



Policy & Innovation

The Role of Academia

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Scientists Discover New Element : GOVERNMENTIUM

A major research institution has just announced the discovery of the heaviest element yet known to science. The new element has been named "Governmentium". Governmentium has one neutron, 122 assistant neutrons, 75 deputy neutrons, and 224 assistant deputy neutrons, giving it an atomic mass of 311.

These 311 particles are held together by forces called morons, which are surrounded by vast quantities of lepton-like particles called peons. Since Governmentium has no electrons, it is inert. However, it can be detected as it impedes every reaction with which it comes into contact.

A minute amount of Governmentium causes a reaction to take over 4 days to complete, when it would normally take less than a second.

Governmentium has a normal half-life of 4 years; it does not decay but instead undergoes a reorganization in which a portion of the assistant neutrons and deputy neutrons exchange places. In fact, Governmentium's mass will actually increase over time since each reorganization will cause more morons to become neutrons, forming isodopes. This characteristic of moron-promotion leads some scientists to believe that Governmentium is formed whenever morons reach a certain quantity in concentration. This hypothetical quantity is referred to as "Critical Morass"

When catalyzed with money, Governmentium becomes Administratium, an element which radiates just as much energy since it has $\frac{1}{2}$ as many peons but twice as many morons.

Technology & Policy

“POLICY FOLLOWS TECHNOLOGY”

“TECHNOLOGY FOLLOWS POLICY”

High tech told to play politics

CNET News.com October 2, 1997

Rep. [Rick White](#) (R-Washington) dished out advice for Silicon Valley companies today on how to play politics on Capitol Hill. White told the crowd that the high-tech industry has to have a presence in Washington or risk letting some uninformed lawmakers pass legislation that could be detrimental to the growth of the Net or the widespread use of encryption, for example.



Academics & Policymaking

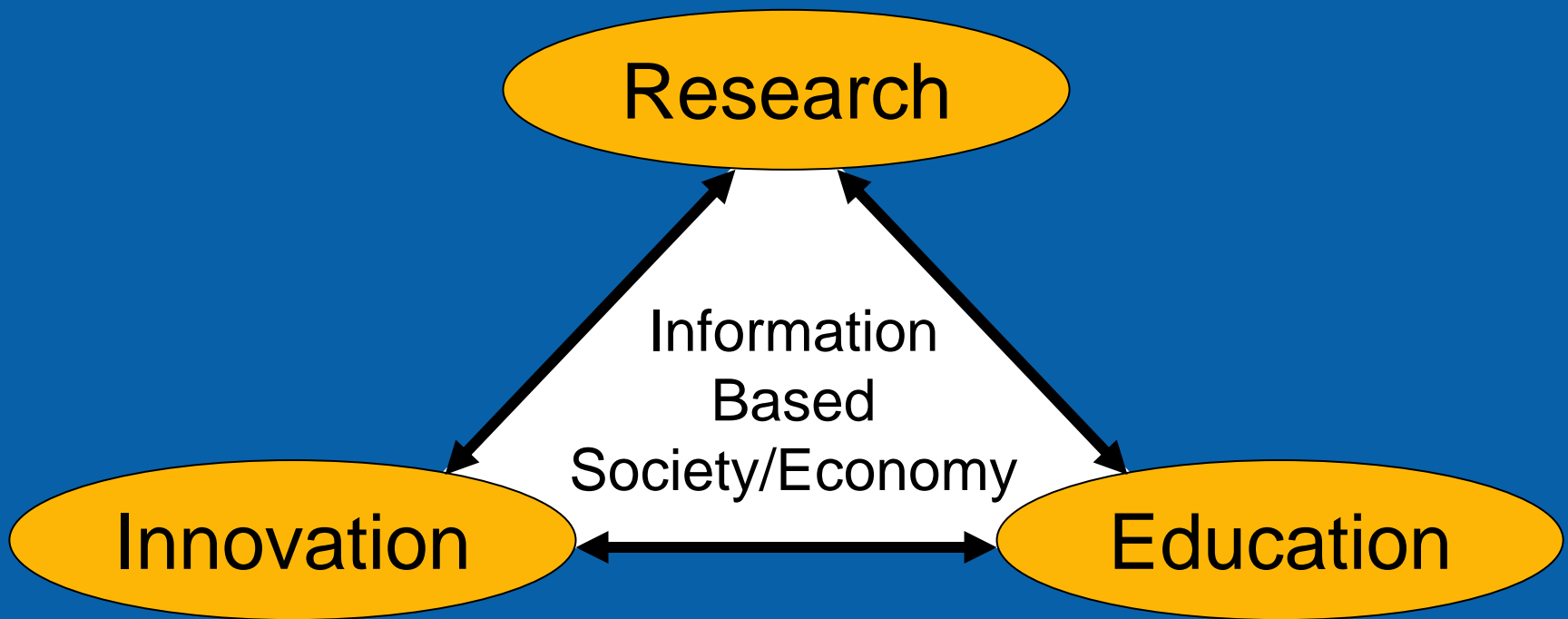
“Academics -- those who hold permanent faculty positions at universities and colleges -- have a somewhat privileged position when it comes to public policy making... Unlike bureaucrats, they are not burdened by the responsibility to represent an official position they might not agree with. Unlike politicians and corporate actors, they are free from the need to produce immediate results. These and other freedoms also impose a heavier responsibility on academic experts to advocate for good policy that goes beyond simple technical advice and which is developed in the service of norms.”

