

Business Opportunities Gateway Forum Electrical Power and Energy

July 20 – 22, 2016, Vilnius Grand Resort, Lithuania

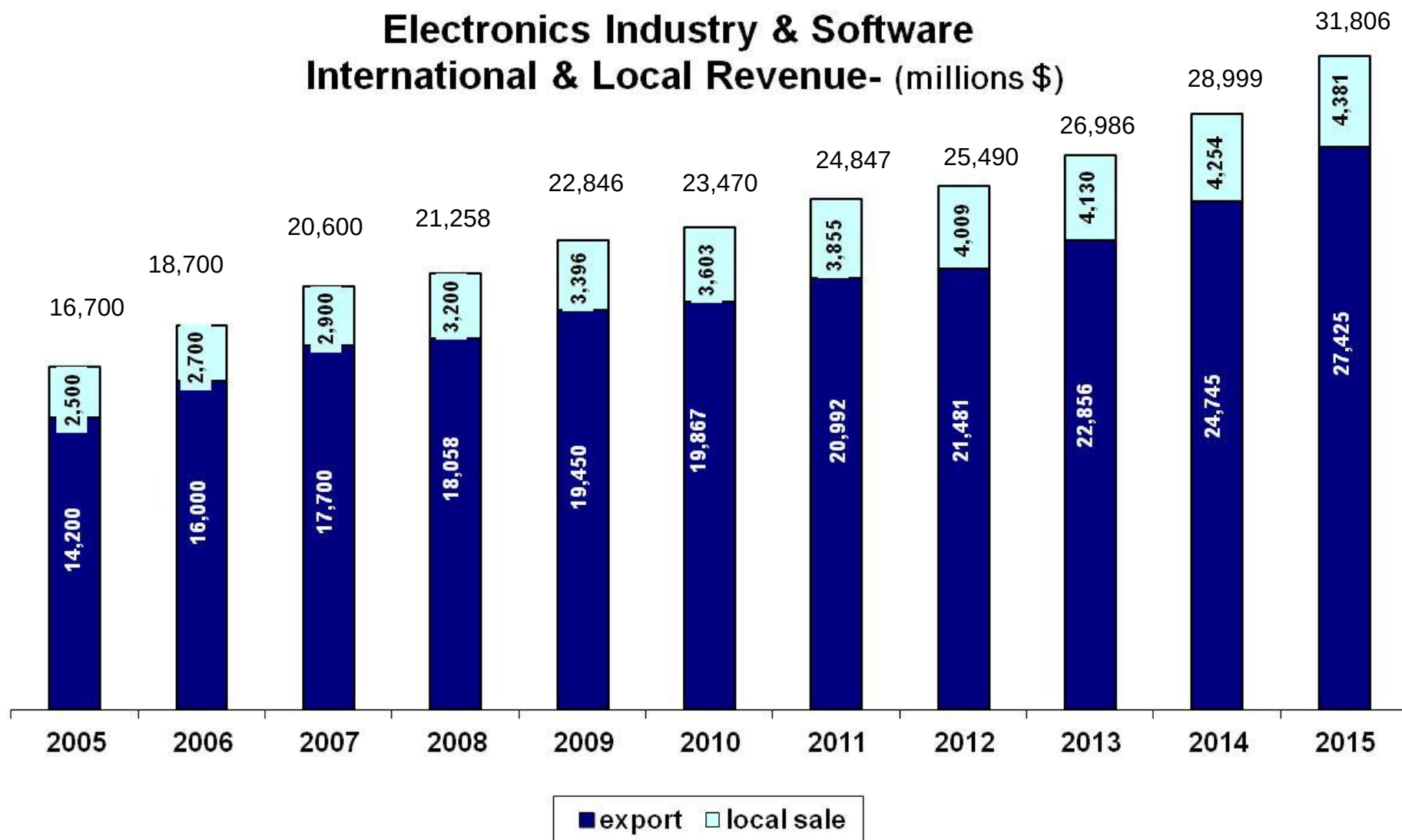
Israel Start-up Nation

Mr. Elisha Yanay,

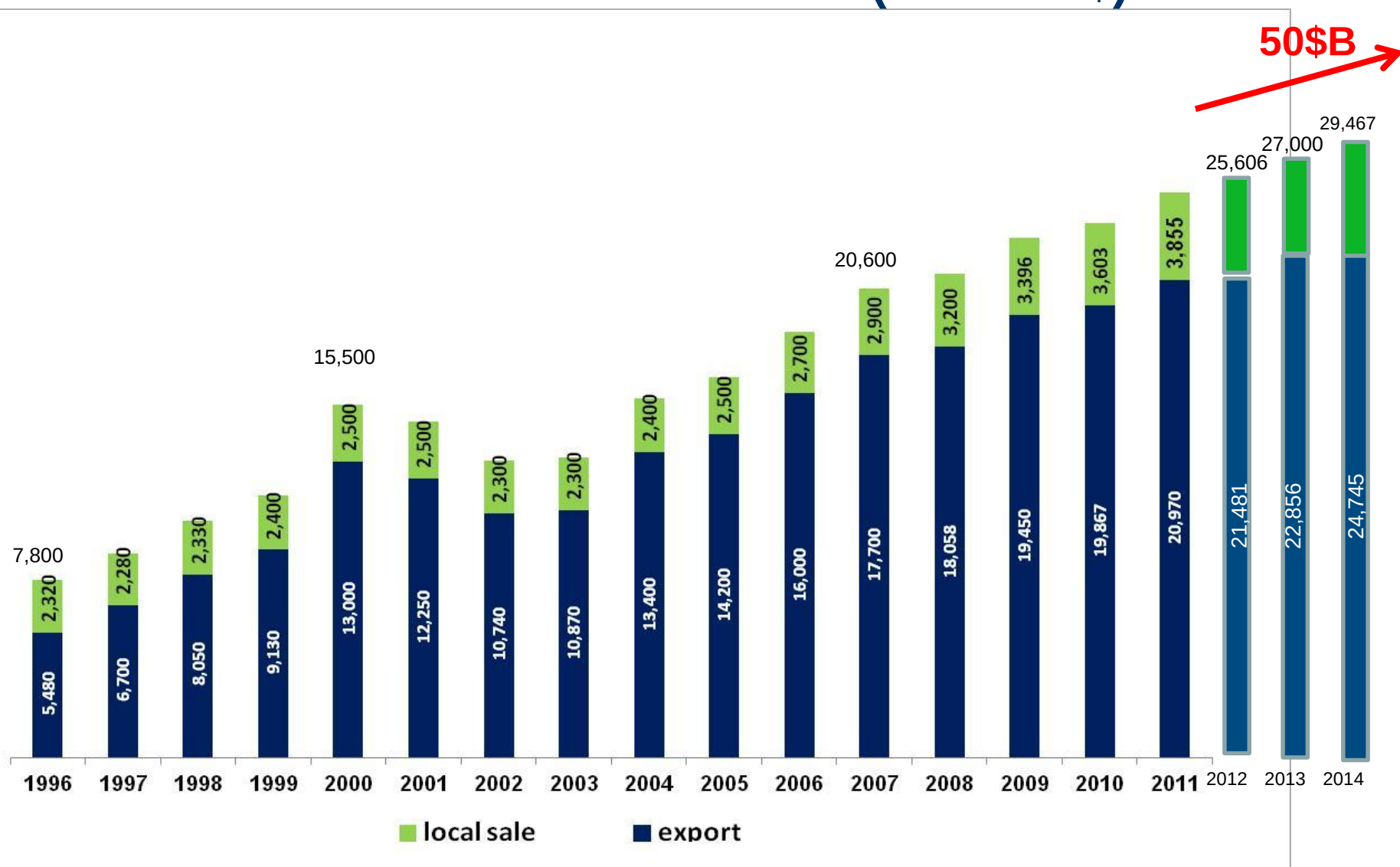
Chairman of the Israeli Association of Electronics and
Software Industries,
Chairman of Beeper Communication
Ex S.V.P Motorola Inc.



