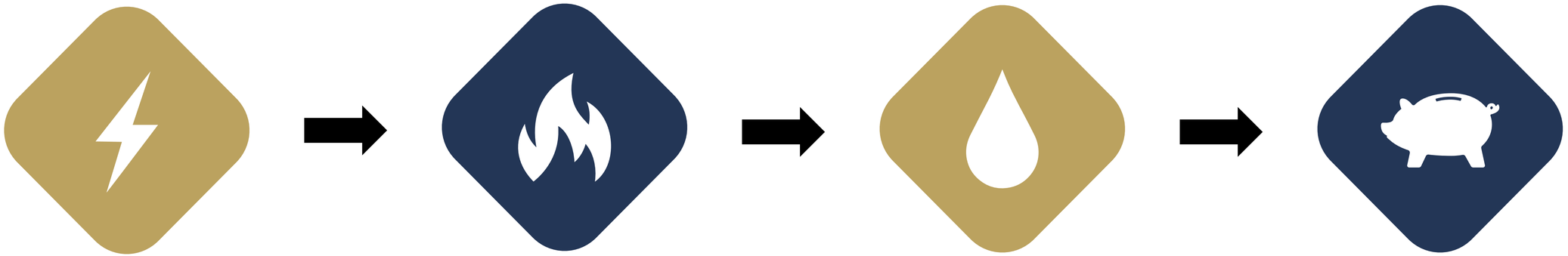

GSI
GOLD SEAL INDUSTRIES
Ultimate Conversion System

Our Purpose…

Founded by Kim Kirkendall and John O’Hurley, Gold Seal Industries LLC is a technology company that manufactures and manages the Ultimate Conversion Systems (UCS). The UCS converts waste into energy and commodities with ZERO emissions and ZERO waste. The company is committed to providing cost-effective, profitable solutions, and services that utilize the latest in advanced technology and sustainable practices.

Our Technology

This unique, proprietary technology is the only commercially viable alternative to waste incineration.



Induction Heating

The UCS electronically superheats and thermally degrades carbon-based materials to produce synthetic gas in an oxygen-free environment with ZERO emissions.

Synthetic Gas

The synthetic gas or syngas is the base chemical that is converted into all forms of energy. The syngas is compressed and stored as an on-demand energy source.

Moisture

The moisture contained in the feedstock is extracted and distilled, then further condensed and converted into medical grade water.

Commodities

The remaining solids and other chemicals from the gas purification process are sold as commodities, with ZERO waste.

Unique Approach

GSI has taken a different approach to design, development, and operation with the UCS. This approach is vastly different than any other technology on the market.

ZERO Emissions

GSI's UCS is the only true ZERO emission system on the market.

Mobility

The system is mobile and comes in sets of shipping containers.

Plug 'n Play

The UCS "Plug 'n Play" format allows the various containers to connect and operate together to create a fully integrated system.

Self-powering

The system is self-powering and operates fully off the power grid.

"Many of these benefits will be unique to a new technology package and the key benefits to an emerging 21st Century material management system is the ability to have small scale, mobile, fast-fit tech supported by a 25-year warranty. From a technical perspective, the lack of a significant number of moving parts, potential for ZERO emissions and comprehensive maintenance program will give the GSI UCS a commercial advantage. It's the view of SOENECS that the UCS has the potential to revolutionize the way that difficult wastes can be managed in an appropriate, localized and optimal way, according to their individual chemical and physical composition."

Dr. David Greenfield, Managing Director SOENECS Ltd, 2017 Technology Review

Feedstocks & Commodities

The UCS can process a wide variety of feedstocks and convert them into numerous commodity sets.

Feedstocks

- Municipal Solid Waste (MSW)
- Used Tires
- Coal
- Wood
- Plastic
- Paper/Cardboard
- Cooking Oils and Grease
- Medical Waste
- Bio-Hazard/Medical Waste
- Sewage and Sludge
- Agriculture Waste
- Biomass
- Industrial and Hazardous Chemical Waste
- Environmental Remediation

Commodities

- Electricity
- Transportation Fuels
- Medical Grade Water
- Biochar
- Aggregate
- Carbon Black
- Activated Carbon
- Industrial Chemicals
- Soil Enhancement
- Steel, Metal, and Glass to be recycled
- Graphene

Water Purification

GSI utilizes a distillation system to process wastewater and convert it into pure, medical-grade distilled water.

