Cars may one day mimic fish to avoid collisions

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Robot cars designed by Nissan travel in group and move to avoid obstacles at a press preview at the company's headquarters in Yokohama, suburban Tokyo. With these robots, engineers in Japan say they are a step closer to developing technology they hope will cut the risk of car crashes -- by mimicking the behaviour of fish.

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The experts at Nissan Motor have been studying fish and the way they are able to swim in schools and avoid colliding with each other.

The result is a robot that can travel in a group of up to seven, avoiding bumps by sharing information with its peers.

The firm hopes to use the technology in its vehicles in future.

The three-wheeled robot uses a laser range finder, which measures the distance to an obstacle, and radio communications to recreate the behaviour of fish, which can change direction and travel side by side without colliding.

Last year Nissan unveiled a similar robot inspired by the bumblebee, which is also highly adept at avoiding collisions but travels solo.

"We, in a motorised world, have a lot to learn from the behaviour of a school of fish in terms of each fish's degree of freedom and safety," said Toshiyuki Andou, the principal engineer in the project.

By sharing information, the group can travel safely, changing its shape as needed, Andou said.

Nissan will demonstrate the technology at the CEATEC electronics trade fair in Japan next week.