

Israel's Innovation Secret • OneRagtime

Whether you're familiar with Israel or not, if tech is of any interest to you must have heard it at least a couple of times: **Israel is the Start-up Nation**. I spent a couple of months in Tel Aviv trying to get a sense of the meaning of this sentence. Israelis are throwing it all over the place to market their country but it's more than just a tagline. It's a reality. Israel is not only a start-up nation but a nation of start-ups.

Here are some amazing facts about Israel's Ecosystem:

- #1 country with Nasdaq-listed companies except the U.S. and China
- #1 country in terms of VC Investment per Capita and as a % of GDP
- #1 country in terms of start-ups concentration: there's 1 start-up for every 400 people and 1 start-up each 19km²
- #1 start-up ecosystem after the US according to the 2015 Compass Global Start-up Ecosystem Ranking
- #1 country in terms of R&D employees concentration: 140 per 10,000 (the U.S. comes in second with 85 per 10,000)
- #1 country in terms of high tech employee concentration: 250 000 high tech employees (around 1 per 10 working people)
- #1 in the production of scientific papers
- #1 out of 148 economies in innovation abilities, #2 in entrepreneurship and #3 in global innovation according to the 2016 IMD Competitiveness Yearbook
- #1 out of 60 leading economies around the world for technological and scientific abilities according to the annual Global Dynamism Index (GDI)
- #2 on the World Economic Forum
- #2 most highly educated country in the world according to WSJ
- #4 in its ability to attract foreign investors according to Deloitte
- #5 in the number of patents per capita
- #10 on the Bloomberg Index

So the question remains: HOW IS IT POSSIBLE? WHAT MAKES ISRAEL A LEADING INNOVATION VOLCANO?

The entirety of Saul Singer's Startup Nation book is dedicated to this question but who's got time for books nowadays? I've thought that doing it the Israeli way was far more valuable. **So, here's a pragmatic one pager infographic picture we came up with at OneRagtime:**



The pillar of innovations

1) Military

In Israel, military service is mandatory from 18 to 21 years old. There are multiple intelligence units that create tech experts, cyber experts and hackers like nowhere else. For instance, 8200 is the supreme IDF intelligence information unit and 81 focuses on supplying the newest technology to Israeli combat soldiers. The culture and educational methodology there is exceptional:

“There’s nobody around to tell you how to do it. The culture inside—and it’s by design—is that your superiors just tell you to go figure it out. That gives you the huge freedom to think differently. It’s you or nobody else. And when you’re an entrepreneur, that’s the most important skill. When you do 5 or 10 or 20 of those projects, you’ve just built 3 things that could be a start-up.” Avishai Abrahami, Founder of Wix.

