



Ministry of Economy



The Israel Export &
International Cooperation Institute



Israel
NewTech

National energy & water program

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Ministry of National Infrastructures,
Energy and Water Resources
www.energy.gov.il

BIRD

Israel-U.S.
Binational Industrial Research
and Development Foundation



The Government of Israel
Economic Mission to the West Coast

www.israelnewtech.gov.il

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Israel NewTech – National Sustainable Energy & Water Program Ministry of Economy, Israel

Israel has long played a major role in the Cleantech field, evolving from a nation of limited natural resources to a significant player in global sustainability. Making use of its highly educated workforce and vast experience in the hi-tech industry, the country has developed an industry, over 500 companies strong, dedicated exclusively to sustainable water, energy and environmental technologies.

Israel NewTech is a national program aimed at promoting Israel's water and sustainable energy sectors. The program was founded on the belief that the water and sustainable energy sectors have the potential to be strong growth industries for the country, and play an important role in meeting the world's rising needs. This pioneering national program is led by the Ministry of Economy, and is supported by a number of additional government agencies. Israel NewTech helps to advance the water and sustainable energy sectors by supporting academia and research, encouraging implementation in the local market, and helping Israeli companies succeed in the international arena.

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For more information on Israel NEWTech, please visit website: www.israelnewtech.gov.il

The Israel Export & International Cooperation Institute

The Israel Export and International Cooperation Institute (IEICI) was established in 1958 as a non-profit organization by the government of Israel and the private sector. IEICI promotes Israeli goods and services exports, and trade relations, cooperation and strategic alliances with overseas companies.

IEICI promotes exports through initiatives and programs in many countries, operating through Israeli commercial and economic attachés, as well as local business development representatives. IEICI maintains working relations with foreign diplomats and commercial attachés in Israel and trade organizations throughout the world. It provides information and consulting services, offering extensive connections and assistance in promoting exports of Israeli companies as well as complementary services for the international business community. IEICI initiates and organizes incoming and outgoing commercial delegations and mounts national pavilions and information centers at international exhibitions and conventions throughout the world.

The environmental technologies sector is there to deal with technologies to prevent and repair environmental hazards. These hazards are created by human activities in industry, agriculture, and modern life in general. Many environmental hazards caused by fossil energy production - coal and oil. Subject of global warming is a global issue, the world begins to consider and seek solutions to reduce greenhouse gas emissions - carbon dioxide, methane and other gases. Israel has about 250 cleantech companies. This area is developing fast growth rate. The Cleantech Sector in the Israel Export Institute aims to promote the cleantech industry Israeli on different platforms such as international exhibitions and conferences around the world, providing professional information about The Sector and various competitors, formulating business plans, help in creating business partnerships, focused activity with electric power companies, energy companies and others.

For more information please visit our website: www.export.gov.il

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The Government of Israel Economic Mission to the West Coast

The Government of Israel Economic Mission to the West Coast is responsible for enhancing bi-national trade relations between the West Coast and Israeli business communities. The main fields of activity include promoting trade and exports, attracting and encouraging foreign investments and creating strategic cooperation with foreign companies. By leveraging its networking capacity and industry knowledge in Israel and the Western United States, the Economic Mission is able to seamlessly engage prospective business partners half a world apart. Our operations span a variety of industry sectors, with a focus on high-tech, security, new media, cleantech and biotechnology.

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For more information please visit our website: www.IsraelTradeCA.org

BIRD Energy

The U.S. Department of Energy (DOE), the Israel Ministry of National Infrastructure, Energy and Water Resources and the BIRD Foundation have established "BIRD Energy": a program for U.S. - Israel joint renewable energy developments. This partnership between Israel and the United States began as a result of the U.S. Israel Cooperation in Energy Independence and Security Act of 2007 and the Israeli Government approval of the program in 2008.

Projects that qualify for BIRD Energy funding must include one U.S. and one Israeli company or a company and a university or research institution, one from Israel and one from the U.S.

The companies must present a project which involves innovation in the area and addresses energy challenges and opportunities of interest to both countries, while focusing on commercializing clean energy technologies. The maximum conditional grant is \$1M per project (up to 50% of the R&D costs associated with the joint project).

For further inquiries please visit www.birdf.com or contact:

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Ministry of National Infrastructure, Energy and Water Resources - Chief Scientist Office

The Chief Scientist is the office's technological arm. We provide internal science and technology support to policy and decision makers, on the topics of energy, water, earth and marine sciences.

