

# KOLLIDE

*Press release*

## **MONTREAL'S KOLLIDE CONSORTIUM DECLARED ONE OF THE AWARDEES OF THE NFL HELMET CHALLENGE!**

### **The technology of Kollide's football helmet has the potential to revolutionize all head safety equipment**

**Montreal, Quebec (October 25, 2021)** - The football helmet prototype developed by Kollide, a consortium composed of four Montreal-based companies, in collaboration with the École de technologie supérieure (ÉTS), has been selected as one of three final grant recipients from the NFL Helmet Challenge launched by the National Football League (NFL) in 2019. The Kollide helmet outperformed helmets currently used in the NFL, as well as other commercially available helmets. During this challenge, three companies were praised by the jury, with Kollide being the only one having no experience as a football helmet manufacturer. For Kollide, the next step is the refining of its prototype ahead of becoming a commercial product.

Kollide's helmet technology differentiates itself from the competition by the composition of its complex and organic 3D printed mesh structure, optimized to absorb and redirect impact energy, thereby reducing the head's linear and rotational accelerations during an impact. Its performances surpassed those of helmets currently used by NFL players.

The NFL had already placed its trust in Kollide when the consortium was selected in July 2020, the only Canadian organization among 100 applicants, and granted it nearly a quarter of a million US dollars (\$320,000 CAD) to develop the prototype that just won top honours. Quebec's Ministry of Economy and Innovation and the Natural Sciences and Engineering Research Council of Canada (NSERC) had also recognized Kollide's and the ÉTS' potential by supporting the R&D project through its MEDTEQ+ and Alliance programs.

*"It's like we made it to the Super Bowl",* said Franck Le Naveaux, coordinator of Kollide's NFL Helmet Challenge project. *"We are very proud, because this result confirms that our technology has the potential to revolutionize the protection capacity of the NFL's football helmets, but also that of any type of safety equipment used in different sports."*

Faced with a growing focus on head injuries across all sports and especially in the NFL, the league decided to invest in innovations that could reduce the number and the severity of concussions. The NFL's objective was to support the development of a new helmet that would outperform, based on laboratory tests, all helmet models currently worn by NFL players.

To meet this challenge, Kollide brought together four leading experts from the following fields:

- Sports equipment design (Tactix), in order to integrate a user-centered approach to the development of a design that meets the needs of football culture and players;

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- Advanced 3D printing (Kupol), to produce an inner lining system with unique and patented three-dimensional structures to absorb and redirect impact energy;
- Digital simulation (Numalogics), to virtually test helmet designs without having to physically produce them and optimize the effectiveness of each helmet component for specific game conditions;
- Product customization (SS3D), to customize the inner liner based on a 3D scan of players' heads in order to maximize the effect of the helmet's performances.

Furthermore, ÉTS researchers helped characterize the behaviour of the structures developed by Kollide and lab-tested the prototype for the purpose of auditioning the technology that was developed and collecting data serving to improve the helmet.

*"Kollide wants to become a reference in sports equipment innovation," added Franck Le Naveaux. "The NFL Helmet Challenge grant will allow us to continue the development of our football helmet until it is marketed. Soon, we'd like to adapt it to other types of sports. We're aiming at winning the Super Bowl, but also the Stanley Cup playoffs, the Tour de France, F1 and much more. We're only at the beginning of this new technology!"*

Indeed, the expertise developed by Kollide has translated into a design method that can be adapted to tackle any sport safety issues.

## **About Kollide:**

[Kollide](#) is a Montreal-based consortium specializing in digital engineering and digital manufacturing (digital<sup>2</sup>) to develop safer and innovative equipment for sports and leisure activities. It is composed of experts from four companies:

[Tactix](#) is an industrial design firm with extensive experience in the development of performance equipment for the sports, health, and safety industries.

[Kupol](#) was the first company to design a fully 3D-printed bicycle helmet. The company leverages a unique mesh structure that enhances the helmet's protection.

[Numalogics](#) has developed a unique virtual testing laboratory to evaluate biomechanical interactions between the human body and equipment or devices in the health, sports and defence fields.

[Shapeshift 3D](#) offers software that automatically adapts medical, protective or sports products to the 3D-scanned measurements of each individual.

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## **About École de technologie supérieure:**

The École de technologie supérieure is one of the ten components of the Université du Québec. It trains engineers and researchers known for their practical and innovative approach, the development of new technologies and their ability to transfer their knowledge to companies. In Quebec, nearly one out of four engineers graduates from ÉTS, which has 11,000 students, including 2,650 at the graduate level. Specializing in applied training and engineering research, it maintains a unique partnership with the business community and the industrial sector.

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