

# समाचार पत्रों से चयित अंश Newspapers Clippings

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## Army to get artillery guns from September

From September, the Army will be inducting two types of artillery guns into its arsenal. These will be the first induction of heavy artillery since the Swedish Bofors guns imported in the 1980s. The Army will start taking delivery of the K9 Vajra-T tracked self-propelled artillery guns from South Korea in September and the first regiment of 18 guns is expected to be ready by the third quarter of 2019. At the same time, it will also receive four M777 ultra-light howitzers from the U.S. “The Army will get 10 guns this year from September. All the 100 guns will be delivered by November 2020,” a defence source said.

In April 2017, the Indian engineering conglomerate Larsen & Toubro (L&T) and Hanwa Techwin of South Korea signed a contract to manufacture the K9 Vajra-T guns. The K9 was shortlisted by the Army after extensive trials and the deal is worth about ₹4,500 crore for 100 guns. K9 Vajra-T is a 155-mm, 52-calibre self-propelled artillery gun with a maximum range of 40 km, customised from the original K9 Thunder gun. The fire control system has been customised for desert conditions to the requirements of the Army.

### 90 to be readied in India

The first 10 guns will be imported from South Korea and the rest manufactured by L&T in India.

The M777 induction process is progressing on schedule after a brief delay. The Army will shortly resume user trials after which it will take formal delivery. “We will get four guns this year from September,” the source said. In November 2016, India signed a deal for 145 M777 ULHs with the U.S. under the Foreign Military Sales programme at a cost of \$737 million. The M777 is a 155-mm, 39-calibre towed artillery gun and weighs just four tonnes, making it transportable under slung from helicopters.

## Desi solar cells to power satellites in space

Giving a big push to the Modi government’s Make-in-India programme, Indian Space Research Organisation (ISRO) has bought the technology for space solar cells from the US and will mass-produce them in the country with the help of the industry. Solar cells are needed to power a satellite in space and keep it functional till its lifespan. Talking to TOI, ISRO chairman K Sivan said here, “Till now, we have been procuring space cells from some US private companies for producing our satellites. Being a critical technology, imported cells cost us dear.” Explaining the reason for the indigenisation of solar cells, the ISRO chief said, “Currently, we are totally dependent on US imports for our satellites. Even now, we face import restrictions for buying these solar cells in bulk. If due to some reasons, the import of the critical component stops, our satellite programme will come to a standstill.

In order to reduce dependency on imports, we have decided to produce them here. On cost factor, Sivan said, “For producing a small remote sensing satellite, 1,500 solar cells are needed. For a big satellite like Gsat (communication satellite), around 10,000-15,000 solar cells are imported. ISRO used around 20,000 imported solar cells for developing the country’s heaviest satellite Gsat-11. ISRO has to shell out Rs 15 crore for import of every 10,000 cells.

If these cells are produced in the country, the cost will go down several times. “Bharat Electronics Ltd has been given the contract to use the technology bought from the US and mass-produce solar cells at an ISRO facility in Bengaluru under the supervision of our scientists.” Unlike conventional solar cells used for generating electricity on land, these cells are highly sophisticated and efficient. Once a satellite is in space, its two solar panels or wings open and start receiving the sunlight. The solar cells on the panels then provide

electricity to the satellite by converting solar energy into electrical energy and keep it functional. Without functional solar cells, a satellite loses power and becomes space debris.