



Telecommunications Industry & Market in Israel

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Presentation Agenda



- **Israel Demographics & ICT Statistics**
- **Telecommunications Industry**
- **Telecommunications Market Overview**
- **Telecom Israel 2004 Exhibition and Conference**



Israel Demographics & ICT Statistics

ISRAEL Demographics



- **Population ~ 6.7 million.**
- **Households ~ 1.9 million.**
- **Average family ~ 3.6 persons.**

Israel's ICT Sector - 2002

(Information & Communications Technology)



- **Israeli ICT GDP grew from 3 billion \$ in 1990 to 12 billion \$ in 2002, which is 16% of business sector GDP.**
- **ICT GDP is ~11% of total GDP. OECD highest - compared to 10-11% in US.**
- **150,000 employees.**



Telecommunications Industry

Israel's Electronics Industries

Source: IAEI, 2004

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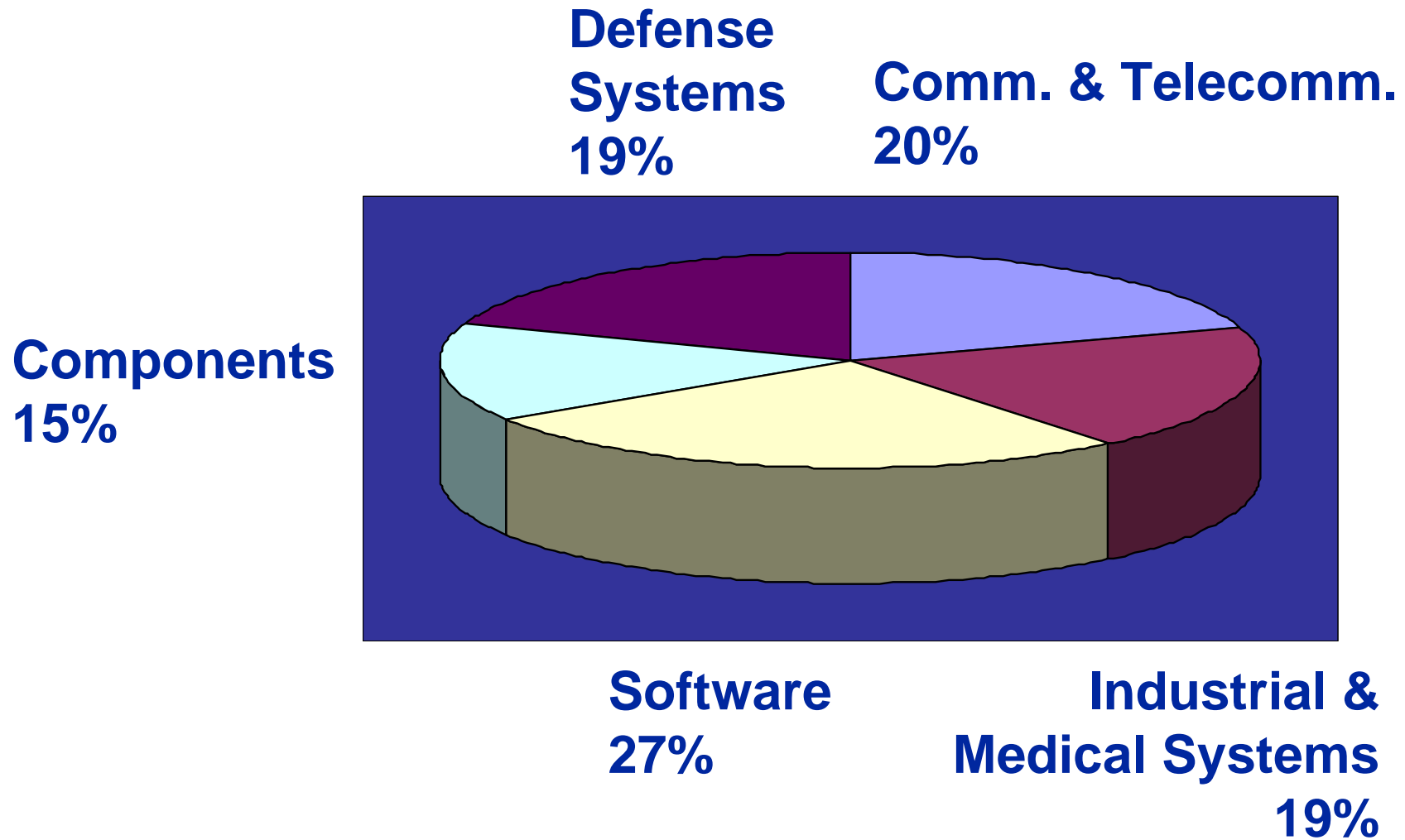


