

## TECH-NEWS

(An initiative of Research & Development Committee, MITS-JADAN)

Presents Technological Update On

### Nanotechnology Enabled Sensors

By

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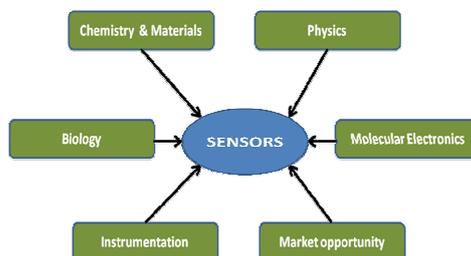
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Date: 24/9/2016

#### Introduction:

Nanotechnology provides us with tools to create functional materials, devices, and systems by controlling materials at the atomic and molecular scales, and at the same time make use of novel properties and phenomena. Considering that most chemical and biological sensors, as well as many physical sensors, depend on interactions occurring within the nano scale range, the impact that nanotechnology will have on the sensor world is significant.

**Potential application for sensors:** This figure shows that the sensor is an interdisciplinary area.



Following are the areas in which the sensors are required:

1. Microbiology: Bacterial and Viral analysis
2. Pharmaceutical and drug analysis
3. Pollution control and environmental monitoring
4. Military applications
5. Mining industrial and toxic gases
6. Industrial effluent control
7. Process control
8. Fermentation control and analysis
9. Farm, Garden and veterinary analysis and many more.....

#### R & D Aspects:

1. *To develop smart sensing systems using nanotechnology*
2. *Use of these high-tech sensors for multiplexing*
3. *Ongoing challenges to achieve the minimum detection limits*