



2017 AlphaLab Gear Hardware Cup: Finalists, Semifinalists, International Companies & Descriptions

If you would like to connect with one or more of these companies directly rather than via the website provided, please email Leah Simoncelli at leah@hardwarecup.com.

AlphaLab Gear Hardware Cup: US Finalists

VaGenie – West Coast (LA) – **1st place at International Finals**

VaGenie is developing smart technology for women's health. Over 82 million American women experience health issues due to weakened pelvic floor muscles. Kegel exercises, which strengthen the pelvic floor, are important for childbirth, post-natal recovery, bladder control and women's sexual health. The company's first product is an IOT pelvic floor exerciser which makes Kegels fun by allowing women to play video games using their pelvic floor muscles to control the game, while giving the user real-time feedback. It's a Fitbit for lady parts and a \$23 billion US market opportunity.

Atlas Wearables – South (Austin) – **2nd place at International Finals**

The fitness tracking market size is approximately \$5.4 billion and growing. Atlas Wearables is the first machine learning solution for 3D motion and fitness tracking. Utilizing this wearable, a complete and automated workout log can be leveraged by fitness professionals, health care providers, and clinicians. For B2B, they've shown increased health club membership and retention and a 2x increase in membership attendance in small scale tests, as well as a reduction in personal trainer time investment per client of over 30%.

PlayDate – Southeast (NYC) – **3rd place at International Finals**

The market for pet products, serving 160 million US cats and dogs, is over \$60 billion. PlayDate provides connected pet toys that allow pet owners to interact and play with their pets. Their first product is a robotic, camera-enabled smart ball that pet owners can control using their mobile devices from anywhere in the world, allowing them to interact with their pets remotely.

Iron Goat - East Coast (Arlington, VA)

Iron Goat is an advanced agricultural automation company that has developed a replacement service for hay baling. Baling hay is a major expense for dairy farmers and others, and current methods result in 30% waste. The company has developed a robotic hay cubing harvester that produces a superior feed at lower cost (only 2% waste), and with lower environmental impact than conventional methods.

Rover Development – Midwest (Minneapolis)

Improper pressure reduces tire life by over 50%, wastes fuel, and is responsible for over 2/3 of all blown tires. Rover has developed wireless, batteryless sensor solutions for pressure and temperature measurement, monitoring, and tracking in automotive and truck fleet tires. Rover sensors are installed by an OEM and operate for the life of the tire. The company's backend database can track and spot-check pressure of a device over its entire life, enabling effective tire cost management and improved fuel efficiency.

Rubitection – Mid-Atlantic (Pittsburgh)

Treatment of bedsores costs over \$11 billion in the US market alone. Because bedsores are classified as a preventable Hospital-Acquired Condition they are not reimbursed by insurance, often leaving healthcare providers to absorb the full cost of treatment. Rubitection has developed a proprietary technology and early detection tool for bedsores, allowing for lower cost treatments. The company's technology will help save lives, improve healthcare, and lower cost for health providers.

WrightGrid – Northeast (Boston)

68% of Africans do not have power access, yet 85% of them still have a cell phone. WrightGrid has developed and deployed an independent power platform that enables a smart, scalable revenue model in areas of the world that have unreliable power. Powered by their proprietary technology and a single solar panel, their product is a robust, cell phone charging + Wi-Fi station.

AlphaLab Gear Hardware Cup: International Finalists

Allb – South Korea

Every year over 23,000 babies worldwide die from SIDS (Sudden Infant Death Syndrome). Allb has developed a smart wearable device that detects infants' micro abdominal movements, and monitors respiration to provide an early warning system for parents. The company has users in 29 different countries, and with the global baby care market expected to hit \$66.8 billion this year, Allb plans to expand further in this market with future products.