We collect, investigate and assimilate available information pertinent to all of the ministry's work. We support and develop both physical and human infrastructure required to realize the (long term?) ministry's policies. We support research and development, which contributes to the achievement of our technological objectives.

Our office invests annually in a wide range of R&D projects in Academia and Industry. We encourage international collaboration. We support, via targeted funds, both early stage startups, as well as established companies in pilot programs.

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For more info, please visit our website:

<http://energy.gov.il/English/Subjects/RAndDChiefScientist/Pages/GxmsMniChiefScientistLobby.aspx>

One goal - Wide partnership

The Israel NewTech national program is led by:

Ministry of Economy Foreign Trade
Administration - Investment Promotion
Center, Ministry of National Infrastructure

Members:

The Israel Export & International Cooperation
Institute | Prime Minister's Office | Ministry of
Finance | Ministry of Foreign Affairs | Ministry of
National Infrastructure | Ministry of Environmental
Protection | Ministry of Science Culture &
Sport | Ministry of Agriculture | Ministry of
Negev and Galilee | Public Utility Authority-
Electricity | Council for Higher Education
Ministry of Economy: Office of The Chief
Scientist | The Israel Standards Institute |
Industrial Cooperation Authority | ASHRA
- The Israel Export Insurance Corp. Ltd. |
Economic Planning Administration |
Knowledge-Intensive Industry Administration
| Manpower Training and Development Bureau



Category: Wastewater

Sub Category: Waste water treatment, Industrial waste treatment, Renewable energy, R&D

Contact: info@actsrs.com

www.appliedcleantech.com

Company profile

Leading the Sewage Mining Revolution

Year of establishment: 2007

No. of employees: 23

Background of the company

Recognizing sewage as a resource of which useful commodities can be mined, Applied CleanTech developed a ground-breaking sewage recycling technology to reduce sludge formation by trapping suspended solids out of raw wastewater.

Examples of projects

SRS™ installations in Sefad, Timorim and Omer, Israel; Painesville, Ohio; Santiago de Queretaro, Mexico; Dunbar, Scotland.

Technologies & products

● SRS™

The SRS™ extracts bio-solids from wastewater, before they become sludge. Initial sludge formation is reduced by up to 50%, before applying any chemical or biological treatment. Trapping the cellulose component inherent in wastewater, and returning it to the industrial cycle as raw material, the SRS™ evolves sewage treatment into sewage mining – introducing a model for sustainable, efficient and environmentally-friendly wastewater management.

● Recyllose™

Applied CleanTech's SRS™ produces a revolutionary commodity, Recyllose™, a cellulose-based product manufactured automatically by the SRS™. This unique new compound is a valuable commodity that can be used in a variety of industries as an alternative fuel; a heat source; environmentally-friendly electricity; an additive to the pulp and paper industry; and an additive for the bio-plastics industry.

Objectives / Target companies

Applied CleanTech (ACT) seeks business partners worldwide who share our vision of leading the sewage-mining revolution by transforming wastewater into a profit-making commodity.

Ideally, a suitable business partner would be an independent distributor with an entrepreneurial mindset and with the ability to build a new business in the growing field of environmentally-sustainable technologies.



Category: Renewable energy, R&D

Company profile

Augwind develops a novel solar boosted compressed air energy storage system (CAES) to support power dispatchability for the wind industry. We have developed (pending IP) a key component which help reducing the cost of the stored element to a minimum. This combination of cheap stored element and a solar booster help us achieve of significantly low cost for energy storage on a \$/KWhr basis.

Year of establishment: 2012

No. of employees: 2

Background of the company

AugWind is an Israeli startup company which was founded by Dr. Or Yogev. The company has been established in 2012 aiming to provide cost effective storage solution for the wind power industry. AugWind received initial funding from the incubator group of Capital nature and Office of Chief Scientist in Israel. AugWind is about to complete its first major milestone this year in devel.

Technologies & products

General description:

We offer two type of products; Low cost, scalable, compressed air storage tank capable of sustaining high air pressure. A complete compressed air energy with a solar boosting system which gets integrated to an existing wind turbine. The system is design to provide a continuous stable and dispatchable power generation from the two systems; solar and wind

Objectives / Target companies

Our objective for this year is to complete the testing phase of the solar booster system. The system is currently tested at the Weizmann institute of science. A small scale test for our compressed air storage system has already been conducted. Our goal is to seek out an additional funding to support a full scale testing either for storage system alone or for the entire system. We are looking for strategic companies that develops compressed air energy storage systems on their own (such GE, dresser rand etc.) to help us develop and commercialized our storage solution.



