

Executive Summary

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Product Design in polymer processing is widely recognised as a critical stepping stone to improving company performance. Achieving a high 'right first time' design ratio is proven to lead to cost savings, increased output, better brand equity and, most importantly for commercial success, helps to accelerate speed to market.

This Product Design guidance document explores the three primary forces that affect design productivity - **quality, cost** and **time** - and how to balance these critical elements, as well as the methodologies used to achieve design improvements.

“ You can use an eraser on the drawing board or a sledgehammer on the construction site.”

*Frank Lloyd Wright – American Architect,
on the value of getting design right.*

Written by design and processing experts, it also puts into context the measurable value of:

- Implementing **efficient design processes** to control the development of products, and how these enable polymer processors to:
 - eliminate waste and inefficiencies;
 - respond quickly to market changes;
 - significantly reduce product development risks.
- Using **tried and tested design methodologies** to support the creative process and refine ideas, resulting in:
 - improved product functionality that meet customers' defined requirements;
 - reduced development time.
- Cross-functional, peer-to-peer and multi-generational collaborations, gaining input from sales, marketing, tooling, manufacturing, and a host of other disciplines, and the support tools that help to unlock innovation in order to **achieve higher “right first time” ratio** to help minimise:
 - the number of product iterations that can lead to market launch delays;
 - order changes;
 - wasted time and resources;
 - unsatisfied customers.
- **Addressing sustainability of a product's lifecycle footprint** at the design phase, including product composition, efficiency and recyclability, and how this improves:
 - company image and brand equity;
 - long-term social value.