ISRAELI INNOVATION for ENERGY TRANSITION 2019

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The Israel Export and International Cooperation Institute

The Israel Export and International Cooperation Institute (IEICI) is your premier gateway for doing business with Israeli companies. Established and funded by the government and the private sector, IEICI’s expertise in technology and product scouting, joint ventures and strategic alliances with Israeli companies spans more than half a century. Whatever you field is, IEICI offers access to relevant businesses and government resources.

With expertise in Israel’s leading Industries, IEICI offers access to relevant businesses and government resources and provides the information you need to connect, negotiate and do business.

The IEICI’s Cleantech, Energy & Construction Technologies department has an intimate acquaintance with the Israeli Water, Renewables Energy and environmental industry exporters, which includes more than 800 companies and about 200 startups. It has the ability to identify and match suitable potential business partners, organizing one-on-one business meetings and is a focal point for contacts with the government as well as with the industry.

This catalog demonstrates a sample of the Israeli abilities and know-how of the thriving Energy & Water sectors, we are here to support and integrate you into this companies and more and assist you with navigating with in this growing industry.

Noa Aharoni, Manager
Cleantech, Energy & Construction technologies
Tel: +972-3-514-2846
E-mail: aharoni@export.gov.il
The Economic Mission to Berlin is responsible for enhancing bi-national trade relations between Germany 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 Germany 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 life sciences.

For more information:

Mr. Boris M. Peltonen, Trade Officer
Economic and Trade Mission
Embassy of the State of Israel in Germany
Tel: +49-30-206-449-22 | Fax: +49-30 -206-449-55
E-mail: boris.peltonen@israeltrade.gov.il
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- PV Panel Cleaning Solution
- Robotic Cleaning Solution
- Water-Free
- Robotic Panel Cleaning
- Optimize Yield
- Optimize Production
- Avoid Production Losses

**Technologies & Products**
Innovative patented technology, providing superb cleaning results, outstanding panel protection and minimized shadowing loss. Combining 3 main features, all in one movement: Powerful wind blowing - Removing heavy soiling particles touch free and enabling fast cleaning with best panels’ ARC protection. Fine microfiber wipes - gently removing remaining soiling particles. Automatic self-cleaning - Avoiding accumulation of particles on dust wipers in the process. Fit for solar panel arrays of all widths for both fix and tracker panels.

**Target Audience**
Solar Field Developers; EPCs; O&Ms; Investors.

**Company at a Glance**
Airtouch developed a cutting-edge, dry robotic PV panel cleaning solution for utility-scale installations. Airtouch’s solution received A class validation for the panel protection from PI Berlin – an independent world leading laboratory, has successfully completed first pilot installation and is commencing commercial production. The company’s Patent-pending technology, features a simplified system, with enhanced capabilities while providing significantly better IRR for customers relative to competitive solutions.
For Real Estate Owners and Energy Project Developers, Brightmerge offers a cloud-based, automated data collection decision-making solution for rapid deployment of Microgrids – Better budgeting, lower emissions, better ROI.

**Target Audience**

Real Estate companies, Distribution network owners & private investor groups in the renewable energy industry.

**Company at a Glance**

Brightmerge is democratizing the energy industry by dramatically reducing the cost, time and expertise required to develop and operate renewable energy microgrid systems. Brightmerge offers an performance optimization platform using a proprietary decision making solution that automates many of the functions currently being done manually. Our users are project developers, engineers, bankers and investors during the development and operation of renewable energy microgrid systems.
In the rapidly-evolving world of Distributed Grid, we help companies get the most out of today’s infrastructure and prepare for tomorrow’s business models.

Our Energy AI platform combines diverse technologies such as Deep Learning, IoT and Blockchain, to serve as the Distributed Grid’s “operating system”.

Energy AI optimizes energy flow by making real-time decisions to produce, consume, store and trade energy, while maximizing cost-benefit for all actors in the energy ecosystem.

**Target Audience**

Starting from a single house DER optimization, through local community energy trading and peer to peer markets and upwards to trading between communities and regions.

**Company at a Glance**

Artificial intelligence based system for local energy market optimization, including distributed demand and supply forecasting, local DER and EV charging optimization and local trading based on Blockchain or traditional payment systems.

With 3 years and dozens of installations experience in providing machine learning based forecasting system for energy companies, we are leading a distributed grid pilot project in northern Israel called Gilboa Iris Pilot Project.
Our technological advantage starts with our team of many veterans of the Apollo and Mir space projects and their amazing know-how. Alkaline fuel cell technology lets us reach the highest electrochemical efficiencies among all low temperature fuel cells. Patented non-noble metal catalysts have significantly reduced our material costs and our liquid electrolyte enables our fuel cell solutions for backup and off-grid power to operate in a greater range of weather conditions. Our off-grid product is the A5 ammonia-based fuel cell primary power solution, developed to generate a continuous long-duration power source using ammonia as a clean, effective source of hydrogen. Our backup product is the G5 which generates long-duration, uninterrupted, continuous backup power for critical systems.

