





# Smart Grid

Israeli companies catalogue

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**Category:** Energy Efficiency, Smart Grid, Advanced Lighting Control System.

Sub Category: Building Lighting and HVAC

Management and Control.

www.beemtech.com

#### Company profile

**Year of establishment:** 2009

No. of employees: 20

## Background of the company

BEEMTech develops, manufactures and markets advanced Building Energy Efficiency Management Solutions, ideally suited for the retrofit market (existing buildings). BEEMTech's flagship LightBEEM<sup>TM</sup> system provides a precise, anytime/anywhere facility-wide lighting control and energy management system that cuts lighting energy costs by up to 75% and ensures a fast ROI, typically under 2 years. BEEMTech has 15 granted patents covering its technology, ASIC, system topology and algorithms.

#### **Examples of projects**

Beta sites in Chanin Building, New York, NY and in Israel.

### Technologies & products

#### General description:

The LightBEEM system is based on the company's ASIC (the IDC2000) which is a complete System-On-Chip designed for power management applications including lighting and lighting control. BEEMTech's Energy Efficiency Control and Monitoring Systems are built around the IDC2000, which is readily applicable in other market segments. LightBEEM's main advantage is its unique, patented PLC technology and system topology which makes it ideal for installation in existing buildings. The system's web-based lighting control management system (LEMS) is a critical element of the LightBEEM system. It enables easy and fast site setup, planning and configuration by BEEMTech's Field Application Engineers, a simple and error-free commissioning tool for BEEMTech partners/distributors and a powerful Lighting Management system for our end customers.

#### Function of the product(s):

To reduce energy consumption in commercial buildings by up to 50% with dramatic OPEX cuts, carbon footprint reduction and high levels of occupant safety and comfort. Complying with energy and building codes and regulations such as LEED, ASHREA, etc.

## Objectives / Target companies

Objectives: To gain a high level of penetration of the LightBEEM system in the segments listed below. Direct target companies: C&I (Commercial and Industrial) and MUSH (Municipal, Universities, Schools and Hospitals) segments, focusing especially on existing buildings where the company's advantages and strengths lay.

Indirect target companies: through partnerships with ESCOs/EPCs (Energy Service Companies/Energy Performance Contracting), facility management companies, OEMs, Utilities and directly to large organizations, hotel chains and large corporations who run their own properties.







Category: HVAC Cooling towers water & energy saving in industry and commercial, Renewable energy, Energy efficient.

www.cqm-tech.com

#### Company profile

CQM a Cleantech Company develops and markets innovative anti-fouling and energy efficiency solutions that keep industrial systems clean and continuously efficient. Its anti-fouling systems allow customers to achieve increased operational outputs, reduced O&M costs, maximum efficiency and overall performance.

Year of establishment: 1996

No. of employees: 30

#### Background of the company

CQM, has developed a breakthrough product for the CLEANTECH sector by promoting energy efficiency and environmentally sound solutions to fouling, one of industry's oldest and most pervasive problems. Since 1996, CQM has been selling its patented **Automatic Tube Cleaning Systems (ATCS)** for heat exchangers and condensers providing:

- more efficient operation
- substantial energy savings
- reduced shutdowns and maintenance costs
- minimal need for chemicals

The market for our products is vast, with our targets including:

- Facilities: Up to 50% on water saving and 100% on chemical saving for office buildings, shopping malls, hospitals, hotels, etc. by increasing the efficiency of their central HVAC and industrial cooling systems.
- **Power Plants:** Up to 3% increase in annual electrical power generation of steam and combined-cycle power plants.
- **Industry:** Increased efficiency and reduced maintenance cost for petrochemical, refineries, pharmaceuticals, food and many others.

With ten years of consistent sales and installations in over 3, ooo facilities worldwide, we have a proven track record in the here and now. This is not an untested or regulatory-dependent product; it is already in demand, in use and effectively curbing greenhouse gas emissions by optimizing energy consumption.

