

## Other

**2021**

### **Reverse Engineering Utilizing Additive Manufacturing Where Practical Leading to New Sources of Manufacture**

Elevan LLC dba Elevate Systems is a cutting-edge engineering design and technology company specializing in new design and reverse and re-engineering services. We specialize in creating technical data where it does not exist, modernizing legacy data, 2D to 3D conversion of data for simulation analysis and solid modeling and finite element analysis for engineering substantiation. We integrate additive manufacturing into our designs where practical. We have an extraordinary knowledge of blockchain technology (distributed ledger) and we provide services for software development, AI/ML/Computer Vision, Digital transformation, Cloud Automation/ Migration, Network Infrastructure, Security Automation, Android/iOS development, Cryptographic R&D and CI/CD Implementation.

### **Dispersions for Printed Electronics and Additive Manufacturing**

We are focused on dispersions and formulations (inks and pastes) of nanoparticles for printed electronics and additive manufacturing. These can be used for printing circuits, antennas and sensors and can be applied to various substrates, including flexible and conformal applications, to lower SWaP-C, improve manufacturability and customization. Existing products include copper, nickel, copper-nickel-alloys, aluminum, and silver materials for various printing platforms. Prototypes of molybdenum, niobium, zirconium and indium are available and we are open to innovation with other materials. Indium ink, in particular, is needed for next-generation high-definition electronics packaging of mixed components and hermetic sealing of electro-optic components and is of interest for quantum computing.

### **Enduralock High Vibration Resistant Fasteners**

Fasteners are often overlooked as commodity items, but their reliability and attributes are essential not only to the warfighter but essential also in the reduction in the time and cost of maintenance for the Command. Enduralock offers numerous fastener designs, all intended for use in high vibration harsh environments. All Enduralock fasteners are mechanically locking, highly vibration-resistant permanent fasteners, but for maintenance they are fully reversible and reusable with a standard hex socket. They remain locked even with total loss of preload (clamping force). In vibration testing, Enduralock fasteners withstood 10x the aerospace requirement. Enduralock's self-aligning nut plate will engage an off-axis bolt and then self-align during tightening. It also provides for a fixed position panel bolt retaining ring, which reduces

the chance of FOD (foreign object debris). Enduralock fasteners and nut plate provide for a dramatic reduction in the time and cost of installation and maintenance.

### **Physical asset management, process automation and AI-driven optimization models and algorithms – adopt advanced IoT technologies without needing large company resources**

Our software helps organizations use IoT sensors (RFID, barcodes, GPS, and more), digital forms, and AI-driven models and algorithms to:

- Automate manual processes
- Eliminate paper and spreadsheets, and make data accessible where it is needed, when it is needed, at all levels of the organization
- Improve operational visibility, including ensuring activities are performed on time, every time and exceptions are flagged in real-time
- Optimize operations and eliminate surprises regarding the location, condition, and stocks of assets

Gain the benefits of advanced technologies without needing large company resources. Our modular system lets users address problems in turn to keep disruptions to a minimum. Our focus on ease of use means personnel turnover does not send our customers back to square one.

### **Aerospace Manufacturing**

Arrow provides precision manufacturing of large (up to 90") aerospace structural elements. We can provide turnkey, fabrication, assembly, and test - not just parts. We are well versed in MIL and NASA standards associated with manufacturing.

### **Magic Mortar's Epoxy Mortar**

Magic Mortar's superb Epoxy Mortar through its proven formula provides a long lasting and durable repair to your existing concrete. Your go to product for break offs, spalling, anchor Bolts, re-attaching stair railings and hole repair. Magic Mortar Epoxy adds life to your existing concrete, reducing costly replacement.

### **Portable Power/Air Air Conditioner**

The Power/Air Air conditioner is a portable unit designed to cool the air in a work area to allow more productive results from labor. This unit displaces a constant column of air at the rate of 23,000 ft per minute which pushes back the natural environment of humidity and temperature and then cools an area of 16'x 12' with lower humidity/temperature air.

