



OCS-Office of the
Chief Scientist

MINISTRY OF INDUSTRY, TRADE & LABOR



State of Israel

The OCS and its Particular Role Shaping the Innovation EcoSystem in Israel

The Mission: Innovation Friendly Country –
How Can Japan & Israel Cooperate?

Japan-Israel Joint Forum

Tokyo, 09 October 2013

R&D



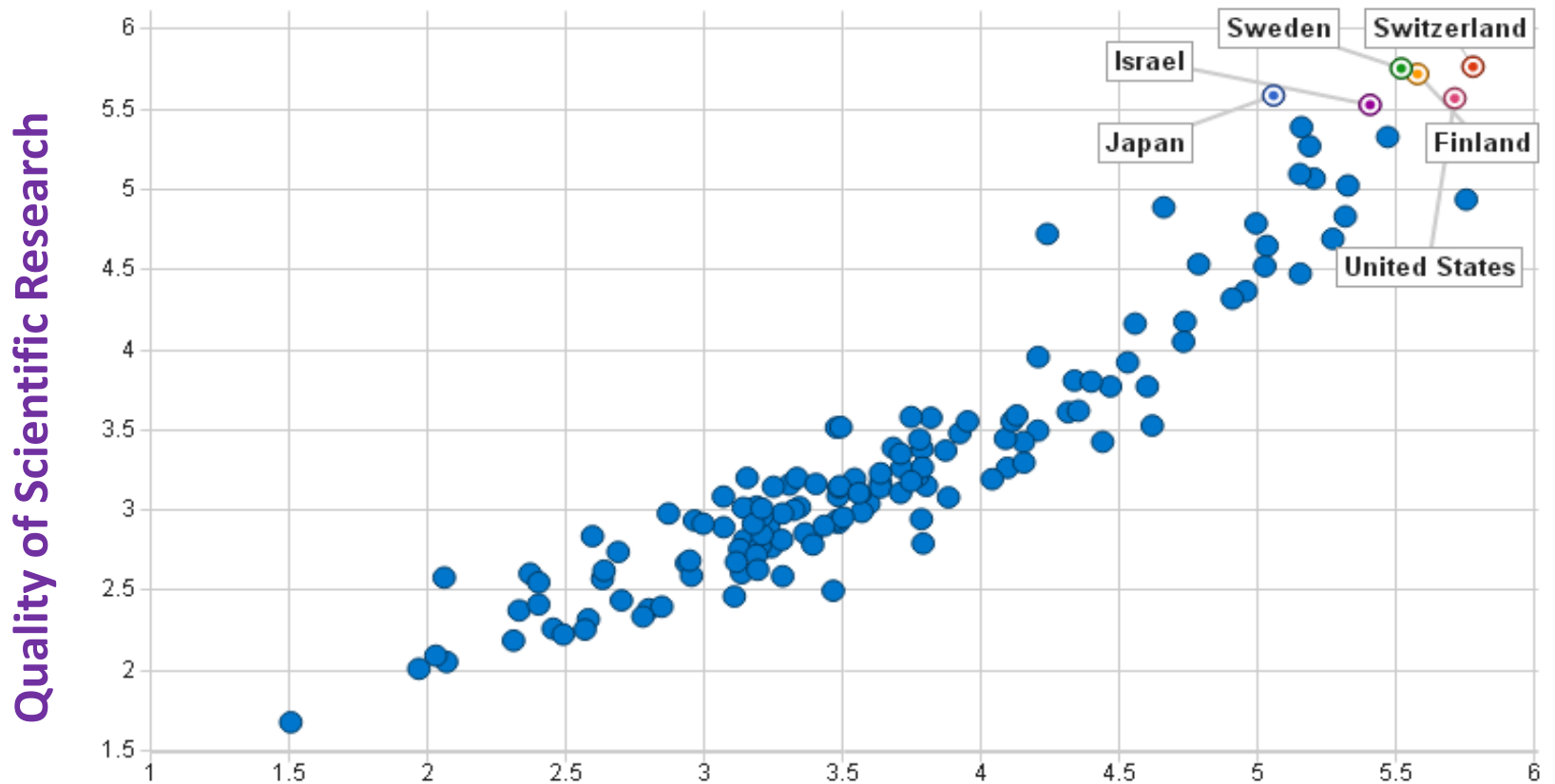
Noam Bar-Gal | Office of the Chief Scientist, Ministry of Economy, State of Israel

“Innovation is the central issue in economic prosperity”

(Michael Porter)



Israel is a Global Leader in Research and Innovation



Source: World economic forum, 2011

- **Population:** 8 million
- **Area:** 22,145 km²
- **GDP 2012:** \$260B, per capita: \$32.2K
 - **2010:** +4.8%, **2011:** +4.7%, **2012:** +3.3%, **2013E:** +3.8%
 - **OECD member avg:** +1.9%
- **Exports:**
 - **2010:** \$44B, **2011:** +4.3%, **2012:** +3.6%



Israel – Comparison to Japan

- **Population:** ~6% compared to Japan
- **Area:** ~6% compared to Japan
- **GDP 2012:** ~4.6% of Japan's GDP, per capita: ~69% of Japan's GDP p.c.



