

Nanoproj: Miniature Video and Image Projectors for Portable Devices

Background

Most portable devices currently on the market (mobile phones, GPS systems, etc.) use very small screens. Another method for viewing and sharing videos and images is to project them onto a white 21cm x 29 cm surface. Such projection systems are beginning to appear on the market, but their size and energy use are incompatible with mobile phones' miniaturization requirements. The market for miniature projection systems should explode in the next ten years, providing considerable growth opportunities for applications in portable devices (the primary target market), as well as cars, home appliances, and home automation.

Innovation

The innovation developed by the Nanoproj project is the **placement of an entire LCD transmission matrix and its control system on a silicon wafer**. The technology will use 5 μ m LCD pixels to achieve a wide integration. The light source will be either RGB LEDs or RGB lasers. Optinvent will design an integrated optical system for projection, STMicroelectronics will develop the LCD matrix control system, and CEA-LETI will realize the LCD.

This project is original in that it applies techniques from microelectronics to achieve extreme miniaturization, which can be used to produce compact devices with relatively low manufacturing costs.

Partners

Corporate

FagorBrandt - [STMicroelectronics](#)

SME

H2i Technologies - Optinvent

Research laboratories

CEA-Leti

Key figures

Budget: €6.48 million

Duration: 30 years

Human resources allocated: 32.7 FTE