

# Convergence 2020: Consumer roadmap and opportunities

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# Top Ten Technologies Technologists Can't Afford to Ignore

## Top 10 Strategic Technology Areas for 2010

1. Cloud Computing
2. Advanced Analytics
3. Client Computing
4. IT for Green
5. Reshaping the Data Center
6. Social Computing
7. Security — Activity Monitoring
8. Flash Memory
9. Virtualization for Availability
10. Mobile Applications

## Top 10 Strategic Technology Areas for 2011

1. Cloud Computing
2. *Mobile Applications & Media Tablets*
3. Next-Generation Analytics
4. Social Analytics
5. Social Communications & Collaboration
6. Video
7. Context-Aware Computing
8. *Ubiquitous Computing*
9. Storage Class Memory
10. *Fabric-Based Infrastructure and Computers*



Modified for 2011



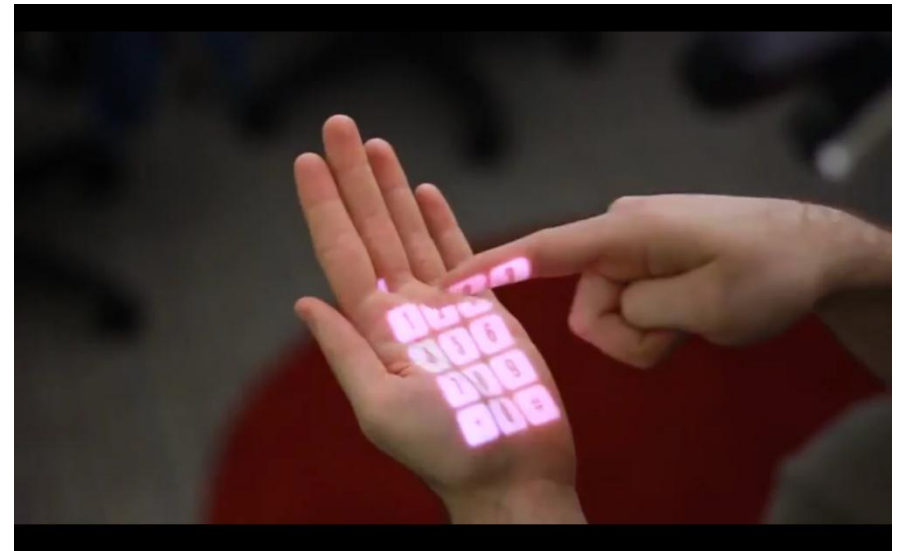
*New for 2011*



Dropped for 2011

# Consumer Technology Drivers for Convergence

- Mobile and web markets converging
- Consolidation of mobile OS
- IP Convergence: The big get bigger
- Social Graphing: The big get bigger
- Information isomorphism
- Ubiquitous access v The Internet of things
- Big data
  - audio and video analytics
  - augmented reality
- Convergence of consumer devices
- Human interfaces (gesture, speech, touch)



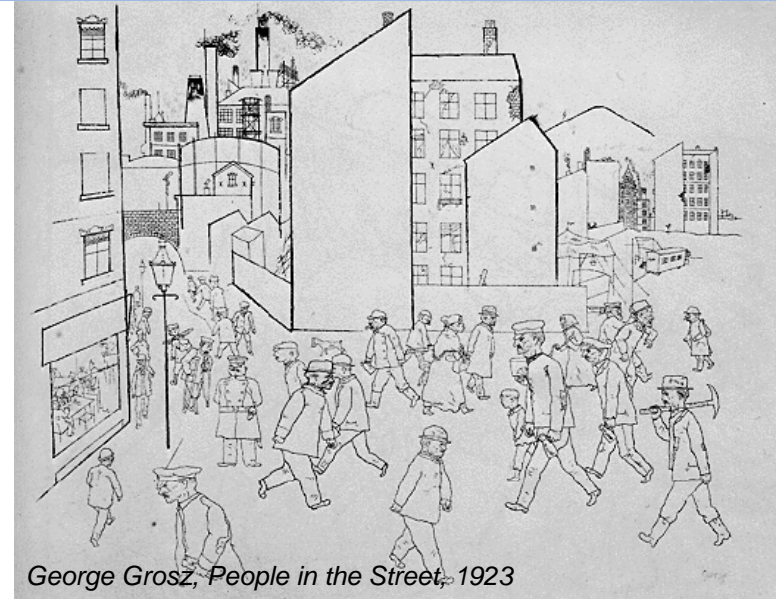
# As Technologies converge, Fragmentation and Chaos become the New Normal

