

2020 TIBBETTS AWARD WINNER

# Vita Inclinata Technologies



U.S. Small Business Administration



SBIR · STTR  
America's Seed Fund  
POWERED BY SBA

**Colorado-based Vita Inclinata was born of a tragic and unnecessary loss of life when a helicopter was unable to safely rescue a friend in cardiac arrest. Today, the company offers its Load Stability System across the DoD and around the world to bring people home.**

## LOCATION

**CO**

Broomfield

## PHASE III SUCCESS

0-28 employees in 2 years

## FUNDING AGENCIES

**Air Force**

Department of Defense

**Army**

Department of Defense

**DoD**

Department of Defense

**USSOCOM**

United States Special Operations Command - DoD

## Impact & Achievement

In 2009, Vita Inclinata founder Caleb Carr and his team watched as a friend died of cardiac arrest because the helicopter attempting to rescue him was unable to reach him safely. Vita set out to solve this system problem and developed Vita's Load Stability System (LSS). The LSS platform is an active suspended load stabilization device that addresses lack of payload stability in the global helicopter and crane marketplace. At a high level, the LSS senses the environment, fuses the data through Vita's proprietary stabilization algorithm, and then articulates high performance electric ducted fans to counteract all motion the suspended hoist or sling load cable undergoes. Today, Vita is configuring solutions for the military search and rescue, and helicopter external cargo, mission sets.

Vita's LSS has three different iterations where each system is specific to the mission set: the LSS<sup>®</sup> Hoist Rescue (LSS-HR), LSS<sup>®</sup> Litter Attachment (LSS-LA), and LSS<sup>®</sup> Sling Load (LSS-SL). The LSS-LA integrates into any rescue basket with a ridged bottom, the LSS-SL attaches to the current hook utilized during sling load or crane operations, and then offers the same connection point to the bottom of the system; and the LSS-HR provides complete rotational and swing control of first responders and patients. Developed with funding from the Small Business Innovation Research (SBIR) program, Vita's LSS provides autonomous spin and swing stabilization, contributing to increased mission operational envelope and performance, and enhanced mission safety and awareness.

Hoist swing has been an assumed hazard since the hoist was introduced, with 24 people killed or injured each day because of the swing and rotation present in helicopter hoisting operations. Destroyed goods from sling load operations gone bad also add up to millions of dollars in costs. Heightened mission safety leads to reduced pilot and operator burden, workload, and stress, and a reduction of overall exposure and mission time. LSS is device agnostic and offers up to 8 minutes of time savings per flight hour.

Since the initial SBIR effort in 2018, Vita has raised over \$10 million in capital and climbed to a valuation of over \$150 million, securing customer relationships with 17 different DoD units across the Air Force and Army and around the world. Since 2018, Vita has grown from zero paid staff to 28 employees, and expects to quadruple that workforce in 2020. Through leveraging the SBIR program, Vita has also successfully penetrated the oil & gas and construction markets.

In 2009, Vita was born of a tragic and unnecessary loss of life - today, the company builds technology to bring people home - every time!

[www.vitatech.co](http://www.vitatech.co)