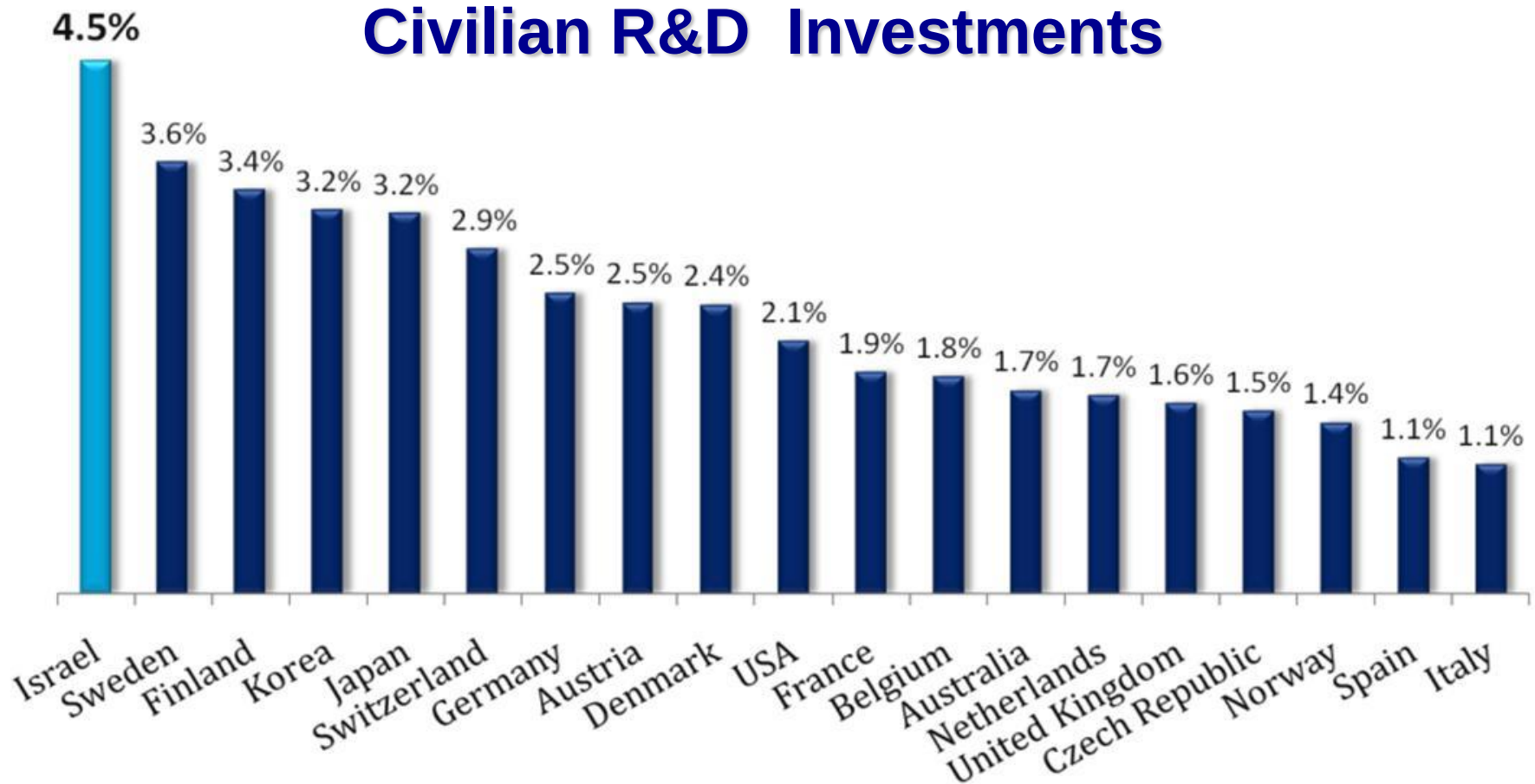
Electronics Industry & Software International & Local Revenue- (millions \$)



Electronics Industry & Software International & Local Revenue (millions \$)

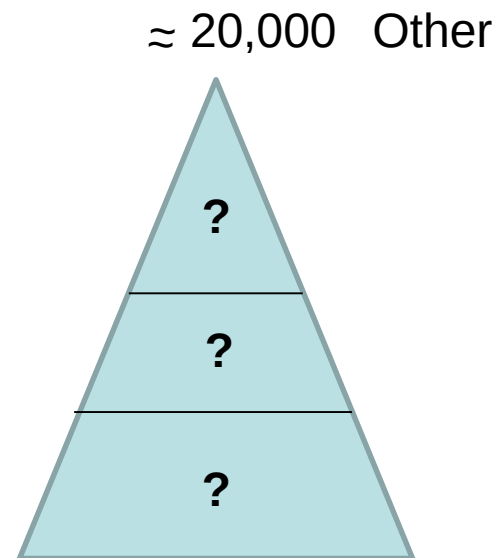
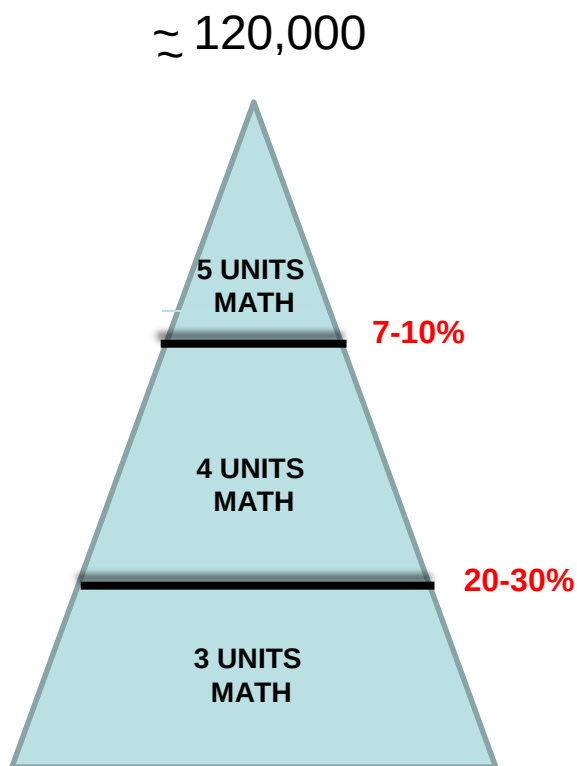


World Leadership in Civilian R&D Investments



Source: OECD, Israeli CBS

Distribution of Student in Israel per year



Global Macro Economics Data

80T	100%	W.W.GDP
50T	70%	Local GDP
30T	30%	Industrial GDP
6T	High-Tech	
3.5T	Oil	
2T	Automotive	
2T	Health Care	
3T	Finance	
1T	Military	
13.5T	Others	