## Consumer Trends

- ❖ Structural Acceleration
- ❖ Social & economic dislocation
- ❖ Changed values & buying environment
- ❖ Culture of informality
- ❖ Generational change
- ❖ Fluid space, timeless time
- ❖ Big society v virtual social capital



Tom Stoddart, Sarajevo, 1992



George Grosz, People in the Street, 1923

## Supply side Trends

1. Enablers accelerate shift to **\*mobile\*** & **\*video\*** consumption: More choice
2. More technology “stuff”
3. Consumerization now driving technology evolution
4. Long tail, free and freemium business models

# Video Moves Into the Mainstream

## • Tipping Points 2011-2013

- Ubiquitous low-cost portable video record & playback devices
- Consumer use and volume of user generated content exploding
- Low-cost & high-quality software
- Vendor investments ramp up

## • The Implications

- Self-reinforcing trend towards greater video & image consumption
- Must address potential for out of context & unintended use
- Need new design skills
- New E-discovery challenges
- Determine appropriate use of internal vs. cloud-based storage & delivery
- Privacy issues and use policies must be addressed
- Conference rooms recorded by default?



# Smartphones Change Business and Consumer Strategies



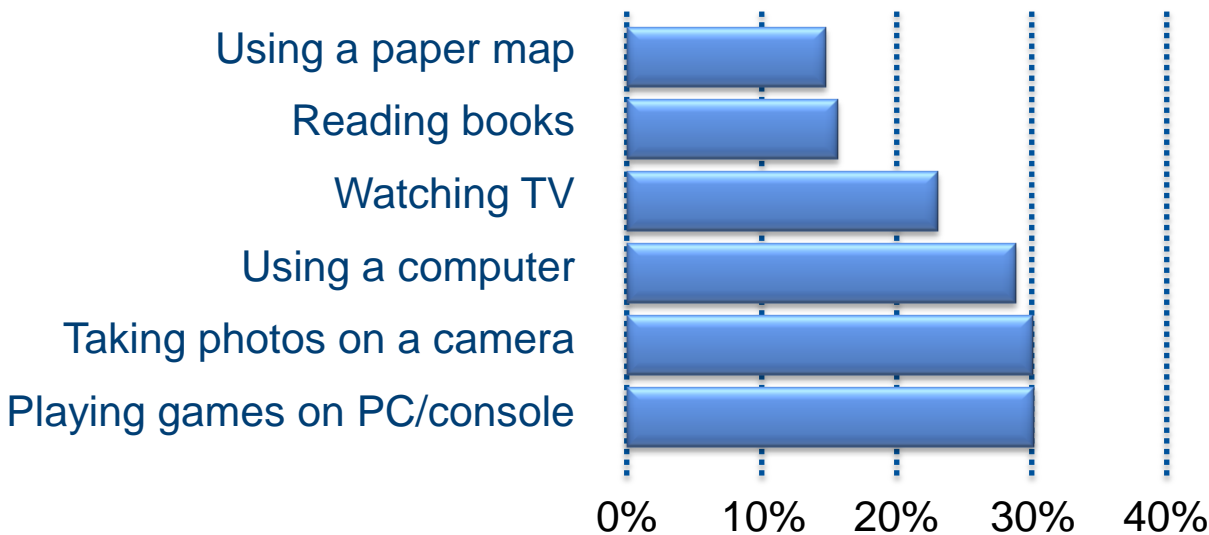
Consumers

