UK-BASED Teslasuit has been trialling prototype 5G technology in conjunction with its full-body suit to create a completely immersive experience that allows users to experience sensations akin to real life.

The 5G-connected headset takes advantage of advanced graphical capabilities and high frame rates generated by a powerful desktop computer while maintaining portability and manoeuvrability.

Current VR headsets require users to either be attached via a wire to their desktop device or use a portable version such as Samsung’s Gear VR or Google Cardboard that can only provide a limited experience.

Teslasuit’s Andrej Michajlowski said that the company was working towards a “round trip” latency of under 10 milliseconds between the headset and the computer.

“If you have a very high latency then your brain will notice it pretty quickly and you won’t be comfortable using it,” he explained.

“If you have a low latency, your brain is less likely to notice that there is something wrong. But there are other challenges. For instance, when you move about in VR and you’re physically standing still, your brain is not really comfortable about that.”

The company is combining this with its specially designed suit to provide users with a range of physical sensations.

“You’ve got loads of sensors around the body that pass on haptic data,” Michajlowski said. “Our suit supports climate as well, like hot and cold, so if you are playing a game in a cold environment we can control that and the suit will pass on the cold sensations.”

In a prototype game designed for the suit, users can feel the impact of bullets hitting them along with other sensations.

“The suit can emulate weight, so if you’re lifting an object we can make the muscles contract so that you feel like there is a weight even though you’re just holding air,” said Michajlowski.

The company hopes its technology can be used in other areas such as medical and learning. “Our research shows that learning is improved by 30 per cent with tactile feedback. For example, we could record Tiger Woods making his swing with motion capture and then when you wear the suit and play golf we can do corrective action.”

He said in this case the user would feel pressure on their arm until they raise it to the right position. With enough training this action could be replicated in real conditions.

Teslasuit was initially backed as a Kickstarter project at the beginning of last year, after which a mark one version of the suit was released. A mark two version has been in prototype form for over 12 months and a Kickstarter is expected to launch by the end of 2017.

“We have created our own library of haptic feelings, different sensations from tickling to touch,” Michajlowski said.

“Hopefully this year the Kickstarter will help us gain popularity.”