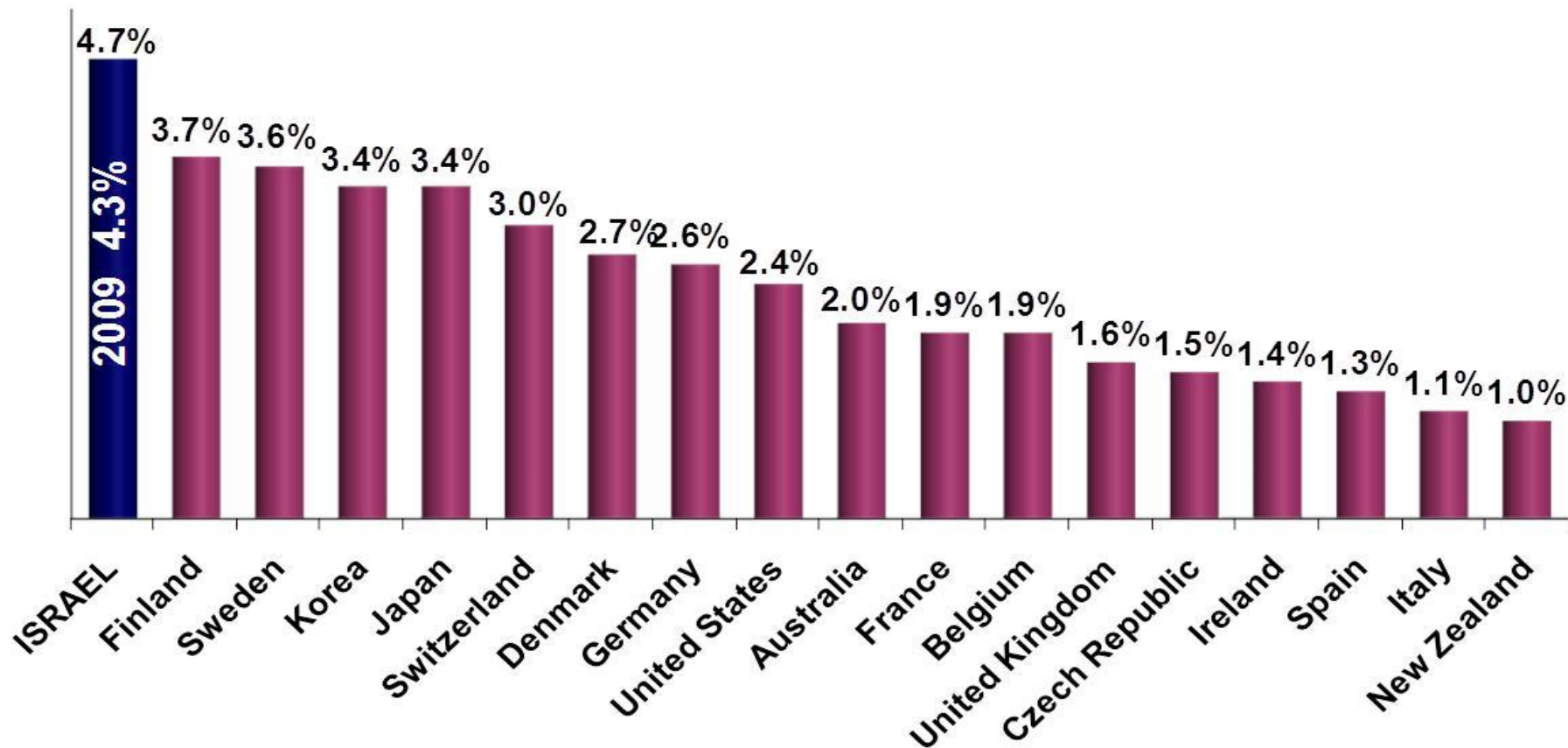
	High Tech		W.W.GDP
7%	6000B	W.W	80T
	0.8T	USA	16.5T
	0.9T	China	11T
	0.4T	Japan	5T
		Germany	3.5T
		EU	16T
10%	32B	Israel	0.33T



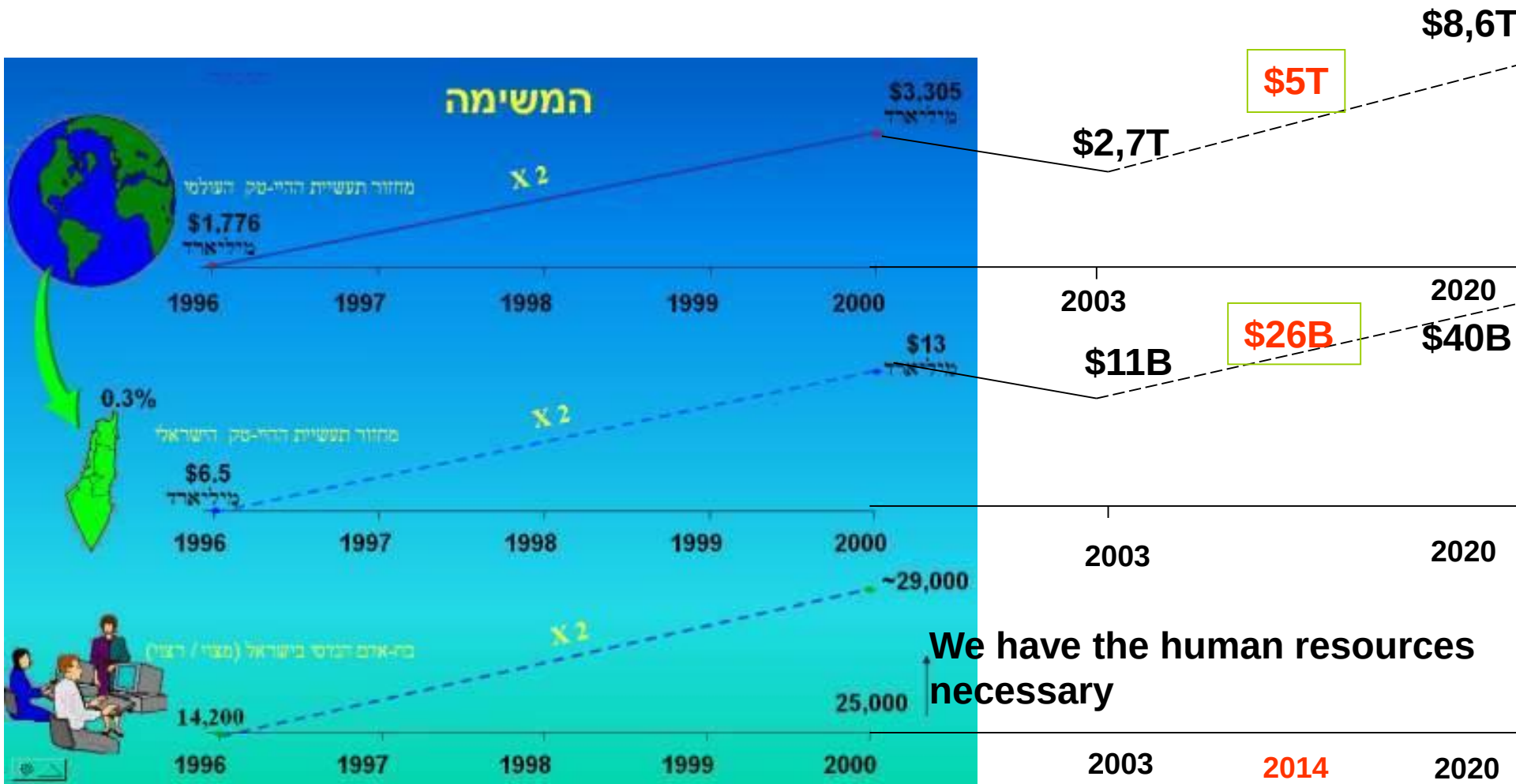
$$32B/6000B=0.5\%$$



World Leadership in Civilian R&D Investments



The Challenges



אלקטרוניקה ותוכנה	תל"ג	שנה
6.5 B\$	\$ 19,307	1996
29.5 B\$	\$ 37,200	2014
453%	193%	

Education 2000 (1996 program)

The best For High tech

Government Budget

The Telecom Show

The Russian Immigrants/ Software

Higher Education in Israel

Electrical & Computer Engineering & Computer Science

Academic Year	Number of 1 st Year Students	Number of Graduates	Retraining	Total	% of Universities 1 st Year Students	% of Colleges 1 st Year Students
Until 1994	1,200	1,000			100%	0%
1998	4,860	2,280	3,905	6,185	73%	27%
1999	5,800	2,500	4,870	7,370	62%	38%
2000	6,653	4,040	5,238	9,278	54%	46%
2001	8,030	4,300	3,970	8,270	45%	55%
2002	8,000	5,000	3,475	8,475		
2006++	8,000++	~8,000	21,458		46%	54%

Higher Education in Israel

Electrical & Computer Engineering & Computer Science

Academic Year	Number of 1 st Year Students	Number of Graduates	Russian impact	Year of Retirement	Haredi Arabs sectors	Year of Treatment
Until 1994	1,200	1,000	65 years old in 1998 will be 67 years old in 2020 →			
1998	4,860	2,280	3,905	2014-2020	2,000-3,000	2012
1999	5,800	2,500	4,870	2015-2021	2,500-3,500	2012
2000	6,653	4,040	5,238	2016-2022	3,500-4,500	2013
2001	8,030	4,300	3,970	2017-2023	4,000-5,000	2014
2002	8,000	5,000	3,475	2018-2024	4,000-5,000	2014
2006++	8,000++	~8,000	21,458			