Waste

The purification system works in combination with the UCS. It removes all contaminants and purifies the moisture contained within the waste and water .

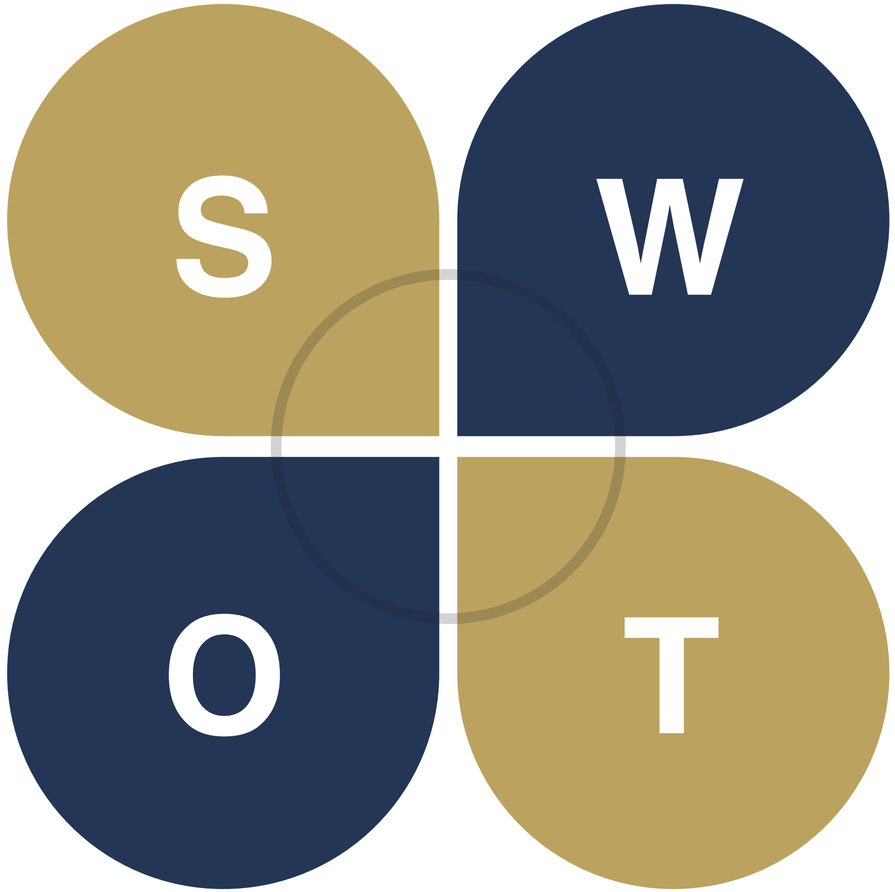
Add-on

The system can be used as a separate add-on to purify large contaminated water supplies as well as desalination.

Additional Technology

GSI also works with other companies utilizing technology to eliminate specific contaminants such as PFAS.

SWOT Analysis



Strengths

- ZERO Emissions
- ZERO Waste
- Portable, Stackable, and Scalable
- Training and Education Program
- Customized Feedstock and Commodity Solution
- Average ROI of 5 years without tax credits or incentives

Weaknesses

- Initial Production Time (9-12 months for early systems)

Opportunities

- Wide Applications Across Many Industries
- No Competitors With The Same Abilities
- Shift To Environmentally Friendly Solutions To Waste Disposal
- Paris Climate Agreement Will Create A Need For Optimizing Power and Transportation Industries
- Positive Marketing and PR Imaging