Israel's Competitive Edge



Business Expenditure on R&D (% GDP)	1st
Total Expenditure on R&D (% GDP)	1st
Entrepreneurship	2nd
Skilled Labor	4th
Venture Capital	5th
Flexibility and Adaptability	6th

Source: IMD World Competitiveness Yearbook 2012

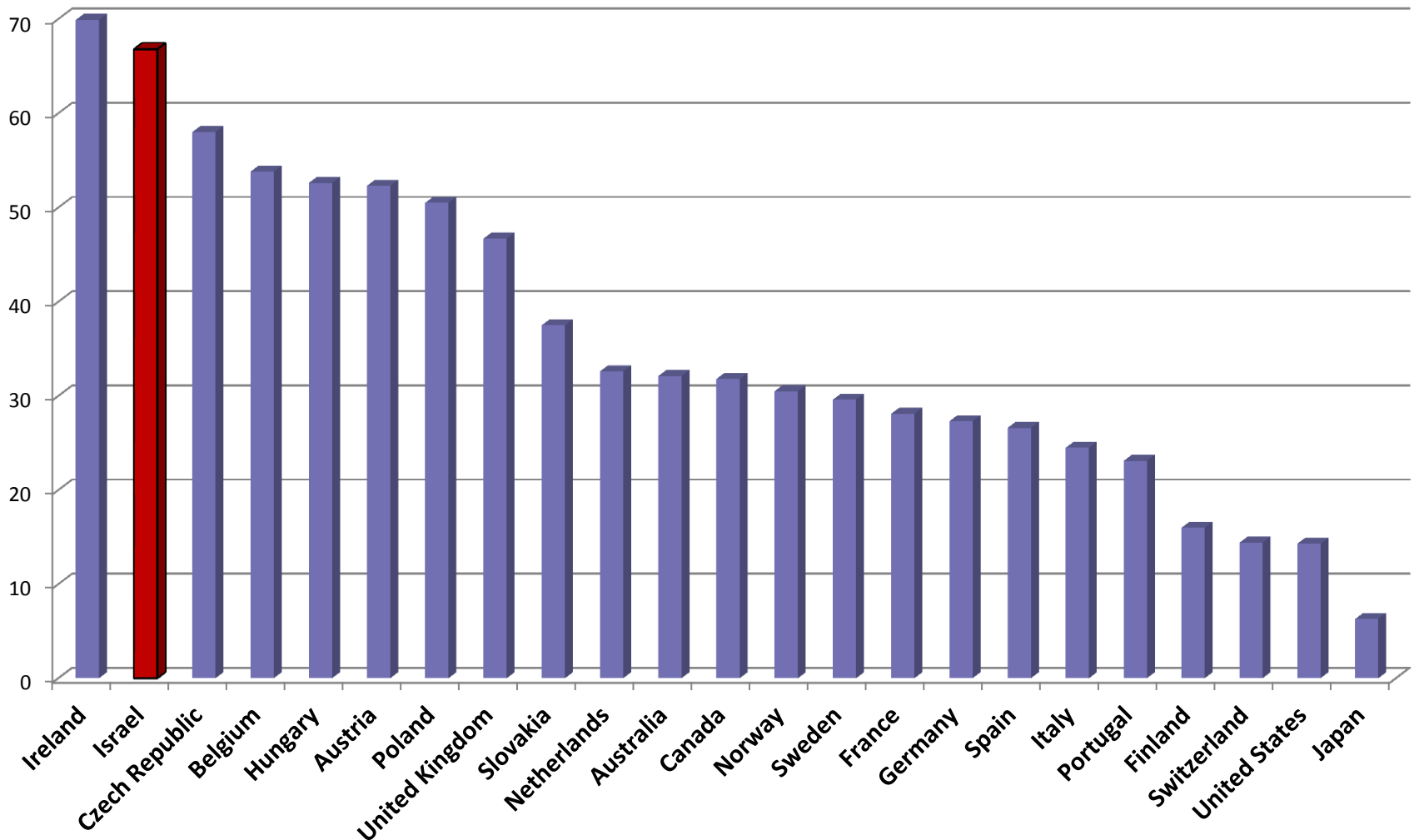
VC Investment, \$ per capita



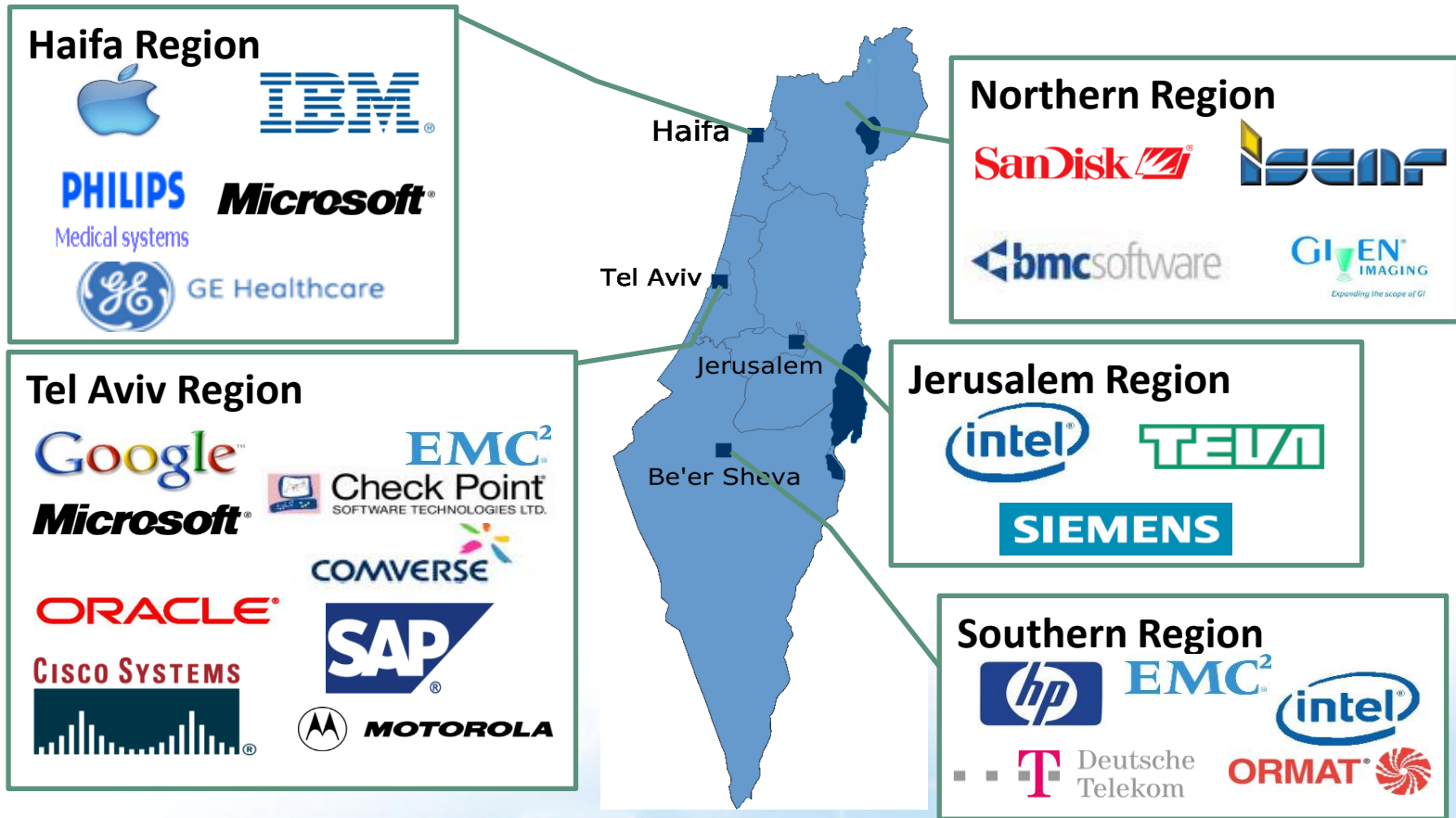
Massive presence of foreign MNCs



Share of local-affiliates of foreign companies in BERD

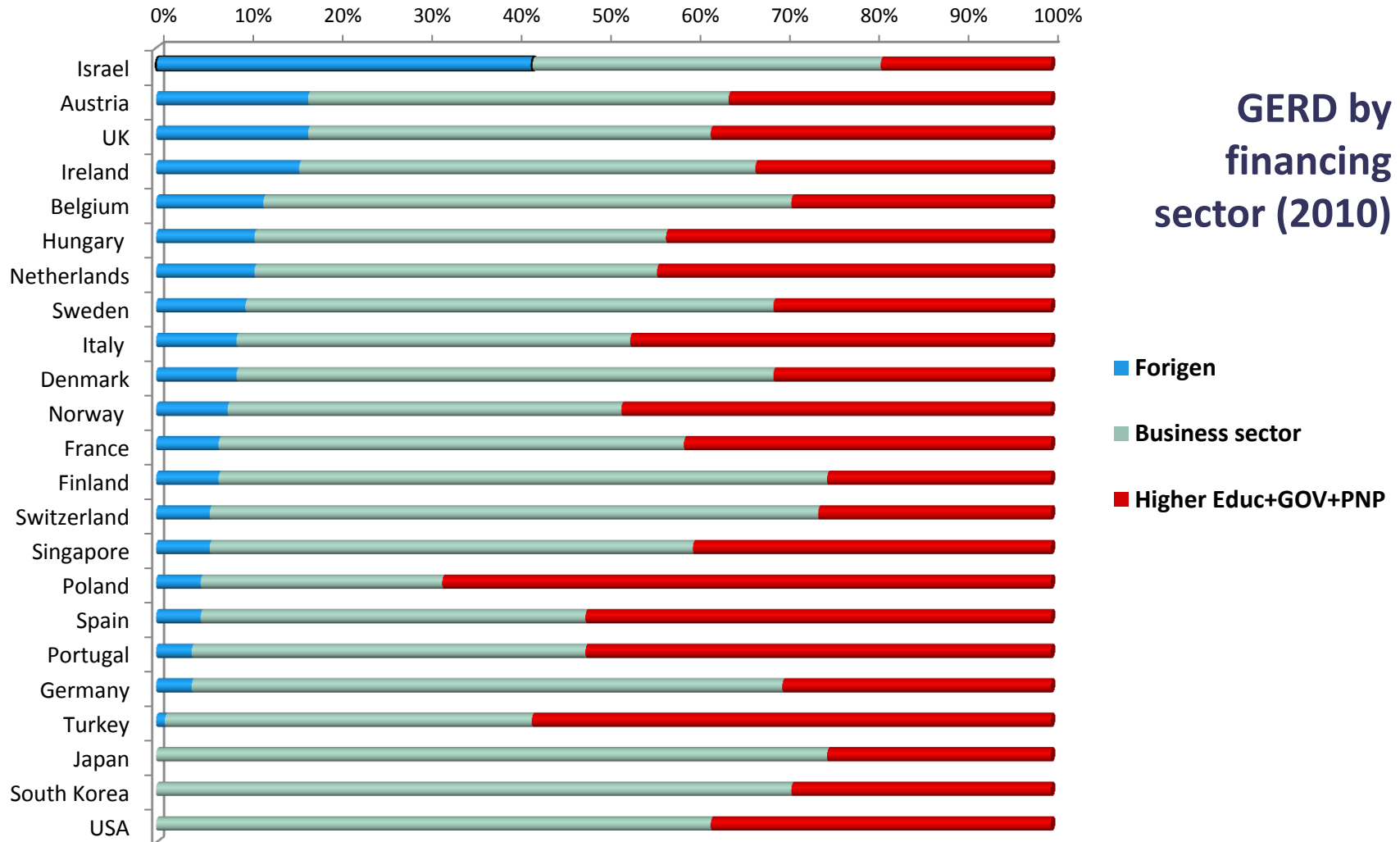


R&D Centers In Israel – MNC's Presence



Over 250 foreign companies have established R&D centers in Israel
Over 50,000 personnel are employed in these R&D centers in Israel

Massive presence of foreign MNCs



Israel's special characteristics:



