



## **Bharat Forge at Defence Expo 2022**



# **MEDIA DOSSIER**

**October 26, 2022**



## **Synopsis:**

The event was conducted from 18 October 2022 to 20 October 2022, witnessed by the Prime Minister, Defence Minister and the top infantry hierarchy of the Indian defence forces.

- Leading publications covered and interacted with the spokesperson – Electronic, Print and Defence publications.

## **Objective:**

- The objective was to create visibility at the Defence Expo 2022
- We leveraged the presence of the spokespersons to interact with the media

## **Strategy:**

- We set up interactions with the media over the course of the event
- We reached out the media, to set up these interactions and ensured coverage
- We also negotiated and got advertisements in the leading defence publications such as Vayu Aerospace, Aeromag Asia, SAP Media Publication, Force Magazine, SP Guide Publications and Geopolitics.

## **Coverage Overview:**

Electronic – 13

Online – 58



Print – 16

Show Daily – 23

Social Media – 12

We received exposure through multiple media, adding the coverage to a total of 120+.



## ELECTRONIC COVERAGE

No.	Publication/Portal	Date
1	<a href="#">DD India (Hindi)</a>	18 October 2022
2	<a href="#">DD India (English)</a>	18 October 2022
3	<a href="#">DD (Gujarat – Sunday Special)</a>	24 October 2022
4	<a href="#">BQ Prime</a>	18 October 2022
5	CNBC Awaaz	18 October 2022
6	<a href="#">CNBC Bajar</a>	18 October 2022
7	<a href="#">ET Now Swadesh</a>	19 October 2022
8	Good News Today/ Aaj Tak	19 October 2022
9	India Today	19 October 2022
10	Navbharat	19 October 2022
11	Mirror Now	19 October 2022
12	Times Now	20 October 2022
13	<a href="#">Live 24</a>	21 October 2022

## ONLINE COVERAGE

No.	Publication/Portal	Headline	Date
<b>Wire</b>			
1	PTI	<a href="#">Bharat Forge inks pact with General Atomics for collaboration in Li-Ion</a>	October 19, 2022



<u>battery system</u>			
<b>Kalyani Group eyes world's largest artillery manufacturing facility in India</b>			
2	Hindu Business Line	<a href="#"><u>Kalyani Group eyes world's largest artillery manufacturing facility in India</u></a>	October 18, 2022
3	Financial Express	<a href="#"><u>Kalyani Group to set up world's largest artillery manufacturing facility in India</u></a>	October 18, 2022
4	BQ Prime	<a href="#"><u>Ukraine War Opens Up Global Market For Indian Defence Industry: Baba Kalyani</u></a>	October 19, 2022
5	Construction World	<a href="#"><u>Kalyani Group eyes world's largest artillery manufacturing facility</u></a>	October 21, 2022
6	KNN India	<a href="#"><u>India to soon be home to largest artillery manufacturing facility of world</u></a>	October 19, 2022
7	IBC 24	<a href="#"><u>भारत फोर्ज ने लिथियम आयन बैटरी प्रणाली के लिए जनरल एटॉमिक्स के साथ समझौता किया</u></a>	October 19, 2022
8	The Defense Post	<a href="#"><u>Indian Firm Announces World's Largest Artillery Manufacturing Facility</u></a>	October 19, 2022
9	Indian Defense News	<a href="#"><u>KALYANI GROUP ANNOUNCES WORLD'S LARGEST ARTILLERY MANUFACTURING FACILITY</u></a>	October 21, 2022
10	The Industry Update	<a href="#"><u>The Indian firm announces the creation of the world's largest factory for the production of artillery</u></a>	October 20, 2022
<b>Bharat Forge Inks Pact with General Atomics</b>			
11	Economic Times	<a href="#"><u>Bharat Forge inks pact with General Atomics for collaboration in Li-Ion</u></a>	October 19, 2022



		<a href="#"><u>battery system</u></a>	
12	ET Auto	<a href="#"><u>Bharat Forge inks pact with General Atomics for collaboration in Li-Ion battery system</u></a>	October 20, 2022
13	ET Gujarat	<a href="#"><u>भारत फोर्ज ने लिथियम आयन बैटरी प्रणाली के लिए जनरल एटॉमिक्स के साथ समझौता किया</u></a>	October 21, 2022
14	Outlook	<a href="#"><u>Bharat Forge Inks Pact With General Atomics For Collaboration In Li-Ion Battery System</u></a>	October 19, 2022
15	Mobility Outlook	<a href="#"><u>Bharat Forge Joins Hands With General Atomics</u></a>	October 19, 2022
16	Financial Express	<a href="#"><u>Bharat Forge, General Atomics to collaborate for li-ion battery systems</u></a>	October 20, 2022
17	Navbharat Times	<a href="#"><u>भारत फोर्ज ने लिथियम आयन बैटरी प्रणाली के लिए जनरल एटॉमिक्स के साथ समझौता किया</u></a>	October 19, 2022
18	The Week	<a href="#"><u>Bharat Forge inks pact with General Atomics for collaboration in Li-Ion battery system</u></a>	October 19, 2022
19	Punekar News	<a href="#"><u>Bharat Forge Signs MoU With General Atomics, USA; Companies To Collaborate For Indian Navy Lithium-Ion Battery System For Naval Platforms, Submarines Program</u></a>	October 18, 2022
20	Indian Defence Review	<a href="#"><u>Bharat Forge Signs a Memorandum of Understanding with General Atomics,</u></a>	October 19, 2022



		<a href="#"><u>USA</u></a>	
21	Raksha Anirveda	<a href="#"><u>Bharat Forge Signs a Memorandum of Understanding With General Atomics, USA</u></a>	October 18, 2022
22	Force India	<a href="#"><u>Bharat Forge Signs an MoU with General Atomics, USA for Lithium-Ion Battery System for Indian Navy</u></a>	October 19, 2022
23	Aviation Defence Universe	<a href="#"><u>Bharat Forge Signs a Memorandum of Understanding With General Atomics, USA</u></a>	October 19, 2022
24	India's Growing Military Power	<a href="#"><u>Bharat Forge signs MoU with General Atomics of the United States, for collaboration in Li-Ion battery system for Naval usage</u></a>	October 19, 2022
25	Bharat Shakti	<a href="#"><u>Bharat Forge Signs MoU With General Atomics For Collaboration in Li-Ion Battery System</u></a>	October 23, 2022
26	Equity Bulls	<a href="#"><u>Bharat Forge inks pact with General Atomics for collaboration in Li-Ion battery system</u></a>	October 23, 2022
27	Mix Point	<a href="#"><u>Bharat Forge Signs a Memorandum of Understanding With General Atomics, USA</u></a>	October 19, 2022
28	LatestLY	<a href="#"><u>India News   Bharat Forge Inks Pact with General Atomics for Collaboration in Li-Ion Battery System</u></a>	October 19, 2022
29	PSU WATCH	<a href="#"><u>Bharat Forge signs pact with General Atomics for collaboration in Li-Ion</u></a>	October 19, 2022





		<a href="#"><u>battery system</u></a>	
30	Passionate In Marketing	<a href="#"><u>Bharat Forge Signs a Memorandum of Understanding with General Atomics, USA</u></a>	October 19, 2022
31	News NCR	<a href="#"><u>Bharat Forge inks pact with General Atomics for collaboration in Li-Ion battery system</u></a>	October 20, 2022
32	Infra Live	<a href="#"><u>Bharat Forge inks pact with General Atomics for collaboration in Li-Ion battery system</u></a>	October 20, 2022
33	MoneyWorks4Me	<a href="#"><u>Bharat Forge inks pact with General Atomics</u></a>	October 20, 2022
<b>MGS 8x8 Unveiled By Mr. Samir V Kamat   Raksha Mantri Visit</b>			
34	Punekar News	<a href="#"><u>Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled by Defence Research and Development Organisation (DRDO).</u></a>	October 21, 2022
35	Pune Prahar	<a href="#"><u>KALYANI GROUP'S MOUNTING ARTILLERY GUN SYSTEM 8X8 HMV UNVEILED BY DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION (DRDO)</u></a>	October 22, 2022
36	India Strategic	<a href="#"><u>Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled by Defence Research and Development Organisation (DRDO)</u></a>	October 21, 2022
37	News Patrolling	<a href="#"><u>Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled by Defence</u></a>	October 21, 2022



		<a href="#"><u>Research and Development Organisation (DRDO)</u></a>	
38	Raksha Anirveda	<a href="#"><u>Kalyani Group's Mounting Artillery Gun System 8X8 HMV Unveiled by DRDO</u></a>	October 22, 2022
39	Times of India	<a href="#"><u>Artillery gun of Kalyani Group at Gujarat expo</u></a>	October 22, 2022
40	Aviation Defence Universe	<a href="#"><u>Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled by Defence Research and Development Organisation (DRDO).</u></a>	October 21, 2022
41	India's Growing Military Power	<a href="#"><u>Kalyani unveils 8x8 IFV based on Turkish Arma 8x8 WhAP at DefExpo 2022</u></a>	October 21, 2022
42	APN News	<a href="#"><u>Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled by Defence Research and Development Organisation (DRDO)</u></a>	October 21, 2022
43	Success Insight	<a href="#"><u>Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled by Defence Research and Development Organisation (DRDO)</u></a>	October 21, 2022
44	Pelikken	<a href="#"><u>Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled by Defence Research and Development Organisation (DRDO)</u></a>	October 26, 2022
45	Indian Defence Industries	<a href="#"><u>Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled</u></a>	October 22, 2022
<b>Defence Expo Special Mentions</b>			



46	ABP Live	<a href="#">Def Expo 2022: डिफेंस एक्सपो में दिखी स्वदेशी एम-4 कॉम्बेट व्हीकल, पूर्वी लद्दाख में की गई है तैनाती</a>	October 20, 2022
47	Business Standard	<a href="#">How atmanirbhar is India when it comes to defence?</a>	October 21, 2022
48	Business Insider	<a href="#">A big step towards self-reliance in defense with a new tank, gun system, and more</a>	October 21, 2022
49	The Print	<a href="#">China threat in mind, Army buys more M4 armoured vehicles with anti-tank missiles</a>	October 21, 2022
50	IDRW	<a href="#">TATA's WhAP to face competition from three Indian companies</a>	October 21, 2022
51	IDRW	<a href="#">One Artillery Gun per Day soon : Kalyani Group</a>	October 22, 2022
52	Force India	<a href="#">Unmanned Rovers</a>	October 21, 2022
53	Janes Defence Weekly	<a href="#">Defexpo 2022: Bharat Forge showcases THeMIS and ECARS UGVs</a>	October 21, 2022
54	Rediff	<a href="#">Check Out 3 Standout DRDO Weapons!</a>	October 21, 2022
55	Shepherd Media	<a href="#">India tries to spool up artillery production, but bottlenecks remain</a>	October 21, 2022
56	Broadsword	<a href="#">DRDO displays three "Make in India" successes in DefExpo 22</a>	October 20, 2022



57	Hindustan News Hub	<a href="#">Indigenous M-4 Combat Vehicle seen at Defense Expo, has been deployed in Eastern Ladakh</a>	October 20, 2022
58	Channeliyam	<a href="#">പ്രതിരോധത്തിന് കരുത്തേകാൻ കല്യാണി ഗ്രൂപ്പ്</a>	October 21, 2022

## PRINT

No.	Publication/Portal	Headline	Date
<b>Pre Defence Expo</b>			
1	Business Standard	Preparations in place for largest DefExpo	18 October 2022
2	Business Standard	Defence Expo	18 October 2022
<b>Kalyani Group eyes world's largest artillery manufacturing facility in India</b>			
3	Financial Express	Kalyani Group to set up world's largest artillery facility in India	19 October 2022
<b>Bharat Forge Inks Pact with General Atomics</b>			
4	The Pioneer	Bharat Forge inks pact with General Atomics for collaboration	20 October 2022
5	Times of India	Aatmanirbharta Ammo wows world	19 October 2022
6	Asian Age	BFL ties up with General Atomics for Li-Ion Batteries	19 October 2022
7	Pudhari	BFL ties up with General Atomics for	19 October



		Li-Ion Batteries	2022
8	Sakal	BFL ties up with General Atomics for Li-Ion Batteries	19 October 2022
9	Western Times	Bharat Forge signs Memorandum of Understanding with General Atomics, USA	19 October 2022
<b>MGS 8x8 Unveiled By Mr. Samir V Kamat</b>			
10	Times of India	Artillery Gun of Kalyani at Gujarat Expo	22 October 2022
11	Sakal	Kalyani Group's MGS unveiled at DefExo	22 October 2022
12	Western Times	Kalyani Group's MGS 8x8 unveiled at Defence Expo	23 October 2022
13	Business Standard	DRDO displays three 'Make in India' successes	19 October 2022
<b>Defence Expo Special Mentions</b>			
14	Hindustan Times	Shares of Defence-related firms get indigenization boost	22 October 2022
15	Millenium Post	Shares of Defence-related firms get indigenization boost	22 October 2022
16	Echo of India	Shares of Defence-related firms get indigenization boost	22 October 2022

## SHOW DAILY COVERAGE

No.	Publication/Portal	Headline	Date
-----	--------------------	----------	------



1	SP Guide Publication	Show Daily 1	18 October 2022
2	SAP Media	Show Daily 1	18 October 2022
3	SAP Media	Bharat Forge Ltd. dispatches Kalyani M4 vehicles for UN Peacekeeping Missions	18 October 2022
4	Aeromag Asia	Show Daily 1	18 October 2022
5	Vayu Aerospace	DefExpo Special	18 October 2022
6	Force Magazine	Show Daily 1	18 October 2022
7	Aeromag Asia	Show Daily 2	19 October 2022
8	SAP Media	Show Daily 2	19 October 2022
9	SAP Media	We want to be an artillery power house – Baba Kalyani	19 October 2022
10	SAP Media	Bharat Forge signs MOU with General Atomics	19 October 2022
11	SP Guide Publication	Show Daily 2	19 October 2022
12	Geopolitics	Show Daily 2	19 October 2022
13	Force	Show Daily 2	19 October 2022
14	Raksha Anirveda	DefExpo Special	19 October 2022
15	Aeromag	Show Daily 3	20 October 2022
16	Aeromag	Bharat Forge Signs MOU with General Atomics	20 October 2022
17	SAP Media	Show Daily 3	20 October 2022
18	SAP Media	Bharat Forge Signs MOU with General Atomics	20 October 2022
19	Geopolitics	Show Daily 3	20 October 2022



20	Geopolitics	Bharat Forge Signs MOU with General Atomics	20 October 2022
21	Force	Show Daily 3	20 October 2022
22	Force	Bharat Forge Signs MOU with General Atomics	20 October 2022
23	Indian Defence Industries	Website	14 October – 14 November 2022

## SOCIAL MEDIA COVERAGE

No.	Publication	Portal	Date
1	Vayu Aerospace	<a href="#">Twitter</a>	
2	Technical Astra	<a href="#">Twitter</a>	
3	Pune City	<a href="#">Twitter</a>	
4	Aviation Defence Universe	<a href="#">Twitter</a>	
5	ET Now Swadesh	<a href="#">Twitter</a>	
6	BQ Prime	<a href="#">Twitter</a>	
7	The Print	<a href="#">Twitter</a>	
8	Vayu Aerospace	<a href="#">Twitter</a>	
9	Neeraj Rajput (ABP)	<a href="#">Twitter</a>	



10	Indian Military Review	<a href="#">YouTube</a>	
11	Aviation Defence Universe	<a href="#">YouTube</a>	
12	Indian Defense Analysis	<a href="#">YouTube</a>	





**Electronic**



Publication : DD India

Edition : Electronic

Date : October 18, 2022





Publication : DD India

Edition : Electronic

Date : October 18, 2022

[Link](#)





Publication : DD Gujarat – Sunday Special

Edition : Electronic

Date : October 24, 2022

[Link](#)





Publication : BQ Prime

Edition : Electronic

Date : October 18, 2022

[Link](#)





Publication : CNBC Awaaz	Edition : Electronic
Date : October 18, 2022	

गुजरात के गांधीनगर में डिफेंस एक्सपो शुरू **EXCLUSIVE**

**EXCLUSIVE**  
लाइट आर्टिलरी

Bharat Forge  
775.00 2.20 [0.28%]

**RESULTS IMPACT**

PSP Projects 572.50 ▼10.73%	Rane Engine 235.00 ▲2.06%
--------------------------------	------------------------------

2:40 PM \$ VS ₹  
82.28 ▼0.0675

1.60 ▲1.70 JPAso<sup>2</sup> 45.3m 10.40 ▲0.90 Z  
7k 2646.80 ▼28.40 Atul/Auto<sup>5</sup> 1531.7k 266.60 ▲

**CNBC आवाज़**







Publication : ET Now Swadesh

Edition : Electronic

Date : October 19, 2022







Publication : Good News Today/ Aaj Tak

Edition : Electronic

Date : October 19, 2022





Publication : India Today	Edition : Electronic
Date : October 19, 2022	





Publication : Navbharat	Edition : Electronic
Date : October 19, 2022	





Publication : Mirror Now

Edition : Electronic

Date : October 19, 2022







Publication : Times Now

Edition : Electronic

Date : October 20, 2022





Publication : Live Now	Edition : Electronic
Date : October 21, 2022	

[Link](#)







Publication : Indian Military Review

Edition : Electronic

Date : October 19, 2022

[Link](#)







**Online**



## **Wire**

<b>Headline : Bharat Forge inks pact with General Atomics for collaboration in Li-Ion battery system</b>	<b>Publication: PTI</b>
<b>Date : October 19, 2022</b>	<b>Journalist: Manash Pratim Bhuyan</b>

<https://www.ptinews.com/news/national/bharat-forge-inks-pact-with-general-atomics-for-collaboration-in-li-ion-battery-system/438167.html>

Indian defence firm Bharat Forge Ltd on Wednesday said it has inked an agreement with American technology major General Atomics for collaboration in developing Lithium-Ion battery system for use by the Indian Navy.



The pact was signed on the sidelines of the DefExpo in Gandhinagar in Gujarat. Under the terms of the Memorandum of Understanding (MoU), Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion battery system for naval platforms for the Indian Navy.

Bharat Forge said the two sides have also agreed to partner in the area of permanent magnet motors.

Lithium-Ion battery systems are used in various naval platforms including submarines.

"We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals," said Baba Kalyani, Chairman Kalyani Group.

"General Atomics is a market leader for in-service Li-Ion battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make-in-India solutions for the Indian Navy and setting up a strong defence technology and manufacturing vertical within India," he said.

President of GA-EMS Scott Forney said his company is looking forward to working with Bharat Forge to meet the requirements of the Indian Navy.

"We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms," Forney said.



## **Kalyani Group eyes world's largest artillery manufacturing facility in India**

<b>Headline : Kalyani Group eyes world's largest artillery manufacturing facility in India</b>	<b>Publication: Hindu Business Line</b>
<b>Date : October 18, 2022</b>	<b>Journalist:</b>

<https://www.thehindubusinessline.com/companies/kalyani-group-eyes-worlds-largest-artillery-manufacturing-facility-in-india/article66027629.ece>

Pune-based defence major Kalyani Group informed that it would set up the world's largest artillery manufacturing facility in India, producing one gun per day.

“We are in the process of setting up the world's largest artillery manufacturing capacity. In three years from now, we will produce one gun per day,” said Baba Kalyani, Chairman of Kalyani Group, the parent of Bharat Forge Limited.

The group currently produces about six guns in 30 days at present. “The capital investment has already been done. Now we need to increase the volumes,” said Kalyani at the DefExpo 2022 at Gandhinagar on Tuesday.

Stating that the group has the technology to produce lighter guns with the same fire power as a heavy ones, Kalyani stated that the trend for ‘shoot-and-scoot’ guns is growing globally.

“In future Indian armed forces may go for lighter guns such as mounted guns etc. And we have the technology that no body else has today,” said Kalyani.

Later in the day, Bharat Forge Limited announced a Memorandum of Understanding (MOU) with General Atomics, US, to collaborate on a Lithium-Ion Battery System for naval platforms/submarines to address the requirements of the Indian Navy.



General Systems is a global leader in the research, design, and manufacture of a diverse portfolio of electromagnetic and advanced power and energy technologies.

Under the terms of the MOU, Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will partner with each other in the area of permanent magnet motors.

“We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals. GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India,” Kalyani said.

Commenting on the signing of the MoU, Scott Forney, president of GA-EMS, said, “Our Li-Ion battery system has been developed after 10 years of rigorous R&D. Instead of the usual ‘fault prevention’, our design philosophy is based on assuming a fault and requiring fault containment’, which has made our system extremely safe and reliable.”



Headline : Kalyani Group to set up world's largest artillery manufacturing facility in India	Publication: Financial Express
Date : October 18, 2022	Journalist:

<https://www.financialexpress.com/defence/font-size6-facesans-serif-stylecolor-rgb34-34-34-font-weight-400-white-space-normal-data-rich-text-format-boundarytruekalyani-group-to-set-up-worlds-largest-artillery-manufacturing-facility-in-indiafo/2718833/>

Pune-headquartered Kalyani Group is in the process of setting up the world's largest artillery manufacturing facility in India having capacity to produce one gun per day. Confirming the development, Chairman of Kalyani Group, Baba Kalyani said at DefExpo22 at Gandhinagar that capital investment for the purpose has been done and now the company is looking at increasing the volume.

He claimed that Kalyani Group has the technology to produce lighter guns with same fire power as a heavy guns and such guns are in great demand globally. Meanwhile, [Bharat Forge](#) Limited, flagship of the Kalyani group and a leading technology solutions provider, signed a Memorandum of Understanding (MOU) with General Atomics, US, a global leader in the research, design, and manufacture of a diverse portfolio of electromagnetic and advanced power and energy technologies.

Under the terms of the MOU signed on Tuesday, Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for the Lithium-Ion Battery System for naval platforms/submarines to address the requirements of the Indian Navy. The parties have also agreed to partner with each other in the area of permanent magnet motors. "We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals. GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop [Make in India](#) solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India," said Baba Kalyani. Scott Forney, president of GA-EMS said that his company developed the Li-Ion battery system after 10 years of rigorous R&D and has now decided to work with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic.





<b>Headline : Ukraine War Opens Up Global Market For Indian Defence Industry: Baba Kalyani</b>	<b>Publication: BQ Prime</b>
Date : October 19, 2022	Journalist:

<https://www.bqprime.com/business/ukraine-war-opens-up-global-market-for-indian-defence-industry-baba-kalyani>

Russia's war in Ukraine is opening up global markets for Indian defence industry as it has spurred frantic buying of arms, according to Baba Kalyani, chairman of Kalyani Group.

The conflict has created a sense of urgency among smaller countries that want to equip themselves with arms, Kalyani told BQ Prime in an interview on the sidelines of Defence Expo 2022.

Nobody thought of a land war in 2022, he said. The Russia-Ukraine conflict has led to the destruction of land-based weapons and the developed majors are running out of capacity to supply to Ukraine, Kalyani said.

Smaller countries are now looking at other manufacturers, he said. "We are planning to have the capacity to build 300 guns a year, compared to 15-20 for developed players."

The group is ahead of its target to become the largest land systems manufacturer globally. Conflicts have led to the opening up of the global markets for India, he said.

The Kalyani Group's Bharat Forge Ltd. recently supplied the Kalyani M4, a mine-protected, high-mobility armoured personnel carrier, to the Indian army during the Galwan clashes under emergency supplies.





Headline : Kalyani Group eyes world's largest artillery manufacturing facility	Publication: Construction World
Date : October 21, 2022	Journalist:

<https://www.constructionworld.in/transport-infrastructure/aviation-and-airport-infra/kalyani-group-eyes-world---s-largest-artillery-manufacturing-facility/37089>

Kalyani Group, based in Pune, announced plans to build the world's largest artillery production factory in India, capable of producing one gun every day.

Currently, the group makes six firearms every 30 days. "The initial capital investment has already been made. "We need to boost the volumes now," Kalyani said at the DefExpo 2022 in Gandhinagar.

Kalyani added that the firm has the technology to make lighter firearms with the same firepower as heavy guns, and that the trend for 'shoot-and-scoot' weaponry is spreading globally.



Headline : India to soon be home to largest artillery manufacturing facility of world	Publication: KNN India
Date : October 19, 2022	Journalist:

<https://knnindia.co.in/news/newsdetails/sectors/india-to-soon-be-home-to-largest-artillery-manufacturing-facility-of-world>

The Kalyani group chairman Baba Kalyani on Tuesday said that the group is in process to set up world's largest artillery manufacturing facility in India.

While addressing the DefExpo 2022 at Gandhinagar, Kalyani said that in three years' time, the group will start producing one gun per day.

“The capital investment has already been done. Now we need to increase the volumes,” he said.

Stating that the group has the technology to produce lighter guns with the same fire power as a heavy ones, Kalyani stated that the trend for ‘shoot-and-scoot’ guns is growing globally.

“In future Indian armed forces may go for lighter guns such as mounted guns etc. And we have the technology that nobody else has today,” he added.

During the ongoing DefExpo, Bharat Forge Limited announced a Memorandum of Understanding (MOU) with General Atomics, US, to collaborate on a Lithium-Ion Battery System for naval platforms/submarines to address the requirements of the Indian Navy.

Under this agreement, Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will partner with each other in the area of permanent magnet motors.

“We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals. GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India,” Kalyani stated.

Commenting on the signing of the MoU, Scott Forney, president of GA-EMS, said, “Our Li-Ion battery system has been developed after 10 years of rigorous R&D. Instead of the usual ‘fault



prevention', our design philosophy is based on assuming a fault and requiring fault containment', which has made our system extremely safe and reliable.”

The DefExpo 2022 will conclude on October 22, 2022.



