



2019 AlphaLab Gear Hardware Cup: U.S and International Finalists & Semifinalists Companies & Descriptions

If you would like to connect with one or more of these companies directly rather than via the website provided, please email us at hardwarecup@alphalabgear.org

Hardware Cup U.S. Finalists

[Yodel Labs](#)- Mid-Atlantic (Pittsburgh)- **1st Place at International Finals**

Yodel Labs is a spinout from Carnegie Mellon University with the mission of developing a high accuracy indoor localization system for mobile devices called the Acoustic Location Processing System (ALPS). ALPS uses ultrasound based beacons to find the precise location and orientation of standard smartphones, tablets, and small battery powered tags in 3D space.

[VitalFlo](#)- South (Raleigh)- **2nd Place at International Finals**

VitalFlo predicts asthma attacks when needed most: before patients have an asthma attack. By analyzing real-time lung health data with our device and air quality (asthma trigger) data, our machine-learning platform forecasts patient risk creating enough time for a preventative intervention

[AlgenAir](#) - East Coast (Baltimore) - **3rd Place at International Finals**

AlgenAir has developed the first natural air purifier that uses algae to combat the problem of indoor air pollution in the home and office space. Their product reduces carbon dioxide and produces oxygen as efficiently as 25 house plants all at a fraction of the cost, time, and space. This easy to use product is low maintenance and comes with a subscription service to make monthly upkeep as simple as possible.

[Noninvasix](#)- Mountain (Houston)

You can survive for 3 weeks without food, 3 days without water, but only 3 minutes without oxygen. Unfortunately, the tools doctors have today for measuring the adequacy of the oxygen supply to organs are either crude or invasive. Noninvasix is developing "precision oxymetry" the first non-invasive technology that allows oxygen measurements from specific blood vessels.

[PSYONIC](#) - Midwest (Champaign, IL)

PSYONIC makes advanced bionic limbs that are accessible to all people with amputations--they are the SpaceX for bionics. Their first product is an advanced bionic hand that is the fastest on the market, easy to control, provides touch feedback, and is robust to impacts. Furthermore, it

will be covered by insurance companies in the US, with no out-of-pocket costs to users and higher profit margins for clinicians.

[TouchLight Innovations](#)- Northeast (Brooklyn)

TouchLight Innovations helps properties like Atlanta Airport or Disney Land meet their renewable energy goals by using their Energy Tile which captures energy from their parking lots and sidewalks. They do this by installing their tiles in the ground and capturing energy from vehicles as they drive over it, humans walk over it and when the sun is shining. The net result is expanding your power capacity at a lower price per kWh than the grid.

[Ava Technologies, Inc.](#) - West Coast (Vancouver)

Ava is the world's smartest indoor garden. While the other 'smart' gardens use a simple timer or on/off switch for their lights, theirs are adaptive for each type of plant. The AVA Byte Smart Garden also has an HD time lapse camera, where requested, as well as soil-free, biodegradable pods.

[Dash Systems](#) - Wild Card- Chatsworth, CA

DASH Systems gives cargo airplanes and drones the ability to precisely deliver to the ground using their GPS based planning software to accurately deploy and guide an air-dropped package. They commercialize high precision aerial deliveries allowing them to land the package, not the plane.

Hardware Cup International Finalists

[Equals](#)- Hong Kong

Equals has developed an innovative, eco-friendly can seamer for small batch production.

[Eve Labs](#) - India

Eve Labs has developed a smart assistant for IV therapy: a connected infusion monitor that calculates real-time drop rate, adjusts fluid flow, and sends data and alerts to a central hub installed at nursing stations. The hub is also a smart infusion chart, where the status of every ongoing and upcoming infusion and patient histories are shown, allowing doctors to make informed decisions based on data.

[Stak Official](#)- Japan

Stak allows you to turn any room into a smart room by installing their device in place of a traditional lightbulb. Their product lets you operate lighting and home appliances with your smartphone or your voice.

[Artisan & Ocean](#)- South Korea

Artisan & Ocean creates modularized hardware for divers. Their product, DIVEROID, combines a diving computer, compass, under-water computer, and diving logbook at one fifth of the normal cost.

Hardware Cup Regional Semifinalists

East Coast Regional Semifinalists

[Athena Power, Inc.](#) - Athena Power provides a robust sensor solution called the UFD 1000. The solution is self-powered, wireless, highly ruggedized, submersible, and provides detailed analytics and accurate power information for the underground distribution grid (padmount/vaults/manholes). The major applications improve reliability, resiliency, power quality, help integrate distributed generation, and provide predictive analytics.

