

# Rotating Adaptive Mirror



**Abstract:** This technology is a method of fabricating circular adaptive mirrors of any size using a Mylar polyester

## THE INVENTION

This invention is in MEMS and it involves a method of fabricating adaptive mirror with a Mylar polyester and utilizing electromagnetic actuation to deform the surface of reflector. This technology also utilizes miniature motors to filter out the impurities which might have crept in during fabrication



## MARKET NEED

Market for Deformable mirrors in NEMS and MEMS is gaining traction in military and defence applications.<sup>1</sup>

- Global MEMS & NEMS (encompassing military, sensors, automobiles, and security) is a \$ 21.5 Billion market.
- And Grow at compound annual growth rate (CAGR) of approximately 13%.
- Miniaturization of defence equipment and technology have been a key for growth of MEMS and NEMS market.

## APPLICATIONS

- Microscopes
- Telescopes
- MEMS applications
- Cameras

## PROJECT STATUS

- A lab prototype was fabricated and tested with a mirror of size 10cm in diameter.
- Reflection at various focal lengths was observed

## LOOKING FOR A DEVELOPMENT PARTNER

- A proof-of-concept needs to be built and tested using novel reflective surfaces
- Later, a pilot test needs to be conducted in collaboration with and industrial end-user.

## PATENT PROTECTION

A US Patent application is under process for filing

## ABOUT KFUPM

King Fahd University of Petroleum & Minerals is a leading educational organization for science and technology. KFUPM Innovation & Industrial Relations is the IP management and technology licensing office tasked with taking innovation from lab to market place.

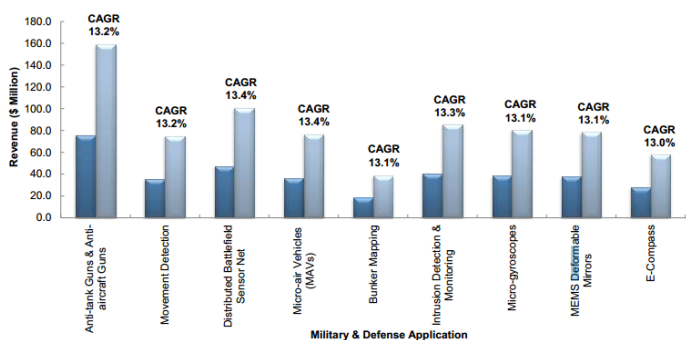
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**MEMS and NEMS Sensors in Military & Defense: Revenue Forecast by Application Global, 2016 and 2022**



<sup>1</sup> Global Market for MEMS and NEMS Sensors