The Start UP Nation

Israel's Multi-sector Innovation

 WATER TECHNOLOGIES 250 innovative companies	 AGRICULTURE 200 innovative companies	 HEALTH & LIFE SCIENCES 1,000 innovative companies	 NEW MEDIA AND INTERNET 800 innovative companies	 CYBER-SECURITY 250 innovative companies
Water management	Fertilizer and pesticides	Digital Imaging	Media, publishing, content and gaming	Securing networks, cloud and devices
Water desalination	Seeds and seedling production	Innovative medical and surgical equipment	Online advertising And commerce	Information Security and threat Monitoring & protection
Irrigation	Poultry and dairy farming technologies	Pharma and drug delivery	Broadcast delivery and services	Fraud Detection & prevention and Security Management
Urban water solutions	Specialized agricultural production equipment	Healthcare IT and Telemedicine	Big data & analytics	Access Control & Authentication
	Veterinary products and food additives	Medical Lasers	Tools, apps and user platforms	Intelligence and Attack
		Bio-informatics		

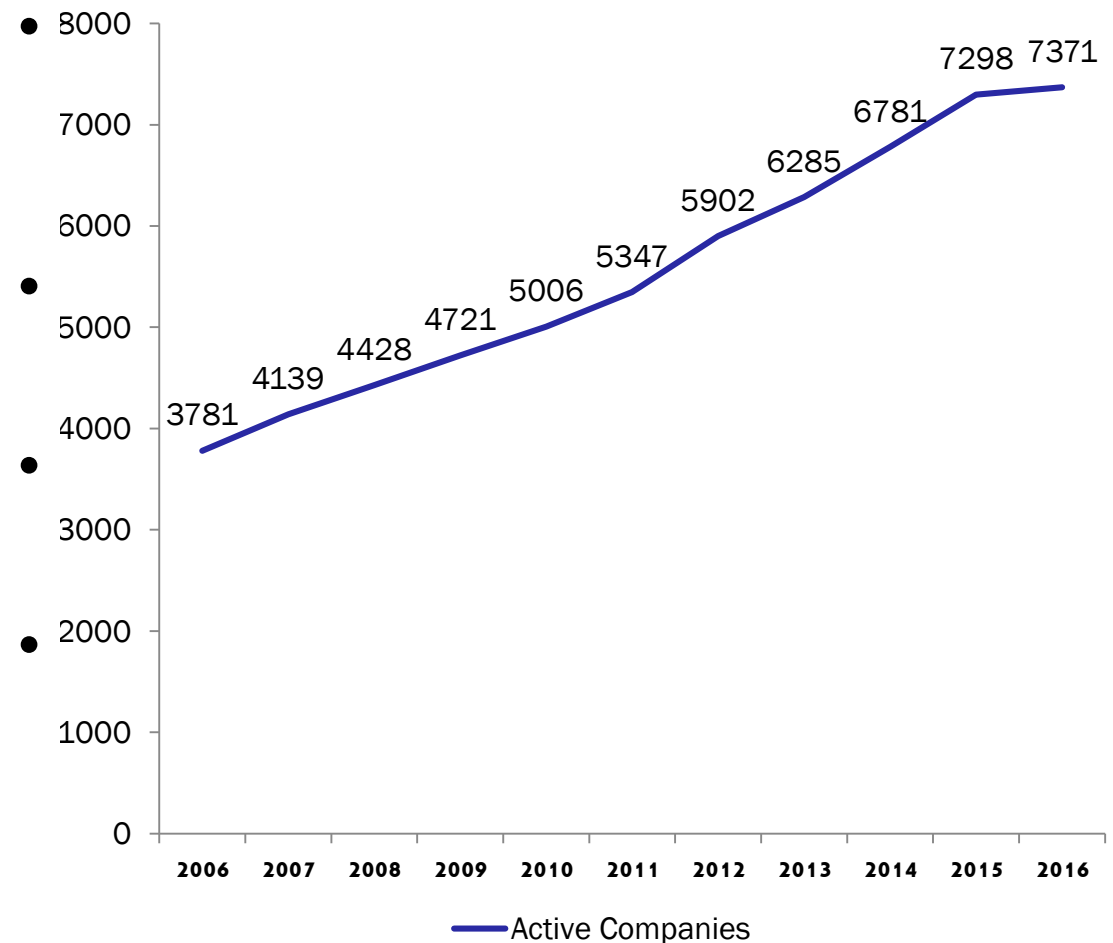
