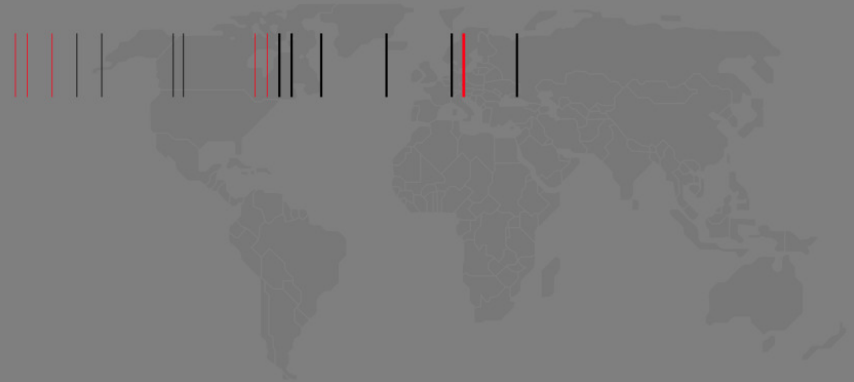
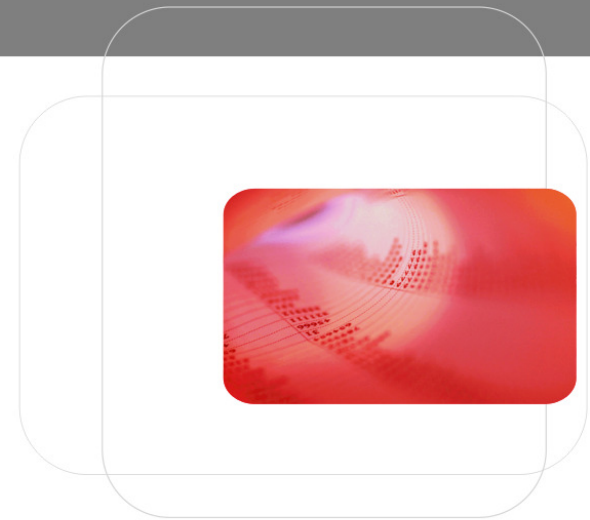


VODAFONE GROUP RESEARCH AND DEVELOPMENT



Event Summary



What happened to last year's key trends ?

Page 1

GROUP R&D

1. TV may soon be from cellphones

- Standards of TV / Video distribution are open issues



2. VoIP is gaining attention

- Mobile VoIP looms on the horizon



3. WLAN increasingly present in the home area

- The fully connected digital home is more complex than expected



4. Convergence finally realized

- ... but do not forget the Customer



1. Co-operations of Key Players

Google team up with big players

- 5% investment in AOL
- Icon on Motorola's phones
- Video expansion including recent television broadcasts of popular CBS shows



Yahoo tunes in to PC, TV and mobile with Yahoo! Go

- Yahoo Go Mobile runs on Nokia's Series 60 phones. It features contacts, photos, messenger and mails
- In the US, Yahoo! teams up with AT&T and Cingular



Intel launches Viiv – a platform designed for digital entertainment

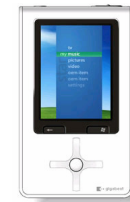
- Key components: Dual-core 64-bit processor, chipset and Microsoft Windows* XP Media Center Edition OS
- Intel has built an alliance of partners who will enable consumers to enjoy music, movies and TV, photos and games on their TV sets



2. The Rise of the portable Video/TV Devices

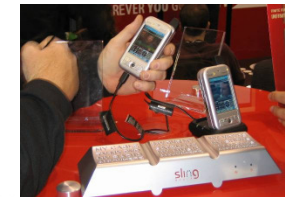
— A new slate of portable media devices running on Windows Mobile were introduced

- Toshiba Gigabeat S portable media center with 2.4-inch QVGA LCD and 60GB HDD
- LG's PM70 Portable Media Center, the 30GB drive can store up to 7,500 songs, 3,000 music videos, 50 hours of TV/movies or up to 45,000 photos.



