

A copter piloted by thoughts

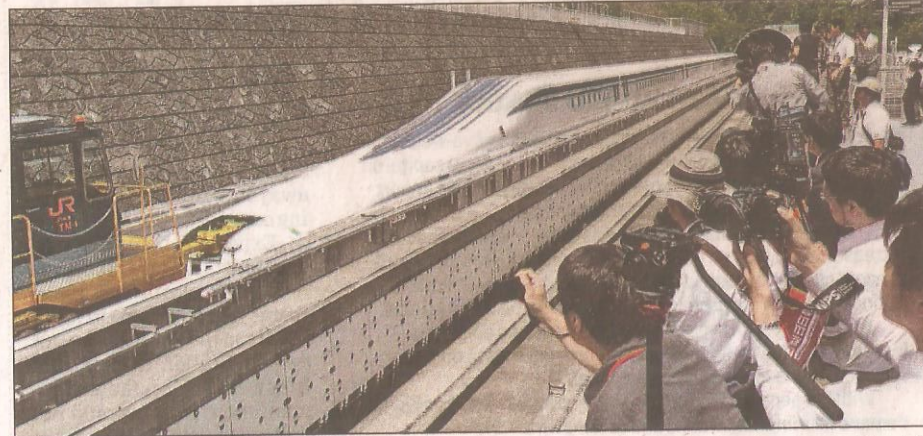
Scientists Say First Remote-Controlled Flight A Success

London: Scientists have successfully flown a remote-controlled helicopter through an obstacle course using only the 'power' of thoughts. The research, by the University of Minnesota's Institute for Engineering in Medicine, uses a non-invasive 'cap' to capture brain electrical activity.

Five participants were selected to wear a simple 'cap' that held 64 electrodes, using it to 'teach' the computer the brain patterns corresponding to thoughts of movement — clenching of the left and right fist for turning left and right, clenching both fists to go up, and doing nothing to go down. Then the computer was set up to run the helicopter over wi-fi, with only the participant's thoughts at the controls. The approach requires that an electronic system be "trained" to recognize patterns in an electroencephalograph — a map of electrical activity. Those thoughts, such as that of making a fist with the left hand, are then correlated with motions of the helicopter, BBC News reported.

The copter was made to reliably fly through an obstacle course in the university's gymnasium — participants' success rates were as high as 90% in obstacle avoidance. Bin He, director of the University of Minnesota's Institute for Engineering in Medicine believes the "non-invasive" approach to gathering the power of thoughts has wider long-term appeal. The team has been working toward the helicopter experiments for some time, writing in Plos One in 2011 of similar trials. "The ultimate application really is to benefit disabled patients who cannot move or who suffer with movement disorders," He said. "We want to control a wheelchair, and turn on the TV, and to develop a technology to use the subject's intention to control an artificial limb and make it as natural as possible," He said. 771

Fast & furious: Japan unveils train that runs @ 500kmph



FUTURE ON TRACKS: The new maglev (magnetic levitation) train 'L0 series' is displayed on an experimental track in Tokyo. Commercial run between the Japanese capital and Nagoya is expected to start in 2027

Tokyo: Japan has unveiled its new "levitating" bullet train, designed to travel at speeds of up to 500 kmph, which has undergone its first test on tracks. Japan's first commercial model of a magnetically levitated train has been placed on an outdoor test track.

Officials at Central Japan Railway unveiled the L0 model on Monday at its test track in Yamanashi Prefecture, central Japan.

The track is being extended to 43 kilometres to enable full-fledged test runs. The 5-car train, towed by a locomotive, ran on the track slowly to check whether the train bottom has proper clearance from devices on the ground. Commercial runs of the maglev train are scheduled to start between Tokyo and Nagoya in 2027.

The train will travel at speeds of up to 500

kilometres per hour and will link the 2 cities in 40 minutes, NewsonJapan.com reported.

The train boasts a semi-square cross-section to maximize the interior space.

The final train will consist of 16 carriages carrying up to 1,000 passengers at a time, with plans underway to extend the line to Osaka by 2045, according to media reports.

The plan is ultimately to create a high-speed mass transit maglev network across the country. It was in 1964 that Japan was propelled to the forefront of transport technology after it unveiled its first bullet train — known as "shinkansen" — to coincide with its hosting of the Olympic Games. India is set to benefit from the famed Japanese bullet train technology, with Tokyo pledging to invest in building high speed railway systems in the country. 771