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- **Combined 2003 sales - \$13.2 billion, of which \$10.9 billion were exports sales.**
 - **Highly skilled workforce ~ 53,500 employees, including over 64% scientists, engineers & technicians.**
 - **Sales per employee ~\$246,000.**

Total 2003 Sales – \$13.2 billion

Source: IAEI, 2004

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Major R&D Efforts

Stretching Boundaries of Imagination & Ingenuity

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- **Innovative synergistic industry-academy cooperation, supported by the Chief Scientist, Ministry of Industry & Trade.**
- **Over 100 industrial & academic participants.**
- **Focused on establishment of the technological infrastructure for the next generation.**
- **Key telecommunications R&D activities:**
 - **Digital wireless**
 - **Satellite systems**
 - **Broadband & optical technology**
 - **Internet & Multimedia**
 - **Telemedicine**
 - **Microelectronics**
 - **Network management**

Technology Start-ups

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- **Israel is one of the largest world centers for start-up enterprises, with ~800 (year 2003) active start-ups.**
- **Innovative, technology-intensive activity, representing several technology breakthroughs.**
- **Major international activity:**
 - **Strategic alliances and joint ventures.**
 - **Raising capital - venture, seed & risk investments.**

Venture Capital

Source: IVC Research Center (2004)

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- **Investments by venture capital funds constitute an added value above financial contributions - in management, world market familiarity, strategic guidance and economic credibility.**
- **During 2003, 371 Israeli companies raised \$1.01 billion (compared to 352 companies & \$1.14 billion during 2002).**
- **43% (\$421 million) was invested by Israeli venture capital funds.**
- **The active sectors are communications (33%), software (19%), life sciences (18%), semiconductors (12%) & Internet (4%).**

Amos 2 Satellite



- **Launched December 2003.**
- **Geostationary orbit at 40 West (co-located with AMOS 1).**
- **11 active transponders & 3 backup transponders, 72 MHz bandwidth each.**
- **High power - planned for DTH TV distribution, two-way Internet services and broadband VSAT networks.**
- **3 spot beams:**
 - **Middle East - supporting up to 11 transponders.**
 - **Europe - supporting up to 6 transponders.**
 - **US East coast - supporting up to 8 transponders.**
- **Designed, manufactured and controlled by Israel Aircraft Industries.**
- **Owned & operated by Spacecom Ltd.**



Telecommunications Market Overview

Regulation



- **Free and competitive markets promote growth, efficiency, customer satisfaction & wide geographical coverage.**
- **Facility-Based Competition in Israel.**

