)
- Sub-machine guns (JS9 9mm silenced; Type 64 7.62mm suppressed; Type 85 7.62mm;...)
- Assault rifles (Type 56 7.62mm; Type 81 7.62mm; Type 95 (QBZ) 5.56mm; Type 97 5.56mm; Type 97A 5.56mm Short Automatic Rifle; Type 97 5.56mm Sniper Rifle; CQ 5.6mm; CQ-A 5.56mm Automatic Rifle; Type WQ 314 7.62mm; Type WQ 314 A 7.62mm;)¹¹⁹
- Sniper rifles (Type 79 7.62mm; NSG-1 7.62x51mm High Precision sniper rifle; NSG-50 .50 Sniper Rifle...)
- Shotguns (M2000 self-loading tactical; M98 slide action tactical; ...)
- Grenade launchers (30mm automatic; Type W87 35mm; 40mm LG2 under-barrel; LG3 40mm AGL; LG3A 40mm Automatic Grenade Launcher; LG4 40mm Revolver Semi-Automatic Grenade Launcher; Jerbo 50mm silent;....)¹²⁰
- Light machine guns (Type 67 7.62mm; Type 80 7.62mm; Type 81 7.62mm; Type 95 5.56mm; Type WQ 112 7.62mm; ...)
- Heavy machine guns (Type 02 (QJG02) 14.5mm; Type 85 12.7mm anti-aircraft; Type QLZ 89 12.7mm; 23mm chain gun...)
- Flame-throwers (Type 74 portable)
- Anti-tank weapons (Queen Bee 120mm AT rocket launcher; Type 68 140mm AT grenade launcher; Type 70-1 62mm portable AT rocket launcher; Type 78 82mm recoilless gun;...)
- Hand grenades (Type 77-1 stick grenade; Type 82; Type 86...)

113 <http://www.norinco.com/GB/61/76/86/index.html>.

114 <http://www.norinco.com/GB/61/76/88/index.html>; *Anti-riot and counter-terrorism*, brochure, Norinco, 2005, 41 p.; Jane's Ammunition Handbook 2009-2010.

115 <http://www.norinco.com/GB/61/76/87/index.html>; Jane's Infantry Weapons 2009-2010.

116 Jane's Police and Homeland Security Equipment 2009-2010.

117 Jane's Police and Homeland Security Equipment 2009-2010.

118 Jane's Police and Homeland Security Equipment 2009-2010.

119 NORINCO Kalashnikov variations in 7.62x39mm, 5.56x45mm, and 5.45x39mm, *Jane's International Defence Review*, 1 September 1997

120 China's Norinco develops new 40 mm automatic grenade launcher, *Jane's International Defence Review*, 1 May 2008.



Norinco less lethal grenades and cartridges photographed at Milipol 2015
(Photo: Robin Ballantyne / Omega Research Foundation)

Unmanned Vehicles¹²¹

- Sky Saker-H300 unmanned helicopter.¹²²
- SHARP CLAW 2.¹²³
- SKY SAKER Attack UAV Weapon System
- SHARP EYE III Unmanned Helicopter System
- ASN209 UAV system

121 <http://www.norinco.com/GB/61/76/85/index.html>

122 http://www.armyrecognition.com/isnr_2016_online_show_daily_news/discover_the_sky_saker-h300_unmanned_helicopter_at_norinco_s_stand_isnr_2016_31603162.html

123 http://www.armyrecognition.com/isnr_2016_online_show_daily_news/norinco_presents_its_sharp_claw_2_unmanned_ground_vehicle_at_isnr_2016_51503161.html

4. Exports

Albania¹²⁴

- Type 69 armoured personnel carrier.
- Type 66 9D-20 152mm howitzer.
- Type 59-1 130mm field gun.
- Type 56 85mm field gun.
- Type 86 100mm anti-tank gun.
- 107mm multiple-launch rocket system.

Algeria

- 155mm SP howitzers.¹²⁵

Angola

- Type 66 9D-20 152mm howitzer.¹²⁶

Argentina

- WZ 551 armoured personnel carriers.¹²⁷

Bahrain

- SR5 artillery rocket launcher.¹²⁸

Bangladesh¹²⁹

- Red Arrow 8.¹³⁰
- Type 69 armoured personnel carrier.
- Type 59 MBT.
- Type 62 light tank.
- Type 69 MBT
- VT1 MBT.¹³¹
- Type 59-1 130mm field gun.
- Type 54-1 122mm howitzer.

Bolivia

- Type 54-1 122mm howitzer.¹³²

Bosnia-Herzegovina¹³³

- Red Arrow 8¹³⁴
- WZ551 armoured personnel carrier.
- 107mm multiple-launch rocket system.

