

The launch of Chandrayaan-2 has experts in the field now believing Indians will lead the world in science and technological developments over the next 10-15 years

talktous
Want to pitch in with your suggestions and share problems? Write to us at puneletters@hindustantimes.com

onfacebook
Visit facebook.com/hindustantimes to send in your opinions. You can also log on to hindustantimes.com

ontwitter
Tweet your views and suggestions @htTweets

YOUR FEEDBACK WILL BE SHOWCASED IN A WEEKLY COLUMN YOUR SPACE

Triumph: Moon mission's rural Pune star

VITAL CONTRIBUTION

Pune's Walchandnagar Industries Ltd manufactured components of the lunar mission vehicle, such as the first-stage booster and "flex nozzle control tanks"



Students jump with joy after the Chandrayaan-2 was launched on Monday. A programme to screen the launch event was held at Fergusson College amphitheatre.

RAVINDRA JOSHI/HT PHOTO

Dheeraj Bengrut
• dheeraj.bengrut@htlive.com

PUNE: The launch of India's second lunar exploration mission, Chandrayaan-2, has a strong Pune connect with critical components, such as the first-stage booster and the "flex nozzle control tanks" being manufactured in rural Pune by Walchandnagar Industries Ltd (WIL).

This 111-year-old firm, which has made a pioneering contribution to India's defence and aerospace programmes, is located 130 km from Pune in Walchandnagar village (taluka Indapur), named after the company's founder, Seth Walchand Hirachand Doshi.

For the Chandrayaan-2 mission, Walchandnagar Industries Ltd manufactured the first-stage booster with a height of 80 feet and diameter of more than 12 feet, the company's managing director and CEO, G K Pillai said in an interview.

"The booster has three parts and is filled with solid fuels. This is used for the first stage of the space vehicle. Also, we have successfully manufactured the 'Flex Nozzle Control Tanks' which are essential for direction control," he said.

A team of Isro (Indian Space Research Organisation) quality control engineers was stationed at Walchandnagar for two years to oversee the manufacturing.

While the highly specialised metals and material for the manufacturing of the components were delivered by Isro along with the basic engineering specifications, the detailed engineering was done by the Walchandnagar Industries Aerospace division with 80 workers and 10 engineers.

Walchandnagar Industries contribution to the prestigious Isro mission does not come as a surprise as the firm had worked on not just the Chandrayaan-1 project, but on all Isro launch missions since 1976.

It was his firm, Hindustan Aircraft Limited, established in 1942 which later became the state-owned Hindustan Aeronautics Limited (HAL). Likewise, Doshi founded Hindustan Shipyard at Visakhapatnam in 1948 and the company's first ship, Jal-Usha was commissioned by prime minister Pandit Jawaharlal Nehru.

The company also focused on manufacturing and setting up sugarcane plants; coal generation power plants and cement plants with its current focus on defence, nuclear and aerospace production.

It has three manufacturing plants at Walchandnagar, Satara and Dharwad in Karnataka.

Walchandnagar's MD Pillai said that ever since India's first nuclear test in May 1974, WIL got involved in the nation's nuclear and aerospace programmes as Western nations had black-listed India from importing critical technology for these sensitive sectors.

APJ Abdul Kalam, a key figure in India's nuclear and missile programmes had visited Walchandnagar several times as he felt that this firm could manufacture equipment for the nation's space and nuclear sectors, Pillai said.

"Walchandnagar Industries Ltd has been involved in manufacturing components for all the 48 launches till now, right from the first launch of PSLV-D1 in 1993," said Pillai.

According to Pillai, the entire journey with Isro has been a rich learning experience for both Walchandnagar Industries and space scientists as they mastered critical technologies through trial and experiments.

In fact, engineers from Isro and Walchandnagar Industries have already begun work on India's manned mission to the moon, the Gaganyaan Mission, in 2022.

CHANDRAYAAN'S PUNE CONNECTION

Walchand Industries Ltd has been contributing to defence, nuclear and aerospace production since 1976

Components manufactured

- First-stage booster and flex nozzle control tanks
- The height of the booster is 80 feet and more than 12 feet in diameter. It has three parts and is filled with solid fuels. It is used for the first stage of the space vehicle.
- The flex nozzle control tanks are the essential for direction control



First-stage booster and flex nozzle control tanks were manufactured at Walchandnagar Industries Ltd. HT PHOTO

Major contribution to defence and aerospace programmes

- 111-year-old Walchandnagar Industries Ltd has made pioneering contribution to India's defence and aerospace programmes. It is located about 130 km from Pune in village Walchandnagar (taluka Indapur), named after the company's founder, industrialist, Seth Walchand Hirachand Doshi.
- The company also manufactures and sets up sugarcane plants, coal generation power plants and cement plants among others, but its current focus is only on defence, nuclear and aerospace production
- It has three manufacturing plants at Walchandnagar, Satara and Dharwad in Karnataka.
- Doshi also established Hindustan Aircraft Limited in 1942 which later became the state-owned Hindustan Aeronautics Limited (HAL). Doshi founded Hindustan Shipyard at Visakhapatnam in the year 1948 and the company's first ship, Jal-Usha was commissioned by then prime minister Pandit Jawaharlal Nehru.