Category: Renewable Energy

Sub Category: Solar Energy

www.bren-energy.com

Company profile

Brenmiller Energy is an innovative thermo-solar company, providing modular solar steam generation products – the bCell™ System - for power & steam applications. Led by a team comprising of the world's top-leading experts in renewable thermo-solar energy, the company's knowledge and expertise are based on years of field experience in building and operating over 500MW of thermo-solar power plants in the US and in Spain.

Year of establishment: 2012

No. of employees: 100+

Background of the company

Founded in 2012, by Avi Brenmiller, a prominent figure in the Solar Thermal world and former CEO of Siemens CSP and Solel. Our R&D team possesses extensive knowledge and a proven track record in developing ground-breaking solar technologies. The company is innovation-oriented with over 100 people employed, in sub-contracting, in research and development.

Examples of projects

Our team led and was actively involved in planning, designing, building and operating thermo solar power plants in Spain and in the U.S. supplying over 500MW of electricity.

Technologies & products

General description:

The bCell™ is a continuous solar steam boiler producing 24/7 (upon demand) regulated and controlled steam, at standard turbines conditions (500°C 100 bars). Its main building block is the Energy Center, with a unique heat storage, which acts also as a buffer, to allow both real dispatchability and stable steam regardless of solar irradiation variations. One bCell™ can produce about 1.5 MWe equivalent of steam (depending onsite irradiation and operation strategy), which is produced from the solar field. The solar field, based on an enhanced collector trough system, and the Energy Center are combined together to create the bCell™.

Function of the products:

The bCell™ System, which is comprised of bCell™ modules (the core of the system), produces stabilized steam, directly to the turbine inlet, at a steady rate throughout the day, all yearlong. The product is designed for high efficiency, high availability and easy maintenance. It is modular and scalable and can provide specific solutions to various energy demands and different operation strategies, whether peak, intermediate or base-load demands.

Objectives / Target companies

The Company would like to be introduced to potential developers, local partners, investors and customers.

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Company profile

Capital Nature is a leading investment firm focused on funding and accelerating early stage ventures, as well as academic research in the emerging Renewable Energy in Israel. In addition to incubating early stage start-up companies, Capital Nature also funds applied academic research in the area of renewable energy, and operates a test and validation center in the Eilat region.

Capital Nature portfolio companies benefit from the ongoing support of the Capital Nature team as well as benefit from a unique opportunity to access the vast technological, financial and marketing capabilities of Capital Nature investors.

Year of establishment: 2011

No. of employees: 5

Background of the company

Capital Nature was established in 2011 and operates the Israeli National Renewable Energy Center in the Arava, as part the initiatives of the State of Israel to promote development of Renewable Energy technologies.

Examples of projects

- **Solview**

Solview provides installers and residential rooftop owners an accurate prediction of the energy potential of their roof tops remotely, and based on publicly available maps and images, thus dramatically reducing customer acquisition costs.

- **Solariphy**

Solariphy offers an innovative technology that enables a more efficient conversion of the sunlight to electric energy by solar panels. Solariphy's patent pending solution, will enable PV solar panels to produce more energy than currently possible. www.solariphy.com

- **GEM Solar**

GEM Solar develops a unique technology for kerf free slicing of silicon ingots into wafers used for photovoltaic (PV) cells thereby decreasing the cost of the silicon wafers dramatically.

- **Augwind**

AugWind offers a breakthrough technology that utilizes solar energy to augment the intermittent wind energy. Augwind offers a solar augmented device that gets integrated to an existing wind turbine while utilizing the wind turbine power generating system while incorporating a novel power dispatchability technology.

- **Chakratec**

Chakratec develops a patent protected flywheel concept that provides a stationary green energy storage solution with low capital cost and a disruptive low cost per cycle.

Objectives / Target companies

We seek entities that will join us in on-going investments in our portfolio companies as well as help those companies find pilot opportunities and commercialize their technologies.