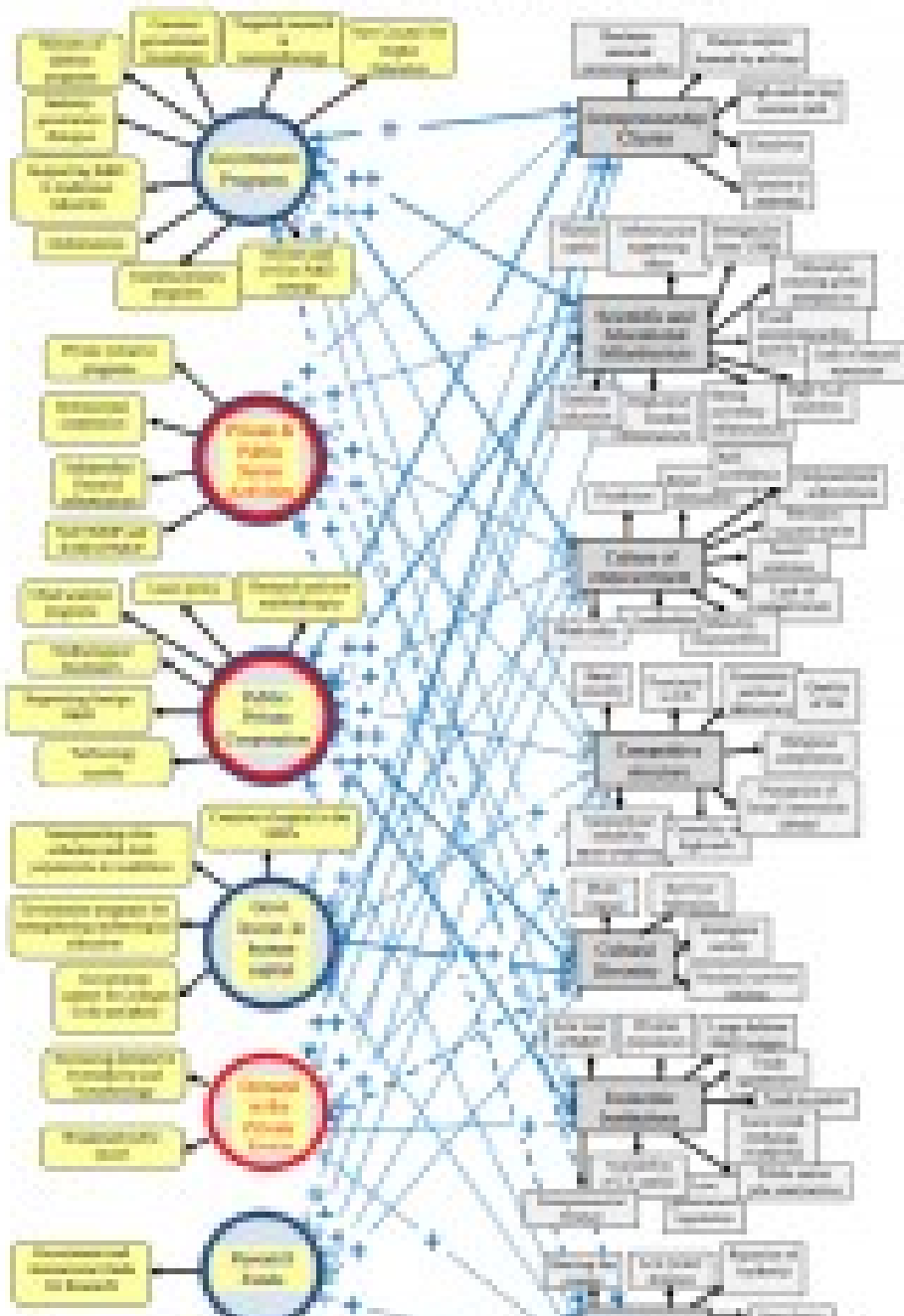
When we assume that most of the technological innovation that we know today such as GPS or the internet are coming out of the US army, we can imagine how Israel’s military contributes to the Innovation Secret. More than 1,000 companies have been founded by 8200 alumni, from Waze to Check Point to Mirabilis, the parent company of ICQ.. and 90% of the intelligence material in Israel

comes from 8200 according to Forbes.

2) Government Support

In Israel, **the Government dedicates a huge part of its budget to the military and to R&D in technology (20% and 4% respectively of GDP)**. The map below produced by The Samuel Neaman Institute clearly shows how the government and public corporations contribute to the emergence of all types of innovation clusters.