Source: Cairns, Alan C. 1995. Citizens, Scholars and the Canadian Constitution. *International Journal of Canadian Studies* 12, 285-289.



The “Lisbon Agenda”

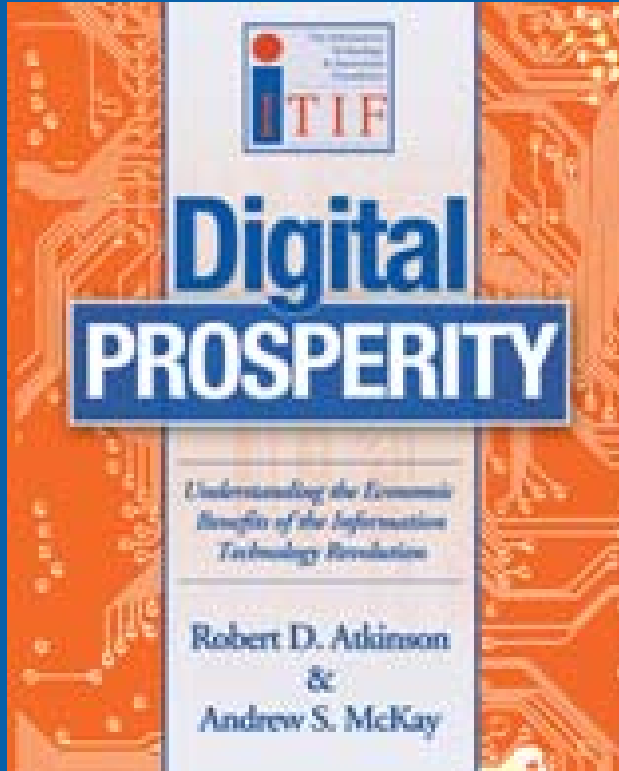
- The emergence of the Information Society



“KNOWLEDGE TRIANGLE”



Digital Prosperity



“The integration of IT into virtually all aspects of the economy and society is creating a digitally-enabled economy that is responsible for generating the lion’s share of economic growth & prosperity”

Source : Information Technology & Innovation Foundation
www.innovationpolicy.org



Digital Prosperity Policy Principles

- Give the Digital Economy Its Due
- Encourage Digital Innovation and Transformation of Economic Sectors
- Use the Tax Code to Spur IT Investment
- Encourage Universal Digital Literacy and Digital Technology Adoption
- Do No harm



What is "Technical Policy"?

