PARTICIPATING COMPANIES | 2019 ENERGY & CLEAN TECHNOLOGY VENTURE FORUM

ABC Platform
Schaan, Liechtenstein

ABC Platform is providing an economically feasible way to enable affordable, secure and liquid bilateral trade agreements to revolutionize the way we trade, hedge, finance commodity or energy transactions

http://abcplatform.com/
Mathias Bucher | mathias@abcplatform.com

Anax Power
Santa Monica, California

Anax Power generates clean, distributed power from the pressure and flow of natural gas moving through pipelines. Anax's technology is called a natural gas turboexpander generator, and it harnesses energy wasted in the pressure-regulating process to create financial and environmental value for pipeline operators, utilities, large industrial users of natural gas, natural gas power plants, and more. Since there is no combustion, Anax improves the efficiency of the country's existing natural gas infrastructure by generating clean power from waste.

http://www.anaxpower.com
Michael Longo | mlongo@anaxpower.com

Anessa
Fredericton, Canada

We provide software solutions for biogas engineers and operators to improve assessment, design and operation of potential biogas projects and help create optimal operating conditions at existing anaerobic digestion facilities.

http://www.anessa.com
Amir Akbari | aakbari@anessa.com

AquaNRG
Houston, Texas

AquaNRG's breakthrough technology, aiRock, helps energy producers to make informed decisions that maximize asset values. Funded by 3 prestigious and highly-competitive Small Business Innovation Research grants (total amount of $1.4M) from the Department of Energy and National Science Foundation, aiRock combines machine learning with the physics of how water, oil and injected fluids flow in the subsurface while accounting for the geochemical properties of the rock and the fluids. It builds a realistic predictive model of an oil reservoir to achieve a desired business goal. From the automated simulation pipeline on cloud and linking of very large datasets, to the physics-chemistry simulation of the reservoir rock, aiRock leads to production increases and cost reduction through providing the users with a reliable tool to explore millions of operational and development scenarios.

http://www.AquaNRGconsulting.com
Babak Shafei | babak.shafei@AquaNRGconsulting.com

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AREVO

Milpitas, California

AREVO, based in Silicon Valley, California, develops technology to enable direct digital additive manufacturing of ultra-strong, lightweight composite parts for end use applications in high volume. With our unique combination of breakthrough materials, powerful design/build software, and free motion robotics for the first “true 3D” construction, AREVO is moving beyond prototypes by enabling the design and fabrication of large, mass-produced parts and structures, quickly leading 3D printing composite parts into mainstream manufacturing. AREVO provides designers and manufacturers with unprecedented freedom to unlock the unparalleled strength and weight of composite materials for a wide range of consumer and industrial products, and has seen early success manufacturing CFRTP composite parts for OEM customers. With an initial focus on Transportation, Arevo is poised to transform composite parts manufacturing.

http://www.arevo.com
Hemant Bheda | hemant@arevo.com

AsInt

Houston, Texas

Over the last 20 years there have been various software applications developed to address Asset Integrity in the Oil and Gas (upstream, mid, and downstream) as well as Chemical businesses. However, data has become silo'd and the cost to implement these solutions are too high. AsInt has teamed up in a Co-Innovation with SAP to deliver these Asset Integrity Functions inside SAP's latest cloud-based solutions. By embedding these functions, like Risk, Inspections, and analysis of this data, into the most common Asset Management solution, it breaks down the barriers to cost, complexity, and sustainability. Defined by ARC Advisory Group, the Asset Integrity software business is currently a 300 Million USD (software and software) annually. By teaming up with SAP, AsInt seeks to disrupt this market and provide a viable and leading platform for operators over the next 20 years.

http://www.asint.net
Jarret Reeves | jarret.reeves@asint.net

Battery Streak

Newbury Park, California

Battery Streak was founded in 2017 to bring ultra-fast battery charging technology to consumers and industry. This innovative technology, developed by UCLA researchers, involves replacing traditional Li-ion battery electrodes with Battery Streak proprietary materials. Battery Streak’s patented technologies use nanostructured materials to dramatically shorten the distance lithium ions travel during the charging process. The company’s aim is to reduce charging time from hours to minutes for applications including personal electronics, medical devices, power tools, warehouse robots, and Electric Vehicles. In early 2019, a charge rate from empty to 80 percent SOC was achieved in only 10 minutes in a 1 amp-hour cell. Prototypes were first distributed to interested companies in Q1 of 2019.

http://batterystreak.com
Chun-Han (Matt) Lai | laich@batterystreak.com

Carnot Compression

Scotts Valley, California

Carnot Compression LLC is revolutionizing the gas compression industry with the most reliable and efficient compressor in the market. Carnot's proprietary isothermal compressor, the CarnotTM Compressor, solves the heat of compression problem by using a working liquid to compress a gas, while actively removing the heat of compression throughout the compression process. By more effectively capturing the heat of compression, the Carnot Compressor delivers low temperature oil-free compressed gas at low operating cost, with high reliability and a 100% duty cycle. By providing a reliable and cost-effective source of oil free compressed gas, Carnot enables its customers to focus on their core business. The technology can be applied across multiple industrial applications to lower energy consumption and operating costs for compression.

http://www.carnotcompression.com
Todd Thompson | todd@carnotcompression.com

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Cemvita Factory
Houston, Texas

Our CO2 Utilization platform mimics photosynthesis to produce industrial chemicals and polymers for oil & gas and chemical companies.

https://www.cemvitafactory.com/
Moji Karimi | moji@cemvitafactory.com

Compact Membrane Systems
Newport, Delaware

Compact Membrane Systems (CMS) is an advanced materials company with a range of membrane separation solutions that deliver new sources of revenue and lower costs to process industries like petrochemicals and refining. Specifically, CMS is developing a membrane to separate light olefins from paraffins. In addition to being more modular, this membrane solution is less capital and energy intensive than distillation. The first pilot trial has been successfully completed at the Delaware City Refinery and additional pilot and demonstration units are currently under design.

http://www.compactmembrane.com
Erica Nemser | enemser@compactmembrane.com

Countertrace
Manvel, Texas

Countertrace applies innovative technologies to treating and optimizing fluids for industrial processes. Developed by the team of scientists and engineers at Sparx Engineering in Houston, our breakthrough technology includes an easily filtered macroparticle that can be 'programmed' at the molecular level to capture a targeted contaminant within a complex fluid. Once captured, the desired chemical can be identified with embedded chemical sensors, and simply sorted visually for reuse or disposal. As water has emerged as the most critical variable in modern oil & gas operations in terms of both cost and risk, this high throughput method for water management provides substantial improvements for energy extraction processes. Countertrace provides a custom-tuned approach to optimize water treatment & analysis through our portfolio of patent-pending chemical sensors and processes.

http://www.countertrace.com
Robert Hanes | rhanes@sparxeng.com

CryoWave Advanced Technology
Woonsocket, Rhode Island

CryoWave Advanced Technology seeks to commercialize an acoustic-cooling- technology, thermoacoustic-expansion device (TAED) and flaring gas recovery systems (FGRS) with the capacity of 1.0~3.0 MMscfd, that recovers wellhead flaring gases released from shale productions to produce clean fuels for well-site power generations and salable LPG productions as to improve efficiency of upstream cleaning energy by 20% with zero-emission. TAEDs use the pressure drop of flaring gases to generate intensive pressure wave systems by which heat is efficiently removed, and cooling power is produced at cold-stage (adiabatic efficiency of 20% vs. J-T 0%) of TAED-FGRS for LPG extractions and fuel gas conditioning without mechanical moving parts.

http://www.cryowave.com
Zhimin Hu | cryowave@gmail.com

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CryoWave Energy

Woonsocket, Rhode Island

CryoWave Energy seeks to commercialize an innovative, revenue producing down-hole system for owners and operators of injection wells. Our system uses pressure wave pulsating injection (PWPI) technology for dynamic enhanced oil recovery (DEOR) generating an expected increase in production yields of up to 3-8%. Our PWPI system consists of a down-hole injection device, a surface control unit, and the operational method. Our down-hole device requires no mechanical moving parts to deliver dynamic stimulations to reservoirs. The surface control unit is a valve-regulation assembly to control PWS behaviors using frequency and amplitude tuned to reservoir resonance. The system seamlessly integrates with existing EOR injection technologies minimizing both installation costs and impact on field operations and can be adapted for secondary and tertiary media such as water, steam, CO2 and chemicals.