Active High-Tech Companies

Number of active
high-tech companies
is constantly rising

new startups 884
per year on average
ratio in favor of 2:1

new startups

By the end of 2016
there will be about
7,600 companies



Technology Companies

High Tech
Companies

7,053

Active Israeli
high-tech companies

Multinational
Corporations

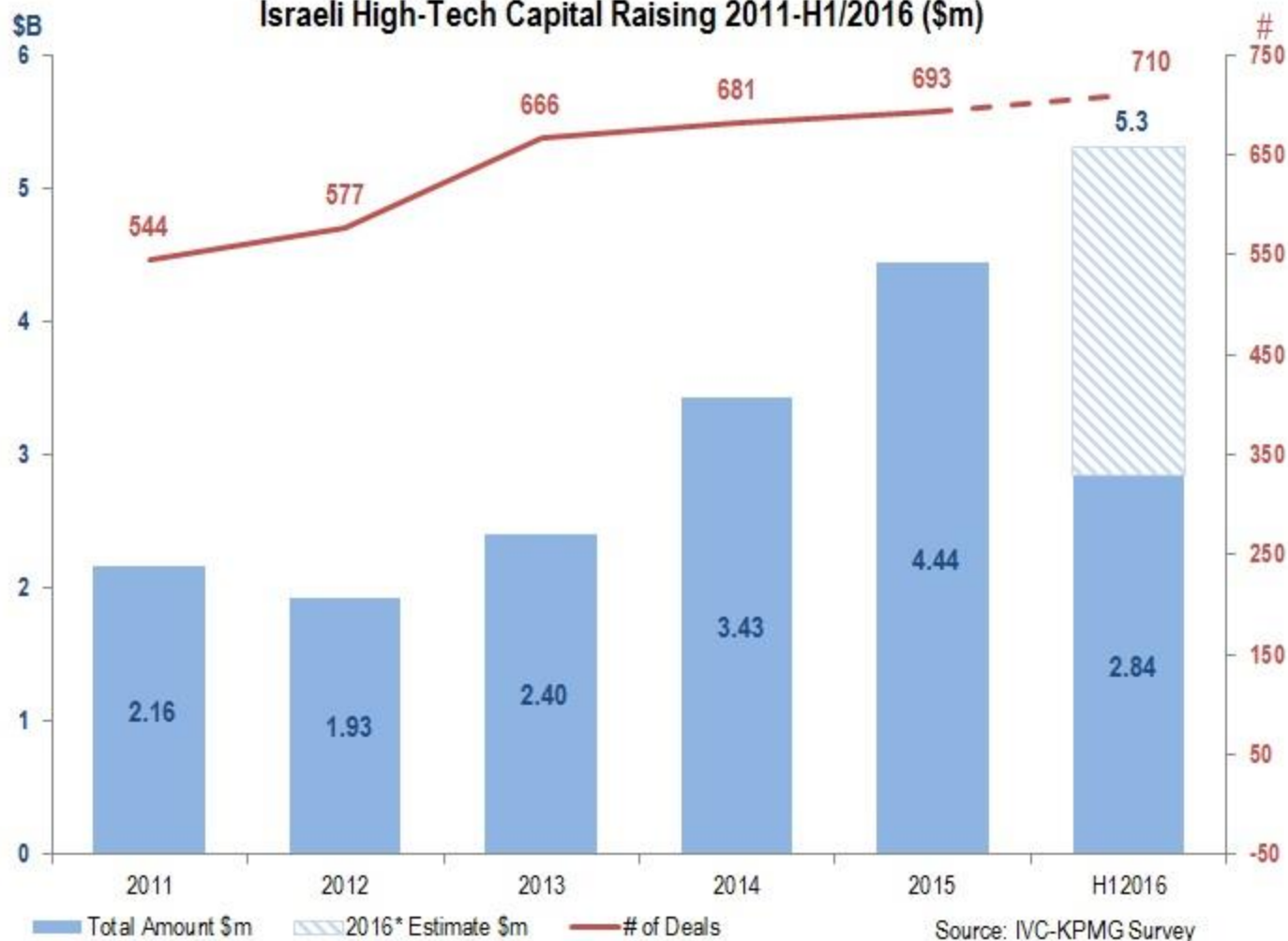
321

Active foreign R&D
centers

375

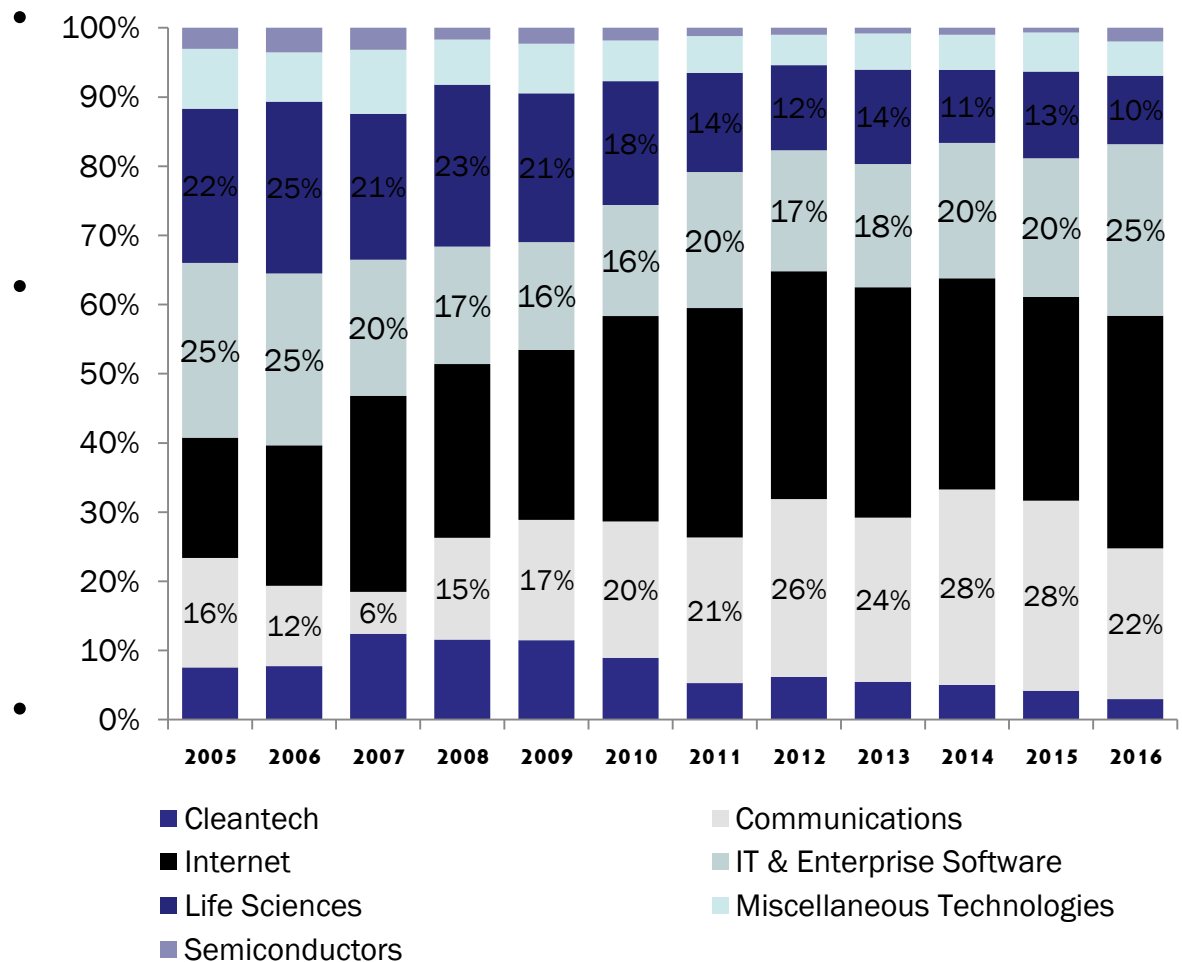
Active Israel-related
companies

Israeli High-Tech Capital Raising 2011-H1/2016 (\$m)



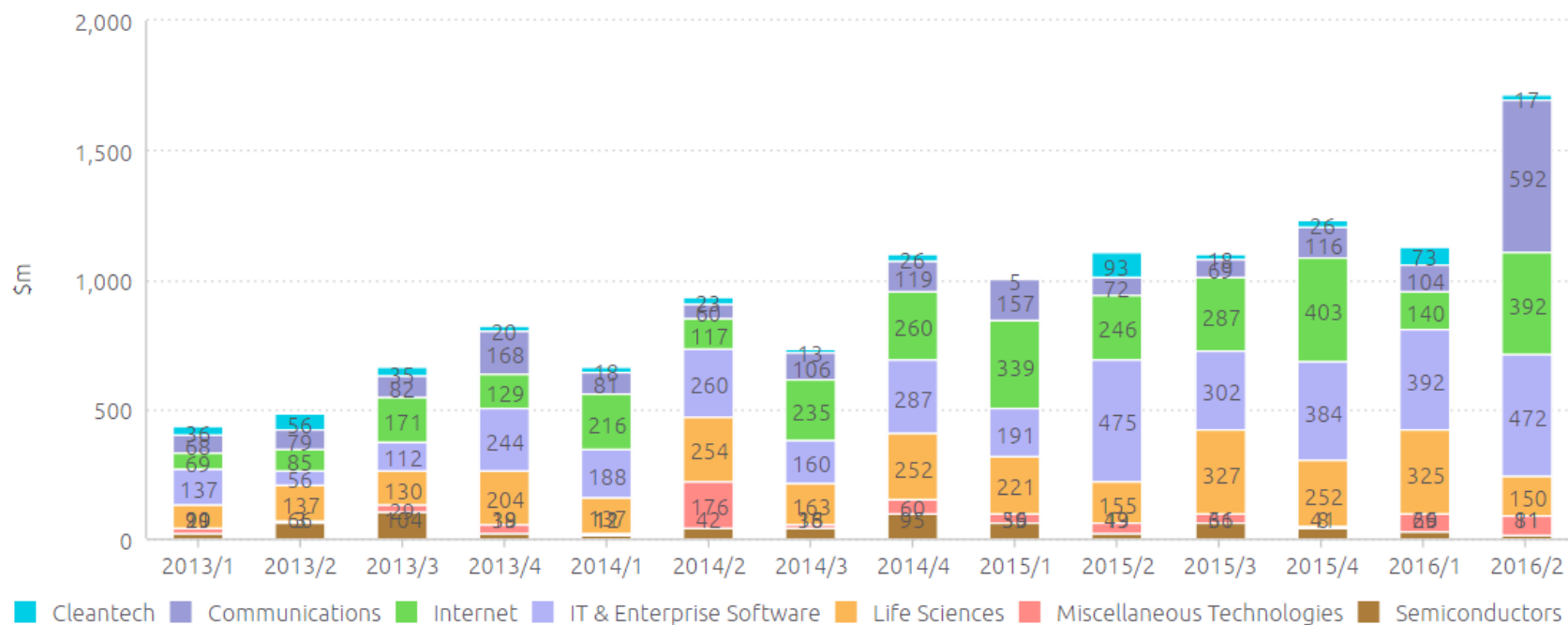
Startups Established By Sector

- The Internet, Communications, and IT & Enterprise Software are the leading sectors
- The most popular sub-sectors among those three leading sectors are Internet Applications, Mobile Applications and Enterprise Applications respectively
- Cleantech, life sciences and semiconductors sectors are constantly shrinking



Capital Raised by Israeli High-Tech Companies by Sector by Quarter

Capital Raised by Sector (\$m)