Laws & Regulations



Standards



Strategic Partnerships



Working with industry, academia and government to stimulate innovation



The Policy Environment

Nurture the "New" or Protect the "Old"

- "Net Neutrality" & Service Discrimination
- "Walled Garden" vs Open/Interoperable Services
- Home Network Controls
- Video Franchising & TV Without Frontiers
- Broadcast, VOD, & Portable Media Devices
- P2P & Content "Socialization"
- Content Sensorship & Filtering
- Protection vs Policing
- Spyware, Adware, SPAM, Phishing, Direct Marketing
- Security Architectures in a 2-way dynamic authentication world



Intel Digital Home Vision

Consumers Enjoying Entertainment
(Movies, Music, Photos, Games)
Anytime... on Any Device



Enjoy Media & Games from the Couch



Stream Content to Connected Devices



Synch Content to Media Players



Take Media with You & Play Games



Burn-N-Go

Protected Digital Content Solution Strategy

- Goal : Deploy DRM/CP technologies that enable a “Protected & Productive” Digital media marketplace

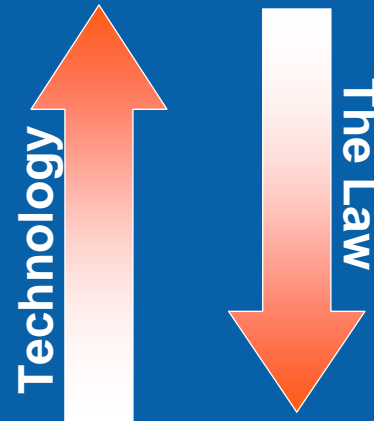
Approach

- Content owners take affirmative action, protect content at the source
- License required for access to protected content as it moves from product to product in the market

Threats:

- Casual copier
- Hobbyist
- Hacker
- Small scale pirate
- Professional pirate

Effectiveness
of approach



***Technology can be an effective “deterrent”,
It is not a panacea solution to piracy***



Copyright : Policing

Technical “Protection”

- Protect Content end to end
- Source Encryption
- Private Licensing Chain
- Robustness/Compliance Rules
- Rights Management
- Remuneration

Technical “Policing”

- Content NOT protected
- Police consumer actions
- “Marks” embedded in content
- Marks survive decryption and transformation
- Devices/Apps screen for marks (Tech mandates/contracts)
- Offending consumer stopped!

What is the proper DRM balance?

What role does notice & consent play?



Copyright : Secondary Liabilities

- Pursuit of “Direct” infringers extremely difficult in the *Internet* world
 - Scope & Definition of contributory infringement under discussion

Battle Royale

How the Viacom-Google fight could impact copyright law for years to come.



"By seeking to make carriers and hosting providers liable for Internet communications, Viacom's complaint threatens the way hundreds of millions of people exchange information, news, entertainment and political and artistic expression."

Google's lawyers



Copyright : Exceptions

- US Supreme Court *Sony Betamax* Decision

- Products with substantial, commercially significant non-infringing uses are legal



“The Review recommends introducing a strictly limited ‘private copying’ exception to enable consumers to format-shift content they purchase for personal use.”



