

ENERGYVEST - Energy Technology Investor Conference

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מתימו"פ
MATIMOP
מרכז התעשייה הישראלית למחקר ופיתוח
Israeli Industry Center For R&D

CAPITAL NATURE
INVESTING IN GOOD ENERGIES



www.israelnewtech.gov.il

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As the need to explore global solutions in the field of renewable energy grows, we felt the time was right to bring together members of the energy investment community, Israeli entrepreneurs and government officials for an exciting day of brainstorming and planning cooperative ventures.

Israel's energy alternatives sector has quickly acquired an international reputation for innovation, and has recently begun attracting increased attention from international investors.

Israel's thriving entrepreneurial and innovative spirit has been instrumental in creating a wealth of smart energy solutions. For 64 years, Israel has been on the forefront of originating and utilizing renewable energy solutions. Today, its energy community

benefits from synergies with the local high-tech sector, resulting in a truly exciting array of innovative energy developments.

Surrounded by the natural beauty of Israel's southern city of Eilat, we will convene and explore challenges and creative solutions within the industry.

Sixteen award-winning Israeli companies have been carefully chosen to present their breakthrough technologies and products in the fields of solar energy, smart grid, wind energy, biofuel and others.

Participants in EnergyVest will also enjoy an in-depth panel discussion with international and Israeli investors in the industry.

The Israeli government has, since the country's inception, held energy technology development as a national priority. From this approach stem fruitful programs in which government, industry and academia join hands to encourage energy innovations. One such program is Israel NewTech, a unique government program dedicated to fostering Israel's Cleantech industries by supporting academia and research, encouraging implementation in the local market, and by helping Israeli companies succeed in the international arena.

Moreover, The Investment Promotion Center serves as a full-service "one-stop shop" for foreign based companies and individuals who are interested in investigating direct investment and joint venture opportunities in Israel. The center provides a wide range of personalized services, assistance and information to potential investors and serves as a resource for investment related information.

I would like to welcome you to EnergyVest 2012, a joint venture of "Invest in Israel" and Israel NewTech, Capital Nature and PwC. EnergyVest is the latest event among several highly productive and well-attended investment conferences recently run by Israel NewTech, including Cleanvest and Agrinvest.

I look forward to working with you and creating a platform for cooperation with the Israeli agro-technology community, bringing lasting mutual benefit to Israeli industry and investors alike.

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Invest in Israel

MINISTRY OF INDUSTRY, TRADE & LABOR
STATE OF ISRAEL



Category: Renewable energy.

Sub Category: Fuel Cells.

Company profile

CellEra is developing and bringing to market a new Platinum-Free Membrane fuel cell technology, with the objective of dramatically reducing costs, and allowing fuel cells to finally achieve their market potential.

Year of establishment: 2007

No. of employees: 17

Background of the company

CellEra's goal is to deliver a clean, efficient, and highly-affordable energy storage & conversion technology, replacing lead-acid batteries, diesel generators, and internal combustion engines in 1 kW - 100 kW applications. The company's disruptive technology is Platinum-Free Membrane Fuel Cell (PFM-FC) for which CellEra is a first commercial mover. PFM-FC will allow CellEra to achieve price parity with incumbent battery and ICE based solutions.

Examples of projects

- Secured Vodafone as a strategic investor
- Secured USD multi-Billion telecom solution provider as launch partner
- Secured joint development with global auto OEM.
- Secured joint development partnerships with USD multi-billion polymer firm
- World's first and only PFM fuel cell engine working prototype at the kW scale
- Selected as recipient for prestigious US - Israel Bi-national Industrial R & D Funding (www.birdf.com)
- Twice named a Global Cleantech 100 (Y2010 & Y2012)

Technologies & products

General description:

CellEra is the first commercial mover with solid IP in disruptive Platinum Free Membrane based fuel cells, enabling a 50% and above reduction in materials and manufacturing costs. Since inception, the company has developed this from technology concept through to kW-scale working prototype system. CellEra has filed to date for 7 patent families, the first 2 of which have already been granted.