#### Technologies & products

- ATCS- Patented Heat Exchanger Automatic Tube Cleaning System.
- SRCL- chlorination on site by electrolysis for remote drinking water site and sanitation of hot water systems in hospitals.
- SRS- Chemical Free Water Treatment System for industrial close and open water cycles: cooling towers, cooling and heating loops, etc.

#### **Objectives / Target companies**

Energy efficiency solutions, water treatment, power plant.







Category: Solar Cooling, Energy Efficiency &

Renewable Energy.

**Sub Category:** HVAC systems.

www.ducool.com

#### Company profile

DuCool Ltd, with its world-recognized team of 20 years experience in the air treatment, cooling, heating and dehumidification fields, has developed a unique liquid desiccant dehumidification and cooling technology in a single package. DuCool presents a solution for significantly decreasing energy costs for HVAC application. Hundreds of units installed in Pharmaceutical Plants, Food Processing Plants, Clean Rooms, Hospitals, Store, Restaurants, Ice Rinks, Plastic Injection Molding, office Buildings, and more.

Year of establishment: January 2006

No. of employees: 100

#### Background of the company

HVAC systems, Energy efficiency projects, increasing production efficiency in industry.

#### Examples of projects

- USA- Ice rink arenas- full energy efficiency project. Energy savings of 60%
- Singapore- Plastic industry- Energy saving project and increase of production efficiency.
- Germany- Meat processing factories. Energy savings of 45%
- India- Pharmaceuticals plants. Energy savings of 25%- 50%

#### Technologies & products

The new DuHybrid System combining the ability to use Solar thermal heat with additional energy sources to power dehumidification and air condition:

- Peak shaving- Reduced Operating Costs and Energy Savings- DuCool's operates in the field of HVAC which is one of the significant factor for peak loads. Ducool's applications as standalone air treatment units or added to an existing HVAC systems installations have achieved energy savings of over 50% (relative to the situation before DuCool was installed). When humidity load is high the system will prevent over sizing of HVAC systems and will significantly decrease the energy consumption.
- "Green"- Environmental Friendly- DuCool's DuHandling series is a Refrigerant-free (no compressor)
  HVAC system. The DuHybrid / DuHandling can use relatively low temperature waste heat from:
  Solar thermal, cogeneration systems, micro turbines or Solar thermal heat as its main source of
  energy. Also can be use relatively high cold water temperature (15-25°C) from Ground source Water or
  cooling towers to generate efficient cooling.
- Air Quality- Disinfect Air, The DuCool process eliminates up to 90% bacteria and air borne
  microorganisms in a single pass. Filter Air Process removes 77% of particle larger than 5 microns,
  removing allergens such as pollen and dust from the air. Improve Human Comfort achieves optimal
  temperature and humidity zone. Indoor Air Quality Standards DuCool products successfully address
  IAQ by helping meet fresh air requirements.

#### **Objectives / Target companies**

DuCool offer Air treatment solutions Dehumidification, Air condition, Ventilation and heating. Energy reduction and air quality improvements in Industry, Plastic molding, Pharmaceutical plants, Food processing, Clean rooms, Hospitals, Retail stores, Restaurants, Ice Rinks, office buildings and more.







**Category:** Power Electronics. **Sub Category:** Back up systems.

www.gamatronic.com

#### Company profile

Established 1970, has accumulated nearly 4 decades of experience in UPS - Uninterruptible Power Supply - business and technology, specializing in identification of the modern market's developing power needs, and in provision of cutting edge power solutions.

Year of establishment: 1970 No. of employees: 220

#### Background of the company

1970 - was founded by Mr. Joseph Goren

1994 - became a public company traded on the Tel Aviv Stock Exchange

2001 - established a daughter company in UK

2003 - begun manufacturing The Power+ true On line modular UPS systems

2004 - established a rep office in China

2006 - established a rep office in Brazil

2008 - North America Market UL listing of the Power+ series

2009 - starts new Power+ model line the Mega Power+

2011 - Gamatronic expands the Mega Family of products up to 500 kVA systems

#### Examples of projects

Infrastructure: Hospitals, Gas companies, Railway companies, Telecom, Mining, etc.

