

# Ola, TVS charge up plans to beat rare-earth crunch

## Two-wheeler firms planning to launch scooters with ferrite motors

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Ola Electric is planning to launch in the third quarter (September-December) some of its electric vehicles powered with ferrite motors as an alternative to those that go with heavy rare-earth magnets, whose supply the Chinese government has choked.

Government sources Ola is in discussion with have said the company has been working for over two years on developing the technology and design for ferrite motors, where the magnet is made of iron (with some other metals added). The prototype has been internally validated and is being tested on some of its vehicles.

The company has to go to the Automotive Research Association of India for clearance.

A spokesperson for Ola Electric declined to comment on the issue.

Giving company to Ola is TVS, which too is working on ferrite motors for its electric vehicles. However, an official query on this did not elicit any response.

Even globally companies such as GOVECS in Germany use it for some of its models. Companies like Ather Energy are looking at utilising light rare-earth magnet-powered motors, on which there is no export control order (which is on heavy rare-earths).

Ola has informed the government that in the interim it has enough stocks of rare-earth magnets, which they have procured from sources other than China, such as Southeast Asia and a country in Europe.

It has pointed out that this has been possible because the company has always gone for a standardised

### Finding new avenues

- Technology and design have been done by Ola Electric's in-house R&D centre
- Ola has been working on ferrite motors for over two years
- Ola has, in the interim, sourced heavy rare-earth-powered motors from alternative sources outside China
- Firm working on developing the tech for two years; prototype internally validated and being tested on some of its vehicle



design of magnets instead of a customised one. A standardised magnet is more easily available. New suppliers in other countries can take three-six months to make a customised magnet.

The Chinese government, under the new export control order, has not allowed exporting rare-earth magnets to India since April 4. This, many auto original equipment manufacturers (OEMs) say, will force them to go for a production cut or even closure because the inventories of stocks of rare-earth magnets imported from China are becoming exhausted.

Ferrite magnets are now globally considered a viable and cost-effective option due to their easy availability instead of rare-earth materials like neodymium, making it an affordable option.

Also ferrite materials are less sus-

ceptible to geopolitical challenges because they are available all over the world.

However, they have a lower magnetic flux than rare-earths do, which can impact a vehicle's torque and power output. It is also susceptible to de-magnetisation at very high temperatures.

They are heavier than rare-earths, which could impact performance. However, with research & development across the globe and in India, many of the problems have been solved by optimising the design, reworking the motor design, and adding other materials to make them as efficient as rare-earth magnets. And there are Indian companies manufacturing various kinds of ferrite magnets, including those for the auto sector, and they can do so also for auto OEMs based on their design and technology.