We seek outstanding entrepreneurs and innovations that have the potential to fundamentally impact the renewable energy market. We invest in technology startups that meet the following criteria:

- Potential to develop a significant IP position, leading to substantial competitive advantage
- Potential to become a market leader in its segment
- Strong technical team, committed to its venture
- Large target market



Category: Renewable Energy
Sub Category: Energy Storage
www.chakratec.com

Company profile

The company, founded by 3 experienced industry veterans, is developing a grid connected energy storage solution based on new disruptive flywheel technology. The product is optimized for applications requiring two or more charge/discharge cycles per day, with cost per cycle one order of magnitude less than chemical batteries. Projected market for the above applications is estimated to be 10B\$ per year in 2017 by IHS. The company has raised a seed round of 1.2M\$ and is currently engaged in developing the product prototype, following a successful development of a technology demonstrator.

Year of establishment: 2013

No. of employees: 4

Technologies & products

General description:

- Chakratec's solution is based on its patented robust, green, safe and low cost flywheel technology
- The company has applied for international patents (PCT), covering its innovative rotor design, motor, bearing and system technology

Function of the product(s):

- Chakratec's flywheel based electricity storage is priced similar to Li-Ion storage but is superior to Li-Ion or other battery based technologies in the following points :
- At least 100,000 cycles compared to 3,000 of Li-Ion
- Performance without degradation over entire product life of 20 years
- Highly Resilient and Fault Tolerant Technology for Mission Critical Applications
- Flywheel storage systems do not contain any chemicals or hazardous materials and are easily recyclable and thus do not require lengthy and tedious environmental certification and disposal processes

Objectives / Target companies

- Strategic investors
- Financial Investors
- Partners for Beta testing programs



Category: Energy Efficiency

Sub Category: HVAC

www.enverid.com

Company profile.

enVerid Systems introduces a new energy saving offering for Heating, Ventilating and Air Conditioning (HVAC) systems, based on breakthrough air treatment technology. The HLR (HVAC Load Reduction) module, the flagship product of enVerid has successfully shown energy savings of 40% in demo installations in the US and Israel. enVerid operates in US, Singapore and Israel and has partnerships with major companies in the HVAC industry and the green building arena.

Year of establishment: 2010

No. of employees: 6

Background of the company

It is widely known that outside air ventilation accounts for a major part of an HVAC system's overall energy consumption. This ventilation is necessary in order to counter the buildup of indoor air contaminants like CO₂ and volatile organic compounds (VOCs). Reducing the amount of outside air, if possible, would result in a substantial reduction of energy consumption. The idea behind enVerid is simple but powerful: eliminate the unwanted contaminants instead of replacing the air, and achieve two objectives: significant savings and better air quality.

Examples of projects

A prototype HLR module was installed at Elbit Systems in Haifa in 2012 demonstrating substantial energy savings and a commercial HLR demo module was installed in San Antonio, Texas in 2013. Data from those installations have shown energy savings of 40% during the summer

Technologies & products

General description:

enVerid Systems offers a new air treatment and energy saving technology for HVAC in commercial buildings. The key idea is to reduce the intake of outside air by the HVAC system. Outside air is used in order to maintain good air quality inside the building but since it is hot and humid significant amount of energy it required in order to cool it. The reduction in outside air is achieved by a number new material technologies developed in the last decade at leading US universities and government labs, and is enhanced with novel mechanical designs and sophisticated software that optimizes the energy performance and creates a holistic solution for air recycling. There is a considerable reduction in the intake of fresh air and hence a significant amount of energy is saved.

Function of the product(s):

The HLR module enables a very large reduction of outside air without compromising indoor air quality, providing substantial energy savings. The HLR is designed as an add-on for retrofits to existing HVAC systems, allowing simple and low cost installation without replacement of pre-existing infrastructure. In development, as the next-generation offerings, are integrated products for new installations and a solution for smaller, distributed HVAC systems. Energy savings can vary from 20% to 50% depending on a number of factors like climate and building occupancy. All products have in common the use of periodically replaceable cartridges with the sorbent materials, which will be controlled and distributed solely by enVerid systems.

Objectives / Target companies

The company's objective is to establish channels to commercial real estate customers, including HVAC engineering and contracting companies, real estate developers and management companies, utilities and regulatory agencies, and large owner-occupied businesses in retail, offices and public buildings.



