

Concept Antarctic vehicle unveiled

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An innovative concept for an Antarctic vehicle is unveiled this week at the Royal College of Art's final year show. Working closely with experts from the British Antarctic Survey (BAS), award-winning designer James Moon has come up with a lightweight, compact eco-friendly vehicle for use in one of the Earth's most extreme environments.

Image: "Ninety Degrees South", (c) James Moon.

The vehicle, called "Ninety Degrees South", uses novel technology to keep drivers safe, warm and protected from the high levels UV exposure that occur under the Antarctic ozone hole. Designed to fit into the small

Twin Otter aircraft that BAS use for working in remote deep field locations, Moon's two-person vehicle has a combination of tracks and wheels allow it to operate anywhere on the continent over hard ground, snow or ice surfaces. The designer believes the versatility of his concept vehicle has commercial potential.

He says, "The challenge was to design an environmentally-friendly vehicle specifically for Antarctica that could be used also in other cold regions. I'm particularly interested in overcoming the dangers of travelling across crevassed areas of ice. Unknown terrain limits the speed of any journey over the ice - the faster you can detect crevasses the quicker you can travel. I'm using unmanned pathfinder technology which travels on a GPS controlled route ahead of the main unit. The pathfinder is secured by a 30m umbilical cord, and uses ground-penetrating radar to assess risk. I believe this technology serves as a prototype for future, entirely automated, expeditions in the Antarctic and on other planets."

David Blake, British Antarctic Survey Head of Technology & Engineering says, "The large tracked vehicles (Snocats) and snowmobiles we use have been developed over several years and work reliably in the extreme Antarctic environment, supporting our field and base operations. James Moon's concept is very novel and a vehicle built to his design could enable new areas of activity to be undertaken in Antarctica, including ground based deep field surveys. I am sure that should the vehicle be developed, it could also be used as a personnel carrier in Arctic regions. James's vehicle is innovative and challenging and I am delighted at his enthusiasm and drive in developing his concept vehicle."

Source: [British Antarctic Survey \(BAS\)](#)

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