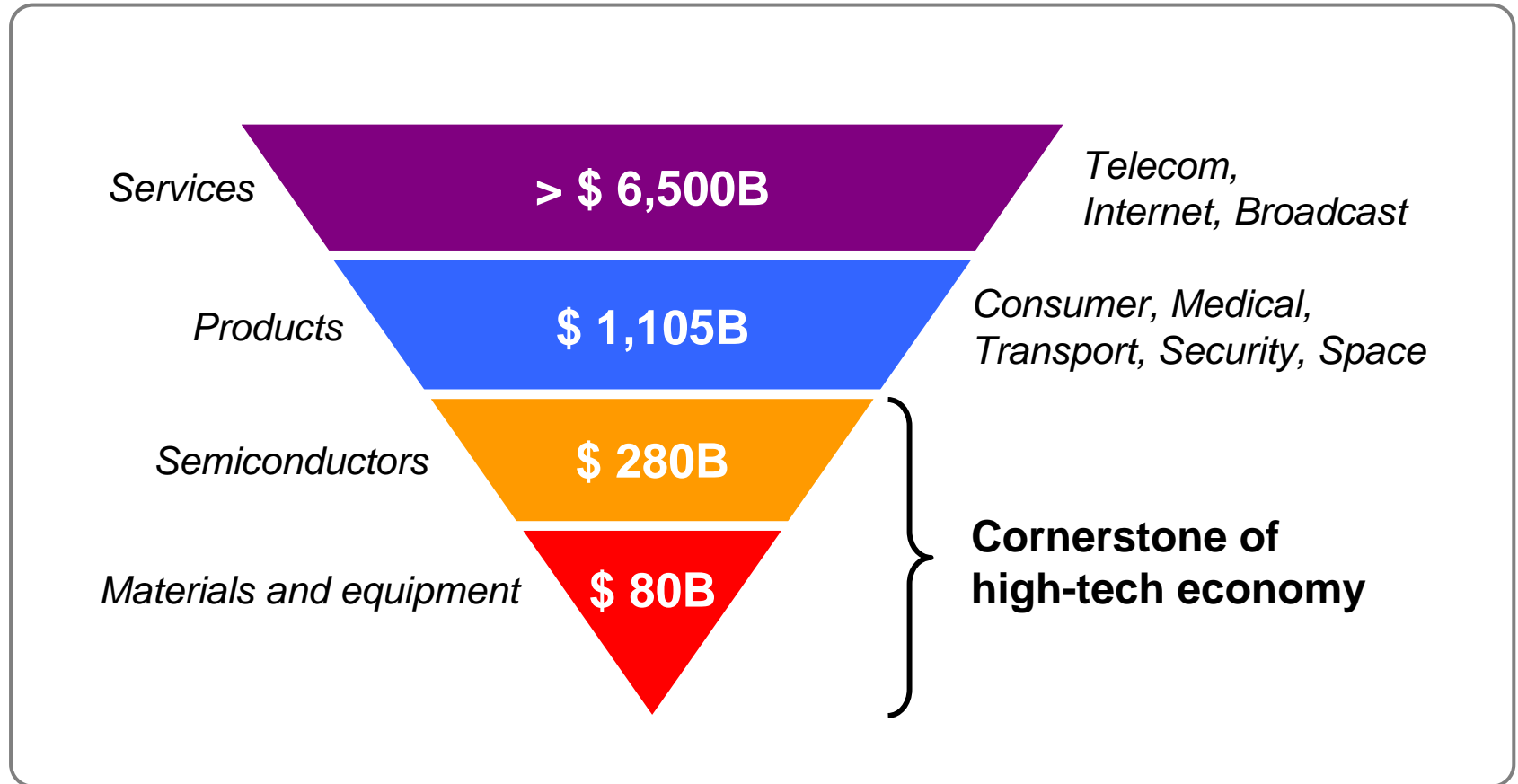


The Impact of Nanoelectronics and the role of the European Technology Platform



Norbert Lehner, Chairman of the ENIAC Support Group

Semiconductors underpin over 16% of the global economy



“Impact” is not only “**business**”, but also “**serving society’s needs**”

Health

‘The Doctor in your Pocket’
Real-Time Diagnostics
Bio-Chips / Body-Sensors

Mobility / Transport

100% Safety on the Road
Integrated Transport Systems
Prevention of Pollution

Security

Personal Emergency Systems
Protection against Crime and Terrorism
Secure Home Environment