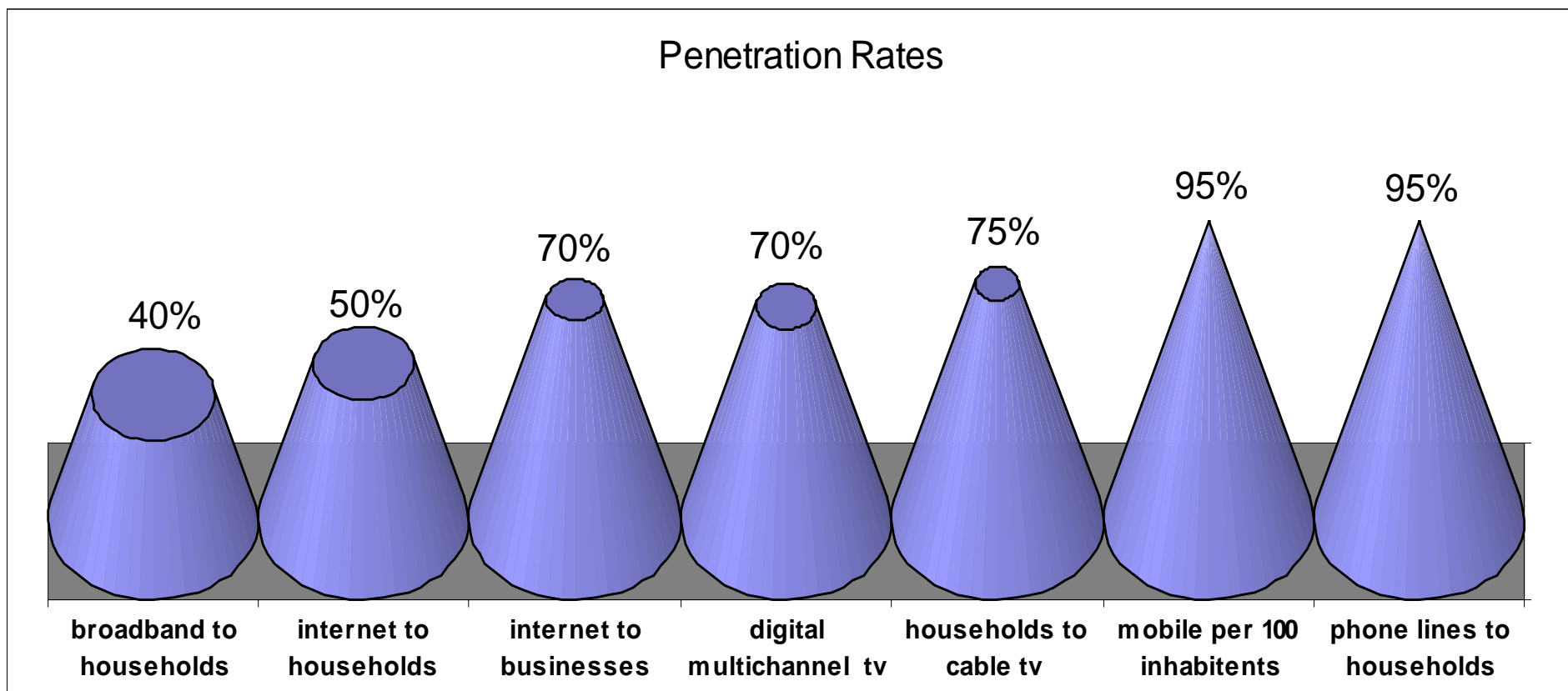
From Monopoly to Competition



	<u>1994</u>	<u>2000</u>	<u>2004 +</u>
Mobile Services	<ul style="list-style-type: none">● Pelephone (Bezeq)	<ul style="list-style-type: none">● Pelephone● Cellcom● Partner	<ul style="list-style-type: none">● Pelephone● Cellcom● Partner● MIRS
Fixed Services (Infrastructure, Transmission & Telephony)	<ul style="list-style-type: none">● Bezeq	<ul style="list-style-type: none">● Bezeq	<ul style="list-style-type: none">● Bezeq● Cable Companies● Others:<ul style="list-style-type: none">◆ Wireline◆ Wireless
International Long Distance Services	<ul style="list-style-type: none">● Bezeq	<ul style="list-style-type: none">● Bezeq-International● Barak● Golden-Lines	<ul style="list-style-type: none">● Bezeq-International● Barak● Golden-Lines● Additional operators