<b>Headline :</b> भारत फोर्ज ने लिथियम आयन बैटरी प्रणाली के लिए जनरल एटॉमिक्स के साथ समझौता किया	<b>Publication:</b> IBC 24
<b>Date :</b> October 19, 2022	<b>Journalist:</b>

<https://www.ibc24.in/business/bharat-forge-ties-up-with-general-atomics-for-lithium-ion-battery-system-1218411.html>

रक्षा क्षेत्र की भारतीय कंपनी भारत फोर्ज लिमिटेड ने बुधवार को कहा कि उसने लिथियम आयन बैटरी प्रणाली विकसित करने में मदद के लिए अमेरिकी प्रौद्योगिकी कंपनी जनरल एटॉमिक्स के साथ एक समझौता किया है। इस बैटरी प्रणाली का उपयोग भारतीय नौसेना करेगी।

गुजरात के गांधीनगर में रक्षा प्रदर्शन के दौरान इस समझौते पर हस्ताक्षर किए गए।

सहमति पत्र (एमओयू) की शर्तों के तहत भारत फोर्ज और जनरल एटॉमिक्स इलेक्ट्रोमैग्नेटिक सिस्टम्स ग्रुप (जीए-ईएमएस) साथ मिलकर भारतीय नौसेना के लिए नौसैनिक मंचों में उपयोगी लिथियम आयन बैटरी प्रणाली विकसित करेंगे।

भारत फोर्ज ने कहा कि दोनों पक्ष स्थायी मैग्नेट मोटर के क्षेत्र में भागीदारी के लिए भी सहमत हुए हैं। पनडुब्बियों सहित विभिन्न नौसैनिक मंचों में लिथियम आयन बैटरी प्रणाली का इस्तेमाल किया जाता है।

कल्याणी समूह के चेयरमैन बाबा कल्याणी ने कहा, "हम रक्षा क्षेत्र में भारत को आत्मनिर्भर बनाने के लिए देश में विशिष्ट प्रौद्योगिकी लाने की दिशा में लगातार काम कर रहे हैं।" भारत फोर्ज लिमिटेड कल्याणी समूह का हिस्सा है।



<b>Headline : Indian Firm Announces World's Largest Artillery Manufacturing Facility</b>	<b>Publication: The Defense Post</b>
Date : October 19, 2022	Journalist:

<https://www.thedefensepost.com/2022/10/20/india-worlds-largest-artillery-facility/>

Indian conglomerate Kalyani Group [announced](#) that it would construct the world's largest artillery manufacturing facility in India on Tuesday.

The Hindu Business Line quoted company chairman Baba Kalyani as saying that the plant would be ready in three years, producing one gun per day, a five-fold increase over the current production rate.

"The capital investment has already been done. Now we need to increase the volumes," Kalyani was quoted at the Gandhi Nagar Defense Expo 2022.

Lighter Guns in Future: Kalyani

The chairman hinted at manufacturing lighter platforms such as mounted artillery but with the same firepower as heavier models.

"In the future Indian armed forces may go for lighter guns such as mounted guns etc. And we have the technology that nobody else has today," he added.

Advanced Towed Artillery

Kalyani produces a range of defense platforms, including military vehicles, drones, and howitzers such as the Bharat 52, Bharat 45, Garuda 105, and Advanced Towed Artillery Gun System (ATAGS).

Developed in collaboration with the Defense Research Development Organization, the 155-mm, 52-caliber ATAGS has a range of 48 kilometers (30 miles). The gun is undergoing environmental trials, following which commercial bids for it will be sought.



<b>Headline : KALYANI GROUP ANNOUNCES WORLD'S LARGEST ARTILLERY MANUFACTURING FACILITY</b>	<b>Publication: Indian Defense news</b>
Date : October 21, 2022	Journalist:

<http://www.indiandefensenews.in/2022/10/kalyani-group-announces-worlds-largest.html>

Indian private defence manufacturing conglomerate Kalyani Group announced that it would construct the world's largest artillery manufacturing facility in India on Tuesday.

The Hindu Business Line quoted company chairman Baba Kalyani as saying that the plant would be ready in three years, producing one gun per day, a five-fold increase over the current production rate.

“The capital investment has already been done. Now we need to increase the volumes,” Kalyani was quoted as saying at the Gandhinagar Defence Expo 2022.

#### Lighter Guns In Future: Kalyani

The chairman hinted at manufacturing lighter platforms such as mounted artillery but with the same firepower as heavier models.

“In the future Indian armed forces may go for lighter guns such as mounted guns etc. And we have the technology that nobody else has today,” he added.

#### Advanced Towed Artillery

Kalyani produces a range of defence platforms including military vehicles, drones, and howitzers such as the Bharat 52, Bharat 45, Garuda 105, and Advanced Towed Artillery Gun System (ATAGS).

Developed in collaboration with the Defence Research Development Organization, the 155-mm, 52-caliber ATAGS has a range of 48 kilometers (30 miles). The gun is undergoing environmental trials, following which commercial bids for it will be sought.





**Headline : The Indian firm announces the creation of the world's largest factory for the production of artillery**

**Publication: The Industry Update**

**Date : October 20, 2022**

**Journalist:**

<https://industry-update.com/the-indian-firm-announces-the-creation-of-the-worlds-largest-factory-for-the-production-of-artillery/166229/>

Indian private defence manufacturing conglomerate Kalyani Group announced that it would construct the world's largest artillery manufacturing facility in India on Tuesday.

The Hindu Business Line quoted company chairman Baba Kalyani as saying that the plant would be ready in three years, producing one gun per day, a five-fold increase over the current production rate.

“The capital investment has already been done. Now we need to increase the volumes,” Kalyani was quoted as saying at the Gandhinagar Defence Expo 2022.

#### Lighter Guns In Future: Kalyani

The chairman hinted at manufacturing lighter platforms such as mounted artillery but with the same firepower as heavier models.

“In the future Indian armed forces may go for lighter guns such as mounted guns etc. And we have the technology that nobody else has today,” he added.

#### Advanced Towed Artillery

Kalyani produces a range of defence platforms including military vehicles, drones, and howitzers such as the Bharat 52, Bharat 45, Garuda 105, and Advanced Towed Artillery Gun System (ATAGS).

Developed in collaboration with the Defence Research Development Organization, the 155-mm, 52-caliber ATAGS has a range of 48 kilometers (30 miles). The gun is undergoing environmental trials, following which commercial bids for it will be sought.





## **Bharat Forge Inks Pact with General Atomics**

Headline : Bharat Forge inks pact with General Atomics for collaboration in Li-Ion battery system	Publication: Economic Times
Date : October 19, 2022	Journalist:

<https://economictimes.indiatimes.com/industry/renewables/bharat-forge-inks-pact-with-general-atomics-for-collaboration-in-li-ion-battery-system/articleshow/94967461.cms?from=mdr>

Indian defence firm [Bharat Forge Ltd](#) on Wednesday said it has inked an agreement with American technology major [General Atomics](#) for collaboration in developing Lithium-Ion battery system for use by the Indian Navy. The pact was signed on the sidelines of the DefExpo in Gandhinagar in Gujarat.

Under the terms of the Memorandum of Understanding (MoU), [Bharat Forge](#) and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion battery system for naval platforms for the Indian Navy.

Bharat [Forge](#) said the two sides have also agreed to partner in the area of [permanent magnet](#) motors.



Lithium-Ion battery systems are used in various naval platforms including submarines.

"We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals," said Baba Kalyani, Chairman Kalyani Group.

"General Atomics is a market leader for in-service Li-Ion battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make-in-India solutions for the Indian Navy and setting up a strong defence technology and manufacturing vertical within India," he said.

President of GA-EMS Scott [Forney](#) said his company is looking forward to working with Bharat Forge to meet the requirements of the Indian Navy.

"We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms," Forney said.



Headline : Bharat Forge inks pact with General Atomics for collaboration in Li-Ion battery system	Publication: ET Auto
Date : October 20, 2022	Journalist:

<https://auto.economictimes.indiatimes.com/news/auto-components/bharat-forge-inks-pact-with-general-atomics-for-collaboration-in-li-ion-battery-system/94992995>

Indian defence firm [Bharat Forge Ltd](#) on Wednesday said it has inked an agreement with American technology major [General Atomics](#) for collaboration in developing [Lithium-Ion battery system](#) for use by the [Indian Navy](#). The pact was signed on the sidelines of the DefExpo in Gandhinagar in Gujarat.

Under the terms of the [Memorandum of Understanding](#) (MoU), Bharat Forge and [General Atomics' Electromagnetic Systems](#) Group (GA-EMS) will collaborate for Lithium-Ion battery system for naval platforms for the Indian Navy.

Bharat Forge said the two sides have also agreed to partner in the area of [permanent magnet](#) motors.

Lithium-Ion battery systems are used in various naval platforms including submarines.

"We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals," said Baba Kalyani, Chairman Kalyani Group.

"General Atomics is a market leader for in-service Li-Ion battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make-in-India solutions for the Indian Navy and setting up a strong defence technology and manufacturing vertical within India," he said.

President of GA-EMS Scott Forney said his company is looking forward to working with Bharat Forge to meet the requirements of the Indian Navy.



"We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms," Forney said.







<b>Headline : Bharat Forge Inks Pact With General Atomics For Collaboration In Li-Ion Battery System</b>	<b>Publication: Outlook</b>
Date : October 19, 2022	Journalist:

<https://www.outlookindia.com/business/bharat-forge-inks-pact-with-general-atomics-for-collaboration-in-li-ion-battery-system-news-231151>

Indian defence firm Bharat Forge Ltd on Wednesday said it has inked an agreement with American technology major General Atomics for collaboration in developing Lithium-Ion battery system for use by the Indian Navy.

The pact was signed on the sidelines of the DefExpo in Gandhinagar in Gujarat. Under the terms of the Memorandum of Understanding (MoU), Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion battery system for naval platforms for the Indian Navy.

Bharat Forge said the two sides have also agreed to partner in the area of permanent magnet motors.

Lithium-Ion battery systems are used in various naval platforms including submarines.

"We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals," said Baba Kalyani, Chairman Kalyani Group.

"General Atomics is a market leader for in-service Li-Ion battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make-in-India solutions for the Indian Navy and setting up a strong defence technology and manufacturing vertical within India," he said.

President of GA-EMS Scott Forney said his company is looking forward to working with Bharat Forge to meet the requirements of the Indian Navy.



"We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms," Forney said.





<b>Headline : Bharat Forge Joins Hands With General Atomics</b>	<b>Publication: Mobility Outlook</b>
Date : October 19, 2022	Journalist:

<https://www.mobilityoutlook.com/news/bharat-forge-joins-hands-with-general-atomics/>

Bharat Forge has inked a memorandum of understanding (MOU) with General Atomics of the US at the DefExpo.

The two companies will collaborate for a lithium-ion battery system for naval platforms/submarines and also in the area of permanent magnet motors.

Baba Kalyani, Chairman Kalyani Group said, “Our partnership with General Atomics is a firm step in the direction to develop Make-in-India solutions for the Indian Navy and setting up a strong defence technology and manufacturing vertical within India.”

Scott Forney, President of GA-EMS (General Atomics’ Electromagnetic Systems) added, “Our li-ion battery system has been developed after 10 years of rigorous R&D. Our design philosophy is based on assuming a fault and requiring fault containment, which has made our system extremely safe and reliable.”



<b>Headline : Bharat Forge, General Atomics to collaborate for li-ion battery systems</b>	<b>Publication: Financial Express</b>
Date : October 20, 2022	Journalist:

<https://www.financialexpress.com/defence/bharat-forge-general-atomics-to-collaborate-for-li-ion-battery-systems/2721452/>

Bharat Forge has signed a collaboration deal with American technological giant General Atomics for the creation of lithium-ion battery systems for the Indian Navy.

According to Bharat Forge, the two parties have also decided to collaborate on permanent magnet motors.

Submarines among other naval units employ lithium-ion battery technology.

The agreement was signed in Gandhinagar, Gujarat, on the sidelines of the DefExpo. The Electromagnetic Systems Group (GA-EMS) of General Atomics and Bharat Forge will work together in accordance with the parameters of the Memorandum of Understanding (MoU) to develop Lithium-Ion battery systems for naval platforms for the Indian Navy.

Baba Kalyani, Chairman Kalyani Group said, “General Atomics does Li-Ion battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make-in-India solutions for the Indian Navy and setting up a strong defence technology and manufacturing vertical within India.”

Scott Forney, President of GA-EMS said his company is looking forward to working with Bharat Forge “We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms,” he added.



<b>Headline :</b> भारत फोर्ज ने लिथियम आयन बैटरी प्रणाली के लिए जनरल एटॉमिक्स के साथ समझौता किया	<b>Publication:</b> Navabharat Times
<b>Date :</b> October 19, 2022	<b>Journalist:</b>

<https://navbharattimes.indiatimes.com/business/business-news/bharat-forge-ties-up-with-general-atomics-for-lithium-ion-battery-system/articleshow/94968701.cms>

रक्षा क्षेत्र की भारतीय कंपनी भारत फोर्ज लिमिटेड ने बुधवार को कहा कि उसने लिथियम आयन बैटरी प्रणाली विकसित करने में मदद के लिए अमेरिकी प्रौद्योगिकी कंपनी जनरल एटॉमिक्स के साथ एक समझौता किया है। इस बैटरी प्रणाली का उपयोग भारतीय नौसेना करेगी।

गुजरात के गांधीनगर में रक्षा प्रदर्शन के दौरान इस समझौते पर हस्ताक्षर किए गए।

सहमति पत्र (एमओयू) की शर्तों के तहत भारत फोर्ज और जनरल एटॉमिक्स इलेक्ट्रोमैग्नेटिक सिस्टम्स ग्रुप (जीए-ईएमएस) साथ मिलकर भारतीय नौसेना के लिए नौसैनिक मंचों में उपयोगी लिथियम आयन बैटरी प्रणाली विकसित करेंगे।

भारत फोर्ज ने कहा कि दोनों पक्ष स्थायी मैग्नेट मोटर के क्षेत्र में भागीदारी के लिए भी सहमत हुए हैं। पनडुब्बियों सहित विभिन्न नौसैनिक मंचों में लिथियम आयन बैटरी प्रणाली का इस्तेमाल किया जाता है।

कल्याणी समूह के चेयरमैन बाबा कल्याणी ने कहा, "हम रक्षा क्षेत्र में भारत को आत्मनिर्भर बनाने के लिए देश में विशिष्ट प्रौद्योगिकी लाने की दिशा में लगातार काम कर रहे हैं।" भारत फोर्ज लिमिटेड कल्याणी समूह का हिस्सा है।



<b>Headline : Bharat Forge inks pact with General Atomics for collaboration in Li-Ion battery system</b>	<b>Publication: The Week</b>
Date : October 19, 2022	Journalist:

<https://www.theweek.in/wire-updates/business/2022/10/19/des36-def-pact.html>

Indian defence firm Bharat Forge Ltd on Wednesday said it has inked an agreement with American technology major General Atomics for collaboration in developing Lithium-Ion battery system for use by the Indian Navy.

The pact was signed on the sidelines of the DefExpo in Gandhinagar in Gujarat. Under the terms of the Memorandum of Understanding (MoU), Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion battery system for naval platforms for the Indian Navy.

Bharat Forge said the two sides have also agreed to partner in the area of permanent magnet motors.

Lithium-Ion battery systems are used in various naval platforms including submarines.

"We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals," said Baba Kalyani, Chairman Kalyani Group.

"General Atomics is a market leader for in-service Li-Ion battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make-in-India solutions for the Indian Navy and setting up a strong defence technology and manufacturing vertical within India," he said.

President of GA-EMS Scott Forney said his company is looking forward to working with Bharat Forge to meet the requirements of the Indian Navy.



"We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms," Forney said.



## **MGS 8x8 Unveiled By Mr. Samir V Kamat | Raksha Mantri Visit**

Headline : Bharat Forge Signs MoU With General Atomics, USA; Companies To Collaborate For Indian Navy Lithium-Ion Battery System For Naval Platforms, Submarines Program	Publication: Punekar news
Date : October 18, 2022	Journalist:

<https://www.punekarnews.in/bharat-forge-signs-mou-with-general-atomics-usa-companies-to-collaborate-for-indian-navy-lithium-ion-battery-system-for-naval-platforms-submarines-program/>

Bharat Forge Ltd., the world’s leading technology solutions provider and forging company signed a Memorandum of Understanding (MOU) with General Atomics, US, a global leader in the research, design, and manufacture of a diverse portfolio of electromagnetic and advanced power and energy technologies. Under the terms of the MOU, Bharat Forge and General Atomics’ Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion Battery System for naval platforms/submarines to address the requirements of Indian Navy. The parties have also agreed to partner with each other in the area of permanent magnet motors.

Speaking on the occasion, Baba Kalyani, Chairman Kalyani Group said, “We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals. GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India.”

“We look forward to working with Bharat Forge to meet the requirements of Indian Navy. Our Li-Ion battery system has been developed after 10 years of rigorous R&D. Instead of the usual ‘fault prevention’, our design philosophy is based on assuming a fault and requiring fault containment’, which has made our system extremely safe and reliable”, stated Scott Forney, president of GA-EMS. “We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms.”





<b>Headline : <u>Bharat Forge Signs a Memorandum of Understanding with General Atomics, USA</u></b>	<b>Publication: Indian Defence Review</b>
<b>Date : October 19, 2022</b>	<b>Journalist:</b>

<http://www.indiandefencereview.com/news/bharat-forge-signs-a-memorandum-of-understanding-with-general-atomics-usa/>

Bharat Forge Ltd., the world’s leading technology solutions provider and forging company signed a Memorandum of Understanding (MOU) with General Atomics, US, a global leader in the research, design, and manufacture of a diverse portfolio of electromagnetic and advanced power and energy technologies. Under the terms of the MOU, Bharat Forge and General Atomics’ Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion Battery System for naval platforms/submarines to address the requirements of Indian Navy. The parties have also agreed to partner with each other in the area of permanent magnet motors.

Speaking on the occasion, Mr. Baba Kalyani, Chairman Kalyani Group said, “We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals. GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India.”

“We look forward to working with Bharat Forge to meet the requirements of Indian Navy. Our Li-Ion battery system has been developed after 10 years of rigorous R&D. Instead of the usual ‘fault prevention’, our design philosophy is based on assuming a fault and requiring fault containment’, which has made our system extremely safe and reliable”, stated Scott Forney, president of GA-EMS. “We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms.”





<b>Headline : Bharat Forge Signs a Memorandum of Understanding With General Atomics, USA</b>	<b>Publication: Raksha Anirveda</b>
<b>Date : October 18, 2022</b>	<b>Journalist:</b>

<https://raksha-anirveda.com/bharat-forge-signs-a-memorandum-of-understanding-with-general-atomics-usa/>

Bharat Forge Ltd., the world's leading technology solutions provider and forging company signed a Memorandum of Understanding (MOU) with General Atomics, US, a global leader in the research, design, and manufacture of a diverse portfolio of electromagnetic and advanced power and energy technologies.

Under the terms of the MOU, Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion Battery System for naval platforms/submarines to address the requirements of Indian Navy. The parties have also agreed to partner with each other in the area of permanent magnet motors.

Speaking on the occasion, Mr. Baba Kalyani, Chairman Kalyani Group said, "We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals. GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India."

"We look forward to working with Bharat Forge to meet the requirements of Indian Navy. Our Li-Ion battery system has been developed after 10 years of rigorous R&D. Instead of the usual 'fault prevention', our design philosophy is based on assuming a fault and requiring fault containment', which has made our system extremely safe and reliable", stated Scott Forney, president of GA-EMS. "We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms."



<b>Headline : Bharat Forge Signs an MoU with General Atomics, USA for Lithium-Ion Battery System for Indian Navy</b>	<b>Publication: Force India</b>
Date : October 19, 2022	Journalist:

<https://forceindia.net/bharat-forge-signs-mou-general-atomics-usa-lithium-ion-battery-system-indian-navy/>

Bharat Forge Ltd., signed a Memorandum of Understanding (MOU) with General Atomics, US. Under the terms of the MOU, Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion Battery System for naval platforms/submarines to address the requirements of Indian Navy. The parties have also agreed to partner with each other in the area of permanent magnet motors.

Speaking on the occasion, Chairman Kalyani Group, Baba Kalyani said, "We have been relentlessly working towards bringing niche technologies in the country with the aim of making India self-reliant in defence verticals. GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India."

"We look forward to working with Bharat Forge to meet the requirements of Indian Navy. Our Li-Ion battery system has been developed after 10 years of rigorous R&D. Instead of the usual 'fault prevention', our design philosophy is based on assuming a fault and requiring fault containment', which has made our system extremely safe and reliable," stated president of GA-EMS, Scott Forney. "We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms."



<b>Headline : Bharat Forge Signs a Memorandum of Understanding With General Atomics, USA</b>	<b>Publication: Aviation Defence Universe</b>
Date : October 19, 2022	Journalist:

<https://www.aviation-defence-universe.com/bharat-forge-signs-a-memorandum-of-understanding-with-general-atomics-usa/>

Bharat Forge Ltd., signed a Memorandum of Understanding (MOU) with General Atomics, US, a global leader in the research, design, and manufacture of a diverse portfolio of electromagnetic and advanced power and energy technologies. Under the terms of the MOU, Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion Battery System for naval platforms/submarines to address the requirements of Indian Navy. The parties have also agreed to partner with each other in the area of permanent magnet motors.

Speaking on the occasion, Baba Kalyani, Chairman Kalyani Group said, "We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals. GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India."

"We look forward to working with Bharat Forge to meet the requirements of Indian Navy. Our Li-Ion battery system has been developed after 10 years of rigorous R&D. Instead of the usual 'fault prevention', our design philosophy is based on assuming a fault and requiring fault containment', which has made our system extremely safe and reliable", stated Scott Forney, president of GA-EMS. "We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms."



<b>Headline : Bharat Forge signs MoU with General Atomics of the United States, for collaboration in Li-Ion battery system for Naval usage</b>	<b>Publication: India's Growing Military Power</b>
<b>Date : October 19, 2022</b>	<b>Journalist:</b>

<https://www.theigmp.org/2022/10/bharat-forge-signs-mou-with-general-atomics-of-united-states-for-collaboration-in-li-ion-battery-system-for-naval-usage.html>

Indian defence firm Bharat Forge Ltd on Wednesday said it has inked an agreement with American technology major General Atomics for collaboration in developing Lithium-Ion battery system for use by the Indian Navy. The pact was signed on the sidelines of the DefExpo in Gandhinagar in Gujarat.

Under the terms of the Memorandum of Understanding (MoU), Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion battery system for naval platforms for the Indian Navy.

Bharat Forge said the two sides have also agreed to partner in the area of permanent magnet motors.

Lithium-Ion battery systems are used in various naval platforms including submarines.

"We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals," said Baba Kalyani, Chairman Kalyani Group.

"General Atomics is a market leader for in-service Li-Ion battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make-in-India solutions for the Indian Navy and setting up a strong defence technology and manufacturing vertical within India," he said.

President of GA-EMS Scott Forney said his company is looking forward to working with Bharat Forge to meet the requirements of the Indian Navy.

"We are committed to working with companies like Bharat Forge, whose reputation for excellence



and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms," Forney said.



<b>Headline : Bharat Forge Signs MoU With General Atomics For Collaboration in Li-Ion Battery System</b>	<b>Publication: Bharat Shakti</b>
<b>Date : October 23, 2022</b>	<b>Journalist:</b>

Indian defence major Bharat Forge Ltd has signed a Memorandum of Understanding (MoU) with American technology major General Atomics for collaboration in developing a Lithium-Ion Battery System for use by the Indian Navy. The agreement was inked on the sidelines of the DefExpo in Gandhinagar on 19 October.

Under the terms of the MoU, Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate on a Lithium-Ion battery system for the naval platforms/submarines Program. Bharat Forge said the two sides have also agreed to partner in the area of permanent magnet motors. Lithium-Ion battery systems are used in various naval platforms, including submarines.

“We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals,” said Baba Kalyani, Chairman of Kalyani Group.

“General Atomics is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines, and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for the Indian Navy and setting up a strong defence technology and manufacturing vertical within India,” he said.

President of General Atomics-EMS Scott Forney said his company is looking forward to working with Bharat Forge to meet the requirements of the Indian Navy. “We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms,” Forney said.

“Our Li-Ion battery system has been developed after ten years of rigorous R&D. Instead of the usual ‘fault prevention’, our design philosophy is based on assuming a fault and requiring fault containment’, which has made our system extremely safe and reliable”, said Forney.





<b>Headline : Bharat Forge inks pact with General Atomics for collaboration in Li-Ion battery system</b>	<b>Publication: Equity Bulls</b>
Date : October 23, 2022	Journalist:

<https://www.equitybulls.com/category.php?id=321524>

A non-binding Memorandum of Understanding ("MoU") had been entered into between the Company and General Atomics ("GA") (collectively "the Parties") on February 05, 2020 with an intent to initiate preliminary discussions and explore possible collaboration for possible projects.

On March 28, 2022, the MoU was amended to include collaboration towards, permanent magnet motors. Further, on October 18, 2022, an addendum to the MoU was executed to enable participation by the Parties towards a likely Request for Proposal ("RFP") for procurement of Li-Ion Batteries.

Shares of Bharat Forge Limited was last trading in BSE at Rs. 778.75 as compared to the previous close of Rs. 788.80. The total number of shares traded during the day was 20519 in over 1055 trades.

The stock hit an intraday high of Rs. 794.70 and intraday low of 772.95. The net turnover during the day was Rs. 16105743.00.