Category: Power solutions

Sub Category: Clean power backup solutions for the telecom sector and business continuity applications

www.gencell.co.il

Company profile

GenCell's state of the art G5 power backup solution provides reliable, cost effective and clean power for extended backup cycles and for off-grid applications. The simple, robust design and high environmental tolerance, coupled with minimal maintenance and remote monitoring and control offer a total power solution: Power Anytime, Anywhere.

Year of establishment: 2011

No. of employees: 50

Background of the company

GenCell's unique capabilities derive from the excellent combination of its experienced management, superior technological infrastructure and leading technology team.

GenCell's technology team has many years of experience in fuel cell applications in numerous arenas (space, submarines, stationary and portable).

Examples of projects

GenCell's solution has successfully powered various applications: BTS antennas (the telecom sector), power plant control systems (electric utilities), and control rooms of hospitals.

GenCell has recently entered into partnerships with strategic customers for the delivery of GenCell's power solution.

Technologies & products

GenCell's power backup solution is based on alkaline fuel cell technology (AFC) which is well known for its high reliability and clean energy production.

The product highlights include:

- Superior economic value proposition
- Simple design: low cost of bill of materials and low operation cost
- High environmental tolerance: -40°C to +45°C (-40°F to +113°F)
- Superior performance: quick start-up, zero emissions, silent power, no combustion effects, and no vibrations
- Competitive CAPEX
- Attractive OPEX

Objectives / Target companies

GenCell is aiming to create partnerships with strategic partners, potential leading customers, system integrators or distributors in target markets.

In addition, GenCell is seeking financial or strategic investors.

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Category: Energy Efficiency

Sub Category: R&D, Renewable energy, Consulting and engineering services

www.gpmworld.com

Company profile

Year of establishment: 2008

No. of employees: 7

Background of the company

The mission of Green Power Management (GPM) is to be a key solution provider in the energy efficiency market, to manage energy consumption and reduce electricity peak demand.

The company was founded in 2008 with an investment and knowledge from Loginet systems LTD. The founders of the company are Shawn Shabtay and Amit Aflalo who are also the first investors. The management team includes Mr. Shawn Shabtay – President , Mr. Amit Aflalo – CEO , Mr. Elan Roy – CTO , Mrs. Tali Oliel, VP R&D , Mr. Shachar Tal - VP Business Development

Examples of projects

A customer installed GreenOS™ 3 years ago in a warehouse. As a result, the cost of electricity paid by the customer to the electric utility has been reduced by 33%, without sacrificing comfort and while increasing the overall performance of the HVAC system.

Technologies & products

General description:

Green Power Management has developed two energy efficiency technologies and product lines.

- **GreenOS™** - An HVAC operating system that saves money on electricity bills.
- **Receive & Play™** - A series of “end” units including patented technology which enable Demand Side Management for residential customers.

Function of the product(s):

- **GreenOS™** is based on proprietary algorithms and cloud infra structure. It follows and studies the thermal behavior of customer’s sites and automatically builds optimized operating profiles for efficient operation. As a result, the cost of electricity can be reduced by more than 30% without sacrificing comfort or performance.
- **Receive & Play™** is a series of Demand Side Management products targeted to the residential market. They are operational immediately upon receiving - Receive-and-Play™. The products enable utilities to control residential loads using direct communication, without the need to install routers or gateways at the customers’ site. The first released product is an HVAC remote control unit - GreenRC™. By one click, the utility can remotely change the set-point of thousands of air conditioners at the same time. A set-point change of 1°C results in a change of 5% in electricity consumption. As a result, the utility can avoid the inconvenience of total shut-down of electrical appliances at peak demands.

Objectives / Target companies

Green Power Management is seeking two types of partners to cooperate with.

- HVAC integrators / companies seeking a competitive advantage by providing their customers tools and products that can reduce their electricity bills significantly.
- Utilities seeking new Demand Side Management products and technologies.



Category: Smart Grid, Demand Response
Sub Category: Demand Response, Energy Management, Energy Efficiency, Customer Engagement

www.greenlet.net

Company profile

Greenlet offers utilities and consumers with a **Centralized Demand Response solution for pluggable appliances** (A/Cs, dryers, washers, dehumidifiers).

Our patented system allows electric companies to quickly connect millions of **pluggable appliances** in homes and commercial buildings to a **control center**, through central software, combined with Plug & Play kits that are mailed to customers. While utilities control appliances remotely and avoid excessive generation costs in peaks, customers **are paid** for reduction, and also save money through appliance control and monitoring.