Israeli High-Tech Exits: IPOs, M&As, Buyouts 2011-H1/2016



The data above the bars represent the total deals \$b

Capital Raised by Israeli VC Funds \$B

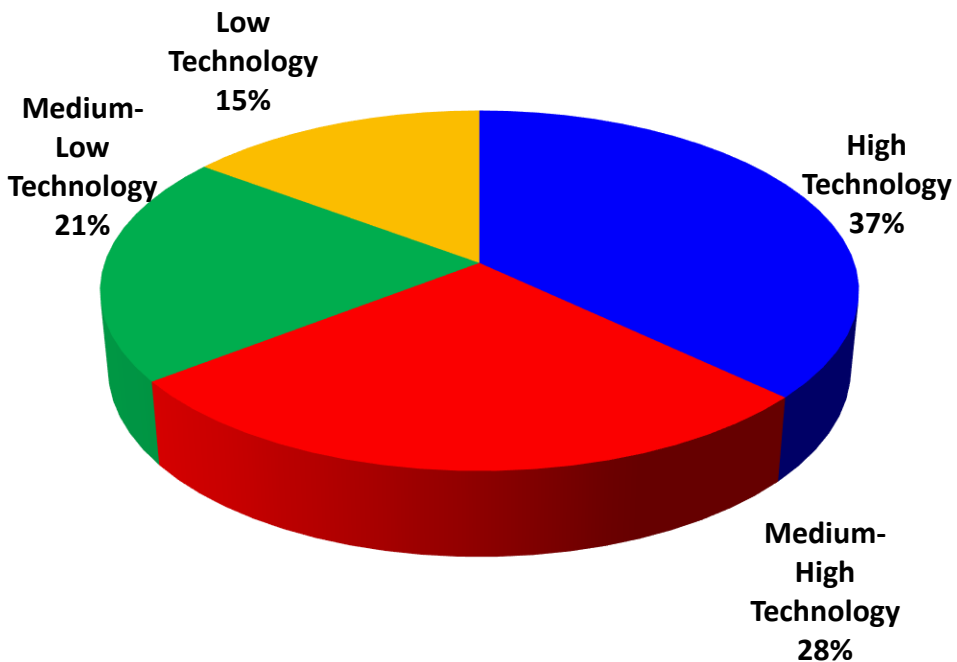




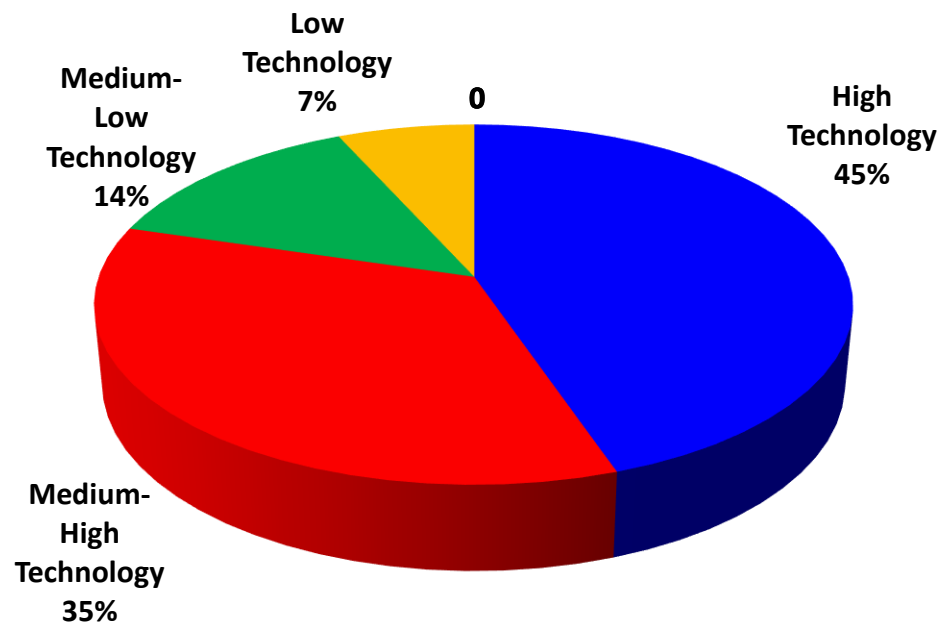
Israel Association of
Electronics & Software
Industries

