***Edge computing, where data is processed at the gathering site instead of in the cloud, can greatly increase efficiency, improve data security and reduce energy consumption. In particular, embedding processing capability for industrial Internet-of-Things (IoT) applications is very beneficial, but impossible with conventional transistors in the case of to high temperatures and/or radiation levels at the sensing sites. The EU project i-EDGE tackles this challenge by building a next-generation computing platform based on nano-electro-mechanical relays: NEM\_SWITCHES.***

**Edge computing for extreme environments**

i-EDGE will exploit the unique properties of nanoelectromechanical (NEM) switches – able to survive extreme environments – in order to build "systems-on-chip" (SoC) where sensors, the interface to the sensors, the processor (based on field-programmable gate arrays ‘FPGAs’), and electronic memory for data storage (non-volatile memory ‘NVM’) are densely integrated on the same chip. More details on the i-EDGE technology and the series of demonstrators developed in the project are available at <https://www.i-edge-project.eu/project/>

**The future exploitation and applications**

The demonstrators will be application and market oriented, filling existing technological gaps identified by the i-EDGE Business Interest Group, while supporting the [EU Chips Act](https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/european-chips-act_en).

i-EDGE envisions to provide electronic solutions that unlock the full power of the IoT for industrial processing and manufacturing, electric vehicles, environmental monitoring as well as health care applications. More info on the exploitation tracks and markets targeted by i-EDGE is available at <https://www.i-edge-project.eu/exploitation/>

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| The i-EDGE consortium comprises eight partners including two large-industry partners (Microchip Technology Inc. in Nantes and Caldicot), two specialized SMEs (AMO GmbH and SCIPROM Sàrl), three top-level universities (University of Bristol, TU Wien Technische Universität Wien & KTH Royal Institute of Technology) and one research centre (CSEM).  The commercial exploitation of i-EDGE is strengthened by its industrial partners (AMO, Microchip-FR and Microchip-UK). At the same time, the project´s academic partners (UNIVBRIS, TUWIEN & KTH) and research centre (CSEM) ensure both the highest scientific standard and academic exploitation through training efforts and follow-up research initiatives.  The i-EDGE team is coordinated by AMO and works together with strong support of our Business Interest Group to achieve the project objectives of developing a nanomechanical hardware platform for edge computing and bringing it to Technology Readiness Level 5 (TRL5). |