<b>Headline : Bharat Forge Signs a Memorandum of Understanding With General Atomics, USA</b>	<b>Publication: Mix Point</b>
Date : October 19, 2022	Journalist:

<https://mixpoint.in/press-release/2022/10/bharat-forge-signs-a-memorandum-of-understanding-with-general-atomics-usa/>

Bharat Forge Ltd., the world’s leading technology solutions provider and forging company signed a Memorandum of Understanding (MOU) with General Atomics, US, a global leader in the research, design, and manufacture of a diverse portfolio of electromagnetic and advanced power and energy technologies. Under the terms of the MOU, Bharat Forge and General Atomics’ Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion Battery System for naval platforms/submarines to address the requirements of Indian Navy. The parties have also agreed to partner with each other in the area of permanent magnet motors.

Speaking on the occasion, Mr. Baba Kalyani, Chairman Kalyani Group said, “We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals. GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India.”

“We look forward to working with Bharat Forge to meet the requirements of Indian Navy. Our Li-Ion battery system has been developed after 10 years of rigorous R&D. Instead of the usual ‘fault prevention’, our design philosophy is based on assuming a fault and requiring fault containment’, which has made our system extremely safe and reliable”, stated Scott Forney, president of GA-EMS. “We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms.”

About Bharat Forge



Bharat Forge Limited (BFL) is the flagship company of the Kalyani Group and a global provider of high performance, innovative, safety & critical components and solutions to various industrial sectors including Automotive, Railways, Power, Construction & Mining, Defence, Aerospace, Marine and Oil & Gas. In its Defence profile, Bharat Forge has expertise in design, development, engineering and manufacturing in systems and sub-systems space for Artillery Guns, Armoured Fighting Vehicles, Protected Vehicles, Ammunition, Defence Electronics, Small Arms and Marine solutions.

#### About General Atomics

General Atomics pioneers state-of-the-art technologies and innovations across the full spectrum of science and technology. General Atomics' Electromagnetic Systems Group (GA-EMS) is a leader in the research, design, and manufacture of first-of-a-kind electromagnetic and electric power generation systems. GA-EMS Electromagnetic Aircraft Launch System (EMALS) and Advanced Arresting Gear (AAG) system are currently transforming how naval aircraft launch and land aboard US Ford-class carriers. In addition to EMALS and AAG, GA-EMS offers a portfolio of multi-mission systems, components, and integrated solutions for satellites, space systems, missile defense, power and energy, and processing and monitoring applications worldwide.



<b>Headline : India News   Bharat Forge Inks Pact with General Atomics for Collaboration in Li-Ion Battery System</b>	<b>Publication: Latestly</b>
Date : October 19, 2022	Journalist:

<https://www.latestly.com/agency-news/india-news-bharat-forge-inks-pact-with-general-atomics-for-collaboration-in-li-ion-battery-system-4352325.html>

Indian defence firm Bharat Forge Ltd on Wednesday said it has inked an agreement with American technology major General Atomics for collaboration in developing Lithium-Ion battery system for use by the Indian Navy.

The pact was signed on the sidelines of the DefExpo in Gandhinagar in Gujarat.

Under the terms of the Memorandum of Understanding (MoU), Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion battery system for naval platforms for the Indian Navy.

Bharat Forge said the two sides have also agreed to partner in the area of permanent magnet motors.

Lithium-Ion battery systems are used in various naval platforms including submarines.

"We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals," said Baba Kalyani, Chairman Kalyani Group.

"General Atomics is a market leader for in-service Li-Ion battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make-in-India solutions for the Indian Navy and setting up a strong defence technology and manufacturing vertical within India," he said.

President of GA-EMS Scott Forney said his company is looking forward to working with Bharat Forge to meet the requirements of the Indian Navy.

"We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms," Forney said.





<b>Headline : Bharat Forge signs pact with General Atomics for collaboration in Li-Ion battery system</b>	<b>Publication: PSU Watch</b>
Date : October 19, 2022	Journalist:

<https://psuwatch.com/bharat-forge-signs-pact-with-general-atomics-for-collaboration-in-li-ion-battery-system/>

Indian defence firm Bharat Forge Ltd signed an MoU with American tech General Atomics for developing Lithium-Ion battery system for the use of the Indian Navy on Wednesday. The pact was signed on the sidelines of DefExpo in Gandhinagar, Gujarat. As per the terms and conditions of the Memorandum of Understanding (MoU), Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate to build Lithium-ion battery system for naval platforms. The battery system will enhance the working of the Indian Navy. These Lithium-Ion battery systems are prominently used in various naval platforms, including submarines.

Bharat Forge said that both parties have agreed to partner in the area of permanent magnet motors.

“We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in [defence](#) verticals,” said Baba Kalyani, Chairman, Kalyani Group.

General Atomics comments on its potential partnership with Bharat Forge

“General Atomics is a market leader for in-service Li-Ion battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make-in-India solutions for the Indian Navy and setting up a strong defence technology and manufacturing vertical within India,” he said.

President of GA-EMS Scott Forney said his company is looking forward to working with Bharat Forge to meet the requirements of the Indian Navy.

“We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms,” Forney said.



<b>Headline : Bharat Forge Signs a Memorandum of Understanding with General Atomics, USA</b>	<b>Publication: Passionate Marketing</b>
Date : October 19, 2022	Journalist:

<https://www.passionateinmarketing.com/bharat-forge-signs-a-memorandum-of-understanding-with-general-atomics-usa/>

Bharat Forge Ltd., the world’s leading technology solutions provider and forging company signed a Memorandum of Understanding (MOU) with General Atomics, US, a global leader in the research, design, and manufacture of a diverse portfolio of electromagnetic and advanced power and energy technologies. Under the terms of the MOU, Bharat Forge and General Atomics’ Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion Battery System for naval platforms/submarines to address the requirements of Indian Navy. The parties have also agreed to partner with each other in the area of permanent magnet motors.

Speaking on the occasion, Mr. Baba Kalyani, Chairman Kalyani Group said, “We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals. GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India.”

“We look forward to working with Bharat Forge to meet the requirements of Indian Navy. Our Li-Ion battery system has been developed after 10 years of rigorous R&D. Instead of the usual ‘fault prevention’, our design philosophy is based on assuming a fault and requiring fault containment’, which has made our system extremely safe and reliable”, stated Scott Forney, president of GA-EMS. “We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms.”



<b>Headline : Bharat Forge inks pact with General Atomics for collaboration in Li-Ion battery system</b>	<b>Publication: News NCR</b>
Date : October 20, 2022	Journalist:

<https://www.newsncr.com/automobile/bharat-forge-inks-pact-with-general-atomics-for-collaboration-in-li-ion-battery-system/>

Indian defence agency Bharat Forge Ltd on Wednesday stated it has inked an settlement with American expertise main General Atomics for collaboration in growing Lithium-Ion battery system to be used by the Indian Navy. The pact was signed on the sidelines of the DefExpo in Gandhinagar in Gujarat.

Under the phrases of the Memorandum of Understanding (MoU), Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion battery system for naval platforms for the Indian Navy.

Bharat Forge stated the 2 sides have additionally agreed to associate within the space of everlasting magnet motors.

Lithium-Ion battery methods are utilized in varied naval platforms together with submarines.

“We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals,” stated Baba Kalyani, Chairman Kalyani Group.

“General Atomics is a market leader for in-service Li-Ion battery solutions for naval platforms/submarines and and our partnership with General Atomics is a firm step in the direction to develop Make-in-India solutions for the Indian Navy and setting up a strong defence technology and manufacturing vertical within India,” he stated.

President of GA-EMS Scott Forney stated his firm is wanting ahead to working with Bharat Forge to satisfy the necessities of the Indian Navy.



“We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms,” Forney stated.





Headline : Bharat Forge inks pact with General Atomics for collaboration in Li-Ion battery system	Publication: Infra Live
Date : October 20, 2022	Journalist:

<https://infralive.com/web/bharat-forge-inks-pact-with-general-atomics-for-collaboration-in-li-ion-battery-system/>

Indian defence firm [Bharat Forge Ltd](#) on Wednesday said it has inked an agreement with American technology major [General Atomics](#) for collaboration in developing Lithium-Ion battery system for use by the Indian Navy. The pact was signed on the sidelines of the DefExpo in Gandhinagar in Gujarat.

Under the terms of the Memorandum of Understanding (MoU), [Bharat Forge](#) and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion battery system for naval platforms for the Indian Navy.

Bharat [Forge](#) said the two sides have also agreed to partner in the area of [permanent magnet](#) motors.

Lithium-Ion battery systems are used in various naval platforms including submarines.

"We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals," said Baba Kalyani, Chairman Kalyani Group.

"General Atomics is a market leader for in-service Li-Ion battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make-in-India solutions for the Indian Navy and setting up a strong defence technology and manufacturing vertical within India," he said.

President of GA-EMS Scott [Forney](#) said his company is looking forward to working with Bharat Forge to meet the requirements of the Indian Navy.

"We are committed to working with companies like Bharat Forge, whose reputation for excellence



and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms," Forney said.



<b>Headline : Bharat Forge inks pact with General Atomic</b>	<b>Publication: MoneyWorks4Me</b>
Date : October 20, 2022	Journalist:

<https://www.moneyworks4me.com/company/news/index/id/517791>

Bharat Forge has inked an agreement with American technology major General Atomic for collaboration in developing Lithium-Ion battery system for use by the Indian Navy. Under the terms of the Memorandum of Understanding (MoU), Bharat Forge and General Atomic's Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion battery system for naval platforms for the Indian Navy. The two sides have also agreed to partner in the area of permanent magnet motors.

Bharat Forge is engaged in manufacturing of close die and open die forging, crankshafts, front axle beams, steering knuckle, connecting rods, rocker arm and many more components.



<b>Headline : Kalyani Group's Mounting Artillery Gun System 8X8 HMTV unveiled by Defence Research and Development Organisation (DRDO).</b>	<b>Publication: Punekar News</b>
<b>Date : October 21, 2022</b>	<b>Journalist:</b>

<https://www.punekarnews.in/kalyani-groups-mounting-artillery-gun-system-8x8-hmv-unveiled-by-defence-research-and-development-organisation-drdo/>

Kalyani Group's MGS 8X8 HMTV was unveiled today by Dr. Samir V Kamat, Secretary R&D and Chairman Defence Research and Development Organization (DRDO) at the Defence Expo 2022.

The MGS 8x8 is a 155mm/52cal Mounted Artillery Gun System, the only artillery gun in the world with the capability of firing from Zone 1 to Zone 7. With a diverse operating temperature range and capability to fire in extreme diverse weather conditions of – 4 to 45 degrees.

The gun comes equipped with quick shoot and scoot capability with a high degree of accuracy and consistency. The 8x8 has a high chamber volume of 25 litres, with future provision of up gunning.

#### Key Modern Features of the MGS 8X8

- Auto loading and positioning system
- Automatic Ammunition Handling system
- Auto Laying
- Safety interlocks and redundancy systems
- All Electric drives ensuring least maintainability and failures
- Muzzle Velocity Radar



<b>Headline : KALYANI GROUP'S MOUNTING ARTILLERY GUN SYSTEM 8X8 HMV UNVEILED BY DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION (DRDO)</b>	<b>Publication: Pune Prahar</b>
<b>Date : October 22, 2022</b>	<b>Journalist: -</b>

<https://www.puneprahar.com/?p=39359>

**KALYANI GROUP'S MOUNTING ARTILLERY GUN SYSTEM 8X8 HMV UNVEILED BY DEFENCE RESEARCH AND DEVELOPMENT ORGANISATION (DRDO)**

By Sunil Kumar - 22/10/2022



Kalyani Group's MGS 8X8 HMV was unveiled today by Dr. Samir V Kamat, Secretary R&D and Chairman Defence Research and Development Organization (DRDO) at the Defence Expo 2022.

The MGS 8x8 is a 155mm/52cal Mounted Artillery Gun System, the only artillery gun in the world with the capability of firing from Zone 1 to Zone 7. With a diverse operating temperature range and capability to fire in extreme diverse weather conditions of – 4 to 45 degrees.

The gun comes equipped with quick shoot and scoot capability with a high degree of accuracy and consistency. The 8x8 has a high chamber volume of 25 litres, with future provision of up gunning.

Key Modern Features of the MGS 8X8

Auto loading and positioning system

Automatic Ammunition Handling system



Auto Laying

Safety interlocks and redundancy systems

All Electric drives ensuring least maintainability and failures

Muzzle Velocity Radar



<b>Headline : Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled by Defence Research and Development Organisation (DRDO)</b>	<b>Publication: India Strategic</b>
Date : October 21, 2022	Journalist:

<https://indiastrategic.net/kalyani-groups-mounting-artillery-gun-system-8x8-hmv-unveiled-by-defence-research-and-development-organisation-drdo/>

Kalyani Group's MGS 8X8 HMV was unveiled on October 21 by Dr. Samir V Kamat, Secretary R&D and Chairman Defence Research and Development Organization (DRDO) at the Defence Expo 2022.

The MGS 8x8 is a 155mm/52cal Mounted Artillery Gun System, the only artillery gun in the world with the capability of firing from Zone 1 to Zone 7. With a diverse operating temperature range and capability to fire in extreme diverse weather conditions of – 4 to 45 degrees.

The gun comes equipped with quick shoot and scoot capability with a high degree of accuracy and consistency. The 8x8 has a high chamber volume of 25 litres, with future provision of up gunning.

Key Modern Features of the MGS 8X8

Auto loading and positioning system

Automatic Ammunition Handling system

Auto Laying

Safety interlocks and redundancy systems

All Electric drives ensuring least maintainability and failures

Muzzle Velocity Radar



<b>Headline : Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled by Defence Research and Development Organisation (DRDO)</b>	<b>Publication: News Patrolling</b>
<b>Date : October 21, 2022</b>	<b>Journalist:</b>

<https://newspatrolling.com/kalyani-groups-mounting-artillery-gun-system-8x8-hmv-unveiled-by-defence-research-and-development-organisation-drdo/>

Kalyani Group's MGS 8X8 HMV was unveiled today by Dr. Samir V Kamat, Secretary R&D and Chairman Defence Research and Development Organization (DRDO) at the Defence Expo 2022.

The MGS 8x8 is a 155mm/52cal Mounted Artillery Gun System, the only artillery gun in the world with the capability of firing from Zone 1 to Zone 7. With a diverse operating temperature range and capability to fire in extreme diverse weather conditions of – 4 to 45 degrees.

The gun comes equipped with quick shoot and scoot capability with a high degree of accuracy and consistency. The 8x8 has a high chamber volume of 25 litres, with future provision of up gunning.

#### Key Modern Features of the MGS 8X8

- Auto loading and positioning system
- Automatic Ammunition Handling system
- Auto Laying
- Safety interlocks and redundancy systems
- All Electric drives ensuring least maintainability and failures
- Muzzle Velocity Radar





**Headline : Kalyani Group's Mounting Artillery Gun System 8X8 HMV Unveiled by DRDO**

**Publication: Raksha Anirveda**

**Date : October 21, 2022**

**Journalist:**

<https://raksha-anirveda.com/kalyani-groups-mounting-artillery-gun-system-8x8-hmv-unveiled-by-drdo/>



Gandhinagar. Kalyani Group's MGS 8X8 HMV was unveiled today by Dr. Samir V Kamat, Secretary R&D and Chairman Defence Research and Development Organization (DRDO) at the Defence Expo 2022.



Kalyani Group's MGS 8X8 HMV was unveiled today by Dr. Samir V Kamat, Secretary R&D and Chairman Defence Research and Development Organization (DRDO) at the Defence Expo 2022.



The MGS 8x8 is a 155mm/52cal Mounted Artillery Gun System, the only artillery gun in the world with the capability of firing from Zone 1 to Zone 7. With a diverse operating temperature range and capability to fire in extreme diverse weather conditions of – 4 to 45 degrees.

The gun comes equipped with quick shoot and scoot capability with a high degree of accuracy and consistency. The 8x8 has a high chamber volume of 25 litres, with future provision of up gunning.

#### Key Modern Features of the MGS 8X8

- Auto loading and positioning system
- Automatic Ammunition Handling system
- Auto Laying
- Safety interlocks and redundancy systems
- All Electric drives ensuring least maintainability and failures
- Muzzle Velocity Radar



Headline : Artillery gun of Kalyani Group at Gujarat expo	Publication: Times of India
Date : October 21, 2022	Journalist:

<https://timesofindia.indiatimes.com/city/pune/artillery-gun-of-kalyani-group-at-gujarat-expo/articleshow/95023323.cms>

The Kalyani Group announced that its mounting artillery gun system 8x8 high mobility vehicle was unveiled at the ongoing Defence Expo 2022 in Ahmedabad by Samir Kamat, chairman of Defence Research and Development Organisation on Friday. The group's chairman, [Baba Kalyani](#), was present. The Kalyani Group also said in a statement that the MGS 8x8 is the only artillery gun in the world capable of firing from zones one to seven, and can operate in varied conditions, ranging from -4 to 45 degrees celsius.



<b>Headline : Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled by Defence Research and Development Organisation (DRDO).</b>	<b>Publication: Aviation Defence Universe</b>
Date : October 21, 2022	Journalist:

<https://www.aviation-defence-universe.com/kalyani-groups-mounting-artillery-gun-system-8x8-hmv-unveiled-by-defence-research-and-development-organisation-drdo/>

Kalyani Group's MGS 8X8 HMV was unveiled today by Dr. Samir V Kamat, Secretary R&D and Chairman Defence Research and Development Organization (DRDO) at the Defence Expo 2022.

The MGS 8x8 is a 155mm/52cal Mounted Artillery Gun System, the only artillery gun in the world with the capability of firing from Zone 1 to Zone 7. With a diverse operating temperature range and capability to fire in extreme diverse weather conditions of – 4 to 45 degrees.

The gun comes equipped with quick shoot and scoot capability with a high degree of accuracy and consistency. The 8x8 has a high chamber volume of 25 litres, with future provision of up gunning.

Key Modern Features of the MGS 8X8:

Auto loading and positioning system

Automatic Ammunition Handling system

Auto Laying

Safety interlocks and redundancy systems

All Electric drives ensuring least maintainability and failures

Muzzle Velocity Radar



**Headline : Kalyani unveils 8x8 IFV based on Turkish Arma 8x8 WhAP at DefExpo 2022**

**Publication: India's Growing Military Power**

Date : October 21, 2022

Journalist:

<https://www.theigmp.org/2022/10/kalyani-unveils-8x8-ifv-based-on-turkish-arma-8x8-whap-at-defexpo-2022.html>

The Kalyani Strategic Systems Limited (KSSL) has unveiled its latest 8x8 Infantry Fighting Vehicle (IFV) at the Defence Expo 2022 which looks exactly like the Arma 8x8 Armored Fighting Vehicle of the Turkish firm Otokar and there is a possibility that it has been jointly offered by the company to the Indian Army.

It is fitted with an Effer unmanned weapon station that is armed with a 30 millimeters automatic cannon and a 7.62 millimeters coaxial machine gun.

It has a maximum road speed of 105 kilometers per hour and a maximum cruising range of 700 kilometers.

Kalyani Strategic Systems Limited (KSSL) also showcased the 155 millimeters/52 caliber ATAGS Truck Mounted Howitzer and the Thermostat Hybrid Modular Infantry system which has been jointly offered to the Indian Army that is built by the Estonian company Milram Robotics.



<b>Headline : <u>Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled by Defence Research and Development Organisation (DRDO)</u></b>	<b>Publication: APN News</b>
<b>Date : October 21, 2022</b>	<b>Journalist:</b>

<https://www.apnnews.com/kalyani-groups-mounting-artillery-gun-system-8x8-hmv-unveiled-by-defence-research-and-development-organisation-drdo/>

Kalyani Group's MGS 8X8 HMV was unveiled today by Dr. Samir V Kamat, Secretary R&D and Chairman Defence Research and Development Organization (DRDO) at the Defence Expo 2022.

The MGS 8x8 is a 155mm/52cal Mounted Artillery Gun System, the only artillery gun in the world with the capability of firing from Zone 1 to Zone 7. With a diverse operating temperature range and capability to fire in extreme diverse weather conditions of - 4 to 45 degrees.

The gun comes equipped with quick shoot and scoot capability with a high degree of accuracy and consistency. The 8x8 has a high chamber volume of 25 litres, with future provision of up gunning.

Key Modern Features of the MGS 8X8  
Auto loading and positioning system  
Automatic Ammunition Handling system  
Auto Laying  
Safety interlocks and redundancy systems  
All Electric drives ensuring least maintainability and failures  
Muzzle Velocity Radar



Kalyani Group's MGS 8X8 HMV was unveiled today by Dr. Samir V Kamat, Secretary R&D and Chairman Defence Research and Development Organization (DRDO) at the Defence Expo 2022.

The MGS 8x8 is a 155mm/52cal Mounted Artillery Gun System, the only artillery gun in the world with the capability of firing from Zone 1 to Zone 7. With a diverse operating temperature range and capability to fire in extreme diverse weather conditions of - 4 to 45 degrees.



The gun comes equipped with quick shoot and scoot capability with a high degree of accuracy and consistency. The 8x8 has a high chamber volume of 25 litres, with future provision of up gunning.

Key Modern Features of the MGS 8X8

Auto loading and positioning system

Automatic Ammunition Handling system

Auto Laying

Safety interlocks and redundancy systems

All Electric drives ensuring least maintainability and failures





Headline : Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled by Defence Research and Development Organisation (DRDO)

Publication: Success Insight

Date : October 21, 2022

Journalist:

<https://successinsightsindia.com/kalyani-groups-mounting-artillery-gun-system-8x8-hmv-unveiled-by-defence-research-and-development-organisation-drdo/>

**SUCCESS**   
**Insights India**  
THE SAILOR FOR ENTERPRISE SOLUTIONS

Typing your web address  
is **OLD** now, use **QR codes**

[Home](#) [About Us](#) [News](#) [Industry Exp](#)



Kalyani Group's MGS 8X8 HMV was unveiled today by Dr. Samir V Kamat, Secretary R&D and Chairman Defence Research and Development Organization (DRDO) at the Defence Expo 2022.

The MGS 8x8 is a 155mm/52cal Mounted Artillery Gun System, the only artillery gun in the world with the capability of firing from Zone 1 to Zone 7. With a diverse operating temperature range and capability to fire in extreme diverse weather conditions of – 4 to 45 degrees.

The gun comes equipped with quick shoot and scoot capability with a high degree of accuracy and consistency. The 8x8 has a high chamber volume of 25 litres, with future provision of up gunning.

Key Modern Features of the MGS 8X8

Auto loading and positioning system

Automatic Ammunition Handling system





Auto Laying

Safety interlocks and redundancy systems

All Electric drives ensuring least maintainability and failures



<b>Headline : <u>Kalyani Group's Mounting Artillery Gun System 8X8 HMTV unveiled by Defence Research and Development Organisation (DRDO)</u></b>	<b>Publication: Pelikken</b>
<b>Date : October 26, 2022</b>	<b>Journalist:</b>

<https://pelikken.com/single/news/12948>

Kalyani Group's MGS 8X8 HMTV was unveiled today by Dr. Samir V Kamat, Secretary R&D and Chairman Defence Research and Development Organization (DRDO) at the Defence Expo 2022.

The MGS 8x8 is a 155mm/52cal Mounted Artillery Gun System, the only artillery gun in the world with the capability of firing from Zone 1 to Zone 7. With a diverse operating temperature range and capability to fire in extreme diverse weather conditions of – 4 to 45 degrees.

The gun comes equipped with quick shoot and scoot capability with a high degree of accuracy and consistency. The 8x8 has a high chamber volume of 25 litres, with future provision of up gunning.

Key Modern Features of the MGS 8X8

Auto loading and positioning system

Automatic Ammunition Handling system

Auto Laying

Safety interlocks and redundancy systems

All Electric drives ensuring least maintainability and failures



<b>Headline : <u>Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled</u></b>	<b>Publication: Indian Defence Industries</b>
Date : October 22, 2022	Journalist:

<https://indiandefenceindustries.in/kalyani-unviels-8x8-gun>

Kalyani Group's MGS 8X8 HMV was unveiled today by Dr. Samir V Kamat, Secretary R&D and Chairman Defence Research and Development Organization (DRDO) at the Defence Expo 2022.

The MGS 8x8 is a 155mm/52cal Mounted Artillery Gun System, the only artillery gun in the world with the capability of firing from Zone 1 to Zone 7. With a diverse operating temperature range and capability to fire in extreme diverse weather conditions of – 4 to 45 degrees.

The gun comes equipped with quick shoot and scoot capability with a high degree of accuracy and consistency. The 8x8 has a high chamber volume of 25 litres, with future provision of up gunning.

Key Modern Features of the MGS 8X8

Auto loading and positioning system

Automatic Ammunition Handling system

Auto Laying

Safety interlocks and redundancy systems

All Electric drives ensuring least maintainability and failures



## Defence Expo Special Mentions

<b>Headline : Def Expo 2022:</b> डिफेंस एक्सपो में दिखी स्वदेशी एम-4 कॉम्बेट व्हीकल, पूर्वी लद्दाख में की गई है तैनाती	<b>Publication:</b> ABP Live
Date : October 20, 2022	Journalist: Neeraj Rajput

<https://www.abplive.com/news/india/defence-expo-2022-in-gujrat-indian-army-showed-m4-combat-vehicle-which-is-used-against-china-in-eastern-ladakh-ann-2242388>

गुजरात की राजधानी गांधीनगर में चल रहे डिफेंस एक्सपो- 2022 में जो सबसे ज्यादा दिखाई पड़ती हैं वो हैं कॉम्बेट व्हीकल. चीन से सटी एलएसी (LAC) पर सैनिकों के फास्ट मूवमेंट के लिए ये इंपेंट्री कॉम्बेट व्हीकल प्रदर्शनी में लाई गई. ऐसी ही एक स्वदेशी कॉम्बेट व्हीकल है, जिसे कि एम-4 जिसे हाल ही में भारतीय सेना ने स्वदेशी कंपनी से खरीदकर पूर्वी लद्दाख में तैनात किया है.