The most productive use of the Portable Power/Air Air Conditioning is in a work area, but it can also be utilized at refreshing centers, tents or athletic functions.

Outside heat is a detriment to physical performance, but with the Portable Power/Air Air Conditioner, the daily environment can be altered to facilitate a more productive area by lowering the humidity and temperature.

### **The XWorks Robotic Docking and Interchange Station (RDIST)**

The XWorks team has developed a reactive docking station for sUAS/drones which automates the drone on the ground removing the human element and providing for continuous automated drone use. Additionally, our team has developed a robust image recognition system that automates our drones to detect unauthorized personnel, perform automated inspections, raise alarms, or just perform continuous patrols

## **2019**

### **Threshold Intensity Gradient Glasses**

Current lenses for sunglasses and windshields darken the entire field of view and in large applications the amount of darkening is the same for all viewers. The proposed technology allows users to set a threshold of intensity (brightness) and the lens will actively decrease bright spots down to this threshold. The darkening for bright spots will only darken those spots rather than the entire lens, which will remain completely transparent allowing the user clear vision with full contrast and color.

### **Multi-Tool-Gate**

What if you could put a want and a need together? what if the product did more than even that? It added safety, storage, and convenience. Every pickup owner is going to take one look at this product idea and say " I'm going to buy that" Would you call that a perfect product?

### **Resourceful Volume Reduction of Food and Food-related Waste**

Modular, compact, portable, water-less apparatus designed to reduce all food and food related waste volumes 25%-70%. This easy to operate, stainless steel apparatus will function on 220/110, generator or solar. Pulverized organics from the waste can ultimately be transformed into usable yields for fuel.

### **Tactical Training Glasses**

Rev Tactical Training Glasses, controlling how much of the target one can see, thus improving Balance, Target Acquisition and Depth of Field.

### **BioMiner – Bioinformatics Platform for Seed Microbial Discovery**

The "Seed Microbiome Exploration Kit" is a complete system designed to explore microbial information from commercial and wild seeds. Using genome sequencing technology, computational power, and data science, it focuses on detecting and analyzing microbial communities living IN, ON, and AROUND seeds and their influence on plant performance. Our

proprietary system shortens the time and costs of research and microbial exploration of agricultural and natural ecosystems, expanding the current sustainable solutions available to boost food production, quality, and safety.

### **Questable: An Interactive App to Aid in Recruitment and Retention**

A mobile virtual reality (VR) & augmented reality (AR) application, think Pokémon Go & Instagram filters, that aids universities and the military in the recruitment & retention of prospective recruits on college campuses \*Virtual & augmented tours with tour guide info: Helps prospective and current students feel more connected to the military, school, surrounding community, understanding of the programs available, and possible careers within the military Builds bonds with others through the use of quests, competitions, and social interactions throughout campus and community.

## **2018**

### **Revolutionizing the way spectators spectate and interact with sporting events**

Using the camera technology developed within the new sport called FPV (first person view) Drone Racing, where the best drone pilots in the world train and compete by flying a mini quadcopter thru obstacles and gates, we aim to apply the same technology into professional and collegiate sports to enhance the viewer's experience by providing the ability to view sports in real-time from the perspective of the players, umpires, referees and inside/on race cars, motorcycles, airplanes and even extreme sports athletes. Furthermore, integrating an interactive smartphone app that spectators can play during a live sporting event where the spectator accumulates user credits to win prizes and prize money.

### **Weapon allocator**

My technology can accomplish the reduction of public shooting, it can track the initial location of the gun or the weapon and the type of weapon within 60-150 ft. User friendly and can reduce troop casualties.

### **Insect based food products**

Bugeater foods develops insect-based food products to increase nutrition and sustainability.