Greenlet's centralized DR solution has been sold to leading electric companies and ESCOs in the US and Europe.

Year of establishment: 2008

No. of employees: 7

Background of the company

Greenlet was formed by Avner Cohen and Nir Marom. Avner took leading positions in 3 startups (Chromatis, iamba, Native) that were acquired by Lucent, Marvell and Alcatel-Lucent for \$5 Billions, \$10 Millions and \$55 Millions, respectively. He also worked for an investment firm in the energy sector (Precede). Nir Marom worked for McKinsey and Precede and founded 4 Cleantech companies.

While we raised only \$1.3m, our revenues and projects were larger than \$1.3m – mainly in the US and Europe. We're expecting for large POs in 2015 and look for \$5m in 1-2 tranches to get ready for mass deployment.

Examples of projects

DR and EE projects in residential and commercial sectors in the US and Europe, including: CUB (Chicago IL), Dominion (Virginia), Pepco (DC), WPD (UK), PJM (PA), Israel municipality, Israel Electric.

Technologies & products

General description:

Greenlet's solution includes [1] Energy Management Software for control centers, [2] Customer Engagement software - web portal, proactive mobile app and smart emails, through which consumers control and monitor the appliances, [3] kit for consumers ("the easiest to install", per ConEd), including Greenlet™ smart plugs, serving utility-grade meters and controllers.

Our central software manages the energy used by pluggable appliances - it automatically recognized appliances, measures power, forecasts usage, notifies consumers, controls appliances remotely, reduces many megawatts and calculates reduction for billing.

Leveraging our two Appliance Detection & Recognition algorithms (US patent 8290635) – the management software automatically recognizes appliances through their electrical signatures and control each differentially. The algorithms are further used for disaggregation implementation.

We also offer a software-based (hardware-free) central DR, in which the management system manages consumers' usage via a proactive mobile app.

Function of the product(s):

Demand Response, Energy Management, Energy Efficiency, Customer Engagement, appliance detection & recognition algorithms, disaggregation.

Objectives / Target companies

Investors, Strategic partners – mainly companies selling to utilities, Clients – electric utilities and energy service companies



Category: Analyzers and control systems, real time water monitoring, water management.

www.hydrospin.net

Company profile

Hydro-powered real-time water monitoring, anytime, anywhere

Year of establishment: 2010

No. of employees: 4

Background on the company

Founded in 2010 within Hutchison-Kinrot, Hydrospin has developed a self-hydro-powered system for reliable, real-time water monitoring in water distribution networks - anytime, anywhere - providing a complete monitoring solution for all customers' needs.

Technologies & products

General description:

Hydrospin has developed a complete monitoring solution that collects and transmits real time data which is needed to improve safety and energy efficiency and to prevent water loss. Hydro-powered, the Hydrospin system uses a patented wet generator to produce energy from the water flow within the pipe with minimal head-loss. Its proprietary management system manages battery charging and provides the needed energy for the system's instrumentation. Hydrospin's patent-pending installation system is easy-to-use and provides operation and maintenance capabilities under pressurized and flow conditions for all pipes from 3" upwards.

Function of the product(s):

Hydrospin Advanced Water Management System is the most comprehensive and reliable of its kind with features that include:

- Comprehensive, all-in-one water management solution for monitoring and control requirements.
- Ability to operate and provide energy to all water-quality instrumentation in the water network.
- Customizable functionality including data collection, data logging, data transmission and alerts programmed according to customers' needs.

Objectives / Target companies

As water utility companies move towards smarter and more efficient water networks, Hydrospin expects to play a major role in the industry's modernization. While the Hydrospin solution is a complete center for monitoring and control requirements, we welcome industry collaboration with engineering firms, water service companies, smart water solutions providers, and water instrumentation vendors, as we seek to continually improve solutions for the benefits of our customers.



Category: Smart Grid
Sub Category: Analyzers and control systems, Next Generation of distribution and Transmission power grids, Smart Grid Sensors for high voltage power grids, Wireless low power networks, Internet of things for power utility

www.metrycom.com

Company profile

Metrycom brings the smartness of **Internet of Things** to utilities that want to gain continuous visibility over their high voltage transmission and distribution lines, **reduce maintenance cost** and **increase reliability** and **safety**.

Metrycom develops innovative low-cost smart-grid sensor solutions for high-voltage power grids. The system is comprised of unique sensors that can be easily spread over hundreds of km, operate for up to 20 years without maintenance and enable power utility companies to improve power quality and safety, and reduce operation costs.

