

**GOVERNMENT OF INDIA  
SCIENCE AND TECHNOLOGY  
LOK SABHA**

UNSTARRED QUESTION NO:2732  
ANSWERED ON:29.03.2012  
TECHNOLOGY FOR MAINTENANCE OF AIRCRAFT  
Maadam Shri Vikrambhai Arjanbhai

**Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:**

- (a) whether two of the country's top Scientific and Aviation Research Centres have successfully tested a technology called Structural Health Monitoring (SHM) system that can reduce the cost of running and maintaining an aircraft by nearly a third;
- (b) if so, the details thereof;
- (c) whether the technology developed by National Aero Space Laboratories (NASL) and the Council of Scientific and Industrial Research (CSIR) has the ability to predict cracks or damage on an aircraft even when it is airborne; and
- (d) if so, the details thereof ?

**Answer**

MINISTER OF STATE IN THE MINISTRY OF PLANNING; MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTER OF STATE IN THE MINISTRY OF EARTH SCIENCES (ASHWANI KUMAR)

(a) Yes Madam.

(b) National Aerospace Laboratories (NAL), Bangalore, a constituent laboratory of the Council of Scientific and Industrial Research (CSIR) has developed a technology for Structural Health Monitoring (SHM) of a structure to be airborne. The same has been successfully tested on the Unmanned Aerial Vehicle (UAV) developed by DRDO's Aeronautical Development Establishment (ADE), Bangalore. This is the first trial of an SHM system on an UAV in India.

(c)&(d) The flight trial gave confidence that with the technology developed it is possible to monitor the health of a aircraft structure during flight. Such experiments take longer time for conversion into established technology. It is not possible to indicate any specific schedule within which one can say that the technology for monitoring health of an aircraft, while in motion, has been successfully developed & tested and which potentially would contribute to significant savings in running and maintaining costs.