Burkina Faso

- 107mm multiple-launch rocket system.¹³⁵

Burundi

- WZ 551 armoured personnel carriers.¹³⁶

Cambodia¹³⁷

- Type 62 light tank.
- Type 63 light amphibious tank.
- 107mm multiple-launch rocket system.

Cameroon¹³⁸

- WMA301 105mm Assaulter.¹³⁹
- PG99 (Type 90) anti-aircraft guns.¹⁴⁰
- Type 59-1 130mm field gun.
- Type 56 85mm field gun.

124 Jane's Armour and Artillery 2009-2010.

125 China Is Major Supplier Of Heavy Artillery For African Countries, Defense-Technology News, 4 February 2009.

126 Jane's Armour and Artillery 2009-2010.

127 China emerging as player in global arms trade, *China Military Power Mashup*, 19 November 2010.

128 More capable rocket system, Indodefence 2016, <http://www.janes.com/article/65130/more-capable-rocket-system-indodef16-d1>.

129 Jane's Armour and Artillery 2009-2010 if not otherwise specified.

130 ATGWs still hit the spot: Anti-tank guided weapons, *Jane's Defence Weekly*, 7 September 2009.

131 Tank maker seeks to increase exports on land armaments, *China Daily*, 5 June 2015.

132 Jane's Armour and Artillery 2009-2010.

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134 Tactical missiles, Norinco improves Red Arrow anti-tank missile, *Jane's Rockets and Missiles*, 1 June 1998.

135 Jane's Armour and Artillery 2009-2010.

136 Tanzania parades new kit, *Jane's Defence Weekly*, 14 May 2014.

137 Jane's Armour and Artillery 2009-2010.

138 Jane's Armour and Artillery 2009-2010 if not otherwise specified.

139 Senegal received new Norinco WMA301 Assaulter armoured fire-support vehicles, *Army Recognition*, 8 April 2016.

140 New Cameroonian air-defence capabilities revealed, *Jane's Defence Weekly*, 14 July 2016.

Chad
<ul style="list-style-type: none"> • WMA301 105mm Assaulter.¹⁴¹
Cuba
<ul style="list-style-type: none"> • 100 tonnes of gunpowder, 2.6 million detonators, 99 projectiles, and 3,000 cannon shells.¹⁴²
Democratic Republic of Congo¹⁴³
<ul style="list-style-type: none"> • Type 59 MBT. • Type 62 light tank. • Type 69 armoured personnel carrier. • Magazines for AK47 rifles:100,000.¹⁴⁴ • Investment in Africaine d'Explosifs (Afridex) via Beijing Auxin Chemical Technology Ltd to manufacture commercial explosives for mining industry.¹⁴⁵ • Type 59-1 130mm field gun. • Type 56 85mm field gun. • Type 82 130mm multiple-launch rocket system. • 107mm multiple-launch rocket system.
Djibouti
<ul style="list-style-type: none"> • WMA301 105mm Assaulter.¹⁴⁶
Egypt¹⁴⁷
<ul style="list-style-type: none"> • Type 59-1 130mm field gun (local production). • 155mm SP howitzers.¹⁴⁸

Ethiopia
<ul style="list-style-type: none"> • WZ 551 armoured personnel carriers.¹⁴⁹
Gabon¹⁵⁰
<ul style="list-style-type: none"> • Type 59-1 130mm field gun. • 107mm multiple-launch rocket system.
Indonesia
<ul style="list-style-type: none"> • Type 730 close-in weapon system.¹⁵¹
Iran¹⁵²
<ul style="list-style-type: none"> • Type 59 MBT. • Type 54-1 122mm howitzer. • 107mm multiple-launch rocket system (local production).
Iraq
<ul style="list-style-type: none"> • Type 83 152mm howitzer.¹⁵³
Jordan
<ul style="list-style-type: none"> • 107mm multiple-launch rocket system.¹⁵⁴
Kenya
<ul style="list-style-type: none"> • VN4 (4x4) armoured personnel carrier.¹⁵⁵ • WZ 551 armoured personnel carriers.¹⁵⁶