Israel's Telecommunications Statistics 2004

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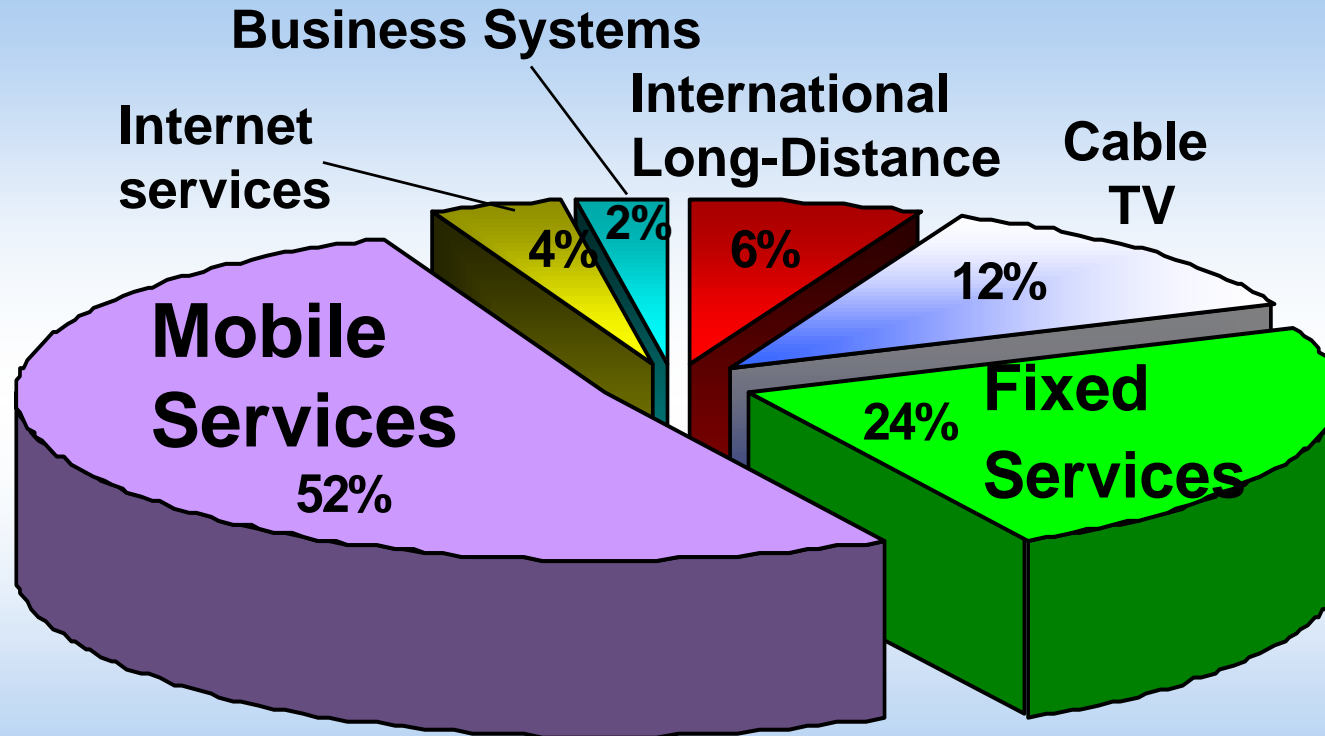


Israel's Telecommunications



- **3.0 million main telephone lines.**
- **6.3 million mobile customers, on 4 networks.**
- **1.4 million households connected to multi-channel subscriber television**
 - **Cable TV: 3 operators, 1.0 million subscribers, 97% of homes passed.**
 - **Satellite DTH TV: 1 operator, 0.4 million subscribers.**

Telecommunications Services Market - 2003



Total telecom services market ~ US\$ 5 billion,
1998-2003 avg. annual growth of 7%



Fixed services

Driven by Broadband Demand

Actual competition started Q2 2002



Broadband Regulation

- **Facility-Based Competition :**
 - 1. ADSL Access provided by the (up to 2.5Mb/s downstream).**
 - 2. Cable Modem broadband Internet services provided by cable TV firms - the new entrants (up to 3Mb/s downstream).**



