



Defence and Security Accelerator



DASA case study – Advanced Material Development (AMD)

DASA funding matures cutting edge UK nano-technology

AMD, a UK SME, is developing the latest thinking in nanotechnology straight from its research labs to enhancing military capability

- DASA funding has accelerated two cutting edge nanomaterial innovations in camouflage and a unique component tracking solution that could provide new military capabilities, as well as having extensive commercial applications.
- Working in collaboration with our technical partners at the Defence Science and Technology Laboratory (Dstl), AMD was able to develop the innovations up the technology readiness levels to demonstrate proof of concept. This has opened doors to the Defence and Security sector and is creating traction in industrial engagement.
- *CHAMIR*, an AMD intercalated graphene nanoplatelet device, facilitates modulation of infra-red emissivity from platforms or personnel. This enables the military to benefit from effective camouflage, concealment and deception in non-visible wavebands by being less easy to be detected or identified by ever more sophisticated detection technologies. Within 10 months of DASA funding AMD presented a working demonstrator and is now in useful discussions with the defence community.
- *nMark*, is a nanomaterial application used to mark a host structure, for example a component and becomes like a unique barcode to that part. It cannot be removed, corrupted or reverse engineered. Such a unique signature can be used to provide reassurance of the authenticity of that part and prevent counterfeiting. *nMark* was accelerated through DASA funding and has vast potential across multi sectors.
- AMD specialises in commercialising research in 2D and 3D metasurface, metamaterial and photonic crystal structures in collaboration with their university partners, at Surrey and Sussex, in order to develop unique solutions for real world applications.
- AMD was funded under the DASA Open Call for innovation. This is a funding mechanism for any idea considered to be of potential

“DASA has been an incredible source of support and early stage funding for our innovations. It has accelerated the technology of *nMark* and *CHAMIR* to the next level, so that they are now attractive in the commercial space.

We are excited by their future as we can see multi sector applications for both.”

John Lee, CEO, AMD
www.amdnano.com