141 Senegal received new Norinco WMA301 Assaulter armoured fire-support vehicles, *Army Recognition*, 8 April 2016.

142 Colombia releases Chinese ship, holds captain, <http://fairplay.ihs.com/print/4034226>, 24 April 2015.

143 Jane's Armour and Artillery 2009-2010 if not otherwise specified.

144 Purchase Order Number MDNDAC/CAB/0134/2006 of 28 January 2006; letter Norinco dated 28 June 2006.

145 China to help Kinshasa get back into explosives business, *Africa Mining Intelligence*, 9 June 2015.

146 Senegal received new Norinco WMA301 Assaulter armoured fire-support vehicles, *Army Recognition*, 8 April 2016.

147 Jane's Armour and Artillery 2009-2010 if not otherwise specified.

148 China Is Major Supplier Of Heavy Artillery For African Countries, *Defense-Technology News*, 4 February 2009.

149 Tanzania parades new kit, *Jane's Defence Weekly*, 14 May 2014.

150 Jane's Armour and Artillery 2009-2010 if not otherwise specified.

151 Indonesia acquires Chinese-developed CIWS for another Kapitan Pattimura-class corvette, *IHS Jane's Defence Weekly*, 24 August 2016.

152 Jane's Armour and Artillery 2009-2010 if not otherwise specified.

153 Jane's Armour and Artillery 2009-2010.

154 Jane's Armour and Artillery 2009-2010.

155 Kenya receives 30 Norinco VN4 armoured vehicles, *Jane's Defence Weekly*, 5 February 2016.

156 Tanzania parades new kit, *Jane's Defence Weekly*, 14 May 2014.

Kuwait
<ul style="list-style-type: none"> • PLZ45 155mm Self-Propelled Gun Howitzer: 54.¹⁵⁷
Libya
<ul style="list-style-type: none"> • 107mm multiple-launch rocket system.¹⁵⁸
Mali
<ul style="list-style-type: none"> • Type 62 light tank.¹⁵⁹
Morocco
<ul style="list-style-type: none"> • VT1A MBT: 150.¹⁶⁰
Mozambique
<ul style="list-style-type: none"> • Type 56 85mm field gun.¹⁶¹
Myanmar¹⁶²
<ul style="list-style-type: none"> • Type 63 light amphibious tank • Type 69-II MBT. • Type 80 MBT. • Co-operation between Myanmar Defence Products Industry organisation and Norinco related to "production-line renovation, upgrading and expansion, special equipment, port and wharf, rail transportation and hydropower station projects".¹⁶³ • VT1 MBT.¹⁶⁴ • Type 90 armoured personnel carrier. • Type 85 (YW531H) armoured personnel carrier. • 107mm multiple-launch rocket system.

Nepal
<ul style="list-style-type: none"> • WZ551 armoured personnel carrier.¹⁶⁵
Nicaragua
<ul style="list-style-type: none"> • 107mm multiple-launch rocket system.¹⁶⁶
North Korea¹⁶⁷
<ul style="list-style-type: none"> • Type 59 MBT. • Type 69 armoured personnel carrier. • Type 63/Type 70 multiple-launch rocket system. • 107mm multiple-launch rocket system.
Oman
<ul style="list-style-type: none"> • WZ551 (6 x 6) armoured personnel carrier.¹⁶⁸
Pakistan¹⁶⁹
<ul style="list-style-type: none"> • Red Arrow 8¹⁷⁰ • Type 85 MBT¹⁷¹ • 122 mm D-30 system: 143.¹⁷² • VT1 MBT.¹⁷³ • Ammunition for sub-machine guns.¹⁷⁴ • Type 54-1 122mm howitzer. • Type 56 85mm field gun.
Peru
<ul style="list-style-type: none"> • 90B Multiple Launch Rocket Systems: 27.¹⁷⁵

157 China offers complete artillery package, *Jane's Defence Weekly*, 20 May 1998; China expands tube artillery capability, *Jane's International Defence Review*, 15 April 2009.
158 *Jane's Armour and Artillery* 2009-2010.
159 *Jane's Armour and Artillery* 2009-2010.
160 American media says Moroccan purchasing 150 China VT1A tanks, *China Military Power Mashup*, 5 August 2010.
161 *Jane's Armour and Artillery* 2009-2010.
162 *Jane's Armour and Artillery* 2009-2010 if not otherwise specified.
163 China steps up co-operation with Cambodia and Myanmar, *Jane's Defence Industry*, 24 June 2010.
164 Tank maker seeks to increase exports on land armaments, *China Daily*, 5 June 2015.

