

Best-Reliable Ambient Intelligent Nano Sensor Systems (e-BRAINS)

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Research Areas



Tool Development

Innovation

At a Glance

- Status: **Completed Consortium**
- Year Launched: **2010**
- Initiating Organization: **European Commission Seventh Framework Programme (FP7)**
- Initiator Type: **Government**
- Location: **Europe**

Abstract

Best-Reliable Intelligent Ambient Nano Sensor Systems (e-BRAINS) is about the creation of a new generation of sensors that leverage integration of heterogeneous technologies, high-performance nano sensor devices, miniaturization, smart wireless communication, and best reliability.

Mission

e-BRAINS represent a giant leap for outstanding future applications in the area of ambient living with the ultimate need for integration of heterogeneous technologies, high-performance nano sensor devices, miniaturization, smart wireless communication, and best reliability.

e-BRAINS, with minimum volume and weight as well as reduced power consumption, can be utilized in ambient living systems. Successful market entry of such innovative ambient intelligence products will be determined by the performance improvement achieved and profitability in relation to the total system cost.



The basic requirement for robustness and reliability of the heterogeneous integration technologies and the nano sensor layers is the focus of all e-BRAINS developments. The designated nano sensor systems represent a very promising innovative approach with the potential to enable high performance and precise functions in new products. The application of nanotechnology will allow large improvements in functionality and will open a wide range of applications, especially for European companies. Future e-BRAINS applications require significantly higher integration densities. Performance, multi-functionality, and reliability of such complex heterogeneous systems will be limited mainly by the wiring between the subsystems. Suitable three-dimensional (3D) integration technologies create a basis to overcome these drawbacks with the benefit of enabling minimal interconnection lengths. In addition to the enabling of high-integration densities, 3D integration is a very promising cost-effective approach for the realization of heterogeneous systems.

Consortium History

Program Duration: From Sept. 1, 2010, to Aug. 31, 2013

Financing

e-Brains is funded under the Seventh Framework Programme (project reference: 257488) at a total cost of €15.2 million. The European Union contribution is €10 million.

Links/Social Media Feed

Homepage <http://www.e-brains.org/>

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