

# case study

## Unilever

### Customized Solutions to Reduce Packaging Waste

With increasing pressures on all manufacturers to reduce the environmental impact of their products, consumer goods giant, Unilever, needed a way to minimize the material used in its packaging while ensuring that it remained strong enough to withstand transportation loads and a variety of use conditions.



## solution

Advanced virtual simulation technology was needed to optimize Unilever's packaging designs but, at the time, Unilever did not employ many computer aided engineering (CAE) users, instead having an extremely talented team of CAD engineers at their disposal. Altair ProductDesign worked with this team to develop the 'Atlas' system, a highly customized primary, secondary and tertiary packaging virtual test lab encapsulated in a user friendly common interface.

Altair's own virtual simulation suite, HyperWorks, powered the Atlas system by utilizing its modeling, automation and optimization technologies; all integrated with Unilever's existing design tools and testing environment. Modules were created for manufacturing simulation (ISBM and EBM) and to explore the effects of usage, accidental and transportation loadings on the new pack designs. The ability to automatically report results in-line with Unilever's own working practices was also included to further reduce manual workload.

## result

The custom Atlas system from Altair ProductDesign's process automation team has allowed Unilever's CAD engineers to perform a wide variety of simulation studies in an accessible but powerful user environment. Innovative packaging designs can be generated and explored, while new materials can be checked for manufacturing feasibility and cost without the need for expensive physical trials. The system has helped Unilever to compress packaging design development time while simultaneously reducing the amount of material required during manufacture.