Success Story: Development of The New Performance Bottles

Qaroh P.E.T Products Co.[1] and Kuwait Foundation for Advancement of Sciences[2]

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About the Project:
This project is for the development of new performance bottles with the aim of minimizing the weight of the bottle without compromising its other characteristics. The outcomes of the project have brought several benefits to the company, in which it has reduced the usage of P.E.T in bottles annually, made financial and environmental savings and have provided Qaroh products a competitive advantage over similar producers in the market.

1. A BRIEF DESCRIPTION ABOUT THE COMPANY

Qaroh P.E.T products Co. was established in 1997 in Kuwait for the manufacture of PET preforms, containers, sheet and other products, with state of the art equipment for production, testing and quality control, Qaroh in a short period has grown into a leading supplier of P.E.T related products. In 2012, Qaroh realized an opportunity to produce blown plastic bottles using less material and without compromising the performance characteristic of the bottles. The knowledge provider used for the development of the product is, SIPA, an Italian company, experiencing in plastic container manufacturing and filling. SIPA has gathered an extensive expertise in all available bottle manufacturing and filling technologies. SIPA's main goal is is to transfer its competence and expertise to its customers, offering innovative and competitive solutions to specific Customer needs.

2. HOW DID KFAS HELP WITH FUNDING YOUR PROJECT?

With the aid of the Innovation Research Voucher (IRV) scheme awarded here at the Kuwait Foundation for the Advancement of Sciences (KFAS), Qaroh approached KFAS and applied for funding support of their product. KFAS provided close to 90% of the funding needed for the research and development of the new performance bottles. The IRV provides shareholding SMEs with co-funding support to work with the research/ knowledge base on their STI and management capability issues and needs.

3. WHAT WAS THE SCIENCE, TECHNOLOGY & INNOVATION (STI) RELATED SOLUTION NEEDED FOR YOUR PROJECT?

The present weight of the preform for the 330ml bottle is 13.5g. reducing the weight of the preform will be a definite advantage for the company's' competitive sales. Since this involves extensive design, analysis and teaching the technical assistance of one of the leading mould makers of Europe (SIPA) has been contacted for the study and a proposal with a quote has been received. The project will show the following milestones, analysis of the present preform and bottle, design a new preform with maximum reduction in weight possible without compromising the bottle qualities and performance, manufacture a pilot mould to produce the sample preforms for the tests, extensive testing of the preforms and blown bottles for all quality aspects and finally incorporate the designed preform in the 72 cavity production mould.

4. HOW DID THIS SOLUTION AFFECT YOUR COMPANY?

The project outcome in the final weight of the preform has been fixed at 12.80g, obtaining 0.7g in weight savings, this has been achieved without compromising the performance of the blown bottle. The benefits of the project for the company are approximately 150 million preforms every year presently (with possible increase of 50% in the coming year). The net saving in the present scenario is approximately 105 tons of P.E.T per annum, this turns out to be about 45,000 KWD per year. A major part of this saving will be transferred to the customer which in turn gives Qaroh P.E.T products a competitive advantage over other preform producers. This saving will be transferred to the customer, providing a competitive edge to Qaroh resulting in increasing sales. Another positive advantage to the re-design of the performance bottle is that is has less impact on the environment.

FUNDING INFORMATION

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