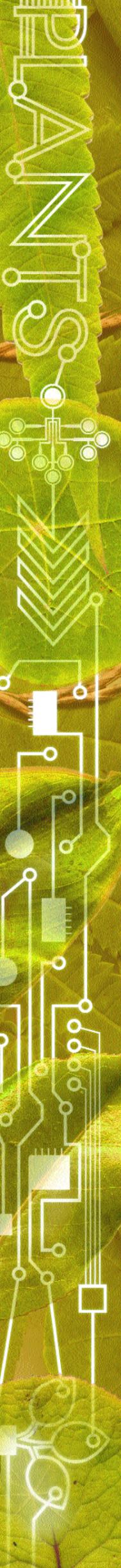




NMRC



The Goal of Ambient Systems Research

Use Electronics with learning capability to Support and Enhance our Everyday Lives

Embed numerous distributed devices to monitor and interact with physical world: in work-spaces, hospitals, homes, vehicles, and "the environment" (water, soil, air...)

Network these devices so that they can coordinate to perform high-level tasks.

Use ad-hoc networks as computational entities which provide of the some intelligent capabilities of people.

NMRC Research Goals

The Development of Microenvironments

- Miniature Processing Systems with capabilities that include perception, computation, and actuation.
- Formation of ad-hoc networks with very large numbers of unit cells.
- Power Harvesting Capabilities and Wireless Communications.

Ambient Electronic Systems

Team Formed in May 2001

Currently Nine People in Team

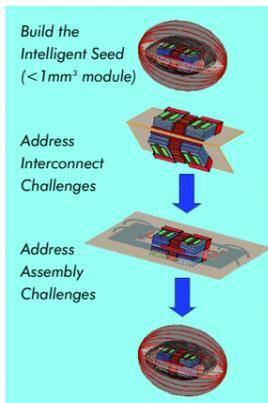
- Four Postgraduates (2 PhDs).
- Five Staff (2 PhDs + 1 Postdoc).
- Increasing to Fourteen in 2003 (+ Postdoc x2, PhD x3)

Eight Funded Projects

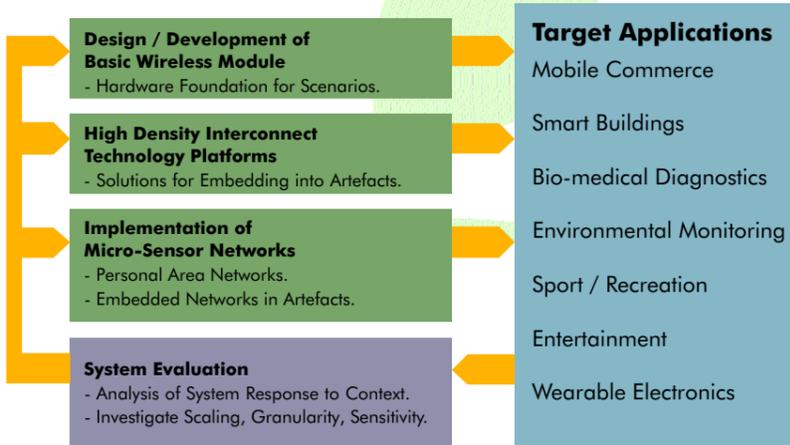
- Three EU IST Future & Emerging Technology projects
- Two EU IST projects
- Three National (E.I. & HEA) projects

Funding 2003 – 2005

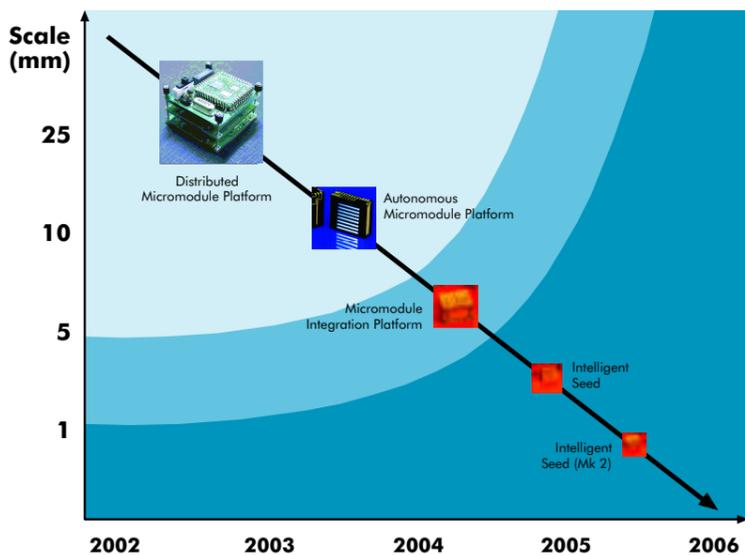
- 2.5 MEuro.



Research Routes



Developmental Approach: Hardware Roadmap



Mobile Commerce

CAMS: Context Aware Mobile Services - Enterprise Ireland Informatics Programme

In collaboration with Trinity College Dublin

Objective: Develop the software infrastructure for next generation mobile applications.

NMRC Role: Microsensor integration into mobile artefacts for context awareness and user location.

Smart Homes/Buildings

CAMS: Context Aware Mobile Services - Enterprise Ireland Informatics Programme

In collaboration with Computer Technology Institute, Greece and University of Essex.

Objective: To provide a conceptual and technological framework that will assist people to compose, use or (re)configure many enhanced everyday artefacts through explicit or implicit manipulation.

NMRC Role: Specification and design of components for sensing, and communication between intelligent electronics modules and integration into everyday objects.

NMRC Ireland, the co-ordinator of the PLANTS project, will undertake the design, assembly and test of the hardware implementations the artefacts needed to carry out the scenarios of the project.

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