NEW HOLOGRAPHIC LENSES FOR AUGMENTED REALITY APPLICATIONS

DADES DE CONTACTE:

Research Results Transfer Office-OTRI
University of Alicante
Tel.: +34 96 590 99 59
Email: areaempresas@ua.es
http://innoua.ua.es

RESUM

The **Holography and Optical Processing** group at the University of Alicante has developed:

1) A **method for generating** holographic lenses.
2) **Holographic lenses** generated with this method.
3) A **light guidance system** comprising the holographic lenses generated with said method.

This system improves upon current see-through holographic viewers of great interest in today's digital society for **virtual reality** (VR) and **augmented reality** (AR) applications, as it removes multiple images and allows for better image sharpness. Also, this holographic lens-based light guidance system will **be simpler and less costly** than current systems using optical prisms.

The group is looking for companies interested in acquiring this technology for commercial exploitation or to collaborate in the development of new systems and applications.

AVANTATGES I ASPECTES INNOVADORS

MAIN ADVANTAGES OF THE TECHNOLOGY

- This new light guidance system based on holographic lenses will be **simpler and less costly** than current systems using optical prisms.
- The **images** offered will be of much **higher quality**, i.e. **better sharpness** than current AR devices.
- The system **eliminates the multiple images** that characterise current holographic displays.

INNOVATIVE ASPECTS

- This method generates a holographic lens that guides the light, so that it meets the angular condition of total reflection on the substrate, **without using optical prisms** to incident the reference beam and the target beam on the photosensitive material. Currently, the use of optical prisms makes mass production of holographic lenses expensive and difficult.
- The design can be **adapted to the distances needed for each application** and the image size can be increased or reduced by changing the registration of the holographic lenses included in the system.
- This compact system **does not require analogue or digital lenses** for its operation because its function is performed by the holographic optical elements (HOLEs).

APLICACIONS DE L'OFERTA

It mainly targets the **Information and Communication Technologies (ICT), video games and automotive sectors**.

COL·LABORACIÓ BUSCADA

The group is looking for companies or institutions interested in acquiring this technology for **commercial exploitation** through patent licensing agreements or to **collaborate** in the development of new holographic lenses.