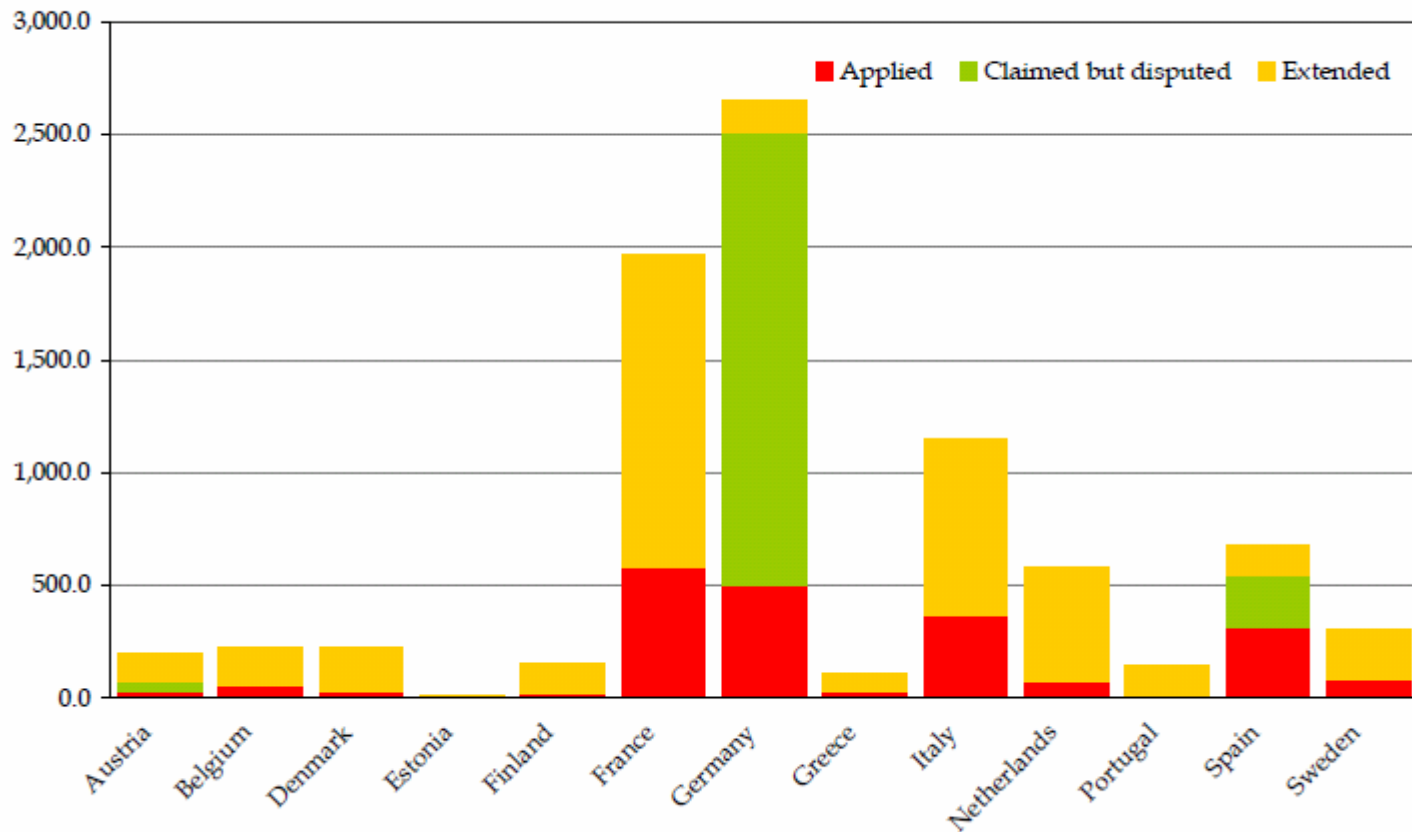
House of Commons
Culture, Media and Sport
Committee

“We recommend that the Government should draw up a new exemption permitting copying within domestic premises for domestic use (including portable devices such as MP3 players, and vehicles owned or used regularly by the household) but not onward transmission of copied material.”



Copyright : Remuneration

Total Direct Effect on Consumers and Producers from Imposition of Private Copying Levies (Currently Applied, Currently Claimed but Disputed, and Extended Levies) in European Union Countries by Levy Status in 2005 (€ million)



SOURCE : Nathan Associates Inc.



Privacy in an Information Society



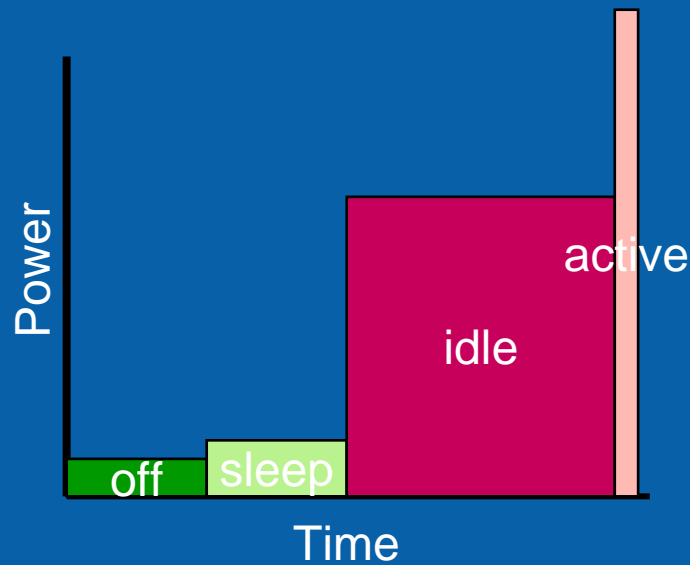
“Congratulations, Dave! I don't think I've read a more beautifully evasive and subtly misleading public statement in all my years in government.”