Energy

Ultra low power systems
Energy saving illumination
Energy saving motors

Communication

Seamless Wired / Wireless Access
Mobile Services without Compromise
Protection of Privacy

Education / Entertainment

Learning Anywhere, Anytime
Content with Best Quality (e.g. HDTV)
Content Protection



Society needs – Transport and mobility



Society needs – Security and safety



Society needs - Communication



Nanoelectronics is “serving society’s needs”

Health

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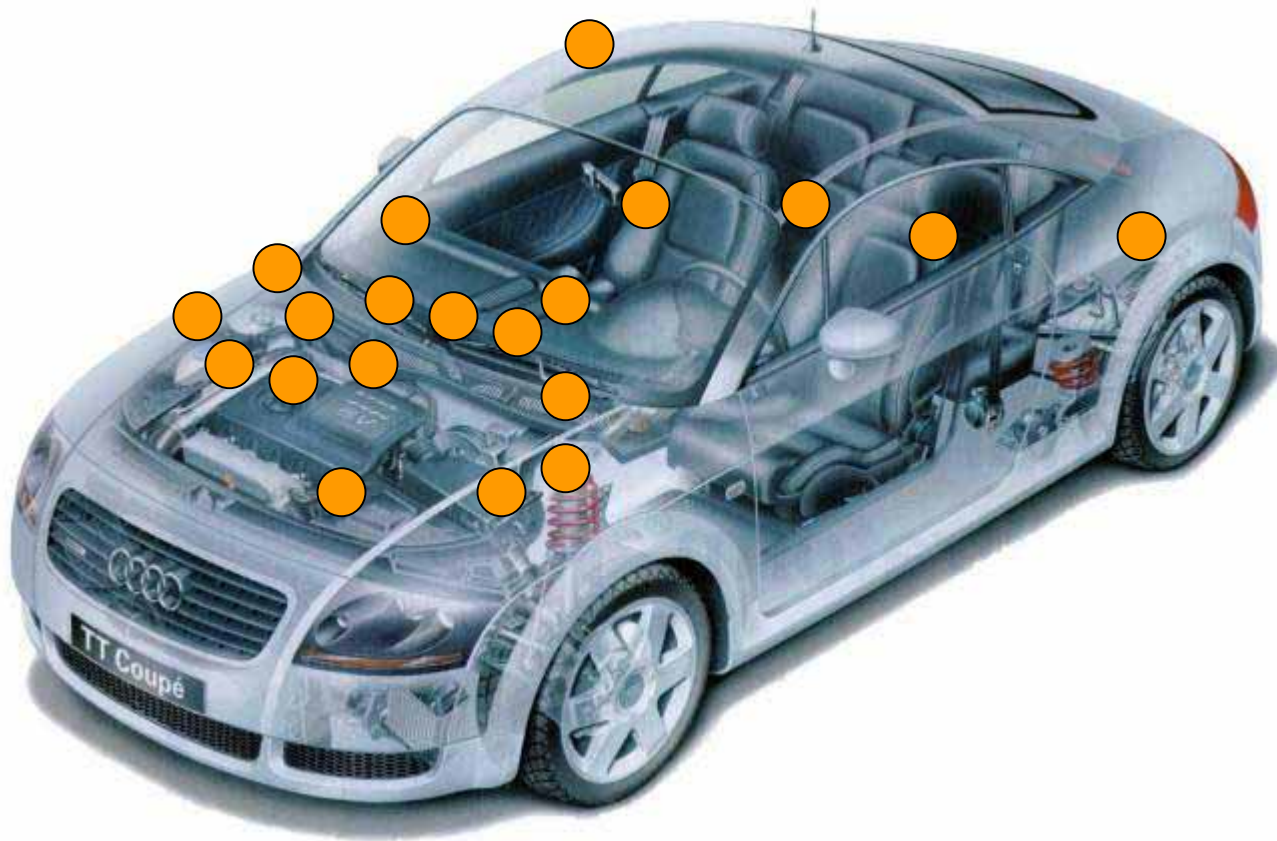