John Ireland | jmi@upfrontanalysis.com

Cumulus Digital Systems

Cambridge, Massachusetts

Cumulus is transforming the industrial workforce to be fully connected and data-driven, significantly improving safety and productivity in maintenance and construction. Our goal is to eliminate accidents, unplanned downtime, and re-work caused by poor work quality. Cumulus' Internet of Tools platform collects data from digitally-enabled tools in the field to provide a single source of "truth" for real-time quality assurance and progress tracking. Cumulus' flagship product is the award-winning Smart Torque System (STS). STS improves productivity and work quality during safety-critical industrial bolting activities, empowering maintenance and construction managers with real-time insight into who completed the work, how long it took them to do it, and how well it was done.

http://www.cumulusds.com
Matthew Kleiman | matt@cumulusds.com

DelfinSia

Houston, Texas

DelfinSia helps energy industry workers to access knowledge and information buried in unstructured data (old reports, emails, etc). Whether they're trying to make a technically informed decision under time pressure or are trying to fill in a database, our tool, Sia can help. Sia understands the intent of a question it is asked, and in seconds it can look through a large body of files of many types to put together relevant answers with clear references. Through referencing these files, Sia can also automatically fill in empty databases. The team consists of two 20-yr O&G industry software consulting veterans, two Stanford master students (MBA and MS AI), and four other developers out of O&G and Intel. We have been featured in PyData (world premier data science conference), and we can offer references from Linde, Shell, and BASF.

http://www.delfinsia.com
Alec Walker | aw@delfinsia.com

Drylet

Houston, Texas

Humans and livestock produce organic waste faster than nature is able to process. Whether from municipal sewage, animal farms or industrial processes, sludge is a major source of environmental pollution with significant public health risks. Sludge handling is constrained by increasingly tight regulations, physical realities like diminishing landfill access, and rising costs. Drylet loads microorganisms onto engineered inorganic particles, creating a dry-to-the-touch product through a proprietary technique. The particles provide 700,000 sq-ft of surface area per pound of product, allowing for exceptional microbial density per weight. They shield microbes that are carefully selected for each application, promoting their growth and supporting their effective delivery in an unprecedented fashion.

http://www.drylet.com
Luka Erceg | lerceg@drylet.com

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Echogen Power Systems
Akron, Ohio

Echogen is using a novel approach to solving the long-duration (6+ hour) energy storage challenge at the utility and transmission scale -- called Electrothermal Energy Storage (ETES) -- where excess generation and off-peak electricity is converted and stored as heat and is later converted back to electrical power. Echogen has combined its expertise in supercritical carbon dioxide (sCO2)-based power cycle technology and components with safe, low-cost, highly-scalable storage media to deliver a superior ETES solution. The ETES system is a modular solution, ideally designed as 25MW and 50MW power blocks, with 6+ hours minimum duration. ETES is a disruptive new technology for distributed to grid-scale energy storage that can reduce the Levelized Cost of Storage by 40%-50% compared with lithium-ion battery systems.

https://www.echogen.com/
Philip Brennan | pbrennan@echogen.com

ecoSPEARS
Altamonte Springs, Florida

ecoSPEARS is a cleantech solutions company that is ushering in the carbonless future of environmental cleanup. ecoSPEARS has designed and developed green and sustainable remediation technologies to extract and destroy PCBs, dioxins, and other persistent organic pollutants from the environment - forever. ecoSPEARS imagines a future where everyone has access to clean water, clean food, and clean air. We achieve this vision by developing cost-effective and eco-friendly technologies that are protective of humans, wildlife and the environment.

https://ecospears.com/
Raphael Doromal | IAN@ECOSPEARS.COM

EnKoat
Phoenix, Arizona

EnKoat is a clean-tech and advanced materials company. At EnKoat, we have re-engineered traditional architectural coatings like paint, plaster and stucco into energy saving coatings using active insulation technology. These coatings can be applied to interior/exterior walls or roof of new construction, pre-existing buildings and retrofit applications. For homeowners and property managers of multi-family housing, our coatings directly reduce the HVAC costs by over 30%. For building developers, our coatings help improve the energy efficiency of new construction as well as retrofits. For architects designing LEED buildings, our coatings would help them towards getting LEED certification. We are at a TRL 7 currently testing and verifying the performance of our coatings on residential homes.

http://www.enkoat.com
Aashay Arora | aashay@enkoat.com

Enviro Trace Ltd
St Albert, Canada

EnviroTRACE was established in 1994 to provide leak detection services to the Canadian oil and gas industry. Through years of research, testing and refining of highly sensitive tools and methods in 2008 we introduced FlowTRACE to detect liquid and vapour leaks to the part per billion. Through our desire for constant improvement we continued to refine our technology and in 2018 introduced SkyTRACE which has the ability to detect leaks to the part per quadrillion. Both of these innovative and highly sensitive technologies are non-intrusive and require no asset or infrastructure downtime. The leak detection applications for our innovative technology include detection and validation with complete location accuracy, of pipelines, tanks (AST/UST), ponds, liners, gas lines, water & sewer lines and municipal utility lines.

http://www.envirotrace.ca
Kevin Hannan | kevin@envirotrace.ca

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Everactive

Santa Clara, California

Everactive produces data intelligence for the physical world. Operating without batteries, the company's always-on wireless sensors deliver continuous cloud-based analytics at a scale not possible with battery-powered devices. Everactive's end-to-end solutions are built upon groundbreaking advances in ultra-low-power circuit design and wireless communication that allow it to power its Eversensors exclusively from harvested energy. The company has developed the required networking and cloud software to deliver an out-of-the-box service focused on providing high-value insights from newly generated and self-sustaining data streams.

http://www.everactive.com
Brian Alessi | brian@everactive.com

ezNG Solutions

Houston, Texas

ezNG Solutions is a technology driven project development company licensing its patented cellular array fuels storage system and creating high value project opportunities. ezNG's innovative cellular array concept was invented to efficiently store a "warm" LNG that is liquefied at moderate pressure. This Pressurized LNG is much simpler/cheaper to produce than conventional LNG, requiring much less energy to liquefy and re-gas – thus, reducing carbon footprint. Case studies also show that mass produced ezNG® cells can cost-effectively store conventional LNG. So, initial focus is on small LNG storage facilities where transmission constraints hamper US consumers' access to natural gas. Penetration into fast growing European markets will follow. Then, ezNG will establish shipping projects to bring natural gas to smaller markets to reduce dependence on higher carbon fuels.

http://www.ezngsolutions.com
Nick White | c.n.white@ezngsolutions.com

FLASC

Msida, Malta

FLASC is developing energy storage devices that are tailored for the offshore environment. The core technology takes an intermittent renewable energy source and converts it into a stable and schedulable supply. It therefore allows offshore renewables to supply reliable power to demanding applications, be it in remote offshore locations, such as oil & gas infrastructure, or to conventional onshore consumers. Our unique solution has a distinct competitive advantage in the offshore market, since conventional battery technologies are unsuitable for large-scale offshore use, given their short lifetime, safety and environmental issues. The FLASC technology embodies the core principles of offshore, it is: safe, reliable and cost-effective. The technology uses a hydro-pneumatic process, to store energy as compressed air and pressurized seawater, avoiding typical caveats of compressed air energy storage.

http://www.offshoreenergystorage.com
Tonio Sant | tsant@offshoreenergystorage.com

FlyScan Systems

Quebec, Canada

FlyScan develops the world's first airborne leak detection service specifically made for oil and refined products pipelines, using a mix of Ultraviolet LIDAR and Artificial Intelligence. FlyScan has investment term sheets from a large Houston-based pipeline operator ($1M equity + $1M in sales), and from Canada's largest Cleantech fund ($2.25M). We are looking for $2.25M more to close the round. Our technology comes from INO, Canada's largest R&D lab in optics-lasers. Initial research funding came from a US DoT/PHMSA project. The company was founded by a successful serial entrepreneur who already started, developed and exited a high-tech company (Optosecurity), and it benefits from a partnership with Europe's market leader in airborne leak detection for natural gas pipelines (Adlares GmbH). The company has protected IP, a high barrier to entry and a recurring revenue model that will maximize exit valuation.

http://www.flyscan.com
ERIC BERGERON | ebergeron@flyscan.com

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Fullmoon Sensors
Stanford, California