EyeROV – India

There are over 4,600,000+ vessels (ships, boats, yachts) in the world's oceans, all of which need their hulls, tanks and ballasts inspected regularly, which is \$4.14 billion market. This is a very labor-intensive, time-consuming, costly process. EyeROV is a remotely operated underwater drone that performs visual inspection and surveying of submerged structures. It is a quick, lightweight, affordable solution that can assist or replace divers. Its main uses are surveillance and ship maintenance, but there are also applications for dams, port structures, fish farms, submarine cable inspection, and more.

Penta Medical – Canada

\$671 billion is lost due to injuries in North America alone, in medical and lost work costs, and a single soft tissue injury can cost an employer up to \$60,000. Penta Medical develops wearable healthcare technology from sensing and tracking to active healing of soft tissue injuries. Helios is the first truly wireless infrared therapy wearable that allows users to take the full advantage of infrared therapy without the inconvenience of daily physiotherapy appointments.

QD Laser –Japan

There are 2 billion people worldwide (including 1.5 million in Japan and 3 million in the US) who suffer from a "low vision" visual impairment: they are not blind but have difficulty seeing. QD Laser is developing retina-scanning laser eyewear which projects images directly on to a wearer's retina from a built-in laser projector on the eyewear frame. With a specially designed optical system, QD laser is able to project clear images regardless of eye position or strength of optical prescription. Furthermore, the device can be used as head mount display for augmented reality.

Supersmart – Israel

Self-service checkouts can generate 14% loss in fraudulent checkouts. Supersmart empowers retailers to implement mobile scanning in their stores reducing the risk of fraud or errors, while allowing consumers to instantly check out their fully loaded cart while skipping the tedious queuing area, resulting in a fast, accurate, and convenient purchasing cycle (average 30 seconds versus 8 minutes). Supersmart has created a unique statistical engine that tracks parameters over time; deep learning algorithms are constantly applied to provide immediate actionable shopper data and habits.

AlphaLab Gear Hardware Cup: Regional Semi-finalists

West Coast Regional Semi-finalists

Chui Access Control

Chui is an Intelligent Access Control System that uses a blend of facial recognition and proprietary technology capable of learning with time to make faster and more decisions for granting access. Chui provides Analytics on Flow of People, frequency of visits, peak hours, and more.

InnaMed

InnaMed is a Y Combinator company creating a clinically accurate portable blood testing device that enables chronic illness patients to do testing at home instead of at health clinics.

OBE Gaming

OBE Gaming is groundbreaking technology that allows gamers to control and feel digital worlds through virtual and augmented reality. OBE Technology is a collection of sensors designed to be embedded into accessories and clothing that provide motion & haptic feedback to enhance the immersive experience on mobile VR.

Prizm Labs (PlayTable) *Voted Audience Favorite*

PlayTable is the world's first tabletop gaming console. It's like the Netflix or Steam for board and card games; imagine having instant access to a library of board games, the ability to learn them in minutes, and create and customize your own versions.

Virt

Virt is bringing reality into virtual reality, with robots. They're developing the most cost-efficient, effective, and immersive way to virtually copy a real-world space. Virt's core product is actually two products - the 360-degree video rover and the web virtual tour player.

Mid-Atlantic Regional Semi-finalists

Bansen Labs (Xogo)

Bansen Labs is harnessing the power of technology to bring ability, access, and rehabilitation to the 60 million people in the US living with a disability that affects grasping. Bansen Labs' launch product, Xogo, is a new model in accessibility: a universal platform that enables customers to access consumer electronics via the accessible controls they already use. Xogo also enables a powerful physical rehabilitation platform that links rehab equipment to blockbuster video games, turning rehab motions into game actions to make therapy engaging and maintain patient motivation.

BluBoard

BluBoard is the world's most adaptable digital display. BluBoard was founded in 2016 by a student team while at Case Western Reserve University to address the hassles and costs of paper signage that is updated frequently and where traditional digital signage is too burdensome to install and operate.