हाल ही में भारतीय सेना की उत्तरी कमान ने फास्ट-ट्रेक प्रक्रिया के जरिए स्वदेशी प्राइवेट एम-4 इंपेंट्री कॉम्बेट व्हीकल (ICV) खरीदी है. एलएसी पर चीन के साथ हुए टकराव के दौरान भारतीय सेना को लद्दाख के हाई ऑल्टिट्यूड यानी उंचाई वाले इलाकों में मूवमेंट में काफी मुश्किलों का सामना करना पड़ा था. चीन की पीएलए सेना अपने हमवी व्हीकल्स में बहुत तेजी से मूवमेंट करती है, जबकि भारतीय सैनिक अपनी जिप्सी या फिर बीएमपी व्हीकल में करते थे, लेकिन इनमें हाई ऑल्टिट्यूड एरिया में मूवमेंट करने में थोड़ी परेशानी का सामना करना पड़ता था. ऐसे में भारतीय सेना ने स्वदेशी कंपनियों से हमवी स्टाइल की आईसीवी बनाने पर जोर दिया.

आईसीवी व्यों खरीदा?  
यही वजह है कि जिप्सी और बीएमपी के बजाए सेना ने कल्याणी ग्रुप से एम-4 और टाटा की नई आईसीवी खरीदी है. इस एम-4 में 9-10 सैनिक आराम से अपने हथियारों के साथ बैठ सकते हैं. बैठने के साथ साथ इसमें अपनी गन के साथ पोजिशन भी ले सकते हैं. इसके अलावा इस कॉम्बेट व्हीकल में एटीजीएम यानी एंटी टैंक गाइडेड मिसाइल भी लग सकती है ताकि दुश्मन के टैंकों को नेस्तानबूत किया जा सके. इस कॉम्बेट व्हीकल के टायर देखकर आप दंग रह जाएंगे. इसके टायर ट्रक से भी बड़े और दमदार हैं ताकि उंचाई और उबड़-खाबड़ इलाकों में चलने में कोई दिक्कत ना आए.

एम-4 व्हीकल को किसने तैयार किया?  
एम-4 व्हीकल को कल्याणी ग्रुप ने तैयार किया है. कई दशकों से कल्याणी ग्रुप रक्षा-क्षेत्र में है, लेकिन हाल के सालों में प्राइवेट इंडस्ट्री को सेना के लिए हथियार बनाने के लिए प्रेरित किया जा रहा है. इसी का नतीजा है कि कल्याणी ग्रुप ने



एम-4 बनाने के साथ साथ डीआरडीओ की तैयार की हुई अटैग्स यानी एंडवास टोड आर्टलरी गन सिस्टम का मास-प्रोडक्शन कर रही है. इस तोप को सेना के लिए कल्याणी ग्रुप और टाटा ग्रुप दोनों ही तैयार कर रही है. इसी अटैग्स गन से पहली बार स्वतंत्रता दिवस के मौके पर लाल किले से तोप की सलामी दी गई थी.

हथियार सप्लाई करने की तैयारी कल्याणी ग्रुप के संस्थापक और चैयरमैन बाबा कल्याणी ने एबीपी न्यूज से खास बातचीत में बताया कि उनकी कंपनी आर्मर्ड व्हीकल और तोप बनाने पर खासा जोर दे रही है. इसके अलावा स्मॉल-आर्म्स यानी गन और ड्रोन बनाने में उनका ग्रुप और उसकी सबसेडरी कंपनी, भारत-फोर्ज जुटा हुआ है. बाबा कल्याणी के मुताबिक अपने देश के सैनिकों को स्वदेशी हथियारों से लैस करने के साथ साथ अब वे प्रधानमंत्री [नरेंद्र मोदी](#) के मेक फॉर वर्ल्ड के आहवान पर दुनिया को भी हथियार सप्लाई करने की तैयारी कर रहे हैं.



Headline : How atmanirbhar is India when it comes to defence?	Publication: Business Standard
Date : October 21, 2022	Journalist:

[https://www.business-standard.com/podcast/current-affairs/how-atmanirbhar-is-india-when-it-comes-to-defence-122102100234\\_1.html](https://www.business-standard.com/podcast/current-affairs/how-atmanirbhar-is-india-when-it-comes-to-defence-122102100234_1.html)

India is showcasing its metal at the ongoing [Defence Expo](#) in Gandhinagar. It is the first such event where only made-in-India equipment are on display. In line with the Aatmanirbhar theme, Prime Minister Narendra Modi inaugurated the event by highlighting that India had achieved Rs 13,000 crore in defence exports in FY22.

The 155 millimetre, 52 calibre Advanced Towed Artillery Gun System, or ATAGS, which the [DRDO](#) is developing in partnership with the Tata and **Kalyani** groups, has become an indigenisation milestone.

Now, the [DRDO](#) has produced an offshoot of the ATAGS, called the Mounted Gun System, or MGS. The new weapons system is a prominent part of the India Pavilion and the [DRDO](#) display, which is the DefExpo 22's centrepiece, owing to the 'Aatmanirbhar Bharat' emphasis.

The Mounted Gun System is made up of the ATAGS gun mounted onto a wheeled tractor, from where it can be fired without lengthy preparations. Bringing the MGS into action takes just 80 seconds, leaving the enemy with little time to react. Bringing it out of action also takes 85 seconds - a god-sent when the enemy brings down counter fire. The Indian Army's artillery plan calls for the purchase of 814 MGSs. And, the DRDO is confident about the superiority of its system, because of its high accuracy and performance in deserts and high-altitude areas.

The next example of successful indigenisation is the DRDO-developed Wheeled Armoured Platform, or WhaP. It will be the basis for a family of mobile, protected multi-purpose vehicles. They will also be able to serve as command posts or conduct reconnaissance, even in chemical, biological, radiological and nuclear battlefields.



The amphibious and highly mobile 8x8 wheeled vehicle will be armed with a 30 mm cannon and an upgraded, Made in India sighting system. Private player Larsen & Toubro is working with DRDO as a 'design cum production partner' for this project.

Another Made in India weapon system that may be headed for success is DRDO's 25-tonne light tank, meant for mountain border areas, jungles, narrow roads and bridges. The 2020 Chinese encroachment across the Line of Actual Control galvanised the DRDO into resuming work on the tank under Project Zorawar, named after the legendary Sikh general who took his armies deep into Tibet. By November 2024, the DRDO is scheduled to finish trials and begin delivery to the army.

The Expo has more than 1,300 exhibitors from the [Indian defence](#) industry, along with some joint ventures with foreign original equipment manufacturers.

More than a 100 startups are also making their presence felt. PM Modi said that the expo would also see the signing of more than 400 Memoranda of Understanding, a record.

The data, too, supports that progress had been made in indigenisation.

A Business Standard analysis of defence capital allocations in the Union Budgets shows that spending, after adjusting for inflation, has grown at a compounded rate of around 7% between FY12 and FY23.

But what shows a discernible shift towards indigenisation is that while domestic rupee-denominated spending has grown at 8.2% a year on average over the 11-year period, imports have grown at just 1.2%.

In the base year of FY12, India imported \$5.7 billion worth of defence equipment. In 2022-23, it intends to import \$6.5 billion. It does appear that the efforts to indigenise are slowly making an impact.

But, while a certain measure of success has been achieved in developing key weapons platforms, crucial gaps still remain.



.  
Experts believe that developing indigenous aero-engines is a strategic necessity, given the proliferation of unmanned aerial vehicles and low-cost cruise missiles, and the restrictions placed by foreign governments on the export of their engines and components.

.  
Indigenising gas turbine engines can save the Ministry of Defence Rs 3 trillion in the next 20 years.

.  
But due to a trust deficit and the absence of inclusive policies for involving qualified and globally certified private players, aero engine research and development remains a monopoly of the public sector.

.  
Further, the lack of testing infrastructure in India, for instance, caused a delay of six years in the development of the Kaveri engine that was originally meant for the Tejas light combat aircraft.

.  
The engine was however deemed unfit for Tejas as it could not attain the peak thrust required for the fighter jet during flight testing in Russia. At present, India continues to search for foreign partners to co-develop heavier combat jet engines.

.  
Also, be it artillery guns or India's ambitious stealth combat aircraft, there's one last crucial factor that could make or break these projects..

At DefExpo 2022, Prime Minister Narendra Modi set a target of 40,000 crore rupees in annual defence exports, representing a near three-fold jump from 13,000 crore rupees in FY22. While deals like this year's sale of BrahMos missiles to the Philippines stand out as examples of India's success in this regard, meeting the PM's ambitious goals will require a quantum leap in India's weapons making capabilities.





<b>Headline : A big step towards self-reliance in defense with a new tank, gun system, and more</b>	<b>Publication: Business Insider</b>
Date : October 21, 2022	Journalist:

<https://www.businessinsider.in/defense/news/defense-expo-2022-a-big-step-towards-self-reliance-in-defense-with-a-new-tank-gun-system-and-more/articleshow/95006121.cms>

The Defence Expo 2022 was inaugurated by Prime Minister Narendra Modi on 19 October at Mahatma Gandhi Convention and Exhibition Centre in Gandhinagar. This 12th edition of the event had been organized on the theme 'Path to Pride'.

Speaking at the event, PM Modi said that the Defence Expo is introducing Indian defense manufacturing capabilities to the world. Further, he added, India was globally known only as one of the biggest defense importers, now, India is exporting defense equipment and products to more than 75 countries worldwide.

In the last five years, Indian defense exports have grown eight times and stood at USD 1.59 billion (United States dollar) in 2021-2022. According to the Prime Minister, the country now aims to increase defense exports to 5 billion USDs in the near future.

With 1,300 defense companies and representatives from over 50 countries, the Defence Expo 2022 is said to be the largest expo held in the country.

During the Defence Expo 2022, 451 Memorandums of Understanding (MoUs) and agreements worth ₹1.53 lakh crore were signed.

Here are some products showcased at the defense expo 2022.

**Mounted Gun System (MGS)**

DRDO is developing an Advanced Towed Artillery Gun System 155mm/ 52 cal (ATAGS) in



partnership with the Tata and Kalyani group.

In a Mounted Gun System (MGS), the entire gun is mounted onto a wheeled tractor, from where it can be fired without any dismounting or lengthy preparation. MGS can be brought into action in just 80 seconds. The MGS weighs 15 tonnes, and the KolosTatra tractor weighs 15 tonnes.

MGS has cleared tests in deserts and high-altitude areas where it displayed accuracy and consistency.

The light tank

After the encroachment of the Chinese army across the Line of Actual Control, DRDO was pushed to resume working on a much-debated project, the development of a 25-tonne light tank that would be mobile enough for India's high mountain border areas, jungle terrain and narrow roads and bridges.

The tank has high-grade armor protecting STANAG level 4 and a high-pressure tank gun (105mm or 120mm).

Wheeled Armoured Platform (WhaP)

This multi-purpose vehicle is developed by DRDO and can handle chemical, biological, radiological, and nuclear attacks. This vehicle can also be used as a lightly armored ambulance. It is 8x8 wheeled and will weigh around 24.5 tonnes. Also, it will be amphibious, meaning capable of floating. Under the hood, the vehicle will have a 600HP Cummins engine coupled with an Allison transmission.

Trainer Aircraft HTT-40

PM Modi unveiled HTT-40, an indigenous trainer aircraft designed and developed by Hindustan Aeronautics Limited. The aircraft has been designed with pilot-friendly features, with over 60 percent in-house parts and collaboration with private industry.

The HTT-40 will be used for basic flight training, aerobatics, instrument flying, and close formation flights, including night flying.



The HTT-40 has completed all tests, including hot weather, and cross-wind trials.

### Ballbot

The Ballbot is an ideal solution for surveillance, reconnaissance, and patrolling. It has a modular chassis and sensors that can be reconfigured per specific requirements. The Ballbot can be used for counter-intelligence and counter-terrorism as it will provide a remote eye on the ground.

### EyeRov Tuna

The EyeRov Tuna is fitted with a camera that sends live video feeds of the underwater environment. It can inspect railway bridge piers, ship hulls, dams, and port structures.



<b>Headline : China threat in mind, Army buys more M4 armoured vehicles with anti-tank missiles</b>	<b>Publication: The Print</b>
Date : October 19, 2022	Journalist: Snehesh Alex Philip

<https://theprint.in/defence/china-threat-in-mind-army-buys-more-m4-armoured-vehicles-with-anti-tank-missiles/1176158/>

Keeping in mind the ongoing tension with China in Eastern Ladakh, the Army has ordered more M4 armoured vehicles from Pune-based defence company Bharat Forge of the Kalyani Group, ThePrint has learnt.

Sources in the defence establishment said some of these vehicles are now being integrated with the Israeli Spike anti-tank guided missile (ATGM) since the Chinese have deployed heavy armour in the mountains.

They added that the Kalyani Group has already delivered about 60 of these vehicles to the Army, including a batch of 30 for the UN Peacekeeping Force.

Sources said while the initial order for these vehicles in February [last year](#) was for less than 30, additional orders were soon placed.

They didn't divulge the exact numbers but said the orders were being completed in batches with modifications depending on how they were performing under the Northern Command.

Besides the ATGM, the Army is also looking at the possibility of increasing the calibre of the 7.62 mm gun on board to a 20 mm one with an automatic turret.

The Army is in need of wheeled armoured vehicles that can transport troops faster and are capable of operating in high-altitude regions.

The M4, a product of the South African defence major Paramount Group, is a multi-role platform designed to meet the requirements of the armed forces for quick mobility in rough terrain and in areas affected by mine and improvised explosive device (IED) threats.



It has ballistic and blast protection against TNT side blasts of up to 50 kg, IEDs and roadside bombs due to its design built on a flat-floor monocoque hull. With a thrust speed of 140 km per hour, the vehicle has a payload of 2.3 tonnes and an operating range of about 800 km, as reported earlier.

The automatic transmission-enabled vehicle can carry 10 soldiers including the driver and has a cooling and heating system, making it ideal for both deserts and high altitudes.

Sources in the Kalyani Group said Bharat Forge has been able to carry out indigenisation of nearly 95 percent of the vehicles, with only 5 per cent being imported from outside.

While its plant in Pune currently has the capacity to build 40 vehicles per year, the firm plans to ramp it up to 100 soon, added the sources.

<b>Headline : TATA's WhAP to face competition from three Indian companies</b>	<b>Publication: IDRW</b>
Date : October 21, 2022	Journalist:

<https://idrw.org/tatas-whap-to-face-competition-from-three-indian-companies/>

TATA-DRDO developed WhAP 8 x 8 Amphibious Wheeled Armoured Vehicle that was inducted into the Indian Army earlier this year in limited numbers will be facing serious competition from two more Indian Private sector companies that are planning to develop their 8 x 8 Amphibious Wheeled Armoured Vehicle in near future.

Larsen & Toubro showcased a scaled model of the Showcase 8x8 Wheeled Armoured Fighting Vehicle at DefExpo 2022 that is based on a new design but will use equipment and systems developed by the DRDO that has transferred some of the ToT to the Private sector company.

idrw.org was told by Larsen & Toubro officials that fabrication of the prototype already has begun and rollout of it will happen sometime in 2023 and it will be offered to Indian Army for internal



trials. Larsen & Toubro is eyeing lion's share of WhAP orders that it failed to corner, since Indian Army seems to be interested in more than one type of Amphibious Wheeled Armoured Vehicle for its requirement.

Mahindra Defence also has shown interest in the development of a Wheeled Armoured Vehicle for the Indian Army. It showcased models of 8x8 wheeled Light Tanks and 8x8 Wheeled Armoured vehicles. Mahindra Defence officials won't confirm a possible timeline for the prototype being developed and their collaboration partner in the program.

**Kalyani** also has proposed its own rebadged 8x8 Wheeled Armoured vehicle that will be based on the Terrex Infantry Carrier Vehicle (ICV) that has been developed by ST Engineering of Singapore and Timoney Technology of Ireland.

Both 8X8 systems will have the capability to fire ATGMs, they will be equipped with a 30 mm Gun, a 7.62 Coaxial Gun, and Smoke Grenade Launchers.



<b>Headline : One Artillery Gun per Day soon : Kalyani Group</b>	<b>Publication: IDRW</b>
Date : October 21, 2022	Journalist:

<https://idrw.org/one-artillery-gun-per-day-soon-kalyani-group/>

Pune-based defense major Kalyani Group Plans to soon open a new facility that will be able to manufacture one artillery gun per day making the company the biggest manufactures of different types of artillery guns in the world. Kalyani claims that the company is eyeing export orders as many countries have shown interest in the procurement of artillery guns developed by the company.

The new facility will be up and running in about three years as the present facility can manufacture only six guns in a month. Kalyani is the only company in India that had developed artillery guns from 105mm caliber to 155mm caliber and has been a developmental partner of the DRDO's ATAGS gun for which the company is expecting major orders.

Kalyani also wants to be the supplier of artillery barrels to different countries that have developed their artillery guns.



<b>Headline : Unmanned Rovers</b>	<b>Publication: Force</b>
Date : October 21, 2022	Journalist: Atul Chandra

<https://forceindia.net/cover-story/unmanned-rovers/>

The Indian Army is accelerating its efforts to catch-up with global militaries in Unmanned Ground Vehicles (UGV). It would appear that the rapid pace of progress with UGVs has largely passed the army by and it is now accelerating efforts to ensure that it is not left behind in a technology race.

Unmanned systems could deliver significant benefits. However, the DRDO which is tasked with undertaking cutting-edge defence research has proved unequal to the task of delivering the armed forces with UGVs of operational utility. This has resulted in an unmatched opportunity for Indian private sector defence industry and start-ups to deliver on the army's requirements for unmanned systems.

#### Forging Ahead

The army is already seized of the imperative of inducting UGVs into service and 'UGV Experiment-2021', an interaction organised by the Army Design Bureau (ADB) with firms developing such systems in December last year can be considered as a landmark event and highlighted the army's strong intent to induct autonomous military vehicle technology. The event was held at the Babina Field Firing Ranges December 9-13 and brought both the user and developers together on a single platforms to allow an exchange of ideas with the industry.

More than two dozen Indian firms showcased 35 UGVs of varying sizes and capabilities in systems for surveillance, tactical receive, intelligence, kinetic effect, and evacuation. This allowed army personnel present to gauge their effectiveness and suitability for military use. Amongst some of the UGVs for which the army has a requirement is one that can carry a load of 250-500kg and operate for a duration of 12 hours. In another significant achievement announced in late January, Tata Advanced Systems Limited (TASL) announced that it had conducted successful trials in Ladakh with its Wheeled Armoured Platform 8X8 (WhAP), which is an indigenously developed amphibious wheeled Infantry Combat Vehicle (Wheeled). The development of military vehicles of such capability (albeit manned) also augurs well for the development of smaller UGVs in the years to come.

#### Growing Indigenous Capabilities





Amongst the UGVs showcased to the army in December was the Enhanced Collaborative Autonomous Rover System (ECARS) which is available in 4X4 and 6X6 configurations. Developed by the Kalyani Group, the ECARS 6X6 is a multi-terrain vehicle and has a plethora of sensors for positioning, mapping, path planning & obstacle detection, allowing operation on all types of terrain. It can perform surveillance, security, safety and rescue missions and operate in temperatures ranging from -20 degree C to +50 degree C.

Growing Indian innovation is also on display with young start-ups such as Tamil Nadu based Torus Robotics which is working on UGVs, robotics and indigenous & disruptive power-train technologies. The company has already received recognition from Start-up India (DIPP 51485) and inked an MOU with Bharat Earth Movers Limited (BEML) at Aero India 2021 for development of Artificial Intelligence (AI) based UGVs.

The Chennai based company has designed, developed and delivered a fully electric, one tonne UGV, fitted with a six Degrees of Freedom (DOF) robotic arm for detection, identification and disposal of explosive ordnance and Improvised Explosive Devices (IED). The vehicle can be operated by its controller from a distance of one km and can also be used to explore hazardous areas. It can also be used to carry heavy loads at high altitudes. The company got in touch with the Army Design Bureau (ADB) towards the end of 2018 to understand the requirement for this type of UGV. Development of a prototype began in 2019 and was ready before the end of the year. With the support of the army and DRDO, Torus partnered with BEML to develop the AI based 750kg UGV. It will be used to carry heavy equipment at high altitudes and production could commence as early as 2023.

#### Team of Torus Robotics

Another Chennai based start-up, Combat Robotics, is developing the Arista Unmanned Ground Vehicle (UGV), which it terms as the world's first chassis-less UGV. The innovative platform features an integrated motor drive and a modular design which makes it portable and easily deployable. The Arista UGV offers high manoeuvrability in varied terrain and has a three hour endurance. Combat Robotics is also well advanced in the development of a smart spherical robot which has been selected for further development by the army.



The 2.5 year old company is developing 'TOTA' which is a smart technical throwable robot featuring AI-based vision with a thermal feed and two-way communication. It can be used as a surveillance and reconnaissance tool to help plan high-risk missions or even aid in searching and rescuing individuals in confined spaces. Combat Robotics is being supported by the Indian Army's College of Military Engineering and trials are also slated to take place at Pulwama. The company is now developing a real-time data transfer system, which can stream videos at low latency and is at a prototype stage.

#### DRDO Efforts on UGVs

The DRDO appears to be well behind the private sector in UGV offerings, despite having started work on them 15 years ago in 2007. It had identified four laboratories for UGV development: Centre for Artificial Intelligence & Robotics (CAIR), Bengaluru, Combat Vehicles Research & Development Establishment (CVRDE), Chennai, Research & Development Establishment Engineers (R&DE(E)), Pune and Vehicle Research & Development Establishment (VRDE), Ahmednagar. Development of tracked UGVs was the remit of CVRDE, while wheeled UGVs up to 5 tonne were to be taken by VRDE. R&DE would handle development of UGV between 1-3 tonne and micro/macro UGVs in the 5-50 kg weight category would be handled by CAIR.

CVRDE has scaled up to the development of a tele-operated modified BMP Nag Missile carrier (NAMICA) and subsequently took up the technology demonstrator project 'Conversion of BMP into Tele-operated and Autonomous vehicle', later named as Mission Unmanned Tracked (MUNTRA). CVRDE states that it has completed development of the MUNTRA series of tracked UGVs with three vehicles being completed and configured for Surveillance, NBC Reconnaissance and Mine Detection and Marking. The UGVs have successfully completed rigorous validation trials conducted in summer/winter conditions at the Mahajan Field Firing Ranges (MFFR), Rajasthan, few years ago.

VRDE, Ahmednagar has developed the CBRN Mini UGB which can traverse through confined areas and is a tracked platform with four flippers. It was designed to facilitate CBRN detection, digital marking of contaminated zones and soil/liquid sample collection using a robotic arm, thereby reducing the risk of exposing personnel. This Mini-UGV has stair climbing, water fording and ditch crossing capabilities. The hand-held operator control unit facilitates tele-operation of driving & payload operations using wireless communication link. It has an endurance of two hours and a wireless communication range of 500m in near Line of Sight (LoS) mode and 1,000m in LoS mode.





<b>Headline : Defexpo 2022: Bharat Forge showcases THeMIS and ECARS UGVs</b>	<b>Publication: Janes Defence Weekly</b>
Date : October 21, 2022	Journalist: Kapil Kajal

<https://www.janes.com/defence-news/news-detail/defexpo-2022-bharat-forge-showcases-themis-and-ecars-ugvs>

Bharat Forge Limited (BFL) has showcased the THeMIS unmanned ground vehicle (UGV) at Defexpo 2022, being held in Gandhinagar, Gujarat, from 18 to 22 October.

According to BFL, the company, in partnership with Estonia-based Milrem Robotics, has developed a tracked version of the THeMIS UGV for the Indian Army.

Milrem THeMIS is a multirole, modular UGV with an open architecture that enables it to be rapidly configured from transport to 'strike' (weaponised), ordnance disposal, or to support intelligence operations according to the nature of the mission.

The advantage of the THeMIS UGV is that it enables operations in situations that may be impossible, difficult, or dangerous for the soldier or operator, BFL said.

BFL added that the UGVs can provide the commander with valuable means to improve mission performance and ensure the probability of success, increasing force protection and survivability, while reducing logistical support and manning requirements.

The weight of the THeMIS UGV is 1,630 kg and the maximum payload is 1,200 kg. The pulling force of THeMIS is 21,000 N.

The maximum speed of the vehicle is 20 km/h. The maximum gradient is 31° and the maximum side slope is 17°.

The multiterrain hybrid diesel-electric drive THeMIS has a ground clearance of 200 mm.

Akshay Deewan, manager of BFL, told Janes that THeMIS can be used as a support vehicle to airlift, supply and resupply, and for casualty evacuation.

“THeMIS can be used to breach and bypass obstacles, for IED [improvised explosive device] mine detection and clearance, as a force multiplier, and for anti-tank operations. The vehicle can also be used as an observer,” Deewan added.





<b>Headline : Check Out 3 Standout DRDO Weapons!</b>	<b>Publication: Rediff</b>
Date : October 21, 2022	Journalist:

<https://www.rediff.com/news/report/check-out-3-standout-drdo-weapons/20221020.htm>

With the theme of 'Aatmanirbhar Bharat' (self-reliant India) underpinning India's premier defence exposition -- DefExpo 22 -- attention is focused on the India Pavilion and the sprawling presentation of the Defence Research and Development Organisation (DRDO).