Fullmoon provides the world's first leak sensing IoT network for operators of natural gas infrastructures. Its patented sensor chip (Stanford tech) repurposes materials originally commercialized in the hydrogen fuel cells to sense leaks for under $10 per sensor. This enables gas operators to avoid the use of handheld sensors, which are 1,000x more expensive, require manual operation, and are too power-hungry for remote deployments. Fullmoon has raised $400k of non-dilutive funding from PG&E and SoCalGas to help them meet new continuous leak monitoring requirements in CA. In the future, Fullmoon seeks to provide continuous monitoring solutions across many other fields.

http://fullmoonsensors.com
Ehsan Sadeghipour | ehsan@fullmoonsensors.com

gBat
Austin, Texas

gBat has a patent-pending large-scale gravity-based energy storage solution. While pumped hydro storage (PHS) currently accounts for the largest share of storage in the world and Li-ion based batteries account for the largest share of new storage installations, both these technologies are unable to serve the demand of storage in the next few decades. At gBat, we are working on a technology that offers some of the best characteristics of pumped hydro storage and Li-ion batteries. gBat's solution offers low cost ($/kWh), high lifespan, better safety, and with no supply chain issues or end-of-life concerns like PHS, but does not require from large capital requirements and geographical limitations like PHS. We believe gBat can offer an inexpensive and practical storage solution that enables large scale adoption of intermittent renewable energy resources on the grid and help achieve low carbon targets of states and countries around the world.

Mudit Bhargava | muditbhargava@gmail.com

GBatteries
Ottawa, Canada

GBatteries is an advanced battery technology company that is revolutionizing the way lithium-ion batteries are charged. Our artificial intelligence charging protocol allows off-the-shelf batteries to charge to half capacity in 5 minutes and to full capacity in 10 minutes. We're on a mission is to accelerate the mass, global adoption of electric vehicles by enabling electric vehicles to charge as fast as it takes to fill a tank of gas. By eliminating the final barrier preventing people from buying electric vehicles - charge time, our goal is to reduce the greenhouse gas emissions caused by internal combustion engines. We have several pilot projects with automotive and electronics manufacturers worldwide and are working towards the commercialization of our technology. Our investors include Airbus Ventures, Initialized Capital, Plug and Play, SV Angel, and Y Combinator.

https://www.gbatteries.com/
Kostya Khomutov | Kostya@gbatteries.com

Graphenix Development GDI)
Rochester, New York

GDI develops high power energy storage solutions to deliver quick energy. Our first product is higher energy dense ultracapacitors with sales in China, our second product still in development is high energy and power Si anodes for Li-ion batteries with product release by year end 2019.

http://www.graphnx.com/
Rob Anstey | rob.anstey@graphnx.com

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GreenFire Energy
Emeryville, California

GreenFire Energy's proprietary technology extracts geothermal energy unavailable to conventional systems to generate cost competitive, stable, and reliable power with minimal risk. The company designs and builds "closed-loop" geothermal projects that restore productivity to marginal conventional wells and extract maximum energy from greenfield projects. ECO2G's "retrofit" technology can generate up to 4 MWe from many of 22% of the geothermal wells that fail or have degraded, representing an immediate potential global market of about $1 billion. GreenFire modeling technology has been developed using grants from the US DOE in collaboration with several national labs, Baker Hughes, and Blade Engineering. GreenFire successfully completed a $3 million demonstration project with funding provided by the California Energy Commission, the Shell Oil "GameChanger" program, the Electric Power Research Institute (EPRI) and J-POWER.

http://www.greenfireenergy.com
Joseph Scherer | Joseph.scherer@greenfireenergy.com

HARBO Technologies
Tel Aviv, Israel

HARBO Technologies offers the fastest and most effective oil spill first response system in the world. Instead of relying on massive, bulky equipment and a large team of skilled professionals, HARBO's T-Fence system can be ready for immediate deployment by as few as two people at the spill source – whether on a vessel, at a port or an oil terminal. As the world's lightest solution with heavy duty capabilities, it immediately stops the spread of oil and can be used even in the most remote locations as it requires minimal logistics.

http://www.harbo-technologies.com
Boaz Ur | boazur@gmail.com

Hazel Aerospace
Austin, Texas

Starting with autonomous and remote-controlled drones and eventually moving to manned electric aircraft, we design zero carbon emission aircraft of tomorrow, today. The elements of drones are a perfect match for disaster relief, where there is limited infrastructure for larger airplanes to land safely (no runways) and naval ships (in waters where most survivors are not able to reach on their own) to get into contact with survivors. Through key partnerships in both materials and providers, each of our aircraft are able to respond to disasters in a shorter timeframe than current practices, efficiently in power usage, and most of all, safely without the risk of losing more lives and disrupting the environment with pollutants.

Dominique Mojay | contact@hazelaero.com

Hyliion
Cedar Park, Texas

Hyliion is engineering a revolution in the trucking industry by enabling immediate electric hybridization of Class 8 trucks. The Hyliion intelligent electric powertrain relieves the diesel engine to reduce fuel consumption and CO_2 emissions. The Hyliion system is the only Class 8 hybrid solution on the market and delivers a positive cash flow the first month it is deployed. The 6x4HE Intelligent Electric Drive Axle System is available for installation today and is being adopted by industry leading fleets.

https://www.hyliion.com
Thomas Healy | thomas@hyliion.com

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IDARE

Houston, Texas

IDARE, a digital technology company, built an intelligent Digital Twin Creator (iDTC), a 3D digital engine that integrates data with the engineering processes, automates the engineering design and uses artificial intelligence for data driven decision processes which can be managed thru a collaborative digital work space. IDARE's mission is to eliminate Oil & Gas Industries project life cycle costs during both project development (CAPEX) and asset integrity (OPEX) via following products iDTC: Visualizes & Integrates of key project data and analytics iCEO: AI driven Concept selection that automatically optimizes the oil-field architecture by 15% to 25%. iPACS: Predictive analytics computation system for Asset Integrity (40% cost saving), streamlining operations and extending life of assets by over 20%. iDEA: Automated engineering design, reducing project development time up to 80%.

https://idare.io
Khairul Chowdhury | kchowdhury@idare.io

IncentiFind

Houston, Texas

Last year, there was $10B dollars in unclaimed green incentives for one reason: there was no centralized database to house the thousands of incentives offered by our government each year to promote green building. Further, there was no easy-to-follow process to quickly connect the 1 million green projects completed in the US last year. IncentiFind is the nation's go-to database for incentives that promote green building. As the ONLY comprehensively standardized and searchable database, IncentiFind captures thousands of green incentives offered each year by our government that promote green building and quickly connects them to green projects using a simple 3-step-process.

https://incentifind.com/
Natalie Goodman | natalie.goodman@incentifind.com

Indeavor

Madison, Wisconsin

Indeavor's solution offers complex shift-based organizations an automated, cloud-based employee scheduling and absence management system. Increase efficiencies and mitigate fatigue concerns by staffing to match only what is needed. With the ability to either integrate with other critical enterprise systems (HCM, ERP, Payroll, etc.) or standalone, Indeavor makes management and their employees' everyday lives easier.

https://www.indeavor.com/
Brandon Schwarz | bschwarz@indeavor.com

Indrio Technologies

San Jose, California

We are a Stanford University-spinoff, located in the heart of Silicon Valley, that is poised to disrupt the 132B chemical sensing space including applications in energy (renewable and traditional), transportation, security, process control and manufacturing, and healthcare. Currently, we are focusing on the 36B automotive exhaust monitoring and treatment space. Recently, we have won an international award in the most innovation clean-air startup competition, Smogathon 2018 held in Krakow, Poland showcasing this concept. We are supported by Cardinal Ventures, Pear Startup Garage, Plug and Play, Stanford Ignite Program, StartX and The TomKat Center for Sustainable Energy.

http://www.indriotech.com/
Ritobrata Sur | rsur@indriotech.com

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Kaia
Denver, Colorado

For reservoir development and management in the highly flow-restrictive shales of today's unconventional reservoirs, the oil and gas industry needs to quantify oil flow characteristics. With production, reservoirs characteristics change while the data from flow tests of cores captured during drilling give very imprecise and inaccurate data only about initial reservoir conditions. Kaia is proposing a new, novel, and non-intrusive approach to simulating conditions in a developing reservoir while enabling quantitative measurement of the flow in micro-fractures. Our approach is a small, easy to fabricate laboratory test system that uses well-established optical refraction technology to "see" inside hydrocarbon-filled, pressurized micro-cracks, and measure the internal pressure and associated phase characteristics simulating flow in shales.

