

Pervasive Computing

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Business Intelligence Watch List

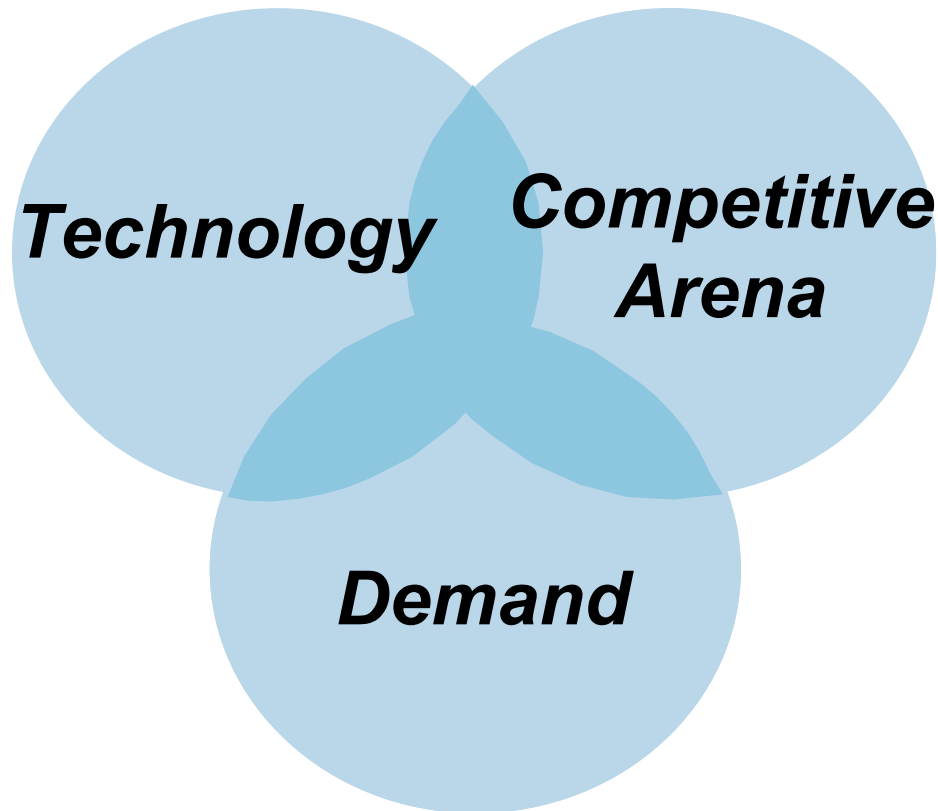


- The experience industry
- Wireless technologies
- Location-based commerce
- The attention economy
- Speech technologies
- Corporate social intelligence
- Ubiquitous computing
- Biotechnology
- eLearning
- Knowledge management
- Privacy
- Intellectual property

Business Intelligence Needs



A realistic view of where the technology is in its development lifecycle, relative to hype in the public literature.



Need to qualify our list of sources of existing technology, place anonymous inquiries into developers of the technology, provide an objective view of government and other non-technical issues.

Need to understand the psychology of who will buy the products of technology, why, at what price, and when.

SRIC-BI Explorer Technology Maps



Advanced Silicon Microelectronics
Biocatalysis
Biomaterials
Biopolymers
Biosensors
Component-Based Software Engineering
Conductive Polymers
Diamond Thin Films
Engineering Polymers
Fiber-Optic Communications
Fiber-Optic Sensors
Flat Panel Displays
Fuel Cells
Genomics
High Performance Computing
Internet Commerce
Knowledge-Based Systems
Knowledge Management Tools

Membrane Separation
Metal Matrix Composites
Micromachining
Nanotechnology
Neural Networks
Optoelectronic/Photonics
Photovoltaics
Polymer Matrix Composites
Portable Batteries
Portable Intelligence
Rapid Prototyping
Robotics
Smart Materials
Solid-State Microsensors
Speech Interfaces
Storage Technologies
Structural Adhesives
Structural Ceramics/Matrix Composites
Virtual Environments

Pervasive Computing

Definitions



- **Ubiquitous Computing:** Each person shares thousands of highly distributed, interconnected, often invisible computers, blended into the natural environment, operating without engaging people's conscious senses or attention (Mark Weiser, Xerox PARC, 1988)
- **Pervasive Computing:** Numerous, casually accessible, often invisible computing devices, frequently mobile or embedded in the environment, connected to an increasingly ubiquitous network infrastructure composed of a wired core and wireless edges (NIST)
- **“Pervasive computing is when mobile phones, PDAs, pagers, automobiles, refrigerators, and other easy-to-use devices are linked to the Internet, allowing us to connect anytime, anywhere... a new infrastructure that will be common, ubiquitous, and work invisibly.”** (Mark Bregman, IBM)
- **“Polite” or “Wary” Computing:** Computing nodes, like a chair, adjust to a person's needs; objects are aware of their status and surroundings (Bruce Sterling)
- **Proactive Computing:** Hundreds of networked computers per person. It will be impossible for one person to interact with all of them. Computers will need to learn the person's habits and patterns and be proactive in providing the person with the information and service needed. (Intel)
- **“Cooltown”:** “Where people, places, and things are first class citizens of the connected world... where e-services meet the physical world, where humans are mobile, devices and services are federated and context aware, and everything has a web presence.” (H-P Labs)

Pervasive Computing Impacts and Uncertainties