- For society to be comfortable and willing to take advantage of IT services, we must:
 - Safeguard individual's privacy
 - Let them understand we're safeguarding their privacy and identity
- **Transparency & Notice**
 - Privacy policies are the standard to which organizations are held accountable; transparency increases accountability
 - “Transparency is a clear, complete and readily available notice on an organization's privacy policies and practices.” (www.nimyty.com)
 - “Experts agree that good privacy begins with effective transparency. Transparency requires privacy notices that are easy to understand, facilitate comparison, and are actionable. Privacy notices must also comply with legal requirements...” (www.hunton.com)

Global Energy Efficiency Labels and Regulations

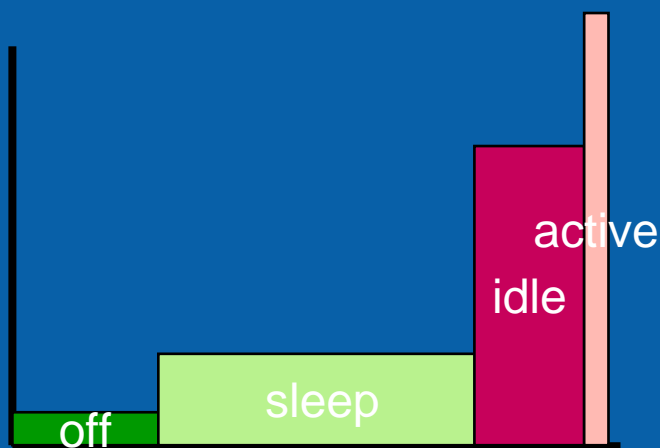
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- Energy Star*
 - Executive Order 13221 (1W Standby)
 - 80 Plus
 - California Energy Commissions Regulations
 - International Energy Star*
 - EUP directive*
 - Blue Angel
 - European Codes of Conduct
 - EU Eco Label
 - Nordic Star
 - China Energy Conservation Project
 - Korea Energy Saving Office Equipment & Home Electronics Programme
 - Japan Toprunner
 - Australia Greenhouse Office

Measuring Platform Power



Classical Approach

- Regulatory “limits” set for active, idle, standby, off “states”



