

DECCAN Chronicle

This tyre won't tire

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TycheeJuno has come up with a puncture-proof tyre

TycheeJuno, a team based out of Odisha, has a bold claim to make — their tyres will never get punctured and the probability of a tyre burst is much lesser. Their solution, BPPC (Burst Prevention and Puncture Curative), has won an award at Create The Future design contest, jointly organised in New York by Nasa and Society of Automobile Engineers, International.

TycheeJuno — Tychee is the Greek goddess of luck and Juno is the Roman goddess of wealth — is headed by Sameer Panda, who is currently pursuing his PhD from Veer Surendra Sai University of Technology in Sambalpur.

It all started when Sameer was getting late for his exam one day and had a flat tyre. Since then, he had been looking for a solution. Though the planning started in 2005, it took Sameer and his team years to come up with a tyre that was economic. “In 2012, I had even planned to give up. But that’s when I met Smitiparna Satpathy, who’s now a member of TycheeJuno, who gave a few out-of-the box ideas to make the product better. It was only since 2013 that the process picked up pretty fast. By the end of 2014, we had come up with the burst prevention technology and tried to modify it,” says Sameer.

He later asked his friends to use these tyres in their taxis. “We have tested it in real life situations. The taxis have run over 15,000 kilometers so far and have had no complaints. Udit also tested it in a formula one car,” adds Sameer. He is quick to give credit to his 11-member team. “The burst preventive version was the brainchild of Dr K.N. Panda,” says Sameer. Besides India, they have also filed patents in the US, Canada and Japan.

“A government report of 2014 states that over 3,000 people have died and over 9,000 had been injured because of accidents related to tyres. The tyres we manufacture also increase fuel efficiency of a vehicle,” says Sameer.

So how are these tyres different from others? “We have a multi-chambered tubeless tyre, inside which we use a sealant, whose main property is to solidify when it comes in contact with air. When the tyre gets punctured, it seals the puncture in both tread and sidewall area. It also has coolant properties (since bursts mostly happen due to high temperatures). It can withstand any temperature and speed,” explains Udit Bondia, another member of Sameer’s team.

The cost of these tyres will, however, be 25 per cent higher than regular ones. “A lot of high-end cars provide tyres with a self-supporting technology where you could run it for several kilometres even after it goes flat. But you can’t repair it later and replacing is the only option left. Instead of that, you could just pay a little bit more to have a secure tyre,” says Udit adding, “With this, the only thing you have to do often is check if any nail has got stuck in your tyre and remove it because since the tyre won’t go flat you might not know that a nail has got stuck.”

Smitiparna adds, “Imagine a girl travelling alone late in the night and suddenly she has a flat tyre. With a technology like this, you don’t have to worry about travelling at any point.”

The team is currently in talks with BMW.