CraneBox - Voted Audience Favorite

The tower crane is the most important construction machine but they haven't changed in 80 years. CraneBox improves the productivity of the cranes 10X by installing a camera and IoT device. This allows the cranes to be remotely monitored and controlled on demand.

[Nanochon](#) - Nanochon is developing a new type of implant for treating knee injuries. Based on 3D printing and a novel process, the device imitates damaged cartilage in the knee, providing support while greatly accelerating healing.

[Soliddd Corp.](#) – Soliddd invented their "Foveal Display," which solves all the problems of VR headsets today and solves many more, too: lightweight, cheap, wide field of view, resolution beyond the eye's ability to see, a cure for many vision problems, radically better data and power efficiency, and much more.

[Tablee](#) - Tablee offers a SaaS-based solution for the hospitality industry that aims to better connect restaurants with their customers. Push a button, get connected with waitstaff.

Northeast Regional Semifinalists

[BLUEWAVE Technologies, Inc.](#) - Imagine having a device that can disinfect and deodorize any of your items in as little as 5 minutes, without any water, detergents or added chemicals. That's exactly what the BLUEWAVE device does, making everyday items in both your home and the healthcare setting, safer for you and your family.

[Designed Technology](#) - The first vaporizer to integrate naturally into your social life. An easily shared experience via the world's first "Vapor Tap." A port for a stylish cocktail-style glass that automatically fills with vapor. The refreshingly simple experience empowers consumers and event planners to integrate cannabis vapor into their events without mess or confusion.

Encora - Voted Audience Favorite

A team of MIT engineers creating a wristband that stops hand tremors.

[Novo Space](#) - Novo is a company of MIT grad students and space industry alum, working to bring the PC revolution to space. They provide high performance, reliable, and modular electronics for satellites.

[Unwrinkly](#) - Making clothing care affordable and effortless for the modern working professional at home and on the go with seamless smart technology. Their first product is an automatic smart clothing steamer that uses proprietary pod formulation to instantly sanitizes, deodorizes, de-wrinkles, and freshens your clothes.

Mid-Atlantic Regional Semifinalists

[Arieca](#) is a materials technology company solving heat management issues for the electronics, aerospace and automotive industries with its thermally conductive rubber (Thubber), which has the mechanical properties of a soft silicone and heat conducting properties approaching stainless steel.

[Aspinity](#) enables users to interact more naturally and intuitively with small, portable devices. Their first product, based on their unique and patented semiconductor technology, is focused on the rapidly growing voice-first market, where untethered operation is desirable, but difficult to achieve today while still sustaining a reasonable battery life. Their unique semiconductor chip overcomes the power challenges associated with integrating voice and sound wake-up functionality into mobile, battery-operated devices, ushering in a new generation of mobile voice-first products and applications.

[Atimize](#) produces assistive technology solutions for people with disabilities. Their product, PneuMobility, uses compressed air as an energy source rather than batteries in power wheelchairs and scooters. Compared to battery-powered devices, PneuMobility is lighter weight, able to be recharged in minutes, and completely waterproof.

[Aura Spark](#) is a wearable-based platform that uses Bluetooth-equipped light emitting bracelets along with event-wide icebreaker questions to help facilitate interaction at social and networking events. Meeting new people and networking can be difficult, so Aura Sparks illuminate social connections that would otherwise be invisible to help spark the conversation.

Panacea - Voted Audience Favorite

Panacea's mission is empowering farmers, through innovative automation, to efficiently increase yield. They make ruggedized yet affordable technology solutions for Smart Greenhouse Automation. Panacea's robotic monitoring system gathers plant-level data, tracks growth rates, prevents disease, and detects/responds to pests.

Southern Regional Semifinalists

[Candor Health Products LLC](#) - is a toothbrush holder with an air ventilation system. Protects toothbrush from airborne germs and other harmful bacteria.

CODE BLUE CPR/AED- More than 350,000 people suffer an out-of-hospital sudden cardiac arrest (SCA) in the U.S. each year and 95% of the victims die before reaching the hospital. To increase the odds of survival from 5% to 31%, having access to an automated (CPR) and defibrillation (AED) is imperative. Code Blue, is a reliable, automated CPR/AED medical backboard that is easy enough to be used by an untrained bystander and can make the difference between life and death if used within the first 5-minutes of the SCA.

[Groove Watersports](#)- They have created a patented high performance vest with integrated speakers that brings music to watersports, empowering the user to listen to their music loud and clear without the worry of breaking their phone.