Function of the product(s):

CellEra's primary product is targeted at the USD 3 billion telecommunications backup market utilizing widely-available ammonia, as well as compressed hydrogen as a fuel. Follow-on mass market application is in portable and distributed power generation and storage. In the automotive sector, CellEra has launched a collaborative R&D program with one of the world's leading automotive companies towards the development of a PFM-FC based EV range extender.

Objectives / Target companies

The company will be headed into field trials within the coming months, and following will be raising its next tranche of financing geared towards:

- Productization and fabrication of critical power product.
- Develop and bring to market distributed / portable power generation product, utilizing ammonia as the fuel source.
- Develop combined Non-Pt energy storage and power generation solution
- Lead PFM-FC automotive R&D consortium including tier 1 automotive company.

The company's current investors include top-tier VC's Vodafone Ventures, Carmel Ventures and Israel Cleantech Ventures.



Category: Renewable energy.

Sub Category: R&D

www.evr-motors.com

Company profile

EVR Motors Ltd. is developing novel Direct Drive Generators; innovative technology that will greatly improve the performance of wind, water, ocean and other types of turbines.

The Direct Drive Generators of EVR Motors have a unique and innovative design of their magnetic system that among additional benefits, maintains high efficiency at all rotation speeds.

Installed in wind turbines, the Direct Drive Generators operate from 1.0 KW up to 10.0 MW, over the majority of the turbine's lifespan. Their installation will significantly increase turbine capacity factor, while reducing its cost.

Today, further research and development is financed by Horizon GreenTech Ventures (h-v.co.il), the company is incubated at the Ashkelon Technological Incubator. Other partners of EVR Motors include Alstom S.A, Rotem Industries, Gefen Biomed Investments, and BDB Technology Investments.

Year of establishment: 2012

No. of employees: 3

Background of the company

EVR Motors team of founders consisted of highly qualified engineers, and highly motivated and energetic business specialists.

EVR Motors develops motors since 2008, and generators since 2009. Recently the company completed its first laboratory prototype of the direct drive generator which showed exceptional results.

Currently the company develops its first commercial prototype of a direct drive generator for small scale wind turbines.

Technologies & products

The EVRG by EVR Motors is a "direct drive" permanent magnet, multi-pole & multi-phase generator, based on a novel modular magnetic system developed by the EVR Motors team. The generator can produce electricity directly from variable RPM inputs (starting from almost zero RPM) without any expensive gearboxes or energy-losing cooling requirements.

The EVRG Advantages:

- Continuous High efficiency (93-98%) over all rotation speeds
 - Fewer heat losses in the electric and magnetic conductors
 - Energy harvest starts at the lowest wind speeds
- Reduced weight
- Can be produced with non-rare-earth magnets (Sr-ferrite instead of NdFeB)
 - Resolution for the China rare earth materials quota issue
- Modular Construction
- Reduced manufacturing costs, fewer fault risks
- No need for liquid cooling (optional)

Objectives / Target companies

EVR Motors Vision is to be a leading player in providing innovative and efficient solutions for the renewable energy industry.

EVR Motors Mission is to develop and manufacture innovative, cost-effective, more efficient and reliable direct drive generators for wind & marine turbines.

Target Companies: wind, tides & hydro turbines manufactures.



Category: Personal mobility.

Sub Category: Light electric vehicle / Micro-vehicles.

www.greenride.eu.com

Company profile

Green Ride's™ vision is to lead and standardize the personal mobility concept within urban environment. It was founded by top of the line team of managers, engineers, designers, and marketing experts to provide innovative sustainable transport solutions for urban daily commuters. We free passengers from their daily use of current inefficient transport solutions by analyzing consumers' needs, using professional methods, creativity, and flexibility. Our solutions are license free, well designed and easy to operate, light and portable, electric and affordable.

Year of establishment: 2011

No. of employees: 8

Background of the company

Carrying passengers or cargo from one place to another in urban environment is a mission which includes minerals consumption, vehicle manufacturing, infrastructure development, energy consumption, and maintenance. Inefficiency of old methods result high congestion levels, air pollution, noise, and oil dependence. Both the development and developing countries invest a lot of resources in order to reduce the above factors and increase the urban overall transportation efficiency and sustainability.

Green Ride™ was founded to provide innovative sustainable transport solutions for urban environment.

