

# 10-year vision for universities in Israel

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EURAXIND Employer Workshop  
Madrid, 17 October 2017



## Facts and figures- Israel vs. EU



	Israel	EU
Population	8,743,000 (May 2017)	511,805,088 (July 2017)
Total Area	20,770 sq km	4,324,782 sq km
GDP	\$315.582 billion (10/2017 est.)	\$20.745 trillion (12/2016 est.)
GDP - per capita (PPP):	\$36,250 (10/2017 est.)	\$40,610 (12/2016 est.)
% R&D of GDP	4.23%	3%

Source: Eurostat, OECD Science, Technology and R&D Statistics and Central Bureau of Statistics

## High education in Israel- current situation

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**In total, Israel has 63 higher education institutions:**



9

universities



33

colleges



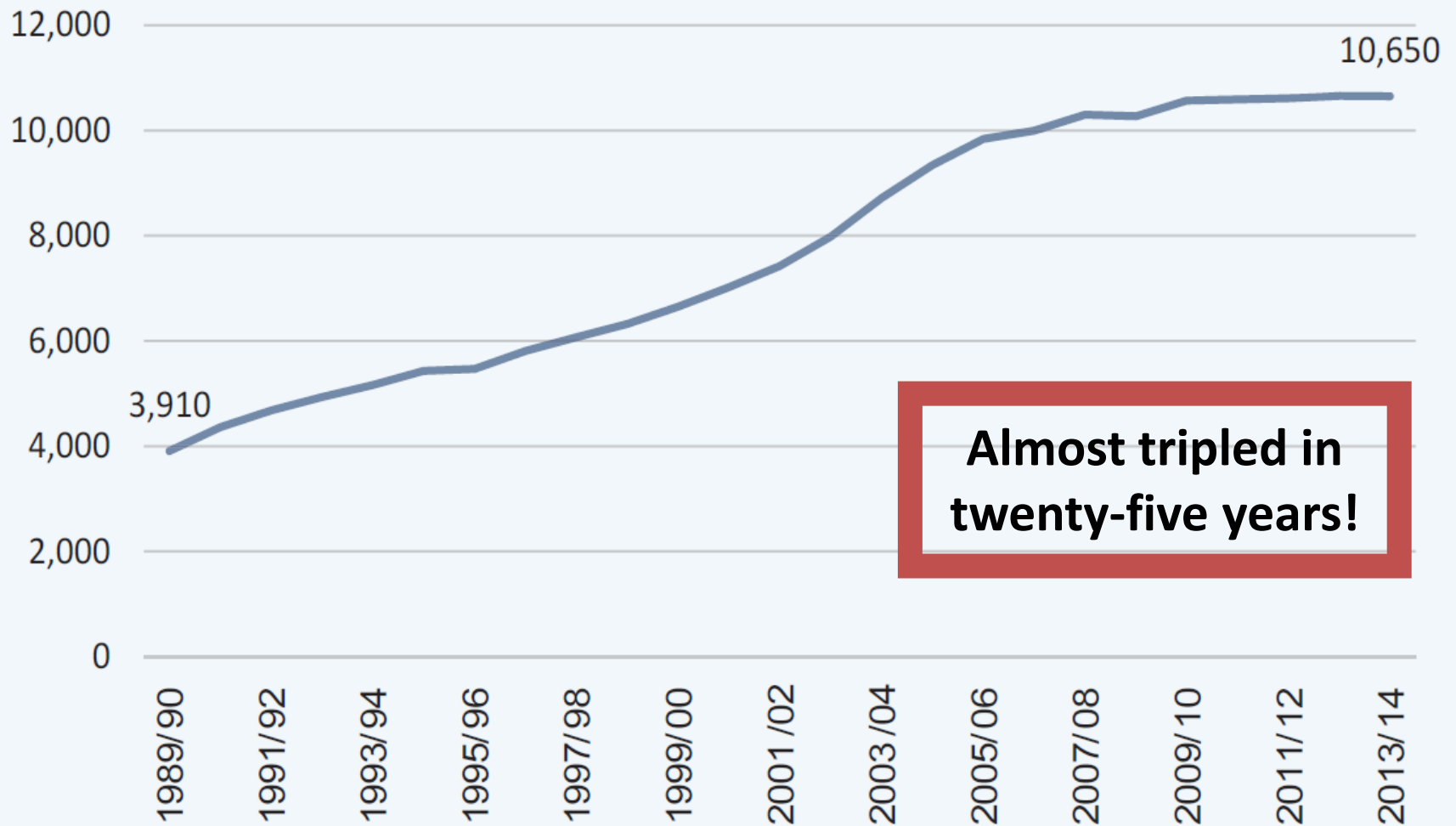
21

teacher training  
colleges

All of these are supervised by the Council for Higher Education, the state body responsible for Israel's higher education system. All Israeli universities and 41 of the colleges are publically funded, while 13 colleges are privately funded.