[Prinsta](#)- They are creating the next generation of smart, autonomous circuit board printers -- ready for the next industrial revolution. There are many companies innovating for industry 4.0,

ranging from robotics, ai, and autonomous vehicles to additive manufacturing with exciting materials ranging from flexible biocompatible plastics to metals for rocket engines. Prinsta is working on the final piece, autonomous manufacturing for circuit boards.

[Rendyr, Inc.](#)- **Voted Audience Favorite**

Rendyr makes rapid prototyping accessible to everyone. Their desktop Optic–Portable Laser Cutter helps everyone go as fast as possible from their design to a physical product.

Midwest Regional Semifinalists

[Equine Smart Bit, LLC.](#)- Until now, when you wanted to measure a horse's vital signs it required the use of several different pieces of equipment. Equine Smartbit introduces advanced sensors into existing horsebit. It enables users to monitor horse biometrics on continuous basis in a simple device. The monitored biometrics include horse heart rate, blood oxygen level and body temperature. It's non-invasive and helps to improve a horse's health and wellness.

[Impact Proteomics](#)- They make protein sample preparation kits to provide research biochemists in the pharmaceutical and biotechnology industries with high quality protein samples faster than ever, improving research reproducibility and saving time and money.

[Nouvo Health](#)- they engineer and design smart connected products that improve patient outcomes. Their very first product focuses on detecting illnesses in infants and young children.

[RESONADO](#)- **Voted Audience Favorite**

They are redefining the shape of sound by reinventing the speaker structure. With their patented speaker technology, they make speakers that are 70% thinner and lighter, 40% more energy efficient (use less battery), 30% cheaper to manufacture, have superior sound quality, and have unlimited structural flexibility to make speakers into any shape and form from a curved angle to a sharp angle.

[Thaddeus Medical Systems](#)- Smart packaging technology to control and track temperature for sensitive specimens, therapeutics and products.

Mountain Regional Semifinalists

[Artimus Robotics](#)- is providing life-like motion to the next generation of robotics and automation with highly versatile and cost-effective artificial muscles.

[Copper Labs, Inc.](#)- is a wireless energy monitor that helps utilities leverage real-time energy data to engage consumers with actionable insights. They uniquely support both AMI/smart and AMR/drive-by electric, gas and water meters on a single platform and they're disrupting the \$9B home energy management market.

[Drovr](#)- is transforming livestock management through technology. Their first product is the world's first smart electric fence. In a triple bottom line approach it saves livestock farmers time, provides added protection to livestock, and encourages more sustainable grazing practices.

[Frost Corporation, anna](#)- anna is the first AI-powered self-checkout solution for cannabis dispensaries. Designed to facilitate faster, reliable and more efficient retail transactions, anna benefits brands dispensary owners and consumers alike.

[The Last Gameboard](#)- The Last Gameboard is the world's first board game console. Their proprietary technology allows for any physical piece to be played on the gameboard, while giving players access to our digital library of games.

West Coast Regional Semifinalists

[Sonnet](#) - uses long-range wireless mesh network establish connectivity when existing communications infrastructure is unavailable. They are providing a more flexible and cost-effective alternative to traditional Low-Powered Wide Area Network (LPWAN), which is the fastest growing market segment in IoT.

[Kegg](#) (Lady Technologies) - is a consumer health company helping women conceive naturally faster and at the same time giving access to affordable professional fertility guidance. Kegg aims to disrupt the fertility industry by cutting off the unnecessary costs, providing meaningful data to women through fertility hardware and access to remote 1:1 fertility specialists.

[Frontier Bio](#)- is at the forefront of bioprinting technology. They are developing an advanced 3D bioprinter for the printing of human tissue to replace animal studies and to solve the human organ shortage problem.

[Oyalabs](#) - All-in-one platform to monitor and improve child's early cognitive development

Hardware Cup International Runners-Up

[Good Light](#) - South Korea

Good Light is developing an all-in-one portable, hands-free lighting product: a combination flashlight, lantern, and flare signal.

[Mui](#) - Japan

Mui Lab, Inc. has created an intuitive smart home control hub with an innovative natural wood design. Using the digital display that appears with a swipe of your hand, you can talk, send/receive messages, check the news and weather and control smart devices, and more.

[FutuRocket](#) - Japan

FutuRocket is developing an AI camera called ManaCam, which tracks the number of visitors at a certain date, period of time, and location for stores, public facilities, and offices.