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TCR's Nadcap nod opens aerospace doors for MSMEs

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In what may well be a passport into the global aerospace supply chain for critical processes, Mumbai-based TCR Engineering Services became the first independent company in India to have its two laboratories — in Navi Mumbai and Vadodara — receive Nadcap accreditation for materials testing.

Nadcap is an industry-managed aerospace quality accreditation programme administered by the US-based Performance Review Institute (PRI).

This comes at a time when Prime Minister (PM) Narendra Modi, in his Independence Day speech last week, talked about the country's advancement towards manufacturing of "Made in India" aircraft, and also batted for zero-defect precision manufacturing.

"Through this, large suppliers and micro, small, and medium enterprises (MSMEs) in the aviation component space in India can now do the third-party material testing within the country, compared to such tests done in the US and Singapore before. This is expected to bring in at least 70-80 per cent savings in the cost of certification for Indian companies in the aviation sector," said Rohit Bafna, president, TCR Engineering. For MSMEs and industry majors in the supplier ecosystem, certification from a Nadcap-accredited laboratory is crucial for becoming a supplier to global majors like Boeing, Airbus, and Safran.

TCR Engineering Services, founded in Mumbai in 1973, now holds Nadcap accreditation for materials testing at its Navi Mumbai laboratory and at TCR Advanced Engineering in Vadodara. Each holds a separate certificate from the PRI.

"This will let Indian aerospace suppliers complete internationally recognised testing at home instead of shipping specimens overseas," Bafna added.

Major aerospace companies like Boeing and Airbus use Nadcap to check whether specialised suppliers and laboratories meet strict, internationally recognised quality requirements.

"These two labs will reduce a costly and time-consuming step. A company like us developing a component may need to prove that the metal used in it meets the required specifications before the component can be qualified for an aircraft programme. Where the test falls within TCR's accredited scope, the specimen can now be tested in India. This can reduce shipping, Customs procedures, foreign exchange costs, and waiting time," said a senior executive of a Karnataka-based aerospace parts maker.

The two laboratories are accredited for tensile testing, which measures how much pulling force a material can withstand before it breaks. They can also conduct impact testing, which measures how well a material withstands a sudden blow, bend testing, which checks how much a material can bend without failing, and metallography testing, which involves examining a material's internal structure under a microscope. Microhardness testing, which measures the hardness of very small areas of a material, can also be done.

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President, TCR Engineering

The accreditation of the two labs also covers grain size testing, which measures the size of the tiny crystals that make up a metal. Case depth testing, which measures how deep a hardened surface layer extends into a material, can now be done. Brinell, Rockwell, and Vickers tests — three different methods of measuring how resistant a material is to indentation — can now be done at the labs. The laboratories can further conduct electrical conductivity testing, which measures how easily electricity passes through a material. The two laboratories can also conduct alpha case evaluation on wrought titanium. Wrought titanium is titanium that has been shaped through processes such as rolling or forging. Alpha case is a hard, brittle and oxygen-rich layer that can form on the surface of titanium during high-temperature processing. It can affect the material's performance, which is why aerospace manufacturers need to check for it. TCR says both laboratories have the same Nadcap-accredited testing scope.

The accreditation of these two labs has come at a time when Airbus and Boeing are planning to expand the import of components made by Indian suppliers. Airbus currently sources more than $1.5 billion a year from India and has more than 100 Indian companies in its supply chain. Its Indian suppliers are making increasingly complex aircraft parts, including cargo doors and flap track beams. Airbus has said it wants to increase its sourcing from India to more than $2 billion before the end of this decade.

