

THE BRIEF

Flint® Percussion is a family business based in the North-West of England. Established in 2005, the company began as a result of a young daughter wishing to play the marching drum in a local pipe band, however it was quickly apparent that the standard marching drum would be too heavy to carry and play. Originally from an engineering background, the company began to look for ways to redesign these drums to reduce weight without impacting sound and material quality, making them more accessible despite age and size.

THE APPROACH

Flint Percussions had previously developed several innovations to reduce the weight of their drums. However, the changes made seemed to isolate their products, being met with a lack of understanding of the improvements from their customer base. Therefore, Flint Percussion wanted to use existing CAD assets to visually demonstrate how the product works, improving understanding to foster better market uptake.

Flint also have additional innovations within their future plans as they are looking to prototype durable feet for their drums that will protect them from damage when placed on the floor.

THE BENEFITS

The Virtual Engineering Centre (VEC) collaborated closely with Flint Percussion in understanding how the company operates and how their newly improved products will be able to offer a range of benefits to their current and potential customers.

Using the existing data provided and Solidworks software, the VEC was able to produce a virtual diagram and 3D animation of their products which can easily be explored and interacted with. Users can completely deconstruct the drum, taking the drum apart, piece by piece, therefore acting as a communication tool, offering a more engaging product catalogue which can lead to better understanding of the product itself and the added benefits through the change in design.

The VEC team also worked closely with Flint Percussion in demonstrating how this data was extracted and used effectively so this knowledge has been transferred ahead of other innovation developments and changes in product designs, being able to undertake and manage in-house. The VEC recommended some alternative off-the-shelf freeware for easily accessing and displaying their 3D models, which include formats that do not require costly licensing so are easily accessible.

In addition to this support, the VEC also designed a number of iterations and developed prototypes for the drum feet, using methods of additive manufacturing (3D printing). This method combines virtually designing and developing the product, with creating a cost-effective physical prototype for testing and evaluating, saving time and costly resources through the research and development phase.