— Solutions to access home TV and home content while mobile

- Sling's media convergence box that is connected to the DVD player, VCR, PC and broadband at home. All content is streamed to the mobile device.
- Sony presented the "Location Free TV" service which allows to stream TV or movies from the home over broadband internet to the PSP™ system



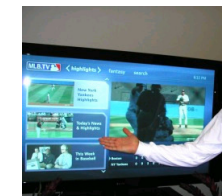
— LG and Samsung simultaneously announced they have developed the first handset models based on DVB-H and Media FLO



3. The Battle for the Home continues unabated

Microsoft's IP-TV efforts

- Gates outlined the company's efforts in IP-TV, saying the technology "completely blows open any of the limitations" that traditional channels create.
- Microsoft, DaveTV and some Service operators presented IPTV over broadband

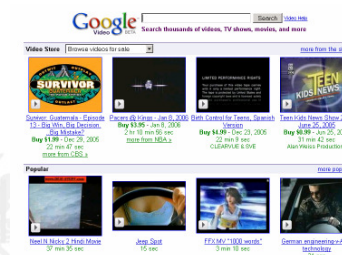


PC moving beyond productivity into the realm of a tier one entertainment device.

- Sony Vaio XL2 Digital Living System
- Alienware Area-51 5400 all-in-one PC

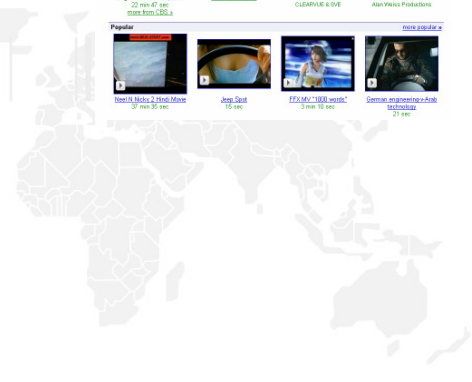


Google Video allows content owners to specify any price, including free, and allows unprotected downloads, limited-time rental, or sale.



Content business will transform

- Consumers demand more control over content and fewer ad
- Content creators and distributors will have to find a way to profit from non-traditional models where "30 second commercials" do not work any longer



4. High Definition enters the digital living room

— 2006 is the year in which HDTV goes mainstream

— 1080p displays were everywhere. There were even 70" and 82" displays, as well as a whopping 103" display, at the show.



— SED (Surface-Conduction-Electron-Emitter-Displays) by Toshiba and Cannon seems to be the future technology that has it all, quality, cost, colour, contrast, response

- Claim to be better than plasma and LED LCD in the direct view class of displays

— Microsoft plans to offer later this year an add-on drive for the HD-DVD format for its Xbox 360 gaming console

- It allows to watch high-definition movies on HDTVs by playing them through the console



— First fully compliant Blu-ray™ / HD DVD™ chip

- Broadcom Corporation announced the industry's first HD audio/video decoder chip



... and everyone wants to be the consumers' best friend

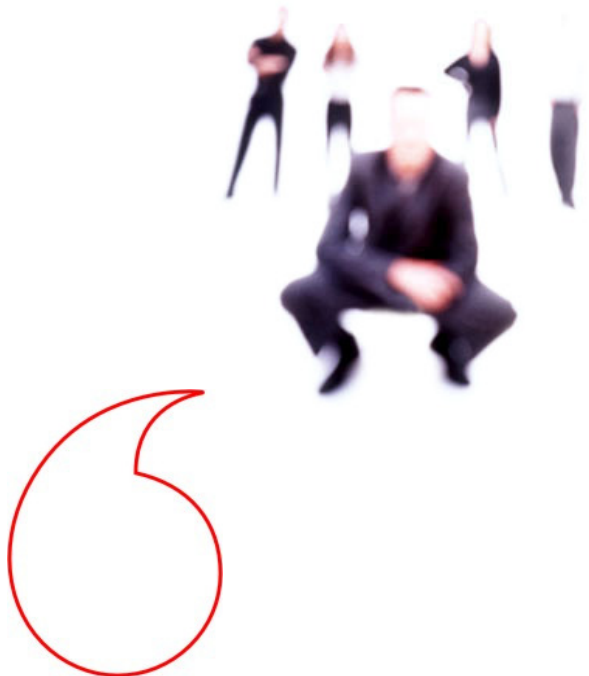


Key Learning

- Convergence is discussed anew
 - Companies are combining services ... not only hardware devices

- New business models and charging regimes are being tested
 - Starz Entertainment will make 1,000 movies available for downloading to Microsoft-Intel computers over the Internet -- for a \$9.95-a-month fee
 - Verizon is offering subscription service for videos delivered to cell phones
 - Satellite radio providers are charging monthly fees for radio stations on handhelds
 - Google will charge \$1.99 to rent or own TV programs from CBS
 - Others are providing free content for consumers by letting advertisers pay instead.

- Getting consumers to understand the benefits of anytime, anywhere entertainment and how to implement it will be a big challenge
 - Everyone's attempt to copy the Apple iPod model without every facet of its proposition plus some special additional differentiator does not stand out
 - Consumer are faced with a bewildering set of choices from devices that often don't connect to one another



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