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CHINA UNVEILS NEW SUPERSONIC CRUISE MISSILE

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China's new supersonic cruise missile CX-1, on display at the Zhuhai air show in November 2015.

Photo: <http://defence-blog.com/?p=2052>

Among the many missiles displayed at the Zhuhai air show in November 2014, China unveiled its new supersonic cruise missile, Chaoxun-1 (CX-1), for the first time. The CX-1 resembles the Brahmos supersonic cruise missile jointly developed by India's Defence Research and Development Organisation (DRDO) and Russia's Military Industrial



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Corporation NPO Mashinostroyenia (NPOM is Russia's space and missile research organisation). This article briefly studies the CX-1 missile and the lessons for India.

CX-1 has been designed and developed by China Aerospace Science and Technology Corporation (CASC) which has its headquarters in Beijing and is major manufacturer of ballistic missiles, space launch rockets, satellites, and manned spacecraft. It also makes artillery long range Multiple Launcher Rockets (MLR) and air defence missiles.

The CX-1 has **similar** performance figures like the Brahmos, with a maximum range of 280 km and maximum speed of Mach 3. The flight profile of the CX-1 is also similar to Brahmos, with a climb to 17000 metres, attaining its top speed and then descending down to low level in the terminal phase¹. There was speculation at Zhuhai that the Chinese had stolen the CX-1 design from Russia or that the Russians had given the technology to the Chinese². The Russians have strongly denied all these allegations and NPOM has clearly said that there is "no question of Russian technology" being used by the Chinese for this project³.

While the CX-1 has a close resemblance to Brahmos cruise missile, Indian and Chinese defence experts have said that the two missiles are **different** in many respects. Former Brahmos Aerospace CEO & MD, Dr. A Sivathanu Pillai analysed the CX-1 and said, "These are different missiles with different propulsion systems. In any case, we have been working on the Brahmos for over a decade and it will take a long time for anyone to catch up to the kind of technology it has."⁴ Wang Hongpo, the Chinese designer of the missile, accepted that they had faced allegations of having stolen Russian technology but said that though the CX-1 looks similar to Brahmos, the wing, aerodynamic guidance and jet vanes are different⁵.

CX-1 range of **280 km** makes it suitable for export as it is within the missile technology control regime (MTCR) limits of 300 km. The Zhuhai air show is a platform for



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the Chinese defence industry to showcase its wares for the export market. It will not be surprising if Pakistan shows interest in the CX-1 and procures it from China in the near future. This is a development which Indian defence planners will have to keep track of.

In recent years China has been exporting its defence products with vigour and in 2013 China became the world's **fifth** largest arms exporter overtaking UK⁶. This is the first time China has been included in the top five arms exporters of the world. It was not always like this as China had a historically weak industrial base. In 1949 when the communists took over power in China, the country hardly had any industries and relied on Russia to provide it with military hardware. There is a lesson in this for India and India also needs to pursue export of defence products like the Brahmos.

Brahmos has already been inducted in the army and navy and trials for the air launched version are likely to take place soon but in spite of large orders from the services, India has **not** been able to export them to any country. Brahmos missile has stirred interest in the world market and there seems to be a lot of potential for exporting the missile. Fourteen countries including Vietnam, South Africa, Indonesia, Malaysia, Brazil, Chile and others have expressed interest in different variants of the system. India's former President Dr APJ Abdul Kalam feels that India **must** seize this opportunity and export Brahmos missiles to other countries⁷. Each Brahmos costs about \$ 3 million and needs approval of both Russian and Indian government for export. India must pursue export sales with vigour and not let our traditional aversion to military sales come in the way. The interest shown by countries in Brahmos gives India a chance to increase our export of arms. India is the largest importer of arms in the world⁸. This is a dubious distinction which India needs to amend at the earliest.

India also needs to be aware of the **China-Pakistan** nexus and keep track of any development towards export of CX-1 to Pakistan. If Pakistan does get this missile it will



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have repercussions for India. In the land attack role Pakistan will be able to attack key command and control centres, radar stations, and other vital points. As an ASCM (anti ship cruise missile) CX-1 could be a major threat to Indian navy ships within 280 km from the Pakistan coast and from naval missile platforms. Indian navy's Israeli Barak-8 SAMs, which are in the pipeline, has the capability to intercept supersonic anti ship missiles. Indian planners will also have to employ air power to **strike** at CX-1 missile sites. CX-1 system employs mobile launchers mounted on 8x8 heavy-duty off road trucks. This will make it difficult to locate and destroy them. Targeting CX-1 missile sites will require **persistent ISR** to locate them in real time and launch air strikes. These are the capabilities which Indian Air Force should develop.

(Disclaimer: The views and opinions expressed in this article are those of the author and do not necessarily reflect the position of the Centre for Air Power Studies [CAPS])

End Notes

- ¹ Want ChinaTimes, "CX-1 supersonic cruise missile exhibited at Zhuhai Airshow", <http://www.wantchinatimes.com/news-subclass-cnt.aspx?id=20141116000138&cid=1101> , November 11, 2014.
 - ² [Manu Pubby](#), "Chinese CX-1 missile is not Brahmos copy: Sivathanu Pillai," in *India Today*, November 24, 2014, <http://indiatoday.intoday.in/story/chinese-chaoxun-1-cx-1-missile-brahmos-npom-india-russia-military-tech-sivathanu-pillai/1/403551.html>, accessed on February 9, 2015.
 - ³ Ibid.
 - ⁴ Ibid.
 - ⁵ N1 *ibid*.
 - ⁶ "18 Mar. 2013: China replaces UK as world's fifth largest arms exporter, says SIPRI", <http://www.sipri.org/media/pressreleases/2013/ATlaunch> , accessed on October 10, 2014.
 - ⁷ "14 countries interested in Russian-Indian BrahMos missiles: JV Chief", July 30, 2013, http://indian.ruvr.ru/news/2013_07_30/Russian-Indian-BrahMos-missiles/, accessed on February 9, 2015.
 - ⁸ "India Remains World's Largest Arms Importer, Sipri Says", March 10, 2014. http://www.aviationweek.com/Article.aspx?id=/article-xml/awx_03_18_2013_p0-560119.xml , March 18, 2013, accessed on February 9, 2015.
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