Blurring roles, changing expectations



Employees

## Activities done less since having a smartphone



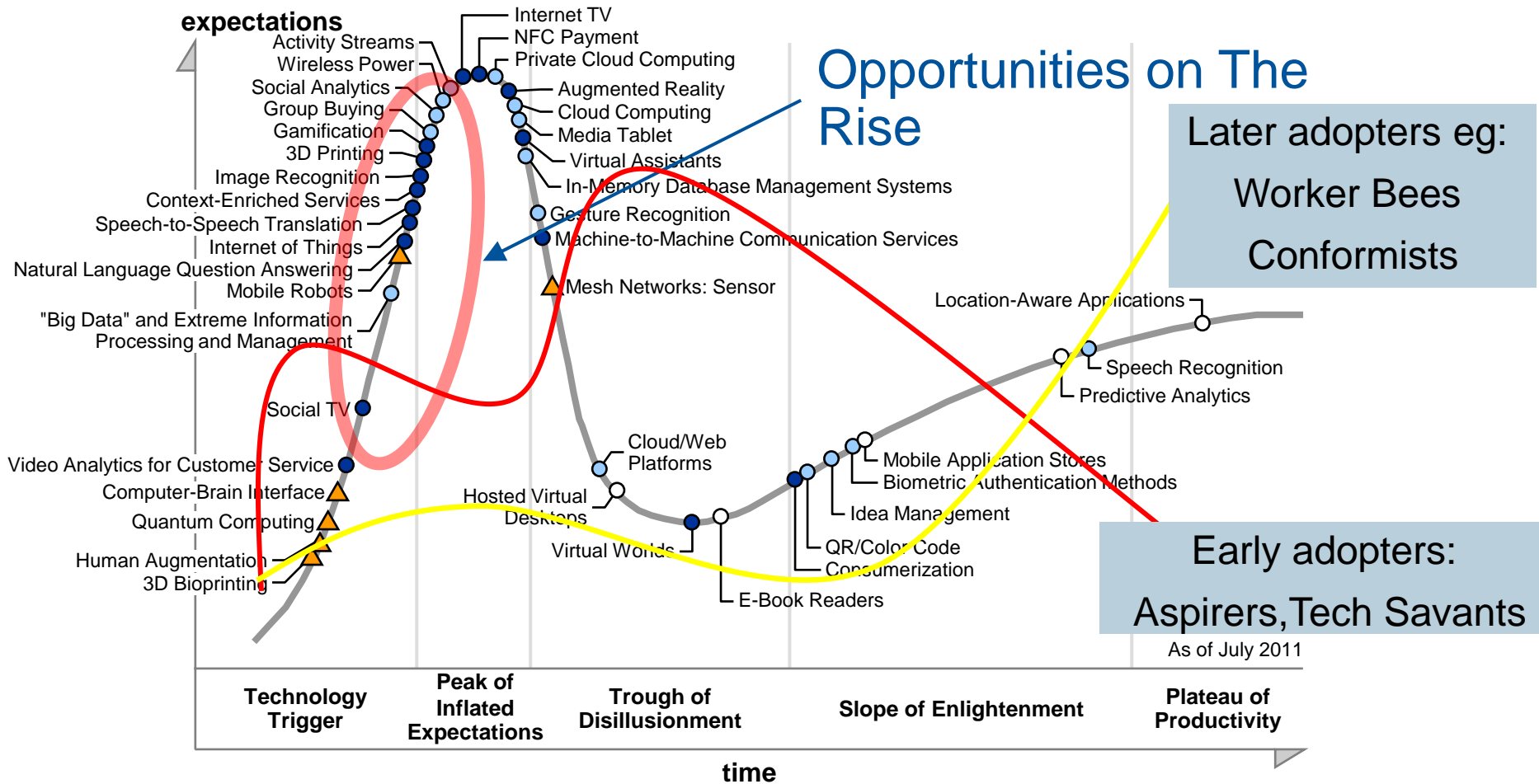
*"...my PC and laptop usage have gone way down. [now] my laptop sits in the case sometimes for a couple of weeks..."*

*-male, 32, aspirer*

*"Tablets will probably replace laptops..."*

*-late adopter, San Jose*

# Opportunities at the Leading Edge



Activity Streams  
Wireless Power  
Social Analytics  
Group Buying  
Gamification  
3D Printing  
Image Recognition  
Context-Enriched Services  
Speech-to-Speech Translation  
Internet of Things  
Natural Language Question Answering  
Mobile Robots  
"Big Data" and Extreme Information Processing and Management  
Social TV  
Video Analytics for Customer Service  
Computer-Brain Interface  
Quantum Computing  
Human Augmentation  
3D Bioprinting

Internet TV  
NFC Payment  
Private Cloud Computing  
Augmented Reality  
Cloud Computing  
Media Tablet  
Virtual Assistants  
In-Memory Database Management Systems  
Gesture Recognition  
Machine-to-Machine Communication Services  
Mesh Networks: Sensor  
Hosted Virtual Desktops  
Virtual Worlds  
E-Book Readers

Cloud/Web Platforms  
Mobile Application Stores  
Biometric Authentication Methods  
Idea Management  
QR/Color Code  
Consumerization