Broadband Regulation

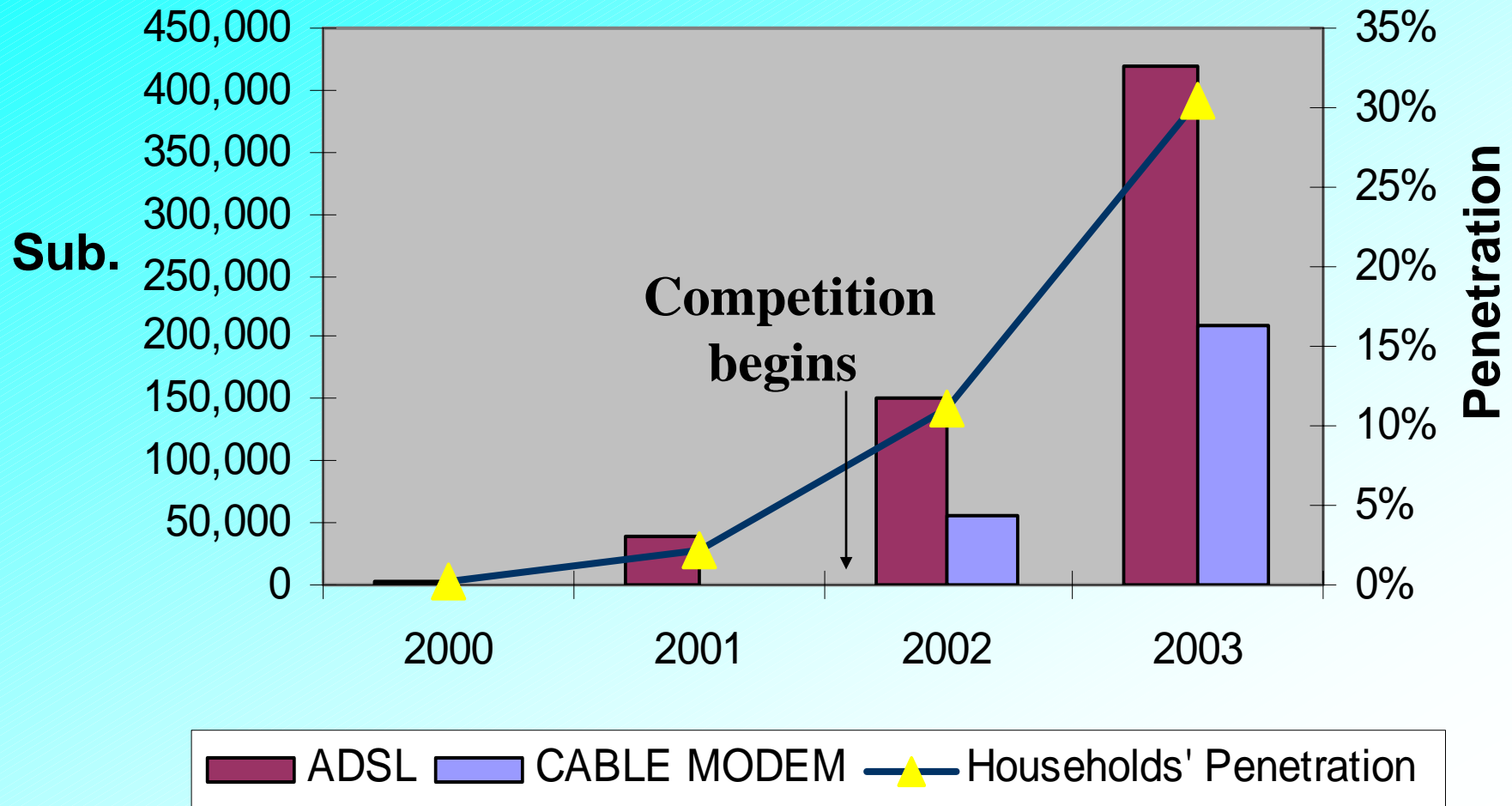
- **Universal Service Obligation (USO) by two players; both have countrywide infrastructures (100% pop. coverage by 4 years).**
- **Israel is one of the few countries who adopted broadband USO.**
- **Unlicensed usage of the 2.4Ghz WLAN technology as a step of maximizing the Internet usage in the country.**