Threats

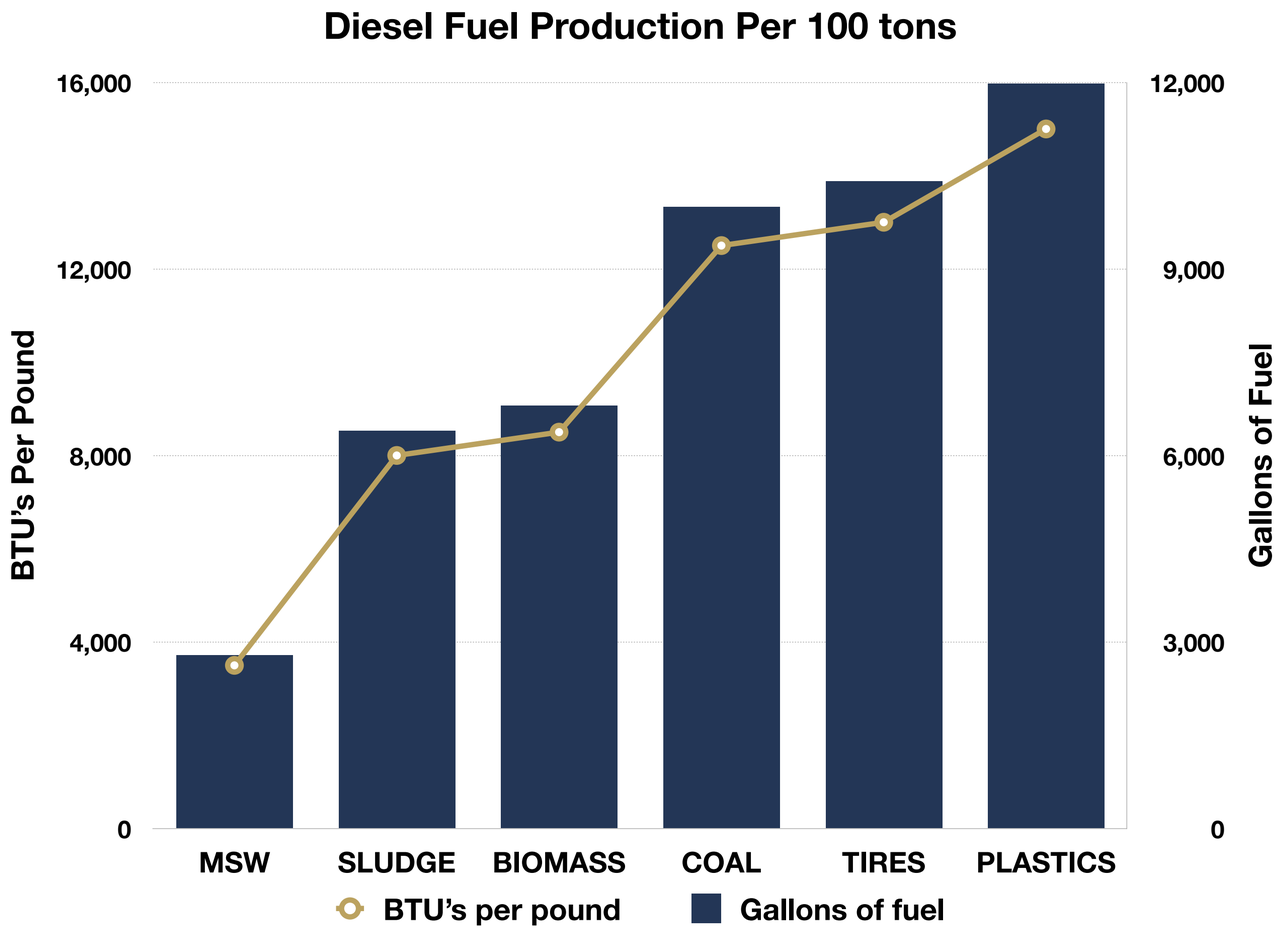
- Intellectual Property Theft
- Market Saturation
- Marketplace Complacency

Fuel Production

The UCS converts the syngas into various fuels using heat and pressure with a fuel conversion system. The amount of fuel produced from the system will vary depending on the BTU value of the feedstock and desired grade of fuel required.

Diesel Fuel Production Per 100 tons

	BTU's per pound	Gallons of fuel
MSW	3,500	2,800
SEWAGE SLUDGE	8,000	6,400
BIOMASS	8,500	6,800
COAL	12,500	10,000
TIRES	13,000	10,400
PLASTICS	15,000	12,000



