

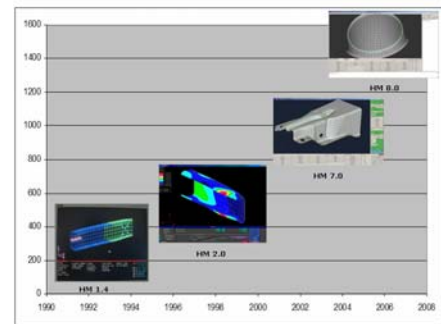
## 15 Years Best Partner for Simulation with Altair's HyperWorks

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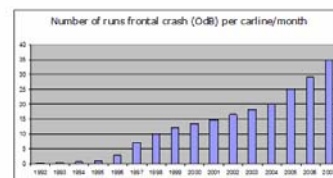
### Summary

"Virtual Product Development" has already been established completely within the automotive industry today and the development processes can no longer be imagined without it. This has led not only to clearly abridged product development times and to considerable cost savings in the development cycle, but also to a product variety that has never yet existed. Accurate and reliable CAE results today are essential for the product development process in nearly all industries. With very powerful software tools the CAE engineer is able to build detailed FE- model inputs which represent beside their geometrical description of the real structure a lot of know how of the verification of the behavior to real performance. This is particularly so in the automotive industry where virtual simulation predictions are gradually replacing physical testing in the ever greater drive to reduce product development time and costs. CAE is nowadays completely integrated in the development process and critical design decisions are normally based on the FEM calculations. The CAE product development is often done by an engineering service supplier.

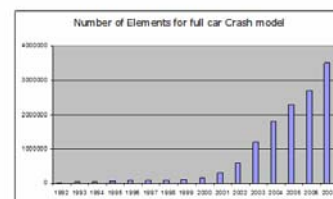


15 years ago FEM calculations were used for the same purpose but on a much smaller scale. CAE was used as an additional argument among others in design decisions. Engineering service suppliers which specialize in CAE where starting up their business.

The toolkits which they used from their start up phase to the mature CAE market today was and is still Hyperworks. This process of 15 years successful use will be documented in this paper



**~ 100  
times the  
efficiency**



**~ 100  
times the  
complexity**