

DESIGN-TO-COST MAKES PRODUCTS MORE COMPETITIVE AND PROFITABLE

Product Margin Grows by up to 30 Percent

Sustainably save costs without compromising product quality and customer benefits – that’s the aim of design-to-cost. Using the method of cost-lead engineering and project management with a manufacturer of hydraulic components, Ingenics was able to raise the product margin by 30 percent.

Design-to-cost is a highly effective method to improve existing products and products that are to be developed with a given cost target by a 15-to-30 percent higher margin. At the same time, it increases cost control without negatively affecting quality, delivery and results.

The method can be used in any industry and normally comprises three steps, as also implemented by Ingenics with the hydraulic specialists: First the cost target is defined – usually by subtracting the target margin from the current or strived-for sales price. Despite all cost optimization, the customer benefit must always be the focus. It’s important to have an understanding of how much a customer is willing to pay for certain functions and additional product features (value analysis). That’s the main design parameter.

D-t-C also brings product improvements

If design-to-cost is to succeed, there needs to be full cost transparency of all those internally and externally involved – particularly in the case of development engineers. This ensures early cooperation and joint decisions among development or design, sales, marketing, production, procurement and main suppliers. That’s why it is especially important that sales is present at technical meetings and vice versa. Because the cost improvements are predominantly achieved through an optimization or new conception of procured and self-produced components as well as process improvements in production and logistics. This

means that, in addition to the business results, there are also normally product improvements, e.g. through simplified interfaces or weight reduction.

Big potential in small parts

The same applies to an entire product family, to be exact: for hydraulic pumps in over 50 variations. Based on three representative variations, Ingenics presented the benefits and margin effects of design-to-cost measures. Each component (parts list), each process step was analyzed. It has to be repeatedly considered whether the change to new, more cost-favorable suppliers supports the target and how assembly times can be reduced.

In this project, it was shown once again that the greatest potential to reduce costs seldom lies in the most expensive parts. These have normally already been optimized. The potential therefore usually lies in smaller parts. In addition, new solution approaches are part of successful design-to-cost. While the company previously worked with high-volume technology, medium manufacturing sizes now determine production.

The customer’s expectation and the competitors’ offers provide the basis for product marketing and development, and for which features and functions the product needs to have. Only when these have been defined can a decision be made regarding the right technical solution for this case. Following this “function analysis” is a system analysis in which the product and business model

are considered as a whole – also with regard to whether it is worth raising the costs of a component in order to become more cost-favorable overall.

For example, the use of different magnets and new suppliers brought the customer significant savings. The pump housing was completely adjusted to the function and conformed to current expectations in the buyer market. The duration for such a design-to-cost project lies, depending on the complexity, at 9–15 months – with 1–2 operative days per week. ■

Design-to-Cost

Ingenics carries out design-to-cost measures for e.g. internationally operating firms. These show: 30 percent process and production costs can be achieved with design-to-cost along the entire value chain. Cross-functional cooperation, uniform processes, calculation tools and standards, and methodical expertise ensure success. Identifying and using cost reductions and increased utilization are the central tasks of the project managers.

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