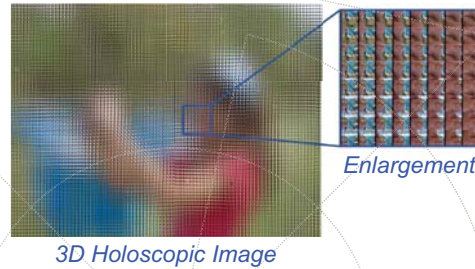
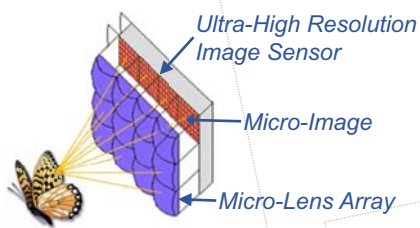


3D Holoscopic Video Coding

Background and challenges

3D holoscopic imaging

- Promising imaging technology
- A more realistic 3D experience
- “Fly’s eye” micro-lenses array



- Light intensity and directional information is captured in a 2D image sensor

- New degrees of freedom for content post-production:



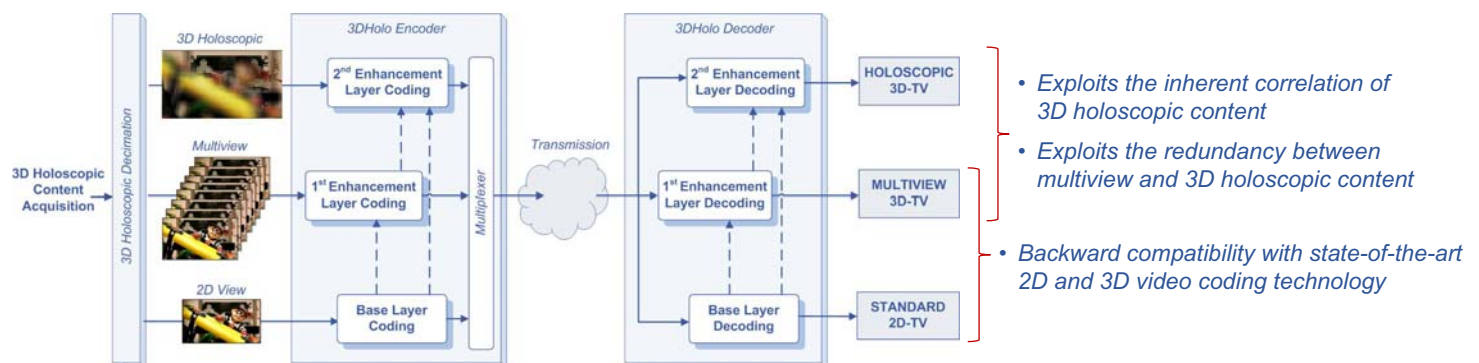
Description and main innovation

Critical factors to introduce 3D holoscopic imaging for 3D-TV applications

- Adequate coding tools to deal with the large amount of data involved in 3D holoscopic systems
- Display scalable coding approach to provide backward compatibility with legacy 2D and 3D displays
- Error resilience coding techniques to provide 3D holoscopic video services over error-prone channels

Display scalable 3D holoscopic video coding (3DHolo) scheme

- Each layer represents a different level of display scalability:



Achievements

- The proposed coding scheme can significantly **outperform** the simulcast solution based on the **state-of-the-art in 2D video coding technology** (HEVC standard)
- 2 journal papers, 11 conference papers, 2 book chapters, and 374 k€ raised funding (FP7 3D VIVANT)