#### Technologies & products

#### General description:

Based on a wide products range and high engineering capabilities, Gamatronic offers multiple modular power protection solutions including UPS - Uninterruptible Power Supply - solutions, DC Power systems, inverter systems, converter and DC-DC Systems, along with power control and management products for power dependent and critical applications.

#### Function of the product(s):

Backup systems.

## Objectives / Target companies

UPS distributors, system integrators (IT/IDC/Telecomm/Automation/Medical), local UPS manufacturers, consultants, designers.







**Category:** Smart Grid, Energy Management, Energy Efficiency, power monitoring & control.

Sub Category: Demand Response,

Demand Side Management.

www.greenlet.net

#### Company profile

Greenlet is a Smart Grid startup, focused on energy management and 'Peak Shaving' (power reduction during Peak Hours). Our system serves as a "Virtual Plant"- it reduces MegaWatts and substitutes power plants. Our unique deployment model (Send => Connect => Control) and technology allow building "Virtual Plants" without any professional installation (no need for smart meter or controllers).

Greenlet offers electric utilities and Energy Service companies with a unique B2B solution for power reduction. Using the integrated solution (management system, end-point units and customer portal)-utilities reduce a lot of power during peak hours, avoid power outages, avoid extremely high generation costs and reduce pollution and global warming.

Greenlet's business model allows for sending greenlet<sup>™</sup> pluggable units to any customer (institutional, industrial, and residential) by mail, for self-deployment. Peak shaving is achieved without installation.

Year of establishment: 2008

No. of employees: 8

#### Background of the company

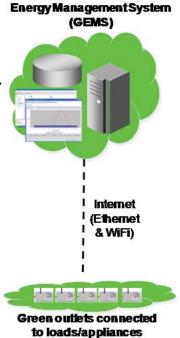
Greenlet Technologies Ltd. Is an Israeli startup focused on Scalable Energy Control. As a Smart Grid startup it combines Hi-tech, Clean Energy and business disciplines. Greenlet's founders bring a lot of experience in high-tech and business and its employees have served in many successful startups. Greenlet has offices in Tel-Aviv (headquarters and R&D) and in NY (focused on marketing).

#### **Examples of projects**

Power reduction at institutional (municipalities, government) buildings. A residential project for power control and monitoring during peak hours.

#### Technologies & products

- A centralized management application (GEMS) through which Utilities & service companies control & monitor power, deploy 'peak shaving' programs, validate true power reduction and calculate reward for customers.
- Pluggable GREENLETs (=Green Outlets) which are sent to customers by mail for self-deployment, controlling and monitoring loads.
- 3. Web Portal for customers, for power monitoring and control.



## Objectives / Target companies

Electric companies (utilities) and Energy Service Companies (ESCOs), smart grid vendors.







Category: Energy Efficiency.

**Sub Category:** Analysers and control

systems, R&D.

www.panpwr.com

## Company profile

Year of establishment: 2009

No. of employees: 10

#### Background of the company

Panoramic invented an affordable, scalable service platform for asset-level energy performance monitoring using wireless sensors and cloud-based analytics.

Panoramic Power was founded in mid-2009 by a team of experienced entrepreneurs with successful track records and advanced multi-disciplinary skills.

Our non-intrusive, award-winning technology which provides granular circuit-level consumption visibility is specifically designed to assist businesses in reducing costs and energy consumption, manage sustainability initiatives and improve building operations.

In November 2009 Panoramic Power was honored with the 1st place in the Qualcomm Ventures QPrize™ business plan competition.

In November 2010 Panoramic Power won the IBM Israel Smartcamp startup competition.

#### Examples of projects

Further proprietary information shall be disclosed separately.

