

# IIT-I gets patent on tunnel field effect transistor

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**Indore:** Indian Institute of Technology (IIT), Indore has received an Indian patent on "High Performance Double Gate Tunnel Field Effect Transistor for Low Power Applications" from Patent Office, Government of India.

The technique will benefit industrial and educational research centres for development of the next generation of Integrated Circuit (IC).

Energy efficient electronics systems are required to realize the wide range of internet of things (IoT) applications such as environ-

mental sensing, health monitoring, bio-medical sensing, body sensing networks and cellular neural networks.

Inventors of this transistor said that the tunnel field effect transistor gives better performance for supply voltages below 0.5V because of steep subthreshold swing.

The inventors of "High Performance Double Gate Tunnel Field Effect Transistor for Low Power Applications" are Professor Santosh Kumar Vishvakarma, associate professor, department of Electrical Engineering, IIT-Indore and Dr Vikas Vijayvargiya, an alumnus of IIT-I and currently

working as assistant professor in department of Micro and Nanoelectronics, Vellore Institute of Technology.

"The proposed technique would be beneficial at the industrial and educational research centre for development of the next generation of IC for the said application to create smart India," Vishvakarma said.

"We have proposed a lateral asymmetric channel (LAC) doping profile for tunnel field effect transistors and the method of fabricating the same are disclosed," said Vishvakarma.

This is the 11th patent for IIT Indore. The institute has filed for 80 patents till date.