Combining state-of-the-art, low-power e-paper technologies, long-rang wireless technologies, and cloud-controlled infrastructure, BluBoard is the first No-Wire, No-Power, All-Weather full display system built for ease-of-use. Common uses include messaging queue stands, light wall signage, and outdoor informational kiosks, with many more applications waiting to be found.

CleanRobotics (TrashBot) *Voted Audience Favorite*

Current methods of trying to separate recyclables from trash have proven to be ineffective, confusing, and costly. CleanRobotics has built the solution, Trashbot, which is a robotic trash can that sorts landfill waste from recyclable materials. Trashbot automates recycling at the source using integrated robotics, computer vision, and CleanRobotics' very own machine learning algorithm.

Dimensionally Yours

Dimensionally Yours is making the furniture shopping process easier for customers. They personalize high-end bookcases and tables specifically for individual customers and their unique homes, and offer affordable custom furniture through a seamless integration of the digital design to machine-fabrication process.

Teratonix

Teratonix develops a radio-frequency energy harvester. It's a maintenance-free power solution to replace batteries in low-energy IoT devices. Teratonix is creating technology to power the IoT revolution.

Water Remediation Services

Water Remediation Services has revised a 200 year old proven water treatment technology to make it extremely energy efficient and cost effective. Electrocoagulation is well known, and used, in industry - but it has always been energy intensive and costly. The Water Remediation Services system treats water at high volumes using the energy necessary to power a 60 watt light bulb.

Northeast Regional Semi-finalists

Admetsys: *Voted Audience Favorite*

Admetsys develops a novel artificial pancreas for hospitals that improves health outcomes and health economics through high-tech automation. Admetsys' system is the first fully- automated glucose control device designed for hospital care; no competitive closed-loop systems presently exist. Moreover, it is the only technology that provides an active safeguard against hypoglycemia in hospital patients.

Franklin Robotics

Franklin Robotics is a robotics company focused on agriculture. Their initial product is Tertill, a solar powered weeding robot for home gardens.

GreenSight Agronomics

GreenSight is building an autonomous data platform that uses automated drones to gather daily imagery and deliver actionable information to companies. They focus on delivering a seamless zero labor customer experience that differentiates them from other "drone companies," and finished 2016 with \$800k in revenue.

[LineHealth](#)

LineHealth develops a “connected pharmacy”: a smart pill dispenser that leverages data and a proprietary IoT device to drive better medication adherence, outcomes, and to help payers and providers in their journey to value-based healthcare.

[Nonnatech](#)

Nonnatech’s patented platform utilizes machine learning and non-invasive sensors to enable the detection of deteriorating health conditions before the onset of symptoms. Nonnatech’s unique sensors, proprietary data sets and machine learning models provide actionable insight to improve medication adherence, reduce falls, and identify potential deterioration of health conditions at an early stage. These insights create a pathway to early intervention, cost containment, and a reduction in emergency room visits, hospitalizations, and admissions into higher levels of care.

[TeleLingo](#)

TeleLingo offers driver attention management to insurance, fleet management, and ride sharing companies to help keep roads safer. Their product, the LingoFit, is an attention monitoring and smart health device that utilizes Machine Vision and Biosensor data to prevent accidents caused by impaired drivers. The LingoFit is state of the art, AI-powered Digital Assistant on a mission to prevent distracted/drowsy/impaired driving by detecting those cognitive states and engaging drivers through dialog or alert stimulation.

Southeast Regional Semi-finalist Blurbs

[AlphaTechBlocks](#) *Voted Audience Favorite*

AlphaTechBlocks™ enchant preschool learners with fun, bilingual, digital & everyday learning experiences through interactive toys and mobile apps. AlphaTechBlocks™ (hardware/software integrated product) is their flagship tech toy. The traditional looking alphabet blocks interact with their mobile apps, creating playful learning experiences and games for toddlers and preschoolers.