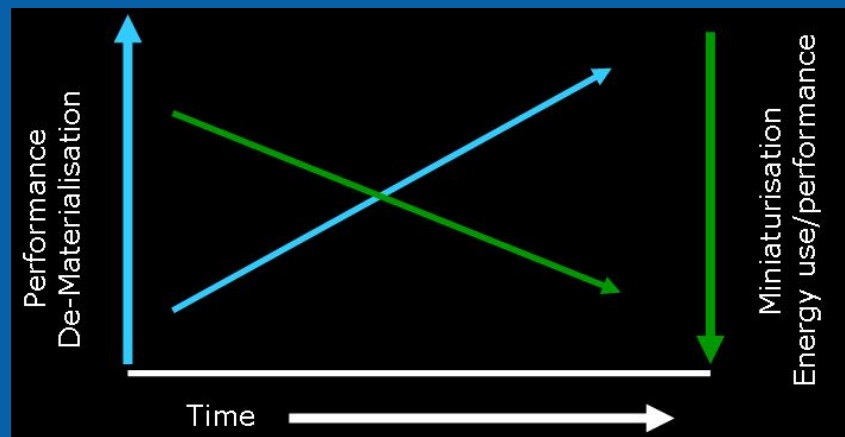
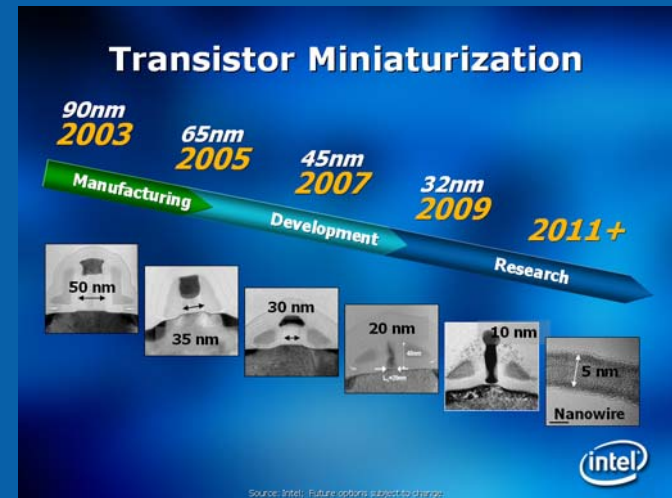
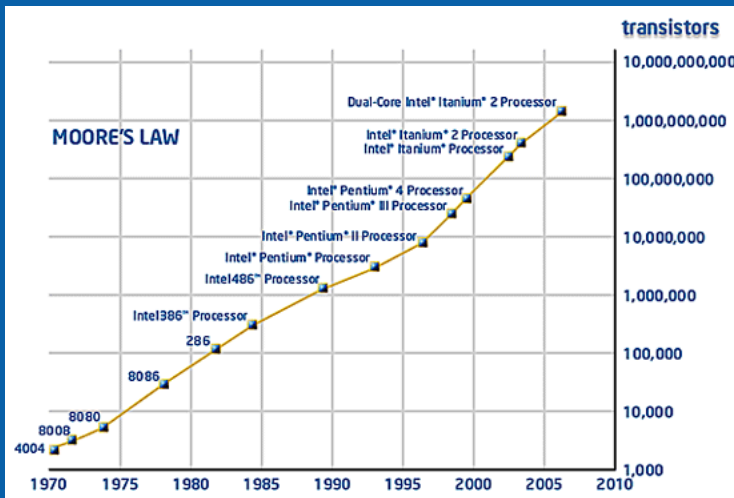
Efficiency Approach

- Regulation drives energy reduction by reducing the area under the curve
- Not specifying any particular height/width of individual states

IT Performance/Power Decoupling

De-coupling economic growth from energy and materials use.

- Are we prepared to understand each vector?