Location-Aware Applications  
Speech Recognition  
Predictive Analytics

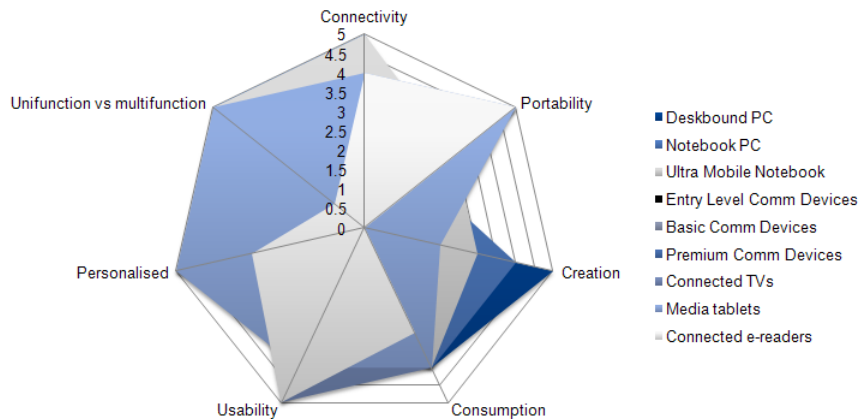
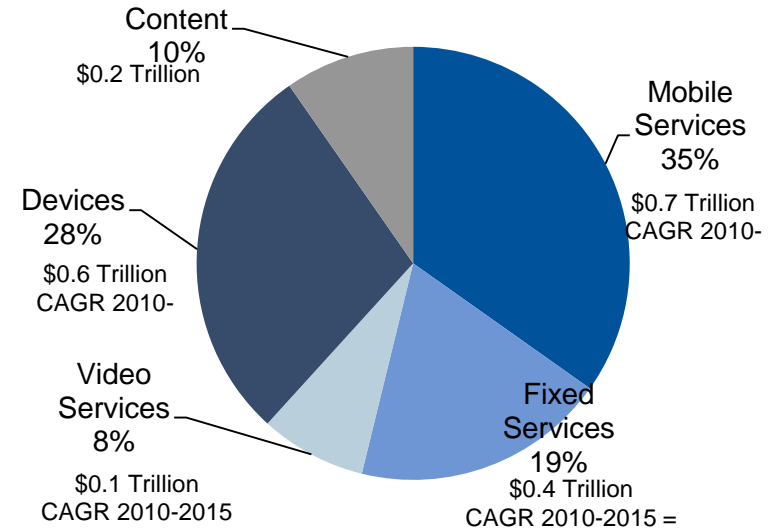
**Years to mainstream adoption:**

- less than 2 years
- 2 to 5 years
- 5 to 10 years
- ▲ more than 10 years
- ⊗ obsolete before plateau



# Convergence: Generating new consumer market opportunities in a world of scarcity

- Sell “Time”
- Sell Design that Works
- Sell “Certainty”
- Sell Attention



- Global Consumer Spending = US\$ 18-20 Trillion of which 10% is consumer technologies, services content & media
- Women ‘control’ 70-80% of this spend
- Consumer confidence volatile and highly fragile
- Consumer technology wallet share: US\$2 Trillion in 2010
- CAGR: 4%
- 2020: ~\$3 trillion
- Total Services: 62%
- Biggest growth: Content and Video out of 44 Product categories covering: Communications, Consumer electronics, Services, Media & content

# Rolling it up: a 2020 perspective

- ❖ Intelligence shifts further into the consumer cloud
- ❖ Walled garden ecosystems break down: Think unthinkable marriages and business failures
- ❖ Trust is the critical currency of mainstream brands
- ❖ New hygiene environment: instant on, contextual, social
- ❖ Collective societies more individualistic & individualistic societies more social
- ❖ Technology resistance meets attention deficit
- ❖ Extremely flat earth – but beware the potholes

# Strategic Planning Assumptions

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- **Strategic Planning Assumption:** By YE12, more than 30% of interactive videos invoked for collaborative purposes will be satisfied through cloud computing.
- **Strategic Planning Assumption:** By 2013, more than 25% of the content that workers see in a day will be dominated by pictures, video or audio.
- **Strategic Planning Assumption:** A surplus of existing monitors, low prices for new monitors, and easy connectivity will enable more than 60% of knowledge workers to routinely use at least three displays as part of their primary PC work spaces by 2015.
- **Strategic imperative:** Plan for less than 20% of employees being able to replace a laptop with a tablet through 2012.
- **Strategic planning assumptions:** Android will remain the top smartphone platform in shipment terms through 2015.
- **By 2013, Microsoft will overtake RIM in smartphone shipments.**
- **Strategic imperative:** Most CIOs should plan to support at least three mobile platforms by 2012.
- **Strategic Planning Assumption:** By 2020, mobile and web AD will have evolved into multichannel application development.
- **Strategic planning assumption:** By 2015, mobile Web technologies will have advanced sufficiently such that half of the applications that in 2011 would be written as native apps will be, instead, delivered as Web apps.
- **Strategic Planning Assumptions:** By 2013, mobile phones will overtake PCs as the most common Web access device worldwide.
- **Strategic Planning Assumption:** Fewer than 5% of handsets sold in 2014 will support LTE. 75% of tablets sold in mature markets in 2014 will have a screen size of approximately 10”.

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