Examples of projects

Green Ride™ is currently establishing the way to new turnkey projects at European and Australian municipalities and railway companies.

Technologies & products

General description:

The Green Riders™, state of the art two or three wheeler light electric vehicles. Green Ride's™ personal micro vehicles are characterized by automatic folding system, advanced technologies, fashioned design, and a user friendly interface. The Green Riders™ are highly efficient, light, foldable, and portable. They are reliable EVs with a charging range of 45 km, having the ability to carry up to two passengers.

Above all, Green Ride™ has been developing public turnkey solutions for municipalities, railway companies, campuses and airports.

Function of the product(s):

Providing advanced sustainable solution for personal mobility in urban environment.

Objectives / Target companies

Green Ride's objective is to become a leader in urban mobility.



Category: CSP

Sub Category: Solar Thermal solutionsg.

www.heliofocus.com

Company profile

Year of establishment: 2007

No. of employees: 25

Background of the company

Established in 2007, HelioFocus is a solar thermal company. The company develops large dish to generate high temperature air that can be used for thermal applications: power generation, process and heat delivery to consumers.

Our core technologies are Dish - to optically concentrate light, Receiver - to transform Sunlight to heat and Piping system to transfer the heat. Receiver first generation in 2007 was exclusively licensed from the Weizmann Institute of Science.

The company sells installed systems in a form of integrated solar fields. These fields are either providing steam to existing power plants (1st product) or generating electricity using a steam turbine (2nd product). targeting 1st product commercialization by Dec' 2013 & offer to our customers (power plants owners or utilities) to boost their plants with our solar field and improve efficiency, increase electricity output and combine a renewable solution to their portfolio.

The company prime market and first to focus is China. 2nd market is SW US and on later stage sun belt countries like Australia, India etc'. The company act in Israel for technology qualification and have alliance with Israel Electric corporation for power plant connected demo project.

Examples of projects

HelioFocus have a system operating in Rotem industries as a demo and qualification test site.

The company signed an agreement in Inner Mongolia for a solar field , 1st phase is 8 dishes solar field as the next phases will be 100 and 500 dishes projects.

The company also signed an agreement with IEC for Boosting project in Ramat Hovav, and another Boosting project in Israel (10MW)

Technologies & products

Our core technologies are Dish - to optically concentrate light, Receiver - to transform Sunlight to heat and Piping system to transfer the heat. Receiver first generation in 2007 was exclusively licensed from the Weizmann Institute of Science.

The company won the CSPtoday new comer of the year award 2011, and Israel Asia award for business excellence.

Objectives / Target companies

HelioFocus is 18 months away from commercialization (Gate 5, Dec' 2013) which includes technology completion and laying mass production infrastructures to support project volumes and performance. This requires a 4th and last round.

LCB Bioenergy

Category: Renewable energy.

Company profile

LCB Bioenergy has developed a simple, highly efficient and cost effective technology for converting Lignocellulosic Biomass into sugars (and further into ethanol) & fertilizers.

Based on proprietary inorganic catalysts, the Pipko Mix™, our process results in higher yields of sugars, minimal environmental impact and commercially valuable by-products.

Technologies & products

Processing the biomass using inorganic catalyst instead of strong mineral acids or expensive enzymes, resulting in:

- Highly efficient decomposition of the lignin!
- Consequently, much higher yields of sugars & second generation ethanol.
- Highly efficient process with lower external energy consumption.
- Lower establishment costs; Lower operational costs.
- Minimal environmental impact: no waste to dispose of!
- Valuable by-products like organic-mineral fertilizers, feeding stuff, bio-based chemicals and substitutes for petroleum-based feedstock

Objectives / Target companies

Seeking investment / strategic partnerships, for: Completing a semi-industrial pilot process for producing sugars & ethanol; Signing licensing agreements and/or entering partnerships for the establishment of a manufacturing plant.



Category: Energy Efficiency,
control systems, R&D.

www.metrolight.com

Company profile

Metrolight provides proven energy-efficient eHID and LED solutions for high-power lighting applications. Metrolight's smart universal electronic ballasts and drivers, along with managed lighting solutions, significantly reduce energy consumption and carbon emission by up to 70%. Metrolight provides solutions for retail, industrial, commercial and municipal applications. Metrolight operates worldwide with over 750,000 systems deployed and over 8 billion hours in operation.