Broadband

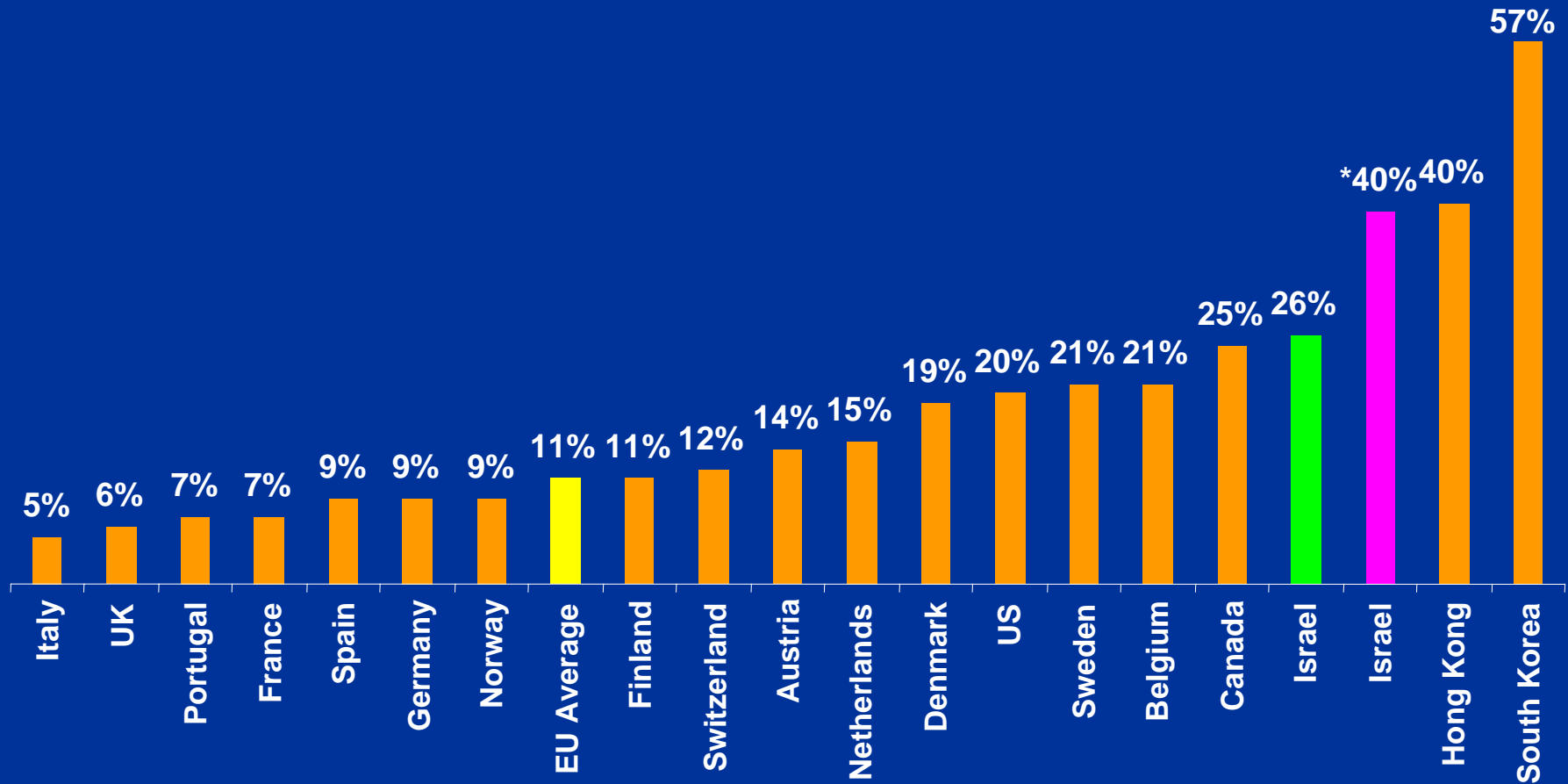


- **830,000 broadband lines (530,000 ADSL lines; 300,000 cable modems).**
- **Broadband subscriber growth ~200% last year.**
- **Broadband household penetration 40%.**
- **Broadband penetration per 100 inhabitants 12%.**

Broadband Subscriber Growth in Israel



Households` Broadband Penetration (June 2003)



Source: TASC Ernst & Young

* June 2004

Public Internet Access (PIA) in Israel

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- **The importance of PIA: service provision to inaccessible population due to coverage or cost problems.**
- **Relatively easy implementation of public broadband access all over Israel**
 - In light of USO of two infrastructures and high broadband penetration.

Public Internet Access (PIA) in Israel

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- PIA is accessible in education institutes, public libraries, community centers etc., but much remains to be done.
- Several examples of PIA existing projects:
 - Tapuah (Apple) the Israeli society for the Advancement of the Information Age; Achievements - Establishment of 45 Internet Community Centers in the peripheral areas of Israel; providing ~20% of elementary schools students with the basic training for using the Internet; also unemployed.

PIA Projects in Israel

Apple

Deployment of Learning Centers:



Public Internet Access (PIA) in Israel

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- **Lehava (Flame) governmental project - bridging the digital divide within the Israeli society;**
Among the objectives:
 - **Establishing and operating 100 Community centers within 3 years, in low-income Periphery;**
 - **Acknowledging computer skills to thousands of citizens in each center;**
 - **Allowing low-income families, lacking home PC's to have access to digital contents and to E-government services by the information instructors;**

Incumbent main services & technologies



- **100% digital exchanges & transmission (mainly SDH).**
- **Interconnection with mobile & ILD operators.**
- **ADSL Access.**
- **Data Network – TDM, F.R, ATM, 64Kb/s – 1Gb/s.**
- **IPVPN, Unified Messaging ,soon IP Centrex & DECT terminal equipment.**