http://www.kaia.tech
Umit Kava | umit@kaia.tech

Lilac Solutions
Oakland, California

Lilac Solutions is a lithium extraction technology company. Electric vehicles have transformed demand for lithium, putting extreme pressure on lithium supply. But lithium producers are struggling to bring online new lithium supply due to the weak performance, high cost and slow start-up time of conventional lithium extraction processes. Lilac's unique ion exchange technology enables low-cost, rapid, and high performance lithium extraction for the first time, and, as a result, unlocks a wide variety of new, previously inaccessible lithium resources. Lilac is currently working on pilot projects and engineering programs with clients across the Americas. Lilac was founded in 2016 by CEO Dave Snydacker, who holds a PhD in materials science from Northwestern University.

http://www.lilacsolutions.com
Tom Wilson | tom@lilacsolutions.com

Locus Bio-Energy Solutions
Houston, Texas

Locus Bio-Energy Solutions (Locus Bio-Energy) is a technology development company specializing in producing low-cost, commercial quantities of highly-active, non-bacterial and non-GMO bio-based materials, including biosurfactants, biosolvents, biopolymers and enzymes from renewable resources. Biosurfactants have attracted interest in the oil & gas Industry for the last 10-15 years as promising alternatives to petroleum-based surfactants. Aside from their green profile, they have remarkably low effective dosages, reduce fluid/fluid surface tensions to very low levels and are excellent wetting agents, all of which make them highly attractive for oil and gas usage.

Jon Rogers | jrogers@locusfs.com

Low Carbon Beef
Glencoe, Oklahoma

Low Carbon Beef LLC (LCB) is a start-up company, created in 2017, that is developing a branded beef product that will improve the sustainability of beef production by reducing greenhouse gas emissions. By combining high-performance genetics and low-carbon management practices, LCB can reduce the emissions from beef production by 50% as compared to the U.S. average. We expect LCB to become a positive cash flow generating business that will offer an investor attractive returns.

http://www.lowcarbonranch.com
Colin Beal | colinmbeal@gmail.com

MACHFU
Simplifying IoT from edge to enterprise

Machfu
Rockville, Maryland

Machfu grew out of a simple idea: that developing and maintaining applications in the industrial IoT world should be as easy as it is in the desktop world or the smartphone world. Machfu's products bring edge to enterprise connectivity to existing industrial infrastructure that can be deployed and scaled quickly. The economic benefit for industrial assets to participate in the Industrial Internet of Things (IIoT) runs into tens of billions of dollars annually; including data analytics, predictive maintenance, and remote management. But the big problem for the deployed assets is that they were not designed for IIoT. In addition, their useful life is between 20-40 years which makes “rip and replace” impossible for these high valued assets. Machfu solves this problem by bringing the benefits of modern web services to industrial assets.

http://www.machfu.com
Prakash Chakravarthi | prakash@machfu.com

Membrion
Seattle, Washington

Membrion manufactures and sells high-performance, low-cost ion exchange membranes to enable widespread adoption of cost-effective and energy efficient clean water and energy technologies. We’ve reconceptualized a product, an ion exchange membrane, that has been in midst of a 40+ year innovation drought. Our patented membrane leverages commodity silica gel, the desiccant in a beef jerky package, to reduce manufacturing costs by 66% with the same or better performance and easier stack loading. We’re looking to disrupt the $7.2B ion exchange membrane market that’s quietly poised for explosive growth because it’s the key component of electrochemical technologies that will address the growing water & energy crises. Membrion is a 3-year old, Seattle-based company that has brought in $3.3M in grant (> $1.7M) & private equity funding ($1.485M) since its inception.

http://membrion.com
Greg Newbloom | greg@membrion.com

MemComputing Inc.

MemComputing
San Diego, California

MemComputing, Inc.’s disruptive software based MemCPU Coprocessor technology represents the next generation in computing performance. Benchmark validations have shown MemComputing is delivering the performance expected of Quantum Computers today, 10 years ahead of quantum computing expectations. Focusing on the most challenging complex optimization problems that global companies are facing. These include routing, scheduling, analytics and other complex computations that currently take hours, days or are intractable for today’s best in class solutions. MemComputing scales to solve these extra large and complex problems in minutes or seconds. Accelerating problem resolution by orders of magnitude and solving once intractable problems should drive $ millions annually in efficiency and decision improvement directly to the bottom line.

http://memcpu.com
John Beane | jbeane@memcpu.com

METOX TECHNOLOGIES

Metal Oxide Technologies
Houston, Texas

The world needs better solutions for reliable clean electric generation, grid improvements, medical treatment, and transportation. High Temperature Superconducting wire ("HTS") enables large scale solutions in all four areas. Until MetOx, the cost of HTS wire prevented these solutions from rolling out. A Fortune 500 manufacturing company validated our full scale production plans - cost is an order of magnitude less than the existing industry price and each line produces 2X the current industry output. The F500 is now investing their engineering resources into our first commercial plant. A $50 million investment in MetOx disrupts the HTS industry and has the potential to return 10X.

http://www.metoxtech.com
W Jim Jewitt | jim.jewitt@metoxtech.com

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MicroSilicon
Houston, Texas

MicroSilicon is a spin-off from Rice that has miniaturized and ruggedized quantum-based technology that had traditionally been restricted to specialized labs. The result is a real-time system qualified for offshore use that digitizes chemical data in the oil and sends it to the cloud, where AI-based algorithms extract pertinent information such as percentage of asphaltene in the oil or success of a corrosion inhibition program. That data is fed back to the customer allowing them to optimize their treatment programs. MicroSilicon was founded in 2015 and is growing fast with revenues near $1M in 2020 and a track record of paid field tests in Canada, US and Abu Dhabi. It also has over ten patents pending on key system aspects so it will be hard for competitors to catch up. The company has received multiple industry awards for innovation and business acumen, including 2018 Best-in-Show at SPE ATCE Startup Competition.

http://www.microsiliconinc.com
John Lovell | john.lovell@microsiliconinc.com

Mission Secure
Charlottesville, Virginia

Mission Secure is a leading industrial control system (ICS) cybersecurity company providing the patented MSi Platform and cyber advisory services to help protect clients in energy, defense, transportation, maritime and critical infrastructure from cyber attacks. We help clients understand their most critical operational technology (OT) cyber vulnerabilities through a technology-based OT cyber assessment offering. Our secure design services create a protective cyber architecture to mitigate cyber risks and the MSi Platform provides visibility and protection for our client's important operations. From Level 0 field devices to controllers and HMIs, components are monitored from an easy-to-use hardware-software solution. The company is venture-backed by leading energy investors with offices in Charlottesville, Virginia serving the defense community, and Houston, TX for industrial clients.

http://www.missionsecure.com
David Drescher | dresch@missionsecure.com

Modern Wellbore Solutions
Calgary, Canada

Modern's is a downhole tool developper of clean energy technologies. Our technology offers unparalleded well construction efficiency and environmental performance improvement through elimination of costs and green house gas emissions. Our Multilateral Technology is a step change clean energy technology with large defensible global market potential. Reducing cost of resource development by 10% to 40% resulting in doubling or tripling profitability of our customer Oil and Gas companies. It also eliminates fugitive emissions and results in 20% to 50% less carbon dioxide equivalent, thus altering the carbon intensity of Oil & Gas Production.

http://Http://www.modernwells.com
Kyle Klam | kklam@modernwells.com

MolyWorks Materials
Los Gatos, California

Recycle today and print tomorrow, MolyWorks is building a distributed recycling and additive manufacturing network. Today billions of pounds of metal will end up in a junk yard or worse a land fill. Recycling today's metal waste reduces mining wastes and raw material usage by over 90%, air & water pollution by over 75%, and requires 75% less energy than refining from ore.

http://www.molyworks.com
Christopher Eonta | Ceonta@molyworks.com

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NatGasHub.com
Houston, Texas

NatGasHub.com is a Multi-Pipeline software that connects Gas Shippers to over a 100 natural gas pipelines using Blockchain to track title/custody of every gas molecule on the pipeline grid and to find the most efficient route for companies to deliver gas.