Year of establishment: 1996

No. of employees: 31

Background of the company

Metrolight is headquartered in Israel with a corporate office in the USA and sales channels in 10 countries through 80+ partners.

Examples of projects

National Accounts - Fry's Electronics, USA - Complete roll out of Metrolight SmartHID digitally controlled solution across all locations: 70% energy savings, short ROI - 7 months, total annual savings - \$5,289,504.

1KW Auto Dealership Program - Upgrading 1,000W lighting system to 450W SmartHID solution in auto dealerships, installation in some 150 locations in 9 states over past year, up to 65% energy savings.

Street Lighting - Upgraded municipal lighting systems with Metrolight's eHID solution in cities across Israel and in Europe - average of 40% energy savings.

Technologies & products

Universal smart electronic ballasts and drivers: Support a range of wattages, input voltages, types of lamps and LEDs; fully programmable. eHID to LED technology. Full digital bi-directional control (wired or wireless) enabling management of addressable light fixtures. Up to 70% energy savings, 1-2 year customer ROI, lowest TCO at high wattage, improved light quality

Products: 1) Full Lighting Solutions - EcoPOD System eHID and LED high bay solution kits, 2) eHID Ballasts and LED drivers for OEM's (45W - 600W), 3) Retrofit Kits - EcoBOX retrofit for existing indoor and outdoor fixtures, 4) Lighting Management Solutions - complete digital control.

Objectives / Target companies

To market our solutions through OEM's, ESCO's, distributors and energy partners, with applications in municipal, commercial, industrial and retail installations. Intense R&D focus to develop revolutionary products in high wattage LED market.



Category: Renewable energy.

Company profile

Nanergy Systems develops proprietary disruptive and differentiated photovoltaic cell technology, giving rise to a new generation of highly efficient solar cells with compelling economic advantages over existing technologies.

To date, the development of a prototype cell - including unique methods to manufacture nanowire arrays with multi-shell structures of chemically modified compositions - is close to completion, where the top conductive layer being the remaining technological challenge. This prototype will demonstrate the potential for high efficiency and serve as the basis for the engineering effort and economic studies still ahead of us.

Year of establishment: 2007

No. of employees: 8

Background of the company

Established in 2007, Nanergy is led by a strong and experienced team. Its scientific leader - Prof. Fernando Patolsky, a Chemistry professor at the Tel Aviv University, is a well-known researcher and one of the world leaders in applying nano technology to practical problems.

The Nanergy management team also includes the CEO - Dr. Ricardo Osiroff, having extensive experience in leading high tech companies from inception to the market.

Technologies & product(s)

General description:

Nanergy's enabling technology is based on the unique combination of three dimensional nanostructures and chemically controlled material compositions. A high density "forest" of radially graded nanowires is built on a silicon surface to create a highly energy absorbent surface. Such structure provides superior efficiency due to: high surface area, light entrapment within the 3D structure, and higher absorbance of the light spectrum by the multi-shell structures.

Nanergy's value proposition is based on higher efficiency, while keeping manufacturing costs down. The improved energy output per panel will lower capital cost per kWh, lower installation costs, and lower infrastructure requirements.

Function of the product(s):

Photovoltaic solar cells.

Objectives / Target companies

Nanergy will complete a first technology demonstrator within 6 months from investment, optimize industrially scalable manufacturing processes and produce a prototype within 12 months. Following investments will be used for long term reliability testing, mass production readiness and strategic alliances. The company seeks funding to complete process development and validate a first prototype.



Category: Renewable energy, R&D.

www.newco2fuels.co.il

Company profile

NCF is developing an innovative and breakthrough technology providing a revolutionary, cost effective solution to two global concerns; CO₂ emissions and diminishing liquid fuel reserves.

NCF's product uses a proprietary technology, generating liquid fuels or electricity, by using solar energy and CO₂ emissions and water as feedstock.

Year of establishment: 2011

No. of employees: 14

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 showed that the technology has the ability to convert CO₂ into fuels. Prof. Karni, with 20 years of research and development experience, has a keen interest in the development of new methods for concentration, absorption, conversion, transmission and storage of solar energy, and implementing these methods in genuine solar power-conversion systems.

