TEL AVIV STARTUP CITY

in numbers | 2015 extended edition

WELCOME TO TEL AVIV

The Israeli hi-tech industry is renowned both within the country and abroad. The thriving industry serves as an engine for economic growth and helps to position the country as a rich source of knowledge and human capital.

Technology companies are increasingly integrated into almost every aspect of daily life, as our reality becomes increasingly digital and virtual. It is therefore necessary to understand the hi-tech world, including its trends and characteristics.

The data compiled here is centered on hi-tech companies in Tel Aviv and presents a snapshot of Tel Aviv's technology ecosystem. A geographic comparison of the hi-tech companies allows for an analysis of the unique characteristics of Tel Aviv's ecosystem as opposed to Greater Tel Aviv and the rest of Israel. In each of these regions we present further comparisons according to the activity sector and the stage of the hi-tech companies, with a focus on startups. The data complied here, when compared to previous data, enables an understanding of the development of the industry.

The data is the property of the IVC database; editing and analysis was carried out by the Center for Economic and Social Research of the Tel Aviv-Yafo Municipality.

Dr. Etel Friedman,
Director of Center for Economic & Social Research
Tel Aviv–Yafo Municipality

Tel Aviv has evolved into one of the world's leading hubs for technology and innovation. Listed by Compass 2015 Global Startup Ecosystem Ranking as the world's leading startup ecosystem outside of the US, Tel Aviv is a prime destination for entrepreneurs, investors, international R&D facilities and innovation centers.

Home to some of the world's leading academic programs in innovation, engineering and technology-related fields, the Startup City of the Startup Nation provides companies, investors and global enterprises with a multitude of talent, developed infrastructure and business opportunities.

The data compiled before you is intended to provide insight as well as an initial understanding of Tel Aviv's startup ecosystem, and its role within the economy of Israel the Startup Nation.

Welcome to Tel Aviv,
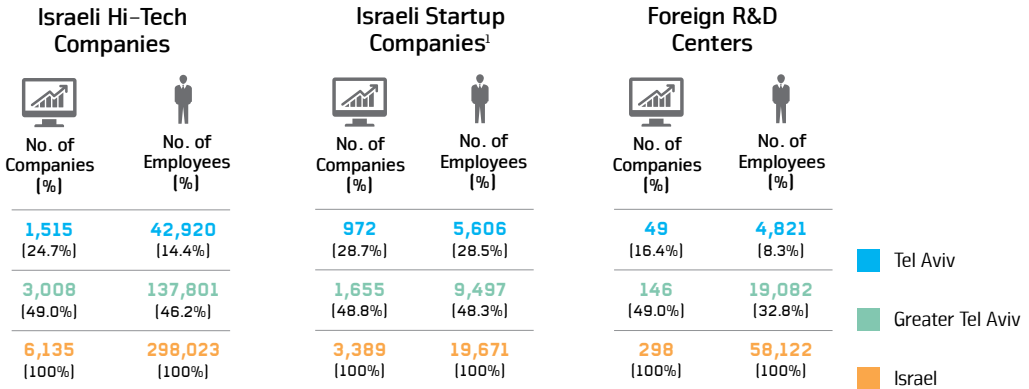We're waiting for you to get started

Yael Weinstein,
Director of Economic Development
Tel Aviv Global

Tel Aviv Startup City – Executive Summary

- The hi-tech industry in Tel Aviv is home to more than 1,500 hi-tech companies, which constitute around 25% of all Israeli hi-tech companies nationwide.

- The most prevalent sector for Israeli hi-tech companies operating in Tel Aviv is the Internet, accounting for around 40% of the companies in the city and roughly one-third of the people employed by them. Other key sectors include Communications and IT & Enterprise Software (constituting 25% and 18% of Israeli hi-tech companies in the city, respectively).

- There are also about 50 foreign R&D centers in the city, whose number has increased by 44% since 2012; the foreign R&D centers are primarily active in IT & Enterprise Software (43% of the centers) and the Internet (27% of the centers).

- The hi-tech industry in Tel Aviv provides employment to nearly 50,000 people in the hi-tech companies located in the city (90% are employed by Israeli hi-tech companies and 10% by foreign R&D centers).

- In the past two years (between October 2012 and November 2014), around 400 (net) new hi-tech companies were established in Tel Aviv (accounting for about 30% of all hi-tech companies that were established in Israel during that period). Approximately 38% of the hi-tech companies that were established are in the Communications sector, and around 35% are in the Internet sector. There is a growing trend in the number of companies entering the Communications sector, as opposed to a declining number of companies entering the Internet sector.

- Roughly 1,000 (64%) of the Israeli hi-tech companies in Tel Aviv are startups; those companies are at the early stages of their technological development, namely at the stage of formulating their initial idea (seed) or at the development stage of improving their product (R&D). The startup companies in Tel Aviv constitute around 29% of all startups in Israel.

- Over the past two years (between October 2012 and November 2014), 280 startup companies were established in Tel Aviv – a growth of around 40% compared to a growth of 26% in Israel in general.

- From 2010 to 2013, the dollar value of exit deals made by Israeli hi-tech companies in Tel Aviv amounted to nearly $3.5 billion. The average amount per exit was about $43 million.

