



Name: ARYSE  
 Full Address: 1801 N. 1st St, Lincoln NE 68528  
 POC: Erin Dutter  
 Phone: 4022027651  
 Email: erin.dutter@aryse.com



# Exo-Performance Ankle Protection



## Technology/Capability Overview:

ARYSE is moving to fundamentally change how the active body is protected by designing exo-performance products inspired by anatomy to strengthen and support its dynamic movements and achieve its best results.

- Pre- and post- injury protection
- Limit and reduce unnecessary and preventable lower extremity injuries
- Provide a significant medical cost savings per injury, along with the loss of duty days
- Provide a competitive advantage in uneven terrain by performing unrestricted
- Increase military readiness by outfitting all front line operators



XFAST® VALOR  
(external ankle system)



IFAST®  
(Internal ankle system)

## History/Performance of Technology & Company:

- Patents: IFAST: Utility & Design, XFAST VALOR: Utility & Design, Trademarks: IFAST®, XFAST®
- DARI Motion, which took subjects through a multi-movement protocol, found that the IFAST does not restrict performance but provides equal support as the ASO, the current industry standard. Because the IFAST does not restrict movement in the ankle joint, it allows for natural knee movement, thus limiting the potential for knee injury. In a more restrictive solution, it is more likely for an injury to move up the kinetic chain to the knee.
- Achieved Air Force SBIR 20.1 Phase 1
- Department of Economic Development Prototype Grant
- ARYSE successfully moved 5 products from concept to completion in 2019: IFAST® (ankle support), XFAST® VALOR (ankle support), SFAST® (shoulder support), OSKIE® (shoulder support), and HAMMY® (hamstring support).

## Relevance to DoD Combatant Command or COI:

AREAS OF FOCUS: Military Operational Medicine program, specifically preventing physical injuries during training and operations to maximize the health, readiness, and performance of service members, USSOCOM Human Performance Program. 800,000 Service members are affected by musculoskeletal injuries with 78.4% involving the lower extremity. Ankle injuries are the most common type of lower extremity musculoskeletal injury sustained in military operational theaters, resulting in the largest unsolved health problem facing the Department of Defense.

- Reduce the occurrence of ankle injury advances the DoD's goal of military readiness. Provide a cost savings by reducing injury
- Allow the warfighter to continue to perform unrestricted, enabling optimal performance, and thus provides a competitive edge in a variety of military theaters
- Decrease injury attrition

## Maturity/Scalability/Cost/Schedule:

TRL: IFAST: 9, XFAST VALOR: 6

The IFAST is in final form and has been operated under the full range of operating conditions and environments. The XFAST VALOR has begun preliminary testing and the comprehensive customer value proposition model has been developed.

Scalability:

The IFAST is low profile which allows for it to go over a sock and worn inside an athletic shoe or boot.

- Mass Production: 6 months - 10,000 units per month. 12 months - 50,000+ units per month.
- Time to Market under Current Conditions: The IFAST entered the market in June 2019. The XFAST VALOR is entering the market in early 2021. Our medical-grade product line produces enough revenue to support our research and development efforts
- Time to Market with Financial Assistance: Additional funding could assist in bolstering our research and development efforts and reduce the time to production by half.