Year of establishment: 2008

No. of employees: 13

Examples of projects

- Israel Electric cooperation (IEC) – commercially deploying the MetrySense4000 for on-line prediction of flash-over over transmission line insulator strings.
- Russia – MetrySense 4000 Commercial pilot
- Brazil – MetrySense 500 pilot

Technologies & products

- **MetrySense – 4000** - a smart sensor solution for prediction of flashover over transmission lines' insulator strings. The solution is comprised of integrated advanced sensor and communication (6LoWPAN) and helps power utility companies to significantly reduce power interruptions and washing operation costs, through smart preventive maintenance routines. The product is protected by patents whose applications were submitted in 2012.
- **MetrySense – 5000** - is a Medium Voltage (MV) smart grid Sensor solution that provides faults location data and other vital operational information through an integrated advance RF mesh communication system. MetrySense 5000 sensors are easy to install directly onto overhead conductors with a hot stick and are inductively powered from as low as 1 Ampere. This is the leading sensor solution which is available today, which clearly outperform competitive solutions, especially for large rural distribution grids. The system supports different grounding methods, including solidly earthed systems and high impedance grounding. The product was tested in the field and a commercial release is planned to Q2 2014. The product is protected by patents whose applications were submitted in 2013.

Objectives / Target companies

- Power Utility Companies – for sales and pilots of new products
- System Integrators/VARs – which can team up for joint projects at their existing customers



Category: Wastewater treatment,
Produced water treatment, Renewable energy
Contact: Ohad Bendror | ohad@nanospuntech.com
www.nanospuntech.com

Company profile

NanoSpun Technologies Ltd. (NanoSpun) is a privately held, VC backed, Israeli technology company. NanoSpun uses proprietary nanotechnology processes to develop advanced biological-based products for industrial and municipal wastewater treatment, alternative energy production and in the bio-medical fields.

Year of establishment: 2011

No. of employees: 12

Background of the company

NanoSpun emerged out of the Technion – Israel Institute of Technology. NanoSpun's team brings more than 30 years of aggregated relevant business skills and scientific experience in chemical engineering, mechanical engineering and biology. The team is led by an experienced entrepreneur with vast experience in building and managing technology start-ups and bringing technologies from concept to market. Among NanoSpun investors global top-tier VC funds and leading industry experts.

Technologies & product(s)

NanoSpun's nanotechnology is based on NanoSpun's novel processes which uniquely enable one step encapsulation of active elements within its porous hollow fibers, creating a very effective bioreactor even at the basic fiber level.

Based on its proprietary platform and its unique capability to encapsulate designated active microorganisms within its fibrous porous structures (rather than merely immobilizing them), NanoSpun first line of products offers environmentally friendly, highly efficient, cost-effective and easy to use (deploy and maintain) products for biologically-based wastewater and oil spills treatment. In addition, NanoSpun products have minimal or no energy consumption and thus offer a significant reduction in treatment cost compared to other alternative advanced solutions.

Objectives / Target companies

The company's strategy is based on the integration of NanoSpun's products within or alongside existing purification and filtration lines. NanoSpun's products supplement current technologies offering maximum efficiency and applicability of bioremediation solutions. NanoSpun is currently looking to establish solid value added strategic partnerships with various markets players.



Category: Renewable energy, R&D
www.newco2fuels.co.il

Company profile

NewCO₂Fuels innovative technology converts CO₂ and H₂O into syngas and from it synthetic fuels for transportation or many other high value chemicals. The end products are competitive with current market prices thanks to the very high conversion efficiency and dissociation rate of the NCF system.

Year of establishment: 2011

No. of employees: 16

Background of the company

NewCO₂Fuels Ltd., founded in 2011, commercializes a technology originating from Prof. Jacob Karni's laboratory at the Weizmann Institute of Science. Prof. Karni and his team conducted eight years of research on high temperature CO₂ dissociation and proved that the technology has the ability to convert CO₂ into fuels.

Technologies & product(s)

General description:

NCF is developing an innovative, cost competitive self-sufficient system to produce fuel from CO₂ and renewable energy. The core technology is a high temperature driven, CO₂ and water dissociation process which produces syngas (mixture of CO and H₂), from which different synthetic fuels can be produced.

