AEP develops protection package for UTVs

ABOVE: A concept rendering of the PUV showing the enclosed four-seat armoured crew cell, angular protection geometry, larger tyres and off-road suspension stance, lighting/ communications provisions and rear mission kit stowage. *Image: AEP Engineering*

A Townsville-based business is developing an armoured crew cell concept for side-by-side all-terrain utility vehicles (UTV) that it hopes will create a new class of lightweight protected mobility vehicle in Australia.

The concept from AEP Engineering leverages the automotive strengths of a Polaris MRZR-type or similar ultralight side-by-side UTV and adds greater emphasis on protection, payload, mission kit integration and real-world operational utility.

The overall objective is to bridge the gap between a standard unprotected UTV and a full-size armoured vehicle. AEP's armoured UTV concept addresses the inherent weaknesses of standard UTVs – which are inexpensive, mobile and practical but with very limited occupant protection – and armoured vehicles – large, expensive and difficult to deploy in some environments – with a vehicle that retains the UTV's compactness, agility and high mobility over difficult terrain and adds protection and mission utility, thereby positioning it in a new vehicle category – the protected ultralight vehicle (PUV).

From an operational and tactical perspective, the PUV would enjoy UTV-like mobility and ease of deployability (self-ferry, truck flat-bed, car trailer) plus a degree of ballistic protection for the crew and passengers.

AEP sees the PUV's value proposition for operations where terrain access, lower footprint and tactical agility are high priorities, with potential applications across police and tactical response units, rural/remote community law enforcement, border and infrastructure security, regional patrol and mobility tasks, specialist government and industry users and defence support roles.

"We see a clear gap between a standard side-by-side and a full-size armoured vehicle. The armoured UTV concept is about filling that space with something compact, agile, protected and genuinely useful in the field", AEP's managing director, Michael McMillan, told *DTR*.

"There are many situations where users need the mobility of a UTV, but with greater protection, capability and confidence for the people inside it," Mr McMillan added.

"We're not simply modifying a recreational side-by-side or creating a one-off vehicle. The PUV project is intended to demonstrate a more capable protected mobility system that combines mobility, protection and utility in a compact package."

The wholly Australian-owned company is also determined to prove that lightweight protected mobility solutions can be developed locally, using practical vehicle engineering, fabrication, integration and design capability. "We want to create a credible pathway from concept to demonstrator, to potential operational product," Mr McMillan said.

The final protection level for the PUV has not yet been publicly confirmed, with the focus currently on vehicle architecture, base mobility platform strengthening, protected cell concept, package layout, manufacturability and mission roles.

AEP intends to develop a PUV concept vehicle that can be actively demonstrated to government, police, defence, emergency services and industry stakeholders.

– Ian Bostock