Figure 6. Detailed Innovation Map for the Israeli Ecosystem



Credit: Samuel Neaman Institute – Israel's Innovation Ecosystem

3) Innovation centres & Multinationals R&Ds

Multinational R&D & Innovation Centers in Israel

Industry/ Sector	IT, Hardware, Software & Services	Consumer & Retail	Manufacturing	Pharma, Biotech & Medical	Automotive	Aviation, Energy, Aeronautics	Transportation	Other industries	Services
High Tech	IBM, Intel, Microsoft, Oracle, SAP, Cisco, HP, Dell, EMC, VMware, Citrix, Juniper, Palo Alto, Fortinet, Arista, HPE, NetScout, Aruba, Cisco, Juniper, Palo Alto, Fortinet, Arista, HPE, NetScout, Aruba	Google, Amazon, Facebook, Microsoft, Apple, Nike, Adidas, L'Oréal, Nestlé, Unilever, Procter & Gamble, Johnson & Johnson, Bayer, Novartis, AstraZeneca, Merck, Pfizer, Sanofi, AbbVie, Amgen, Genentech, Regeneron, Vertex, Biogen, Novartis, AstraZeneca, Merck, Pfizer, Sanofi, AbbVie, Amgen, Genentech, Regeneron, Vertex, Biogen	Intel, AMD, NVIDIA, Qualcomm, ARM, TI, Analog Devices, ON Semiconductor, Micron, SK Hynix, Samsung, Toshiba, Hitachi, Seagate, Western Digital, Intel, AMD, NVIDIA, Qualcomm, ARM, TI, Analog Devices, ON Semiconductor, Micron, SK Hynix, Samsung, Toshiba, Hitachi, Seagate, Western Digital	Novartis, AstraZeneca, Merck, Pfizer, Sanofi, AbbVie, Amgen, Genentech, Regeneron, Vertex, Biogen, Novartis, AstraZeneca, Merck, Pfizer, Sanofi, AbbVie, Amgen, Genentech, Regeneron, Vertex, Biogen	Volvo, Mercedes-Benz, Renault, Nissan, Honda, Toyota, Ford, GM, Volkswagen, Stellantis, PSA, FCA, Renault, Nissan, Honda, Toyota, Ford, GM, Volkswagen, Stellantis, PSA, FCA	Boeing, Airbus, Embraer, Bombardier, Lockheed Martin, Northrop Grumman, Raytheon, Boeing, Airbus, Embraer, Bombardier, Lockheed Martin, Northrop Grumman, Raytheon	Shell, BP, ExxonMobil, Chevron, ConocoPhillips, Total, Enbridge, Kinder Morgan, TransCanada, Enbridge, Kinder Morgan, TransCanada	Microsoft, Amazon, Facebook, Google, Apple, IBM, Oracle, SAP, Cisco, HP, Dell, EMC, VMware, Citrix, Juniper, Palo Alto, Fortinet, Arista, HPE, NetScout, Aruba, Cisco, Juniper, Palo Alto, Fortinet, Arista, HPE, NetScout, Aruba	Google, Microsoft, Amazon, Facebook, Apple, IBM, Oracle, SAP, Cisco, HP, Dell, EMC, VMware, Citrix, Juniper, Palo Alto, Fortinet, Arista, HPE, NetScout, Aruba, Cisco, Juniper, Palo Alto, Fortinet, Arista, HPE, NetScout, Aruba
Energy	Shell, BP, ExxonMobil, Chevron, ConocoPhillips, Total, Enbridge, Kinder Morgan, TransCanada, Enbridge, Kinder Morgan, TransCanada	Novartis, AstraZeneca, Merck, Pfizer, Sanofi, AbbVie, Amgen, Genentech, Regeneron, Vertex, Biogen, Novartis, AstraZeneca, Merck, Pfizer, Sanofi, AbbVie, Amgen, Genentech, Regeneron, Vertex, Biogen	Volvo, Mercedes-Benz, Renault, Nissan, Honda, Toyota, Ford, GM, Volkswagen, Stellantis, PSA, FCA, Renault, Nissan, Honda, Toyota, Ford, GM, Volkswagen, Stellantis, PSA, FCA	Boeing, Airbus, Embraer, Bombardier, Lockheed Martin, Northrop Grumman, Raytheon, Boeing, Airbus, Embraer, Bombardier, Lockheed Martin, Northrop Grumman, Raytheon	Shell, BP, ExxonMobil, Chevron, ConocoPhillips, Total, Enbridge, Kinder Morgan, TransCanada, Enbridge, Kinder Morgan, TransCanada	Boeing, Airbus, Embraer, Bombardier, Lockheed Martin, Northrop Grumman, Raytheon, Boeing, Airbus, Embraer, Bombardier, Lockheed Martin, Northrop Grumman, Raytheon	Shell, BP, ExxonMobil, Chevron, ConocoPhillips, Total, Enbridge, Kinder Morgan, TransCanada, Enbridge, Kinder Morgan, TransCanada	Microsoft, Amazon, Facebook, Google, Apple, IBM, Oracle, SAP, Cisco, HP, Dell, EMC, VMware, Citrix, Juniper, Palo Alto, Fortinet, Arista, HPE, NetScout, Aruba, Cisco, Juniper, Palo Alto, Fortinet, Arista, HPE, NetScout, Aruba	Google, Microsoft, Amazon, Facebook, Apple, IBM, Oracle, SAP, Cisco, HP, Dell, EMC, VMware, Citrix, Juniper, Palo Alto, Fortinet, Arista, HPE, NetScout, Aruba, Cisco, Juniper, Palo Alto, Fortinet, Arista, HPE, NetScout, Aruba
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Credit: Lior Weizman – Deloitte