165 *Jane's Armour and Artillery* 2009-2010.
166 *Jane's Armour and Artillery* 2009-2010.
167 *Jane's Armour and Artillery* 2009-2010 if not otherwise specified.
168 More roles for Chinese APC, *Jane's Defence Weekly*, 24 June 2004.
169 *Jane's Armour and Artillery* 2009-2010 if not otherwise specified.
170 Tactical missiles, Norinco improves Red Arrow anti-tank missile, *Jane's Rockets and Missiles*, 1 June 1998.
171 Norinco details export-model VT2 MBT, *Jane's Defence Weekly*, 2 May 2012.
172 China produces 122 mm D-30 howitzer for export, *Jane's Defence Industry*, 7 February 2007.
173 Tank maker seeks to increase exports on land armaments, *China Daily*, 5 June 2015.
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Rwanda
<ul style="list-style-type: none"> • Type 54-1 122mm howitzer.¹⁷⁶
Saudi Arabia
<ul style="list-style-type: none"> • PLZ45 155mm Self-Propelled Gun Howitzer: 50.¹⁷⁷
Senegal
<ul style="list-style-type: none"> • WMA301 105mm Assaulter.¹⁷⁸
Sri Lanka¹⁷⁹
<ul style="list-style-type: none"> • WZ551 (6 x 6) armoured personnel carrier.¹⁸⁰ • Type 85 (YW531H) armoured personnel carrier. • Type 66 9D-20 152mm howitzer. • Type 56 85mm field gun.
Sudan¹⁸¹
<ul style="list-style-type: none"> • Type 59 MBT. • Type 62 light tank. • Type 63 light amphibious tank. • Type 85 MBT.¹⁸² • 155mm SP howitzers.¹⁸³ • WMZ-551 6X6 wheeled armoured vehicles.¹⁸⁴ • Type 54-1 122mm howitzer. • 107mm multiple-launch rocket system.
Syria
<ul style="list-style-type: none"> • 107mm multiple-launch rocket system.¹⁸⁵

Tanzania¹⁸⁶
<ul style="list-style-type: none"> • Type 62 light tank. • Type 69 MBT. • WZ 551 armoured personnel carriers.¹⁸⁷ • Type 69 armoured personnel carrier. • Type 07PA 120mm 8x8 wheeled self-propelled mortar.¹⁸⁸ • Type 54-1 122mm howitzer. • Type 56 85mm field gun.
Thailand¹⁸⁹
<ul style="list-style-type: none"> • Type 69 MBT. • MBT-3000.¹⁹⁰ • Type 85 (YW531H) armoured personnel carrier. • Type 85 130mm multiple-launch rocket system.
Uganda
<ul style="list-style-type: none"> • 107mm multiple-launch rocket system.¹⁹¹
Venezuela
<ul style="list-style-type: none"> • VN4 (4x4) light armoured vehicles: 141 (2013); 557 (2015).¹⁹² • VN1.¹⁹³ • SM-4 81mm wheeled self-propelled mortar carrier. • SR-5 MLRS Multiple Launch Rocket Systems. • Type-07P/VN-1 8x8 infantry fighting vehicles. • ZBD-05/VN-18 amphibious tracked armoured vehicles.¹⁹⁴ • ZTL-05/VN-16 tracked amphibious assault vehicles.¹⁹⁵

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186 Jane's Armour and Artillery 2009-2010 if not otherwise specified.

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188 Tanzania acquires new amphibious tanks, rockets and other weapons from China, *defenceweb.co.za*, 16 May 2014.

189 Jane's Armour and Artillery 2009-2010 if not otherwise specified.

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191 Jane's Armour and Artillery 2009-2010.

192 China has delivered 557 armoured and security vehicles to Venezuela, *Army Recognition*, 30 June 2015.

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194 Venezuelan marines induct Norinco VN-16, VN-18 amphibious vehicles, *Jane's Defence Weekly*, 23 October 2015.

195 Venezuelan marines induct Norinco VN-16, VN-18 amphibious vehicles, *Jane's Defence Weekly*, 23 October 2015.

Vietnam¹⁹⁶

- Type 59 MBT.
- Type 62 light tank.
- Type 63 light amphibious tank.
- Type 69 armoured personnel carrier.
- Type 54-1 122mm howitzer.
- Type 56 85mm field gun: 200.
- Type 63/Type 70 multiple-launch rocket system.
- 107mm multiple-launch rocket system.

Zambia

- Type 59 MBT.¹⁹⁷
- WMZ-551 6X6 wheeled armoured vehicles.¹⁹⁸

Zimbabwe¹⁹⁹

- Type 59 MBT.
- Type 69 MBT.
- Type 69 armoured personnel carrier.
- Type 54-1 122mm howitzer.
- 107mm multiple-launch rocket system.

¹⁹⁶ Jane's Armour and Artillery 2009-2010 if not otherwise specified.

¹⁹⁷ Jane's Armour and Artillery 2009-2010.

¹⁹⁸ China Is Major Supplier Of Heavy Artillery For African Countries, Defense-Technology News, 4 February 2009.

¹⁹⁹ Jane's Armour and Artillery 2009-2010 if not otherwise specified.