

Title : Augmented Reality Maintenance Assistant for the NATO Helicopter NH90

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In the ARVIKA project a wearable maintenance assistant system has been developed by EADS military aircraft, which will assist a technician during pre- respectively post-flight damage assessment and diagnosis tasks.

The assistance is such that in case of damages to the surface of the NATO helicopter NH90, which is made of carbon reinforced fibre (CFK), information is provided, which specify, for example, the repair scheme applicable at the location of the damage.

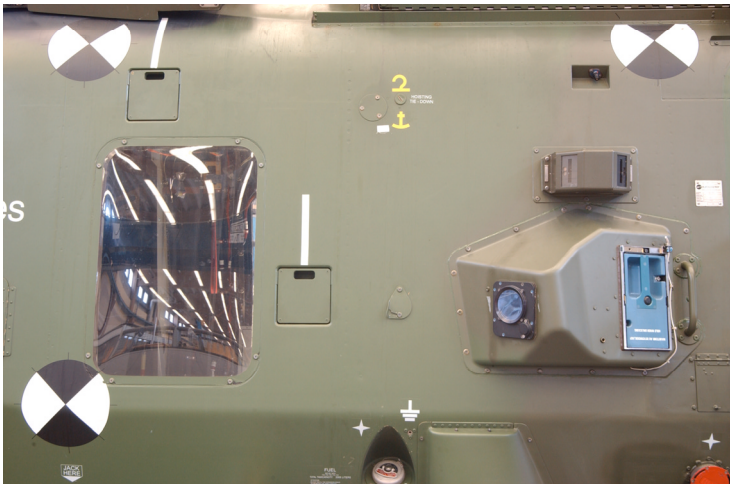


Fig. 1 View onto the Surface of the NATO Helicopter NH 90

If a honeycomb CFK structure is partly damaged a dedicated scheme has to be agreed with specialists of a support team, which are usually located far away from the operating region of the helicopter. Therefore, a remote connection will be established, so that a CFK repair specialist can assist the technician of the helicopter in damage assessment and temporary repair.

Advantages of the Augmented Reality Approach :

The AR approach allows the integration of different sources into the user's field of view : The visual image of the technician is augmented by :

- maintenance information, which is stored in the interactive technical manual (IETM),
- by three-dimensional, rendered CAD construction images and
- by manual drawings which are created by the remote expert, who supports the technician.

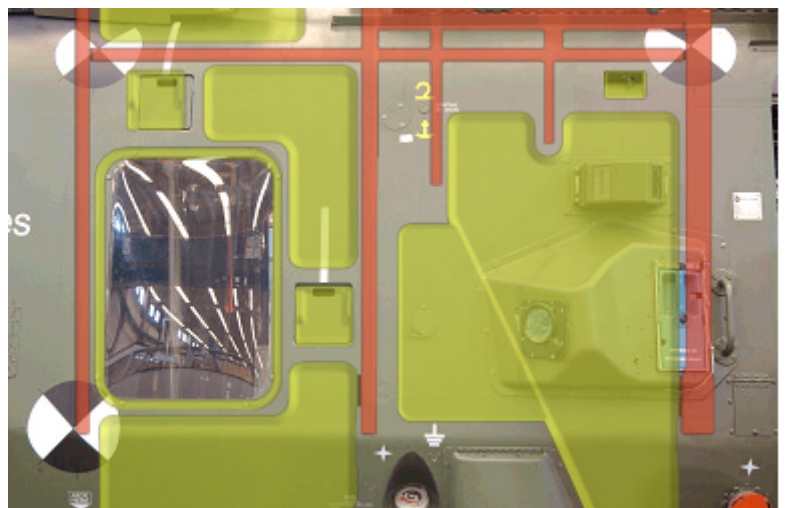


Fig. 2 Augmentation of the User's Field of View