Israeli Innovation in GreenTech
American University Summit

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GE Water & Process Technologies
GE Today

GE Energy $37.5 B

Energy Management

Oil & Gas

Power & Water

Healthcare $16.9 B

Aviation $17.6 B

Transportation $3.4 B

GE Capital $47.0 B

Home & Business Solutions $8.6 B

$150B Revenue

300,000+ employees
150+ locations
Only DJIA company in original index
Rated AA+ by S&P

~$150B Revenue

$12.6B earnings
$14.7B cash flow

October 2011
Becoming the global water leader

- Glegg
- BetzDearborn
- Osmonics
- Ionics
- ZENON

- Pure Water Solutions
- Water & Process Specialty Chemicals
- Equipment & Membranes
- Desalination & Reuse
- Mobile Water
- Hollow Fiber Technology
- MBR Technology
Global water footprint

- HQ: Trevose, Pennsylvania
- 7,900 employees
- 130 countries
- 50,000 customers
- 50 global manufacturing sites

Strong global footprint with local expertise

Images denote major manufacturing facilities
Enabling the future with portfolio solutions

Desalination Solutions: Drawing on the ocean’s virtually limitless water resources, GE’s desalination technologies are helping water scarce regions to create new freshwater sources that can quench growing demand.

Municipal Solutions: Facing unprecedented growth and water demand, cities are turning to GE’s advanced membrane and water quality measurement technologies to tackle increasingly stringent water and wastewater regulations and the threat of new, virulent pathogens in our lakes and rivers.

Product Water: Consumers use the products they trust—whether it is pharmaceuticals, food, or beverages. As brands expand globally, GE technologies ensure high quality ingredient water for manufacturing regardless of a plant’s location or its water source.

Residential Products: GE point-of-use and point-of-entry filtration systems are enabling homeowners to produce higher quality water from every tap in the home. This same technology is helping developing countries to leapfrog traditional, costly infrastructure and provide safe water to those who need it most.

Utility Solutions: GE is optimizing system efficiency & increasing uptime in cooling towers and boilers by reducing energy usage and greenhouse gas emissions. Advanced monitoring systems reduce the risk of pathogen growth, such as Legionella, in cooling systems.

Process Chemicals & Separations: Silently working in pipes, tanks and process fluids, GE’s advanced chemicals protect valuable production assets from corrosion and fouling faced in day-to-day operations, while improving overall manufacturing efficiency and quality.

Industrial Wastewater: Once considered a by-product, GE’s water reuse technology is transforming industrial wastewater into a sustainable, new water source that can often be used many times over—dramatically reducing the strain on our precious water resources.
Scarcity driving reuse globally

- US: 27% of global reuse capacity
- FL will reuse 1B gal/day by ’10
- AZ reuses 60% of wastewater
- Israel, Jordan, Syria >70% reuse
- Abu Dhabi … target 100% reuse
- Singapore: >20% of drinking water from reuse
- Australia: 13 years of drought + 18% population growth = huge reuse demand
- 50% of global reuse plants in EMEA
- Scarcity driving reuse globally
GE GLOBAL INNOVATION BAROMETER.

Global Research Report
January 2012
Methodology

- Conducted by StrategyOne, an independent research and consulting firm, between Oct 15 and Nov 15, 2011 in 22 markets
- Telephone survey of 2,800 senior business executives
- All respondents SVP-level or above, 30% c-suite level
  - All respondents directly involved in the innovation strategy or process within their company
- Average company size is 1,500 employees, 20% of respondents belong to companies of more than 5,000 employees
- Average interview length: 16 minutes
Innovation environment

Investigates businesses’ perceptions of their home country’s political, economic and social environment in the context of their ability to innovate. Innovation environment is comprised of the following 13 indicators:

1. Level of government support
2. Efficiency of government support
3. Trade regulations
4. IP and patent protections
5. Efficacy of public-private partnerships
6. Support of private investors
7. Preparedness of tomorrow’s innovators
8. Value public places on innovation
9. Public appetite for innovation
10. Societal acceptance of risk-taking
11. Level of public support for business
12. Ease of partnership with academia
13. Speed of innovative products to market
How business perceives their home country’s innovation environment