Technologies & product(s)

General description:

NCF use concentrated solar energy for the dissociation of carbon dioxide (CO₂) to carbon monoxide (CO) and oxygen (O₂). Simultaneously, the same device can dissociate water (H₂O) to hydrogen (H₂) and oxygen (O₂). The CO, or the mixture of CO and H₂ (called Syngas), can then be used as gaseous fuel (e.g. in power plants), or converted to liquid fuel (e.g. methanol), which has the potential to be stored, transported and used in motor vehicles.

Function of the product(s):

Create liquid fuel from CO₂ using solar energy.

Objectives / Target companies

NCF objective is to develop and commercialize a revolutionary, cost effective solution to two global concerns; CO₂ emissions and diminishing liquid fuel reserves.



Category: Analyzers and control systems, Consulting and engineering services, R&D.
Sub Category: MCM (Motor Condition Maintenance).

www.phase3-tech.com

Company profile

PHASE3 has developed an innovative technology that enables it to bring to the market a new type of online Machine Condition Monitoring solution.

Year of establishment: 2011

No. of employees: 3

Background of the company

PHASE3 was founded in December 2011, and is currently a portfolio company of L.N. Green Technological Incubator, located in Haifa.

Examples of projects

PHASE3 has made 3 successful pilots:

1. NESHER Israel Cement Enterprises - 12 low and high voltage motors were tested and successfully approved
2. MILUOF (poultry cooling plant) - 3 motors of 400KW each were tested and successfully approved
3. GERSHON KLEIN (motor repair factory) - 30 low voltage between 3HP to 160HP motors were tested before and after repair and successfully approved.

Technologies & products

General description:

PHASE3's system is based on an innovative proprietary technology which identifies problems and faults in the motor's operation by measuring the magnetic fields generated by current and power feeding at the motor supply power cables.

Function of the product(s):

- A. Early warning of developing mechanical and electrical faults
- B. Real time continuous monitoring of condition and performance of equipment
- C. Alarms are received immediately with no need to collect data for learning
- D. Optimizing production and maintenance scheduling
- E. Increasing productivity and capital efficiency
- F. Logging the entire raw data for covering legal issues

Objectives / Target companies

The development of the commercial version is expected to be completed by mid-2013. The Company is seeking capital in order to accelerate the product development, expand the beta-site installations to 100 units, and to kick-off marketing efforts - targeting system integrators and motor manufacturers. Funds will also be used to develop an integrated version of the product in the form of a module or a programmable chipset for OEM purposes.



Category: Energy, Cleatech, Smart Grid, AMR/AMI systems, Water, Gas.

Sub Category: Smart Grid, Smart Metering, Energy Efficacy, Load Management, EV Charging, Prepayment systems, AMI systems.

www.powercom.co.il

Company profile

Smart Meter/Smart Grid Solution provider offering AMR/AMI.

Year of establishment: 2006

No. of employees: 52

Background of the company

Formally "Flextronics Design" team.

Owners: Yaniv Oren, Yackov Dar, Israeli Electric Company.

Examples of projects

Installations in Europe, Africa, Asia and South America.

Smart Metering installations with the IECo (Israeli Electric Company), EDP (Energie De Portugal), JEDCO (Jerusalem District Electric Company), AngloGold, Scaw Metal, Municipalities, ESCo companies, Hotels, Schools, Industrial and Commercial customer, and Energy Distribution providers.

Technologies & products

General description:

Powercom is a "Smart Metering/Smart Grid" company. The company offers (AMI) Advanced Meter Infrastructure for Electricity, Water, and Gas. PowerCom develops and produces "Smart meters", Concentrators and powerful web server software to support its customers. The system's intellectual property is based on a Dynamic PLC (Power Line Carrier) technology. Over the last two years, PowerCom has been successful in implementing the world's first most advanced, reliable and secured PLC communication. The breakthrough is achieved by developing Dynamic PL communication algorithms (based on software and hardware) which allows data transmission at any grid line infrastructure. PowerCom solution is based on real time monitoring of the power line behavior and adopting its data transmission to the existing conditions.

