



RUAG Australia receives first order for mobile supersonic tech

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RUAG Australia has signed a contract with US company VRC Metal Systems to deliver a mobile Supersonic Particle Deposition (SPD) Unit for US Navy trials in 2019.

The mobile unit is based on [RUAG Australia](http://www.australiandefence.com.au/interviews/from-the-source-md-ruag-australia-john-teager/) (<http://www.australiandefence.com.au/interviews/from-the-source-md-ruag-australia-john-teager/>)'s Field Portable SPD Unit and will be used by the US Navy to deliver additive metal repairs on site.

According to RUAG, SPD is a technology in which metal powder particles are accelerated to supersonic speeds in a high pressure expanded gas flow and impact a solid surface with sufficient energy to cause plastic deformation and bonding with the underlying material. This technology, also known as 'cold spray', allows for cost and time optimized repair of structural components on aircraft.

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RUAG Australia has been working with US Defence sponsored partners to evaluate and assess the feasibility of enhancing the performance of the mobile SPD unit since 2015 under US collaborative programs.

Together with VRC Metals Systems, RUAG analysed the supportability of incorporating elements of the US developed VRC Raptor cold spray system. The analysis of the mobile system was viable and demonstrated

performance equal to the larger fixed cold spray system.

Neil Matthews, senior manager Research and Technology, RUAG Australia, and Professor Rhys Jones, Head Centre of Expertise Structural Mechanics, Department of Mechanical and Aerospace Engineering, Monash University [won the ‘Best Written Paper’](http://www.australiandefence.com.au/news/local-ruag-boffins-prove-wing-repair-technology/) (<http://www.australiandefence.com.au/news/local-ruag-boffins-prove-wing-repair-technology/>). Award in Additive Manufacturing at the Avalon Airshow in 2017 for proving that SPD repairs successfully restore both the lost structural integrity and the load carrying capacity of aircraft wing panels.

As a result of this finding, VRC Metal Systems entered into a partnership with RUAG to deliver a mobile SPD unit into US Navy field trials.

RUAG Australia will also provide the operational and maintenance manuals as well as one month's training to VRC Metal Systems employees in Rapid City, South Dakota.

In a statement, RUAG Australia said it intends to continue to work with VRC Metal Systems to support the transfer of shared technology between parties as SPD/Cold Spray applications continue to expand.

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