

# Israel



# Innovations

# Commitment to Innovation

**Innovation is part of Israel's culture. Israeli startup guru Yossi Vardi explains, "This is a startup country, socially and culturally. It is in our heritage, our ethos. . . . The country is constantly renewing itself all the time."**

- Israel has the highest number of university degrees per capita worldwide.
- Israel has the most scientists and technicians per capita in the world.
- Over 25 percent of the workforce is employed in technical professions.
- In 2006 Israel ranked third in the world in per capita patents.
- Israel ranks as the top country for scientific publications. Almost 60 percent are in biology and related medical or agricultural fields.
- Israel has the highest number of home computers per capita in the world.





*The cholesterol-lowering pomelit fruit.*



*Turmeric helps protect crops from pests.*



*The pomegranate is used to promote heart health.*

## Agriculture

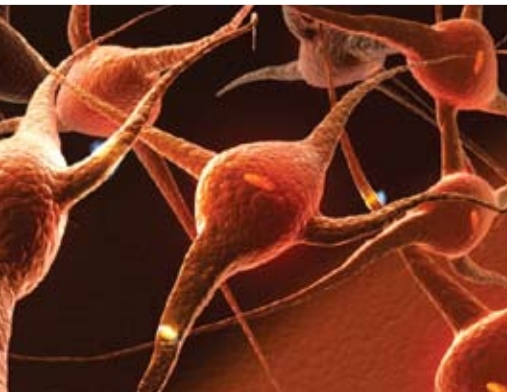
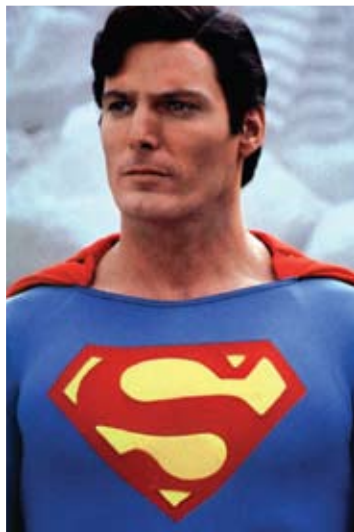
***Since the days of its founding, Israeli scientists and farmers have worked together to develop methods of improving agricultural yields and quality.***

- The Israeli-developed pomelit fruit lowers cholesterol by increasing antioxidant activity, which is good news for millions suffering from high cholesterol.
- An Israeli scientist at Technion, the Israel Institute of Technology, has helped high-risk patients avoid heart bypass surgery by having them drink pomegranate juice.
- Israeli dairy cows produce the world's highest milk yield on average, thanks to a quality diet and scientific innovations in the dairy field.
- Israeli researchers have developed a unique method to protect crops from pest damage using turmeric, a natural Asian herb.
- The Israeli company Bio-Bee Biological Systems has developed a method of using genetically modified fruit flies to decrease pest populations, helping farmers in 30 countries around the world.

# Biotechnology

***Israel is always on the cutting edge of biotechnology, turning pure research into projects with profit and nonprofit applications.***

- On a per capita basis, Israel has the largest number of biotechnology startups worldwide.
- Israel's Brainstorm Cell Therapeutics has developed a novel stem cell therapy to help Parkinson's patients produce dopamine to restore their motor functions.
- An Israeli scientist's discovery of a natural bacterium that can combat mosquitoes and black flies, preventing river blindness and malaria in 11 African nations, has reduced infection along China's Yangtze River by 90 percent.
- With over 150 companies, Israel is fifth in Europe and eighth in the world for the highest number of biopharmaceutical companies (2003).
- In 2002 during a fact-finding tour of Israel, actor and paralysis research advocate Christopher Reeve called Israel "the world center" for studies on paralysis.





*The Israeli-developed Emergency Bandage in use.*



*Emergency Bandage*

## Medical

***Israeli medical innovations help save and improve lives around the world.***

- Israeli company Biolapis has developed a new handheld computer device for monitoring coronary disease that achieves the sensitivity currently found in high-end imaging equipment in a compact and more affordable form.
- The PillCam, a disposable miniature video camera that patients can swallow, was developed in Israel. Doctors in more than 60 countries use it to visualize the small intestine noninvasively, already helping more than 122,000 patients worldwide.
- Two out of the three top drugs to treat multiple sclerosis were developed in Israel. Another Israeli drug is used by about 70 percent of multiple sclerosis patients worldwide.
- Before Israel's Emergency Bandage, soldiers often bled to death while awaiting treatment. Utilized by American soldiers in Iraq, this new bandage saves lives by preventing hemorrhaging with a special built-in pressure bar and closure clips.

# Communications

***Israel is a world leader in providing communication technologies, connecting people around the world.***

- Key mobile phone technology was developed in Israel by Motorola, which has its largest development center in Israel.
- The Israeli company Comverse invented voicemail.
- The telecommunications industry in Israel employs 57,200 people, 12 percent of whom are involved in research and development. The industry makes up 84 percent of Israel's exports.
- Israel is one of the few countries with a 100-percent digital network.
- Instant messaging and chat room technology was developed by four unemployed young Israelis in Tel Aviv. Their program, ICQ, is now used by millions around the world.





*Above: The Intel high-tech factory in Jerusalem.*

*Below: Infrared virtual keyboard invented by Israeli company VKB.*

## Computing

**Often called the “second Silicon Valley,” Israel provides research and development for some of the world’s largest high-tech companies.**

- Intel’s Centrino chip, which powers wireless networks, including those at Internet cafes and hotels, was developed at Intel Israel.
- An Israeli scientist developed the mathematical calculations that enabled the Mars Opportunity and Spirit rovers to travel on Mars using solar energy.
- Most of the Windows operating system was developed by Microsoft Israel.
- Israel is home to both Microsoft’s and Cisco’s only research-and-development facilities outside the U.S.



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