Israel

“There are roughly 350 multinational R&D centres in Israel, many of which were established following the acquisition of Israeli hi-tech companies. The R&D centres constitute an important part of the Israeli innovation ecosystem and create significant technological value – they represent about 50% of investments in R&D. In addition, these R&D centres positively affect the economy from the perspective of salaries and productivity. Furthermore, alumni of the R&D centres often move among different players in the hi-tech industry over the course of their careers, thus distributing the technological and managerial skills they have acquired, a phenomenon known professionally as “spillover” according to 2017 Israel Innovation Authority Report.

4) A strong VC ecosystem

There are roughly 150 active VCs in Israel. Some of them are known for their sector expertise like cybersecurity, lifesciences or manufacturing... others for their huge track record (Magma, Pitango, Gemini, Canaan, JVP..). Either way, the funding ecosystem is

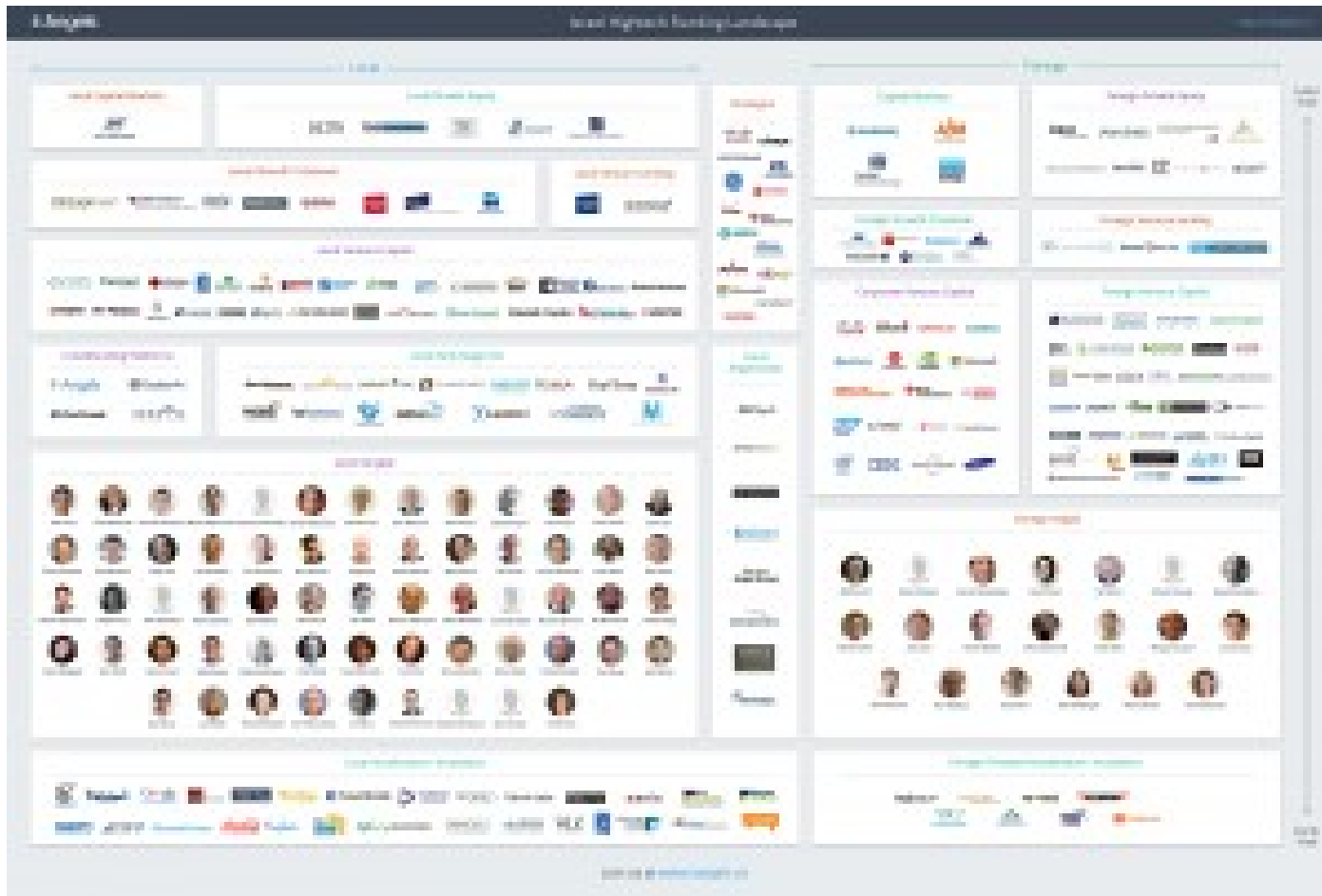
impressive and there's no need to explain how it contributes to the ecosystem, the data speaks for itself:

In 2017, Israeli high-tech companies raised \$5.24 billion in 620 deals

In 2017, Israeli start-ups exited \$23 billion in 112 deals, including 92 M&A deals, 13 IPOs, and 7 buyouts with 18 exits over \$100 million

Here's a nice summary of the Israeli funding landscape info with all the actors. Although, it is missing Oneragtime...





Credit: I angels

5) Competitive structure

Israel has 8.5 million people, of which around 480,000 live in Tel Aviv. When you consider only half of those people to be consumers, and fewer still to have access to free capital, one thing is clear: you can't count on launching your product or service locally with any real measure of success. **It means that thinking big, thinking global, is the only choice. Having no market is better than having a small one. To survive, you'll have to go big.** That's it.

Having said that, Israel has incredible metrics relative to its structure. For instance, Israel doubled its population in 30 years (from 4.1 million to 8.2 million), increased its GDP by 400%, foreign currency reserves by 3%, while at the same time reducing government debt by 76%. Security expenditure as a percentage of product also fell by 75%, government deficit by 82%, the tax burden by 30%,

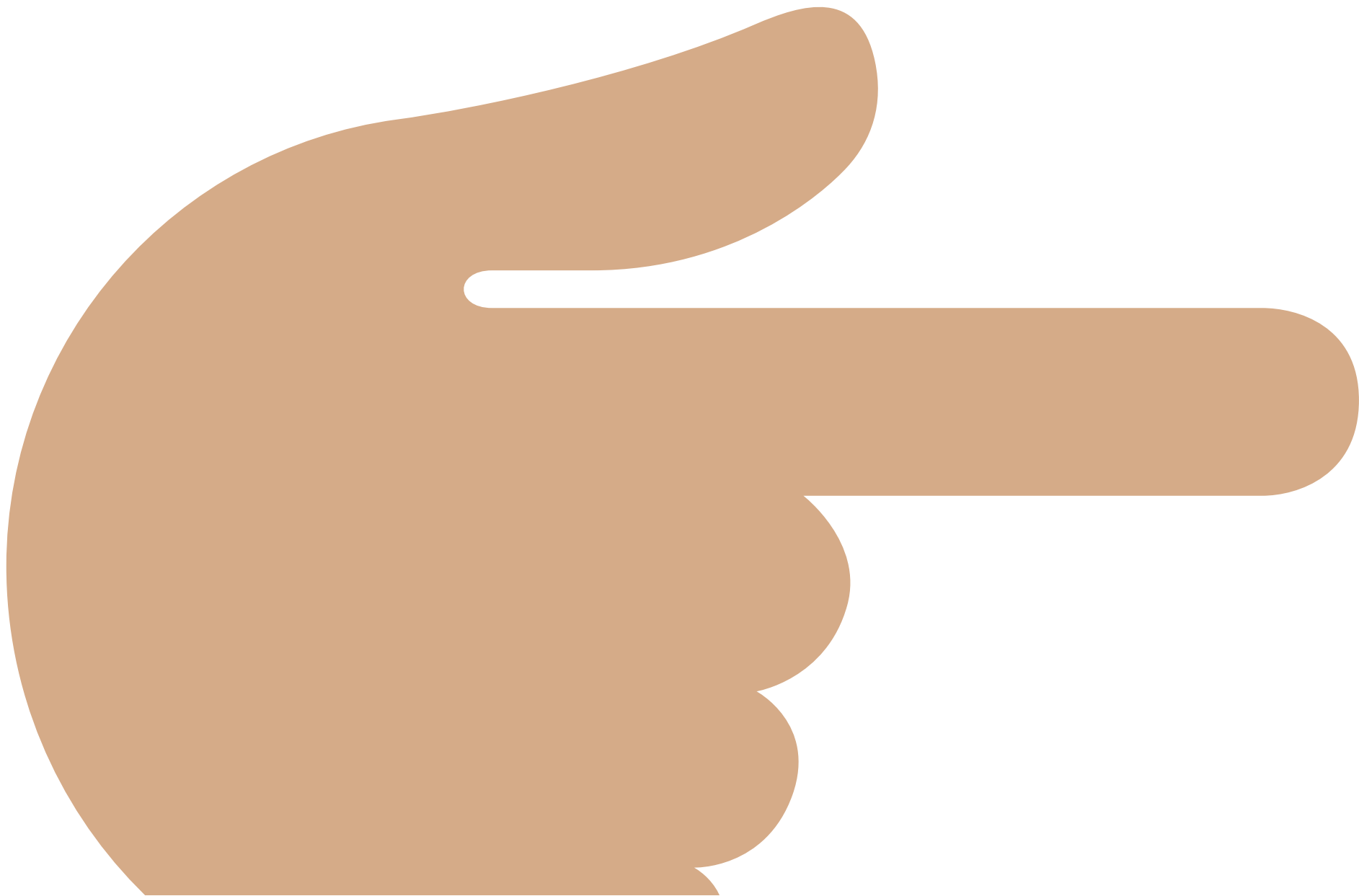