- In 2013, both the total amount of those deals (45% of all exits between 2010 and 2013) and the average amount per deal ($63 million) were considerably higher than those in 2010-2012.
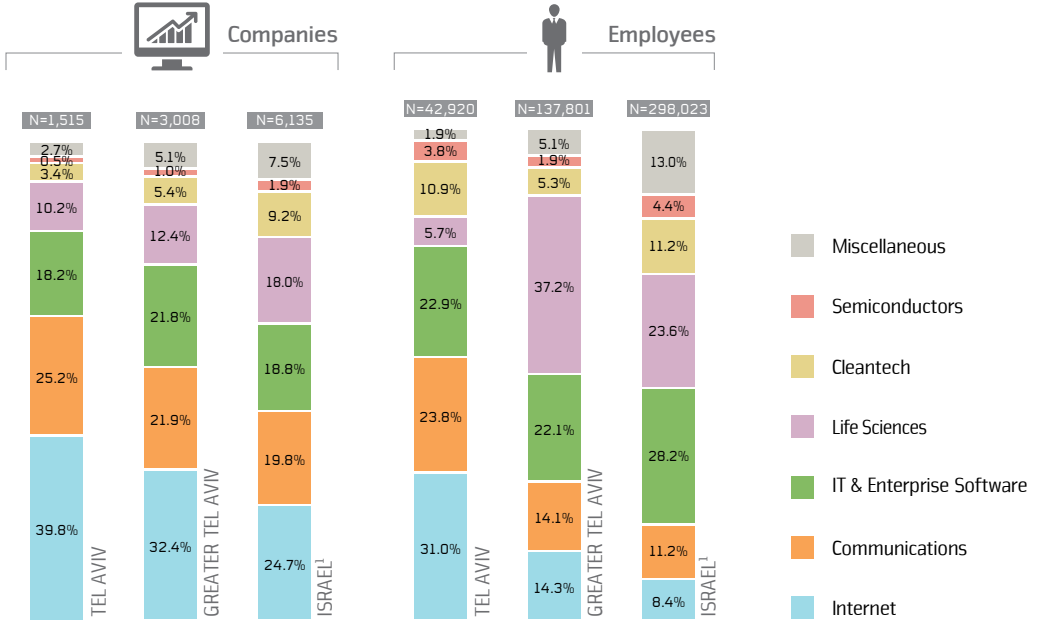
The Hi-Tech Industry in Israel

1. Israeli Hi-Tech Companies, Israeli Startup Companies and Foreign R&D Centers by Geographic Region, November 2014

Israeli Hi-Tech Companies		Israeli Startup Companies[1]		Foreign R&D Centers		
No. of Companies [%]	No. of Employees [%]	No. of Companies [%]	No. of Employees [%]	No. of Companies [%]	No. of Employees [%]	
1,515 (24.7%)	42,920 (14.4%)	972 (28.7%)	5,606 (28.5%)	49 (16.4%)	4,821 (8.3%)	■ Tel Aviv
3,008 (49.0%)	137,801 (46.2%)	1,655 (48.8%)	9,497 (48.3%)	146 (49.0%)	19,082 (32.8%)	■ Greater Tel Aviv
6,135 (100%)	298,023 (100%)	3,389 (100%)	19,671 (100%)	298 (100%)	58,122 (100%)	■ Israel

- Israel's hi-tech industry consists of nearly 6,500 hi-tech companies, the majority of which (95%) are Israeli companies, and a small number (5%) of which are foreign companies (foreign R&D centers). 55% of the hi-tech companies in Israel are startups.

- Altogether, the hi-tech companies in Israel employ more than 356,000 people, about 84% of whom (298,000) work for Israeli hi-tech companies, and about 16% (58,000) for foreign hi-tech companies.

- The number of employees at startup companies in Israel is relatively small (20,000) because the companies themselves are relatively small.

- Roughly half of the hi-tech industry in Israel is located in the Greater Tel Aviv area:
    - About 49% of Israeli hi-tech companies and 46% of their employees
    - About 49% of Israeli startup companies and 48% of their employees
    - About 49% of foreign R&D centers in Israel and around 33% of their employees

- Approximately 25% of all Israeli hi-tech companies, 29% of all Israeli startup companies, and 16% of all foreign R&D centers in Israel are located in Tel Aviv.

- The percentage of people employed by hi-tech companies in Tel Aviv is smaller than the percentage of companies located in the area (14% as opposed to 25%), which suggests that the local hi-tech companies are relatively small in size compared to other hi-tech companies in Israel.

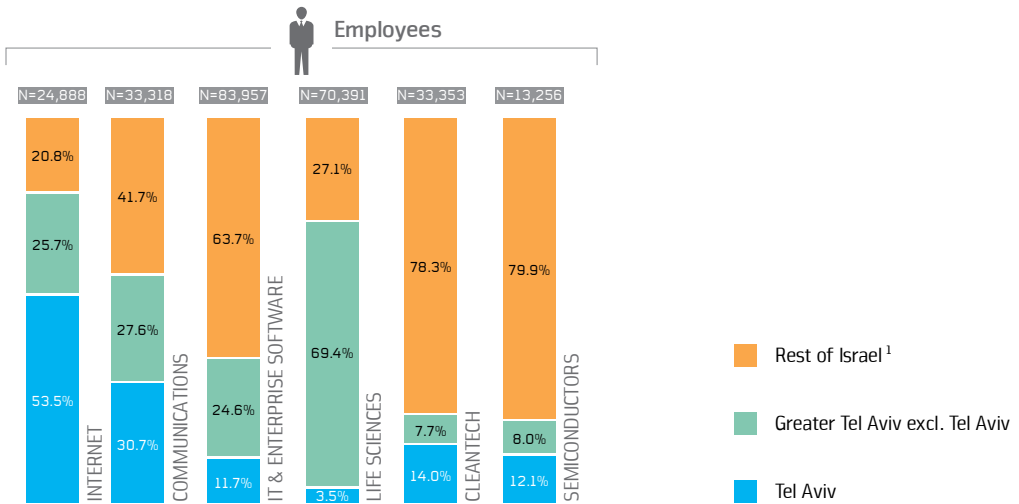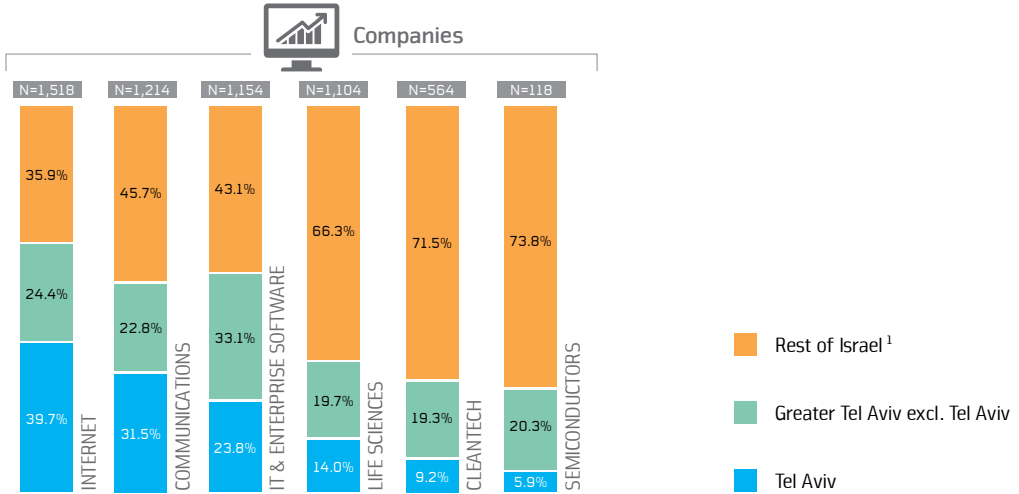[1] Israeli startup companies are a a sub-category of Israeli hi-tech companies.

