DASSAULT SYSTEMES | The 3DEXPERIENCE Company

Rethink Package Design

Almost 50 percent of new packaging performs worse than the designs it replaces. Companies need to rethink their package design process to win at shelf. **Dassault Systèmes** shows us how with their **Perfect Package** solution.

Rethinking the Package Design Process

Delighting consumers is critical in today's evolving retail environment. It starts on shelf, and product packaging can help drive the shopping experience and product success. The right packaging can move consumers to put your product in the basket. But, half of all new packaging initiatives fail. Here are some startling statistics:

- Shoppers make many purchase decisions within 5 to 8 seconds
- Packaging is #1 in driving awareness and purchase at shelf
- Only 10 to 15 percent of new package designs have immediate positive impact
- 50 percent of new packaging performs worse than what it replaced

Package design efforts are often scattered across multiple groups and suppliers using different systems. This can lead to rework, delays, higher costs, quality issues, and recalls. What if you could break down these silos and get everyone working together using an integrated business platform?

Dassault Systèmes Perfect Package is a 3D Industry Solution Experience that helps organizations inside and outside your company collaborate more effectively to create breakthrough designs from sketching initial concepts to putting completed packaging in store.

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Co-Creating New Concepts

The role of packaging in driving awareness, communication and closing the sale at the shelf cannot be understated. Every element of the package including color, graphics, ingredients and even usage instructions can drive what product goes in the basket versus left on the shelf.

Creating and testing new packaging concepts can be very difficult. Agencies sketch 2D concepts but consumer find it difficult to assess new designs less they are in 3D. Physical prototypes are costly and time consuming to create and may not reflect the end-design due to engineering and manufacturing constraints.

Perfect Package can cut concept development from 6 weeks to 24 hours by sketching in 3D, automated tools to refine the design and create realistic rendering of new packages. Real time rendering can allow consumers can see photorealistic packaging concepts in both an in-store and in-home context to help accelerate package validation efforts without creating costly prototypes.

A global beauty care manufacturer is using Perfect Package to co-create new packaging concepts with consumers in only 48 hours. An industrial designer listened to consumer feedback during focus groups and used 3D sketching tools to generate new photo-realistically rendered concepts. The next day, consumers were able to assess and validate these packaging ideas in both an in-home and in-shelf context. What was normally a 6 to 8 weeks process was completed in just hours, while dramatically improving the shelf impact and the consumer acceptance of the packaging initiative.

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Integrated Qualification

Packaging and manufacturing engineers can work together to translate package concepts into optimize designs for production by using a common packaging platform.

All of the engineers have access to the latest package designs and then they can run tests using simulations and automated tools. Package engineers can look for ways to lessen the amount of material used to make a “greener” package. Manufacturing engineers can analyze the bottle to make sure it can be made, packed and shipped in the most efficient way, lowering manufacturing costs and minimizing impact to the environment.

Packaging companies like Amcor and St. Gobain use simulation to lightweight package designs that account to almost 50 billion packages per year. Simulation enables them to optimize package design to require less raw materials and energy to produce while maintaining the strength and resistance to breakage. This reduces the CO2 emissions while creating a package the consumer will love. This is a true Win-Win, good for business and good for the planet.

Coca-Cola uses simulation to optimize the technical design of their bottles to maintain the optimum levels of carbon dioxide (CO2) inside bottles to preserve fizz (in those drinks that are supposed to bubble). They also work to keep out oxygen (O2) as long as possible, to avoid compromising taste and freshness in both carbonated and still liquids (such as fruit juice, milk, and tea).

Engineers can optimize the package and then simulate the effects on the bottle of stacking, crushing, dropping, and sloshing to prove-out their designs. They can quickly and cost-effectively modify the shapes to make bottles lighter, thinner, stronger, and so on. This significantly shorts both the time to market and the cost to design and qualify new packaging for their product initiatives.

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Artwork and Labeling

A single product initiative may need 10 or 12 label variations for one market. As the product is taken to multiple geographies, that number goes up exponentially as companies manage all of the complexities of different regulations, languages and packaging sizes to create the right package for the consumers.

Over 50% of product recalls are the result of labeling errors because label text is created on word documents and excel spreadsheets and then manually entered by the design groups. There is no central management of the process and human error introduced into the process.

The Perfect Package integrates the copy management and artwork creation process and enables you to create new label designs in just 24 hours by:

- Manage the entire artwork process across organizations and suppliers with real time visibility.
- Create artwork structured “templates” once and reuse multiple times.
- Collaboratively edit, translate, and approve artwork content on a “just in time” basis

Perfect Package centrally manages the label development process across the artwork “supply chain.” Each function generates and approves master copy for the new package. Designer imports approved copy into a label template being designed in Adobe Illustrator. This eliminates errors caused by cutting and pasting copy from e-mails or hand typing in the approved copy.

Structured copy and label templates can significantly shorten time to market. The master copy is used as the basis for all local versions. Master copy is translated into various languages to allow for rapid deployment into new geographies. The copy can then be updated for each label automatically without requiring a designer to know the local language. This cuts an 8-12 week process to adapt labels for a new geography to a series of clicks that can be completed in minutes.

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Driving Reuse

Consumer Packaged Goods manufacturers use a variety of agencies and suppliers to bring their brands and packages to life. While this distributed eco-system helps companies focus on the core strengths, it also fragments the designs, labels and data across multiple systems and companies. As a result, companies cannot find previous designs or need to pay external agencies to search and share designs they have already paid for. This problem is compounded when working across different geographies and business units.

Using Perfect Package as part of the 3DEXPERIENCE platform, teams can design new ideas faster or reuse existing assets to expand to new geographies with very little investment.

One global beverage company that we work with estimates they can eliminate 80 percent of their bottle designs by allowing visibility of all of their designs and reusing different design components. This will save millions in design and manufacturing costs that can be reallocated to innovation work. Using automated tools, CPG companies can create a family of packages based on a product design in minutes, saving weeks of effort from the design process to get a product ready to launch. Core elements of the package can be maintained while the volume, push-ups, caps and other features can be quickly changed to create the right family of packages for a new initiative launch.

Driving reuse across business units and geographies can accelerate the innovation process, lower the risk of failure, and allow innovation teams to explore more options and validate them with consumers within current budgets. It also allows companies accelerate expansion efforts into a new geography or create a new line extension of an existing product line.

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Transparent Collaboration across the entire packaging supply chain

The 3DEXPERIENCE platform connects people, ideas, data, and processes so everyone both inside and outside the enterprise can work together to create great packaging. It can bridge the silos of design, marketing, engineering, and manufacturing as well as connect to external design agencies, artwork studios, mold engineers, and suppliers through a single solution.

As designs are changed, the different organizations working on elements of the package (label, bottle, manufacturing line, printing) can all access the latest designs and eliminate much of the rework caused by fragmented systems and working in silos. Changes made by manufacturing can be seen by label designers, so the label can be changed to fit during the design process, instead of being discovered when the product is being made. Late changes equal significant re-work and costs.

Packaging initiative leaders do not need to wait for status reports, but can instantly see the progress of the initiative without waiting for stage-gate reviews to ensure they are on track. General managers can finally have visibility of all of the initiatives in the pipeline and be able to stop underperforming initiatives and accelerate promising ones. This can accelerate growth while maximizing the limited innovation resources.

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