

# Israel



# Innovations



# Israel's Story

Over 3,000 years ago an indigenous people developed a thriving civilization and culture in their ancestral homeland.

Over time they were conquered by a series of aggressive foreign empires, and while some of the people stayed in their cities and communities, most of them scattered across Europe, the Middle East, Africa, and Asia.

Although they flourished at times, for 1,900 years they lived as an oppressed minority, suffering expulsions, massacres, and ultimately genocide.

They barely survived but never lost hope. They overcame.

They started a liberation movement, went back home to join those who were already there, and built one of the most diverse and creative nations the world has ever seen.

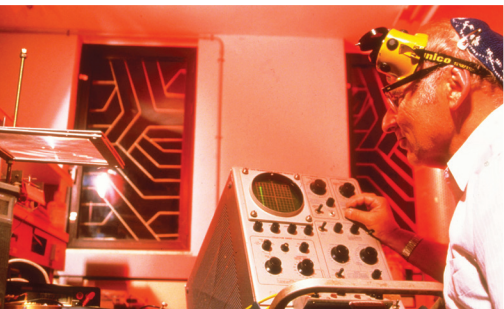
**That nation is Israel, and this is the story of how its spirit of innovation helps people overcome challenges all over the world.**



# 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 more startup companies per capita than any other country.
- Israel has the second-highest number of total startups in the world after the U.S.
- Microsoft, Google, Apple, Facebook, IBM, and many others have opened research facilities in Israel to benefit from its innovation capabilities.
- Israelis have the second-highest number of university degrees per capita worldwide.
- Israel has the most scientists and technicians per capita in the world.
- Israel produces more scientific papers per capita than any other nation.
- Israel has the highest number of home computers per capita in the world.





*The cholesterol-lowering pomelit fruit.*



*Turmeric helps protect crops from pests.*



*Drip irrigation conserves water and dramatically improves crop quality.*

## Agriculture

***Faced with a very dry climate and severe lack of natural resources, Israelis found creative ways to maximize their agricultural production while minimizing their usage of water.***

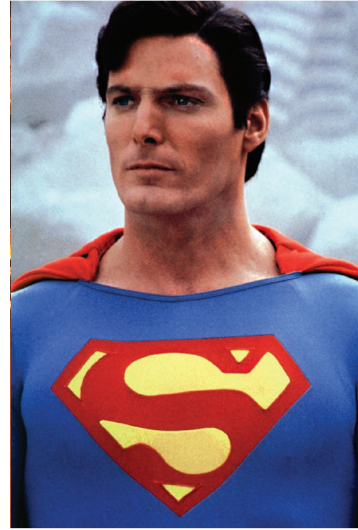
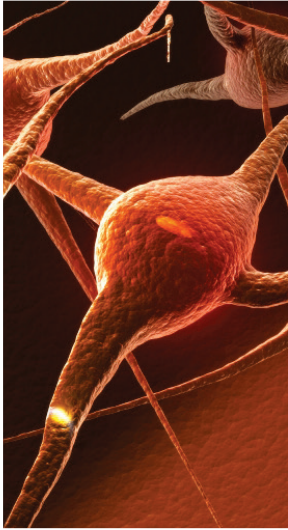
- Israeli-developed drip irrigation is one of the most valued agricultural innovations of modern times. It conserves water and fertilizer while dramatically improving crop yields and quality.
- The Israeli company Bio-Bee Biological Systems has developed a method of using genetically modified fruit flies to decrease pest populations, helping farmers in 30 countries around the world.
- Israel treats 92 percent of its wastewater and reuses 75 percent in agriculture, the highest rate in the world.
- Israel is working in California and elsewhere in the world to help people overcome draught and make global water consumption more sustainable.



# Biotechnology & Medicine

***Israeli innovations are saving lives and helping to overcome some of the most difficult challenges to global health.***

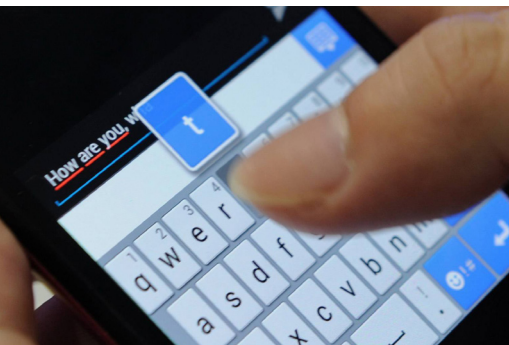
- Israeli scientists created a DNA nanocomputer that detects cancer and releases drugs to treat it.
- Israel's Brainstorm Cell Therapeutics has developed a novel stem cell therapy to help Parkinson's patients restore their motor functions.
- The Israeli-developed Babysense™ breathing monitor has helped protect over 600,000 infants from sudden infant death syndrome.
- Israel discovered a natural bacterium that has helped prevent river blindness and malaria in 11 African nations and reduced infection along China's Yangtze River by 90 percent.
- Israel's emergency bandage has saved the lives of countless soldiers and civilians, including U.S. Congresswoman Gabby Giffords.
- Actor and paralysis research advocate Christopher Reeve called Israel "the world center" for paralysis studies.



# Communications

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

- The Israeli company Comverse invented voicemail.
- Instant messaging and chat room technology were developed by four young Israelis. Their program, ICQ, is now used by millions around the world.
- Israeli company Waze developed community-driven navigation software utilizing information sent by users to provide real-time traffic updates and more.
- 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.





*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.
- Israeli company M-Systems invented the USB flash drive and was later bought by SanDisk.



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