Prominent in the DRDO's display are several artillery guns, armoured vehicles and tanks that underline a measure of success in developing these key weapons platforms for the army. Here are three systems that are headed for success.

#### Mounted Gun System

There has long been attention on the 155 millimetre (mm), 52 calibre (cal) Advanced Towed Artillery Gun System (ATAGS), which the DRDO is developing in partnership with the Tata and Kalyani groups.

Now, without fanfare, the DRDO has produced an offshoot of the ATAGS -- called the 155 mm/52 cal Mounted Gun System (MGS) -- which could become a battle winner that is central to the army's firepower menu.

The ATAGS is a conventional howitzer, which requires a wheeled tractor to tow it between firing positions. In the MGS, however, the entire gun is mounted onto a wheeled tractor, from where it can be fired without any dismounting or lengthy preparation.

Bringing the MGS into action takes just 80 seconds, while bringing it out of action takes 85 seconds.

The MGS weighs 15 tonnes and the Kolos Tatra tractor on which it is mounted weighs another 15 tonnes. The total weight of 30 tonnes can comfortably negotiate the 40-tonne bridges on most highways.

The MGS has a ready customer, since the Indian Army's artillery plan stipulates the purchase of 814 MGSs to beef up artillery firepower.



The DRDO wants the army to acquire MGS under the high-priority Chapter IV of the Defence Acquisition Procedure of 2020. This chapter gives the highest priority to: 'Procedure for acquisition of systems designed and developed by DRDO/DPSU/OFB'.

The DRDO's MGS faces competition from firms such as Bharat Forge and Tata Aerospace and Defence (A&D), which have also developed their own MGS. Only if the defence ministry categorises this acquisition in the Chapter IV category would the field be clear for the DRDO's version.

However, the DRDO is confident about the superiority of its MGS. It has successfully cleared tests in deserts and high-altitude areas, displaying high accuracy and consistency.

For when the enemy brings down counter fire, there is an armoured cabin (currently armour steel, to be developed into composite material) in which they can take shelter.

The light tank

The Chinese encroachment across the Line of Actual Control into Indian-claimed territory in April 2020 galvanised the DRDO into resuming work on a much debated project: Development of a 25-tonne light tank that would be mobile enough for India's high mountain border areas, for jungle terrain, and for areas with narrow roads and bridges.

While the DRDO completed its design work, the Directorate General of Armoured Corps (DGAC) finalised its Preliminary Staff Qualitative Requirements (PSQR), which detailed the precise specifications of the tank.

The DRDO was given the project in November 2021, with a deadline of three years. By November 2024, it is to finish trials and immediately begin delivery to the army.

The tank's key component -- the engine and transmission -- are to be bought off-the-shelf. Under evaluation are engines from MTU of Germany, Caterpillar and Cummins of the US. Transmissions will be chosen from Renk of Germany and British firm Allison.

Protection is modular, with bolt-on, retrofittable armour providing protection of STANAG level 4 in the tank's frontal 60-degree arc and STANAG 2 elsewhere. It will have a high-pressure tank gun (either 105 mm or 120 mm).



According to DRDO sources, this effort is named Project Zorawar, after the legendary Sikh general who took his armies deep into Tibet.

#### Wheeled Armoured Platform

The DRDO has developed the WhaP as a basic platform for a family of mobile, protected multi-purpose vehicles, including a command post vehicle, a reconnaissance vehicle for a chemical, biological, radiological and nuclear (CBRN) battlefield, for amphibious reconnaissance, or even use as a light, armoured ambulance.

It is to be 8x8 wheeled, not tracked, and weigh 19-27 tonnes. Up to a weight of 24.5 tonnes, it will be amphibious -- capable of floating.

With a hydrogas suspension, and a 600 HP Cummins engine coupled to an Allison transmission, the WhaP is to be highly mobile.

Protection is to be modular, with bolt-on, retrofittable panels that provide cover up to a level of STANAG 4. The floor can be reinforced to resist an improvised explosive device.

Wish lists prepared for various United Nations missions have been recycled into the WhaP.

The primary armament is to be a 30 mm cannon, mounted on a gun turret with an upgraded sighting system, which is being developed by the DRDO in partnership with Bharat Electronics Ltd.

The DRDO has chosen Larsen & Toubro as a 'design cum production partner'. That means L&T is active in the design process





<b>Headline : India tries to spool up artillery production, but bottlenecks remain</b>	<b>Publication: Shephard Media</b>
Date : October 21, 2022	Journalist:

<https://www.shephardmedia.com/news/landwarfareintl/india-tries-to-spool-up-artillery-production-but-bottlenecks-remain/>

India's Defence Research and Development Organisation (DRDO) unveiled the latest incarnation of its indigenously developed 155mm 52-calibre Mounted Gun System (MGS) at DefExpo 2022.

Mounted on a Tatra T815 8x8 truck possessing an armoured cab, the 15t MGS is a derivative of the 155mm [Advanced Towed Artillery Gun System](#), which the DRDO previously developed with Tata and Kalyani Group.

Army sources said it takes just 80 seconds to bring the MGS into action, and an equal amount of time to withdraw it.



<b>Headline : DRDO displays three “Make in India” successes in DefExpo 22</b>	<b>Publication: Broadsword</b>
---	--------------------------------

Date : October 21, 2022	Journalist: Ajai Shukla
-------------------------	-------------------------

<https://www.ajaiashukla.com/2022/10/drdo-displays-three-make-in-india.html>

With the theme of “Aatmanirbhar Bharat” (self-reliant India) underpinning India’s premier defence exposition – DefExpo 22 – attention is focused on the India Pavilion and a sprawling presentation by the Defence Research and Development Organisation (DRDO).

Prominent in the DRDO’s display are several artillery guns, armoured vehicles and tanks that underline a measure of success in developing these key weapons platforms for the army. Here are three systems that are headed for success.

Mounted gun system (MGS)

There has long been attention on the 155 millimetre (mm), 52 calibre (cal) Advanced Towed Artillery Gun System (ATAGS), which the DRDO is developing in partnership with the Tata and the Kalyani Groups. Now, without fanfare, the DRDO has produced an offshoot of the ATAGS – called the 155 mm/52 cal Mounted Gun (MGS) – which could become a battle-winner that is central to the army’s firepower menu.

The ATAGS is a conventional towed howitzer, which requires a wheeled tractor to tow it between firing positions. In the MGS, however, the entire gun is mounted onto a wheeled tractor, from where it can be fired without any dismounting or lengthy preparation. Bringing the MGS into action takes just 80 seconds, while bringing it out of action takes 85 seconds.

The MGS weighs 15 tonnes and the Kolos Tatra tractor on which it is mounted weighs another 15 tonnes. The total weight of 30 tonnes can comfortably negotiate the 40 tonne bridges on most highways.

The MGS has a ready customer since the Indian Army’s artillery plan stipulates the purchase of 814 MGS to beef up artillery firepower. The DRDO wants the army to acquire MGS under the high



priority Chapter IV of the Defence Acquisition Procedure of 2020. This chapter gives the highest priority to: “Procedure for Acquisition of systems designed and developed by DRDO/DPSU/OFB”.

The DRDO’s MGS faces competition from firms such as Bharat Forge and Tata Aerospace and Defence (A&D), which have also developed their own MGS. Only if the MoD categorises this acquisition in the Chapter IV category, would the field be clear for the DRDO’s MGS.

However the DRDO is confident about the superiority of its MGS. It has successfully cleared testing in deserts and high altitude areas (HAA), displaying high accuracy and consistency. To protect the crew when the enemy brings down counter fire, there is an armoured cabin (currently armour steel, to be developed into composite material) in which they can take shelter.

### The Light Tank

The Chinese encroachment across the Line of Actual Control (LAC) into Indian-claimed territory in April 2020 galvanized the DRDO into resuming work on a much debated project: Development of a 25-tonne light tank that would be mobile enough for India’s high mountain border areas, for jungle terrain and for areas with narrow roads and bridges.

While the DRDO completed its design work, the Directorate General of the Armoured Corps (DGAC) finalised its Preliminary Staff Qualitative Requirements (PSQR), which detailed the precise specifications of the tank.

The DRDO was given the project in November 2021, with a deadline of three years. By November 2024, it is to finish trials and immediately begin delivery to the army.

The tank’s key component – the engine and transmission – are to be bought off-the-shelf. Under evaluation are engines from MTU of Germany, Caterpillar of the US and Cummins. Transmissions will be chosen from Renk of Germany and British firm Allison.



Protection is modular, with bolt-on, retrofittable armour providing protection of level STANAG 4 in the tank's frontal 60 degree arc and STANAG 2 elsewhere. It will have a high pressure tank gun, either 105 mm or 120 mm.

According to DRDO sources, this effort is named Project Zorawar, after the legendary Sikh general who took his armies deep into Tibet.

#### Wheeled Armour Platform (WhaP)

The DRDO has developed the WhaP as a basic platform for a family of mobile, protected, multi-purpose vehicles, including a command post vehicle, a reconnaissance vehicle for a chemical, biological, radiological and nuclear (CBRN) battlefield, for amphibious reconnaissance, or even use as a light, armoured ambulance.

It is to be 8x8 wheeled, not tracked, and weigh 19-27 tonnes. Up to a weight of 24.5 tonnes, it will be amphibious, i.e. capable of floating. With a hydrogas suspension, and a 600 HP Cummins engine coupled to an Allison transmission, the WhaP is to be highly mobile.

Protection is to be modular, with bolt-on, retrofittable panels that provide protection up to a level of STANAG 4. The floor can be reinforced to resist an improvised explosive device (IED). Wish lists prepared for various United Nations missions have been recycled into the WhaP.

The primary armament is to be a 30 mm cannon, mounted on a gun turret with an upgraded sighting system, which is being developed by the DRDO in partnership with Bharat Electronics Ltd.

The DRDO has chosen Larsen & Toubro as a "design cum production partner" (DCPP). That means L&T is active in the design process.



<b>Headline : Indigenous M-4 Combat Vehicle seen at Defense Expo, has been deployed in Eastern Ladakh</b>	<b>Publication: Hindustan News Hub</b>
Date : October 21, 2022	Journalist:

<https://hindustannewshub.com/india-news/indigenous-m-4-combat-vehicle-seen-at-defense-expo-has-been-deployed-in-eastern-ladakh/>

Def Expo: The most visible are the combat vehicles in the ongoing Defense Expo- 2022 in Gandhinagar, the capital of Gujarat. This Infantry Combat Vehicle was brought to the exhibition for the fast movement of soldiers on the LAC adjacent to China. One such indigenous combat vehicle is the M-4, which was recently purchased by the Indian Army from an indigenous company and deployed in eastern Ladakh.

Recently, the Northern Command of the Indian Army has procured the indigenous Private M-4 Infantry Combat Vehicle (ICV) through the fast-track process. During the confrontation with China on the LAC, the Indian Army had to face a lot of difficulties in movement in the high altitude areas of Ladakh. China's PLA army moves very fast in its Humvi vehicles, while Indian soldiers used to do it in their Gypsy or BMP vehicle, but they had to face some difficulty in moving in high altitude areas. In such a situation, the Indian Army insisted on making Humvi-style ICVs from indigenous companies.

Why buy ICV?

This is the reason that instead of Gypsy and BMP, the army has bought M-4 and Tata's new ICV from Kalyani Group. In this M-4, 9-10 soldiers can sit comfortably with their weapons. Along with sitting, you can also take a position with your gun in it. Apart from this, ATGM ie Anti Tank Guided Missile can also be installed in this combat vehicle so that enemy tanks can be destroyed. You will be stunned to see the tires of this combat vehicle. Its tires are bigger and stronger than the truck so that there is no problem in treading on high and rough terrains.

Who designed the M-4 vehicle?

The M-4 vehicle has been prepared by Kalyani Group. The Kalyani Group has been in the defense sector for several decades, but in recent years the private industry is being encouraged to make weapons for the military. As a result of this, along with making M-4, Kalyani Group is doing mass-production of DRDO's prepared Atags ie Andvas Todd Artillery Gun System. Both Kalyani Group



and Tata Group are preparing this cannon for the army. For the first time with this Atags gun, a cannon salute was given from the Red Fort on the occasion of Independence Day.

Baba Kalyani, founder and chairman of Kalyani Group, told in a special conversation with ABP News that his company is laying great emphasis on making armored vehicles and cannons. Apart from this, his group and its subsidiary company, Bharat-Forge, are engaged in making small-arms i.e. guns and drones. According to Baba Kalyani, along with equipping the soldiers of their country with indigenous weapons, they are now preparing to supply arms to the world on the call of Prime Minister Narendra Modi's Make for World.



<b>Headline :</b> പ്രതിരോധത്തിന് കരുത്തേകാൻ കല്യാണി ഗ്രൂപ്പ്	<b>Publication:</b> Channeliam
<b>Date :</b> October 21, 2022	<b>Journalist:</b>

<https://channeliam.com/2022/10/21/kalyani-group-to-set-up-worlds-largest-artillery-manufacturer/>

ലോകത്തിലെ ഏറ്റവും വലിയ യുദ്ധോപകരണ നിർമ്മാതാവാകാൻ ലക്ഷ്യമിടുകയാണ് മറ്റു ട്രിനാഷണൽ കമ്പനിയായ കല്യാണി ഗ്രൂപ്പ്. പ്രതിദിനം ഒരു തോക്കു വീതം നിർമ്മിക്കാനുള്ള ശേഷി മൂന്നു വർഷത്തിനുള്ളിൽ ഉണ്ടാക്കുക എന്നതാണ് പുനെ കേന്ദ്രീകരിച്ച് പ്രവർത്തിക്കുന്ന ഗ്രൂപ്പിന്റെ ലക്ഷ്യം. ഇതിനായുള്ള മൂലധനനിക്ഷേപം നടത്തിയതായും ഇനി നിർമ്മാണത്തിന്റെ അളവ് കൂട്ടിയാൽ മതിയെന്നും കല്യാണി ഗ്രൂപ്പ് ചെയർമാൻ ബാബു കല്യാണി പറഞ്ഞു. നിലവിൽ ആറു തോക്കുകളാണ് ഒരു മാസത്തിൽ നിർമ്മിക്കുന്നത്. വിവിധ ടെക്നോളജി പാർട്ണർമാരുമായി സഹകരണത്തിനും കല്യാണി ഗ്രൂപ്പ് ശ്രമം തുടങ്ങി. ഭാവിയിൽ രാജ്യത്തെ സായുധ സേനയ്ക്ക് ഭാരം കുറഞ്ഞ തോക്കുകൾ ആവശ്യമായി വരുമെന്നും അതിന് മറ്റാർക്കും ഇല്ലാത്ത ടെക്നോളജി കമ്പനിക്കുണ്ടെന്നും അദ്ദേഹം പറഞ്ഞു. രാജ്യത്ത് ആധുനിക തോക്കുകളും മെർൈ പ്രൊട്ടക്ടഡ് വാഹനങ്ങളും നിർമ്മിക്കുന്നതിനായി ഇസ്രായേലിന്റെ ELBIT സിസ്റ്റംസുമായി സയുക്തസംരംഭത്തിൽ ഏർപ്പെട്ടിരിക്കുകയാണ് കല്യാണി ഗ്രൂപ്പ്. കൂടാതെ, എയർ ഡിഫൻസ് സൊല്യൂഷനിൽ സീഡ്കാലി SAAB-മായും ഗ്രൂപ്പ് കരാറിലേർപ്പെട്ടിട്ടുണ്ട്. രാജ്യത്തെ സായുധ സേനയിലേക്കുള്ള സേവനങ്ങൾ വർദ്ധിപ്പിച്ച് പ്രതിരോധത്തിൽ സുപ്രധാന പങ്കു വഹിക്കാനാണ് ഗ്രൂപ്പിന്റെ പദ്ധതി. പ്രതിരോധമേഖലയിലെ സർക്കാർ ഫണ്ടുകൾ നേടാനുള്ള ശ്രമവും നടത്തുന്നുണ്ട്.



**Print**





## Pre Defence Expo

**Headline : Preparations in place for largest DefExpo**

**Publication : Business Standard**

**Date : October 18, 2022**

**Edition: Mumbai**

The biggest since the inaugural edition in 1996, the 12th DefExpo, scheduled to be held in Gandhinagar during October 18-22, 2022, is one of the most sought-after defence exhibitions

# PREPARATIONS IN PLACE FOR LARGEST DEFEXPO

**W**ith the theme being 'India The Emerging Defence Manufacturing Hub', the event is expected to witness a wide array of international participation and new ventures.

The focus of India's flagship defence exhibition is on positioning the country as an emerging defence manufacturing hub. The forthcoming edition is the first ever edition exclusively for Indian companies, with over 500 of them showcasing their wares. According to the Ministry of Defence, the DefExpo will feature companies from 100 countries of Foreign Original Equipment Manufacturers (FOEM). A dozen of companies which are registered in India, and exhibitors from 100 nations with an Indian identity will be considered as Indian participants.

The event will also be attended by visiting dignitaries from all over the world, including the heads of state, defence ministers, and other high-ranking officials. The event will also be attended by visiting dignitaries from all over the world, including the heads of state, defence ministers, and other high-ranking officials.

**GLOBAL REACH**

The exhibition aimed at catering to global defence requirements will not only focus on showcasing new innovations but also focus on showcasing the other aspects of defence ecosystem. According to defence Minister Rajendra Singh, India has potential for R&D in various technologies, in terms of capabilities, cost-effectiveness, and speed. It covers virtual reality, Artificial Intelligence, Virtual Reality, Augmented Reality, and other technologies. The exhibition will also display during the DefExpo. Also, as a Defence Gateway, several states are expected to be held on the occasion of the event — mainly between the global companies and Indian industry.

Defence minister Singh has said that India is a global defence hub and has been identified as a global defence hub in the past few years. According to Singh, India is a global defence hub and has been identified as a global defence hub in the past few years. According to Singh, India is a global defence hub and has been identified as a global defence hub in the past few years.

**GOVERNMENT'S INITIATIVES**

Several steps have been initiated by the government to modernise the country's defence forces and making it a well-defence and strong defence industry. Another important step has been setting up the national defence process.

**DEFENCE ALLOCATION FOR 2022-23**

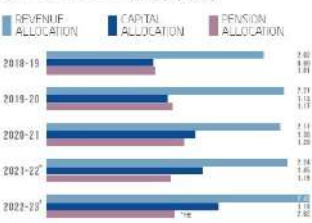
The focus for the next fiscal is on modernisation of the Armed Forces and development of the Defence Supply Infrastructure.

According to the Ministry of Defence, over a period of six years, there has been a 10% increase in budget, which is 20 percent.

**TURN TO PAGE 5**



### DEFENCE ALLOCATIONS OVER THE YEARS (percent)



FROM PAGE 1

**There will be India Pavilion and Gujarat Pavilion, and interactive mobile app has been developed for the event. There will also be India-Africa Defence Ministers Conclave**

According to the budget documents, the capital outlay, which focuses towards the modernisation of Armed Forces has been increased by 12.82 percent with an increase of 2,000 crore over the 2021-22. The defence budget has been increased by 10 percent to 2,000 crore in 2022-23. According to reports, about 25 percent of the R&D budget has been earmarked for industry start-ups and incubators.

**MAJOR DOMESTIC AND GLOBAL PLAYERS**

Among the major players in the Indian defence industry are Hindustan Aeronautics Ltd. and Bharat Electronics Ltd. Other major players include Larsen & Toubro, Tata Electronics, and Tata Electronics Ltd. Other major players include Larsen & Toubro, Tata Electronics, and Tata Electronics Ltd.

**MOBILE APP**

An interactive mobile app has been developed for the event. The app will be available on the Android and iOS platforms. According to an official statement, the app will be available for all visitors to the event. The app will be available for all visitors to the event.

**AFRICA DEFENCE MINISTERS CONCLAVE**

The 12th Africa Defence Ministers Conclave will be held in Gandhinagar during the event. The conclave will be held in Gandhinagar during the event.



is being carried out in the country's defence manufacturing sector.

The event comes at a time when the government has announced its plan to increase its defence spending to 3% of GDP by 2027. This is a significant increase from the current 2.5% of GDP.

The event is expected to attract a large number of international visitors, including defence ministers and other high-ranking officials from various countries.

The 12th DefExpo is expected to be the largest defence exhibition ever held in India. It is expected to attract a large number of international visitors, including defence ministers and other high-ranking officials from various countries.

The event is expected to be a major success for the Indian defence industry, showcasing the country's capabilities and attracting investment from abroad.



Headline : Defence Expo

Publication : Business Standard

Date : October 18, 2022

Edition: Mumbai

### India is fast-tracking combat engine technology in-country through a collaborative approach

BY KISHORE JAYARAMAN

The world is witnessing significant geopolitical shifts, particularly in this region, which has brought increased focus on India's military might and influence. In line with the evolving dynamics in the region, India has rightly turned its focus on building greater self-reliance in defence, including indigenous technology development and ecosystem establishment. India is fast-tracking its way to develop combat engine technology in-country through a collaborative, co-development approach. Such technology will play a key role in future warfare and will put India among a handful of nations with stealth fighting capabilities.

Any co-development programme for higher-class thrust engines must lead to co-development of both know-how and know-why, as well as the advancement of a globally competitive defence ecosystem. For this, the United Kingdom (UK) stands as a natural ally for India, given the UK has a rich legacy of technology development collaborations and demonstrated technical know-how that will complement India's own technical strengths and capabilities. The time is right to take this relationship to the next level as the two countries are committed to greater cooperation in defence. India can leverage the combined strength of its own scientific talent and resources with the UK's technology experience to 'Create in India' the next generation fighter jet engines.

Backed by its global experience and local strengths, Rolls-Royce is well-positioned to support



KISHORE JAYARAMAN, President - India & South Asia, Rolls-Royce

design and development to supply chain, manufacturing and aftermarket services, such a programme will increase India's competitiveness in the global defence arena. When technology is developed in India and the know-why rests within the country with IP owned by India, there is great opportunity to leapfrog the country's status as a technology supplier to the global market.

Rolls-Royce Committed to Create in India Since powering the first Indian military aircraft of the Indian Air Force in 1953, Rolls-Royce has been dedicated to serving the evolving needs of the Indian armed forces. Over 750 engines of 10 engine types are powering various Indian military aircraft soaring the skies today, including combat and strike aircraft, trainers, strategic airlift, VIP and surveillance aircraft. A dedicated Defence Service Delivery Centre supports the mission-readiness of these aircraft with advanced technology solutions and highly responsive service.

Ours is the original 'Made in India' story as we have been manufacturing and sourcing in India with Indian partners from both the public and private sector including Hindustan Aeronautics Limited (HAL), Bharat Forge, Godrej & Boyce, Foras Motors, and the Tata group. Partnerships like these make us well-positioned to support co-production and co-manufacturing opportunities that will arise from technology development in-country.

With a rich history of engine technology development for both civil and defence engines, particularly in the complex gas turbine-based aero-engine segment, Rolls-Royce has been successfully certifying one aero-engine every 18 months. This is a significant feat given this entails major investments, time, resources and high-precision technology expertise.

# 'CO-CREATION CAN BE A GAME-CHANGER IN COMBAT ENGINE DEVELOPMENT'

Over 750 Rolls-Royce engines of 10 engine types are powering Indian military aircraft

such a partnership between the two nations. Our journey in India boasts strategic partnerships, strong supply chain, rich talent pool, digital solutions and service delivery capabilities that make us a partner of choice to collaborate and co-develop defence technology in India, for the world.

Make in India for the World A partnership between the UK

and India for co-development of combat engine technology that leads to Intellectual Property (IP) ownership in India, will be naturally followed by co-production and co-manufacturing opportunities. When done right, such co-development will result in the creation of capability in-country to indigenous defence technology in the future.

Through various initiatives, the government of India has showcased its intent to bolster the defence ecosystem in the country, and the industry has responded with significant investments and expansion plans. This growing ecosystem

capacity will be well-utilised when defence technologies created and owned in India will be manufactured locally. The defence ecosystem will undoubtedly rise to meet the supply chain and manufacturing opportunities, and this will further create capabilities across the value chain.

Looking back at a similar collaboration between the two nations in recent times for developing an effective vaccine to combat the COVID-19 virus, we know that this model of partnership is both doable and successful.

With capability and capacity creation across



## Kalyani Group eyes world's largest artillery manufacturing facility in India

Headline : Kalyani Group to set up world's largest artillery facility in India	Publication : Financial Express
Date : October 19, 2022	Edition: All

### **Kalyani Group to set up world's largest artillery facility in India**

**PUNE-HEADQUARTERED** Kalyani Group is in the process of setting up the world's largest artillery manufacturing facility in India, having capacity to produce one gun per day. At present, the company makes six guns per month. Confirm-

ing the development, chairman of Kalyani Group, Baba Kalyani said at DefExpo22 that capital investment for the purpose has been done and now the company is looking at increasing the volume.

—FE BUREAU





## Bharat Forge Inks Pact with General Atomics

Headline : Bharat Forge inks pact with General Atomics for collaboration	Publication : The Pioneer
Date : October 20, 2022	Edition: Hyderabad

### LITHIUM-ION BATTERY SYSTEMS

# Bharat Forge inks pact with General Atomics for collaboration

PNS ■ NEW DELHI

Indian defence firm Bharat Forge Ltd on Wednesday said it has inked an agreement with American technology major General Atomics for collaboration in developing Lithium-Ion battery system for use by the Indian Navy. The pact was signed on the sidelines of the DefExpo in Gandhinagar in Gujarat.