No Natural Resources

Development of water, agriculture and alternative energy technologies

Security Needs

Human capital and development of defense technologies

Commercialization of technologies

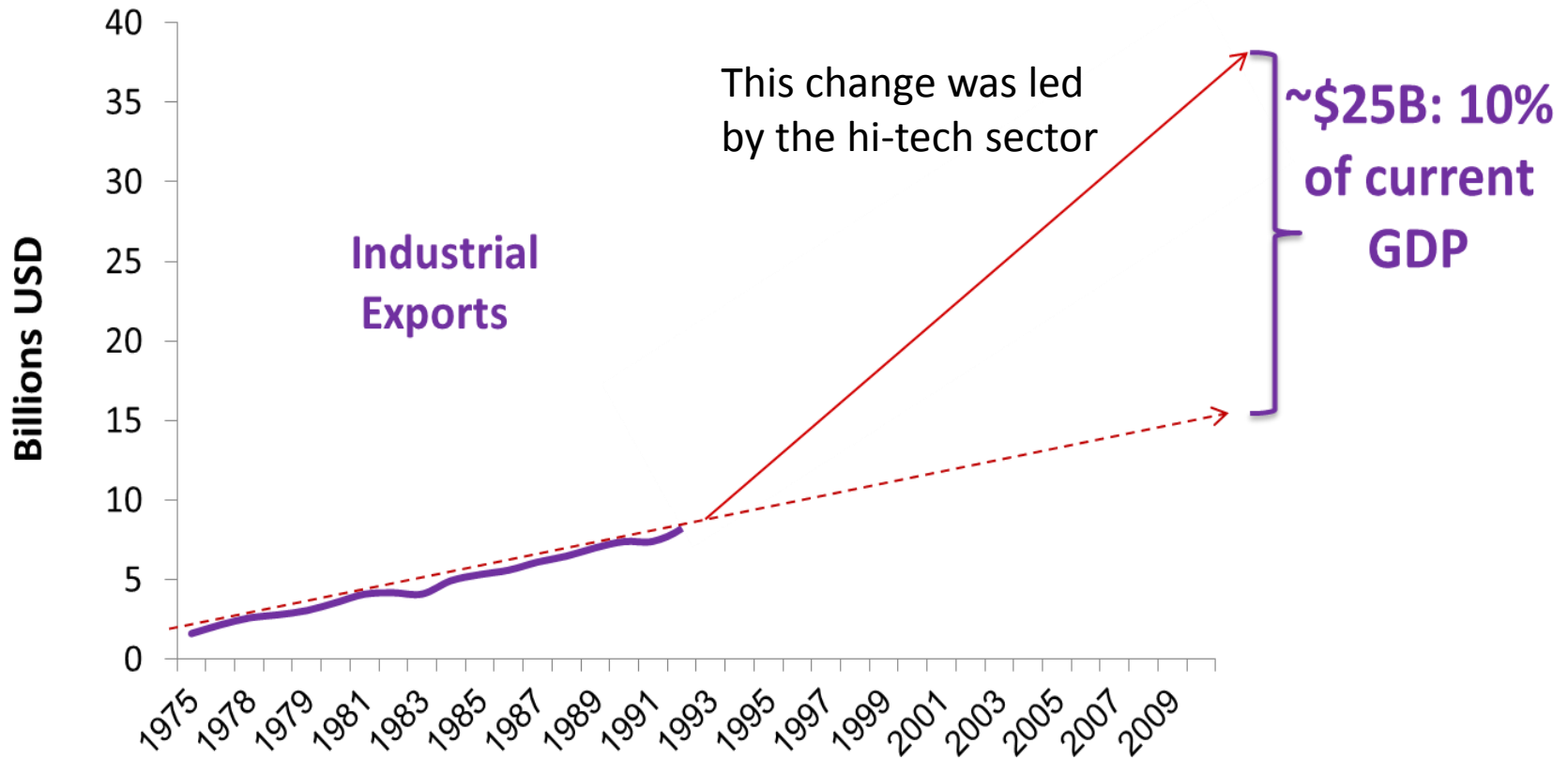
Very Small Domestic Market

Companies target foreign markets

Unique entrepreneurial spirit, dynamic bottom-up approach

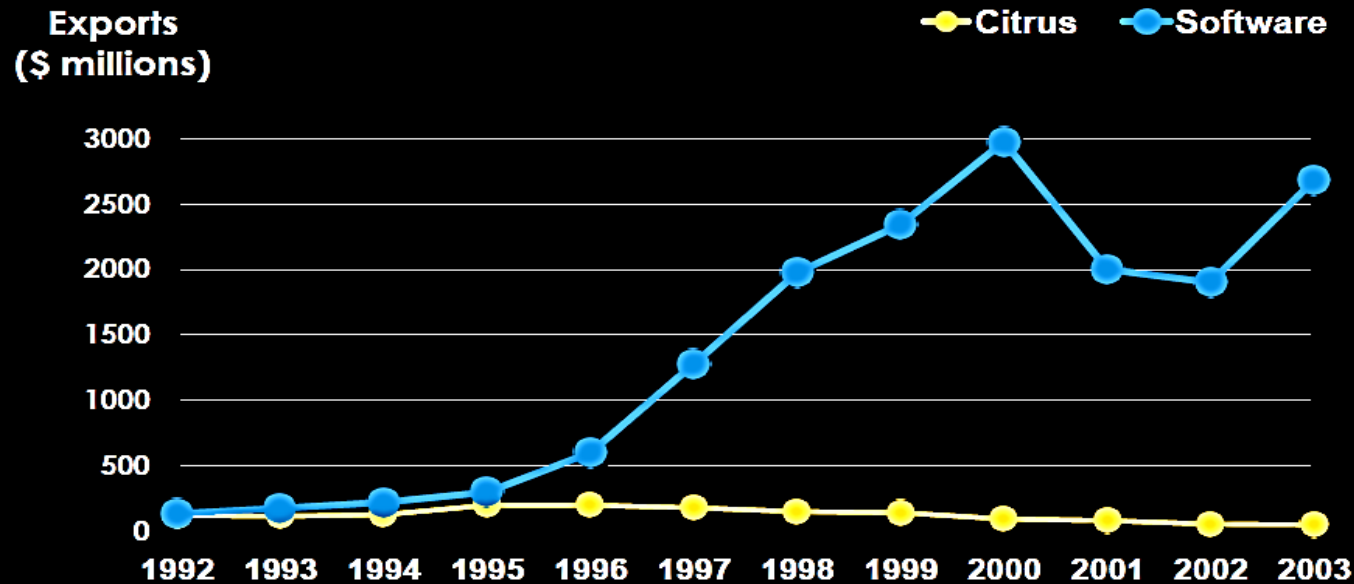
Economy based on human capital, innovation and knowledge

But this was not always the case...