The uniqueness of the technology lies in the **overall** 40% efficiency conversion efficiency of the process, enabling competitive prices for end product fuels while recycling CO₂ emissions. NCF's product is modular and can easily adapt to, and integrate with, existing facilities and heat sources such as steel foundries, ceramic and glass furnaces and solar energy.

Function of the product(s):

Convert CO₂ into alternative fuels.

Objectives / Target companies

NCF is looking for Financial and Strategic partners to take its technology to the next development stage.

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Category: Energy Efficiency, Smart Grid, Renewable Energy

Sub Category: IT, Data Center, Solar, Energy Storage

Contact: Oren Ahronson | oren@power-offer.com

www.power-offer.com

Company profile

Power Offer is the developer of the **Trangulator**, a revolutionary algorithm based power conversion technology that disrupts the way AC (Alternating Current) is handled. Our proprietary technology grants improved voltage regulation (handling of all power quality issues) at record-breaking efficiency, and enabling new ways of mixing energy from conventional and renewable sources. The **Trangulator** will change the way the market converts and regulates AC power in residential, commercial and industrial applications.

Year of establishment: 2007 entered a government incubator. First private investment in Dec. 2010.

No. of employees: 8

Background of the company

The company started at Mayan Ventures incubator, and as of Dec. 2010 is financed by private angel investors. We have a working prototype which demonstrates the capabilities and advantages of the technology. Single stage AC conversion with power electronics was considered impossible, and Power Offer is the first to demonstrate a working product. We consider ourselves as technology enablers and intend to cooperate with leading power companies which will employ our proprietary technology as part of their solutions.

Examples of projects

Past 3 years were invested to prove that single stage AC conversion technology is feasible. Our 3-Phase 12kW prototype presents the main advantages of DIGITAL AC.

Technologies & products

Our proprietary and patented Single stage AC conversion technology opens opportunities for multiple applications and markets including: UPS (Uninterruptable Power Supply), Voltage regulators, Smart Grid, integration of renewable (solar, wind, energy storage) energy to grid and more.

Objectives / Target companies

Power engineering companies such as GE, Schneider, ABB, Emerson, Eaton. Solar inverter companies. Power utilities which are looking at new technologies for voltage regulation and distributed generation, smart grids etc. Investors who would like to be part of the introduction of a revolutionary technology of digital AC.



Category: OIL&GAS Production Industry
Sub Category: Industrial waste treatment, R&D, Waste water treatment, Hydraulic Fracking, Oil sand/SAGD, Water resources management.

www.refresh-watertech.com

Company profile

RE-Fresh has developed the WET™ technology for treating Oil and Gas industry wastewater.

The technology is based on an innovative use of robust, well-established liquid/liquid extraction technology. It is both economically and environmentally attractive.

Year of establishment: 2013

No. of employees: 3

Background of the company

RE-Fresh, is a new venture of RE-10. RE-Fresh is based on the experience and knowledge of Professor Aharon Eyal from the Casali Institute of Applied Chemistry, in The Hebrew University of Jerusalem.

Examples of projects

Some examples on RE-10 past projects:

- HCL-Cleantech- Biomass conversion to sugars for biofuels and other bio-products (now known as Virdia) – www.virdia.com
- Clean Marine – Flew gas cleaning for marine vessels – www.cleanmarine.no
- Joma International – Production and utilization of Nano-titania - www.joma-int.com

Technologies & products

General description:

RE-Fresh's WET™ process is liquid/liquid extraction based and employs a non-toxic and widely-used industrial solvent. The solvent is fully recycled and can be made from renewable resources. The WET™ process uses common, off the shelf equipment. The technology is laboratory proven.

RE-Fresh's WET™ process extracts water and organics from the wastewater stream, leaving only concentrated brine for disposal or further treatment. The extracted water is recovered from the solvent to produce fresh water and regenerated solvent for recycle to the extraction operation. A small bleed of the solvent is treated to separate and recover co-extracted organics.

Function of the product(s):

The product fresh water can be reused in the Oil & Gas production process, lowering makeup water and disposal needs and costs.

Objectives / Target companies

RE-Fresh will bring water reuse ability to O&G production industry. Mostly attractive to O&G Production companies, O&G production service providers or engineer companies.



The Israel Export & International Cooperation Institute

www.israelnewtech.gov.il | www.trade.gov.il | www.investinIsrael.gov.il | www.export.gov.il