[Drone Terminus](#)

Drone Terminus is working on a better way to receive your drone delivered packages, focusing on the last mile of autonomous drone delivery. Their technology is disruptive in that current methods for drone delivery require human intervention. Most people work in an office environment and aren't available any time of the day to wait for a drone to deliver a package. The Drone Terminus solution accomplishes safe and secure pickup and delivery of items as well as status notification in a climate controlled environment.

[Ivy Creative Labs](#)

Ivy Creative Labs, Inc. is a cleantech company based out of the Innovation Hub at the University of Florida and the creators of the BlueWave™ Cleaning System - a water free, detergent free, and chemical free plasma device that deodorizes and disinfects items that are extremely hard or impossible to clean with a washer and dryer - in as little as 5 minutes. It destroys odors and the active material has been

proven to kill 99.9% of bacteria (such as MRSA and E. coli), viruses, and fungi. The BlueWave™ is especially effective against workout apparel and equipment, which are hotbeds for odor and disease.

[Zulubot](#)

Zulubots is a consumer robotics company that focuses on the design and fabrication of assistive robots for the home. Their goal is to improve their customer's quality of life, by providing prolonged independence and an increased sense of self-reliance. Many household tasks can be a strenuous or impossible for some individuals, and Zulubots intends to alleviate this issue by offering an extra set of hands.

East Coast Regional Semi-finalists

[ARMR](#) *Voted Audience Favorite*

ARMR Systems is a medical device startup focusing on the pre-hospital trauma space. Its core product is a device that can control very difficult bleeding with far more access and speed than any other option available. ARMR focuses on the military space given the depth and understanding of the problem, but expects to be able to cross-apply the technology to the civilian and humanitarian sector.

[Elektra Tech](#)

The company is the first and only company dedicated to the category of electro-immersion, which refers to the use of electrodes to create recreational physical experiences. Elektra Tech is currently building wearable massage units synced up to music, and will soon expand into movies, sporting, gaming, VR and more.

Integrated Health Technology ([Founder](#))

Reusable water bottle with built in analysis technology that tests water before and after filtration to provide users with real-time feedback of the water quality before and after filtration.

[Sentien Robotics](#)

Sentien Robotics develops artificial intelligence software and robotics automation hardware to enable operations of large-scale fleets of drones with the vision of reducing manpower, improving safety, and vastly improving performance over traditional drone operations. Their flagship product is the Hive, a drone deployment system that consists of a network of base stations to enable the safe launch, recovery, charging, and storage of numerous drones.

[XBoard](#)

XBoard is a sports tech company on a mission to seamlessly infuse cutting edge tech into extreme sports. Their first product is the Zero, an electric skateboard with a twist: you can still perform all of your skateboard tricks. They're adding an electric boost the skateboard while preserving the true art of skateboarding.

Midwest Regional Semi-finalists

Aleph0

If you've lost something in a U.S. city, Aleph0 can track it for you: just \$1 a year per tracking sticker. Aleph0 is inexpensively keeping track of the belongings of their customers so that customers don't have to. If a customer wants to locate something, they simply pull up the location of their item on their smartphone (no matter what kind of tagged item it is).

Kulisha

Kulisha works with food and beverage companies to convert their organic waste byproducts into a sustainable protein made from insects for use in animal feeds. Kulisha addresses two key issues: first, the demand for fishmeal for animal feeds that is ravaging the world's oceans; and second, the high costs incurred by companies in the disposal of their organic waste byproducts. They do this with a type of insect called the black soldier fly, which metabolizes organic waste, converting it into a valuable protein that has been shown to be an effective and sustainable replacement for fishmeal.

Luna Lights

Luna Lights believes in helping older adults maintain their health and independence without needing to make lifestyle compromises. To that end, they are currently rolling out an automated lighting system that utilizes cloud based data analytics to reduce the risk of falling at night.

PraxiCut *Voted Audience Favorite*

PraxiCut is a startup based out of both the Health Technology Innovation incubator and mHUB in Chicago, IL, USA. They are innovating technologies for simulating the complete and complex experience of performing surgery for the purpose of teaching surgeries. They are dedicated to bringing the most innovative technology to market to provide meaningful teaching models.

