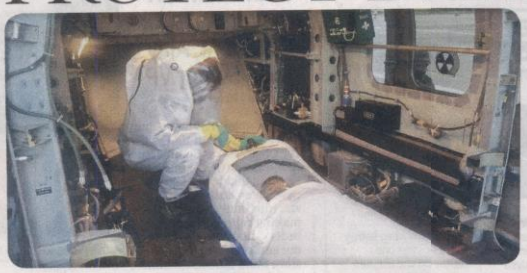
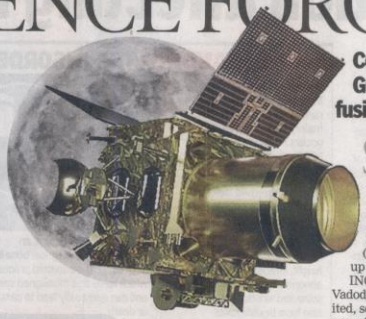
Specialized Products Made In The State Are Bought By Army And ISRO

GUJARAT FIRMS PROPEL SPACE MISSIONS, PROTECT DEFENCE FORCES

Tushar Tere and Niyati Parikh | TNN





Gujarat is today a foremost business hub, thanks to its signature entrepreneurial spirit. The state tops the country in manufacturing chemicals, is a textile hub and the denim capital of India besides being a thriving centre of diamond polishing units. It is also an emerging automobile manufacturing cluster. But only few know that Gujarat is also home to firms and startups that manufacture highly specialized products that are used by the defence forces and in space research. While some are at the research and prototyping stage, others are actually supplying to defence organisations, space research institutions and bagging orders — adding another feather in Gujarat's cap of being a key contributor to Atmanirbhar Bharat.

Manufacturing these products requires a greater degree of accuracy and precision and a host of Gujarat firms are offering their best to not just keep the country secure but also gallop ahead in science and technology research.

A case in point is Vadodara-based RR Kabel which manufactures wires and cables that are used in satellites and supplies to the Indian Space Research Organisation (ISRO) since its inception.

"These cables are used in satellites. The space research organization, though, maintains confidentiality on where and how these cables are exactly used," said Shree Gopal Kabra, managing director, RR Kabel, which has a manufacturing plant in Waghodia near Vadodara.

The firm manufactures shielding and instrumentation cables as per the requirements of ISRO and they are one of the key products as the satellite's communication depends on the cables. The 36-year old firm currently clocks Rs 9,000 crore of annual turnover and it is ramping up its manufacturing capacity in the state and also supplies to Hindustan Aeronautics Limited.

Similar is the case of Ahmedabad-based startup, Optimize Electrotech, which specializes in manufacturing surveillance equipment and has already supplied its products to the Indian armed forces. The firm is in the final stages of negotiations for a space application project with a homegrown research institution.

Manufacturing these products requires great precision and the firms are up to the challenge

TIMES DHANDHO

"We have developed a prototype payload for imaging. We specialize in making surveillance equipment and this prototype will enable multi-spectral photography which is important for space applications. We are already in advance-level talks to supply this payload to a research institution," said Sandeep Shah, founder of the firm, which has supplied artificial intelligence-enabled cameras with onboard analytics to the armed forces.

Protecting the protectors

If the Indian defence forces face a biochemical attack during a war, a specially designed suit will protect them from all the dangers. These protective suits are being made by a firm based in Vadodara.

"We began making the bio-evacuation suits for the Defence Research and Development Organisation (DRDO) last year. In future, the country may witness biochemical warfare and our jawans need to be equipped to face it. So, we came up with these specially designed suits," said Nishith Dand, managing director, Sure Safety (India) Ltd.

"In the event of a biochemical attack, a soldier wearing this suit will be completely isolated from the outside environment and remain uninfected. Made from multi-laminated poly material, it has an inbuilt respiratory blower and breathing system," Dand explained. If an infected soldier wears this suit, he won't contaminate others. Dand said that the defence forces used this suit even during the pandemic.

Made of pneumatic rubber beams, the tents are equipped with AC systems and even toilets

Sure Safety is also providing inflatable hospitals to the DRDO. "Made of pneumatic rubber beams, the tents are equipped with heating, ventilation and air-conditioning systems as well as toilets. They can house 10 beds and these inflatable hospitals work in all weathers," Dand added. He said that these products give the country's defence an edge over others and also contribute to protecting the jawans.

Startups too in negotiations with space institutions

Besides firms established over decades, even startups are not far from space and defence applications. Many are at the prototype stage whereas some are in advanced negotiations with space institutions and other international clients.

Orbital Aerospace, which is incubated at Ahmedabad-based Entrepreneurship Development Institute of India (EDII), has developed orbit refuelling stations for satellites. "Normally, satellites tend to move in a graveyard orbit after a few years of installation, sans refuelling. However, we can launch the refuelling stations in the form of tanker satellites which can help refuel the satellites and extend their lifespan. This can help save costs," said Sakthikumar R, founder, Orbital Aerospace. The company is in talks with a space agency, telecom providers and startups in the UK and Dubai for orders.

OmSpace Rocket and Exploration Private Limited has designed reusable rockets. "We have received a grant of Rs 20 lakh to come up with the prototype of the engine of the rocket which is reusable. These space launch vehicles can be relaunched within 24 hours of the first launch," said Ravindraraj BM, the founder of the startup.

Contribution of Gujarat to nuclear fusion research

Special pipelines manufactured at Kalol in the Panchmahal district are being used to transport cold energy at the world's biggest energy research project — the Thermonuclear Fusion Reactor (ITER) — which is coming up in Cadarache, France.

INOXCVA, a subsidiary of Vadodara-based Inox India Limited, set up a facility at Kalol to manufacture multi-process pipe transfer lines with vacuum jackets for the world's largest experiment on nuclear fusion.

Inox India had bagged the contract from ITER, India — a part of Gandhinagar-based Institute for Plasma Research (IPR), the nodal agency responsible for the Indian portion of the international project.

It will be the world's largest experimental facility to demonstrate the technical feasibility of fusion power.

Big guns of state

It is one of the effective weapons that can strike the enemy from a long distance. K9 Vajra, a self-propelled howitzer gun, is one of the biggest defence weapons manufactured in the state. L&T Hazira has manufactured and supplied a total of 100 Vajra howitzers to the Indian army.

The company bagged the Rs 4,500 crore contract from the ministry of defence in 2017. The firm's armoured system complex (ASC) was inaugurated by Prime Minister Narendra Modi in 2019 and he also inspected the howitzer gun while riding it.

The gun is a 155/52 calibre system. The last gun was delivered to the army in February 2021. The howitzer weighs around 50 tonnes and can target enemies 50 kilometres away. These guns were deployed along the LAC in Ladakh in October 2021.

(With inputs from Yagnesh Mehta and Prashant Rupera)

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