

# GX



A MEDICAL TRAINING  
DEVICE HELPING  
DEVELOP ULTRASOUND  
SCANNING SKILLS  
THROUGHOUT THE  
WORLD.

## THE CHALLENGE

Intelligent Ultrasound approached GX with the task of generating a production design for a new haptic training device. The device was designed to teach doctors and sonographers vital obstetric ultrasound scanning skills before they scanned real patients.

The team at Intelligent Ultrasound had already made some initial products for their virtual reality trainer so wanted the finished product from GX to echo this design for the device. It was important to Intelligent Ultrasound that the final product did not include tooled components, which led them to enlist the help of the design engineering team at GX to create a robust, cost-effective model that would be economical to manufacture.

## THE SOLUTION

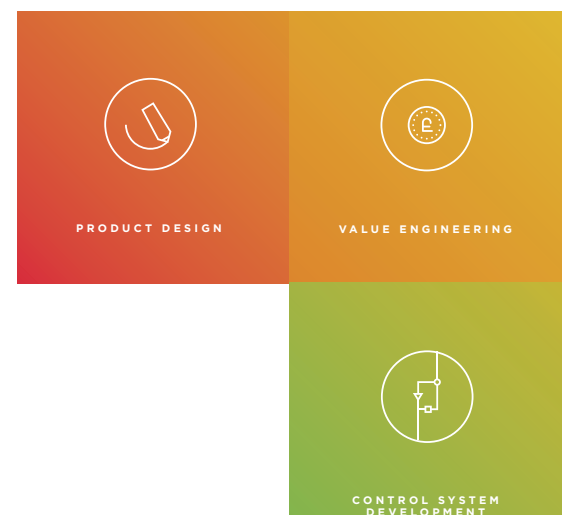
Intelligent Ultrasound's key consideration was to avoid tooling, so any changes in the design of the haptic, or any other small amendments, could be incorporated without the need for costly new moulds. The design team at GX created a working ScanTrainer™ product that matched the aesthetics of Intelligent Ultrasound's initial design using only one tooled part.

Throughout the project the team at GX employed a strong value engineering mindset to ensure the product would be cost-effective to manufacture.

## THE RESULT

The ground-breaking medical training device uses advanced haptic sensations so students can feel through the probe when they're touching the scanning image. The probe the students hold connects to the haptic relay so they can see what they're scanning using VR goggles or a screen. The cost-effective components designed and built by GX have helped the product become a global success.

## QUICK FACTS



The first ScanTrainer™ unit designed and built by GX went into production in 2014. A study conducted in April 2014 by Copenhagen University Hospital concluded that using the ScanTrainer™ greatly accelerated ultrasound scanning skills. Since 2014, Intelligent Ultrasound has been exporting the product worldwide, and were awarded the UK Healthcare Business Export Achievement Award in 2016.

## TECHNICAL DATA

### ELECTRONICS

The haptic technology used was provided by the client.

### VALUE ENGINEERING

The ScanTrainer™ was developed to produce a cost-effective version of Intelligent Ultrasound's design for manufacture. GX ensured the component parts could be machined and painted to remove the need for expensive tooling.

### LOW VOLUME MANUFACTURING

By using NC milling, rather than tooling, the ScanTrainer™ is produced in low volume manufacturing numbers. GX assembles and ships the ScanTrainer™ product to Intelligent Ultrasound, from where it is delivered to their clients.

### MECHANICAL & INDUSTRIAL DESIGN

The GX team combined mechanical and industrial engineering to ensure the ScanTrainer™ was built efficiently with the needed functionality, while matching Intelligent Ultrasound's aesthetic design for the product.

## OUR SERVICES



ELECTRONICS



VALUE ENGINEERING



SOFTWARE DESIGN



REGULATORY SUPPORT



RAPID PROTOTYPING



OPTRONICS



MECHANICAL ENGINEERING



INDUSTRIAL DESIGN



PRODUCT DESIGN



VALUE ENGINEERING



CONTROL SYSTEM DEVELOPMENT



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