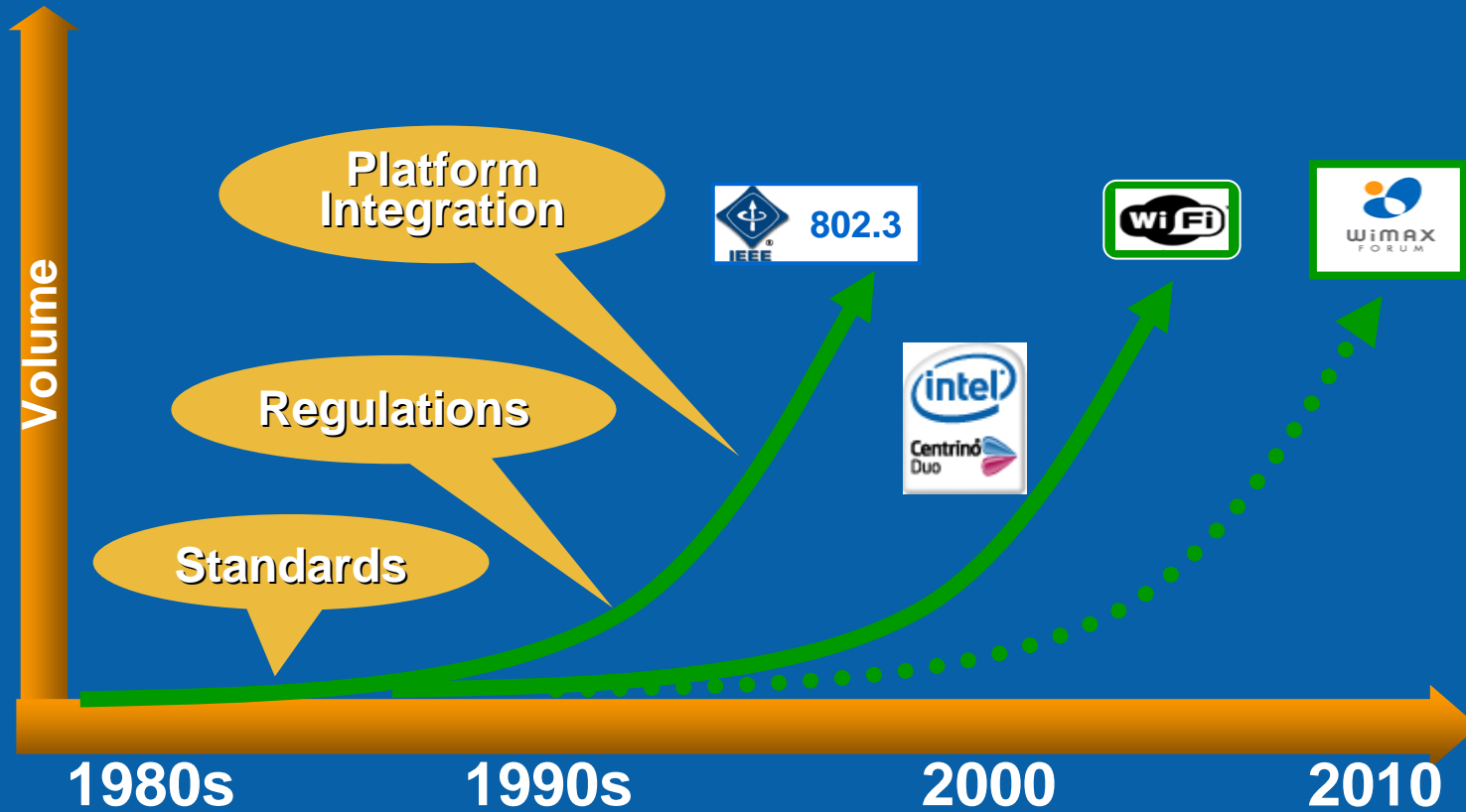
Platform Energy - Decoupling

“The most impressive manifestation of the role of IT in powering a more EE economy can be seen in a phenomenon known as “*decoupling*.” Simply put, just as the Internet has become a commonplace tool in everyday life, we have seen a dramatic decline in the energy-intensiveness of the US economy. Between 1996 and 2005 there has been a 21% decrease in the amount of energy consumed in producing a dollar of Gross Domestic Product (GDP). This decrease is much greater than that experienced in any former period. The explanation for this is complex, but the Internet and the incorporation of IT into business practices appears to be the primary driver behind this practice.^[1]

There are many examples of specific activities that collectively add up to this EE progress. Business-to-business and business-to-consumer e-commerce practices have been shown to significantly reduce the transportation energy expended in supply chains and consumer shopping. A 20 mile round trip by a consumer to the mall to purchase two 5 pound products consumes about one gallon of gasoline. By contrast, shipping the packages 1000 miles in a full long-haul truck consumes 0.1 gallon of gasoline.^[2] The Internet also has given rise to practices such as telework, teleconferencing, and telemedicine that can greatly reduce vehicle miles traveled (VMT).”



Technical Policy & Silicon Integration Drives Innovation Wireless Networking Example



RF Health & Safety



Wireless computer networks in schools may pose a significant health risk to children and staff, a teaching union warned today. Many teachers fear the radiation emitted by wireless transmitters could be contributing to poor concentration and hyperactive behaviour among pupils.

There is no consistent evidence to date that WiFi and WLANs adversely affect the health of the general population. The signals are very low power, typically 0.1 watt (100 milliwatts) in both the computer and the router (access point) and the results so far show exposures are well within internationally accepted (ICNIRP) guidelines.

Wi-Fi not viewed as a health risk

The radiation levels from Wi-Fi seem unlikely to pose any risk to health, according to science experts interviewed by BBC News. The type of radiation emitted by radio waves, visible light, microwaves and mobile phones has been shown to raise the temperature of tissue, but there is no evidence that low levels cause damage. Experts said sitting in a Wi-Fi hot spot for a year exposes you to the same dose of radio waves as making a 20-minute mobile phone call.

