

The Opportunity

Researchers at the National Institute of Advanced Industrial Science and Technology (AIST) of Japan have developed and patented a **unique multi-layered ceramic material with built-in crack detection**. The material emits electronic signals upon the first instance of stress cracking prior to catastrophic failure.

Technology Advance

This novel material possesses a number of advantages over conventional ceramics:

- Indicates cracking in advance of failure
- Alleviates need for individual sensors
- Improves materials reliability

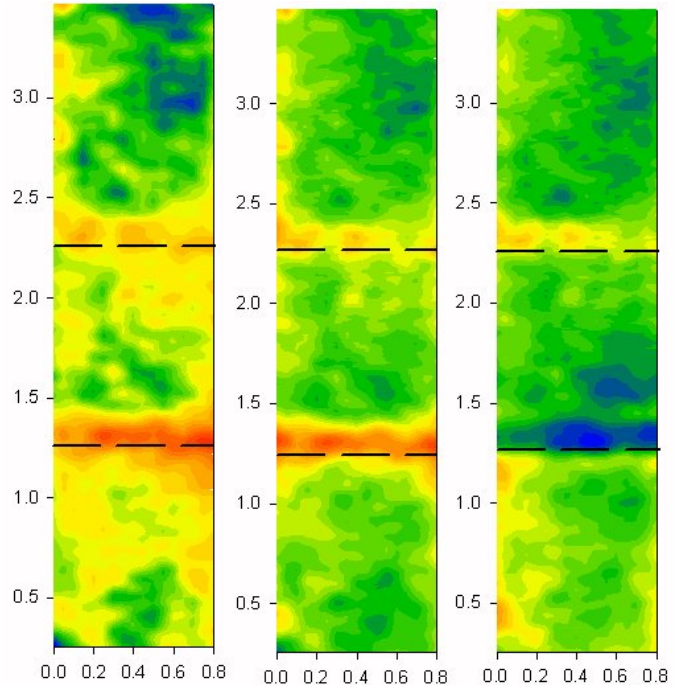
AIST is a recognized authority in the field of ceramic sensors. AIST experts have developed a range of piezoelectric and luminescence sensors with high sensitivity, low thickness, mechanical and thermal shock resistance, and biological compatibility.

Eight patents protect various sensors and actuators:

US Patent	Features
6,240,786	• Two-layer structure composite material for detecting cracks
<i>Additional Sensor Patents of Interest</i>	
6,555,886	• Multi-layer PZT piezoelectric device
7,152,482	• Transparent piezoelectric sensor
6,823,739	• Thin pressure sensor for biological applications
7,060,371	• High-intensity mechanoluminescent material
6,628,375	• Luminescence stress sensor
6,608,427	• Shock-resistant high-sensitivity ceramic sensor
<i>Additional Actuator Patent of Interest</i>	
6,536,476	• Ceramic Microvalve

Intellectual Capital

AIST (National Institute of Advanced Industrial Science and Technology) is Japan's extensive public research organization established in 2001. AIST and its predecessors have advanced technology and supported Japanese industries since 1876.



Although not specifically a government institution, AIST is largely funded by the Japanese government.

Comprised of more than 50 autonomous research units in various innovative research fields and employs about 2500 research scientists and well over 3000 visiting scientists.

AIST Home Page:

www.aist.go.jp/aist_e/about_aist/index.html

For More Information

AIST is seeking to license this technology and provide assistance with its commercialization success to qualified organizations.

Consideration will be provided to a range of financial, strategic, and commercial investment options.

Certain circumstances will warrant consideration for nominal funding from AIST.

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