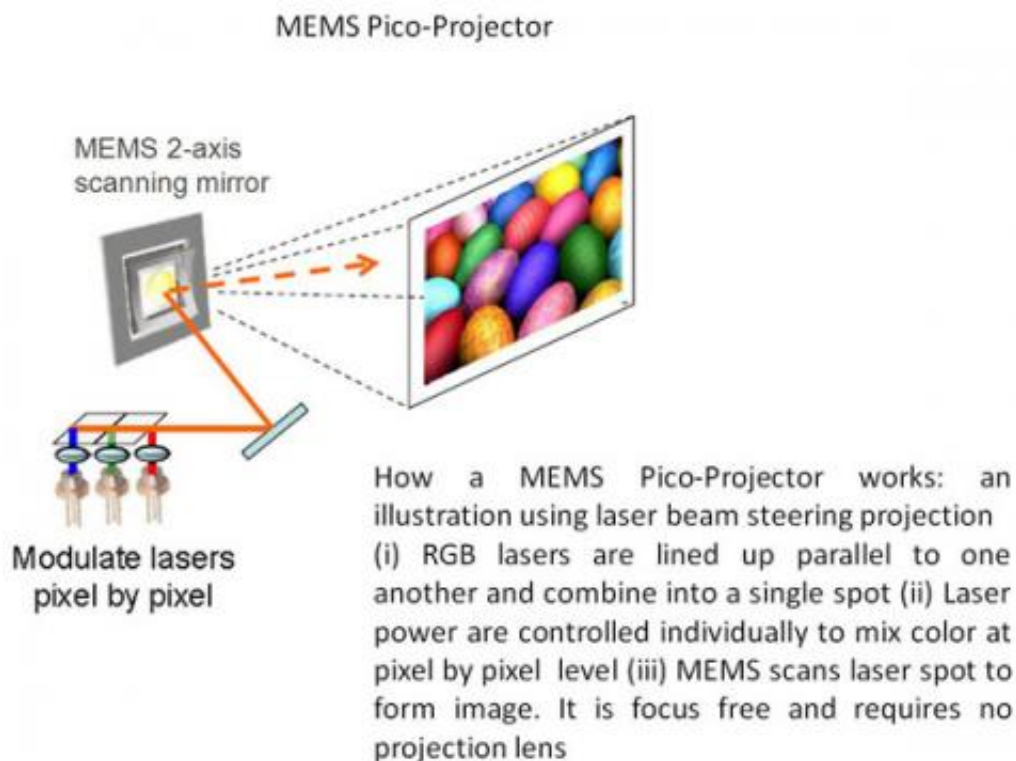


# Micromirror technology for smartphones

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With consumers using smartphones as a mobile entertainment centre, the ability to project photos and videos on any surface may soon become the norm.

A\*STAR Institute of Microelectronics (IME) and OPUS Microsystems Corporation, a Taiwan-based company specialising in Micro-Electro-

Mechanical Systems (MEMS) scanning mirror devices, have signed an agreement to refine and develop a MEMS scanning mirror for smartphones applications. This would enable phones to project photos and videos on any surface, and with no constraints on the viewing screen size on the [mobile devices](#).

This project, which signifies OPUS Microsystems' first research partnership and project in Singapore, will build on IME's extensive experience and knowledge in the field of MEMS. IME will lead the process design and development while OPUS Microsystems will contribute in the design of the scanning mirror.

MEMS scanning mirror, or micromirror technology, used in light-modulating devices, has undergone rapid technological progress over the years. This has led to the high video and [image quality](#) observed in high-definition televisions and more recently, digital cinemas. The market demand for such [visual experience](#) expresses itself in portable consumer electronics, such as tablets and mobile phones, in which gaming, photo and video applications have become integral. This technology is expected to be heavily incorporated into the next generation of smartphones.

To meet this demand, the two parties will work together on the development of an optimized MEMS scanning mirror which will enable a pico-[projector](#) for smartphones applications. Through the project, the two parties aim to achieve a slimmer and smaller MEMS micromirror with high performance offering a compact yet high-resolution pico-projector solution for smartphones. This would ultimately turn any surface into a display.

"We are delighted that OPUS Microsystems has chosen IME to be their partner for their first research project in Singapore. The interest in pico-projectors has gained traction in recent years, but the industry challenge

remains in achieving a cutting edge technology that will allow the integration of a small-scale projector into smartphones while maintaining a [high resolution](#) output. It is an exciting research and development opportunity for IME to be part of such a project that will potentially lead to a technological breakthrough," commented Prof. Dim-Lee Kwong, Executive Director of A\*STAR IME.

"We are excited to be partnering with IME on this collaboration," said Andrew Hung, President of OPUS Microsystems. "IME is a leading semiconductor research institute with vast experience in MEMS. We are confident that the alliance will enable OPUS Microsystems to achieve practical results that will meet its desired device requirements."

Provided by Agency for Science, Technology and Research (A\*STAR), Singapore

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