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2. Breakdown of Israeli Hi–Tech Companies & Their Employees by Geographic Region & Technology Sector, November 2014

Companies

	TEL AVIV (N=1,515)	GREATER TEL AVIV (N=3,008)	ISREAL[1] (N=6,135)
Miscellaneous	2.7%	5.1%	7.5%
Semiconductors	0.5%	1.0%	1.9%
Cleantech	3.4%	5.4%	9.2%
Life Sciences	10.2%	12.4%	18.0%
IT & Enterprise Software	18.2%	21.8%	18.8%
Communications	25.2%	21.9%	19.8%
Internet	39.8%	32.4%	24.7%

Employees

	TEL AVIV (N=42,920)	GREATER TEL AVIV (N=137,801)	ISREAL[1] (N=298,023)
Miscellaneous	1.9%	5.1%	13.0%
Semiconductors	3.8%	1.9%	4.4%
Cleantech	10.9%	5.3%	11.2%
Life Sciences	5.7%	37.2%	23.6%
IT & Enterprise Software	22.9%	22.1%	28.2%
Communications	23.8%	14.1%	11.2%
Internet	31.0%	14.3%	8.4%

Legend:
- Miscellaneous
- Semiconductors
- Cleantech
- Life Sciences
- IT & Enterprise Software
- Communications
- Internet

- The most prevalent sector for Israeli hi–tech companies operating in Tel Aviv is the Internet, accounting for around 40% of the companies in the city and almost one-third of the people employed by them. Other key sectors include Communications and IT & Enterprise Software (constituting 25% and 18% of the companies in the city, respectively).

[1] The Israel data also includes 229 Israeli hi-tech companies and 1,877 employees whose location in Israel is unknown.
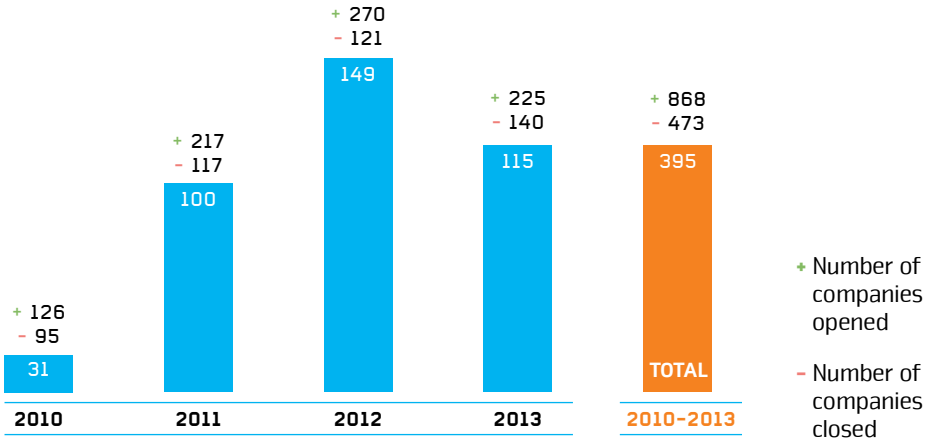
3. Breakdown of Israeli Hi–Tech Companies & Their Employees by Technology Sector & Geographic Region, November 2014

Companies

Sector	N	Rest of Israel [1]	Greater Tel Aviv excl. Tel Aviv	Tel Aviv
INTERNET	N=1,518	35.9%	24.4%	39.7%
COMMUNICATIONS	N=1,214	45.7%	22.8%	31.5%
IT & ENTERPRISE SOFTWARE	N=1,154	43.1%	33.1%	23.8%
LIFE SCIENCES	N=1,104	66.3%	19.7%	14.0%
CLEANTECH	N=564	71.5%	19.3%	9.2%
SEMICONDUCTORS	N=118	73.8%	20.3%	5.9%

- Rest of Israel [1]
- Greater Tel Aviv excl. Tel Aviv
- Tel Aviv

Employees

Sector	N	Rest of Israel [1]	Greater Tel Aviv excl. Tel Aviv	Tel Aviv
INTERNET	N=24,888	20.8%	25.7%	53.5%
COMMUNICATIONS	N=33,318	41.7%	27.6%	30.7%
IT & ENTERPRISE SOFTWARE	N=83,957	63.7%	24.6%	11.7%
LIFE SCIENCES	N=70,391	27.1%	69.4%	3.5%
CLEANTECH	N=33,353	78.3%	7.7%	14.0%
SEMICONDUCTORS	N=13,256	79.9%	8.0%	12.1%