# Doctoral Students

1989/90-2013/14



## Selected subjective and objective measurements for Israel

Subjective index: World Economic Forum Executive Opinion Survey 2014 (Max. value = 7)			Objective Measurements		
Indicator	Value 1–7	Rank out of 144	Indicator	Value	Rank out of 144
Quality of the education system	3.7	69	Secondary enrolment gross percentage (2014)	101.7	26
Quality of Math and Science Education	4.0	79	Tertiary education enrolment gross percentage (2014)	65.8	30
Quality of management schools	4.9	32	School life expectancy in years (2012)	15.7	28
Internet access in schools	5.5	32	Individuals using internet percent (2014)	70.8	37
Availability of research and training services	4.6	38	Broadband internet subscriptions/100 inhabitants (2013)	25.7	24
Extent of staff training	4.0	76	Int'l internet bandwidth kb/s per user (2013)	100.5	29
Availability of latest technology	6.3	10	Mobile broadband subscriptions/100 inhabitants (2014)	53	37
Firm level technology absorption	6.0	5	Mobile telephone subscriptions/100 inhabitants (2013)	122.8	53
FDI and technology transfer	5.4	11	Fixed telephone lines/100 pop (2012)	44.8	15
Capacity for innovation	5.8	3	Patent families filed in 3+ offices/bn PPP\$ GDP (2013)	2.9	6
Quality of scientific research institutions	6.3	3	Scientific articles/bn PPP\$ GDP (2014)*	46.4	11
Company spending on R&D	5.3	7	Citable scientific articles-H index (2014)	496	15
University-industry collaboration in R&D	5.5	7	Life expectancy at birth in years (2014)	81.7	10
Government procurement of advanced tech products	4.3	9	Women in labour force ratio to men (2013)	0.88	36
Availability of scientists and engineers	5.2	10	Imports as a percentage of GDP (2014)	32.5	108

Note: The subjective indicators (from a low of 1 to a high of 7) are based on a series of executive opinion surveys prepared by the World Economic Forum whereas the objective indicators (related to research and innovation) were originally produced by other agencies and have been compiled by the World Economic Forum. Both columns show Israel's ranking out of 148 nations for each individual indicator. INSEAD et al. (2015) have also produced similar surveys and data. \*Taken from INSEAD et al (2015)

Source: World Economic Forum (2014) *Global Competitiveness Report 2014–2015*

**Source:** UNESCO (2016).  
Mapping Research and  
Innovation in the State of Israel.



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GLOBAL

## How do you prepare students for an unknowable future?

**Vojana Sharma** 14 October 2017 Issue No:478

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The worldwide debate about the impact of disruptive technologies on jobs and the need to prepare future-ready graduates for a future that is not even clear, was a major topic for university leaders from Europe and Asia meeting in Singapore last week.

"So much talk about the impact of artificial intelligence, quantum computing and the internet of everything is turning education upside down," said Jørgen Ørstrom Møller, adjunct professor at Singapore Management University and Copenhagen Business



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RESEARCHERS IN MOTION

# How do you prepare students for an unknowable future?

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**“85 million middle- to high-skilled jobs required by 2020 may not be filled** according to a calculation by management consultants McKinsey. Amazon’s Quah\* noted **a huge rise in demand for experts that cannot be filled.**

Microsoft’s Carlson\* underlined that today **50% of jobs require some kind of technological expertise**; “in the future this is estimated to go up to 77%”, he said. This has led to a focus on STEM – science, technology, engineering and mathematics – subjects by policy-makers”.

\* Vincent Quah- head of business development with education institutions and research organisations for Amazon Web Services

\* Don Carlson- Microsoft’s Asia Pacific education lead

# The New Campus Movement

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- **The new campus movement** within the higher education system, designed to ensure that the **higher education will be able to confront the radically different world** which it is destined to encounter in as little as a decade.
- The movement will entail **redefining the structural aspects of the higher education system by breaking boundaries and developing new ways of thinking** about the essence of academic research and thinking.

# The New Campus Movement

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## Why?

- The **massive amount of easily accessible information** has given to higher education systems **no choice but to adapt themselves** to the new global reality.
- In our new world where **knowledge creation and its transference is available to all**, will render higher educations obsolete. The New Campus Movement seeks **to ensure higher education's position at the forefront of knowledge creation.**

# The New Campus Movement

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## How?

- Developing campus projects which will allow students to initiate ideas in the commercial, public, and other fields by taking advantage of campuses in order to **mingle 'brains' with students and professors.**
- **Involving economic development companies and venture capital funds** in order to establish connections and create joint work programs for students after graduation.
- The new campus will embrace **online learning courses** which are designed to allow students to acquire knowledge at any time unrelated to where the student lives or studies.

# Training for high-tech professions

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## Recent policy of the higher education management in Israel:

- **Expansion of the number of degrees given in STEM** fields and everything related and lowering some of the focus usually reserved for Law and Business Management.
- Incorporating the understanding that **every student must have some sort of training in computers**, in understanding data, and a basic understanding of what the modern world demands of its workforce. On the other hand, requiring **every student to learn general branches of studies**, within and alongside his or her studies, regardless of whether they are learning engineering, law, or economics.

# The HE five-year plan- 2017-2022 Top goals

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## 1. Encouraging scientific-research excellence

- Mainly by **increasing resources**: Investment in local and international research funds, allocation of significant resources to scientific equipment and research infrastructure

## 2. Encouraging innovation in teaching

- Developing a significant number of **digital courses**
- Promotion and **improvement of the quality of teaching**
- Developing components in innovative curricula designed to **develop individual skills required in the employment market** after graduation

# The HE multi-year plan- 2017-2022 Top goals

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## 3. Training human capital to the employment market needs

- **A Steering Committee** to Examine how to increase the number of Students in essential professions Increasing the number of STEM students by 40%
- examine components for **reducing dropouts**,
- **encouraging the integration** of dual-disciplinary studies with required expertise in the employment market.
- encouraging the absorption of **special populations**

# The New Campus Movement

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We as an academic system **cannot afford to produce people ignorant of reality.** As a country and a society that sees academia as the foremost catalyst for the creation of world-changing knowledge and inventions we believe that those who learn engineering and computer science are required to learn humanities as part of their curriculum in order **to create better and more well-rounded students for the betterment of society and their roles in the workforce.**

**We want to produce a person that not only has knowledge in the world of computer science but one who understands philosophy, can read poetry, and can produce an academic text.**



***Prof. Yaffa Zilbershats  
Head of the Council's Planning and Budgeting  
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Education***

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# THANK YOU!!

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