Under the terms of the Memorandum of Understanding (MoU), Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion battery



system for naval platforms for the Indian Navy. Bharat Forge said the two sides have also agreed to partner in the area of permanent magnet motors. Lithium-Ion battery systems are used in various naval platforms including sub-

marines. "We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals," said Baba Kalyani, Chairman Kalyani Group.



Headline : Aatmanirbharta Ammo wows world

Publication : Times of India

Date : October 19, 2022

Edition: Ahmedabad



Global Players, Local Giants Eye Collaborations, Expansions

The country's largest annual defence showcase - DefExpo 2022 - got off to a flying start in Gandhinagar on Tuesday. With thrust on Aatmanirbharta or self-reliance in defence manufacturing, Defence giants like Boeing India, Lockheed Martin Aerostructures, Kalynn Group, Bharat Forge Limited, Adani Defence Aerospace and Lufthansa Defence are looking to expand their manufacturing capabilities and forge partnerships.

Adani Defence and Aerospace Limited on Tuesday announced acquisition of Airworks, the country's biggest and highly diversified maintenance, repair and overhaul firm for Rs 400 crore. The agreement was sealed during the DefExpo 2022. The MRO sector is crucial in both defence and civilian aerospace sectors. Combine Airworks' legacy with the Adani Group's capabilities and we get an entity that truly represents what Aatmanirbharta Bharat in a critical sector should look like," said Ashish Rajwanshi, CEO, Adani Defence and Aerospace.

FORGING TIES

Pune-based Kalynn Group aspires to become the largest artillery manufacturer in the world. "We will enhance manufacturing capabilities over the next three years to produce one gun a day on against six in 30 days at present. We already have the capital investment," said group chairman Babu Lalvani. The group's Bharat Forge Limited also signed an MoU with US-based General Atomics to collaborate for laboratory systems for naval propulsion and submarines.



Special commandos in joint combat operations generally carried out in harsh weather and rough sea to capture enemy outposts



IAF officers flying four SARANG helicopters created a heart-shaped formation in the sky. The show was named "Bele in the Air"



Institutions, state police among participants

Various state-based universities and institutes participated in DefExpo 2022 in Gandhinagar. The National Forensic Sciences University is focusing on developing tech like drone forensics and cybersecurity while Assam University is promoting defence-related startups and various courses on offer. The Gujarat Police talked about the upcoming zone training & coordination centre which is expected to come up at Gujarat Police Academy in Kara Sookh.

'Localization new mantra in Russia-Ukraine conflict era'

De-globalization and localization are the new refrain in the situation caused by the Russia-Ukraine war, asserted speakers at DefExpo22. At a seminar on defence equities, Ashok Prabhakar of Adani Defence and Aerospace said, "No one is talking of globalization. As the fifth-largest economy, it is important for India to have a strong defence economy."

Sachin Agarwal of the UP unit of the Society of Defence Manufacturers said that 40% of all titanium was sourced from Russia. "Changing dynamics have created a big opportunity for Indian firms in this area," he



Spectators, mainly from the armed forces and their family members, cheered the breathtaking performances

PM to formally open DefExpo 2022 today

Prime Minister Narendra Modi will formally inaugurate the defence exhibition at a gala ceremony organized at Mahatma Gandhi Convention Centre in Gandhinagar. Well-placed sources revealed that the PM is expected to make a major announcement to enable participation of MSMEs as well as startups in the space technology segment. The PM is also expected to virtually perform the groundbreaking ceremony for the upcoming air force base. As many as 1,340 Indian companies will showcase their products and innovations over the next four days. Organized in the largest ever total area of over one lakh sq metres and with a record registration of 1,340 companies, DefExpo 2022 is set to be the biggest defence exhibition till date. It will also mark the celebration of one year of the formation of the seven new defence companies, carved out of the erstwhile Ordnance Factory Board.





**Headline : BFL ties up with General Atomics  
for Li-Ion Batteries**

**Publication : Asian Age**

Date : October 19, 2022

Edition: New Delhi

## BFL ties up with General Atomics for Li-ion battery



Bharat Forge Ltd said it has inked an agreement with US technology major General Atomics for collaboration in developing lithium-ion battery system for use by the Indian Navy. The pact was signed on the sidelines of the DefExpo in Gandhinagar in Gujarat. Bharat Forge said the two sides have also agreed to partner for permanent magnet motors. Li-ion battery systems are used in various naval platforms.





Headline : BFL ties up with General Atomics  
for Li-Ion Batteries

Publication : Pudhari

Date : October 19, 2022

Edition: Pune

## नौदलासाठी लिथियम बॅटरीसंबंधात सहयोग

जनरल अॅटॉमिक्सशी  
भारत फोर्जचा करार

पुणे : भारत फोर्ज लिमिटेड या जगातील आघाडीच्या तंत्रज्ञान आणि फोर्जिंग कंपनीने इलेक्ट्रोमॅग्नेटिक आणि प्रगत ऊर्जा क्षेत्रातील संशोधन, डिझाइन आणि निर्मितीमध्ये जागतिक अग्रेसर असलेल्या अमेरिकेच्या जनरल अॅटॉमिक्स सोबतच्या सामंजस्य करारावर स्वाक्षरी केली. या करारानुसार भारत फोर्ज आणि जनरल अॅटॉमिक्सचा इलेक्ट्रोमॅग्नेटिक सिस्टिम्स ग्रुप भारतीय नौदलाच्या गरजा पूर्ण करण्यासाठी नौदल प्लॅटफॉर्म/पाणबुड्यांसाठी



जनरल अॅटॉमिक्सशी करार करताना भारत फोर्जचे अध्यक्ष बाबा कल्याणी व इतर अधिकारी.

लिथियम-आयन बॅटरी सिस्टिमसाठी सहयोग करतील. कायमस्वरूपी मॅग्नेट मोटर्सच्या क्षेत्रात एकमेकांसोबत भागीदारी करण्याचेही उभय कंपन्यांनी

मान्य केले आहे.

यावेळी बोलताना, कल्याणी ग्रुपचे अध्यक्ष बाबा कल्याणी म्हणाले, भारताने संरक्षण क्षेत्रात स्वावलंबी

बनवण्याच्या उद्देशाने आम्ही देशात विशिष्ट तंत्रज्ञान आणण्यासाठी अथक प्रयत्न करत आहोत. जीए नौदल प्लॅटफॉर्म/पाणबुडीसाठी लागणाऱ्या लिथियम आयन बॅटरी सोल्यूशन्ससाठी मार्केट लीडर आहे. जनरल अॅटॉमिक्ससोबतची आमची भागीदारी भारतीय नौदलासाठी मेक इन इंडिया सोल्यूशन्स विकसित करण्याच्या दिशेने टाकलेले एक टोस पाऊल आहे''

आमची लिथियम आयन बॅटरी प्रणाली १० वर्षांच्या आर अँड डीच्या प्रयत्नांनंतर विकसित केली गेली आहे'', असे जीए - ईएम एस चे अध्यक्ष स्कॉट फोर्नी यांनी सांगितले.





Headline : BFL ties up with General Atomics  
for Li-Ion Batteries

Publication : Sakal

Date : October 19, 2022

Edition: Pune

## भारत फोर्ज-जनरल अॅटॉमिक्समध्ये सामंजस्य करार

पुणे, ता. २१ : लष्करासाठी विविध उत्पादने विकसित करणाऱ्या भारत फोर्ज लिमिटेडने नुकतेच जनरल अॅटॉमिक्स, यूएससोबत सामंजस्य करार केला आहे. भारतीय नौदलाच्या गरजा पूर्ण करण्यासाठी नौदल प्लॅटफॉर्म/ पाणबुड्यांसाठी लिथियम-आयन बॅटरी सिस्टमसाठी हा करार करण्यात आला आहे. पर्यावरणाच्या अनुषंगानेही हे एक महत्त्वाचा पाऊल ठरेल.

भारत फोर्जद्वारे सशस्त्र दलांसाठी आधुनिक तंत्रज्ञान विकसित करण्यापासून त्यावर आधारित उत्पादने पुरविण्याचे कार्य आत्मनिर्भर भारत या संकल्पनेअंतर्गत केले जात आहे. तर जनरल अॅटॉमिक्स ही कंपनी इलेक्ट्रोमॅग्नेटिक आणि प्रगत ऊर्जा, त्यावरील संशोधन, डिझाइन आणि निर्मितीमध्ये अग्रेसर आहे. या करारात दोन्ही कंपनींनी 'पर्मनंट मॅग्नेटिक मोटर्स'च्या क्षेत्रात ही भागीदारी करण्याचे

मान्य केले आहे. याबाबत भारत फोर्ज लिमिटेडचे अध्यक्ष व व्यवस्थापकीय संचालक बाबा कल्याणी म्हणाले, "देशाला संरक्षण क्षेत्रात स्वावलंबी बनवण्याच्या उद्देशाने विशिष्ट तंत्रज्ञान आणण्यासाठी प्रयत्न करत आहोत. नौदलासाठी उपयुक्त लिथियम आयन बॅटरीच्या क्षेत्रात अग्रणी असलेल्या जनरल अॅटॉमिक्ससोबतची ही भागीदारी महत्त्वाची आहे."



Headline : Bharat Forge signs Memorandum of Understanding with General Atomics, USA

Publication : Western Times

Date : October 19, 2022

Edition: Ahmedabad

## Bharat Forge Signs a Memorandum of Understanding With General Atomics, USA

New Delhi, Bharat Forge Ltd., the world's leading technology solutions provider and forging company signed a Memorandum of Understanding (MOU) with General Atomics, US, a global leader in the research, design, and manufacture of a diverse portfolio of electromagnetic and advanced power and energy technologies. Under the terms of the MOU, Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion Battery System for naval platforms/submarines to address the requirements of Indian Navy. The parties have also agreed to partner with each other in

the area of permanent magnet motors. Speaking on the occasion, Mr. Baba Kalyani, Chairman Kalyani Group said, "We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals. GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India."

"We look forward to working with Bharat Forge

to meet the requirements of Indian Navy. Our Li-Ion battery system has been developed after 10 years of rigorous R&D. Instead of the usual 'fault prevention', our design philosophy is based on assuming a fault and requiring fault containment, which has made our system extremely safe and reliable," stated Scott Forney, president of GA-EMS. "We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms."



## MGS 8x8 Unveiled By Mr. Samir V Kamat

Headline : Artillery Gun of Kalyani at Gujarat Expo

Publication : Times of India

Date : October 22, 2022

Edition: Pune

### **Artillery gun of Kalyani Group at Gujarat expo**

**Pune:** The Kalyani Group announced that its mounting artillery gun system 8x8 high mobility vehicle was unveiled at the ongoing Defence Expo 2022 in Ahmedabad by Samir Kamat, chairman of Defence Research and Development Organisation on Friday.

The group's chairman, Baba Kalyani, was present.

The Kalyani Group also said in a statement that the MGS 8x8 is the only artillery gun in the world capable of firing from zones one to seven, and can operate in varied conditions, ranging from -4 to 45 degrees celsius. TNN



Headline : Kalyani Group's MGS unveiled at  
DefExo

Publication : Sakal

Date : October 22, 2022

Edition: Pune

# ‘भारत फोर्ज’निर्मित ‘एमजीएस’चे अनावरण

वैविध्यपूर्ण हवामानात गोळीबार करण्याची क्षमता

पुणे, ता. २१ : येथील भारत फोर्जद्वारे विकसित करण्यात आलेल्या स्वदेशी बनावटीच्या ‘माउंटडेट आर्टिलरी गन सिस्टीम’ (एमजीएस) एचएमव्हीचे अनावरण शुक्रवारी गांधीनगर येथे आयोजित ‘डिफेन्स एक्स्पो २०२२’ या कार्यक्रमात झाले. संरक्षण संशोधन आणि विकास संस्थेचे (डीआरडीओ) अध्यक्ष आणि संशोधन व विकास विभागाचे सचिव डॉ. समीर व्ही. कामत यांच्या हस्ते अनावरण करण्यात आले.

देशातील अनेक उद्योग, स्टार्टअपच्या माध्यमातून स्वदेशी बनावटीच्या उत्पादनांची निर्मिती करण्यात येत आहे. त्यासंदर्भात भारत फोर्जद्वारे वाहने, शस्त्रास्त्र प्रणालींच्या विकासावर लक्ष केंद्रित करण्यात येत आहे. याचाच एक

भाग म्हणून या एमजीएसची निर्मिती करण्यात आली आहे. याचे अनावरण गांधीनगरमधील एक्स्पोमध्ये झाले. यावेळी भारत फोर्जचे अध्यक्ष आणि व्यवस्थापकीय संचालक बाबा कल्याणी उपस्थित होते. एमजीएस ही आधुनिक तंत्रज्ञानाने परिपूर्ण तोफ आहे. याचा वापर वैविध्यपूर्ण हवामानाच्या परिस्थितीमध्ये केला जाऊ शकतो. उणे ४ अंश ते ४५ अंश सेल्सिअस तापमानात गोळीबार करण्याची क्षमता या तोफेत आहे.

गेल्या वर्षी डिसेंबर महिन्यात भारत फोर्जच्या ‘मल्टी-टॅरेन आर्टिलरी गन’ (मार्ग) १५५-बीआरचे अनावरण संरक्षण मंत्री राजनाथ सिंह यांच्या हस्ते पुण्यातील लष्करी अभियांत्रिकी महाविद्यालयात (सीएमई) करण्यात आले होते.









Headline : Kalyani Group's MGS 8x8 unveiled at DefExo

Publication : Western Times

Date : October 23, 2022

Edition: Ahmedabad

## Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled by DRDO



Gandhinagar, Kalyani Group's MGS 8X8 HMV was unveiled today by Dr. Samir V Kamat, Secretary R&D and Chairman Defence Research and Development Organization (DRDO) at the Defence Expo 2022.

The MGS 8x8 is a

155mm/52cal Mounted Artillery Gun System, the only artillery gun in the world with the capability of firing from Zone 1 to Zone 7. With a diverse operating temperature range and capability to fire in extreme diverse weather conditions of - 4 to

45 degrees.

The gun comes equipped with quick shoot and scoot capability with a high degree of accuracy and consistency. The 8x8 has a high chamber volume of 25 litres, with future provision of up gunning.



**Headline : DRDO displays three 'Make in India' successes**

**Publication : Business Standard**

**Date : October 19, 2022**

**Edition: Ahmedabad**



# DRDO displays three 'Make in India' successes

AJAI SHUKLA  
Gandhinagar, 19 October

With the theme of "Aatmanirbhar Bharat" (self-reliant India) underpinning India's premier defence exposition — DefExpo 22 — attention is focused on the India Pavilion and the sprawling presentation of the Defence Research and Development Organisation (DRDO).

Prominent in the DRDO's display are several artillery guns, armoured vehicles and tanks that underline a measure of success in developing these key weapons platforms for the army. Here are three systems that are headed for success.

## Mounted Gun System (MGS)

There has long been attention on the 155 millimetre (mm), 52 calibre (cal) Advanced Towed Artillery Gun System (ATAGS), which the DRDO is developing in partnership with the Tata and Kalyani groups. Now, without fanfare, the DRDO has produced an offshoot of the ATAGS — called the 155 mm/52 cal Mounted Gun System (MGS) — which could become a battle winner that is central to the army's fire-power menu.

The ATAGS is a conventional howitzer, which requires a wheeled tractor to tow it between firing positions. In the MGS, however, the entire gun is mounted on to a wheeled tractor, from where it can be fired without any dismantling or lengthy preparation. Bringing the MGS into action takes just 80 seconds, while bringing it out of action takes 85 seconds.

The MGS weighs 15 tonnes and the Kolos Tatra tractor on which it is mounted weighs another 15 tonnes. The total weight of 30 tonnes can comfortably negotiate the 40-tonne bridges on most highways.

The MGS has a ready customer, since the Indian Army's artillery plan stipulates the purchase of 814 MGSs to beef up artillery firepower. The DRDO wants the army to acquire MGS under the high-priority Chapter IV of the Defence Acquisition Procedure of 2020. This chapter gives the highest priority to: "Procedure for acquisition of systems designed and developed by DRDO/DPSU/OFB."

The DRDO's MGS faces competition from firms such as Bharat Forge and Tata Aerospace and Defence (A&D), which have



**In the MGS the entire gun is mounted on to a wheeled tractor, from where it can be fired without any dismantling or lengthy preparation**

also developed their own MGS. Only if the MoD categorises this acquisition in the Chapter IV category would the field be clear for the DRDO's version.

However, the DRDO is confident about the superiority of its MGS. It has successfully cleared tests in deserts and high-altitude areas, displaying high accuracy and consistency. For when the enemy brings down counter fire, there is an armoured cabin (currently armour steel, to be developed into composite material) in which they can take shelter.

## The Light Tank

The Chinese encroachment across the Line of Actual Control (LAC) into Indian-claimed territory in April 2020 galvanised the DRDO into resuming work on a much debated project: Development of a 25-tonne light tank that would be mobile enough for India's high mountain border areas, for jungle terrain, and for areas with narrow roads and bridges.

While the DRDO completed its design work, the Directorate General of Armoured Corps (DGAC) finalised its Preliminary Staff Qualitative Requirements (PSQR), which detailed the precise specifications

of the tank.

The DRDO was given the project in November 2021, with a deadline of three years. By November 2024, it is to finish trials and immediately begin delivery to the army.

The tank's key component — the engine and transmission — are to be bought off-the-shelf. Under evaluation are engines from MTU of Germany, Caterpillar and Cummins of the US. Transmissions will be chosen from Renk of Germany and British firm Allison.

Protection is modular, with bolt-on, retrofitable armour providing protection of STANAG level 4 in the tank's frontal 60-degree arc and STANAG 2 elsewhere. It will have a high-pressure tank gun (either 105 mm or 120 mm).

According to DRDO sources, this effort is named Project Zorawar, after the legendary Sikh general who took his armies deep into Tibet, who took his armies deep into Tibet.

## Wheeled Armoured Platform

The DRDO has developed the WhaP as a basic platform for a family of mobile, protected multi-purpose vehicles, including a command post vehicle, a reconnaissance vehicle for a chemical, biological, radiological and nuclear (CBRN) battlefield, for amphibious reconnaissance, or even use as a light, armoured ambulance.

It is to be 8x8 wheeled, not tracked, and weigh 19-27 tonnes. Up to a weight of 24.5 tonnes, it will be amphibious, i.e. capable of floating. With a hydrogas suspension, and a 600 HP Cummins engine coupled to an Allison transmission, the WhaP is to be highly mobile.

Protection is to be modular, with bolt-on, retrofitable panels that provide cover up to a level of STANAG 4. The floor can be reinforced to resist an improvised explosive device. Wish lists prepared for various United Nations missions have been recycled into the WhaP.

The primary armament is to be a 30 mm cannon, mounted on a gun turret with an upgraded sighting system, which is being developed by the DRDO in partnership with Bharat Electronics Ltd.

The DRDO has chosen Larsen & Toubro as a "design cum production partner". That means L&T is active in the design process.

## Defence Expo Special Mentions





indigenization boost

Date : October 22, 2022

Edition: Mumbai

## Shares of companies in defence sector get indigenisation boost

Press Trust of India  
feedback@live.mint.com

**NEW DELHI:** Shares of companies related to the defence sector are sailing northwards, with the government's efforts to indigenise more defence equipment as well as boost their exports energising investor sentiment.

The 'Fourth Positive Indigenisation List' of 101 defence items was announced by Prime Minister Narendra Modi on Wednes-

day, which also means that domestic players related to the multi-billion dollars worth defence segment, will have increased business opportunities.

An analysis of the stocks of companies that have businesses related to the defence space showed that most of them have gained since Wednesday.

Mazagon Dock, Bharat Dynamics, Cochin Shipyard, Mishra Dhatu Nigam, Bharat Electronics, Bharat Forge, Astra

Microwave Products and Paras Defence and Space Technologies, are among the companies that have gained as much as 5% in two trading days, Wednesday and Thursday.

Analysts opined that broadly defence related stocks have been outperforming and are expected to continue to deliver good returns for investors.

Since the end of trade on 18 October till the close on 20 October, shares of Mazagon Dock rallied 5.39% and BEML

jumped 4.43% on the BSE.

Similarly, Bharat Dynamics climbed 3.32%, Cochin Shipyard gained 2.82%, Mishra Dhatu Nigam Ltd advanced 2.18% and Bharat Electronics went higher by 1.93% during the period.

The stock of Bharat Forge gained 1.44%, Astra Microwave Products spurted 0.84% and Paras Defence and Space Technologies (0.26%) in the last two days.

Meanwhile, a few stocks remained muted. Shares of Data

Patterns (India) fell 3.86% and Hindustan Aeronautics dipped 1.8% during the period under review.

On Friday morning, however, most of the stocks were trading on a mixed note, while Bharat Dynamics climbed 2.76% and Paras Defence gained 0.35% higher.

The benchmark 30-share BSE Sensex was trading 266.77 points or 0.45% higher at 59,469.67 in the morning trade on Friday.

Defence stocks have been performing very well over the past three months. These lists improved the visibility of revenues for most defence-related companies and the government has also given a lot of orders to these companies to boost indigenisation. Deepak Jasani, Head of Retail Research at HDFC Securities, said.

Conglomerates Reliance, Tata, Adani and L&T also have presence in the defence segment.



Headline : Shares of Defence-related firms get indigenization boost

Publication : Millenium Post

Date : October 22, 2022

Edition: New Delhi

# Shares of Defence-related firms get indigenisation boost

The 'Fourth Positive Indigenisation List' of 101 defence items was announced by Prime Minister Narendra Modi on Wednesday

## OUR CORRESPONDENT

**NEW DELHI:** Shares of companies related to the defence sector gained in the past two days, with the government's efforts to indigenise more defence equipment as well as boost their exports energising investor sentiment.

The 'Fourth Positive Indigenisation List' of 101 defence items was announced by Prime Minister Narendra Modi on Wednesday, which also means that domestic players related to the multi-billion dollars worth defence segment, will have increased business opportunities.

An analysis of the stocks of companies that have businesses related to the defence space showed that most of them have gained in the past two days.

Mazagon Dock, Bharat Dynamics, Cochin Shipyard, Mishra Dhatu Nigam, Bharat Electronics, Bharat Forge, Astra Microwave Products and Paras Defence and Space Technologies, are among the companies that have gained as much as 5 per cent in last two trading days, Wednesday and Thursday.

Analysts opined that



The Ministry of Defence (MoD) has taken numerous steps to achieve 'Aatmanirbharta' in defence and Positive Indigenisation Lists is one of the landmark initiatives towards achieving that vision

broadly defence related stocks have been outperforming and are expected to continue to deliver good returns for investors.

Since the end of trade on October 18 till the close on October 20, shares of Mazagon Dock rallied 5.39 per cent and BEML jumped 4.43 per cent on the BSE.

Similarly, Bharat Dynamics climbed 3.32 per cent,

Cochin Shipyard gained 2.82 per cent, Mishra Dhatu Nigam Ltd advanced 2.18 per cent and Bharat Electronics went higher by 1.93 per cent during the period.

The stock of Bharat Forge gained 1.44 per cent, Astra Microwave Products spurted 0.84 per cent and Paras Defence and Space Technologies (0.26 per cent) in the last two days.

Meanwhile, a few stocks

remained muted. Shares of Data Patterns (India) fell 3.86 per cent and Hindustan Aeronautics dipped 1.18 per cent during the period under review.

On Friday, however, most of the stocks ended in the negative territory largely due to profit-taking.

Bharat Electronics tanked 4.07 per cent, Mishra Dhatu fell 3.80 per cent, BEML ended 2.57 per cent lower and Cochin Shipyard declined 2.30 per cent.

Shares of Data Patterns dipped 2.24 per cent, Astra Microwave fell 2.12 per cent, Hindustan Aeronautics (1.91 per cent), Mazagon Dock (1.80 per cent), Bharat Forge (1.50 per cent) and Paras Defence (0.97 per cent).

However, Bharat Dynamics jumped 3.76 per cent.

The benchmark 30-share BSE Sensex ended 104.25 points or 0.18 per cent higher at 59,307.15 on Friday.

Defence stocks have been performing very well over the past three months. These lists improved the visibility of revenues for most defence-related companies and the government has also given a lot of orders to these compa-

nies to boost indigenisation, Deepak Jasani, Head of Retail Research at HDFC Securities, said.

The theme of defence can continue to perform well given the high revenue visibility over multiple years. However, some consolidation/ correction can be expected post the sharp rise seen lately, he noted.

Conglomerates Reliance, Tata, Adani and L&T also have presence in the defence segment.

The Ministry of Defence (MoD) has taken numerous steps to achieve 'Aatmanirbharta' in defence and Positive Indigenisation Lists is one of the landmark initiatives towards achieving that vision.

"All the items included in the lists will be procured from indigenous sources as per provisions given in Defence Acquisition Procedure (DAP) 2020. This list provides continuous impetus towards self-reliance in defence," MoD said in a release on Wednesday.

MoD had earlier promulgated 'First, Second and Third Positive Indigenisation Lists', comprising 310 items on August 21, 2020; May 31, 2021 and April 7, 2022 respectively.





Headline : Shares of Defence-related firms get indigenization boost

Publication : Echo of India

Date : October 22, 2022

Edition: Kolkata

## Defence-related stocks get indigenisation boost

NEW DELHI, OCT 21 /-- / Shares of companies related to the defence sector are sailing northwards, with the government's efforts to indigenise more defence equipment as well as boost their exports energising investor sentiment. The 'Fourth Positive Indigenisation List' of 101 defence items was announced by Prime Minister Narendra Modi on Wednesday, which also means that domestic players related to the multi-billion dollars worth defence segment, will have increased business opportunities.