http://www.NatGasHub.com
Jay Bhatty | jay.bhatty@natgashub.com

Nesh
Houston, Texas

Nesh is the Smart Assistant for Oil and Gas. She helps Oil and Gas companies make better and faster decisions, by organizing the complex industrial knowledge within the company and making it effortlessly accessible. Imagine if Siri or Alexa went to school, got an advanced degree in Petroleum Engineering and Geoscience, then went to work in the Oilfield for several years, attended technical conferences, read journals and books; you would have Nesh. Nesh runs on any browser. Users can simply ask, and she will answer their complex technical questions, in a conversational way. Nesh is designed to run powerful petroleum engineering and geoscience workflows behind a simple conversational UI.

http://hellonesh.io/
Sidd Gupta | sidd@hellonesh.io

NGT Synthesis
Houston, Texas

NGT Synthesis is marketing Methaforming technology to reduce CO2 emissions and costs when producing gasoline. Methaforming allows to reduce the carbon footprint of the oil refining industry by about 300kg of CO2 per ton of naphtha (about 90 lb CO2 per barrel of naphtha). Compared to the traditional way of naphtha processing via hydrotreatment and reforming, it has a 20% yield (revenue) advantage, 40% operating cost advantage and a 50% capital expenditure advantage. The advantage is highest with the smaller-scale plants. Methaforming can convert renewable feeds (ethanol and its byproducts) and low value fuel (dry gas from catalytic crackers) into on-spec gasoline. It is very tolerant to feed qualities, incl. sulfur content.

http://ngt-synthesis.com
Stephen Sims | s.sims@ngt-synthesis.com

Nhu Energy
Tallahassee, Florida

We provide the means to integrate, operate, and extract maximum value from the large numbers and varieties of energy resources that will make up the electric power and energy system of the future. Accommodating highly variable generation such as solar and wind, coupled with energy storage, electric vehicles, and responsive load (demand response, DR), distributed and increasingly at the grid edge, requires intelligence and interoperability that transcends traditional boundaries. Industrial-utility grade solutions to fill this need that scale well and can be proven to work in critical energy infrastructures and systems do not exist at the technology readiness level required.

http://www.nhuenergy.com/
Rick Meeker | rmeeker@nhuenergy.com

Optimus Technologies

Pittsburgh, Pennsylvania

Optimus provides fleets a low-cost pathway to easily reduce fuel costs and emissions (over 80% GHG reduction) from their medium and heavy-duty diesel vehicles and equipment. With the Optimus biodiesel fuel system, fleets leverage their existing engines and infrastructure to deploy 100% biodiesel. The Optimus system is a patented bolt-on technology that seamlessly integrates into existing operations and facilitates the transition to low carbon fuels easily and without the need for new infrastructure, engines, or vehicles. The Optimus system is available to fleets as a retrofit on existing equipment or integrated on new purchases. Currently, the Optimus system is deployed across the US with private trucking fleets as well as municipal operations in cities like Chicago and Washington, DC.

http://www.optimustec.com
Roger Byford | r.byford@optimustec.com

Osprey Informatics

Houston, Texas

Osprey's intelligent visual monitoring platform, Osprey Reach, empowers oil and gas companies to reduce operational costs, while mitigating environmental and safety risks. Osprey Reach cost-effectively manages cameras at scale, analyzes visual data with computer vision (AI) and input from other sensors and systems, and distributes personalized, actionable insights to users across the enterprise. Customers are able to increase productivity through virtual asset inspections, improve HSE compliance with automated leak detection and safety monitoring, and strengthen security and accountability through proactive activity detection and alerting at remote sites.

https://ospreyinformatics.com/
Paul Ritchie | paul.ritchie@ospreyinformatics.com

Ouro Negro

Rio de Janeiro, Brazil

Established in Rio de Janeiro, the international hub for offshore Pre-Salt development and production, Ouro Negro was formed in 2010 via the incorporation of four spin-offs from laboratories at the Pontifical Catholic University (PUC-Rio) focused on the development of industrial applications for the oil & gas industry. The company uses proprietary and licensed technologies to develop and provide innovative solutions for the E&P sector. Our largest source of revenue is the MODA System (a solution for the monitoring of flexible risers). Since 2013, Ouro Negro sold more than 300 systems. In 2018, net sales revenue reached US$ 11.3 million. The company has grown profitably, generating sufficient cashflow

http://ouronegro.com.br/?lang=en
Eduardo Costa | eduardo.costa@ouronegro.com.br

Patented "Game-Changing" Energy Harvesting Technology By Thermodynamic Anomalous Materials

Worcester, Massachusetts

This technology represents an energy harvesting technology that utilizes a material's internal heat energy at ambient temperatures as an energy source and represents the "holy grail" in clean energy technology. Such a technology enables harvesting of an essentially limitless and previously thought unavailable (i.e., "impossible") clean energy source.

Gerald Pellegrini | gnpellegrini@aol.com

Percepto
Modiin, Israel

Founded in 2014, Percepto is the market leader of on-site drone-in-a-box solution for critical infrastructures and industrial sites. Operating with no need for human intervention, Percepto's autonomous Sparrow drones perform multi missions, around the clock. The solution is ideally suited to any large-scale enterprises looking to improve security, increase productivity and reduce safety risks and operational costs. Organizations using the Percepto solution are better aware of events taking place, allowing them to be proactive and more efficient in addressing risks and operational needs. The Percepto Solution is currently in use around the world including Enel in Europe, as well as a number of Fortune 500 organizations. The company is the recipient of the Frost & Sullivan Global Enabling Technology Leadership Award.

http://www.percepto.co
Illy Gruber | illy@percepto.co

Power HV Inc
St. John's, Canada

Power HV saves energy on transformers bushings and ring main units. Our sensors improve safety by monitoring bushings.

http://phvbushing.com
Sizwe Dhlamini | SDLAMINI831@GMAIL.COM

Quidnet Energy
Houston, Texas

Quidnet Energy uses modern drilling and subsurface engineering techniques to develop wells for subsurface pumped hydro energy storage. Unlike traditional pumped hydro storage, Quidnet's Geomechanical Pumped Storage is deployable on non-mountainous terrain, enabling siting across a broad range of geographies and <50% the cost. Water is pumped down a well to apply pressure to a body of rock. When it is time to discharge back onto the grid, the compression in the rock is released, which pushes the water back up the well and through a turbine to generate electricity. The modular technology offers flexible and precise deployment onto the grid. Quidnet anticipates achieving lower per-kW installed costs than gas-fired power plants, while keeping per-kWh costs between $2 – 5/kWh.

http://www.quidnetenergy.com/
Joe Zhou | jzhou@quidnetenergy.com

RadMax Technologies
Spokane, Washington

RadMax is a research and development company in the early stages of commercializing a family of unique, axial vane devices built around a patented "common rotary core". This common core can be easily configured into a broad range of innovative products that includes; gas expanders, compressors, pumps, and internal combustion engines / external combustion turbines. These devices can be utilized across numerous global markets and applications to recapture lost "Free" energy and help users reduce their energy consumption, costs and greenhouse gas emissions (GHG's) by using less energy, more efficiently.