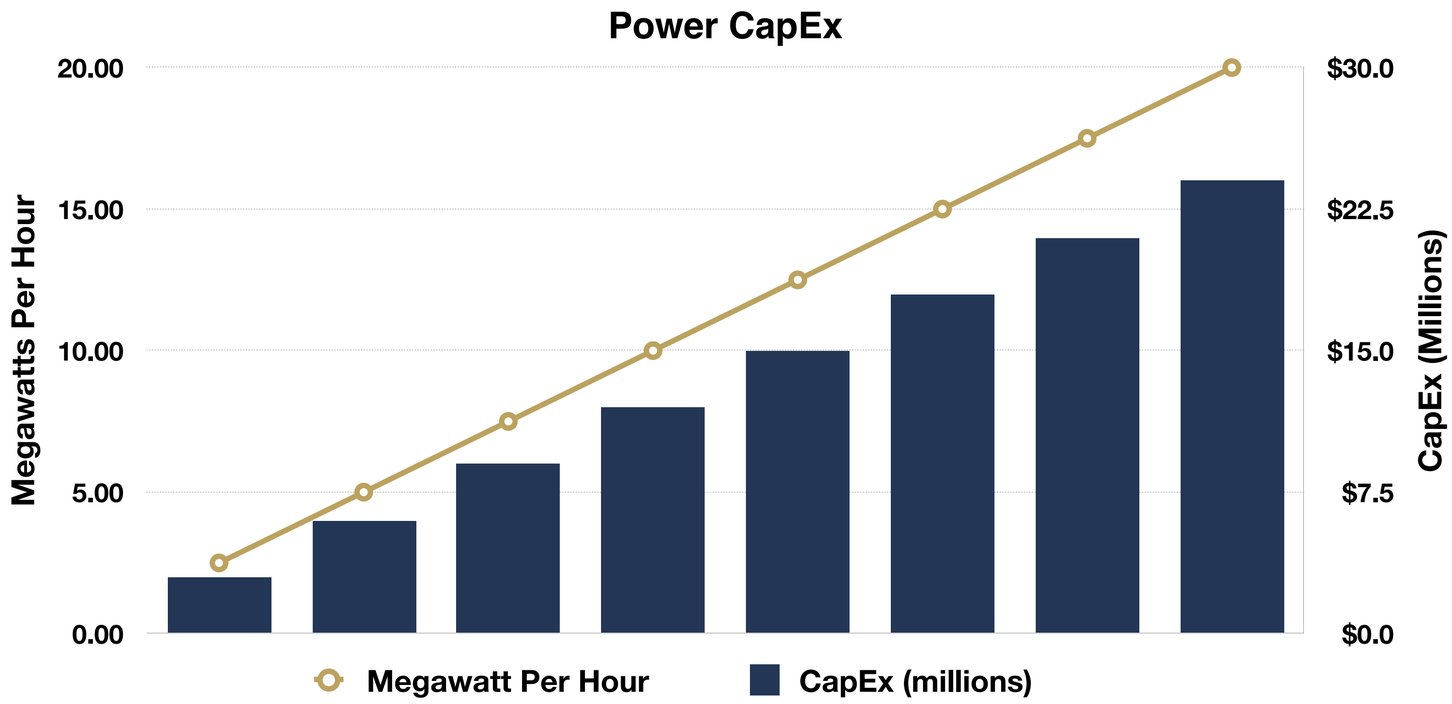
Power CapEx

The UCS is transforming the approach to power production. Instead of large power plants, the UCS system is perfect for decentralized generation or micro grid set ups. GSI can utilize a variety of turbines depending on the project requirements. **For example: a 10 MW system provides enough power for 9,000 homes.** The system is also suitable powering large industrial or commercial businesses.

Power CapEx

Megawatts Per Hour	CapEx
2.50	$3,000,000
5.00	$6,000,000
7.50	$9,000,000
10.00	$12,000,000
12.50	$15,000,000
15.00	$18,000,000
17.50	$21,000,000
20.00	$24,000,000

Capstone C1000S Turbine Set



Project Examples

The following project examples have been provided for a basic understanding of potential cost and outputs. These numbers do not include tax incentives or credits of any kind. For precise numbers The GSI Project Assessment is required.

Biomass to BioDiesel Fuel

Feedstock Input		
Biomass		
Tons per day	100	
Operating Hours	24	
Annual Operating Days	351	
Project Cost		
Ultimate Conversion System	$35,000,000	
Building & Land	$10,000,000	
Total:	$45,000,000	
Commodities		
Diesel Fuel	2,386,800	Gallons/yr
BioChar	12,987	Tons/yr
Revenue		
Diesel Fuel	$7,160,400	
BioChar	$4,545,450	
Total:	$11,705,850	
Finances		
Revenue	$11,706,850	
O&M	$6,000,000	
EBITDA	$5,706,850	
PROJECTED ROI	7.9	Years

Sewage Sludge to BioDiesel Fuel

Feedstock Input		
Sewage Sludge		
Tons per day	100	
Operating Hours	24	
Annual Operating Days	351	
Project Cost		
Ultimate Conversion System	$35,000,000	
Building & Land	$10,000,000	
Total:	$45,000,000	
Commodities		
Diesel Fuel	2,246,400	Gallons/yr
BioChar	12,987	Tons/yr
Revenue		
Diesel Fuel	$6,739,200	
BioChar	$4,545,450	
Total:	$11,284,650	
Finances		
Revenue	$11,284,650	
O&M	$6,000,000	
EBITDA	$5,284,650	
PROJECTED ROI	8.5	Years

Note: The information contained herein is a model based on assumptions for a waste to energy system. This is **NOT** a proposal, bid, solicitation, offer for sale, sale price, contract, or agreement of any kind. This may be used for discussion purposes only.