Target Audience

Company at a Glance
GenCell Energy fuel cell solutions offer affordable, clean power for humanity, enabling businesses to Say No to Diesel and render diesel generators obsolete. Using ultra-reliable fuel cell technology that powers American and Russian spacecraft, we deliver backup power for utilities, homeland security, healthcare and automated industries. Our revolutionary process to create hydrogen-on-demand from anhydrous ammonia (NH3) enables our fuel cell solutions to also provide primary power for off-grid and poor-grid telecom, as well as rural electrification.
The Indegy Industrial Cybersecurity Suite protects from threat detection and mitigation to asset tracking, vulnerability management, configuration control and device integrity checks. Deployed as a network or virtual appliance, Indegy’s agent-less solution offers comprehensive security tools and reports for IT security personnel and OT engineers. The Indegy Suite delivers crystal clear situational awareness across all sites and their respective OT assets – from Windows servers to PLC backplanes – in a single pane of glass.

Target Audience
Organizations that operate an industrial operation sometimes referred to as OT or ICS. We typically work with a number of key verticals including: manufacturing, utilities, oil & gas, transportation and logistics, pharma, food and beverage.

Company at a Glance
Indegy, a leader in industrial cyber security, protects industrial control system (ICS) networks from cyber threats, malicious insiders and human error. The Indegy Industrial Cyber Security Suite arms security and operations teams with full visibility, security and control of ICS activity and threats by combining hybrid, policy-based monitoring and network anomaly detection with unique device integrity checks. Indegy solutions are installed in manufacturing, pharmaceutical, energy, water and other industrial organizations around the world.
Technologies & Products

Lumos make it happen by enabling off-grid customers to take control of their energy generation and usage; providing high level customer support and technical service; leaning on remote monitoring (m2m) and data intelligence to keep systems running smoothly; minimising the need for on-site technicians; and designing durable, energy efficient, worry-free solar power systems suitable for private usage.

Target Audience

Off-grid, Unreliable connection population in West Africa.

Company at a Glance

Lumos offers clean, affordable solar power to a market of 1.3 billion potential customers who live off the grid. Lumos enables to replace hazardous and expensive kerosene generators with modern solar electricity that can power lights, cellphones, fans, TVs and other small electronic devices. Lumos offers homes and SMEs a simple and affordable way to pay for electricity in small installments using mobile phones. We believe everyone can enjoy a better quality of life offered by access to affordable electricity.
Technologies & Products

NanoScent makes scent readable. The patented scent recorder creates a unique signature of authenticity for every scent (specific VOCs). There are two places where this takes place: the sensor and the machine learning algorithms.

The platform is based on patented chemoresistor technology which presents numerous advantages: it is very sensitive, highly responsive and reacts to a wide range of VOCs. Plus, it is easy to scale & allows you to visualize the scent.

Target Audience

Oil & Gas, Utilities, Industry 4.0.

Company at a Glance

NanoScent has developed a patented scent recognition platform that is used by industrial plants to prevent potentially disastrous leaks into the environment.

Moreover, our easy-to-scale SaaS solution is unique as it can detect and pinpoint the exact locations of a wide range of scents (odors or toxins) at low concentrations, based on machine learning algorithms. NanoScent’s driving mission is to create an easy-and-quickly scalable scent recognition platform that can serve humanity by providing better healthcare and healthier environment.
Technologies & Products

Nostromo Energy has developed the IceBrick™, an Ice-based Thermal Energy Storage system (Ice-TES) that enables storage (by freezing) and discharging (by thawing) of ice in a fast and energy-efficient manner, achieving optimal volumetric water capacity, employing inexpensive components and enabling modular adjustment to the required installed capacity. It is first targeted for retrofit in commercial, chiller-based air conditioning systems.

Target Audience

Utility Companies, Real Estate Holdings Firm, Round A Investors.

Company at a Glance

Nostromo Energy is an energy storage startup that has developed a revolutionary thermal energy storage cell which is the building block for a water-based energy storage system which is the safest, cleanest and most cost-effective, energy storage system in the market. Nostromo Energy is lead by a team of energy industry experts.
Polaro transforms how materials and molecules are discovered. Based on a combination of artificial intelligence and Quantum Coherence spectroscopy, we are developing the first ever autonomous platform that can discover new materials on demand, and accelerate their time to market.

Our futuristic “Discovery-Machine” is made possible through our development of advanced spectroscopic techniques. This allows for unique materials to be found across vast regions of chemical and physical space.

