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Young Moradabad woman who worked at Nasa developing India's first flying taxi

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NEW DELHI: A young woman from Moradabad (UP), Shreya Rastogi, who completed aerospace engineering from the University of California in 2018 and then worked with Nasa to develop a new spacesuit material is part of the team developing the first desi flying taxi. Her ePlane Company has displayed a static prototype of this two-seater — one seat for pilot and one passenger — electric vertical take-off and landing (eVTOL) at the ongoing Bharat Drone Mahotsav in Delhi. With engines still under development for this passenger craft and 12 plastic-paper rotor look-alikes filling in for now, the nascent stage e200 is a big crow-puller at the event.

Curious onlookers marvel at the concept but wonder if this become a reality one day. "There may be scepticism about whether this project but India will soon pave the way for urban air mobility through eVTOLs. We plan to develop a craft that can operate from rooftops. Our e200 is being developed to have a range of 200 km, a maximum speed of 160 kmph and to fly with a maximum altitude of 3,000 feet," Rastogi, who a licensed private pilot from the US and currently is working out of IIT Madras, told TOI on Friday.

So by when could this be flying in India? "E200 dimensions are 5x5 metres. We are developing a smaller (3x3 metre) unmanned e50 craft. The engines being used for this plane, once successfully tested, will be altered (read made more powerful) to power the e200. We plan to have first human flight trial on this by 2023," Rastogi said. The co-founder of her company is an IITian, Pranjal Mehta. "In 2017, when Mehta was just 20 he had the idea to design an air taxi. Now we are excited to change that dream into a reality," she said.

Working on something new is nothing new for her. At Nasa, Rastogi had led a team of five engineers to develop a new nano-composite materials for spacesuit and crew surface mobility applications.

The e200 prototype has four engines (positioning like chopper rotors) in the front and as many in the rear. These will be used for take off and landing. The top of the craft has four more engines (positioned like aircraft engines) which are planned to be used for cruising and at that time the other eight engines (front and rear) will be in low power mode to provide lift.

How much will it cost to fly this UAM? "The cost will be somewhere between taking a cab and a chopper to travel between, say, Bengaluru city and the airport. Since it is an electric craft, there is no fuel expense," she said. A one-way cab between Bengaluru airport and the city costs upto Rs 2,000. Blade India, a chopper aggregator that plans to start flying this route, could cost Rs 4,000 one-way. So a one-way ride on an eVTOL, according to Rastogi, will cost somewhere between this.

Union aviation minster J M Scindia had recently invited eVTOL tech majors in North America to India for urban mobility — to set up manufacturing units here, study routes here and indicate the infra required in terms of charging stations and other things.