

Business Times Enterprise Network

Got a problem? Then this company can fix it for you

Cambridge Design Partnership has created solutions for companies both big and small, reports **Richard Tyler**

For Laura Whitaker and her sister Hannah Stroud, it was an unforgettable moment. Whitaker has Usher Syndrome, a genetic condition that causes hearing to be lost and vision to be severely impaired. When they were young and before the symptoms developed, they used to sing together. One of their favourite songs was Fix You by Coldplay.

Now, supported by Cure Usher Syndrome, the charity, and its partners Havas Lynx, a communications agency, and Cambridge Design Partnership, a technology innovation consultancy, they have been able to share that memory again through a cleverly designed device. A ball held by the sisters transformed the song into tactile sensations that allowed both to “feel” the song. When Fix You was played, they spontaneously sang a line. Their delight was clear, a powerful moment captured in a video for the charity designed to raise awareness of the condition.

Stuart Curtis is the lead engineer on the pro bono project for Cambridge Design Partnership, which is based a few miles to the west of the city. “The main challenge we had was that you are not used to feeling things with your hands that are as complex as a piece of music. The research we did was to find the particular frequencies that skin can feel, and it was so much lower than you can hear.

“We then had a design envelope to work around. We knew we had to get as much of that song information across in those lower sounds and filter out those above it. And we also had to take account of the fact that there were two people in this experience, one with normal hearing and one with reduced hearing. So any sound output would take away from that shared experience.”

The device, which appears in the video to be a large, crystal ball with swirling colours, was in fact a giant Christmas bauble into which the Cambridge Design Partnership team added sound transducers, a wireless amplifier and simple lights that respond to music. They developed the concept in a few weeks in their spare time and delivered a working model in time for Havas Lynx to film the video.

“If you hold the ball and really concentrate, you can genuinely feel the song coming through enough that you can pick it up and start singing along to it. It wasn’t just distant, rumbly base sounds, but the full song and melody that went with it,” Curtis said.

“The brief really matched everything that CDP is all about. It was interesting, there was nothing that existed that could do exactly what they wanted, but it felt doable.

Chris Martin, of Coldplay, which produced Fix You



Laura Whitaker, left, who has Usher Syndrome, and Hannah Stroud, her sister, relive a childhood memory with the help of a specially designed globe

Our focus is to improve life through innovation and this fitted that.”

Innovative thinking comes easily to the partnership, whose team of 280 typically tackle product design, robotics and manufacturing challenges for large multinationals and venture-capital backed start-ups that want to see their ideas happen as quickly and as effectively as possible. The technology innovation business was founded in 1996 by Mike Beadman, 58, Mike Cane, 63, and Matt Schumann, 57, who had all worked together at TTP, another innovation agency, itself the product of people splitting off from existing technology-related companies.

“Our USP was we wanted to create products for our customers, using the right technology for each application. Some of our competitors develop a technology and try and push it. We are technology agnostic. We will develop or use the right technology for each application,” Schumann said.

He said that rivalry between competing consultancies for the best staff and work was “a positive thing. Cambridge has a name globally because of it. Competition drives up quality and value

for money. And it creates a magnet for attracting highly skilled, ambitious, smart people into the area. It doesn’t help with house prices, but it makes it easier to find talented people within commuting distance.”

Cambridge Design Partnership’s campus covers two large, modern, energy-efficient buildings on the edge of a disused air base near the village of Highfields Caldecote. Inside the main facility are rooms dressed to appear like a domestic setting (where consumers are monitored through one-way mirrors, with their permission, to see how they interact with new devices) through to category two containment facilities for testing biological and hazardous materials, 3D printing suites and even a machine tool and paint shop. “The benefit of having everything in-house is confidentiality,” Schumann, the company’s joint managing director, said.

The business typically takes on about 250 projects a year. “At the top end, we work with most of the global pharmaceutical and medical companies,” Schumann said, “but we also love working with start-ups because they are very publicity-hungry as they are always in fundraising mode, so they like to talk about the work. It’s great for our morale. Understandably, the larger companies are very cautious about going public on something until it is ready for launch.”

This can be many years for medical devices, which need regulatory clearances. One fast-growing company it has worked for isDiagnosics for the Real World, which is Cambridge-based and is led by Helen Lee, 83, its chief executive.



Matt Schumann says the business always develops unique products

“She has developed a point-of-care system for diagnosing flu, A and B, Covid and other diseases, including HIV. The machines, Samba II, are in the NHS and around the world. We have been developing their next generation, Samba III. Normally it would take a couple of years to develop in a small start-up, but by working with a company like us we managed to accelerate it to four to six months. It is exciting technology.” Cambridge Design Partnership’s business model is to learn from doing and then to sell on that expertise. Unlike other consultancies, it doesn’t retain any intellectual property rights over the solutions it develops. “You are building know-how,” Schumann

said. “We don’t work for different customers developing exactly the same product. The solution is always slightly, or very different. You are taking the general know-how, and getting more experienced.”

It became 100 per cent-owned by an employee trust in 2018 when the three founders, who had built it to revenues of about £12 million without outside investment or debt, decided to sell. Cane retired, while Beadman and Schumann continued in their roles.

“We were getting weekly enquiries from venture capital and financial boutiques and American companies asking if we were for sale,” Schumann said. “We were quite happy growing organically at 20 per cent to 25 per cent a year, running our own business and having fun. But we thought retirement was coming up as the founders, what do we do?”

“Then we heard about the employee ownership trust route. Because we had retained profits and reinvested everything, we realised that route was feasible and we could achieve a normal valuation by selling to the employees. As we are a people business, we asked, ‘How would it work if it was part of a larger organisation?’ We felt we would lose the culture. By not having external owners at all, we could build on that culture.”

Schumann said the decision had been right for the company, the founders and its employee-owners. “Has it worked? I would say an emphatic yes. The value of the company has more than tripled since.”

For more information about Cure Usher Syndrome, visit cureushersyndrome.com