



REQUIREMENT

Protecting Lives, Protecting the Planet:

The Knowledge Transfer Partnership (KTP) team at the University of Exeter collaborated with SC Innovation to develop an electrically powered version of the All-Terrain Mobility Platform (ATMP), a vehicle that has been used in a range of military and non-military applications globally since the 1980s.

BRIEF

The University of Exeter collaborated with SC Innovation due to the organisation's impressive track record in developing high-mobility off-road vehicles for defence and non-defence applications, as well as its motivation to develop the capability to design, manufacture and support hybrid and electric vehicles through acquiring and embedding the necessary knowledge and expertise in the engineering team.

SOLUTION

Matthew Harvey and Yash Katare, two talented KTP associates from the University, collaborated with the engineering and production teams at SC Innovation to develop and evaluate the eATMP.

This vehicle has six electric motors, one for each wheel, replacing the traditional diesel engine and drivetrain. It can be configured for full electric or hybrid versions, allowing for customisation of the propulsion system depending on the vehicle's mission, range, payload, and operating environment. This rugged vehicle can operate successfully in harsh terrains, due to its very low ground pressure and high levels of traction, and is suitable for use in various sectors, including emergency services, rail, marine, forestry, and aerospace.

The partnership has continued to develop this highly capable, flexible and eco-friendly vehicle after its award-winning project and the underpinning skillset, creating an innovative 'optionally crewed' version. Thanks to this innovative technology, the vehicle is able to navigate through challenging terrains without the need for a driver's continuous supervision. This allows the driver to focus on other tasks or relocate to a safer spot for riskier operations.

"Centre for Future Clean Mobility (CFCM) at University of Exeter worked with SC Group in two KTP projects, one on decarbonising the ATMP vehicle, one on autonomising the ATMP vehicle. Those two projects have ended up with new vehicles which are fully electrified and optionally manned (switchable to fully autonomous), which SC Group is commercialising. Matt Harvey, who now works at SC Group, won the KTP Business Impact and Transformation Award for this electrification project. Working with the engineers at SC Group was a rewarding process, in which everyone acquired new skills and knowledge. We continue to collaborate with SC Group and look forward to future projects."

Professor Chris Smith
University of Exeter