- Rest of Israel [1]
- Greater Tel Aviv excl. Tel Aviv
- Tel Aviv

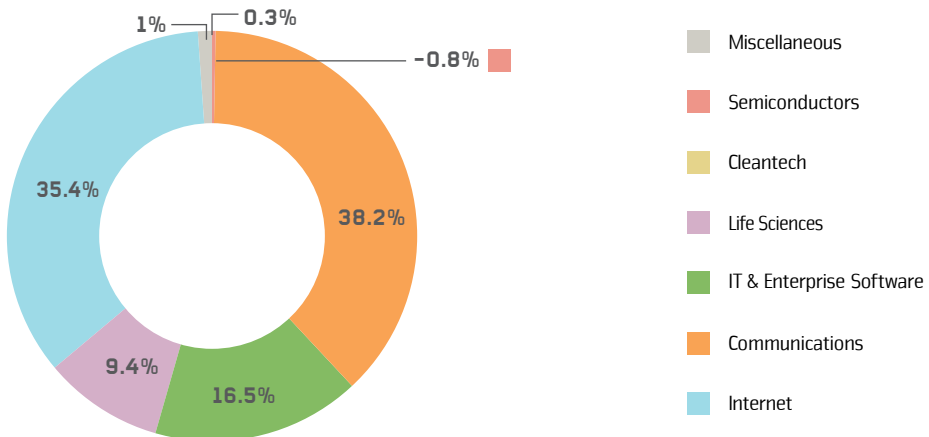[1] The Israel data also includes 463 Israeli hi–tech companies and 38,860 employees engaged in other sectors.

Hi-Tech Industry Developments 2010–2013

## 4. Net Increase in Number of Israeli Hi-Tech Companies in Tel-Aviv, 2010–2013

2010
+ 126
- 95
31

2011
+ 217
- 117
100

2012
+ 270
- 121
149

2013
+ 225
- 140
115

2010–2013 TOTAL
+ 868
- 473
395

+ Number of companies opened

− Number of companies closed

- Between 2010 and 2013, 868 new Israeli hi-tech copmanies opened in Tel Aviv and 473 closed, resulting in 395 net new Israeli hi-tech companies in Tel Aviv. An average of 100 new hi-tech companies were established each year, all of which continue to operate today.

5. Breakdown of Additional Hi-Tech Companies in Tel Aviv by Technology Sector, 2010–2013

1%
0.3%
−0.8%
35.4%
38.2%
9.4%
16.5%

- Miscellaneous
- Semiconductors
- Cleantech
- Life Sciences
- IT & Enterprise Software
- Communications
- Internet

- Of the approximately 400 hi-tech companies that were established in Tel Aviv between 2010 and 2013, about 38% work in the Communications sector and about 35% in the Internet sector – together comprising over 70% of the companies established during that period.

6. Developmet of Leading Technology Sectors in the Hi-Tech in Tel Aviv, 2010-2013[1]
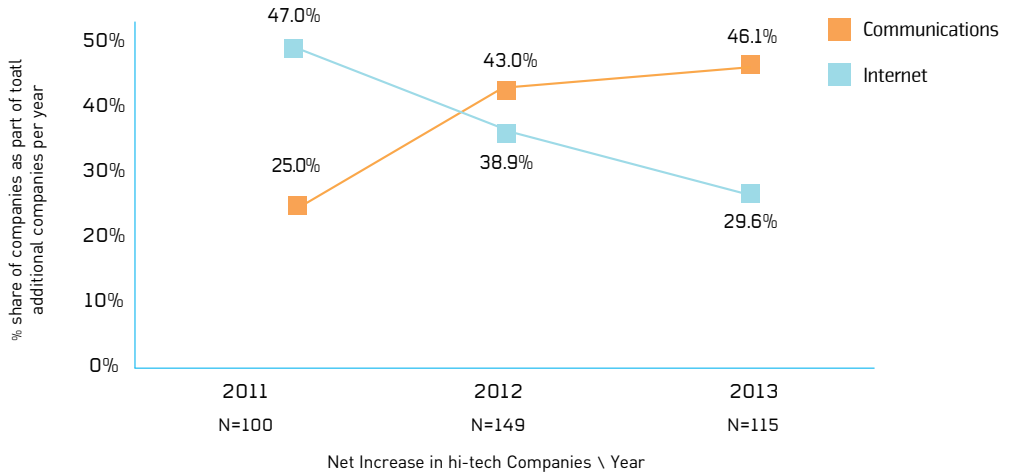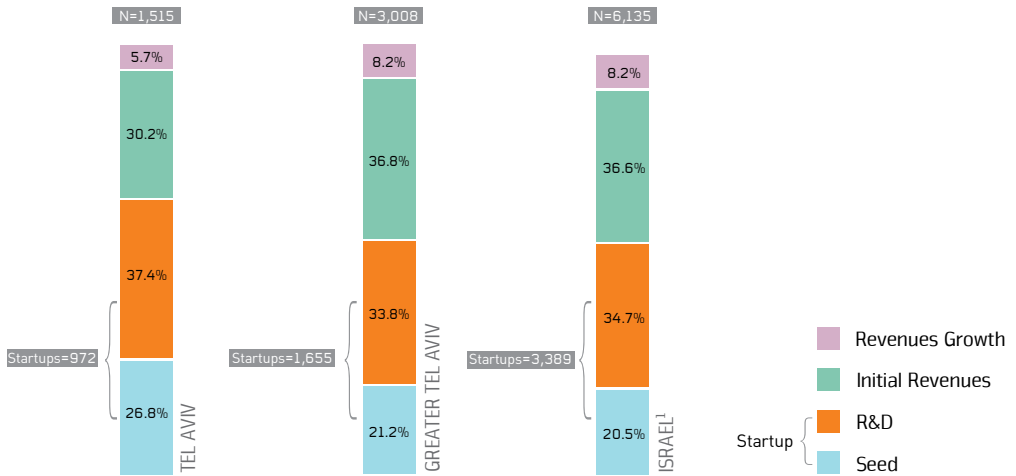

- The share of Israeli hi-tech companies that were established (net) in Tel Aviv and work in the Communications sector is on the rise, compared to the share of companies in the Internet sector, which is declining.

