



## Ice Cream Dream Machine



*Nick Dearden of Deardens Limited in the United Kingdom was contracted to handle the product design, manufacturing, documentation, assembly line planning and all logistics for the initial production of 5,000 soft-serve ice cream dispensers to be delivered in five months. Working with a virtual team spread throughout the United Kingdom, Dearden used Cobalt™ CAD and 3D modelling, virtual prototyping and the Internet to coordinate his network of experts and get the job done in an extremely efficient manner.*

Dearden relied on Cobalt's hybrid 3D solid and surface modelling and 2D wireframe CAD capabilities to help him think through his design ideas. Built-in rendering produced realistic visualization for both client and collaborators. Finally, Cobalt's extensive import/export capabilities supported the virtual prototyping and final manufacturing process. Says Dearden,

***"Cobalt is the heart of our virtual prototyping design and development process, supplying all our solid modelling, 2D drawing and image rendering needs in the one package."***

After approval of the dispenser's exterior design in Cobalt, the team developed progressively more detailed models for a virtual prototype. Cobalt supplied the data to drive the downstream 3D information for mechanical studies, engineering analysis, tool making and manufacturing.

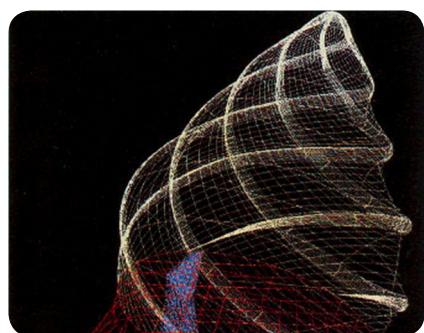
No less than 100 design reviews were required, so the ability to email rendered 3D images and engineering drawings was crucial. Dearden knew that the dispenser's swirl would produce a good deal of debate, especially since it required expensive mould tooling. Cobalt's extensive surface modelling capabilities paid off here, enabling him to create six different swirl designs, prototyped via stereolithography for evaluation.

Over 15 subcontractors across the U.K. were involved in the manufacturing process, each using 3D geometry files exported from Cobalt, including laser cutting and fabrication, FEA, STL modelling, metal part production and stainless steel casting. After mechanical testing, the go-ahead was given for production. This included injection moulding, vacuum forming, and tooling, all done in a Delcam CAM system that directly imported Cobalt files. Finally, a field manual was quickly produced using Cobalt drawings.

In only five months the ice cream dispenser went on sale in April and by July had exceeded sales forecasts. Ashlar-Vellum is proud that Cobalt CAD and 3D modelling allowed so many different people to contribute to the design's success.



In only five months from concept through distribution, Deardens brought this ice cream dispenser to shops throughout the U.K. with the help for Cobalt CAD and 3D modelling software.



Cobalt's 3D surface modelling (middle) enabled six swirl designs to be prototyped using STL (above) for evaluation.

### Background/Contact

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