#### Technologies & products

#### General description:

Panoramic Power has developed an affordable, scalable service cloud based platform for asset-level energy performance monitoring using wireless sensors and cloud-based analytics. The Platform is based on a series of low cost, wireless, self-powered invented sensors engineered for circuit-level power monitoring. This first of its kind technology provides visibility to energy use at the individual circuit/asset level with alarms, reports and analytic capabilities. The system is allowing rapid deployment and non-invasive installation at zero disturbances to daily operations of businesses.

#### Function of the product(s):

Panoramic Power's Energy Management Solution is a fully-installed, fully-integrated service that enables our customers to acquire complete visibility of their operation's power flow and achieve informed, high-level decision making. This granular, real-time energy monitoring results in 10% - 30% savings, and in the ability to predict failure and perform preventive, cost saving maintenance.

#### **Objectives / Target companies**

- Energy and Operation Management Giants: Johnson Controls, Siemens, Schneieder Electric, ABB, Honeywell, GE, IBM, CA, SAP.
- End-users: Convenience Stores, Food and Retail Chains, Restaurants, Medical Centers.
- Channels and other potential partners: Energy Consultants, Energy SW providers, Enterprise Software providers.







**Category:** Energy Efficiency.

Sub Category: PC Power Management, Energy

Efficiency, Green IT.

www.powerplugltd.com

## Company profile

Year of establishment: 2008

No. of employees: 10

## Background of the company

PowerPlug is a leading provider of PC Power Management software for organizations.

PowerPlug's mission is to reduce the environmental and financial impact of PC power consumption, cutting organizational costs and carbon emissions without interference to IT operations and end-user productivity.

By powering down PCs when they are not used, PowerPlug's products lead to savings of up to 60% in PC power costs and to a significant reduction of an organization's carbon footprint.

PowerPlug's products operate at organizations with as little as 250 PCs and as many as 25,000 PCs, including medical centers, IT companies, government ministries and others.

#### Examples of projects

PowerPlug Pro customers include:

- Clalit Health Services an HMO (Health Management Organization) with 25,000 PCs distributed across
   14 hospitals, 1200 clinics and offices
- The Israeli Ministry of Finance and the Israeli Ministry of Housing
- Sheba Medical Center Israel's largest hospital complex. PowerPlug Pro delivers monthly savings of over \$10K for Sheba's 4000 PCs
- o13 Netvision Israel's leading ISP and long-distance carrier

#### Technologies & products

#### General description:

PowerPlug Pro, the company's flagship product, identifies unused PCs and enacts organizational policies to power them down, cutting costs by \$60 per PC per year. PowerPlug Pro generally achieves a return on investment (ROI) in 3-4 months.

#### Function of the product(s):

- Flexible power plans maximize savings, cutting PC electricity costs by up to 60% and dramatically reducing organizational carbon footprint
- PCs remain available 24x7 Administrators or users may power up computers anytime, anywhere, using a built-in Wake-on-LAN mechanism
- Easy-to-use minimal integration, easy to manage savings start in days
- Comprehensive management reports of energy and cost savings

## **Objectives / Target companies**

- PowerPlug is looking for distributors in various territories and vertical markets. Distributors should have extensive local networks, and should be capable of selling & supporting IT systems at large organizations
- Direct Customers: Large organizations organizations with 2500 PCs or more







Category: Green Building & Renewable.

www.pythagoras-solar.com

#### Company profile

Year of establishment: 2007

No. of employees: 20

## Background of the company

Founded in 2007, Pythagoras Solar is uniquely positioned at the intersection of energy efficient building materials and photovoltaics (PV). The company provides building integrated photovoltaic (BIPV) products that enable the architecture, engineering and construction sectors to design buildings with increased energy efficiency, renewable power generation and appealing aesthetics, thereby increasing real estate value. Pythagoras Solar will advance distributed power generation, help achieve Net Zero Energy Buildings (ZEB) and have a lasting impact on green building and urban planning. Pythagoras Solar is a privately held company with operations in the United States, Israel and China. For more information on Pythagoras Solar and its 'triple value' BIPV, please visit www.pythagoras-solar.com.