Paul Chute | pchute@radmaxtech.com

RagnaRock Geo
Oslo, Norway

RagnaRock revolutionizes O&G exploration by building state-of-the-art machine learning (ML) software on cloud tech. With this RagnaRock's mission is to facilitate for smarter and more efficient upstream O&G operations. Customers say that our software is industry leading and will help them save 90% of time spent on seismic interpretation. RagnaRock has built functional prototypes of horizon picking and auto-tracking AI-tools, and is currently co-developing additional modules with a Norwegian E&P company to have a functional Beta-version of the seismic interpretation software ready by Q4 this year. RagnaRock's current focus is on exploration, but will progressively move towards other parts of the subsurface workflow. By utilizing RagnaRock's tools, O&G companies can extract more information from their subsurface data. This will reduce subjectivity, and increase both precision and speed in interpretations, which again provides a higher probability of locating O&G fields.

https://ragnarockgeo.com/#/
Marit Bjerkreim | marit@ragnarockgeo.com

ResFrac
Palo Alto, California

Hydraulic fracturing and well performance are inherently intertwined. However, the status quo in the industry is to model fracturing and production as separate, discrete processes, with different physical laws, and using different software packages. ResFrac addresses this gap with a fully coupled hydraulic fracturing, wellbore, geomechanical, and reservoir simulator. A single simulation captures the life-cycle of an unconventional well or pad: hydraulic fracturing, shut-in, closure, production, and any subsequent child fracturing or refracturing. By coupling processes throughout the life of a well into a single simulation, ResFrac more accurately models well performance and is uniquely capable of modeling parent-child relationships, shale EOR, refracs, and more. Further, the integrated workflow facilitates collaboration between technical disciplines, acting as a central software in which to synthesize perspectives.

https://www.resfrac.com/
Garrett Fowler | garrett@resfrac.com

Revterra
Houston, Texas

Revterra is bringing a new spin to energy storage for industrial and utility scale applications, such as storage of wind and solar energy, with the development of our ultra-low-loss flywheel energy storage system that is 20x higher in performance compared to current flywheels and comparable to lithium ion in power delivered at half the cost. Current grid-scale energy storage technologies such as lithium-ion batteries make clean energy like solar and wind unclean due to their manufacturing methods and toxic byproducts. By introducing a highly efficient, low-cost alternative to lithium-ion batteries in industrial applications, Revterra will enable larger integration of renewables. Revterra is here to clean up storage for clean energy.

http://www.revterra.io
Ben Jawdat | bjawdat@revterra.net

Rheidiant
Houston, Texas

There is a low data rate revolution taking place in Industrial IoT pushing the edge of the IT/OT networks all the way to the field assets. Analogous to the disruption caused by low fidelity MP3s in the music industry, LPWA (low-power wide-area) networks enable new applications and alter business models in industrial connected systems. Rheidiant is a venture-backed startup helping innovative energy and power companies implement IIoT solutions. Its SecureWave IIoT services offer large enterprises, with established IT and OT architectures, modular tools to implement analytics-based solutions such as preventative maintenance, production optimization and leak detection. With this modular approach, Rheidiant's current customers are able to deploy complex IIoT solutions within weeks without migrating data or replacing existing assets. Rheidiant is the recipient of CERAWeek Energy Innovation Pioneer & Rice Alliance Most Promising Energy Startup awards.

http://rheidiant.com
Murat Ocalan | mocalan@rheidiant.com

SAFCell
Pasadena, California

SAFCell provides remote power solutions to a broad base of industrial customers. The Company utilizes proprietary Solid Acid Fuel Cell stacks for dependable 24/7/365 power generation. SAFCell's products are lower cost, more durable and have greater fuel flexibility than the existing solutions in this $6 billion market. The Company's initial products are 50-1000W power systems for remote O&G applications. SAFCell's products facilitate compliance with regulatory emissions requirements and reduce operating costs. SAFCell's 50W unit was successfully field deployed with Shell Canada in the winter of 2018. The Company has ongoing 50W field trials with other leading customers such as Repsol Oil & Gas, Cenovus Energy, Bellatrix Exploration, and Husky Energy and commercial sales.

http://www.safcell.com
Calum Chisholm | calum.chisholm@safcell.com

Sawback Technologies
Calgary, Canada

Sawback Technologies is a remote-sensing company, that specializes in drones, and sensors. We are currently working on developing a light-weight sensor for below-ground data collection, specifically for detecting buried infrastructure.

http://www.sawbacktech.ca
Neil Keown | neil@sawbacktech.ca

SecurityGate
Houston, Texas

The safest energy companies protect their assets with SecurityGate, a cybersecurity tool for critical infrastructure companies that automates assessments and remediation planning across a given enterprise's assets and suppliers. Through a SaaS-based experience, risk managers assign business criticality values to entities and assign risk questionnaires. The software converts responses to a risk score and creates prioritized remediation plans. SecurityGate replaces the spreadsheet-based methods that prevent organizations from scaling risk controls assessment and remediation efforts. With SecurityGate, organizations can efficiently automate sending questionnaires, collecting responses, mapping risk and business criticality, and generating recommended remediation plans. In a dynamic risk environment, each stakeholder has a real-time and historical understanding of controls-related risk.

http://www.securitygate.io
Ted Gutierrez | ted@securitygate.io

Semtive
Austin, Texas

At Semtive we developed renewable energy tech that makes clean energy effortless. Our small scale, low wind speed wind turbine generates energy as low as $0.01 kWh to the end user, can be installed in less than 1 hour, is completely noiseless and in highly reliable. Our state of the art electronics merge and control wind + solar + storage using machine learning and Blockchain, doing energy P2P with smart auctions. We are democratizing, decentralizing and digitalizing the energy industry. like Uber, in the energy industry.

http://semtive.com
Ignacio Juarez | ij@semtive.com

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Sensorfield
Houston, Texas

Sensorfield provides a uniquely simple plug-and-play platform for monitoring remote oilfield and industrial equipment. The system covers the entire vertical from customized field hardware to data delivery, display, alarms and advanced processing. These tools enable users to optimize efficiency, predict and mitigate equipment problems and avoid costly spill and emissions. Sensorfield brings the simplicity of consumer products to a field that hasn't seen significant innovation in decades. By reimagining the entire platform we've produced dead simple products that are more capable than conventional solutions and for less than 20% of the cost. The small units are installed by the asset owner's own field personnel in minutes or less. An integrated solar panel powers advanced edge computing and constant transmission of high resolution, high rate data in near real-time.

http://www.sensorfield.com
Stephen Crowe | stephen@sensorfield.com

Sensytec
Houston, Texas

Sensytec's purpose is to help Engineers & GCs build structures faster, safer, and more efficient by providing them with real-time data to monitor the health and integrity of cement/concrete structures and to predict and prevent cement/concrete failures. Our technology consists of a proprietary additive, and a Real-Time Concrete Monitoring System (RT-CMS) that provides users with critical data analysis during the design, placement, and production, thus allowing little room for errors. Third-party testing companies are currently taking cylinders of concrete and waiting approximately 7 days to get results from material testing labs. Sensytec's RT-CMS helps determine the strength of cement/concrete in real-time through the curing process and thus reducing the construction waiting time, and it can monitor stresses, temperature, contaminants, and corrosion..

https://sensytec.com/
Ody De La Paz | delapaz.ody@sensytec.com

Simple-Fill
Columbus, Ohio

Simple-Fill is changing the way America fuels medium and heavy-duty vehicles with compressed natural gas (CNG). CNG is cleaner, more affordable and offers greater price stability than diesel. However, conventional natural gas compressors for small to medium sized fleets are expensive, unreliable and inefficient, which stifles CNG's widespread adoption. Simple-Fill will enable the widespread adoption of CNG with its patented compressor that offers lower total cost of ownership than conventional compressors. Simple-Fill's target market are the 8.7 million straight trucks, 2.8 million tractor-trailers and 976,000 buses which burned 41 billion gallons of diesel fuel in 2017. Revenue is generated from three sources: Sale of CNG compressors; A royalty for each DGE compressed; A compressor maintenance fee charged per DGE compressed.

http://www.Simple-Fill.com
Rob Underhill | r.underhill@simple-fill.com

Solarlite CSP Technology
Duckwitz, Germany

Solarlite is a profitable, rapidly-growing company with a patent-protected, proven low-cost solution which addresses the largely-ignored, $1 trillion market market of decarbonizing industrial process heat. Industry is the largest consumer of global energy (with heat representing 75%), and among the largest producer of CO2 and other emissions. Industry, and oil & gas in particular, must rapidly decarbonize for any climate goals to succeed. Previously this was cost-prohibitive. Now Solarlite technology makes large-scale industry decarbonization possible. Its patented composite-trough solar thermal technology and direct-steam process (DSG) can provide zero-carbon, high-temperature heat (150-550 C) at $3/mmbtu unsubsidized, which is less than current fuel costs for many industries worldwide.

https://solarlite.de/en/
Steven Geiger | sgeiger@innovapartners.us

Solistra

Toronto, Canada

Solistra enables the solar-activated conversion of carbon dioxide and methane gas simultaneously into to over 100,000 different fuels and chemicals through the production of synthesis gas, an industrially valuable chemical intermediate. Using light to activate this process reduces fuel consumption by 60%, and eliminates 98% of greenhouse gas emissions in comparison to conventional synthesis gas production. Further our process is completely water-free, saving utility costs. This revolutionary technology has the potential to fundamentally change the way chemicals are sourced and produced, ushering in a new, clean way to manufacture industrial chemicals.