and American aid (as a percentage of product) by 90%. The jump in Israeli Gross National Product since the beginning of the century has been nothing less than astounding—from 500 billion shekels to more than one trillion. Israel owes this impressive growth at least in part to the achievements of the technology industry which saw a long line of successful exits and invited a stream of foreign investments according to the Israel National Technological Innovation Report of 2016 by Luzzatto Group.

6) Culture of empowerment

For this part I'll let you read this great article by Startup Nation Central about why israeli entrepreneurs feel so empowered and are so unique.

Hint: Diversity & Houtzpa..

[Link](#)



<https://www.startupnationcentral.org/israeli-entrepreneurs-uniquely-distinctive/>

7) The synergies

Israel has great components to be a world class leader in innovation. But what makes it even better is the fact that all of those components are connected to one another. That's why $1+1=3$.

- **A strong cultural framework** influenced both by the army and the competitive structure that has a huge impact on the mindset of Israeli people.
- **An efficient transfer of both expertise & technology** involving the army, the educational structure, the incubators, the government and the multinationals that share and pull resources together to offer the population what's been made in fields and labs.
- **Easy access to funds** from the government and VCs alongside strong hubs allowing corporates to acquire start-ups and build R&D centres. This strongly contributes to the virtuous cycle of Israel's innovation process.

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