### **CLAMPARAMP**

Reduce injury/death and damage by securing your ATV Ramps on your Tailgate for Loading and Unloading without the need for straps, chains, or tie downs. Our patented system uses your tailgate latches along with a lock bar to hold your ATV ramps secure on your truck's tailgate. In 5 years of production, there have been zero (0) claims filed for ATV injuries/death related to

improperly secured ramps on Clamp-A-Ramp (formerly 5-Star Safety Bar). With the military's increased use of ATV's in border patrol and combat, the Clam-A-Ramp will ensure safety and speed in keeping our country safe.

### **Fire Spike**

We make force multiplying devices used to help contain and suppress wildfires before they grow out of control; and other devices that keep tree canopy & structural fires from jumping & spreading. Our products can be used in other applications which require rapid dispersing of water, foam, or gel from a safe distance.

### **Unitensil: A 3 in 1 flat & foldable cutlery tool**

The Unitensil is a utility patented 3 in 1 (fork, knife, and spoon) food service eating utensil that weighs less than 5 grams. This flexible and reusable cutlery tool is a one product solution for major restaurant chains and government agencies. The Unitensil is unique because of it's low cost, lightweight, durable and reusable features. Additionally, the multi-functional everyday eating tool improves storage and logistical savings (lowering transportation costs) creating significant advantages for FEMA or other rescue teams such as the Red Cross.

**Handy-Wrench: a combination Crescent Wrench with a bi-directional ratcheting feature.** The Handy-Wrench is an improved Crescent Wrench. This next generation product has a bidirectional ratcheting action which allows one to loosen a nut or bolt without removing the wrench. The sizing feature and unique design allows one to perform jobs that are in restrictive space environments while eliminating slippage often found in other wrenches. This patentpending single tool has significant operating advantages, eliminating the need to carry extra tools while reducing the time and effort necessary to complete the task.

### **Selective, Safe and Low-Cost Asian Carp Pesticide**

Army Corps of Engineers is helping to control the invasive Asian carp inhabiting most of the Mississippi Basin and threatening the Great Lakes. These fish endanger the environment, recreation and commerce. MJSTI proved a selective, safe and low-cost carp pesticide. The pesticide meets the 2018 BAA E-13 technology request.

### **Surtr**

Surtr is a hand-held fire starter that when operated shoots a lit pellet. The pellet stays lit in all weather conditions for two minutes. Surtr has four pellets in a clip to offer users an ability to start multiple fires. Surtr is the only product combining a striker and tinder to offer the better solution to creating fire.

### **Anti-sense oligo drug for treatment of Spinal Muscular Atrophy**

Spinal Muscular Atrophy is a genetic disease (children are born with it) where kids don't develop a protein that regulates communication between their brain and spine. Thus, they never develop a fully functioning spine. Approximately 80% of these kids have passed away by age 2. Shift Pharmaceuticals is developing a drug that changes their genetic pathway to develop the appropriate proteins and hopefully alter their course of life.

**Orifice unclogging tool for oxy-acetylene torch cutting applications** slagRebel®, designed and manufactured in the USA is the only heavy-duty stainless-steel tool available that can be used quickly and on site to unclog copper oxy-acetylene cutting tips used by welders and other torch users. It saves oxy-acetylene torch users from lost productivity caused by clogged cutting tips from broken tip cleaners and slag blowback. slagRebel® also eliminates the need for drilling out slag blowback that causes injuries from broken tip drills. slagRebel® can save acetylene torch users up to 70% in tip replacement cost which in turn save mining, smelter and manufacturing energy cost.

### **Name Undecided**

The app is an interactive tool that allows the user to select from & randomize several different options. Some of these options include: Names, Numbers, & Images. The app also provides a dice rolling and coin flipping tool! This app is unique because it helps facilitate contests, as well as board games for its users.

