About Opportunity
Negotiating rugged terrain and adverse weather conditions is a considerable challenge for research expeditions, rescue and defence operations. A significant number of fatalities occur due to the inability of the current vehicles to transport humans and goods under these conditions.

The Dynamically Configured Vehicle (DCV) is an off-road vehicle able to negotiate variable terrain, comprising a cabin section, which is set on the hub body, in addition to a plurality of arms able to move independently of each other to give the vehicle different footprints. The vehicle has the ability to extend the arms equipped with wheels, individually propelled by electric motors. The pattern of arm extension offers a large number of footprints that the vehicle can use on the move and adapt over any type of terrain.

As such, DCV can circumvent vertical obstacles greater than 2.2 meters or in full extension can move with approximately 70 degrees side inclination without any danger of rolling over. Additionally, due to the arms configuration, the DCV can be used also as an amphibious vehicle. Depending on the required functionality, the vehicle can be customized with different modular components altering the vehicle capacity, load, and specialisation. This vehicular system can be developed either for manned or unmanned operations. Due to these abilities, the vehicle can be deployed as a fast-response transportation for rescue or defence operations as well as research expeditions.

Key Benefits
- Modular structure for simplified vehicle customisation for bespoke applications
- Amphibious ability for landing operations
- Ability to negotiate varying terrains through adaptive footprint, altering height, width and length by use of extendable arms
- Able to negotiate vertical barriers up to 2.2m in height
- Able to sustain operations on single motor (from 4) in case of major damage

Applications
- Natural Disaster Emergency Response Unit
- Military Vehicle
- General Expedition Vehicle (Research, Exploration)
- Autonomous Vehicle
- Construction

IP Status
DCV is protected by two GB patents. The University welcomes approaches from organisations interested in developing, licensing or exploiting the technology.

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Contact: Dr Andrew McNair
Glasgow Caledonian University, Cowcaddens Road, Glasgow G4 0BA, Scotland, United Kingdom.
T: +44 (0)141 331 8609  E: andrew.mcnair@gcu.ac.uk
or visit www.gcu.ac.uk/business  www.university-technology.com