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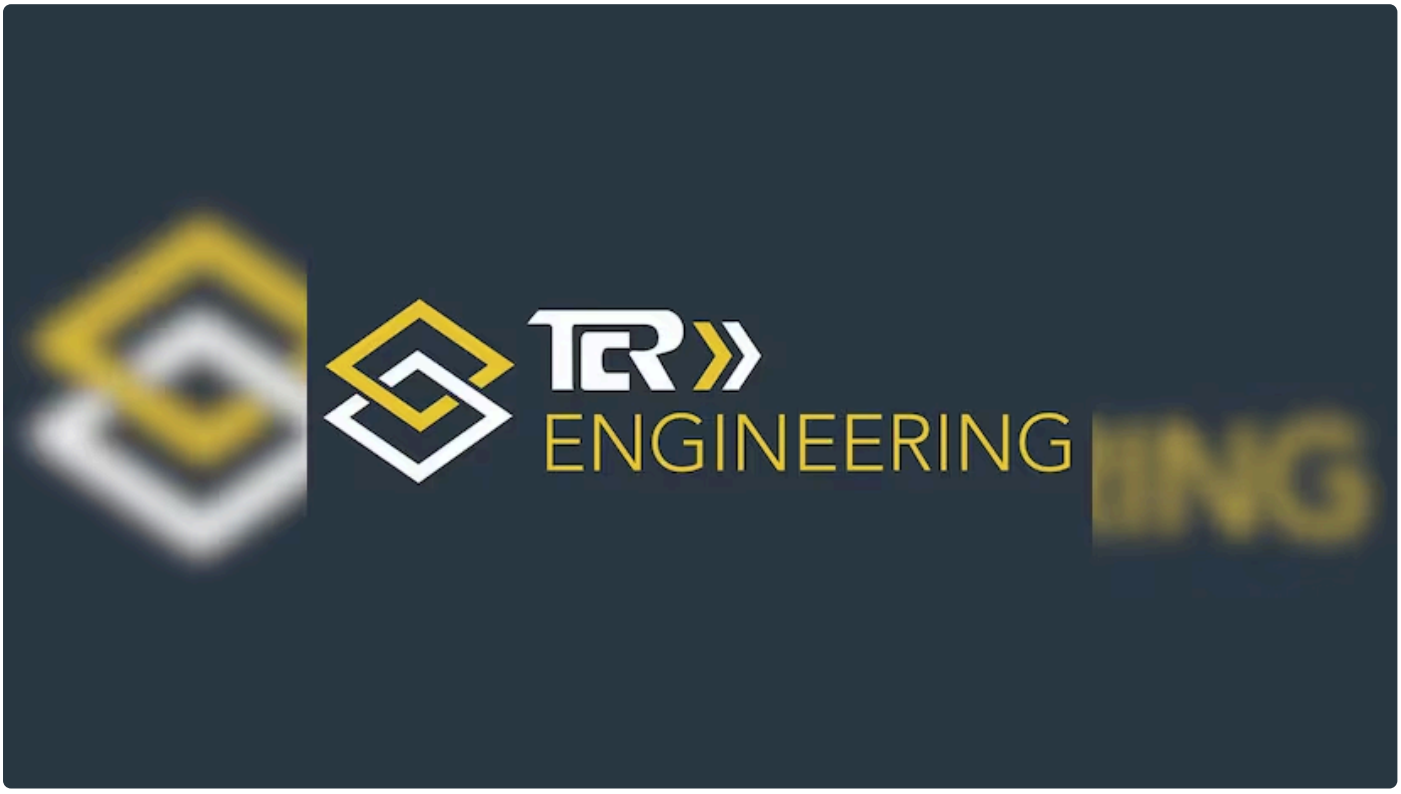
TCR's Nadcap nod gives Indian MSMEs passport to aerospace supply chain

Nadcap accreditation for TCR's Navi Mumbai and Vadodara laboratories will allow Indian aerospace suppliers to conduct critical materials testing domestically, cutting costs

Shine Jacob | Deepak Patel | New Delhi/Chennai



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Boeing currently sources more than $1.25 billion a year from India through a network of more than 300 companies. Indian suppliers work on aircraft programmes including the 737, 777, and 787 Dreamliner, P-8, Apache, and Chinook.

Boeing India and South Asia President Salil Gupte had said in September 2025 that Indian suppliers had moved steadily up the value chain over the previous decade. They had progressed from making simple forgings and machined parts to complex assemblies and work involving carbon composites. Forgings are metal parts shaped by applying high pressure, while carbon composites are lightweight, high-strength materials made using carbon fibres and a binding material.

Gupte had said the next frontier for Indian aerospace suppliers was "build-to-specification". Under this model, suppliers do not simply manufacture a component from drawings provided by Boeing. They develop their own designs and intellectual

property, or the knowledge and rights behind those designs. “In other words, we don’t give you the drawings. The intellectual property is yours to develop. That’s where the real returns are in this business,” he had said.

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