An analysis of the stocks of companies that have businesses related to the defence space showed that most of them have gained since Wednesday. Mazagon Dock, Bharat Dynamics, Cochin Shipyard, Mishra Dhatu Nigam, Bharat Electronics, Bharat Forge, Astra Microwave Products and Paras Defence and Space Technologies, are among the companies that have gained as much as 5 per cent in two trading days, Wednesday and

Thursday.

Analysts opined that broadly defence related stocks have been outperforming and are expected to continue to deliver good returns for investors. Since the end of trade on October 18 till the close on October 20, shares of Mazagon Dock rallied 5.39 per cent and BEML jumped 4.43 per cent on the BSE.

Similarly, Bharat Dynamics climbed 3.32 per cent, Cochin Shipyard gained 2.82 per cent, Mishra Dhatu Nigam Ltd advanced 2.18 per cent and Bharat Electronics went higher by 1.93 per cent during the period. The stock of Bharat Forge gained 1.44 per cent, Astra Microwave Products spurted 0.84 per cent and Paras Defence and Space Technologies (0.26 per cent) in the last two days.

Meanwhile, a few stocks remained muted. Shares of Data Patterns (India) fell 3.86 per cent and Hindustan Aeronautics dipped 1.18

per cent during the period under review. On Friday morning, however, most of the stocks were trading on a mixed note, while Bharat Dynamics climbed 2.76 per cent and Paras Defence gained 0.35 per cent higher.

The benchmark 30-



share BSE Sensex was trading 265.77 points or 0.45 per cent higher at 59,469.67 in the morning trade on Friday. Defence stocks have been performing very well over the past three months. These lists improved the visibility of revenues for most defence-related companies and the government has also given a lot of orders to these companies to boost indigenisation, Deepak

Jasani, Head of Retail Research at HDFC Securities, said.

The theme of defence can continue to perform well given the high revenue visibility over multiple years. However, some consolidation/correction can be expected post the sharp rise seen lately, he noted. Conglomerates Reliance, Tata, Adani and L&T also have presence in the defence segment.

"In the last one year, defence sector related stocks have outperformed and they will continue to deliver good returns... companies like BEL, Hindustan Aeronautics, Bharat Dynamics, Mazagon Dock, Cochin Shipyard are likely to get more orders from the defence ministry. Thereby, their earnings will also improve," Gaurang Shah, Senior Vice President at Geojit Financial Services, said.

Ashwin Patil, Senior Research Analyst at LKP Securities, said the

dependence on developed nations is reducing day by day and is providing easy availability and margin support for the Indian defence sector. The Ministry of Defence (MoD) has taken numerous steps to achieve 'Aatmanirbharta' in defence and Positive Indigenisation Lists is one of the landmark initiatives towards achieving that vision.

The 'Fourth Positive Indigenisation List' of 101 items was announced by the Prime Minister on October 19. "All the items included in the lists will be procured from indigenous sources as per provisions given in Defence Acquisition Procedure (DAP) 2020. This list provides continuous impetus towards self-reliance in defence," MoD said in a release on Wednesday. MoD had earlier promulgated 'First, Second and Third Positive Indigenisation Lists', comprising 310 items on August 21, 2020, May 31, 2021 and April 07, 2022 respectively. (PTI)



**Show Daily**



<b>Publication: SP Guide Publication</b>	<b>Edition: Show Daily 1 (Ad)</b>
Date : October 18, 2022	



DEFEXPO 2022

SPECIAL FEATURE

SP GU

# DRDO showcasing 430 strategic & tactical weapon systems, defence equipment & technologies

3D (DRDO, Designed and Developed) ecosphere is major theme

SP'S SPECIAL CORRESPONDENT

**D**efence Research and Development Organisation (DRDO) is displaying a wide range of 430 products encompassing the strategic and tactical weapon systems, defence equipment and technologies developed in DefExpo 2022. The major theme for this year's DRDO participation is based on 3D (DRDO, Designed and Developed) ecosphere which will highlight its strong linkages with both Industry as well as Academia.

Further, it is showcasing the advancements in technologies made by its laboratories as well as its partnerships with the industry. In recent years while representing a high level of indigenousness in advanced and futuristic defence products & technologies that contribute towards Atmanirbharta in Defence.

In addition, DRDO is displaying several initiatives to deepen its strategic partnerships with Industry, and Academia. These include initiatives such as Technology Development Fund, Dare to Dream, DfA, Centres of Excellence and other similar schemes to support academia. Start-ups, MSMEs and large industries to continuously upgrade technology readiness levels of present and futuristic technologies in the country. All these DRDO led initiatives have led to operational readiness of many Indian industries, especially in the areas of systems, radars, sonars, missiles, aircrafts, etc some of which are displayed at the DRDO Pavilion.

At DefExpo 2022, DRDO is providing numerous static displays, live demonstrations, seminars as well as immersive experience zones spread across three locations including the Mahatma Mandir Convention & Exhibition Centre, Helipad Exhibition Centre, and Sabarmati River Front.

The venue for DRDO Pavilion is Hall no. 10 of Helipad Exhibition Centre. It is segmented in 17 display zones of various classes including Immersive Zones and Experience Zones to showcase 376 products. These 17 zones are namely Engines & Propulsion, Aerospace & Aeronautics (MAVs, fighter aircrafts, aircraft for surveillance etc), Sensors, Devices & Advanced Electronics, Naval Weapons & Systems (EW systems and Sensors), Armoured Vehicles & Land Systems, Armament, Guns & Ammunition, Materials, Missiles (Cruise, MBRLs, AAM, ATGM & MRSAM), BrahMos, Industry Partners in R&D (17 Partners-3 Start-ups & 14 MSMEs), Soldier Support and Dual Use Technologies (Soldier support, LS products, Fire protection, Firefighting, Fuel & Energy, Food products etc), Experience Zone (Simulator, Virtual Reality and Audio-Visual), Software AI & Cyber, Academic Zone, Academic Outreach, Industry Outreach and Public Interface.

Several technologies developed for land based, naval and air-based systems are showcased through experience zones - a closed room immersive cinematic experience. In a first, Advanced Combat Aircraft (AMCA) simulator will be made available to experience, among other augmented and virtual reality Naval, Land and Air product simulators. A holographic deck providing a 3D experience of over 30 defence products is present at the hall to gain insights into the intricacies of weapon designs.

Over a sprawling 1200 sq. mtr. outdoor display, 18 Outdoor static exhibits (actual products) are also put on display at the Helipad Exhibition Centre. These include Border Surveillance System (BOSS), Laser Fence System (LFS), IRDE Tableau, BrahMos Air Version Missile, Mobile Autonomous Launcher (MAL) for BrahMos, CBRN Water Purification System, Infantry Combat Vehicle with Composite Hull (CICV), Advanced Composites Modular Bridge System (ACMBS), 155mm/52 Cal Advanced Towed Artillery Gun System (ATAGS), CBRN Water Purification System, CBRN Recce Vehicles, 70 T Tank Transporter, Wheeled Armoured Platform (WhAP), Prabar Missile, Rudram III Missile, Quick reaction Surface to Air Missile (QRSAM), Medium Range Surface to Air Missile (MRSAM), Mounted Gun System (MSG), Unmanned Ground Mobile Platform (UGMP).

DRDO is presenting Live Demo as well as Static Display of equipment at the Sabarmati River Front. Five Live demo of DRDO equipment are being put on display namely - Portable Diver Detection Sonar (PDDS) with Electro Optic System (EOS), Imaging Sonar 'CHITR', Autonomous Survey Vehicle - Inland, Autonomous Survey Vehicle - Coastal (ASV - Coastal) and Weapon Mounted Surface Vehicle. Whereas six static displays of DRDO equipment presented are Air Independent Propulsion System, Virtual Reality based counter measure deployment simulator, TAL Torpedo, Portable Diver Detection Sonar, Wet End Unit, Counter Drone System for IN - D4 Radar, Soft Kill System and Hard Kill System, and Passive IRSS Device.

And finally, India Pavilion in the Helipad Exhibition Centre is displaying a combined strength of DRDO along with public and private sectors. DRDO has put its 22 products on static display. These high-value products are displayed in the form of actual products and include - VIBHAV- Anti Tank Polar Attack Munition, VISHAL- Anti Tank Bar Mine, PRACHAND- Anti Tank, 9 x 19mm Machine Pistol- ASMI, Mine Field marking Equipment Mk II, Light Tank, Datsch Defuser, MBT Arjun Mk-1A, Light Machine Gun, Pralay, QRSAM, Carbine- 5.56 x 45mm, AIP System- Air Independent Propulsion, TAPAS, ASTRA Mk-I, LCA Mk2 amongst others.

A seminar conducted by DRDO on the theme 'Atmanirbhar Bhaat in Defence R&D: Synergistic Approach' will be held at the Mahatma Mandir Convention Centre in the forenoon session on October 20, 2022. This will be chaired by Defence Minister. Winners of Dare to Dream 3 will be awarded by Defence Minister. DRDO will exchange MOU with six IITs and Bharatiar University for establishing new DfA CoEs in presence of Defence Minister. Dare to Dream 4 contest will also be declared open by Defence Minister. Minister of State for Defence will release a few monographs and policies.

Over the span of the exhibition, the participants and attendees will witness a string of major events, seminars, and discussions. Among these is one such event - Bandhan - designed to handover licenses of DRDO developed technologies to the industries. DefExpo 2022 will see 15 LATOs and 10 technologies to 12 industries in its Bandhan event. ■

**At DefExpo 2022, DRDO is providing numerous static displays, live demonstrations, seminars as well as immersive experience zones spread across three locations**

**PATH TO PRIDE**

**ATAGS**  
(Advanced Towed Artillery Gun System)

Setting 'Gold Standard' globally for Towed Artillery Gun in the 155mm/52cal segment

- Fired at 15,000m feet height to 100km, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ hrs in treacherous high-altitude terrain up to 15,000 feet and proving ease of mobility
- World record with longest firing range of 48.074 km (30-090 BS), thus proving range
- System has the phenomenal ability to fire in case 7 degree (only gun in the segment with larger diameter volume), thus proving lethality
- Shortest turning Circle Diameter for any towed gun of 155mm/52cal caliber with patented technology, thus proving innovation

155mm/52 Cal. Tel: 01-26-5708 7777 / 2268 | Email: atags@drdoindia.com | www.drdoindia.com








Publication: SAP Media Publication

Edition: Show Daily 1 (Ad)

Date : October 18, 2022



**PATH TO PRIDE**

KALYANI

## ATAGS

(Advanced Towed Artillery Gun System)

Setting 'Gold Standard' Globally for Towed Artillery Gun in the 155mm/52Cal segment

- Fired at 13,000+ feet height in Sikkim, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ kms in treacherous high-altitude terrain up to 15,400 feet and proving ease of mobility
- World record with longest firing range of 48.074 km (HE-ERFB BB), thus proving range
- System has the phenomenal ability to fire in zone 7 charge (only gun in the segment with larger chamber volume), thus proving lethality
- Shortest Turning Circle Diameter for any towed gun of 155mm/ 52cal calibre with patented technology, thus proving innovation

ARTILLERY    PROTECTED VEHICLES    AEROSPACE    ARMOURED VEHICLES    AIR DEFENCE SYSTEMS    AMMUNITION BODIES    DEFENCE ELECTRONICS    SMALL ARMS    MARINE SYSTEMS

Mundhwa, Pune - 411 036. Tel: +91-20-6704 2777 / 2868 | [contact.defence@bharatforge.com](mailto:contact.defence@bharatforge.com) | [www.bharatforge.com](http://www.bharatforge.com)







Publication: SAP Media Publication

Edition: Show Daily 1 (News)

Date : October 18, 2022

## Bharat Forge Ltd. dispatches Kalyani M4 vehicles for UN Peacekeeping Missions

**B**harat Forge Limited recently dispatched 16 world-class and Made-In-India Kalyani M4 vehicles to the Indian Army for United Nations Peacekeeping deployment. The Kalyani M4 is a state-of-the-art Armoured Personnel Carrier that provides unprecedented levels of protection to the occupants against high Kinetic Energy threats including severe mine blasts and grenades.

The Kalyani M4 is a Quick Reaction Fighting Vehicle (Heavy) indigenously manufactured by Bharat Forge Ltd and is capable of carrying an Infantry Platoon in full combat gear. The Kalyani M4 successfully completed a series of extreme vehicle trials in some of the toughest environments in India. The trials were conducted in the freezing terrains of Leh and Ladakh, and the deserts of Rann of Kutch.

Speaking on the momentous occasion, Mr. Baba N. Kalyani, Chairman, and Managing Director, Bharat Forge Ltd. said, "We are proud to be delivering the Made in India Kalyani M4 for UN Peacekeeping missions. This encourages us to work for the benefit of our armed forces and it reinforces our commitment to harness our Prime Minister's vision for Atmanirbharat and self-reliance in the defence sector."

Mr. Amit Kalyani, Deputy Managing Director, Bharat Forge Ltd. added,



"Keeping crew safety and vehicle performance as paramount factors, Kalyani M4 has been ergonomically and aesthetically designed to allow the crew to perform their duties in an optimum manner."

The Kalyani M4 can enhance the required combat power in minimum time in all types of terrain with the help of a combat radius of approximately 800 kms. It is equipped with modern military-grade power terrain will all-time situational awareness. The Kalyani M4 today is the best mobility platform available in the world and variants such as the ambulance and command post vehicles have been delivered to the Indian Army in the past. Recently, Army's northern command inducted the Kalyani M4 to its fleet of armoured vehicles under an emergency procurement amid the China-India border standoff. The vehicle can withstand three 10 kg TNT charges under the wheels and one 50 kg IED blast at one side. ■



Publication: Aeromag Asia

Edition: Show Daily 1 (Ad)

Date : October 18, 2022

**PATH TO PRIDE**

KALYANI

## ATAGS

(Advanced Towed Artillery Gun System)

Setting 'Gold Standard' Globally for Towed Artillery Gun in the 155mm/52Cal segment

- Fired at 13,000+ feet height in Sikkim, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ kms in treacherous high-altitude terrain up to 15,400 feet and proving ease of mobility
- World record with longest firing range of 48.074 km (HE-ERFB BB), thus proving range
- System has the phenomenal ability to fire in zone 7 charge (only gun in the segment with larger chamber volume), thus proving lethality
- Shortest Turning Circle Diameter for any towed gun of 155mm/ 52cal calibre with patented technology, thus proving innovation

ARTILLERY    PROTECTED VEHICLES    AEROSPACE    ARMOURED VEHICLES    AIR DEFENCE SYSTEMS    AMMUNITION BODIES    DEFENCE ELECTRONICS    SMALL ARMS    MARINE SYSTEMS

Mundhwa, Pune - 411 036. Tel: +91-20-6704 2777 / 2868 | [contact.defence@bharatforge.com](mailto:contact.defence@bharatforge.com) | [www.bharatforge.com](http://www.bharatforge.com)







Publication: Vayu Aerospace

Edition: Show Daily 1 (Ad)

Date : October 18, 2022

**PATH TO PRIDE**

KALYANI

## ATAGS

(Advanced Towed Artillery Gun System)

Setting 'Gold Standard' Globally for Towed Artillery Gun in the 155mm/52Cal segment

- Fired at 13,000+ feet height in Sikkim, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ kms in treacherous high-altitude terrain up to 15,400 feet and proving ease of mobility
- World record with longest firing range of 48.074 km (HE-ERFB BB), thus proving range
- System has the phenomenal ability to fire in zone 7 charge (only gun in the segment with larger chamber volume), thus proving lethality
- Shortest Turning Circle Diameter for any towed gun of 155mm/ 52cal calibre with patented technology, thus proving innovation

ARTILLERY    PROTECTED VEHICLES    AEROSPACE    ARMOURED VEHICLES    AIR DEFENCE SYSTEMS    AMMUNITION BODIES    DEFENCE ELECTRONICS    SMALL ARMS    MARINE SYSTEMS

Mundhwa, Pune - 411 036. Tel: +91-20-6704 2777 / 2868 | [contact.defence@bharatforge.com](mailto:contact.defence@bharatforge.com) | [www.bharatforge.com](http://www.bharatforge.com)



<b>Publication: Force India</b>	<b>Edition: Show Daily 1 (Ad)</b>
Date : October 18, 2022	

## PATH TO PRIDE

**ATAGS**  
(Advanced Towed Artillery Gun System)

Setting 'Gold Standard' Globally for towed Artillery Gun in the 155mm/52Cal segment

- Fired at 13,000+ feet height in Sikkim, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ kms in treacherous high-altitude terrain up to 15,400 feet and proving ease of mobility
- World record with longest firing range of 48.074 km (H1-3870.00), thus proving range
- System has the phenomenal ability to fire in zone 7 charge (only gun in the segment with larger chamber volume), thus proving lethality
- Shortest Turning Circle Diameter for any towed gun of 155mm/ 52cal calibre with patented technology thus proving innovation

Manufacture, Pune - 411 006, Tel: +91-20-4704 2777 / 2868 | contact.defence@bharatforge.com | www.bharatforge.com



**Publication: Aeromag Asia**

**Edition: Show Daily 2 (Ad)**

**Date : October 19, 2022**



# PATH TO PRIDE



## ATAGS

(Advanced Towed Artillery Gun System)

Setting 'Gold Standard' Globally for Towed Artillery Gun in the 155mm/52Cal segment

- Fired at 13,000+ feet height in Sikkim, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ kms in treacherous high-altitude terrain up to 15,400 feet and proving ease of mobility
- World record with longest firing range of 48.074 km (HE-ERFB BB), thus proving range
- System has the phenomenal ability to fire in zone 7 charge (only gun in the segment with larger chamber volume), thus proving lethality
- Shortest Turning Circle Diameter for any towed gun of 155mm/ 52cal calibre with patented technology, thus proving innovation



ARTILLERY



PROTECTED VEHICLES



AEROSPACE



ARMOURD VEHICLES



AIR DEFENCE SYSTEMS



AMMUNITION BOXES



DEFENCE ELECTRONICS



SMALL ARMS



NAVAL SYSTEMS

Mundhwa, Pune - 411 036. Tel: +91-20-6704 2777 / 2868 | [contact.defence@bharatforge.com](mailto:contact.defence@bharatforge.com) | [www.bharatforge.com](http://www.bharatforge.com)





Publication: SAP Media Publications

Edition: Show Daily 2 (Ad)

Date : October 19, 2022



**PATH TO PRIDE**

KALYANI

## ATAGS

(Advanced Towed Artillery Gun System)

Setting 'Gold Standard' Globally for Towed Artillery Gun in the 155mm/52Cal segment

- Fired at 13,000+ feet height in Sikkim, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ kms in treacherous high-altitude terrain up to 15,400 feet and proving ease of mobility
- World record with longest firing range of 48.074 km (HE-ERFB BB), thus proving range
- System has the phenomenal ability to fire in zone 7 charge (only gun in the segment with larger chamber volume), thus proving lethality
- Shortest Turning Circle Diameter for any towed gun of 155mm/ 52cal calibre with patented technology, thus proving innovation

ARTILLERY    PROTECTED VEHICLES    AEROSPACE    ARMOURED VEHICLES    AIR DEFENCE SYSTEMS    AMMUNITION BODIES    DEFENCE ELECTRONICS    SMALL ARMS    MARINE SYSTEMS

Mundhwa, Pune - 411 036. Tel: +91-20-6704 2777 / 2868 | [contact.defence@bharatforge.com](mailto:contact.defence@bharatforge.com) | [www.bharatforge.com](http://www.bharatforge.com)







# 'We want to be an artillery power house' - Baba Kalyani

Baba Kalyani spoke to select media on a round table about their company's progress which has contributed in making India an Exporter from being a major Importer of Defence Products.

Speaking about technology and innovation, he said that these are the cornerstones of their presence in the defence industry. However, everything that you do has to make business sense as well. "We prefer to do everything ourselves rather than depend on third party partners. Our volumes are low where we strive to make one gun a day unlike cars where 2000 cars are manufactured per day," he adds. We would like to be an artillery power house of the world.

Kalyani also stressed about this being a turning point in the industry from the days when private sectors' participation in defence was largely confined from sub supplier to ordnance factories to now where the Indian defence industry has stopped looking inwards and are now looking at exports.

"It's not that we've not been in defence. We've been in defence for a long period of time. And the basic reason for this is defence by and large, at least in this area of defence land systems, artillery guns, smaller arms, armoured vehicle and to some extent, aircraft is largely dependent on very high metallurgical skills and metallurgical components, which is our area of expertise has been, and still is."

"Our level of expertise in this area is extremely high, even on a global basis. We work with DRDO on that but there are another five platform that we have designed on our own with our own technology, and our own intellectual property. I don't think there is a company in India who has done this. Not a single one."

The ATAGS program, was generated by DRDO. But when you're designing a gun and you're making something, you make an improvement



ATAGS



Baba\_Kalyani

then you need to see how it works. So you need to be able to test fire. I think we have made good progress and we should now see very quickly the induction of this gun in the Indian Army.

Talking about the trials he said that they are also a learning curve. It's also an experience when you do anything for the first time. Anybody in the world, no matter what you're making -- a car or an aircraft-- you're bound to have some teething troubles. But anyway, for the second one you learn from the first, you make the third one, you learn from the first two.

The company was also able to bring in a lot of good engineering into the system via its products. Areas like capabilities in simulation in order to be able to do computer simulations from many of their products have also been happening. So we know how the sub systems will behave, how they will work he said.

Fortunately for Bharat Forge, the COVID period acted as a booster to develop independent electronic controls, which earlier were imported from outside. "In most Indian

defence platform, usually the electronics are coming from outside, but in our case, we earlier had electronics coming from outside. But during COVID we were able to develop everything inhouse." So now it's a 100% indigenous gun and has led to an advantage of being able to make the guns themselves.

Here's a company that has the capability and the maturity to design, develop and produce an indigenous product, a real Atmanirbhar product and not dependent on anybody else.

Kalyani says that the 105 artillery guns are also an interesting feat for the company. "Nowhere in the world has anybody made a 105 artillery gun with the weight bracket of 900 kg. Nowhere in the world! All the 105 artillery guns in the world are made at around 3 tons (3000 Kg).

Talking about DRDO, Kalyani states that they are an applied research organization. They take fundamental research and then they apply it in creating products. But their biggest challenge or bottleneck was that they were not able to create products of world-class quality because their production partners didn't have the ability to do that. Now with private sector getting in, and not only Bharat Forge, there are many other companies that DRDO works with. DRDO probably works with more than 200 private companies. They have now production partners, which can make world-class products.

So the way, we see our sweet spot. We want to be an artillery power house. Our target is to make one gun a day from six guns a month. If all the manufacturing companies in the world were to come together they would not be able to make one gun a day. ■

- Vincent Fernandes



Garuda





Publication: SAP Media Publications

Edition: Show Daily 2 (News)

Date : October 19, 2022

# Bharat Forge Signs MoU with General Atomics, USA

**B**harat Forge Ltd., the world's leading technology solutions provider and forging company signed a Memorandum of Understanding (MoU) with General Atomics, US, a global leader in the research, design, and manufacture of a diverse portfolio of electromagnetic and advanced power and energy technologies. Under the terms of the MoU, Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion Battery System for naval platforms/submarines to address the requirements of Indian Navy. The parties have also agreed to partner with each other in the area of permanent magnet motors.

Speaking on the occasion, Mr. Baba Kalyani, Chairman Kalyani Group said, "We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals. GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India."

"We look forward to working with Bharat Forge to meet the requirements of Indian Navy. Our Li-Ion battery system has been developed after 10 years of rigorous R&D. Instead of the usual 'fault prevention', our design philosophy is based on assuming a fault and requiring fault containment', which has made our system extremely safe and reliable", stated Scott Forney, President of GA-EMS. "We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms." ■

---



<b>Publication: SP Guide Publications</b>	<b>Edition: Show Daily 2 (Ad)</b>
Date : October 19, 2022	





SPECIAL REPORT

## Tatra Trucks – Traditional Manufacturer of Modern Military Trucks

**T**atra Trucks manufactures Tatra vehicles with a unique chassis design with a central backbone tube and with independently suspended swinging semi-axes and all-wheel drive. The company produces three model lines – FORCE, TACTIC and PHOENIX.

Tatra FORCE is the main model for the armed forces, the company supplies it to NATO armies (most recently Germany – military firefighter trucks, Denmark – wheeled howitzers) and other armed forces in Europe, South America and Asia (e.g. Brazil, Indonesia etc.). FORCE model trucks can be equipped with Tatra engines or engines by other manufacturers and standard or armoured cabins.

The TACTIC model line is produced in 4x4 and 6x6 versions with standard and armoured cabins. The TACTIC model is equipped with Cummins engines, the transmission is either fully automatic or manual. The cabin has a number of unified elements with a FORCE model.

The PHOENIX model is designed for military and civilian use or rescue services. The PHOENIX model line uses a combination of the Tatra chassis and sub-assemblies of foreign manufacturers. Most recently, Tatra Trucks, in cooperation with DAF Trucks, supplies the Belgian army with more than 900 vehicles of the PHOENIX model line.

