18ECO134T – Sensors and Transducers

Unit IV : Session 6 : SLO 1

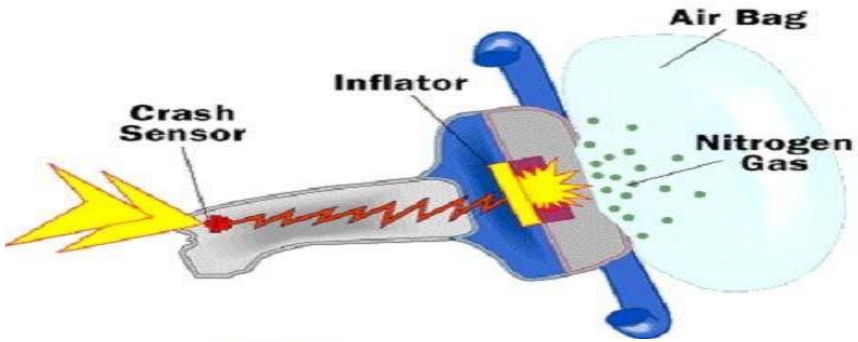
MicroElectroMechanical System

Any engineering system that performs *electrical* and *mechanical* functions with *components* in *micrometers* is a MEMS. (1 µm = 1/10 of human hair)

Available MEMS products include:

- **Micro sensors** (acoustic wave, biomedical, chemical, inertia, optical, pressure, radiation, thermal, etc.)
- **Micro actuators** (valves, pumps and microfluidics;electrical and optical relays and switches; grippers, tweezers and tongs;linear and rotary motors, etc.)
- **Read/write heads** in computer storage systems.
- **Inkjet printer heads**.
- **Micro device components** (e.g., palm-top reconnaissance aircrafts, mini robots and toys, micro surgical and mobile telecom equipment, etc.)

Inertia Sensor for Automobile “Air Bag” Deployment System



Micro Cars

(Courtesy of Denso Research Laboratories, Denso Corporation, Aichi, Japan)