### **Well**

These cashless/coinless vending machines will dispense filtered water that closely mimics naturally alkaline water found in nature. Customers will download an app and pay a small monthly subscription fee for access to these vending machines. Once their subscription is activated, each customer will receive a unique QR code that they will use to engage the machine for service. The plastic in our landfills and oceans is a persisting problem. Through this system, we can provide public access to premium filtered water without the use of disposable plastic bottles.

### **PathTrac software and laboratory-based bacterial transmission surveillance system** RDB

Bioinformatics PathTrac tracks ESKAPE bacterial spread. RDB provides easy to use collection kits that measure seven areas in the operating room. You send the collected specimens back to RDB for processing using the kits. RDB performs all microbiological and statistical analysis required to provide you with reporting identifying gaps, actionable items, and improvement strategies. The RDB team works to optimize policies, focusing your attention to patient safety and CDC directives to reduce surgical site infections, prevent the spread of bacteria, and

improve antibiotic stewardship. We offer monitoring in the OR, patient decolonization prior to surgery, and patient recovery ward.

**Saxon builds unmanned vehicles for aerial, sub-surface and at surface applications that provide.**

Saxon Remote Systems LLC builds custom remote system technology and has corporate offices and operations headquartered in McPherson, Kansas with satellite offices in Houston, Texas, Lafayette, Louisiana, and Central America. The company specializes in a wide variety of remote system technology platforms, geared to deliver cost effective solutions for aerial, sub-surface and marine applications. Saxon took a new approach to the market for high end, military grade aircraft that are in high demand. Saxon builds a variety of unmanned vehicles that provide imaging/mapping to radically transform observation, surveillance, and other information requirements for Infrastructure Management/Development, Construction, Farming, Forestry, Oil and Gas, Industry, Law/Municipal Enforcement, and other.

**Non-metallic cable glands for the most harsh and hazardous applications** CAPE's innovative and patent-pending industrial cable glands are non-metallic, polymer-based replacements to traditional metal cable glands (brass, stainless steel and aluminum). This shift in materials has several significant advantages over traditional metal cable glands: Think stainless steel performance without the weight and high price. 25-50% lower cost than metallic cable glands. 50-70% lighter than metallic cable glands, ideal for naval and aeronautical applications given the weight reduction. One-and-done design and materials – suitable for use with armored or non-armored cable types in the most extreme temperatures and the most harsh and hazardous environments. Easier and faster to install, saving mission-critical time.

**2017**

**High vibration resistant, reusable fasteners**

Enduralock offers numerous fastener designs, all intended for use in high vibration environments across numerous industries. All Enduralock fasteners are permanently locking, highly vibration-resistant, fully reversible and reusable, and may be reapplied using a blind approach. All Enduralock fasteners ensure ease of installation, reversibility, and reusability with standard sockets, and they provide for reduced time and cost of installation and maintenance. This technology is at a Technology Readiness Level 6 and has been tested in a certified laboratory in a relevant environment. The National Aerospace Standard 1312-7 requires a self locking nut to withstand 30,000 cycles of vibration. Enduralock's fasteners have withstood 300,000 cycles (10x the industry standard) without loosening. The technology is expected to be installed in the field by Q2 2018, which will result in a TRL 9.

[\(\\* = Poster Board is available upon request\)](#)

### **ECO-BENIGN MARINE ANTIFOULANT COATING**

SeaShell® is an environmentally benign, highly durable, long-lasting marine antifoulant coating with a proven very low Coefficient of Friction. Its resistance to shear and impact have been documented, as has its tremendous strength of adhesion, its flexibility, its lack of electrical conductivity and its resistance to prolonged salt fog exposure. SeaShell® has a proven half-life of 12.5 years and is meant to replace obsolete anti-biofouling paint on vessels. SeaShell® also can be applied to all types of submerged structures to prolong their lifespan. SeaShell addresses the need for a cost-effective antifoulant coating with a long enough lifespan to pay for itself in reduced fuel consumption and maintenance costs.