Alexandra Tavasoli | alex@solistra.ca

SOTAOG

Houston, Texas

SOTAOG is a leading intelligent enterprise software provider, delivering smart technology for the industrial world. We seamlessly integrate real time data from both new and existing sensors or 3rd party systems to offer clients comprehensive and flexible IIOT solutions. Our user-friendly dashboard synthesizes data from across the spectrum of business operations and provides clear actionable insights. We empower clients to precisely monitor, control, visualize and predict every aspect of operations and make better business decisions

Sarah Tamilarasan | sarah@sotaog.com

Spectral Sensor Solutions

Fort Wayne, Indiana

Spectral Sensor Solutions, LLC (S3) is a small company headquartered in Albuquerque, NM, with an Environmental Sensing Division (ESD) in Fort Wayne, IN. S3 was established in 2012 with a focus on research, development, testing, and evaluation of electro-optical systems for standoff sensing of chemical, biological, radiological, nuclear, and explosive threats. ESD was formed in January 2019, expanding S3's focus and expertise to include standoff detection of climatological and environmentally relevant atmospheric properties. S3 ESD's mission is to develop, adapt, and field environmental remote sensing technologies that help our customers replace assumptions with reliable and meaningful information. S3 ESD is working to become the premier provider of active remote sensing solutions which satisfy the diverse set of challenges facing the scientific community, regulators, and the industrial sector.

Scott Higdon | scott.higdon@S-3LLC.com

SPL Leak Detection

Houston, Texas

A group of seasoned pipeline industry professionals teamed up with experts in internet technology and flow science to develop, over a period of several years, the underpinnings of the technology used by the patent pending SPL100 system. The key of the system is the use of technology that has become affordable over the last couple of years, coupled with the state of the art science and predictive analysis. With the combination of these two elements, SPL Leak Detection hopes to be a disruptive force in the industry. The first two commercial applications SPL Leak Detection has chosen to use their technology are the real time pipeline monitoring and hydrostatic leak detection testing.

http://www.spldetection.com
John Spruth | jspruth@spldetection.com

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Summit Nanotech

Calgary, Canada

As the world transitions to a new energy future, demand for lithium will rise sharply following society's desire for more electric vehicles, stationary storage and mobility with devices and equipment. The unfortunate truth however, is that mining practices to get lithium out of the ground are inefficient, polluting and expensive. Summit Nanotech has created a proprietary process that will isolate lithium ions from solution using nanotechnology and create a valuable, high quality end product, lithium carbonate. This process is inexpensive, requires less energy, creates less waste and has higher recovery factors than traditional methods. Mining companies want this technology and the world needs it. Amanda Hall, CEO

http://www.summitnanotech.ca
Amanda Hall | amanda@summitnanotech.com

Syzygy Plasmonics

Houston, Texas

Syzygy Plasmonics is using Rice University technology to develop a next generation chemical reactor. Our reactor is able produce commodity chemicals using light instead of heat from burning fuel. Not burning fuel reduces the operating temperature of our reactor, which decreases both cost and carbon emissions of these chemicals by 50% or more. The first go-to-market reaction will be creating low-cost hydrogen for 'small-scale' applications.

http://www.plasmonics.tech
Trevor Best | trevor@plasmonics.tech

Tank Utility

Boston, Massachusetts

The US spends more than $100 Billion on delivered fuels such as Propane, Heating Oil, and Diesel, every year. Because last-mile fuel distribution companies rely on educated guesses to plan their deliveries, more than 40% of all delivery miles (about 1/6th of total market spend) are unnecessarily wasted. Tank Utility uses actual tank level measurements and innovative business intelligence software to digitize logistics planning and eliminate these wasted deliveries. Tank Utility also enables an order of magnitude better customer experience by providing transparency and timely communication between fuel providers and their customers with fully integrated web and mobile apps.

https://www.tankutility.com/
Amos Epstein | amos@tankutility.com

Ten-Nine Technologies

TULSA, Oklahoma

• Ten-Nine Technologies develops new materials for new economies. Our market-entry product is an energy-dense battery material that enables "forever" batteries for smart sensors and the Internet of Things.

http://ten-ninetech.com/
Paige Johnson | admin@ten-ninetech.com

Teratonix
Ambient Energy Harvesting

Teratonix
Pittsburgh, Pennsylvania

Teratonix is a Carnegie Mellon University spin-off, founded by ECE Professor Yi Luo. Our objective is to commercialize innovative energy harvesting technologies, which can generate electricity from "free" ambient radio frequency (RF) waves, such as cellular and Wi-Fi, to provide DC power for IoT sensors and active medical devices. Our battery-less, maintenance-free & clean solution will directly provide distributed electricity generation for trillions of IoT sensors to be deployed & thus enabling a broad range of IoT applications, which can significantly improve manufacturing, resource & building efficiency. Our core invention is the ultrahigh-speed metal-semiconductor-metal heterojunction diodes, which are 100-1000x faster than any other state-of-art diodes & are the only known technology capable of rectifying broadband RF signals into DC power & achieving 100+x higher conversion efficiency. Initially, we will focus on industrial IoT sensors in the energy sector (supported under Shell's GameChanger program) & active implantable medical devices.
https://www.teratonix.com/
Johnny Huang | johnnyhuang@teratonix.com

TERAWATT

TeraWatt Technology
Santa Clara, California

TeraWatt Technology is a company developing state-of-the-art battery technologies. Current products under developing include advanced li-ion battery and next-gen solid state battery. The li-ion battery features high energy density, high power, and patented design for fast charge and longevity. The next-gen solid state battery features ultra-high energy density and safety.

https://terawatttechnology.com/
Rebecca Huang | rebecca.huang@driveseres.com

terrapin
Heat Value Experts

Terrapin Geothermics
Edmonton, Canada

Terrapin focuses on capturing the untapped value in heat. Whether found underground from geothermal sources, or at surface on industrial sites, we work with clients to help them make money from waste-heat. Terrapin is made up of internationally recognized energy experts who have built some of the largest industrial facilities in North America, including one of the largest waste-heat to power projects in Canadian history. Waste-heat resource locked inside large industrial facilities presents the best economic payback of any form of emission free, baseload electricity generation. Terrapin helps facilities overcome the technical, process, regulatory and economic barriers to successfully implement projects. Terrapin also provides 3rd party ownership and operation for clients who do not have the capital to develop waste-heat to power projects through our joint venture partner, Capstone Infrastructure.
https://www.terrapingeo.com/
Gray Alton | gray@terrapingeo.com

Triad Technologies LLC

Triad Technologies
Houston, Texas

Triad is working on a game changing flow meter technology designed to measure the entire flow in a pipe, without separation. This startup company has licensed a unique flow meter technology from NASA which was originally designed to measure cyrogenic flows on the space shuttle. Using multiple laser with different wavelengths positioned at the same point across a pipe, we capture the liquid volume fraction, including oil and water fractions and determine the gas void fraction measuring the entire flow. The meter can also capture bubbles in flow, down to a size of 10 microns. Use of the dynamic measurement will increase production and remove the need to flare gas. The company is focused on flow testing to better define the operating ranges and performance uncertainty. Triad is searching for a partner/collaborator, to help speed up the adoption and commercialization of this unique and very much needed flow meter technology.

http://www.triadtechnologiesllc.com
Tim Daigle | tim.daigle@triadtechnologiesllc.com

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Turkana

Calgary, Canada

Turkana has developed an acoustic imaging system that maps formation occlusions and both natural and man-made fractures up to 150' from the wellbore. The company has developed a series of AI driven embedded supercomputers and multi fiber for multi gig data flow capacity. We can position this data within the rock, with range, bearing and depth from the tool face. The technology streams live data and the output can be used to optimize completions. Industry acknowledges that ~30% of stages contribute ~80% of production thus the majority are uneconomic. Our tool provides the information necessary to reduce the stage count and consumables by 50% or more thus saving completion dollars and millions of gallons of water per well. In water disposal applications it will map the optimal location and help determine the rate and volume that can be injected to mitigate induced seismicity. We help industry make better informed decisions.