Export by technology intensity: Transition to High-Tech exports

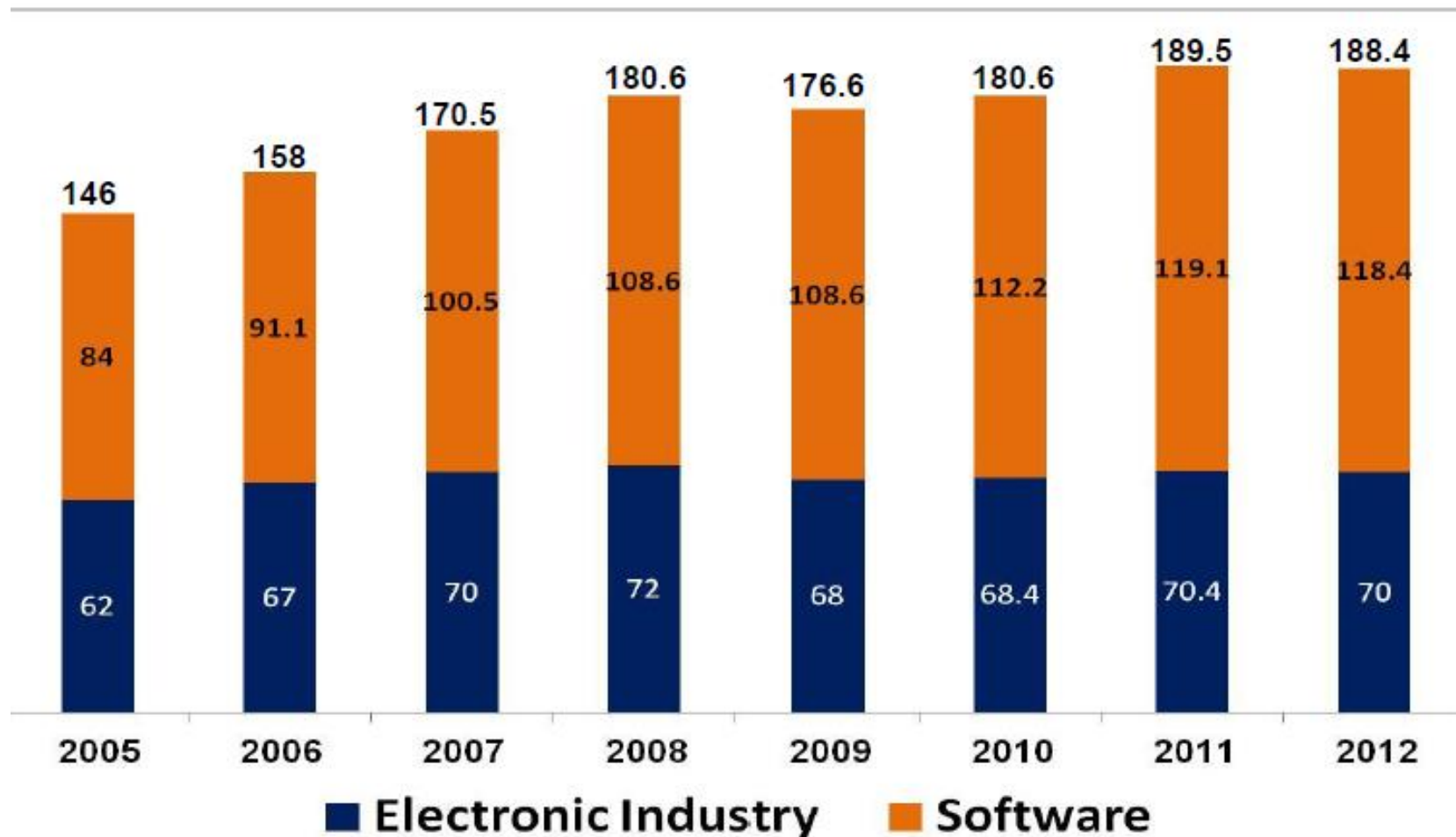
1995



2015



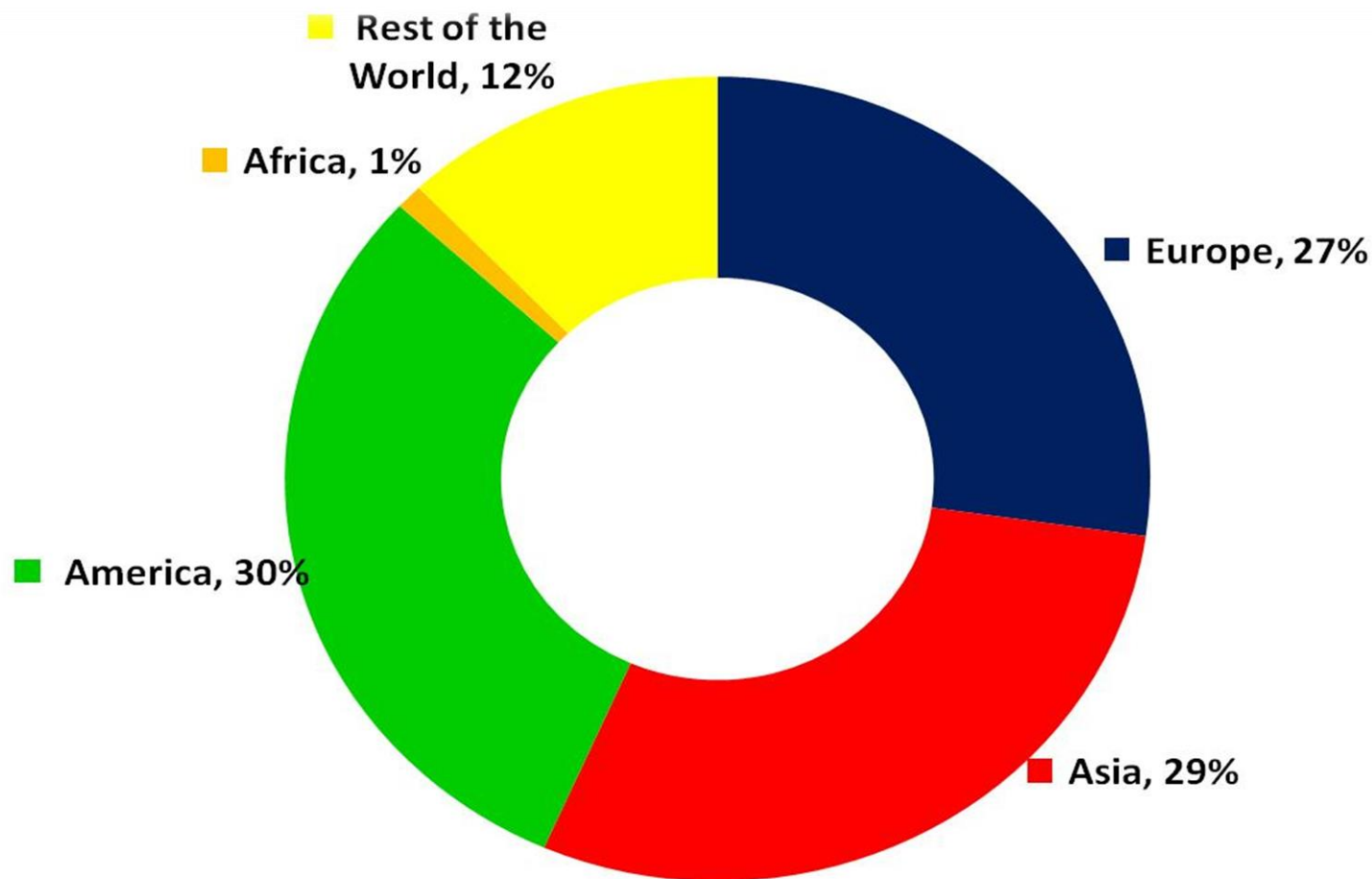
Electronics & Software Employees (Thousands)



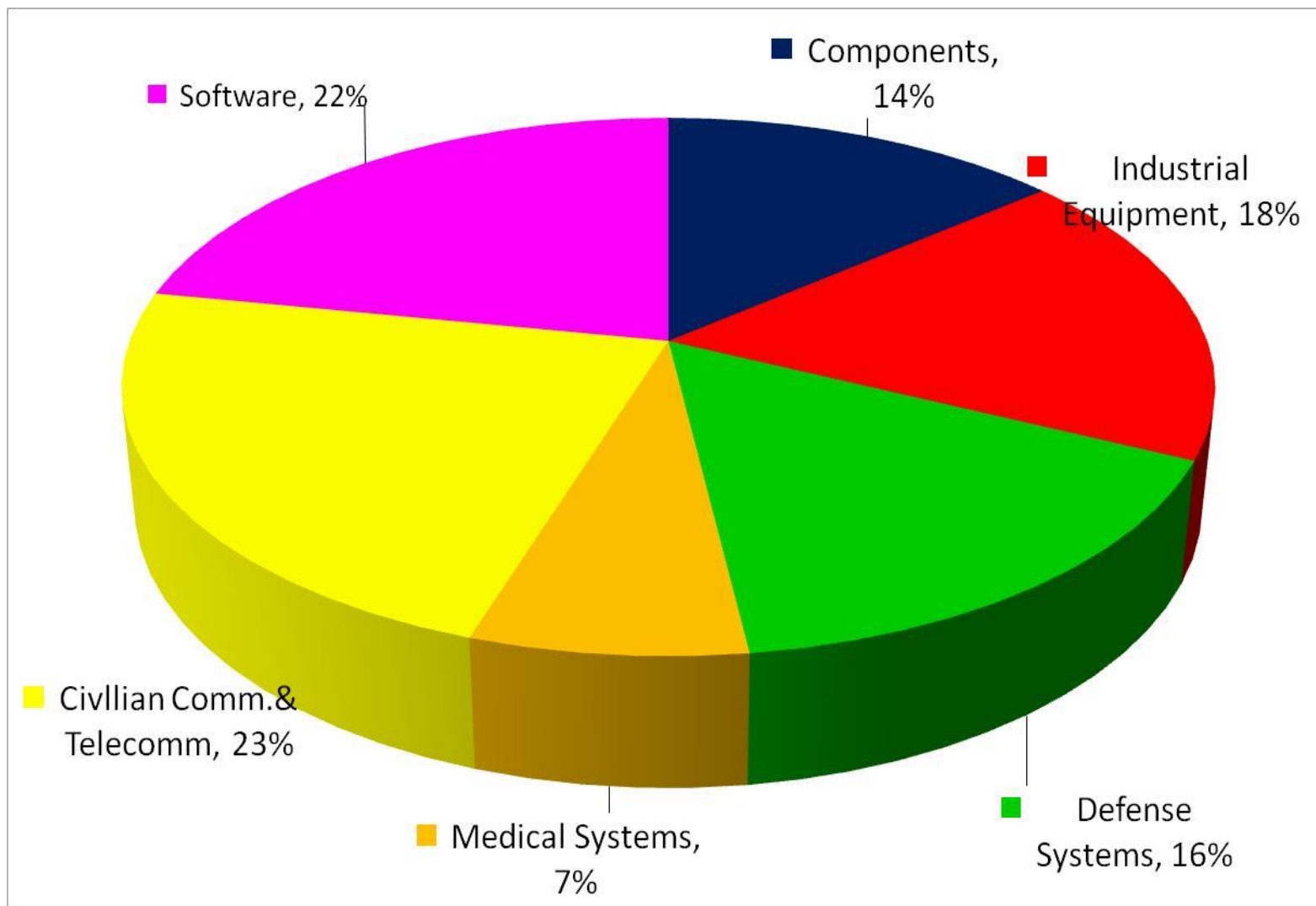
- Labor productivity is low in non-traded
- Low employment and high poverty among Ultraorthodox and Arabs (low skilled)
 - Invest in productive human capital
 - Active employment policy
- Education Quality and human capital - employment skills
- Peace and the economy

ISRAEL Electronics & Software Industry 2014

Israel High-tech International Revenues by region 2013



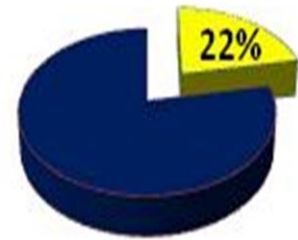
Israeli High-Tech Companies by Product



Product fields

Software

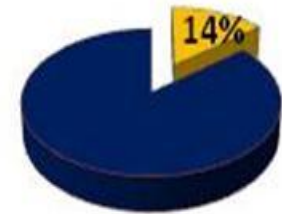
- **Internet**
- **Multimedia**
- **Software – Products**
- **Billing**
- **Security**
- **Cyber**
- **Management**
- **Software – Turnkey Projects**
- **Software – Subcontracting**