Innovation Environment Index: This 100-point index illustrates how satisfied businesses in each market are about the combined 13 elements that make up the innovation environment. Arrows indicate year over year trends.
How optimistic business feels that innovation will result in better life (by market)

Innovation Optimism Index: Hundred-point index illustrates how optimistic business is that innovation will successfully convert into improved quality of life for citizens. Arrows indicate year-over-year trends.
2011 to 2012 comparison of business optimism for innovation

Innovation Optimism Index: Hundred-point index illustrates how optimistic each market is that innovation will successfully convert into improved quality of life for citizens.

2011 to 2012 Comparison

Higher Optimism

Sweden 73
Israel 80
UAE 77
Australia 81

Lower Optimism

Japan 58
Germany 72
Sth. Korea 64
China 68
USA 77
KSA 88
Brazil 82
India 79
The countries with the best innovation reputation

(Respondents asked to identify and rank top 3 leaders)

What are the 3 countries that you see as leading innovation champions? Respondents asked to identify one country they regarded as the clear champion. Respondents allowed to name their own country.

Cumulated % Perceived champion %

USA: 64% (Cumulated), 48% (Champion)
Germany: 43% (Cumulated), 34% (Champion)
Japan: 16% (Cumulated), 13% (Champion)
China: 14% (Cumulated), 3% (Champion)
Korea: 13% (Cumulated), 3% (Champion)
India: 13% (Cumulated)
UK: 9% (Cumulated)
France: 7% (Cumulated)
Sweden: 6% (Cumulated)
Israel: 4% (Cumulated)
Brazil: 3% (Cumulated)
Italy: 2% (Cumulated)
Canada: 2% (Cumulated)
Singapore: 1% (Cumulated)
Australia: 1% (Cumulated)
Switzerland: 1% (Cumulated)
Finland: 1% (Cumulated)
UAE: 1% (Cumulated)
Turkey: 1% (Cumulated)
Russia: 1% (Cumulated)
Norway: 1% (Cumulated)
Taiwan: 1% (Cumulated)
Saudi Arabia: 1% (Cumulated)
Netherlands: 1% (Cumulated)
Thailand: 1% (Cumulated)
Businesses assess their home country’s innovation reputation

Do you think that the reputation of your country as an innovative market is...
GE in Israel

• Present since 1950
• 550 employees in 9 facilities
• GE Water (2006)
• Better Place & SolarEdge Strategic Partnerships (2010)
• Global Research Technology Center (2011)
GE’s recent activities in Israel

**Highlights**

- **Acquisitions**
  - Lightech – LED power supplies (Lighting ‘11)
  - Orbotech Medical Systems – CZT detectors (HC ‘11)
- **Capital investments**
  - Emefcy - Power from wastewater (‘11)
  - SolarEdge – Solar inverters (‘09 & ‘11)
  - Better Place – EV charging (‘11)
  - Check Cap – Colon cancer diagnosis by ingestible pills (‘12)
- **New Global Research group**
  - External innovation opportunities
- **Strategic Partnership Agreements**
  - Better Place (MOU ‘10) – EV infrastructure
  - Kinrot Ventures (‘10) – Water incubator
- **Ecomagination innovation challenge winners**
  - GridON, Winflex (‘10), Pythagoras Solar (‘11)
- **Executive visits**
  - Jeff Immelt – Feb ‘10
  - Beth Comstock – Feb ‘12
End
Emefcy

*Converting wastewater contamination into low cost (~ $0.10/kWhr) green energy*

- **Founded in 2007**
- **Technology:** An Electrogenic Bio Reactor that decreases cost of wastewater treatment by applying the principle of Microbial Fuel Cells (MFC) for the direct production of electricity from organic contaminants. The power generated eliminates the need for external energy consumption and in many cases, results in net electricity output and significant sludge reduction
- **Synergies with GE:**
  - EFS participated in the latest investment round (July 2011)
  - Good pretreatment match with GE’s MBR
- **Options for synergies with GE:** Applying MFC in conjunction with GE Water’s UF/MBR for industrial wastewater to create a low energy, low contamination package