



HELMET

CHALLENGE

The NFL Helmet Challenge is an innovation challenge that aims to stimulate the development by experts, innovators and helmet manufacturers of a new helmet for NFL players that outperforms all helmet models currently worn by NFL players.



## HOW IT WORKS

Challenge applicants will ultimately submit a helmet prototype for testing in laboratory conditions that represent potentially concussive impacts in the NFL. Applicants will compete for up to a \$1 million award and will have access to a range of resources, including grant funding, to support the development of their helmet prototype.

## AVAILABLE RESOURCES

- ✓ Kickoff symposium, with information sessions and networking opportunities
- ✓ Over \$1 million in HeadHealthTECH Challenge grant funding awarded
- ✓ NFL video review data
- ✓ Finite element models of modern football helmets

## TIMELINE

- ◀ **NOVEMBER 13-15, 2019**  
Symposium in Youngstown, OH – Kickoff of the challenge
- ◀ **MARCH 23, 2020**  
HeadHealthTECH Challenge grant submission deadline
- ◀ **JUNE 2020**  
HeadHealthTECH Challenge grants awarded
- ◀ **JUNE 14, 2021**  
Helmet Challenge submission deadline
- ◀ **JULY 14, 2021**  
Helmet prototype submissions due

## Meet the Winners of \$1.37 Million in HeadHealthTECH Grant Funding

FUNDING AWARDED TO FOUR MULTIDISCIPLINARY TEAMS OF INNOVATORS TO BOLSTER THEIR ENTRY INTO THE NFL HELMET CHALLENGE:

**Impressio, Inc. and CU Denver**, relying on materials science research and additive manufacturing, are looking to create unprecedented energy-dissipating helmet liners using ultra-dissipative liquid crystalline elastomers (LCEs) and lattice designs to 3D-print player-specific helmet liners to reduce concussions. This project is supported by partners including EOS, nTopology, and Schutt.

**Xenith**, an industry leader in football equipment, is looking to bring together experts in injury biomechanics, additive manufacturing, material science, design and computational modeling and optimization – BASF, RHEON Labs and The University of Waterloo – to create a new solution for energy management and a best-in-class on-field experience for the athlete.

**The Kollide consortium** combines the expertise of academic researchers (ETS) and four innovative Montreal-based companies (Kupol, Tactix, ShapeShift3D, Numalogics) who are looking to use their virtual design and non-planar 3D printing approach to create helmets customized to the player's head with a custom liner optimized to absorb and redirect impact.

**UVA, Nama Development and Topologica, Inc.**, led by Dr. Matthew Panzer, are looking to use their innovative cubic + octet foam metamaterial to design a new energy absorbing layer in a football helmet that will minimize risk of concussion.

HeadHealthTECH funding is not required to participate in the NFL Helmet Challenge and other applicants are invited and encouraged to participate. Learn more about how to apply at:

**[Playsmartplaysafe.com/nflhelmetchallenge](https://playsmartplaysafe.com/nflhelmetchallenge)**