Bezeq in process of privatization



- **Israel's incumbent telecommunications operator.**
- **Annual sales ~2.2 billion US \$ (inc. subsidiaries)**
- **Government holds 46% of Bezeq shares.**
- **During 2004 the government plans to sell its holdings:**
 - **30%-40% to financial/strategic investor.**
 - **Additional shares in Tel Aviv stock exchange.**

Cable TV firms - the new entrants



- Fully digitized HFC networks (750MHz).
- Cable Modem broadband Internet services (64Kb/s – 3Mb/s).
- Interactive TV
- Data services, T- mail, T- commerce.
- Future plans (end 2004) – Universal IP telephony



Other new entrants

- **End 2004 - Granting general unique licenses for fixed services without any service areas obligation.**
- **Among the candidates : mobile operators.**



Mobile Services

**Competition Introduced
December 1994 with 130K sub,
2003 – 6.3 million sub. On 4 networks all with USO**



Mobile Operators

<u>Company/ Foreign Owner</u>	<u>Pelephone</u>	<u>Cellcom</u>	<u>Partner</u>	<u>MIRS</u>
	Shamruk	Bell. S ,Safra	Hutchison	Motorola
<u>Licensed</u>	1987	1994	1998	2001
<u>Market share</u>	28%	37%	31%	4%
<u>Frequencies (Mhz)</u>	800, 1900	800, 1800 ,1900	900, 1800, 1900	800
<u>Technology (present)</u>	NAMPS & CDMA	TDMA & GSM	GSM	iDEN (TRUNCKING)
<u>Future</u>	EVDO	UMTS/EDGE	UMTS	iDEN

Mobile Technologies: key trends



- **New services:**

- **SMS ,WAP, SHTML wireless internet, Wi-Fi, soon PTT.**
- **Content: news, media & data services.**
- **Location based services.**
- **M(obile) – Commerce**
(vending machines, parking, gas station,etc).

Will 3G Succeed in Israel?



- **Israel is well suited for 3G:**
 - **Relatively wealthy country.**
 - **Technology literate.**
 - **High mobile penetration, extremely high usage.**
 - **Heavy foreign Investments in mobile market.**
- **Favorable auction price**
- **Each service country-wide availability - 24mo after initial commercialization.**