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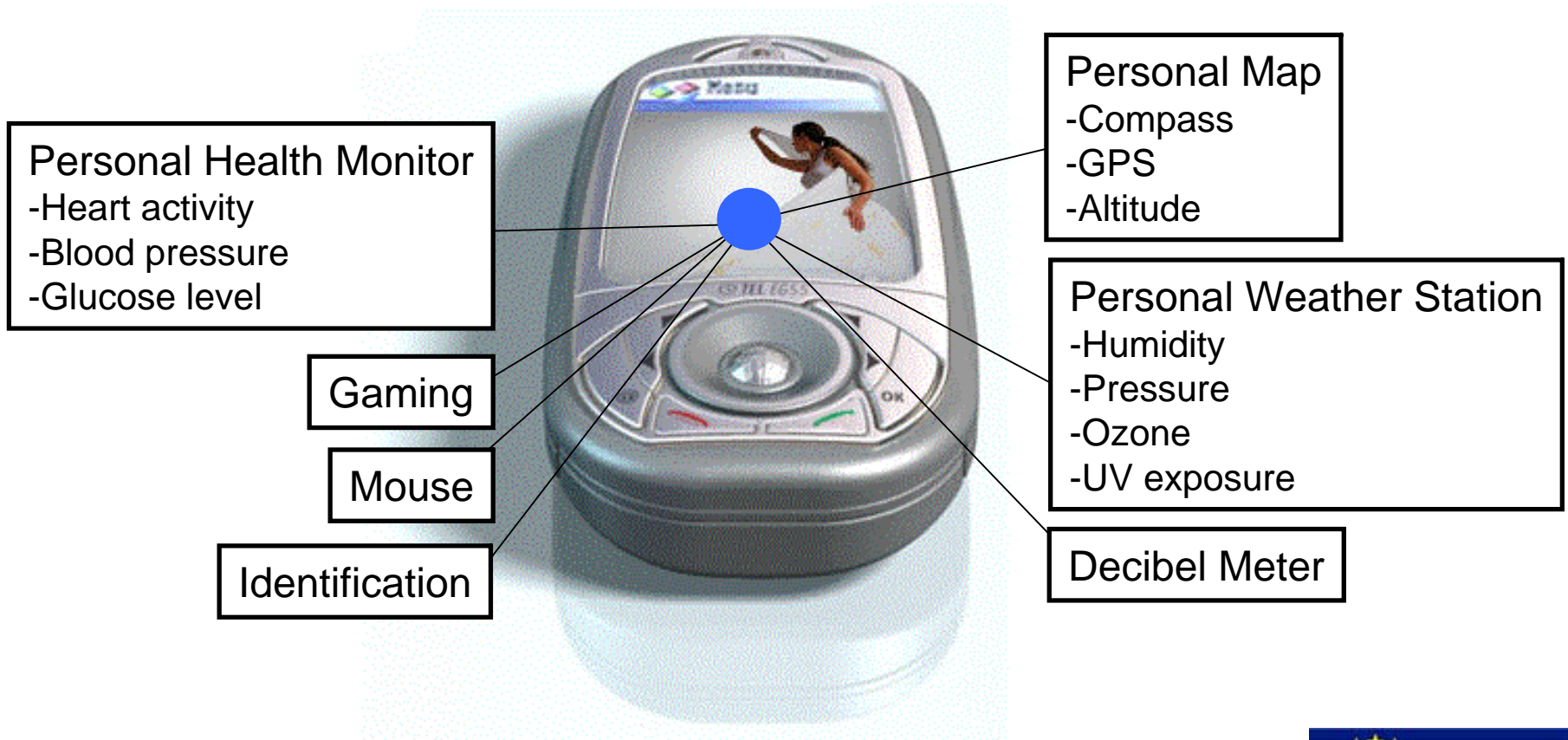
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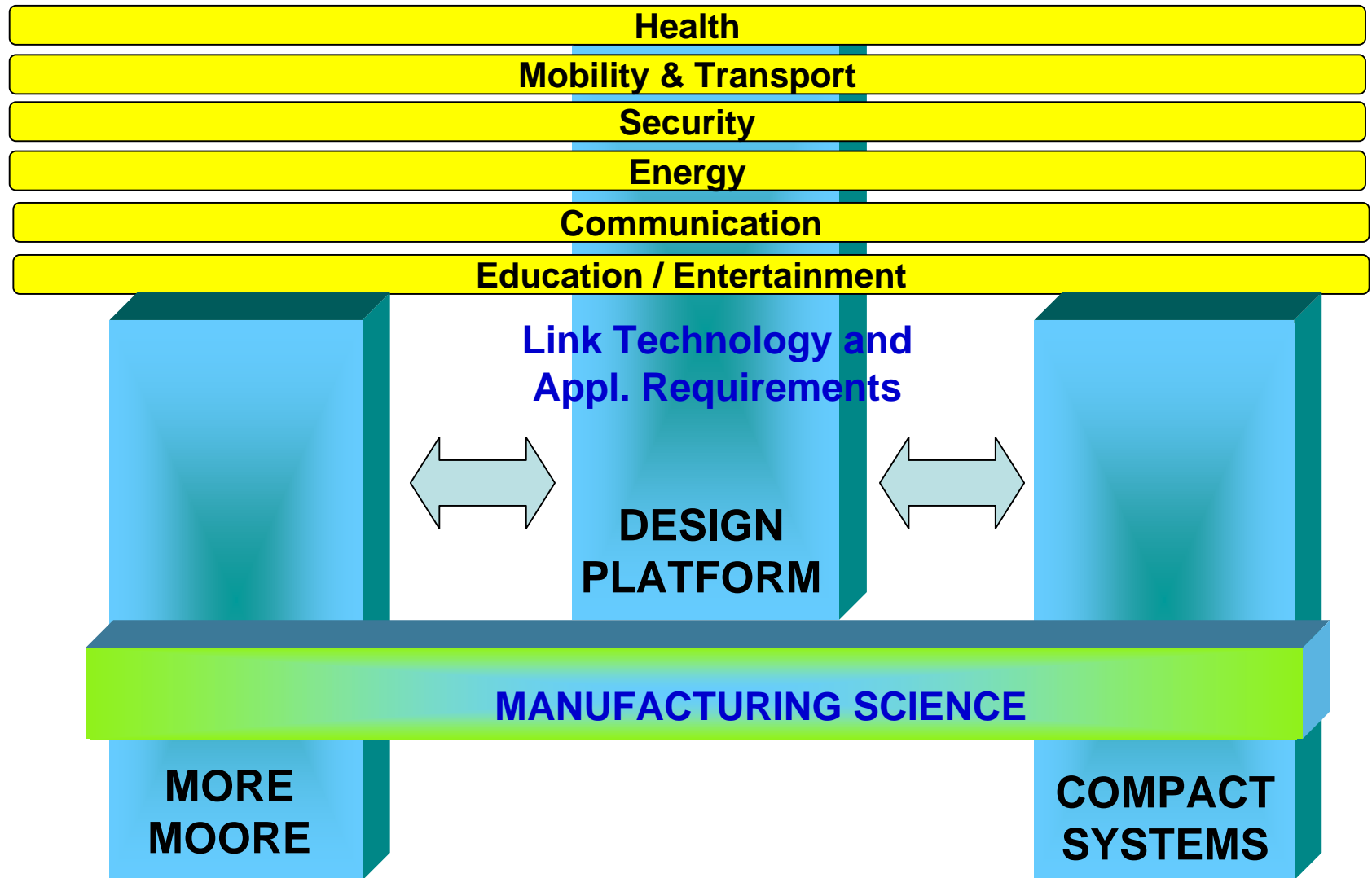
Sensors and actuators are everywhere