Function of the product(s):

wires (Aluminum/Copper), at any world location in seconds. The system speed has been tested in different environments and Locations, and the results are excellent. The system is fully working and already deployed in more than 100 sites. Powercom is in final stages of developing the "Smart Meters" for the US market based on multiple communication platforms.

Objectives / Target companies

Utilities, Energy Distribution companies and project integrators around the globe.



Category: VEHICLE- Powertrain efficiency.

Sub Category: Analyzers and control systems, R&D.

www.redler.co.il

Company profile

Founded in 1994, Redler Computers Ltd. is an innovative & reputable Electronic & Control, design and Engineering house, located in Israel.

Specializes in the development of digital servo drives and advanced motion control systems design and manufacture the most reliable systems that meet mil stand and design for Harsh environmental conditions.

Redler's vision is To become a leading company for Vehicle Power Management Solutions for Military, Aviation, Maritime, Unattend systems, mobile Micro grid and EV (Electric Vehicles). Based cutting edge cost effective technology, IP and gradual grow within sub-markets.

Year of establishment: 1994

No. of employees: 12

Background of the company

Redler's heavy duty motor controllers integrated in the new Israeli ACV (armored combat vehicle) "Namer" and in the "Merkava" tank

Redler's developments & products are integrated within most of the leading Israelis UAV systems.

Examples of projects

1. PGM - Précising Guided Munition -120 mm full design:

The project includes the mission computer, 4 axes servo unit, INS-GPS design, aerodynamics configuration and GNU algorithm.

2. Heavy-duty high performance servo system:

Driving up to 2.5 kw.

Sensor less BLDC motors.

Easy to install and maintain

Typical power at 27v is 1350 w,

Wide range of operation voltage 12v-75v.

Up to 60A at 75V to 12000RPM.

The unit performs a BEMF trapezoidal or Hall/Encoder sinusoidal drive.

Technologies & products

1. MAMC (Multi Axis Motion Controller) power train Patented technology (No 16461/461) enable to improve EV power source (such as Lithium Ion or Fuel cell) efficiency up to 25% working duty duration & up to 15% source power charging LCC (life cycle costs) by the motor controller in a unique method.
2. Automatic fuses and switches, measure analyze, manage and communicate power consumers- Redelr's Fuse & switches IP enable control, optimization, improving LCC and communication with other vehicle systems.
3. Heavy-duty high performance servo systems.
4. Navigation systems: INS-GPS, 3-D Magnetometer box

Objectives / Target companies

Looking for strategic partners and investors to develop a revolutionary motor controller- the most efficient in the market for EV.



Category: Renewable energy.

Sub category: Wind Turbine.

Company profile

The company develops an efficient, cost-effective vertical axis wind turbine (VAWT) with first focus on small wind turbines for residential settings.

Year of establishment: 2008

No. of employees: 2

Background of the company

Smart Wind was established by Andrey Kotler in the L.N. Green Technological Incubator in Haifa, Israel. The key differentiator of the company is a novel rotor with a specific use of Active Flow Control (AFC) aerodynamic technology which enhances the turbine's efficiency, reduces noise and vibrations and enables high performance in unstable wind conditions and across a range of wind speeds. The first focus of the company is the wind turbine market for residential settings (rated capacities up to 10 kilowatts). Following penetration into the residential market the company will approach other sectors in the small wind turbine market (rated capacities up to 100 kilowatts) and explore the opportunities for applying its innovative technology to larger VAWT (rated capacities above 100 kilowatts).

Examples of projects

Smart Wind created five test model configurations which were evaluated at the company's test site at the Technion - Israel Institute of Technology. The different configurations were tested against two conventional small wind turbines; one with a horizontal axis of rotation (HAWT) and the other is a VAWT (Savonius type wind turbine). Comparison experiments between the Company's fifth configuration and the conventional small wind turbines demonstrated that the company's test model produced more energy per rotor swept area in almost complete silence.