Tricolops Technology

Tricolops Technology provides fast, accurate and affordable dimensioners for e-commerce businesses, couriers, airlines, and warehouses. Their products dimension parcels or oddly shaped objects at unparalleled speeds (0.033 s), allowing businesses to effectively optimize space and packaging material without wasting time. Tricolops Technology saves time and space in a world where every second – and every inch – matters.

Southern Regional Semi-finalists

Pet Wireless

Pet Wireless is an IoT and Data Analytics startup focusing on in-home pet health monitoring. Their mission is to help pets live longer, healthier lives, and bring peace of mind and happiness to pet families. Their ambition is to increase the total addressable market (TAM) for veterinarians, pet pharma, nutrition, diagnostics and insurance companies by up to \$10B a year, through driving more actionable

veterinary visits that in turn lead to more sales of diagnostic tests, medications and prescription diets, and to increase in the lifetime value (LTV) of their customers.

[Polaris Tracker](#)

Inventor of the world's smallest wearable GPS tracker with interchangeable bands: for kids, seniors, pets and valuables. Their security gadget has long battery life & global data coverage.

[QuiO](#)

QuiO improves clinical trials and disease management through remote monitoring of home injections. They provide smart injection devices and connected software for monitoring, engaging and supporting patients taking injectable therapies.

[Solstice](#)

For millions of people around the world who struggle to manage back-up power supply with because of an unreliable electricity grid, Solstice sells the SHYFT, a hybrid smart meter & transfer switch that enables the next generation of distributed energy management. Solstice's vision is to use IoT to connect Africa's distributed energy resources in order to create a powerful virtual grid that enables rapid integration of clean energy technology and intelligent energy management for a more reliable grid.

[VIT](#)

VIT specializes in workplace safety. They believe in fundamentally changing the way employee health is viewed and the role companies can play in creating a healthier and more productive workforce. VIT is creating the Fitbit for the back, providing a scalable way to perform 1-on-1 real-time coaching as well as using data analytics to reduce injuries by revealing areas of the workplace that require attention that costs the industry \$70B.

[Yip Yap](#) ***Voted Audience Favorite***

Yip Yap is a mobile communications company that is solving a problem that parents around the globe experience on a daily basis, the reluctant yet repeated handing over of their expensive smartphone to their young kids. Yip Yap combines a patented parental control system accessed by parents via a smartphone app with an age-appropriate WiFi phone for kids. This unique combination of hardware and software allows parents to build a private network for their young kids where they can manage connections and curate content.

AlphaLab Gear Hardware Cup: International Runners Up

Little Robot Friends

By 2020, most countries will make learning code compulsory for K-12. Positioned at the intersection of the \$11.2 billion (by 2020) smart toy industry and the \$16.3 billion (by 2019) edtech hardware industry, Little Robot Friends engages kids with fun, expressive robots through which they can learn about coding and electronics. Little Robot Friends provides downloadable software and lesson plans to teach kids how to program the robots. With built-in Wi-Fi, the robot can also become an Internet of Things of device.

PLENGoer Robotics

Connected home devices are expected to be a \$61 billion market by 2019, with 1.8 billion units shipped. PLENGoer Robotics has developed a personal assistant robot capable of transforming any home into a smart home. As a hub, the portable personal assistant robot, PLEN Cube, can consolidate those devices and web services, making them simpler to use with hands-free activation and customization options. The company's first application is focused on the personal photography market. Unlike conventional cameras that require a human to identify good photo opportunities and take photos at just the right time, PLENGoer Robotics' camera automatically recognizes ideal photo opportunities and provides natural photos automatically.

VAQSO

The VR market is expected to reach \$38 billion by 2020. VAQSO has developed a VR scent generation device which attaches to any commercially available head-mount display (HMD). When linked with VR content, the VAQSO device releases realistic smells, enhancing the user's VR experience.