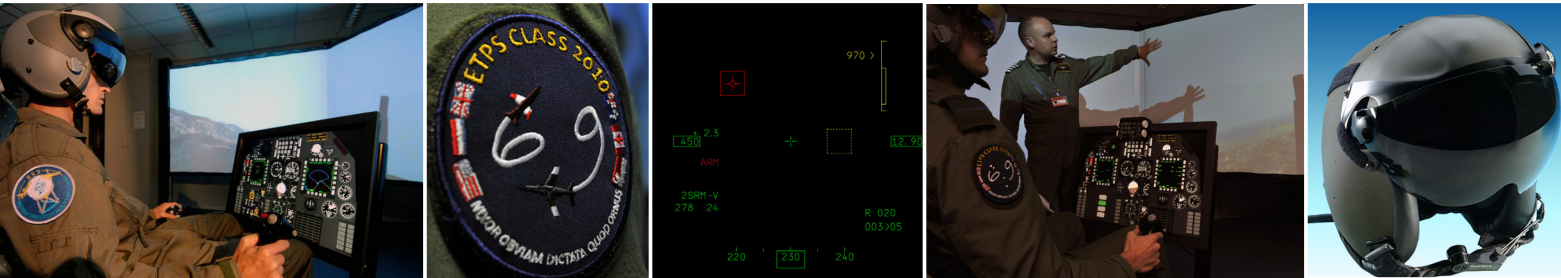


# Colour Capable Research HMD with Built-In Eye Tracker



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“THE HELMET MOUNTED DISPLAY (HMD) HAS  
PROVEN TO BE A VALUABLE ASSET FOR THE PILOT”

Currently the HMD is developing from an add-on instrument into a fully integrated and essential part of the cockpit. This increases the requirements imposed on the HMD itself, the displayed information and the integration with other aircraft systems.

NLR operates a versatile research HMD in its mission simulation facilities to support both research & development as well as concept demonstrations related to the application of state-of-the-art HMD applications.



“CRUCIAL INFORMATION IS CONTINUOUSLY VISIBLE FOR THE PILOT”

## Example Applications

### Colouring targets and targeting information

We added colour to an existing fighter HMD format and integrated this in our simulation facilities. In simulated missions flown by operational pilots we compared the standard monochrome format with the new multi-colour format and found clear benefits in maintaining situation awareness.

### Aiming with the eye instead of the head

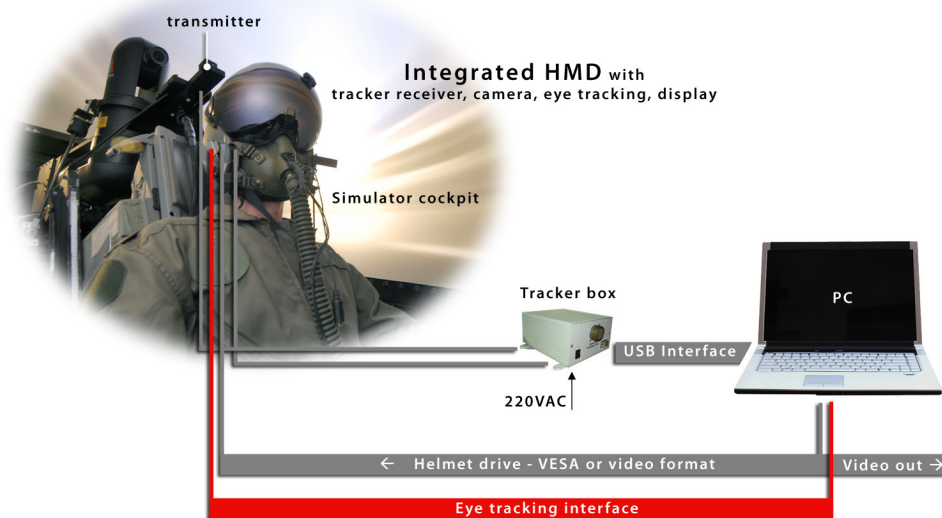
We added eye control to an existing fighter HMD format. In one application, pilots could simply look at within visual range targets and lock them. In a second application, pilots could select target symbols on the HMD by looking at them. In simulated missions, these two concepts were demonstrated to operational pilots.

### Augmented reality cues for reduced visibility operations

We added augmented reality cues to an existing helicopter HMD format to better support pilots operating in Degraded Visual Environments (DVE). Several crews of operational pilots participated in evaluations organized to find the merits of this type of cues. They flew a variety of scenarios with the new symbology.

### HMD as flight test instrument

We developed HMD symbology to help test pilots accurately fly test parameters at low altitude while simultaneously keeping an eye on the outside world. The symbology was tuned and validated in our flight simulator. Then both the HMD and the symbology were integrated in a real helicopter and used in a test flight campaign.



## Helmet Mounted Display (HMD)

- Full-colour flat panel display for high-resolution multi-colour imagery and symbology
- Built-in eye-tracker for situation awareness assessment and slaving sensors or weapons
- Rapidly adaptable symbology and imagery for concept demonstrations and pilot-in-the-loop evaluations
- Integrated in mission simulation facilities for helicopter and fighter operations research and development

Please contact us for a free demonstration