Project Examples

Used Tires to Diesel Fuel-1

Feedstock Input		
Used Tires		
Tons per day	100	
Operating Hours	24	
Annual Operating Days	351	
Project Cost		
Ultimate Conversion System	$35,000,000	
Building & Land	$10,000,000	
Total:	$45,000,000	
Commodities		
Diesel Fuel	3,510,000	Gallons/yr
Carbon Black	12,987	Tons/yr
Steel	3,510	Tons/yr
Revenue		
Diesel Fuel	$8,775,000	
Carbon Black	$2,597,400	
Steel	$702,000	
Tipping Fee	$3,510,000	
Total:	$15,584,400	
Finances		
Revenue	$15,584,400	
O&M	$6,000,000	
EBITDA	$9,584,400	
PROJECTED ROI	4.7	Years

Used Tires to Electricity-1

Feedstock Input		
Used Tires		
Tons per day	100	
Operating Hours	24	
Annual Operating Days	351	
Project Cost		
Ultimate Conversion System	$52,500,000	
Building & Land	$12,000,000	
Total:	$64,500,000	
Commodities		
Electricity	12.5	Mwh
Carbon Black	12,987	Tons/yr
Steel	3,510	Tons/yr
Revenue		
Electricity	$12,636,000	
Carbon Black	$2,597,400	
Steel	$702,000	
Tipping Fee	$3,510,000	
Total:	$19,445,400	
Finances		
Revenue	$19,445,400	
O&M	$6,000,000	
EBITDA	$13,445,400	
PROJECTED ROI	4.8	Years

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Insurance

Lloyd’s of London

GSI offers an insurance policy through the Lloyd’s of London insurance market. The policies are customized for each project. There are three main coverages provided through this insurance structure.

Manufacturing: This premium is paid for by GSI to cover the manufacturing of the systems and make sure they are produced in the time frame provided to the customer. This also works in conjunction with our OEM partner’s warranties and guarantees.

Construction: This premium covers the system transportation and setup during the on-site construction phase of the project. This premium is paid by the customer.

Operation & Outputs: The operation premium fills in gaps in coverage under the warranties and guarantees provided by our OEM partners. The outputs are covered under this policy up to 120% the cost of the project. This means if the system does not meet the outputs agreed upon in the contract, the policy will cover the cost to reach those outputs up to 120% of the cost of the project. This premium is paid by the customer. To qualify for this coverage Lloyd’s requires an operation agreement with GSI to guarantee the system is operated and maintained properly.

Project Assessment

Gold Seal Industries performs feasibility studies on each project to produce a complete project booklet. GSI works with the customer or the EPC on the project to complete the study which includes:

Building Design

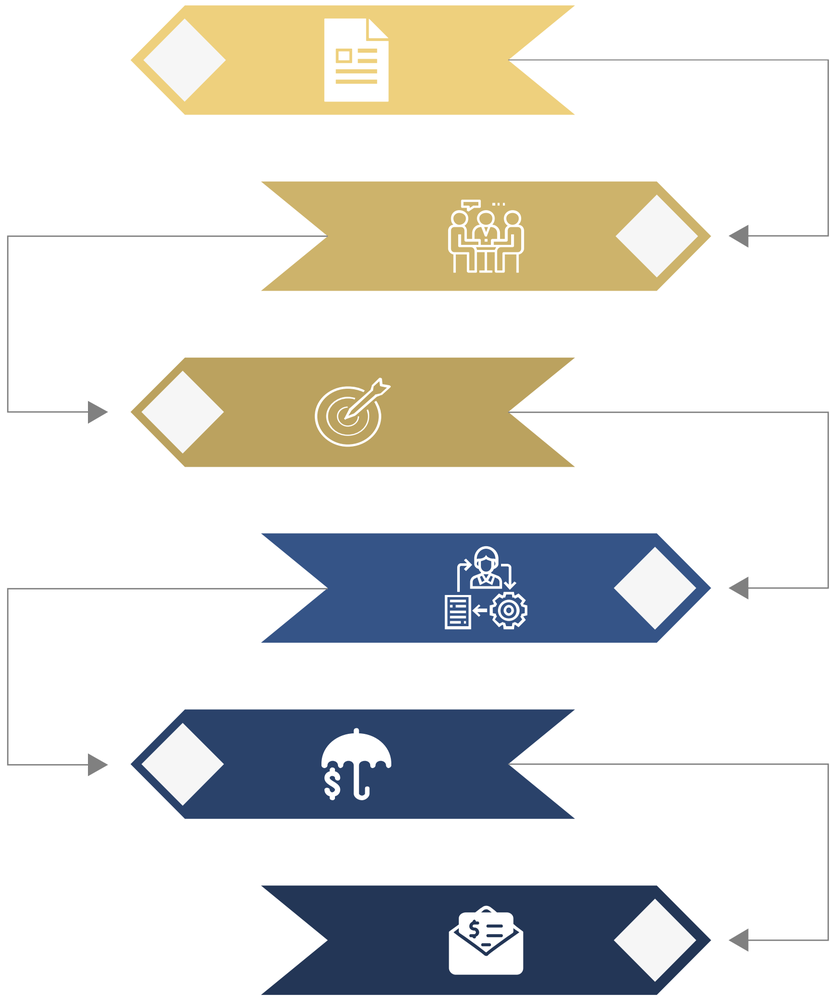
GSI works with the customer and/or the EPC to design a new building or to develop the integration of the technology into an existing site.

Equipment & Anticipated Outputs

GSI will work with the EPC and customer to provide an equipment list and price quote for the project. Based upon the equipment package, GSI will provide the anticipated outputs and revenue depending on preliminary takeoff agreements.

Insurance Policy

Lloyd's of London and GSI representatives will do a full insurance review of the project. Upon completion the preliminary insurance outline quotes will be provided for review and adjustment.



Site Engineering

The fundamentals of site engineering involve planning, organizing and monitoring the technical components of the project. GSI works with the EPC and contractor to develop the project for integrating technology and infrastructure into a new or existing site.

Regulatory Permitting

GSI works with the EPC or customer to identify all of the federal, state, and local permits that need to be completed for the project.

Assessment Fee

The US Domestic Assessment fee is $250,000 USD per site. The International Fees will vary depending on the project location. All fees are credited towards the purchase price of the UCS.

Executive Team

John O’Hurley

Co-Founder

Award-winning actor John O’Hurley is equally fluent in the world of entertainment and business. He has catapulted into television’s busiest and most versatile actor/show host, Broadway star, advertising hero as well as being a New York Times best-selling author and Billboard chart-topping composer.

Life imitates art for him as John is now the business partner of the J. Peterman Company, along with the real J. Peterman. His unusual versatility as both entertainer and businessman was the focus of many features in magazines like Business Week and Time Magazine. Aside from his position as part owner of the J. Peterman Company, he is a principal partner in six companies, most notably the venture capital company, Round-One Investments in Beverly Hills, and founder and principal partner in PoliteView, a unique on-line delivery platform used extensively by the US Government, airlines, The UN, and many Fortune 500 Corporations. John brings a vast and unique marketing opportunity to GSI with his Hollywood, political and business connections. In 2014 he received the Ellis Island Metal of Honor for his work in the Arts and Philanthropy.

Evan Kirkendall

Chief Executive Officer

Evan Kirkendall is a hands-on CEO & Managing Member of Gold Seal Industries, LLC. His expertise in GSI’s technology is unparalleled. Evan’s years of experience with the company include everything from management and maintenance to design and development of the technology. Most notably, Evan’s work on design, development, implementation of the water purification system GSI offers, continues to innovate the UCS capabilities. He is committed to the legacy of his father and GSI’s founder Kim Kirkendall: a passion and belief that GSI’s technology can convert Negatives Into Positives, enhance the environment. Evan studied Business Management at Purdue University before joining GSI in 2010.

Blain Evans

Chief Technology Officer

Blain Evans is a principal investor for the National Science Foundation and serves as an advisor for a variety of advancing technology companies and research laboratories across the nation. He has a passion and unique genius for mechanical engineering that stemmed from decades in the U.S. Air Force where he conducted aircraft systems development and safety design. Blain has been with GSI since 2020 and has been pivotal part of further design and development of the UCS and other technologies.

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