Technologies & products

General description:

The basic idea of the Company's Active Flow Control technology, by Andrey Kotler, for vertical axis wind turbines is to use the centrifugal forces, due to the spin of the rotor, to inject accelerated air on the rotor blades. Injection of accelerated air on the rotor blades increases the air circulation around the blades. The increase in air circulation around the blades translates to greater power production of the wind turbine. Smart Wind turbine is comprised of its innovative and special rotor, generator, electrical components and tower.

Function of the product(s):

The increased efficiency of the company wind turbine – for greater electricity production - will translate into a relatively rapid ROI.

Objectives / Target companies

The company is seeking to raise 2M\$ to enter the international market with the first commercial model and to expand to wind turbines with higher powers. Smart Wind's strategic partner is Kanfit Ltd – a privately owned company which is a certified supplier of products for the international aviation market. Now the company is in the process to manufacture and test the first commercial model of about 1kW



Category: Solar Energy.

Sub Category: Electric Energy Conversion.

Company profile

SolarBead has been founded after thorough market and requirement research, following a top level design. SolarBead develops its solutions and advanced system architecture for the PV Solar Systems application which expected to cover huge market and large volume.

Year of establishment: 2010

No. of employees: 5

Background of the company

SolarBead is a Star up company, which develops miniature electric conversion devices for Photo Voltaic (PV) panels.

The development projects are steered and financially driven by the Israeli Ministry of Energy and won several financial support tenders already.

The company has come with a unique (patent pending) software/hardware solution that significantly improve power harvesting from the individual PV panel.

The unique solution enables low cost products that improve return on investment and/or reduce power production cost.

SolarBead was established by experienced engineers from the industry and the academic world.

Examples of projects

The company is developing the following products:

InverBead: miniature DC to grid AC inverter

DCBead: miniature DC to DC/HV inverter

Technologies & products

Every PV panel equipped with InverBead will supply its power directly to the grid, thus eliminating the need for central inverter and enabling a precise and efficient power harvesting from the individual panel.

DCBead will allow the use of PV panels in areas limited in size that could not contain the amount of panels required for a central inverter full string.

Objectives / Target companies

SolarBead with its new developments provide solutions which decrease solar system costs, increases its efficiency and provide more capabilities to the system and the user.

SolarBead provides better systems efficiency over other solutions,

SolarBead intend to play a key role as a supplier of advance, efficient and low cost products to the vast, growing PV market.



Category: Renewable energy.

Sub Category: Low Concentration Solar Photovoltaic.

Company profile

Tenoga is an Israeli start up company recently founded in partnership with a French industrial entrepreneur. Its goal is to develop, manufacture and market through its sister French company, Yuma, a new tubular solar photovoltaic system.

Year of establishment: 2011

Number of employees: 2

Background of the company

Start up Company founded by two high background engineers, Prof. Claude Oiknine and Zalman Schwartzman, in partnership with a French entrepreneur, Frederic Navallon, CEO of Navallon Group. Three of them cumulate together hundred years of experience in Aeronautics, Electronics and Civil Engineering; during the last years they were intensely involved in various photovoltaic projects in Israel and France. For its first project, Tenoga uses a new patented concept of tubular photovoltaic module at low sun concentration; this concept has been defined and experimentally proven during years 2009-2010 by Claude and Zalman.

Technologies & products

General description:

The photovoltaic module consists in a glass tube including in its upper part a thin Fresnel lens. The lens concentrates the sun energy ten times along the bottom of the tube where a narrow strip of silicon cells is located. A one axis tracking system enables each tube to rotate and to follow the sun. All the cylindrical modules are easily implemented on a dedicated ready -to- be- used support that includes the exclusive self-cleaning system.

Function of the product(s):

Production of electricity in solar plants connected to the grid or off grid.

Objectives / Target companies

The project is to commercialize worldwide a photovoltaic technology for green energy production, based on a disruptive design, particularly relevant in sandy or dusty environment. The product is today in a prototype stage with one pilot installation located in Arava Solar Center (South Israel). Industrial development requires fund raising to begin in January 2013.



Category: Renewable energy.

Sub Category: Enzymatic production of biodiesel.

www.transbiodiesel.com

Company profile

Biodiesel production by new generation enzyme-based catalysts.