Applied intelligence example: all in the pocket

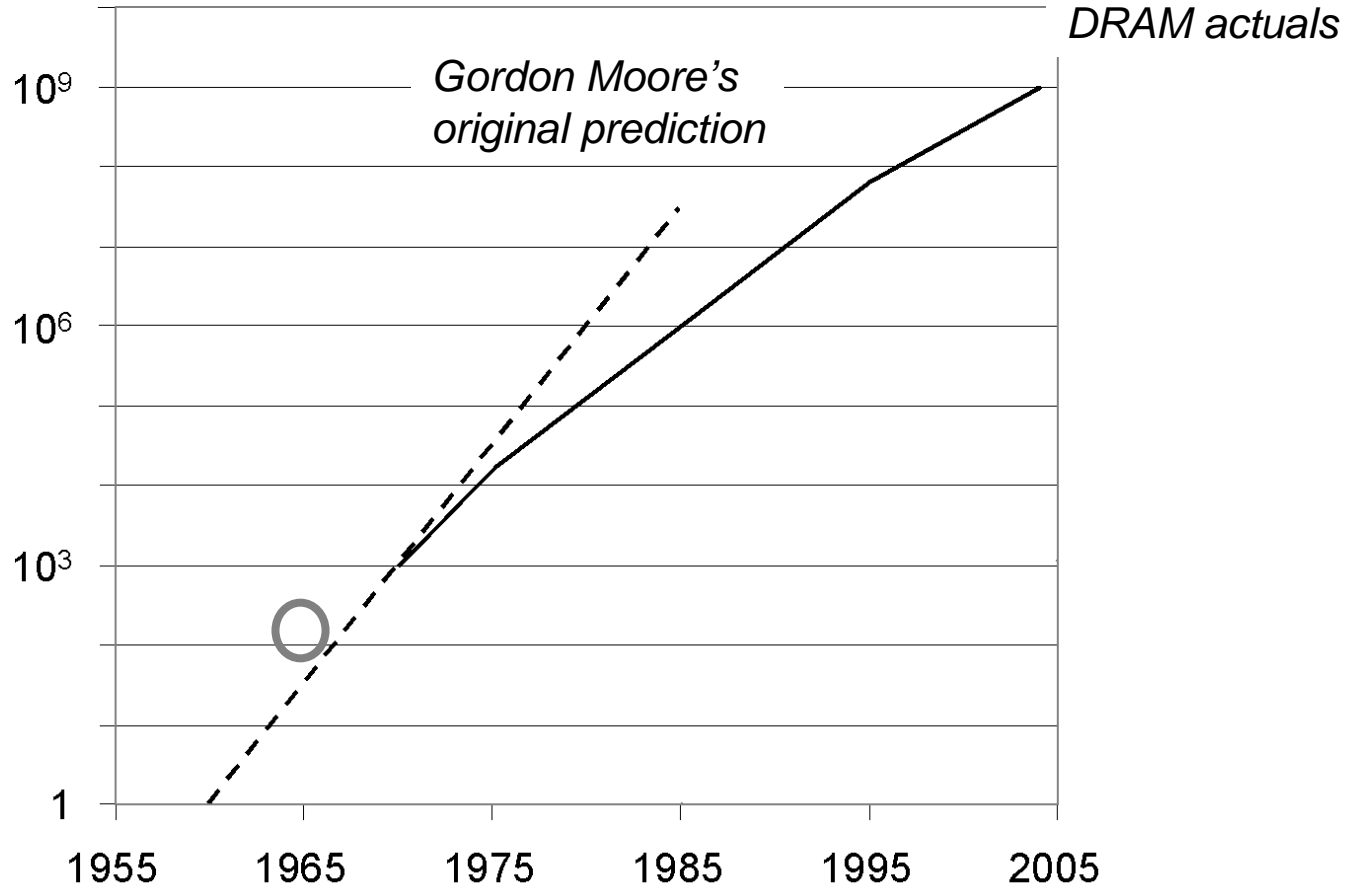


The ENIAC-JU work plan is linked to the Application Domains