[1] Figures for 2010 are not displayed due to the small number of companies that were established that year, which does not enable a graphical breakdown of the data.

7. Breakdown of Israeli Hi–Tech Companies by Geographic Region & Stage of Development, November 2014

		TEL AVIV			GREATER TEL AVIV			ISInterval

N=1,515

5.7%

30.2%

37.4%

26.8%

Startups=972

N=3,008

8.2%

36.8%

33.8%

21.2%

Startups=1,655

TEL AVIV

GREATER TEL AVIV

N=6,135

8.2%

36.6%

34.7%

20.5%

Startups=3,389

ISRAEL[1]

Legend:
- Revenues Growth
- Initial Revenues
- R&D
- Seed

Startup

- The percentage of hi–tech companies in Tel Aviv that are in their initial stages of development is much higher than those at more 'advanced' stages.

[1] The Israel data also includes 229 (out of which 205 startup companies) Israeli hi–tech companies whose location in Israel is unknown.

8. Breakdown of Israeli Startup Companies by Geographic Region – Development over Time, 2012 vs. 2014
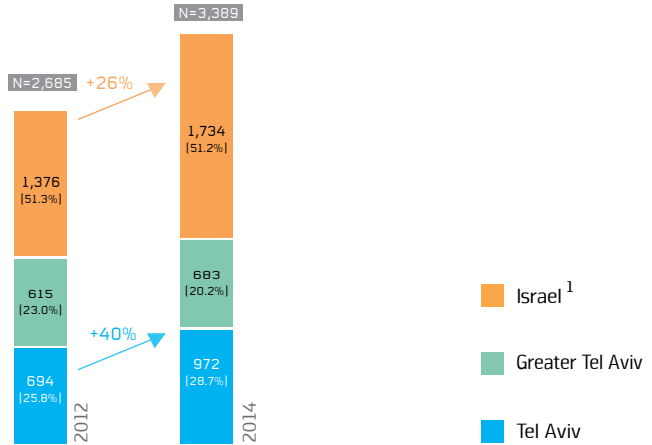
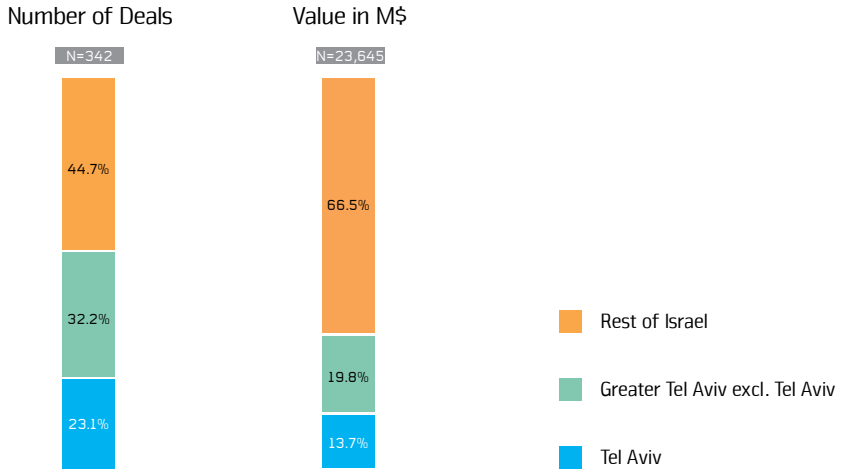## 9. Growth of Startup Companies by Geographic Region – Between 2012 and 2014
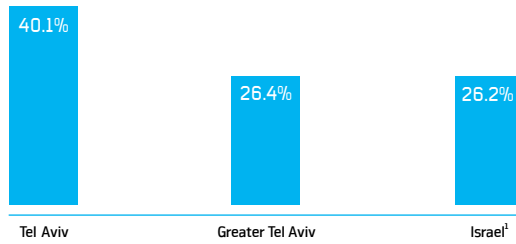
- Between 2012 and 2014, around 700 new startups were established in the Israeli hi-tech industry – a growth of 26%.

- The startup companies in Tel Aviv stand out not only because of their high share of the total market (roughly 30% of all startups in Israel), but also because of their growth rate – around 280 new startup companies were established in Tel Aviv between 2012 and 2014 – a growth of 40%.