Tatra Trucks also supplies its chassis platforms for special military vehicles by other manufacturers in Europe, Asia, South America, and Africa. Tatra chassis for military applications are exported, for example, to France, Israel, India, Brazil, Poland, Turkey, Jordan, etc. Tatra military vehicles are manufactured not only in Czech Republic but also in Slovakia and Saudi Arabia. ■



**PATH TO PRIDE** 



**ATAGS**  
(Advanced Towed Artillery Gun System)

Setting 'Gold Standard' Globally for Towed Artillery Gun in the 155mm/52Cal segment

- Fired at 33,000+ feet height in Sikkim, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ kms in treacherous high-altitude terrain up to 15,400 feet and proving ease of mobility
- World record with longest firing range of 48.074 km (HG-48FB B&L), thus proving range
- System has the phenomenal ability to fire in zone 7 charge (only gun in the segment with larger chamber volume), thus proving lethality
- Shortest Turning Circle Diameter for any towed gun of 155mm/ 52cal calibre with patented technology, thus proving innovation



Munibha, Pune - 411 036 | tel: +91-20-6704 2777 / 1166 | contact.defence@kalyantrucks.com | www.kalyantrucks.com

DEFEXPO 2022

 **Munitions India Limited**   
Accurate. Lethal. Reliable. **DEFEXPO 2022 INDIA**  
Ministry of Defence

Small Calibre Ammunition    Medium Calibre Ammunition    Large Calibre Ammunition    Mortar Bombs    Tank Ammunition    Rocket Pinaka



Stall No. - 2R.15  
HALL No.: 02

<https://munitionsindia.co.in>    +91 - 20 - 67080400  
munitions india limited    mil@munitionsindia.in  
@indiamunitions    exports@munitionsindia.in







# PATH TO PRIDE



## **ATAGS** (Advanced Towed Artillery Gun System)

Setting 'Gold Standard' Globally for Towed Artillery Gun in the 155mm/52cal segment

- Fired at 13,000+ feet height in Sikkim, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ kms in treacherous high-altitude terrain up to 15,400 feet and proving ease of mobility
- World record with longest firing range of 48.074 km (HE-ERFB BB), thus proving range
- System has the phenomenal ability to fire in zone 7 charge (only gun in the segment with larger chamber volume), thus proving lethality
- Shortest Turning Circle Diameter for any towed gun of 155mm/ 52cal calibre with patented technology, thus proving innovation



ARTILLERY



PROTECTED VEHICLES



AEROSPACE



ARMOURD VEHICLES



AIR DEFENCE SYSTEMS



AMMUNITION BODIES



DEFENCE ELECTRONICS



SMALL ARMS




MARINE SYSTEMS

Mundhwa, Pune - 411 036. Tel: +91-20-6704 2777 / 2868 | [contact.defence@bharatforge.com](mailto:contact.defence@bharatforge.com) | [www.bharatforge.com](http://www.bharatforge.com)





<b>Publication: Force India</b>	<b>Edition: Show Daily 2 (Ad)</b>
Date : October 19, 2022	



**PATH TO PRIDE**

KALYANI

## ATAGS

(Advanced Towed Artillery Gun System)

Setting 'Gold Standard' Globally for Towed Artillery Gun in the 155mm/52cal segment

- Fired at 13,000+ feet height in Sikkim, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ kms in treacherous high-altitude terrain up to 15,400 feet and proving ease of mobility
- World record with longest firing range of 48.074 km (HE-ERFB BB), thus proving range
- System has the phenomenal ability to fire in zone 7 charge (only gun in the segment with larger chamber volume), thus proving lethality
- Shortest Turning Circle Diameter for any towed gun of 155mm/ 52cal calibre with patented technology, thus proving innovation

ARTILLERY    PROTECTED VEHICLES    AEROSPACE    ARMOURD VEHICLES    AIR DEFENCE SYSTEMS    AMMUNITION BODIES    DEFENCE ELECTRONICS    SMALL ARMS    MARINE SYSTEMS

Mundhwa, Pune - 411 036. Tel: +91-20-6704 2777 / 2868 | [contact.defence@bharatforge.com](mailto:contact.defence@bharatforge.com) | [www.bharatforge.com](http://www.bharatforge.com)





**Publication: Raksha Anirveda**

**Edition: DefExpo Special**

Date : October 19, 2022



# PATH TO PRIDE



## ATAGS (Advanced Towed Artillery Gun System)

Setting 'Gold Standard' Globally for Towed Artillery Gun in the 155mm/52Cal segment

- Fired at 13,000+ feet height in Sikkim, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ kms in treacherous high-altitude terrain up to 15,400 feet and proving ease of mobility
- World record with longest firing range of 48.074 km (HE-ERFB BB), thus proving range
- System has the phenomenal ability to fire in zone 7 charge (only gun in the segment with larger chamber volume), thus proving lethality
- Shortest Turning Circle Diameter for any towed gun of 155mm/ 52cal calibre with patented technology, thus proving innovation



ARTILLERY



PROTECTED VEHICLES



AEROSPACE



ARMOURD VEHICLES



AIR DEFENCE SYSTEMS



AMMUNITION BODIES



DEFENCE ELECTRONICS



SMALL ARMS



MARINE SYSTEMS

Mundhwa, Pune - 411 036. Tel: +91-20-6704 2777 / 2868 | [contact.defence@bharatforge.com](mailto:contact.defence@bharatforge.com) | [www.bharatforge.com](http://www.bharatforge.com)

Publication: Aeromag Asia

Edition: Show Daily 3 (Ad)

Date : October 20, 2022



# PATH TO PRIDE



## **ATAGS** (Advanced Towed Artillery Gun System)

Setting 'Gold Standard' Globally for Towed Artillery Gun in the 155mm/52cal segment

- Fired at 13,000+ feet height in Sikkim, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ kms in treacherous high-altitude terrain up to 15,400 feet and proving ease of mobility
- World record with longest firing range of 48.074 km (HE-ERFB BB), thus proving range
- System has the phenomenal ability to fire in zone 7 charge (only gun in the segment with larger chamber volume), thus proving lethality
- Shortest Turning Circle Diameter for any towed gun of 155mm/ 52cal calibre with patented technology, thus proving innovation



ARTILLERY



PROTECTED VEHICLES



AEROSPACE



ARMOURD VEHICLES



AIR DEFENCE SYSTEMS



AMMUNITION BODIES



DEFENCE ELECTRONICS



SMALL ARMS



MARINE SYSTEMS

Mundhwa, Pune - 411 036. Tel: +91-20-6704 2777 / 2868 | [contact.defence@bharatforge.com](mailto:contact.defence@bharatforge.com) | [www.bharatforge.com](http://www.bharatforge.com)





Publication: Aeromag Asia

Edition: Show Daily 3 (News)

Date : October 20, 2022

## Bharat Forge Signs MOU with General Atomics



**B**harat Forge Ltd., the world's leading technology solutions provider and forging company signed a Memorandum of Understanding (MOU) with General Atomics, US, a global leader in the research, design, and manufacture of a diverse portfolio of electromagnetic and advanced power and energy technologies. Under the terms of the MOU, Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion Battery System for naval platforms/submarines to address the requirements of Indian Navy. The parties have also agreed to partner with each other in the area of

permanent magnet motors.

Speaking on the occasion, Baba Kalyani, Chairman Kalyani Group said, "We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals.

GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India."

"We look forward to working with

Bharat Forge to meet the requirements of Indian Navy. Our Li-Ion battery system has been developed after 10 years of rigorous R&D. Instead of the usual 'fault prevention', our design philosophy is based on assuming a fault and requiring fault containment', which has made our system extremely safe and reliable", stated Scott Forney, president of GA-EMS.

"We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms."



Publication: SAP Media Publications

Edition: Show Daily 3 (Ad)

Date : October 20, 2022



# PATH TO PRIDE



## **ATAGS** (Advanced Towed Artillery Gun System)

Setting 'Gold Standard' Globally for Towed Artillery Gun in the 155mm/52Cal segment

- Fired at 13,000+ feet height in Sikkim, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ kms in treacherous high-altitude terrain up to 15,400 feet and proving ease of mobility
- World record with longest firing range of 48.074 km (HE-ERFB BB), thus proving range
- System has the phenomenal ability to fire in zone 7 charge (only gun in the segment with larger chamber volume), thus proving lethality
- Shortest Turning Circle Diameter for any towed gun of 155mm/ 52cal calibre with patented technology, thus proving innovation



ARTILLERY



PROTECTED VEHICLES



AEROSPACE



ARMORED VEHICLES



AIR DEFENCE SYSTEMS



AMMUNITION BOXES



DEFENCE ELECTRONICS



SMALL ARMS



NAVAL SYSTEMS

Mundhwa, Pune - 411 036. Tel: +91-20-6704 2777 / 2868 | [contact.defence@bharatforge.com](mailto:contact.defence@bharatforge.com) | [www.bharatforge.com](http://www.bharatforge.com)





Publication: SAP Media Publications

Edition: Show Daily 3 (News)

Date : October 20, 2022

## Bharat Forge signs a MoU with General Atomics

To collaborate for Lithium-Ion Battery System for Naval platforms/submarines

**B**harat Forge and General Atomics signed a Memorandum of Understanding (MOU) for research, design and manufacture of a diverse portfolio of electromagnetic and advanced power and energy technologies. Under the terms of the MoU, Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion Battery System for naval platforms/submarines to address the requirements of the Indian Navy. The companies have also agreed to partner with each other in the area of permanent magnet motors.

Speaking on the occasion Baba Kalyani, Chairman, Kalyani Group said that they've been working relentlessly working towards bringing niche tech-

nologies in the country with the aim of making Indian self-reliant in defence verticals and their partnership with General Atomics is a firm step in the direction to develop Make in India solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India.

Scott Forney, President, GA-EMS stated that they look forward to working with Bharat Forge to meet the requirements of Indian Navy. "Our Li-Ion battery system has been developed after 10 years of rigorous R&D. Instead of the usual 'fault prevention', our design philosophy is based on assuming a fault and requiring 'fault containment', which has made our system extremely safe and reliable". ■



Bharat Forge and General Atomics sign collaboration agreement.



**Publication: Geopolitics**

**Edition: Show Daily 3 (Ad)**

Date : October 20, 2022



# geopolitics

2022 SHOW D

the po... cutting-edge des... manufactur... assembly... capabilities... chion to... will... and... jobs use the... 10 years.

**Indian firms are already Tier-1 suppliers for Airbus commercial aircraft programmes, is the same planned in the defence sector?**

"Make in India" is at the heart of the Airbus business strategy for the country, and we are proud to say that every Airbus commercial aircraft manufactured today is partly designed and made in India. Indian companies are an integral part of Airbus' global supply chain and contribute to a range of Airbus aircraft programmes. We are constantly increasing India's contribution to our global products through high quality procurement, of both components and services, worth more than US\$650 million/year from more than 45 Indian suppliers who are producing various parts for multiple aircraft programmes. We intend to leverage our existing commercial supply chain to further develop our defence supply chain.

**With India having a growing requirement to transport soldiers to smaller airfields at higher altitudes, what are**

**the prospects for the Airbus in India?**

the prospects for the Airbus in India are bright. The Indian government's commitment to 'Make in India' and the growing defence budget are key factors. Airbus is already a Tier-1 supplier for Airbus commercial aircraft programmes in India. The A400M is a large, modern, versatile aircraft in its segment that has capabilities to carry out multiple operations. Equipped with state-of-the-art technologies, it can perform tactical airlifts to air-to-air refuelling missions and enables a rapid response to crises. The aircraft has also demonstrated its worth in supporting humanitarian and disaster relief operations as well as VIP transport. The A330 MRTT and A400M are an ideal combination when it comes to carrying strategic loads with the ability to deliver even into tactical locations. They are both proven force multipliers that are compatible with a range of military aircraft. Together with the C295 they

**offer complete and tactical support for a range of armed forces operations.**

**How do you see the development of indigenous defence products by way of consultancy to DRDO, HAL, BEL etc?**

India goes back to the 1960s when we partnered with HAL to produce the Chetak/Chetak helicopters. Till date, more than 600 of these helicopters have been manufactured by HAL, based on our designs. Airbus also collaborated with HAL for the design of the indigenous produced Dhruv. Airbus is actively supporting India's military modernisation as well as the nation's endeavours to develop the defence manufacturing ecosystem. Airbus is keen to further India's efforts to build a robust indigenous military industrial capability through transfer of technology and joint development and production with local partners. This is demonstrated by the collaborative projects Airbus has successfully delivered with Indian defence R&D bodies such as Defence Research & Development Organisation (DRDO) and the private industry. Airbus has collaborated with DRDO to develop an Airborne Early Warning & Control System (AEW&C) solution that has been certified as 'indigenous' by Indian authorities.



**M**elio takes metal 3D printing to the next level by developing a metal 3D printing technology truly capable of competing in production costs against traditional manufacturing methods, while at the same time helping reduce lead-times and overdependence on supply chains.

Melio achieves this incredible benefit through its patented wire-laser DED technology based on a 6-laser architecture and the use of commodity welding wire, which is the cleanest, safest and cheapest metal feedstock in the market.

Its high performance, versatility and the exceptional mechanical properties of its printed parts has gained the attention of defence industries all over the world.

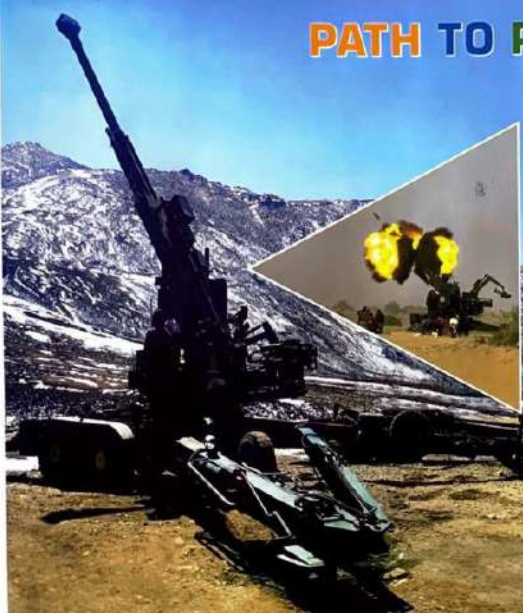
**About Monotech Systems:** Monotech Systems Ltd is a leading manufacturer and solution provider of high performance and reliable


products and solutions to the printing & packaging industry. The company has six business verticals addressing Offset (Prepress, Press & Post Press), Digital Printing, Label & Packaging, Signage & Textiles, Digital Enhancement, Engineering Systems and 3D printing markets.

Established in 1999, the company has been consistently achieving steady growth in business and has become the market leader in many of the segments it operates. Monotech has its corporate office in Chennai and has extensive sales and service support across the nation.

In 2021 Monotech became an official partner of Melio and since then it has played a key role in the distribution and support of Melio's metal 3D printing solutions in the Indian market by driving business opportunities alongside technology centers, tooling machine companies, robotic integrators, academia, and industry.

## PATH TO PRIDE





**KALYANI**

### ATAGS

(Advanced Towed Artillery Gun System)

**Setting 'Gold Standard' Globally for Towed Artillery Gun in the 155mm/52Cal segment**

- Fired at 13,000+ feet height in Sikkim, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ kms in treacherous high-altitude terrain up to 15,400 feet and proving ease of mobility
- World record with longest firing range of 48.074 km (HE-ERFB BB), thus proving range
- System has the phenomenal ability to fire in zone 7 charge (only gun in the segment with larger chamber volume), thus proving lethality
- Shortest Turning Circle Diameter for any towed gun of 155mm/ 52cal calibre with patented technology, thus proving innovation

ARTILLERY

ARMOURD VEHICLES

AEROSPACE

ARMOURD VEHICLES

AIR DEFENCE SYSTEMS

AMMUNITION BODIES

DEFENCE ELECTRONICS

SMALL ARMS

MARINE SYSTEMS

Mundhwa, Pune - 411 035. Tel: +91-20-6704 2777 / 2868 | contact.defence@bharatforge.com | www.kssl.in





Date : October 20, 2022

## Bharat Forge Signs a Memorandum of Understanding With General Atomics

*Companies to collaborate for Indian Navy Lithium-Ion Battery System for naval platforms/submarines Program*

**B**harat Forge Ltd., the world's leading technology solutions provider and forging company signed a Memorandum of Understanding (MOU) with General Atomics, US, a global leader in the research, design, and manufacture of a diverse portfolio of electromagnetic and advanced power and energy technologies. Under the terms of the MOU, Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion Battery System for naval platforms/submarines to address the requirements of Indian Navy. The parties have also agreed to partner with each other in the area of permanent magnet motors.

Speaking on the occasion, Mr. Baba Kalyani, Chairman Kalyani Group said, "We have been relentlessly working towards bringing niche technologies in the country with the aim of making Indian self-reliant in defence verticals. GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for

Indian Navy and setting up a strong defence technology and manufacturing vertical within India."

"We look forward to working with Bharat Forge



to meet the requirements of Indian Navy. Our Li-Ion battery system has been developed after 10 years of rigorous R&D. Instead of the usual 'fault prevention', our design philosophy is based on assuming a fault and requiring fault containment', which has made our system extremely safe and reliable", stated Scott Forney, president of GA-EMS. "We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms." ■



<b>Publication: Force</b>	<b>Edition: Show Daily 3 (Ad)</b>
Date : October 20, 2022	



# PATH TO PRIDE



## ATAGS

(Advanced Towed Artillery Gun System)

Setting 'Gold Standard' Globally for Towed Artillery Gun in the 155mm/52Cal segment

- Fired at 13,000+ feet height in Sikkim, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ kms in treacherous high-altitude terrain up to 15,400 feet and proving ease of mobility
- World record with longest firing range of 48.074 km (HE-ERFB BB), thus proving range
- System has the phenomenal ability to fire in zone 7 charge (only gun in the segment with larger chamber volume), thus proving lethality
- Shortest Turning Circle Diameter for any towed gun of 155mm/ 52cal calibre with patented technology, thus proving innovation



ARTILLERY



PROTECTED VEHICLES



AEROSPACE



ARMOURD VEHICLES



AIR DEFENCE SYSTEMS



AMMUNITION BODIES



DEFENCE ELECTRONICS



SMALL ARMS



MARINE SYSTEMS

Mundhwa, Pune - 411 036. Tel: +91-20-6704 2777 / 2868 | [contact.defence@bharatforge.com](mailto:contact.defence@bharatforge.com) | [www.bharatforge.com](http://www.bharatforge.com)





Date : October 20, 2022

## Bharat Forge Signs an MoU with General Atomics, USA for Lithium-Ion Battery System for Indian Navy



Bharat Forge Ltd., signed a Memorandum of Understanding (MOU) with General Atomics, US. Under the terms of the MOU, Bharat Forge and General Atomics' Electromagnetic Systems Group (GA-EMS) will collaborate for Lithium-Ion Battery System for naval platforms/submarines to address the requirements of Indian Navy. The parties have also agreed to partner with each other in the area of permanent

magnet motors.

Speaking on the occasion, Chairman Kalyani Group, Baba Kalyani said, "We have been relentlessly working towards bringing niche technologies in the country with the aim of making India self-reliant in defence verticals. GA is a market leader for in-service Li-Ion Battery solutions for naval platforms/submarines and our partnership with General Atomics is a firm step in the direction to develop Make in India solutions for Indian Navy and setting up a strong defence technology and manufacturing vertical within India."

"We look forward to working with Bharat Forge to meet the requirements of Indian Navy. Our Li-Ion battery system has been developed after 10 years of rigorous R&D. Instead of the usual 'fault prevention', our design philosophy is based on assuming a fault and requiring fault containment', which has made our system extremely safe and reliable," stated president of GA-EMS, Scott Forney. "We are committed to working with companies like Bharat Forge, whose reputation for excellence and dedication to quality is synergistic with ours, as we continue to deliver technology innovations and cutting-edge systems for undersea and surface platforms." ||



Handle: Indian Defence Industries	Edition: Website
Date : October 14, 2022 – November 14, 2022	



# Indian Defence Industries

First News portal dedicated to the Indian Defence Industry

[www.indiandefenceindustries.in](http://www.indiandefenceindustries.in)



HOME
GOVERNMENT
INDIAN INDUSTRY
GLOBAL INDUSTRY
MILITARY
ANALYSIS
ABOUT
CONTACT

BATH TO PRIDE



### ATAGS


(Advanced Towed Artillery Gun System)

Setting 'Gold Standards' Globally for Towed Artillery Gun in the 155mm/52Cal segment.

- Fired at 18,000+ feet height in 50km, creating new record which no other 155mm gun has reached and fired, thus proving endurance and reliability
- Successfully completed 500+ tests in treacherous high-altitude terrain up to 55,000 feet and proving ease of mobility
- World record with longest firing range of 68.074 km (40-DRFB 06), thus proving range
- System has the phenomenal ability to fire in zone 7 charge (only gun in the segment with larger chamber volume), thus proving lethality
- Shortest Turning Circle Diameter for any towed gun of 155mm/ 52cal calibre with patented technology, thus proving innovation

WHAT'S HOT


PRIVATE



#### PM Lays Foundation Stone for C-295 Plant

By admin    October 31, 2022 - 13:59


PRIVATE



#### Katyani Group's Mounting Artillery Gun System 8X8 HMV unveiled

By admin    October 29, 2022 - 08:32


PUBLIC



#### DefExpo 22 - Day 3 India Invites Investors

By admin    October 20, 2022 - 18:25

GOVERNMENT
MINISTERS' CONCLAVE '22



#### DefExpo 22 - On the Sidelines

By admin    October 19, 2022 - 23:39

NEW



A NEW PERSPECTIVE ON GEOSTRATEGY & MORE

[More Details](#)

MOST POPULAR

PRIVATE





## **Social Media**



Handle : Vayu Aerospace

Source : Twitter

Date : 21 October 2022



Vayu Aerospace Review  
@ReviewVayu



It's official now

Kalyani Group's Mounting Artillery Gun System 8X8  
HMTV unveiled by Dr. Samir V Kamat, Secretary R&D and  
Chairman DRDO and Defence Minister Mr. Rajnath  
Singh at Defence Expo 2022

The MGS 8x8 is a 155mm/52cal Mounted Artillery Gun  
System







Handle : Technical Astra

Source : Twitter

Date : 21 October 2022



Technical Astra  
@kishanchand\_89



[#DefExpo2022](#) It's official now

Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled Dr. Samir V Kamat, Secretary R&D and Chairman DRDO and Defence Minister Mr. Rajnath Singh at Defence Expo 2022

The MGS 8x8 is a 155mm/52cal Mounted Artillery Gun System





Handle : Pune City

Source : Twitter

Date : 21 October 2022



Pune City  
@Punetimes1



[#PuneNews](#)

Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled by Defence Research and Development Organisation (DRDO).

[ift.tt/Uh6eHC7](https://ift.tt/Uh6eHC7)

[#Pune](#) [#PuneUpdates](#) [#Punekars](#)



[punekarnews.in](https://punekarnews.in)

Kalyani Group's Mounting Artillery Gun System 8X8 HMV unveiled by Defence ...  
Gandhinagar, 21 October 2022: Kalyani Group's MGS 8X8 HMV was unveiled today by Dr. Samir V Kamat, Secretary R&D and Chairman Defence Research ...



Handle : Aviation Defence Universe

Source : Twitter

Date : 19 October 2022



Aviation & Defence  
@ADUmedia



Bharat Forge Signs a Memorandum of Understanding  
With General Atomics, USA

[bit.ly/3gerOS5](https://bit.ly/3gerOS5)

#BharatForge #DefExpo2022  
#ElectromagneticSystemsGroup #GA-EMS  
#GeneralAtomics #IndianNavy #KalyaniGroup  
#BabaKalyani #ScottForney



aviation-defence-universe.com

Bharat Forge Signs a Memorandum of Understanding With ...  
Bharat Forge Ltd., the world's leading technology solutions  
provider and forging company signed a Memorandum of ...



Handle : ET Now Swadesh

Source : Twitter

Date : 21 October 2022



ET Now Swadesh  
@ETNowSwadesh



गांधीनगर में डिफेंस एक्सपो-2022 की शुरुआत  
👉 डिफेंस सेक्टर में 'आत्मनिर्भर भारत' का दमखम

देखिए Kalyani Group के CEO निलेश तुंगर के साथ खास  
बातचीत

[@shivanipost](#) [#DefExpoGujarat](#) [#DefExpo2022](#)

[Translate Tweet](#)





Handle : BQ Prime

Source : Twitter

Date : 18 October 2022



BQ Prime   
@bqprime



[#DefenceExpo2022](#) | Baba Kalyani speaks to [@sajeetkm](#) on the sidelines of the Defence Expo on how the Kalyani Group is scaling up and supplying new defence equipment to the Indian armed forces.  
[#BQLive](#)



**BQ PRIME**

Like Share Subscribe

14:35 1,615 viewers

[www.bqprime.com](http://www.bqprime.com)

 BQ Prime  @bqprime  
Defence Expo 2022 | Baba Kalyani speaks to Sajeet Manghat ( @sajeetkm ) on the sidelines of #DefenceExpo2022 on how Kalyani Group is scaling up and ...





Handle : The Print

Source : Twitter

Date : 18 October 2022



Snehesh Alex Philip   
@sneheshphilip



Imp:

Bharat Forge Ltd. has signed an MOU with General Atomics, USA to collaborate for Indian Navy's Lithium Ion Battery System for naval platforms and submarines Program.





Handle : Vayu Aerospace

Source : Twitter

Date : 18 October 2022



Vayu Aerospace Review  
@ReviewVayu

...

Never ending news and excitement from Defexpo 22

Bharat Forge Signs a Memorandum of Understanding  
With General Atomics, USA

Companies to collaborate for Indian Navy Lithium-Ion  
Battery System for naval platforms/submarines  
Programme







Handle : Neeraj Rajput (ABP)

Source : Twitter

Date : 18 October 2022



Neeraj Rajput   
@neeraj\_rajput



The mighty M4 combat vehicle recently deployed at LAC seen at [#Kalyani](#) Group stall.  
[#DefExpo22](#)





Handle : Indian Military Review

Source : YouTube

Date : 18 October 2022





Handle : Aviation Defence Universe

Source : YouTube

Date : 18 October 2022





Handle : Aviation Defence Universe

Source : YouTube

Date : 18 October 2022