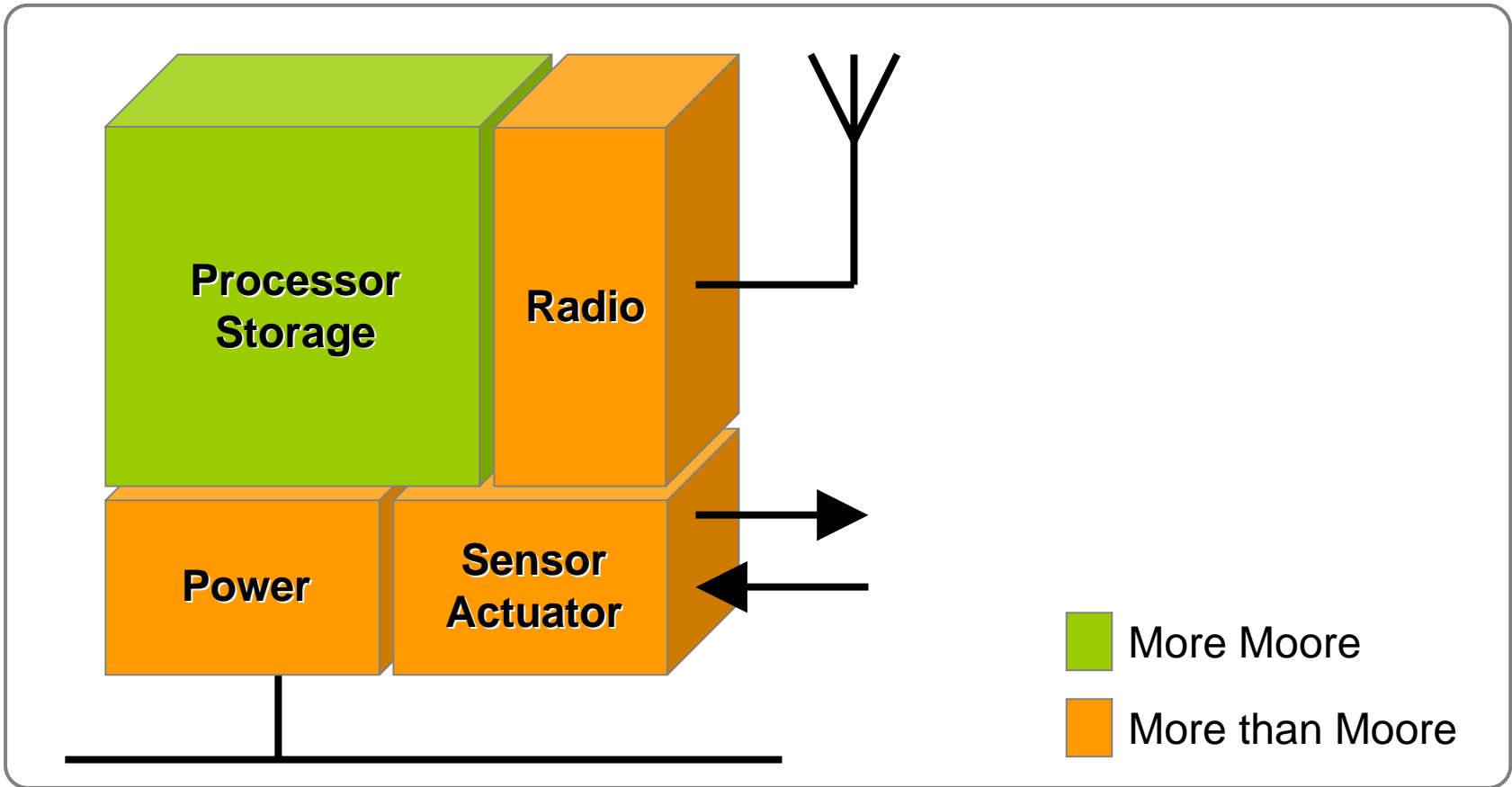


Moore's Law is about **more** digital logic for the same price

Transistors