ISRO affiliation
Walchandnagar Industries Ltd has been contributing to not just the Chandrayaan-1 project, but on all Isro launch missions since 1976

Walchandnagar Industries Ltd has been involved in manufacturing components for all the 48 launches till now, right from the first launch of PSLV-D1 in 1993.

GK PILLAI, MD and CEO, Walchandnagar Industries Ltd

ABDUL KALAM'S VISIT

APJ Abdul Kalam, a key figure in India's nuclear and missile programmes had visited Walchandnagar several times as he felt that the firm could manufacture equipment for the nation's space and nuclear sectors.



Puneites glow in the light of Chandrayaan's take-off

Dheeraj Bengrut
• dheeraj.bengrut@htlive.com

PUNE: At 2.43 pm on Monday, just as the entire country rejoiced as country's most crucial 'Chandrayaan 2' lunar mission vehicle was launched towards the moon, Pune was no exception. To celebrate this movement there were many programmes related to watching this historical 'take-off' held in Pune at various places like Inter-University Centre for Astronomy and currently the astronomy professor, said, "Chandrayaan 2 mission is an important milestone in the Indian space science and fill now the process is going flawlessly for this project. It has shown the world that India will not remain behind in space science and this is the start of it."

Talking about the launch, Ajit Kembhvi, former director of Iucaa and currently the astronomy professor, said, "Chandrayaan 2 mission is an important milestone in the Indian space science and fill now the process is going flawlessly for this project. It has shown the world that India will not remain behind in space science and this is the start of it."

"On the other hand, this mission has

given inspiration to the youths who are trying to make a career in astronomy and space science," said Kembhvi.

Soumavo Ghosh, research student, from Iucaa, galaxies department, said, "Watching the launch of Chandrayaan 2 vehicle was a moment of joy for all of us, especially when you are working in the same field." "It is an excellent mission which has boosted the morale of research students like me," said Ghosh.

Another research student of at Iucaa Ashwinya Sharma, said, "It feels great to be a proud Indian today after the Chandrayaan 2 was successfully launched."

"I am more interested in its outcome when it completes all the tests and research on the moon," said Sharma.

Shamin Padalkar who had come along with her 5-year-old son Vibhormitra to witness this moments at Iucaa, said, "Today's generation should know about such historical movements of our country, so I brought my son along with me to see the launch event 'live'."

face to face

SOMAK RAYCHAUDHURY, director Iucaa

'Students from abroad will come here to work with us'

Dheeraj Bengrut
• dheeraj.bengrut@htlive.com

Somak Raychaudhury, director of Inter-University Centre for Astronomy and Astrophysics (Iucaa), has worked on several Nasa projects and is currently involved various projects with the Indian Space Research Organisation (Isro) in astrophysics. He speaks to Dheeraj Bengrut about the successful launch of Chandrayaan-2 mission.

How would you quantify the successful launch of Chandrayaan-2 mission?
I am personally excited for two reasons related to the successful launch of this mission. Firstly, the science that is going to get done with Chandrayaan-2 and secondly, what it means to our future scientific advancement. Isro started off by doing a lot of remote sensing, satellites and GPS (global positioning system), but to do pure science from space is new for Isro.

What separates Chandrayaan-2 from the Chandrayaan-1 mission?
Chandrayaan 1 was an experiment which was done by the people within Isro, it was mostly to look at the technological capability of sending something around the moon. But one of the major things that happened was they managed to find some evidence of water which was unexpected. In that way, Chandrayaan-2 is far more important, but it is more complex. It is not only going to go around the moon, but it is going to land there. It will be a big thing for us and if we are successful there will be new revelations.

What is Chandrayaan-2 going to test and study on the moon?
Chandrayaan-2 will be going near the south pole and it is going to study the surface of the moon. The moon doesn't have an atmosphere, but it has air very close to the surface - gas and particles, this is one thing which the lunar vehicle will study. Near the pole there are more chances of getting liquid water, so that's another reason Chandrayaan-2 will be landing there. There are ten more instruments and they are going to do various examinations from above in the orbit. They are going to do laser ranging and radar ranging to find out what is under the surface of the moon.

Will this project affect research in the country?
The experts who are involved in the launch of this mission are all Indian trained engineers. There are thousands of men and women engineers in Isro who are involved in various other world-leading science and technological developments. So they all are an inspiration to the youths of today to work for your own country than looking for options abroad. After 10 to 15 years, students from across the globe will come here to work with us.



they say

Chandrayaan-2 mission is an important milestone in the Indian space science history. It has shown the world that India will not remain behind in space science and this is the just the beginning.

AJIT KEMBHVI, former director of Iucaa and currently the astronomy professor



Watching the launch of Chandrayaan-2 vehicle was a moment of joy for all of us, especially when you are working in the same field. It is an excellent mission which has boosted the morale of research students.

SOUMAVO GHOSH, research student



It feels great to be a proud Indian today after the Chandrayaan-2 was successfully launched. I am more interested in its outcome when it completes all the tests and research on moon. I would love to work on an Isro mission.

ASHWINYA SHARMA, research student of at Iucaa



Today's generation should know about such historical moments of our country, like the Chandrayaan-2 launch so I brought my son along with me to see the launch event 'live'.

SHAMIN PADALKAR, who watched launch along with her 5-year-old son Vibhormitra