[1] The Israel data also includes 38 Israeli startup companies (and their employees) whose location in
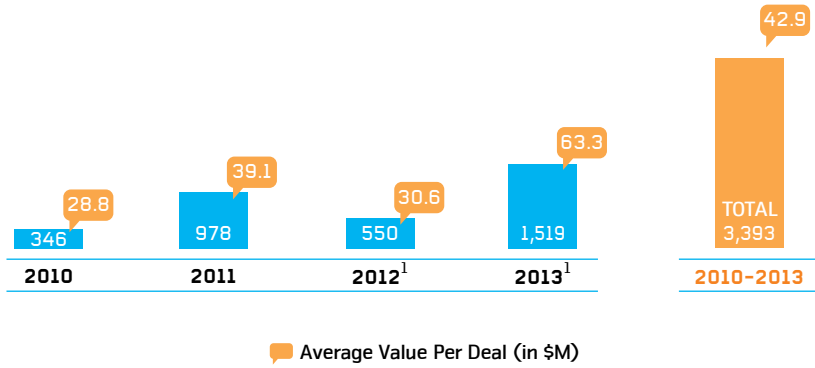
10. Exits by Israeli Hi–Tech Companies, 2010–2013 – Breakdown by Number & Value of Deals

Number of Deals

N=342

44.7%

32.2%

23.1%

Value in M$

N=23,645

66.5%

19.8%

13.7%

- ■ Rest of Israel
- ■ Greater Tel Aviv excl. Tel Aviv
- ■ Tel Aviv

■ Tel Aviv's share of the total dollar value of exit deals made nationwide is smaller than its share of total deals that were made in Israel (14% compared to 23%, respectively), which suggests that the deals were relatively small and reflect the ''exit culture'' that exists in the city.

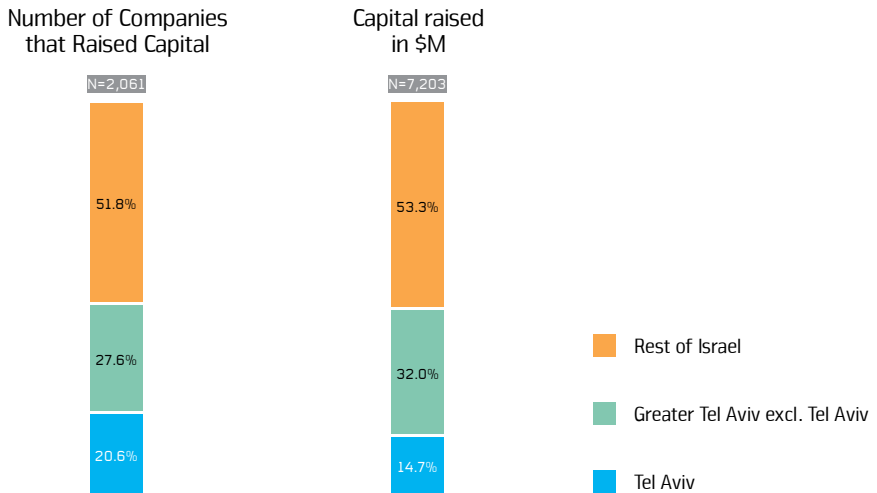**11. Total Value of Exits (in $M) Made by Israeli Hi-Tech Companies Located in Tel Aviv, 2010–2013**

	2010	2011	2012[1]	2013[1]	2010–2013
Average Value Per Deal (in $M)	28.8	39.1	30.6	63.3	42.9
Total Value	346	978	550	1,519	TOTAL 3,393

Average Value Per Deal (in $M)

- From 2010 to 2013, the dollar value of exit deals made by Israeli hi-tech companies totaled nearly $3.5 billion with an average amount per exit deal ($63 million). Approximately 45% of that amount came from deals made in 2013.

- The average exit deal made by Israeli hi-tech companies in Tel Aviv between 2010 and 2013 amounted to around $43 million.

- The average annual dollar value of exit deals made in Tel Aviv between 2010 and 2013 stood at $812 million.

[1] The data pertaining to 2012–2013 is provisional data.

12. Capital Raised by Israeli Hi–Tech Companies Located in Tel Aviv, 2010–2013 – Breakdown by Number & Value of Deals

Number of Companies that Raised Capital

N=2,061

51.8%	
27.6%	
20.6%	

Capital raised in $M

N=7,203

53.3%	
32.0%	
14.7%	

■ Rest of Israel

■ Greater Tel Aviv excl. Tel Aviv

■ Tel Aviv

- About 21% of the Israeli hi-tech companies that raised money in the period under review are located in Tel Aviv, and the money that was raised by them totaled about 15% of all the money raised by all Israeli hi-tech companies during that period. The likely explanation why Tel Aviv's share of the total money raised is smaller than its share of the total number of companies that raised money (15% compared to 21%, respectively) is that most (64%) of the hi-tech companies in Tel Aviv are startups in the early stages of their development, and for that reason they raise smaller amounts of money.

