

PRODUCT DEVELOPMENT CASE STUDY:
**Utilizing an outsourcing management and engineering company to lower costs and
speed development of a boutique dog bowl**

Leardon Solutions

www.learnon.com

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Executive Summary

Hugx Co Ltd in Northern Ireland utilized Leardon Solutions for the engineering design and manufacturing of their boutique dog bowl (www.hugx.co.uk). Hugx's use of Leardon Solutions' expertise in managing outsourced design and manufacturing firms allowed them to get their products to market in less than three months, save 27% from their original tooling quotes, and save 13% on direct materials cost from their prior quotes. While Hugx continued to focus on their core competencies, Leardon Solutions used their skills to source a product with lowest cost, fastest time to market, and with all of Hugx requirements.

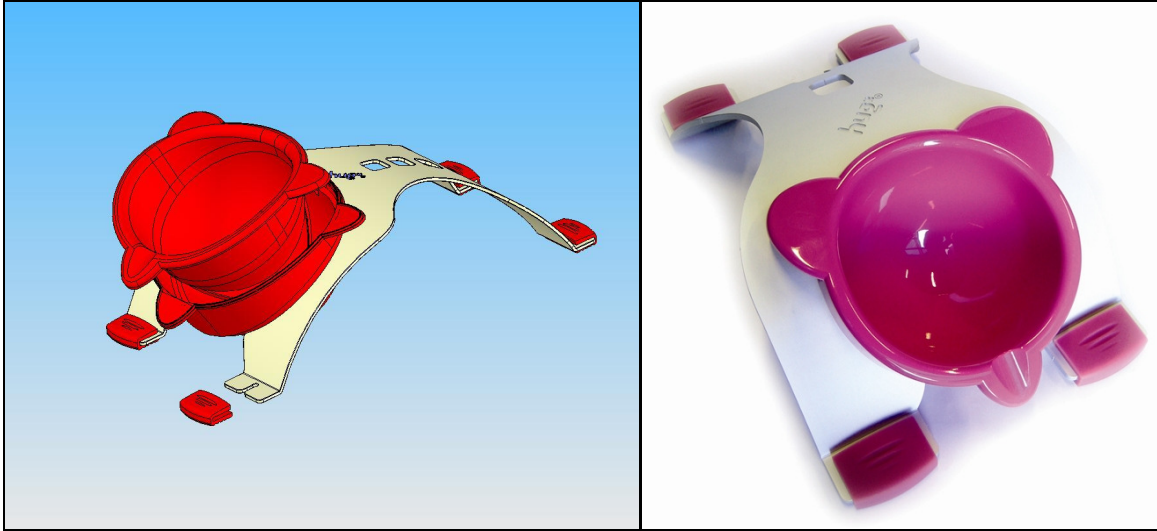
Background

Hugx received funding for initial design of a boutique dog bowl as part of the Invest Northern Ireland program (www.investni.co.uk). The industrial design lecturers at the University of Ulster art school in Northern Ireland designed a bowl with a heavy weight and solid feel and an ergonomic design to satisfy dogs. As they took the next steps to produce prototypes and start manufacturing, the team independently contacted a vendor in China who they felt was capable of providing the manufacturing solution for their product.

The vendor recommended gas assist molding in order to achieve the heavy cross sections of the bowl. Gas assist molding is a process that utilizes an inert gas injected into the mold at the end of the filling stage to create hollow pockets in the heavy sections of the design. This is a very sensitive process and can expose parts that require a high cosmetic standard to potential surface defects such as sink marks. Tooling costs for gas assist molds are much higher than more simple injection plastic molds and require much more process modification to stabilize the process.

Program Success

Leardon Solutions was contacted after Hugx received their first quotes. Leardon Solutions felt that the gas assist application was too risky and took the first step to simplify the bowl by redesigning it into two separate ABS parts; inner and outer (see exploded isometric). The two separate parts were then ultrasonically welded together to give the customer the impression of a one piece bowl identical to the intended industrial design. The benefits of this design were minimal complexity without compromising the design intent, minimal risk by utilizing known molding practices, and lowest cost tooling that could be used in most injection molding presses throughout the world.



After designing the two-piece bowl, Leardon Solutions focused on the four PVC feet and aluminum body design. These tools and parts were sourced through vendors which had experience with ultrasonic welding and cosmetic parts. The result was a 27% reduction in tooling costs and a 13% reduction in direct materials costs. To present a turn-key solution for the customer, Leardon Solutions also implemented an assembly and test plan at the vendor. Finally, packaging was designed to meet pallet and individual shipment requirements.

Leardon Solutions' engineering team was used more than once during the production ramp and stabilization. There were cosmetic flow line issues on the paw part that required the use of mold flow software to optimize the tooling and process. Leardon Solutions' engineers were also on-site to give a final ship approval to the vendor.

In summary, the benefits of using Leardon Solution included

- (1) Lower tooling and direct material costs.
- (2) Use of on-site engineers to root cause and resolve product issues as well as verify final part quality.
- (3) Interpretation of the customer's product requirements into engineering specifications on product drawings with verification that the vendors were capable of meeting these specifications.
- (4) The design and qualification of packaging that met all shipment requirements.
- (5) Development of assembly and quality plans prior to shipment.
- (6) Complete management of all the shipping and logistics throughout the world.
- (7) Leverage of relationships with vendors to accommodate lower volumes than actually forecasted during the quotation period.