**Target Audience**

Investors and any companies whose technology is based on materials. Chemical, pharmaceutical, and clean energy enterprises.

**Company at a Glance**

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Technologies & Products

Our AI SaaS solution uses the most advanced AI algorithms to cope with the “data noise” that masks the signals coming from solar assets—causing under-performing solar assets. Our technology is able to clear the noise, and enhance the signals that indicate what exactly is the problem/s in any given solar assets. Our service runs top down starting from the portfolio of a given client and down to the production unit of each asset. A full, daily mapping, state of health of every production device in a solar portfolio—quantifying and identifying each underperformance.

Target Audience

We are looking to assist solar assets stake owners, either owners/operators/financial players—maximizing their yield.

Company at a Glance

Raycatch is AI for solar energy. Our AI service runs on the existing production data coming from solar assets, and by doing so it derives what needs to be done in order to maximize the assets yield. Raycatch is moving the solar industry from pre-scheduled action to data-driven insights—pro-active operation. Our company is a multinational VC backed startup operating from Tel Aviv, Israel and working on over 1GW of solar installations worldwide.
SolAround’s innovative P-Type bifacial p-PERT technology based solar cell is the only of its class, comprising superior intrinsic characteristics which provide high-efficiency, high-energy density and high stability at competitive production costs. Our cell production can be easily implemented in most existing manufacturing facilities through a simple line retrofit. Our cell’s high bifaciality factor contributes to grid balancing and is ideal for installations on white flat rooftops, utility ground installations, various forms of BIPV and more.

Target Audience
Private Investors and Strategic Investors. Our target clients are PV manufacturers and energy utilities entering PV manufacturing while large solar EPC and integration companies are our natural strategic investors and/or clients, capable to support our go-to-market plan.

Company at a Glance
SolAround developed a novel high-efficiency, fully-bifacial solar cell technology that will increase, with the same production costs, the efficiency of solar panels by 20%-40%; and which will decrease the cost of solar energy by up to 30% per kWh, relative to various system types in market. SolAround’s breakthrough p-PERT bifacial cell technology, represents the ultimate future solution for mainstream solar cells in a $18 Billion Global Solar Cell growing Market.
### Technologies & Products

**SOLIS Industrial** – our large scale lighting solution, providing an average of 30K Lumen, with possible transport of up to 20m, Price 4200 EUR.

**SOLIS Versa** – the domestic versatile solution, providing 7K Lumen, with 5m transport, Price 1600 EUR.

**SOLIS Mini** – a Do It Yourself solution for egress type basement windows and off-the-grid small homes, point lighting 2K Lumen, price 250 EUR.

SOLIS systems have no moving parts or electronics, requiring periodical external window cleaning only.

### Target Audience


### Company at a Glance

Solight had developed innovative, highly efficient, static solar collection systems, enabling the utilization of natural sunlight in previously unlit interior spaces. Providing full visible spectrum constant lighting throughout the year, and from 08:00 till 16:00, with no heat or UV, creating a healthy living environment, while saving up to 40% on electricity costs.
Technologies & Products

SolarWat Panel technology eliminate the mismatch effect between cells and reduce significantly the panel inner losses. The SolarWat Panel may be implemented with all types of solar cells and add entire advantages of our technology to each one of the cells types. SolarWat panel manufacturing process is similar to the Regular Panel process and uses the same materials and machines.

Target Audience

Utility companies, Investors, VCs, Angels, Energy companies.

Company at a Glance

SolarWat is an Israeli startup that developed innovative, breakthrough, proven, patent-protected, new generation of solar panel that provides significantly higher energy yield under most possible lighting and environment conditions, double panel lifespan, higher IRR at decreased system cost/watt. SolarWat Panel technology is applicable to most solar applications: utility scale, commercial, residential and more.
OptiNergy is an innovative cloud-based platform that combines machine learning algorithms, big data analytics and Building Internet of Things (BIoT) technology and devices. Through this unique combination the platform collects data from equipment-level controllers and sensors and applies advanced machine learning algorithms to extract actionable insights. Based on these insights, the platform then automatically and dynamically adjusts the parameters of the building’s or facility’s electro-mechanical systems in real time.

Target Audience
Smart Facilities & Buildings, Industry 4.0 and Energy Demand Response.

Company at a Glance
SmartGreen is a provider of advanced solutions that optimize the energy and operational performance of commercial and industrial buildings and facilities. Our flagship product, OptiNergy is an innovative cloud-based platform that is easy, fast and cost-efficient to deploy, delivering immediate savings for an accelerated ROI. The result is significant reductions in downtime, equipment degradation and maintenance costs, accompanied by improved system reliability, increased energy savings, enhanced occupant productivity and comfort.
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