per circuit



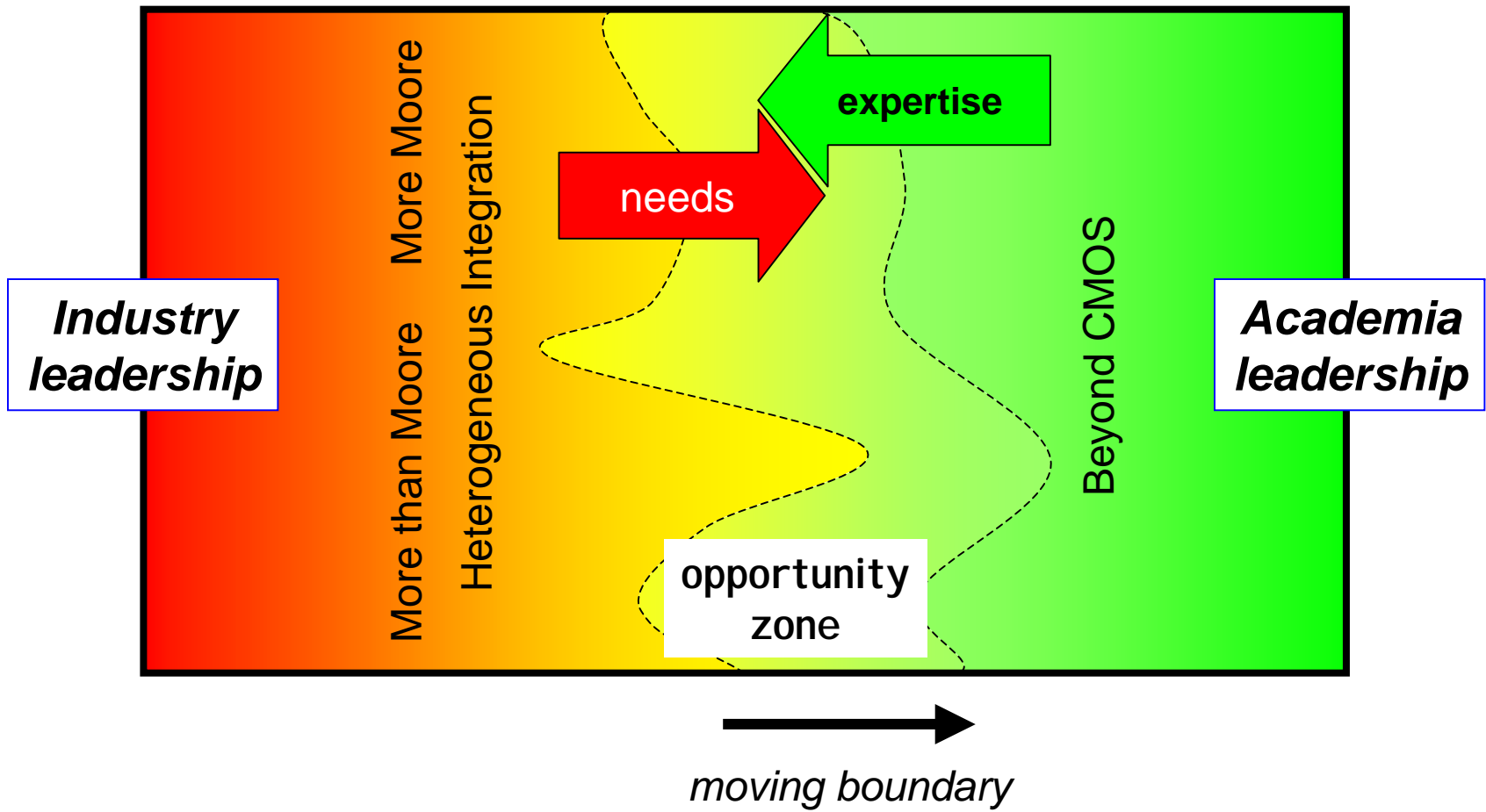
Intelligent systems need a Brain,
but they also need Ears, Eyes, Arms and Legs