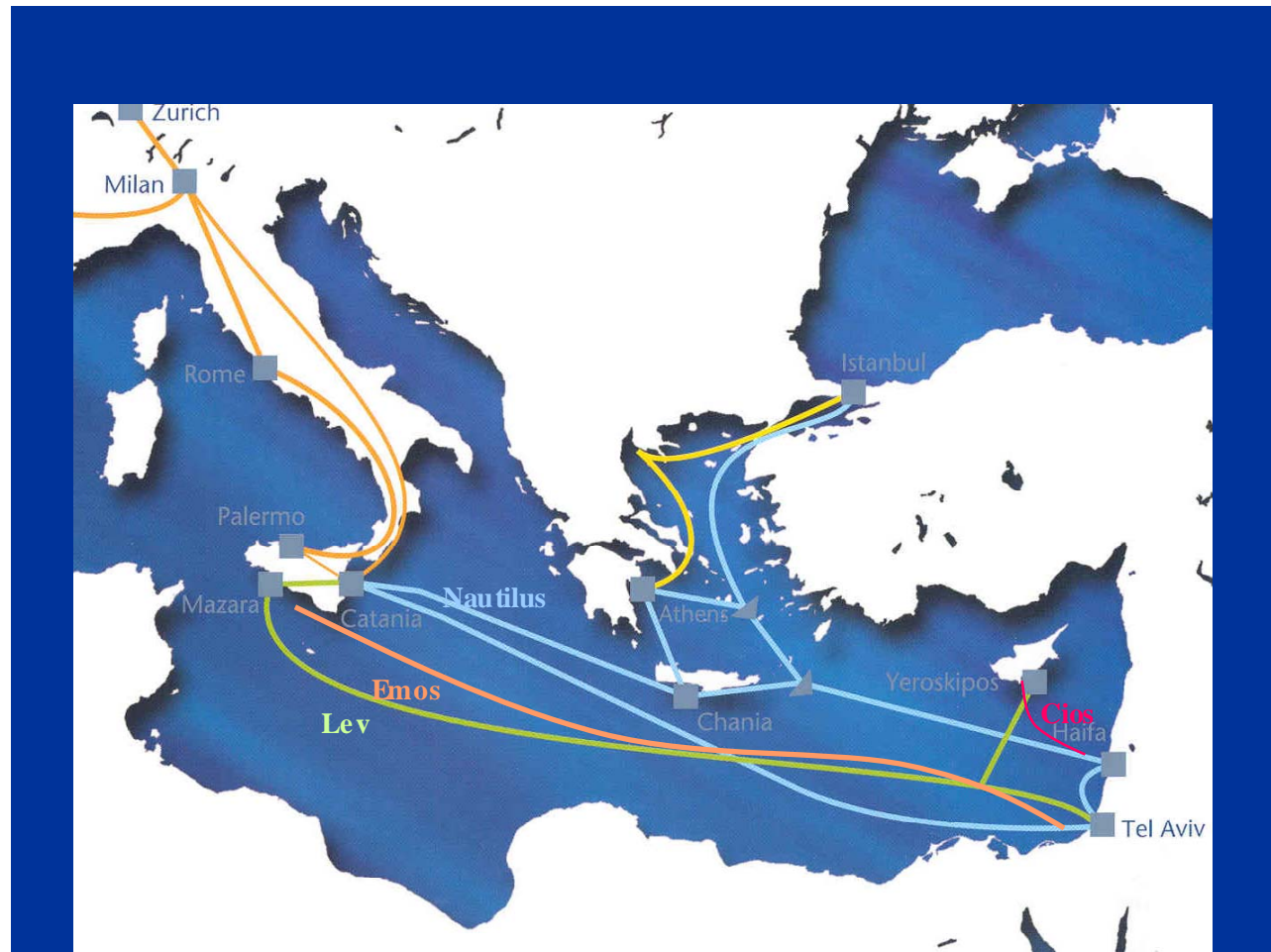
3G Regulation

- **In the coming years 3G UMTS networks will be able to offer internet access of up to 2Mb/s and a wide variety of services & contents inc. multimedia applications, games, video etc.**
- **Today there is no debate about the economic rationale of establishing 3G networks; Equipment is cheaper than GSM equipment was at its first steps.**
- **Commercial networks have been launched all over Europe and are planned in Israel in the first half of 2004.**
- **Cellular penetration is much higher than the penetration of computers; thus 3G may prove to be a very essential medium to increase broadband penetration.**
- **Conclusion: today 3G USO is important!**

MED Nautilus Network



- 3.84 Tb/s DWDM, in restorable ring configuration (6 fibers pairs, (64 WL x 10 Gb/s per fiber pair).
- Service initiated November 2001. US \$500 M.
- 49% owned by Israeli shareholders.





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Telecom Israel 2004 Exhibition and Conference: The Future is Here

Tel-Aviv, 8-11 November, 2004

For more information

<http://www.telecom-israel.com>

Telecom Israel 2004: Telecom Showcase



- **A bi-annual international event:**
 - **Expectation of more than 160,000 visitors, more than 4,000 foreign visitors, more than 20 telecom official delegations headed by ministers.**
 - **Following the remarkable success of Telecom-Israel events:**
 - ◆ **1998 - 100,000 visitors, 3000 foreign visitors.**
 - ◆ **2000 - 140,000 visitors, 4000 foreign visitors.**
 - ◆ **2002**
 - ❖ **160,000 visitors.**
 - ❖ **372 Exhibitors from Israel and outside Israel.**
 - ❖ **4500 participants at Conferences.**
 - ❖ **1,058,903 visitors at the web site in 2002 before Opening Day.**
- **Exhibition 35,000 sqm.**
 - **Over 400 exhibitors.**
 - **~ 90 start-ups stands which were chosen by the Chief Scientist, Ministry of Industry & Trade.**

Telecom-Israel 2002 Event

Tel-Aviv, 8-11 November, 2004



- **Important international exhibition & conference:**
- **A showcase of hottest technologies and applications.**
- **The place to see how new technologies, products, services and issues are reshaping the world of communications.**
- **The future is here - Wherever you look, across the globe, Israel's born products stand up.**
- **We invite you to witness for yourself!**



Thank you for your attention

For more information
<http://www.moc.gov.il>