http://www.turkana.ca
Tim Davies | daviest@turkana.ca

Utility Global

Provo, Utah

Utility Global aims to enable clean, reliable, low-cost energy conversion & storage with it's new oxide-ion technology. Utility was founded in an innovation hub – Hall Labs – renowned in the fields of energy technology, material science, clean-tech, and manufacturing. Hall Labs is a modern-day Edison lab with long track record of developing new technologies with nearly 1,000 patents and numerous $100M+ exits. Utility Global is using its cutting-edge technology to finally enable broad-scale adoption of renewables with its ultra-low cost, long-life, next-gen oxide-ion system. This very same technology can also enable the first-of-its-kind, carbon-neutral, natural gas driven 'engine', transforming this abundant resource into a clean fuel. We aim to store electricity at 1/10th the cost of Li-Ion batteries while providing >10x the longevity. We also aim to generate clean-electricity from natural gas at a price that cannot be matched. Our breakthrough technologies are backed by >40 patents.

http://www.utility.global
Matt Dawson | mdawson@halllabs.com

Verdigris Technologies

Mountain View, California

Verdigris combines proprietary hardware, artificial intelligence and software applications to deliver differentiated insights about building operation and energy consumption. Verdigris smart sensors placed at the electrical panel sample at extremely high frequency. We take hundreds of millions more data points than a utility smart meter – every hour. This high frequency data is fundamental to algorithmically "learning" a building. Our algorithms use this information to create a "virtual physical layer" of data, producing energy forecasts, motor fault sensor streams, and device level energy information. Verdigris offers a suite of applications based on this innovative data platform. These products enable unprecedented depth of energy analysis and enable building managers to move beyond "firefighting." Facility and operations teams can proactively manage their buildings to improve operational outcomes.

http://verdigris.co
Mark Chung | mark@verdigris.co

Viper Drill

Lake Charles, Louisiana

Viper Drill address one of the most fundamental problems in the O&G industry—poor reservoir drainage. We do this via our patented & award-winning Hyper-Perf technology-- essentially drainage tunnels that radiate outward from a wellbore like spokes on a wheel. RESULTS: Our drainage tunnels extend far beyond the constrictive near wellbore region, resulting in a staggering improvement (vs. conventional perforations). Studies conducted using Schlumberger's Petrel software indicate improved recovery rates of 50 to 225%. More importantly, actual Field Results have ranged from 40% to ≈300%! Example: In a field trial with the Enhanced Oil Recovery Institute (EORI) a well treated by Viper Drill rose from 31 to 58 BOPD— a ≈90% increase. Even more noteworthy, however, was the fact that this well performed at nearly 50% above its Initial Production despite having been previously frac'd and nearly 30 yrs old !

http://www.viperdrill.com
Mark Savage | msavage@viperdrill.com

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Vita Inclinata Technologies

Denver, Colorado

Vita Inclinata develops stabilizing technology for suspended loads during crane operations. The technology reduces costs of operations while enhancing the overall safety by allowing the industry to take a hands-off approach.

http://www.vitatech.co
Caleb Carr | ccarr@vitatech.co

Walbom Wall

Houston, Texas

The Walbom Wall is a flood-resilient retrofit wall system that is designed to stay in place after a flood and be dried-out without disrupting the occupants. Using available materials not typically applied in this manner, we created a permanent, insulated, water-resistant, non-toxic, and inorganic wet wall that doesn't need to ripped out. The wall has insulating value that contributes to compliance with energy codes. A wall that does not have to be rebuilt saves the embodied energy and emissions generated by production of new materials for new walls. This alternative wall system minimizes the impacts on building occupants, future flood costs, and the environment.

Sheila Blake | pogef@comcast.net

Water Labs

Houston, Texas

WaterLabs is now "The Water Factory" Customer Problem: The major environmental issue today in all industries including the upstream Oil and Gas Industry is the amount of waste water produced from operations that either must be recycling for reused or disposed. Solution: A patented, patent pending and proprietary process that is unique in low-cost high-volume treatment of produced/frac water or water from any source. WaterLabs is using patented Magnetic Ballast Clarification along with Nano bubble technology to recycle water from all sources including frack water. Direct Operating cost 3-5 cent/barrel using Magnetite and Polymer and electricity. WaterLabs has the ability to utilize nano bubbles patent pending technology to infuse nano bubbles with a specific gas to treat water to remove TDS or precipitate the solids for removal. The MBC process has the ability to remove bacteria from the water as part of a water treatment design.

http://www.waterlabs-tech.com/
Robert Troy | bob.troy@waterlabs-tech.com

Willowglen Systems

Edmonton, Canada

Edmonton, Alberta based Willowglen Systems Inc. develops and delivers industrial automation technology used in the control, monitoring, and analysis of mission critical systems.Willowglen currently is focusing on the safe & effective control of pipeline systems, distributed power, metro-rail, & freight rail. Our technology provides the building blocks that enables next generation transportation, clean energy solutions, transformational operational efficiencies, & greater public safety. Willowglen accomplishes this by producing extremely scalable and integrated control systems that leverage the latest advancements in IIoT, real-time OT-centric big data, and machine learning to deliver improvements through real-time decision support and autonomous operations. Willowglen solutions are deployed globally. Our early adopters include the largest energy companies, metro-rail partners that collectively oversee the safe operation of 4 billion passenger journeys per year, and tier 1 rail. We control power systems across northern Canada and across China. We are deployed on 5 continents

http://www.willowglensystems.com
Stephen Nielsen | Stephen.nielsen@willowglensystems.com

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WindESCo

Boston, Massachusetts

Wind power continues to grow, with over 600 GW installed worldwide. With a Total Addressable Market of over $10B, WindESCo solutions are actively optimizing wind farms in 8 countries across 3 continents. Our solutions include: Increasing plant output between 2 – 8%: We achieve this by parameter optimization and by creating "social wind farms," where turbines seamlessly communicate and learn from neighboring turbines. Reducing operating expense: We reduce major component failures by using our patented WeSense, intelligent load monitoring system, that allows us to turn individual blades into sensors. Our current customers include medium to large IPPs. We are engaged with major IPPs worldwide, with a customer pipeline over 44 GW. We have won grants by the state of Massachusetts and US Department of Energy.

http://www.windesco.com
Mo Dua | mo@windesco.com

Wsense

Roma, Italy

WSENSE is a high-tech Italian company with a strong and experienced R&D team specialized in monitoring & communication systems, with pioneering patented solutions on the Internet of Underwater Things (IoUT). Our cableless patented technologies are at the forefront of underwater wireless networking, outclassing competitors at 20+ at sea campaigns with a demonstration of their performance & reliability. We support multi-modal underwater wireless communications (e.g, acoustical, wireless optical, RF), mesh networking & secure communications among multi-vendor underwater & surface sensing and robotic platforms. WSENSE has been part of the first NATO standardization efforts in underwater communications, serving as NIAG 190 editor for networked scenarios. We have a working implementation of the NATO JANUS standard. What we offer is complete IoUT solutions, interconnecting and adding value and intelligence to assets our customers have already invested in. Full support to multi-vendor interoperability is at the core of our solutions.

https://wsense.it/
Chiara Petrioli | chiara.petrioli@wsense.it

Zest-TX

Highlands, Texas

We are an independent power generator producing carbon free electricity from over a dozen diverse fuel sources and producing several revenue generating sources. Our carbon free electricity is base load, renewable, sustainable and adaptable using, interchangeably, natural gas, municipal solid waste, agricultural waste, coal, used carpet, rubber tires and toxic medical waste, among others. We also have carbon capture capability which qualifies us for Section 45Q credits.

http://www.Zerosinc.com
Tipton Burns | tiptonmburns@gmail.com

My Pass Global

Houston, Texas

MyPass is a digital workforce management system, designed to help companies in highly regulated industries to reduce their risk and cost of operations by up to 75%. The key difference with MyPass is that workers own and control the data contained within their MyPass digital work passport, meaning they can connect with training institutions, employers and sites, without the need for manual re-keying. By having a 'single-source of truth' integrated industry data-set of worker competency and training information, we have created a model whereby everyone in the labour supply chain gets a direct cost reduction and risk reduction benefit from using MyPass. The ultimate value of MyPass is the rich worker data sets we are building of industry projects, worker job roles, training, credentials, locations and schedules. MyPass now has 17,000+ users across 24 countries including (e.g. New Zealand, USA, UK, middle east).

http://www.mypassglobal.com
Matt Smith | msmith@mypassglobal.com