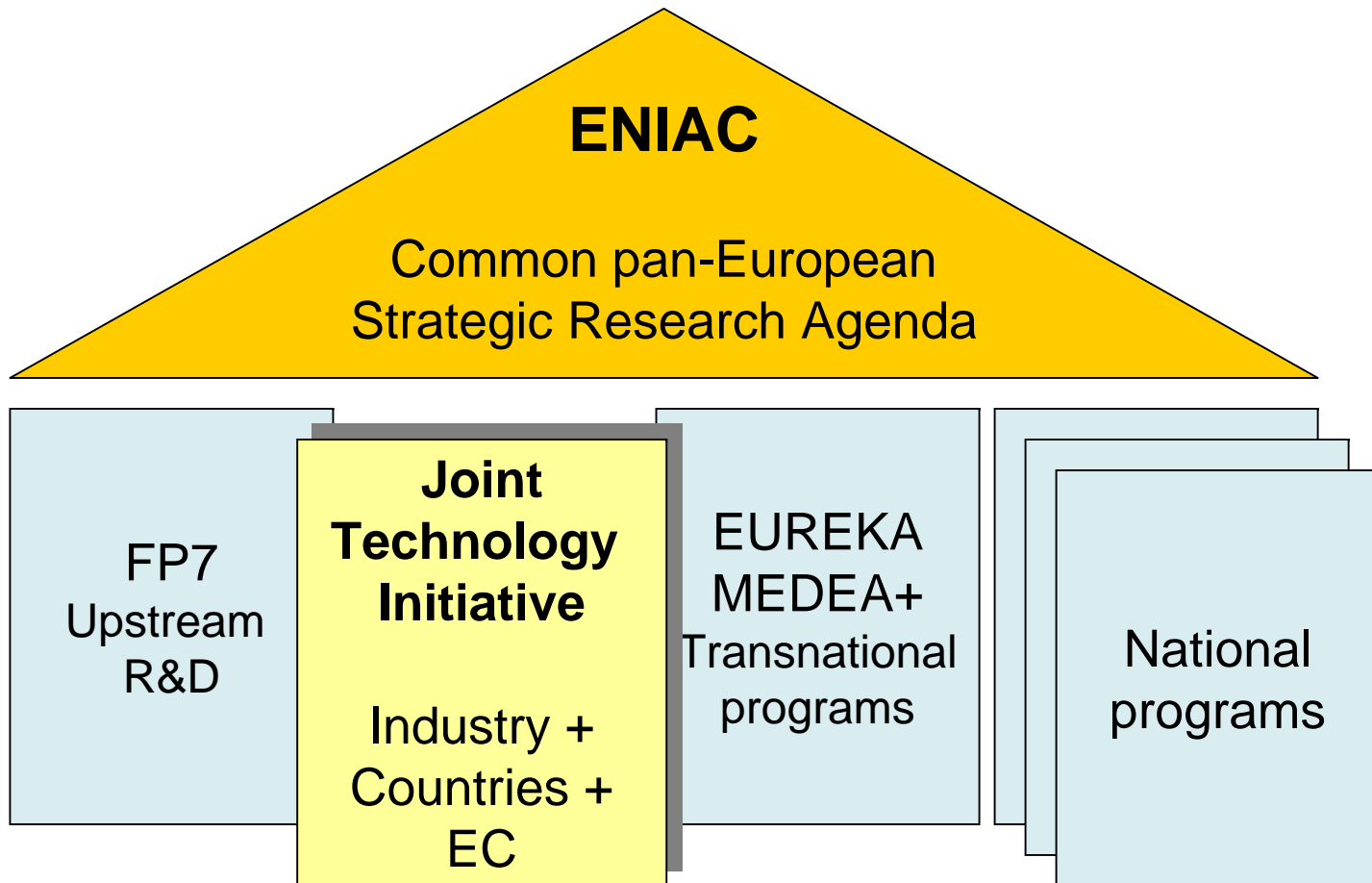
Silicon mono-crystal



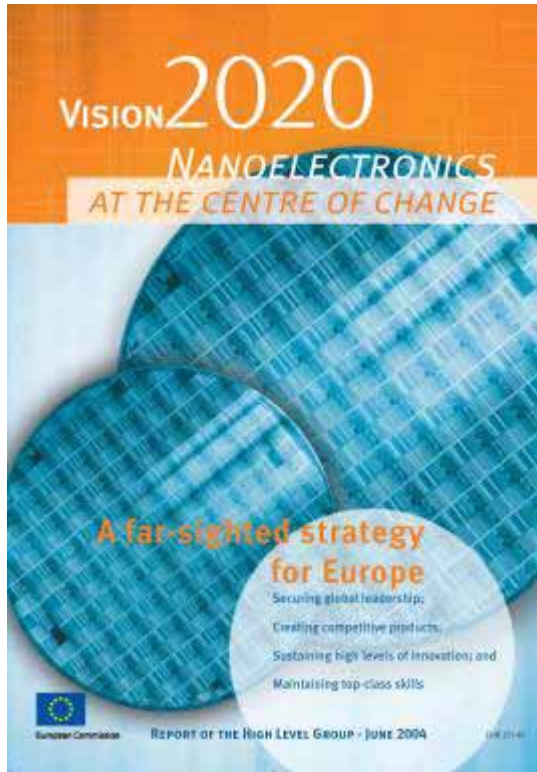
Interaction between Beyond CMOS and classic approaches creates new business



Joining forces in Europe



From a Vision ... to a Strategic Research Agenda



June 2004



November 2005



November 2006

Implementing the Strategic Research Agenda, the JTI has a longer time horizon than individual programs

Joint Technology Initiative

SRA implementation path

“Upstream”
R&D

Mainly FP7,
some national

“Downstream”
R&D

Eureka/national,
industry
partnerships

Near-market
R&D

EIB, ...

In view of the large impact of Nanoelectronics, ENIAC is the right answer !

- ❖ ENIAC-JU has the potential to activate critical mass:
 - Financial contribution will reach more than 400 M€
 - Corresponding national funding shall be twice as high
 - Private contribution will be more than 1200 M€
- ❖ ENIAC-JU will be able to co-ordinate efforts and work-plans of all major European players
- ❖ ENIAC-JU will make use of all competences in Europe:
 - Large industry
 - Small and Medium Enterprises (SME)
 - Academic research

Let´s do it !