#### Technologies & products

#### General description:

Pythagoras Solar's advanced BIPV products improve building energy efficiency, generate solar power, and offer architectural design benefits to increase return on investment and real estate value, and advance Net-Zero Energy Buildings (NZB). By leveraging patent-pending optics, high-efficiency crystalline silicon, advanced materials science and simulation software, the company delivers the industry's first transparent, high power density PVGUs. The first products are designed to replace curtain wall windows and skylights. The combined energy savings and energy generation enables a payback term of less than five years.

Pythagoras Solar's Photovoltaic Glass Unit (PVGU) - or more simply, solar window - uses optical technology, high-efficiency silicon, and advanced materials to provide the industry's highest transparency and highest density PV power generation in a standard double-pane window form factor, known in the industry as an insulating glass unit (IGU). The PVGU leverages the modularity and ease of installation of the IGU; it is designed to meet advanced building codes and standards, can be optimized for a variety of uses and is expected to be eligible for incentives due to its energy and environmental benefits. The first products are designed for curtain wall and skylight applications and can be optimized for elevation, location, and climate zone. The combination of energy savings and energy generation provided by the PVGU allows the product to pay for itself in less than five years. Future products include colored roof tiles and spandrels.

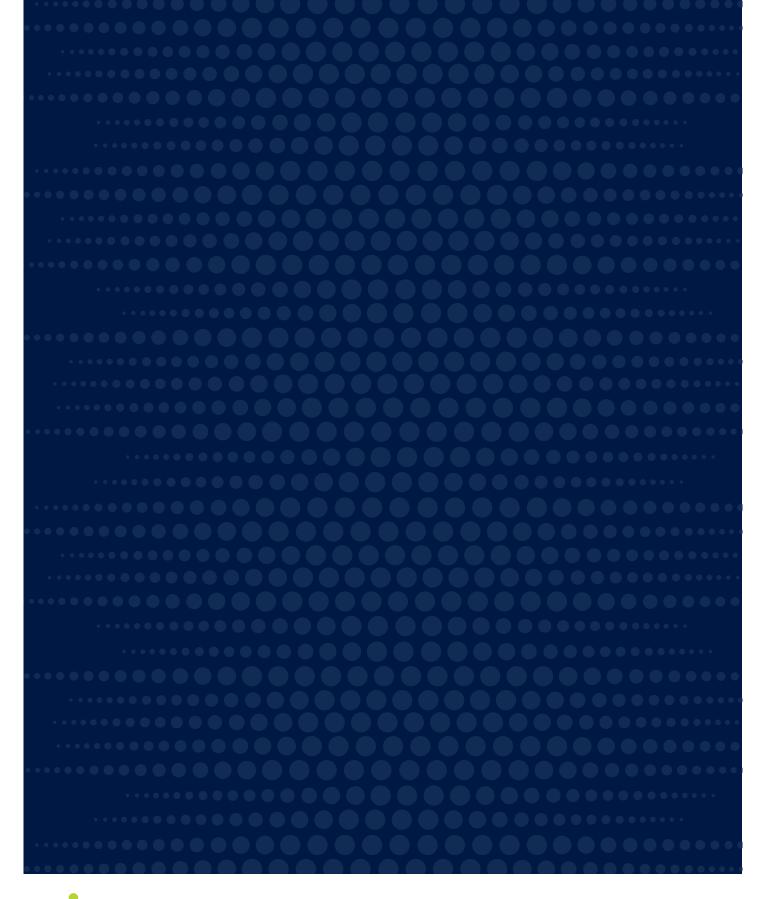
#### Function of the product:

Solar window (or photovoltaic-glass-unit).

## **Objectives / Target companies**

Setting strategic relationship encompassing joint development, manufacturing and marketing with vertically integrated companies in the building & construction market including glass and window companies and large glaziers.

Collaborating with leading architectural firms, large commercial real-estate developers and building owners and general contractors.







The Israel Export & International Cooperation Institute