And another example

Jaffa Oranges vs. Software



Source: Dept. Economic & Planning Admin., Ministry Industry, Trade and Labor, State of Israel

The innovation ecosystem is complex



Researchers

High skilled workers

Entrepreneurs

Funds

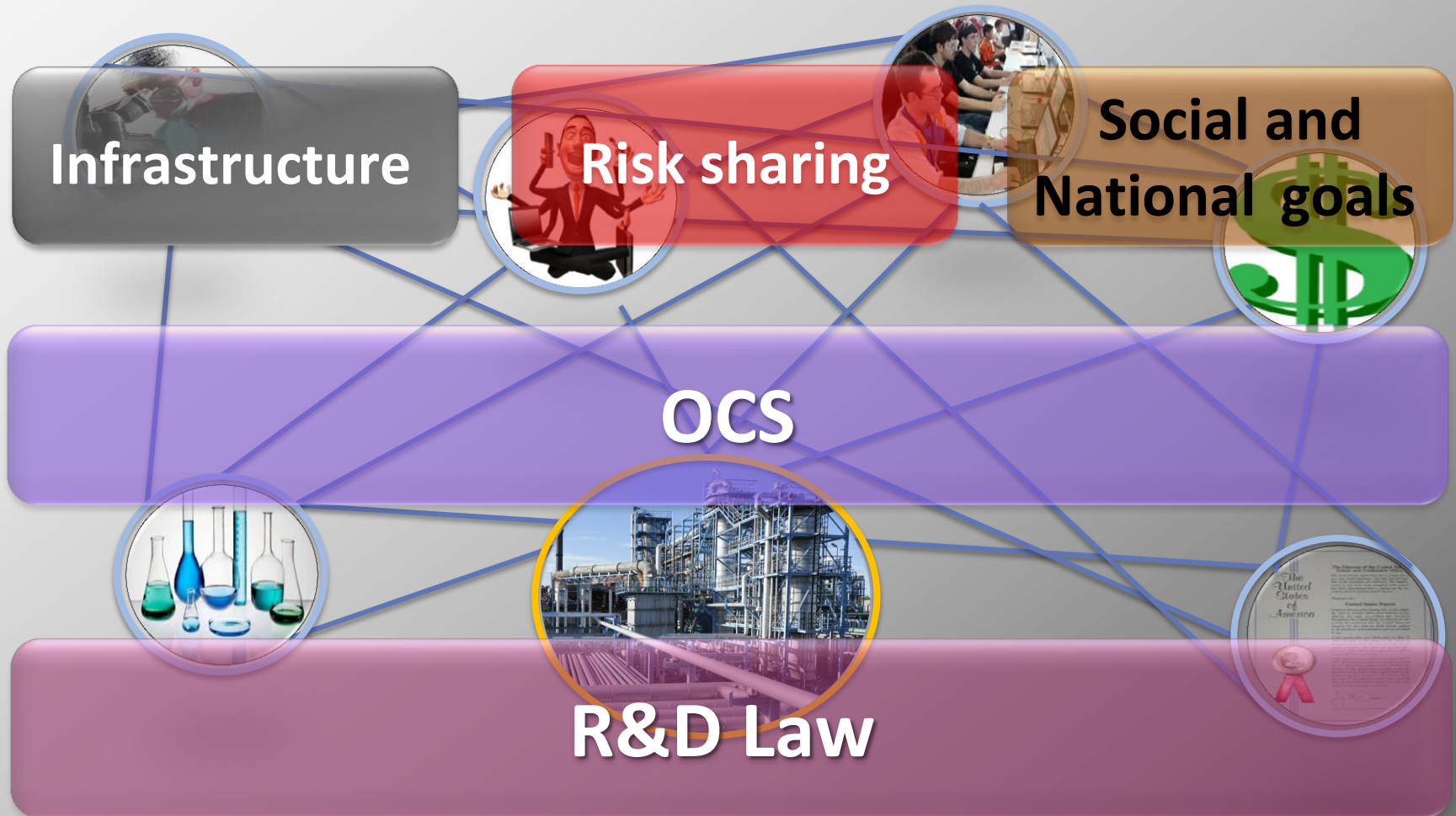
**Research
Facilities**

Industry

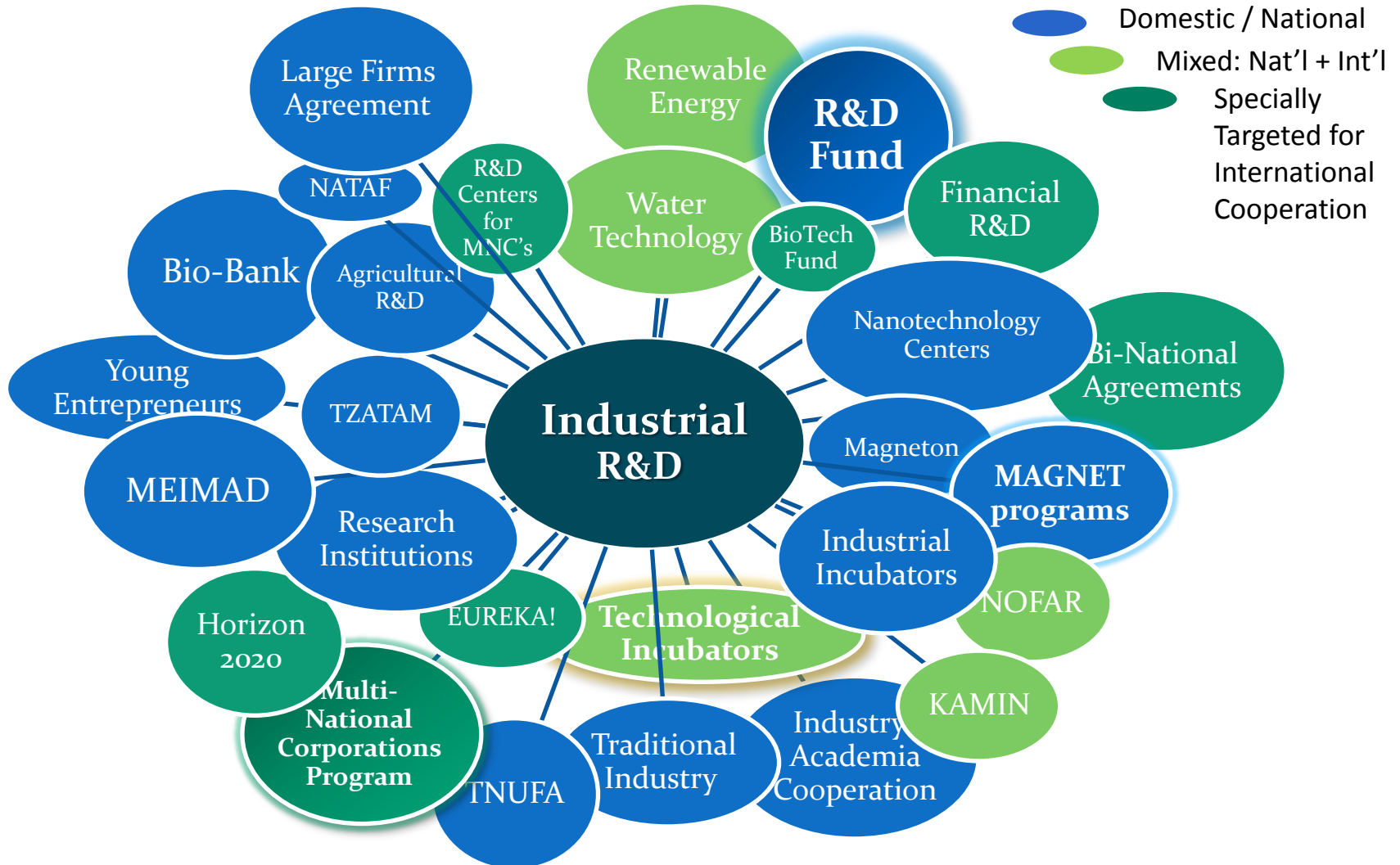
IP Protection Laws



Government plays a key role in shaping and optimizing the ecosystem



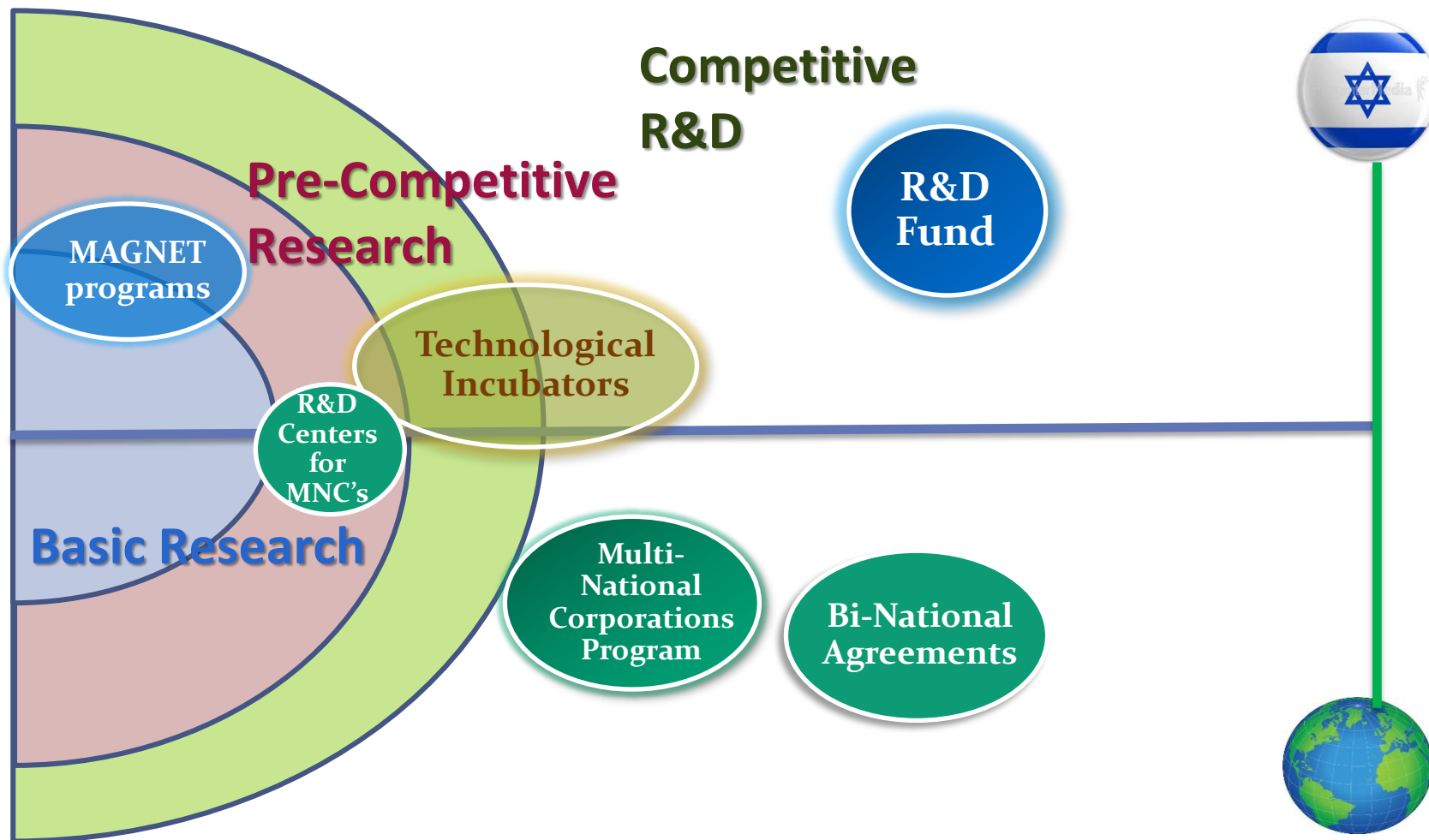
The OCS programs support most of these paths



The OCS programs:



- Location on the Product Value Chain
- National vs. International



The Network of International Collaboration in R&D



North America

United States:
BIRD (Foundation)
New York
Massachusetts
Maryland
Oregon
Virginia
Wisconsin
Colorado
Illinois

Canada:
CIIRDF (Foundation)
Ontario

