Vision Enhancement

Definition

Vision enhancement is a field of technology which is able to restore, vision, one of our five senses, to those who have lost it.

The ultimate goal of vision enhancement is to be able to provide blind people with images of their surroundings so that they can work and enjoy themselves just as others do.

However, the field is not solely focused on those who are blind. A recent development in the field has allowed those who are colour-blind to see the world in the same way that everyone else sees it. This means that they are better able to distinguish between colours and in some cases see new colours that were muted before.

Low-vision enhancement systems (LVES)

Use video technology through a headset connected to a computer. The system allows images to be projected inside the headset in front of the eyes. This effectively brings the objects closer for examination by the user of the system.

Night vision enhancement (NVE)

Amplifies infrared light and visible light so that an image can still be seen in apparent darkness. For example, the military use this technology to carry out surveillance at night.

How does it work?

The dim light source is captured and passed through an *image intensifier tube*, which converts the light into electrons. These electrons pass through another tube where they are amplified to produce several times the original number of electrons. A screen at the end of the tube is coated in phosphor dots that glow when electrons collide with them – this results in an image that is considerably clearer than the original.