International
Technological and
Industrial R&D Cooperation

Overview
Mina Goldiak, MSc
OCS - The Office of the Chief Scientist of the Ministry of Industry Trade & Labor is responsible for implementing government policy regarding support and encouragement of industrial research and development.
Some Facts about Israel:

- Population: ~ 8 million
- Area: 22,000 sq km
- Households: ~ 1.9 million
- Average Household: ~ 3.6 persons
- GDP: $B140.6
- GDP/Capita: $24,600
- Inflation: 3%
- Unemployment: <7%
- Growth Rate: 2.7-3.5%
Expenditure on Civilian R&D as a percent of the GDP in Israel and in OECD Countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Expenditure on Civilian R&amp;D as a percent of the GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Israel</td>
<td>4.6</td>
</tr>
<tr>
<td>Sweden</td>
<td>3.6</td>
</tr>
<tr>
<td>Finland</td>
<td>3.2</td>
</tr>
<tr>
<td>Switzerland</td>
<td>3.0</td>
</tr>
<tr>
<td>Korea</td>
<td>2.7</td>
</tr>
<tr>
<td>Germany</td>
<td>2.4</td>
</tr>
<tr>
<td>Iceland</td>
<td>2.4</td>
</tr>
<tr>
<td>USA</td>
<td>2.4</td>
</tr>
<tr>
<td>Denmark</td>
<td>2.2</td>
</tr>
<tr>
<td>France</td>
<td>2.1</td>
</tr>
<tr>
<td>Belgium</td>
<td>2.0</td>
</tr>
<tr>
<td>Netherlands</td>
<td>1.9</td>
</tr>
<tr>
<td>Austria</td>
<td>1.8</td>
</tr>
<tr>
<td>UK</td>
<td>1.6</td>
</tr>
<tr>
<td>Norway</td>
<td>1.6</td>
</tr>
<tr>
<td>Ireland</td>
<td>1.4</td>
</tr>
<tr>
<td>Australia</td>
<td>1.3</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>1.0</td>
</tr>
<tr>
<td>New Zealand</td>
<td>0.9</td>
</tr>
<tr>
<td>Italy</td>
<td>0.8</td>
</tr>
<tr>
<td>Spain</td>
<td>0.7</td>
</tr>
<tr>
<td>Portugal</td>
<td>0.7</td>
</tr>
<tr>
<td>Greece</td>
<td>0.6</td>
</tr>
<tr>
<td>Slovak Republic</td>
<td>0.6</td>
</tr>
</tbody>
</table>

Source: Ministry of finance
Scientists & Technicians per 10,000 Workers

Bar chart showing the number of scientists and technicians per 10,000 workers for various countries:
- Israel: 140
- US: 83
- Japan: 80
- Germany: 60
- Canada: 55
- Switzerland: 55
- Taiwan: 45
- UK: 43
- Ireland: 33
- Italy: 33
- Singapore: 32
- Spain: 25
# Israel’s Competitive Edge

<table>
<thead>
<tr>
<th>Category</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Expenditure On R&amp;D (%)</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td>Total Expenditure On R&amp;D (%)</td>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
</tr>
<tr>
<td>Entrepreneurship</td>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
</tr>
<tr>
<td>Skilled Labor</td>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Venture Capital</td>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
<tr>
<td>Flexibility And Adaptability</td>
<td>6&lt;sup&gt;th&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

*Source: IMD World Competitiveness Yearbook 2012*
Patents (2008)

- Israel ranked #1 in Medical Device patents per capita
- Israel ranked #5 in number of patents per capita

Source: The United States Patent and Trademark Office (June 2008)
“If you want real growth, you have to have new technologies”
Source: Business Week
No. Of Applications:
~ 2000 Projects

Requested Budget:
~ 6.7 Billion NIS

Total Grants:
~ 1.57 Billion NIS
Technological Incubators
Pre-Seed & Seed R&D

- 2012 Budget – NIS 180 M
- A framework for nascent companies to develop their innovative technological ideas into start-ups that can attract private investors
- Suitable facilities for R&D activity & administrative and logistic support to projects

Grants- up to 85%
• 2012 Budget – NIS 181 M
• Supports consortia of industrial companies and academic institutions.
• Target: jointly develop generic, precompetitive technologies or dissemination existing new technologies.
• The technology cannot be acquired from commercial sources at competitive prices

• Grants of up to 66% - no royalty repayments
• Magneton, Nofar, Nataf, Katamon
2012 Grants – NIS 1070 M, ~2000 requests per year

- Supports competitive R&D of mature companies (SME’s as well as big companies)
- Target: establish and develop substantial industrial R&D infrastructure
- Grants between 30-50% of R&D plan, royalties payments - obligatory upon success
- Acquisition and transfer of knowledge due to special approvals
- Budgetary platform for all bilateral parallel agreements
International Cooperation

Foundations:

- BIRDF - with U.S.A.
- USISTC/F
- SIIRD - with Singapore
- CIIRDF - with Canada
- KORIL-RDF - With S. Korea
MATIMOP encourages participation in the many international programs for bi–lateral and multi-lateral cooperation in industrial R&D, signed and funded by the Office of the Chief Scientist (OCS) of the Ministry of Industry, Trade and Labor.
Bi-National Support Agreements

**North America**
- New York
- Maryland
- Virginia
- Wisconsin
- Colorado
- Massachusetts
- Oregon
- Ontario

**South America**
- Argentina
- Uruguay
- Brazil

**Europe**
- France
- Russia
- Italy
- Germany
- Greece
- Denmark
- Hungary
- Turkey
- Portugal
- Finland
- Sweden
- Czech Republic
- Netherlands
- Lithuania
- Slovenia
- Cyprus
- Bulgaria
- Trento (Italy)

**Asia**
- India
- China
- Jiangsu Province
- Shanghai
- Shenzhen

**Australia**
- Victoria
International Cooperation Models
Multi-National Agreements

The European FP7

EUREKA
Global Enterprise R&D Collaboration

24 Multinational from all over the world:

Abbott
Alcatel-Lucent
Arkema
B. Braun
BT
Coca-Cola
DuPont
GE
HP
IBM
Bombardier
Transportation
Deutsche Telekom
Infosys
Intel
Life Technologies
Merck
Microsoft
Novozymes
Oracle
Philips
Posco
Procter & Gamble
Renault
Telecom Italia

$6M granted to >80 Joint Projects
(since launching the program in 2005)
## Integrated Model – Total Returns to the Economy

<table>
<thead>
<tr>
<th>Technological Intensity</th>
<th>Derived Own Effect</th>
<th>Spillover Effect</th>
<th>Total Value Added Increment to the Economy</th>
<th>Return On Gov. Money</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hi-Tech</td>
<td>10.9</td>
<td>17.7</td>
<td>28.6</td>
<td>473%</td>
</tr>
<tr>
<td>Mid-High Tech</td>
<td>17.3</td>
<td>25.3</td>
<td>42.6</td>
<td>751%</td>
</tr>
<tr>
<td>Mid-Low Tech</td>
<td>38.4</td>
<td>32.8</td>
<td>71.2</td>
<td>1323%</td>
</tr>
<tr>
<td>Low-Tech</td>
<td>39.1</td>
<td>7.3</td>
<td>46.4</td>
<td>828%</td>
</tr>
</tbody>
</table>
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
For More Detailed Information

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