13. Breakdown of Capital Raised by Israeli Hi-Tech Companies by Geographic Region & Technology Sector, 2010–2013
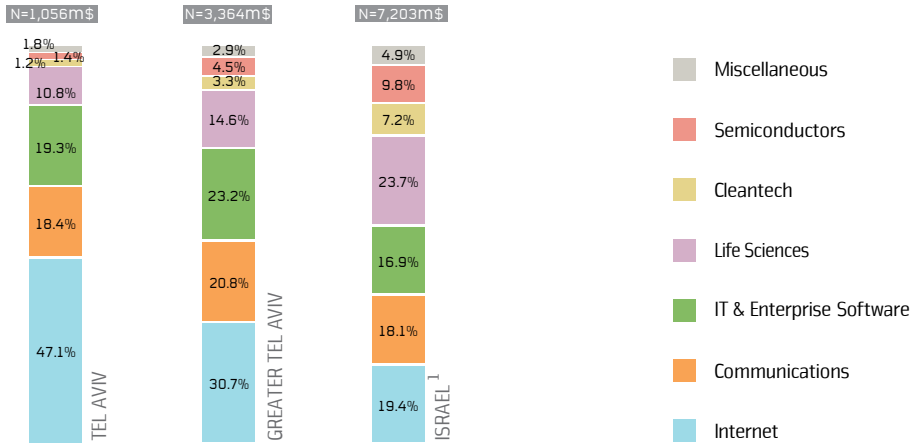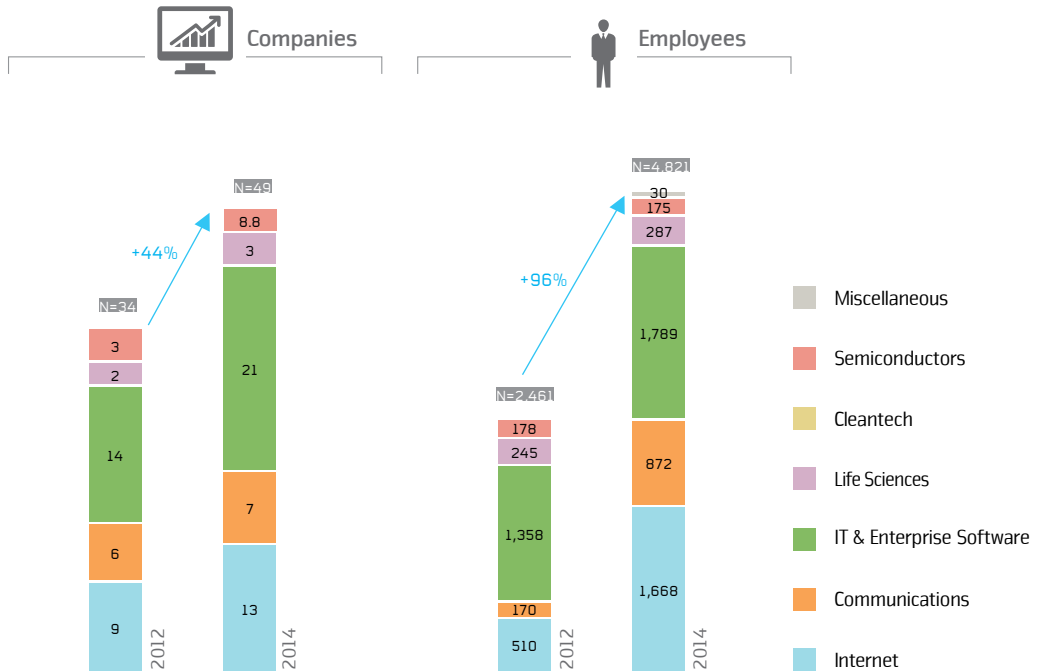

- From 2010 to 2013, approximately half of the money (47%) that was raised in Tel Aviv was raised by Israeli hi-tech companies that work in the Internet sector, about 20% by companies in the IT & Enterprise Software sector, and another 20% by companies in the Communications sector. Those three sectors are the key sectors of the Israeli hi-tech companies located in the city.

[1] The Israel data also includes $40 million that was raised by Israeli hi-tech companies whose location in Israel is unknown.

14. Foreign R&D Centers in Tel Aviv by Technology Sector – Development over Time, 2012 vs. 2014

Companies

Employees

Companies

N=49
- 8.8
- 3
- 21
- 7
- 13

+44%

N=34
- 3
- 2
- 14
- 6
- 9

2012 / 2014

Employees

N=4,821
- 30
- 175
- 287
- 1,789
- 872
- 1,668

+96%

N=2,461
- 178
- 245
- 1,358
- 170
- 510

2012 / 2014

Legend:
- Miscellaneous
- Semiconductors
- Cleantech
- Life Sciences
- IT & Enterprise Software
- Communications
- Internet

- 43% of the foreign R&D centers in Tel Aviv are in the IT & Enterprise Software sector. Other key sectors include Internet (27%) and Communications (14%).

- The number of foreign R&D centers in Tel Aviv grew by 44% between 2012 and 2014, and the number of employees increased by 96%.

Definitions

General

1. Hi-tech company – an Israeli technology-based company based on the Israel Hi-Tech and Venture Capital Database (IVC) definition. The intention is companies whose core business is technological development, and where both the product and the development are owned by the company. This definition <u>does not</u> include companies engaged in the sale of electronic equipment to the hi-tech industry. It should be noted that <u>this definition differs</u> from the one used by the CBS, whose hi-tech definition includes companies that operate in advanced technology industries and knowledge-intensive service industries, regardless of their core business (whether development or sales).

2. Israeli hi-tech company – a company is defined as being Israeli if the core of its business activities is located in Israel, and/or it has been legally incorporated in Israel, and/or was founded in Israel by local entrepreneurs.

3. Foreign R&D center – an R&D facility in Israel which is an extension of a global hi-tech corporation (thereby not meeting the definition of an Israeli hi-tech company as stipulated above).

4. Geographic distribution – the geographic location of a company in Israel is determined by the address of its head office/headquarters, based on the entity's belonging to one of the regions detailed in page 17.

5. Technology sector – one of the seven technology sectors that comprise the entire Israeli hi-tech industry according to the IVC's data. Each company has been matched one-to-one with a specific sector, detailed in page 18.

6. Company stage – the stage in the company's technological development based on IVC data. Each company is classified according to one of four development stages, as follows:

Initial idea stage	Seed	Early stage of product development and fundraising	Startup
Development stage (R&D)	R&D	Improvement of the product/process/service and their adaptation to market needs, achieved by applying the knowledge gained during the work process	
Yearly sales of $1–$9 million stage	Initial revenues	Yearly sales amount to $1–$9 million	
Yearly sales exceeding $10 million stage	Revenue growth	A transition to the cited yearly sales volume; the company has a double-digit annual growth rate	

7. Exit – the company is acquired by another company, merges with another company, or raises money on the stock market for the first time (IPO).

Geographic Region

Tel Aviv:
This category refers to the city of Tel Aviv-Yafo as defined according to its municipal borders.