South America

Argentina
Uruguay
Brazil

Europe*

France
Russia (Rusano, Skolkovo)
Italy
Germany
Greece
Denmark
Hungary
Turkey
Portugal
Finland
Sweden
Czech Republic
Bulgaria
Lithuania
Slovenia
Ireland
Belgium (Flandria)
Netherlands
Cyprus

Asia

China (Shanghai, Shenzen, MOST)
Jiangsu (Foundation)
India
KORIL-RDF-Korea (Foundation)
SIIRD-Singapore (Foundation)

Australia (Victoria)

* *Most of the countries - through EUREKA
(40 countries Multilateral Initiative)*

Multinational Corporations Program



30 Multinational from all over the world participate:

Abbott
 Alcatel-Lucent
 Alstom
 Arkema
 B. Braun
 Bombardier
 Transportation
 BT
 Cisco
 Coca-Cola
 Deutsche
 Telekom
 DuPont
 GE
 HP
 IBM



Infosys
 Intel
 Life
 Technologies
 Merck
 Microsoft
 Novozymes
 Oracle
 Philips
 Posco
 Procter &
 Gamble
 Punj Lloyd
 Renault
 Roche
 SAP
 Telecom Italia
 Telefonica

\$6.8M granted to >90 Joint Projects
 (since launching the program in 2005)

- **Actively** encourage constant **development** of the ecosystem
- Provide **conditions** for continuous **growth** of companies
- But! It is **not** government's role to **replace** the private sector **nor** to **predict** the “next big thing”



The OCS designs and executes R&D programs related to *all* relevant government initiatives, including:

- Alternative fuels for transportation
- Emissions reduction program
- NewTech
- National program for green growth
- Cyber security
- ...

A small step for man...



- Argo Medical invented the external wearable skeleton enabling the walking of paraplegic patients.

- **TNUFA grantee**

- **Technological Incubator graduate**

- **BIRD joint project with Allied Orthotics & Prosthetics**



Thank you!