TransBiodiesel Ltd. has patented a new technology using unique immobilized enzymes as an alternative for the conventional chemical-based catalysts for the production of biodiesel from different oils, including plant oils, animal fats and recycled greases. The developed immobilized enzymes are characterized with their high resistance towards short-chain alcohols, typically used as substrates in the production process of biodiesel. The developed enzymatic process for production of biodiesel has been approved as economically feasible and also competitive with the costs for the currently practiced conventional production processes. Furthermore, the enzyme-based production process is benign for the environment and the by-product produced in the process, namely glycerol, can be used for food, cosmetics and pharmaceutical applications without excessive purification. The Company is in the process of forming strategic alliances with worldwide-leading biodiesel producers. The founder of the company has applied similar enzyme technology for the production of lipid-based nutraceuticals at industrial volumes in his former venture (www.enzymotec.com).

Year of establishment: May 2007

No. of employees: 7

Technologies & products

General description:

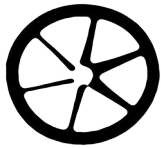
The company has developed new techniques for the preparation of biocatalysts to be used for the production of biodiesel at industrial volumes. The new biocatalysts are capable of catalyzing the reaction between both edible or other inedible fatty acid sources and methanol to form biodiesel that meets the international specs.

Function of the product(s):

The product will be used as an alternative for corrosive chemicals in new as well as in old biodiesel plants.

Objectives / Target companies

The company will design and construct the first commercial prototype by 2010 to demonstrate the industrial feasibility of the technology for the first time worldwide. The company needs to raise US\$ 3 Million for business development and industrialization of the technology worldwide.



Winflex

Category: Renewable energy.

Sub Category: Wind turbines.

Company profile

Winflex is a wind turbine development and manufacturing company. Our product is based on proven, patented technology, providing cost effective solution for utilization of wind energy at costs lower than of fossil fuel energy sources.

The key of Winflex technology is the turbine rotor, made out of light flexible and inexpensive composite material fabric. As a result the rotor is 20 times lighter than rotors designed by most advanced technologies on the market, causing a chain effect on the whole structure.

Year of establishment: 1.1.2009

Number of employees: 15

Background of the company

Winflex is in a second stage of a ten year development led by Dr. Kliatzkin, company's CTO and the inventor of the technology. Winflex is supported by Israeli Ministry of infrastructure and the Ministry of Commerce and Industry. Previous development stage was interrupted by sudden death of the companies owner. During that development period a prototypes of 10kW and a 200kW have been built and tested connected to grid for two years. Winflex was established to industrialize the technology and produce wind turbines first in a range of 100-500 kw and at second stage in Mega scale range.

Dr. Kliatzkin has over forty years of experience in leading R&D projects, structural & energetic improvements of vehicles and avionic products. Eliezer, the CEO gained his managing experience at Unibatt, a R&D company in a field of energy storage. Doron Spitz, company's management consultant serves as CEO of Unibatt and has managing experience as director of vehicle production companies and a research institute.

Examples of projects

The company has no previous projects. The Management team members have 15 years of collaboration. Each of the members led industrial & R&D projects. **Examples of projects** led by team members:

- Development of wind turbine and full CAD-CAM system.
- Development of innovative rechargeable storage systems and development of manufacturing process.
- Enchasing Dynamic and structural parameters of transport platforms.
- Structural analysis of avionic and land transport platforms.
- Consultancy on energetic issues for avionic projects, gas turbines, fuel cells.

Technologies & products

General description:

1. A 130 kw turbine model is in a beta site stage.
2. A megawatt scale model is in development.

Function of the product(s):

Production of electricity

Objectives / Target companies:

Winflex is aiming to become a leading producer of wind turbines in a range of 100-500Kw, and significant player at the Mega scale market in 5 years. The first models are planned for the Israeli market new regulations and subsidized rate of 1.29 ILS/kwh(0.3\$). A combination of low installation cost and high rates for produced energy sums to an ROI of 3 yrs. Estimated time to market is 18 month.

The company proceeds with developing the technology for mega scale turbines, starting at 1 Mw and rising above 5 Mw.

The company is raising complementary funding of 550K\$ from strategic partners for industrialization of the medium range turbines and at second stage, 3.5M\$ for the Mega scale project.



The Israel Export & International Cooperation Institute

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