Electronic Components

Active Components

- Tubes
- Power Supplies
- Oscillators
- Detectors
- Microelectronic Components
- Microwave Components



Semiconductors

- Design Centers
- Manufacturing Facilities

Passive Components

- Resistors & Networks
- Capacitors
- Transformers
- Batteries
- P.C Boards

HOME

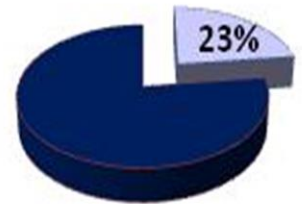
- **Wired**
- **Wireless**
- **Voip**

Access & Premises

- **Wired**
- **Wireless**

Core Networks

- **Wired (Backhaul)**
- **Wired (Metro Ethernet)**
- **Wireless (Backhaul)**
- **Wireless (Metro)**

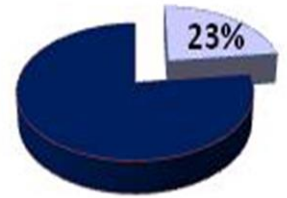


Enterprise Network

- IP
- Infrastructure
- Access & Premises Network
- Enterprise Application

Head End

- Supporting Services (Monitoring Provisioning)
- Service Creation
- Revenue Assurance
- Content Delivery & Management
- Broadband Optimization
- Billing & Payment



Telecommunications Equipment Broad Casting

User

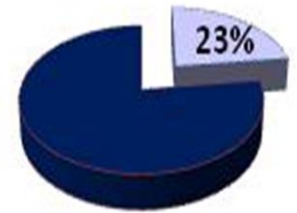
- Media
- Infrastructure

Head End

- Media
- Data com

Core Network

- Infrastructure



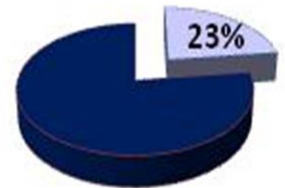
Telecommunications Equipment Mobile

Cour Networks

- Gateways & Signaling Equipment
- Indoors & Coverage Solutions
- Networks Software

Mobile Applications

- Web Applications
- Messaging
- M-Commerce
- Entertainment
- Data & Voice
- Community & Messaging



Telecommunications Equipment

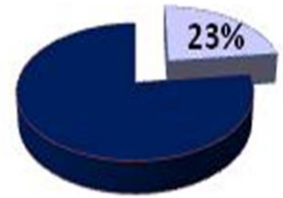
Mobile

Head End Management

- Billing & pricing
- FMC
- Security
- Service and Content Creation

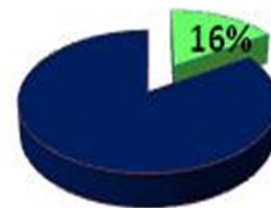
Handheld Components

- Wireless Broadband Connectivity
- Audio GPS
- Handwriting & Keyboard
- Operating Systems
- Screen
- Security
- Storage
- Video & Image
- Wireless Broadband Connectivity



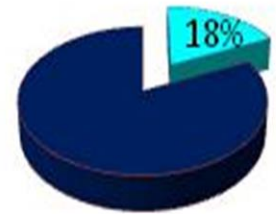
Major Military Systems

- **Missile and Guided Weapons**
- **Anti Aircraft and Anti Missiles Systems.**
- **Radars – Airborne, Naval, Ground**
- **EW Equipments**
- **Routers, Load balancing**
- **Test Equipment, Quality Monitoring of Net work**
- **3G Application**
- **Home Networks**
- **Storage Area Networks**
- **Wireless Local Loop, Microwave**
- **VPN, Firewalls,Cyber**
- **Video – Compression, Video-Conferencing & Video Networks**



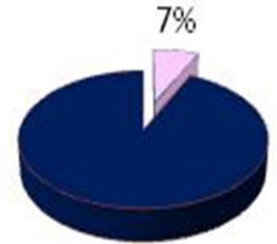
Major Industry Equipment

- **Computerized Production Equipment**
- **Computerized Control Systems**
- **Test Equipment**
- **Training and Education Systems**
- **Consumer Products**
- **Security and Cyber Equipment**



Major Medical Equipment

- **Imaging and Diagnostic Equipment**
- **Surgical and Treatment Equipment**
- **Monitoring Systems**



Main Fields of Activities:

Telecommunications

Information Technologies

Semiconductors for...

Medical

**Mobile, 3G, Lte, Broadband,
Wi Fi, Internet, Data Comm.
Security, Cyber**

Fabless

**New Applications to
Reduce Health – Care Cost**

Conversion of Military Technologies to Civilian Products.

High Tech Characteristics _in Israel

Within 60 years, Israel has developed from a mainly agriculture economy to a global technology leader and pioneer

Strengths:

- ***Entrepreneurial Spirit***
- ***Highly Qualified Scientists & Engineers***
- ***Proven Track Record***

Engines:

- ***Government Support (R&D, Investment)***
- ***Venture Capital***

Results: • ***Strong R&D***

- ***New Technologies and Applications***
- ***Numerous New Start-ups***
- ***International Involvement (Acquisitions***

& Subsidiaries

Highlights in Israeli Innovation

- Pentium – (Intel)
- Centrino – (Intel)
- Telecom Billing (Amdocs)
- Call Center Logging (Nice / Verint).
- Voice Mail (Comverse)
- Instant Messaging (ICQ Ubique)
- PC Board Inspection (Orbotech)
- VoIP (Vocaltec)

Highlights in Israeli Innovation

- Two – bit per cell Flash Memory (Saifun)
- Disk on Key (M-systems)
- Firewall – (Checkpoint)
- Sw Performance (Mercury Interactive)
- Anti Virus (Alladin, Commtouch..)
- Virtual Colonoscopy (Given Imaging).



Israel Association of Electronics & Software Industries

Multinationals | Operate by Local Subsidiaries or Manage R&D Centers in Israel

Telecom



New Media



Software



Electronics



Life Science Medical Dev.



Life Science Bio & Pharma

Some of Israel's Visible Companies

amdocs

Orbotech

RADVISION

GIVEN
IMAGING

Lipman
TransAction Solutions

COMVERSE



radware
availability | performance | security

MERCURY™

RAD

data communications

scitex

VERITAS

ZORAN

AudioCodes

NICE®

Precise
creo

waze

Retalix

Check Point
SOFTWARE TECHNOLOGIES LTD.
We Secure the Internet.

TEVA®

TEVA PHARMACEUTICAL INDUSTRIES LTD.

Major Multinational Companies with a Design Centers in Israel



Bill Gates, the Microsoft CEO, made his first trek to Israel



“Considering the density of Israeli start-ups and local successes, Israel is like a bit of Silicon Valley”.

CRAIG BART: former Intel CEO (visiting Israel)



“Apart from the 6,000 jobs that we have provided here, in my opinion the contribution to Israel lies in the fact that Intel has attracted other companies to invest in Israel and to create an entrepreneurial environment. Globally speaking, Israel is in 3rd place in terms of IP and is a very good place for opening businesses. The level of education in Israel has helped us expand. Israel’s ability to supply very good scientists has helped us, and the government’s positive attitude has helped us attract investments.”

Buffett Takes a Cut of Iscar
The Israel-based manufacturer, with estimated revenues of \$1.4 billion, enters the limelight thanks to an acquisition by Berkshire Hathaway



Asked how come he chose Israel as his first investment outside America, Buffett's response was: "Some Americans came looking for oil, so they didn't stop in Israel. We came looking for brains, so we did stop in Israel."

If you scaled down the world's population to a room filled with 100 people. Here's how it would look:

Geographic Location

What it means for VC's

- 57** *people would be from Asia*
- 21** *from Europe*
- 14** *from the Western Hemisphere*
- 8** *from Africa*

Education

- 70** *can't read*
- 65** *never made a phone call*
- 1** *has a college education*

Communications

Information
Technology

Quality of Life

- 80** *live in substandard housing*
- 50** *suffer from malnutrition*
- 20** *never had a clean drink of water*
- 15** *live on less than a \$1.00 per day*

Material Sciences

Biotechnology /
Pharmaceutical

Thank you