Greater Tel Aviv:
This includes the cities of Azur, Bat-Yam, Beit Dagan, Bnei Brak, Ganei Yehuda, Ganey Tikva, Givat Hashlosha, Givat Savion, Givat Shmuel, Givatayim, Herzliya, Herzliya Pituach, Holon, Kfar Shmaryahu, Kibbutz Einat, Kibbutz Glil-Yam, Kiron, Kiryat Ono, Magshimim, Moshav Mazor, Or Yehuda, Petach Tikva, Ramat Efal, Ramat Gan, Ramat Hasharon, Rishon Le-Zion, Rishpon, Rosh Haayin, Savyon-Ganey Yehuda, Tel Aviv, Yehud

Greater Tel Aviv Excluding Tel Aviv:
All of the area in the Greater Tel Aviv definition, excluding the city of Tel Aviv itself, as defined by its municipal borders.

Rest of Israel:
The rest of Israel excluding both Tel Aviv and the Greater Tel Aviv area.

Technology Sector

Cleantech	General Description	Products, services or processes that improve and streamline the use of environmental resources, for the purpose of conservation and reducing the harmful effects to the environment
	Example	Companies engaged in desalination, renewable energy, green energy, energy-conserving technologies, pollution reduction, etc.
Communications	General Description	A wide variety of technologies designed to convey information
	Example	Companies engaged in communications infrastructure or specific communications-related applications
Internet	General Description	Computer networks, fiber optics, wireless technologies, and various web systems linked together through hyperlinks or URLs
	Example	Companies that develop software applications and Internet services and/or develop technologies for use by Internet service providers
IT & Enterprise Software	General Description	Use of computer hardware and software and computer communications for managing information. The latter includes: storage, processing, security and data transfer
	Example	Development of software products, with an emphasis on information systems for use by the organizational market or the household market, including software components for computers *** It should be noted that this sector does not encompass all the companies whose core business is software, since some of them are engaged in a niche/specific area. For that reason their relevance in another sector will be greater.
Life Sciences	General Description	Biological and medical technologies associated with the health industry
	Example	Companies that develop products for the health industry, companies engaged in biological and genetic research, and companies that develop technologies, tools and materials used in these research studies
Semiconductors	General Description	Components that provide memory and intelligence functions found in electronic systems
	Example	Companies that develop electronic components for different industries (fabless companies), companies that develop the equipment for manufacturing electronic chips as well as software for chip developers
Miscellaneous Technologies	General Description	Military and robotics applications, hardware, industrial technologies, nanotechnology, and other niche technologies
	Example	Companies engaged in the various sub-sectors cited above

The Source of Data

The information relies on the IVC database, which is a company that gathers data about the hi-tech industry in Israel. The information has been divided into defined technology sectors in order to provide an up-to-date picture of their respective business. Among other things, it can also serve as a decision-making tool for investors who are exploring investment opportunities in specific technology sectors.

The Central Bureau of Statistics (CBS) also gathers information about the hi-tech industry in Israel. Unlike IVC, under its definitions the CBS includes companies that operate in different industrial sectors. When aggregated, they are defined as ''hi-tech'' (companies operating in advanced technology industries as well as companies operating in knowledge-intensive service industries). The CBS definition does not make a distinction between companies that develop technological products and companies that provide support services (development as opposed to sales). For that reason we chose to make use of IVC's data, which refer solely to companies with an added value in terms of technological development.

It should be noted that the IVC division into different technology sectors was intended, first and foremost, to reflect hi-tech activity in Israel. Consequently, its definitions do not always correspond with the definitions used by other international bodies and/or the OECD.

The database we utilized (IVC-Online) contains up-to-date and nonconfidential information, which relies on information sources available to the public at large. The information in this document was processed and organized by the Center for Economic and Social Research at the Tel Aviv-Yafo Municipality.

The data in the document are aggregative and do not relate to specific companies. The presentation of the information also reflects a division between Israeli hi-tech companies and foreign hi-tech companies (foreign R&D centers).

Comments

- The number of people employed by Israeli hi-tech companies includes all the people who work for the companies both in Israel and/or abroad (the latter refers to companies that operate in Israel and also have offices overseas).

- With regard to those Israeli hi-tech companies that have more than one office in Israel, the breakdown by geographic region was made according to the location of the company's headquarters/head office in Israel. Consequently, the data pertaining to the number of employees in each region may include employees who actually work in a branch or in other branches of the company (which are not the headquarters/head office) and whose location in Israel is different than the location of the headquarters/head office. Nonetheless, the factor determining the geographic affiliation of the employees is the geographic location in Israel of the company's headquarters/head office, regardless of the location of the other branches in Israel.

- Therefore, when analyzing trends over time, the changes in the number of employees by geographic region in Israel should be treated with caution.

- Most of the data presented in this booklet is up-to-date as of November 2014, apart from the data pertaining to the openings and closings of hi-tech companies, the data pertaining to the money raised, and the data pertaining to exit deals, which are presented for each of the years between 2010 and 2013. Additionally, November 2014 data are compared to October 2012 data, which is the previous date when data dealing with hi-tech companies in Israel was processed and analyzed.

Starting Up in Tel Aviv Has Never Been so Easy

International entrepreneurs are invited to take part in our **Innovation Residency Program** and spend up to 3 months living and breathing Tel Aviv's startup ecosystem.

We offer:

- Visa support & practical information
- Tailored advice & mentorship
- Networking with investors, VCs, industry experts, accelerators, etc.
- Round-the-clock access to one of Tel Aviv's hottest co-working spaces
- Access to Tel Aviv's 24/7 startup scene (meetups, workshops & hackathons)
- Accommodation in furnished apartments in the best parts of Tel Aviv

Tel Aviv Global is currently working with dozens of cities to offer international entrepreneurs access to Tel Aviv's startup ecosystem, and vice versa. If you are a city partner interested in collaborating or to find out if you are eligible for city sponsorship, please contact Inbal Naveh Safir (see contact details below).

MEET OUR ECONOMIC DEVELOPMENT TEAM

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