

## ASKA — PAST, PRESENT AND FUTURE ASPECTS

J.H. ARGYRIS

*ISD, Universität Stuttgart, D-7 Stuttgart, Germany*

O.E. BRÖNLUND, M. SÖRENSEN

*IKO Software Service GmbH, D-7 Stuttgart, Germany*

## SUMMARY

A short historical survey is given, elucidating the necessity for trial and error methods in the early design phases. The evaluation of the ASKA design philosophy as applicable to generations of computers, starting in the fifties, is of importance in understanding the high level of software engineering incorporated in the current version of ASKA.

The evolution of the ASKA programme through its various versions (i.e. ASKA 101, 102, 105, I, II, III) with the associated theoretical developments has been of vital importance to the state-of-the-art. On account of the continuing prolific discussions between the ASKA software engineers and their colleagues in the associated theoretical fields, the ASKA system remains a dynamic entity, continuously evolving to meet the ever more demanding requirements of its users.

The practical and economic applicability of ASKA to the solution of the present day problems of industry is justified by a few descriptive case studies, involving static, dynamic and non-linear problems. There are very often differences of opinion between the structural analyst and the client or management when the necessity for a finite element analysis is being considered. In this continuing strife, ASKA has proved itself an elegant compromiser insofar as one of its greatest assets is the flexibility to adjust itself economically to any given problem, large or small.

Using its fully automatic substructuring techniques and out of core data handling, ASKA can solve virtually any structural problem, the only limitation, especially for non-linear problems, being the computer costs involved. Today, however, many organizations have become convinced of the advantages of the finite element methods over classical methods of analysis and it is therefore to be expected that the use of finite element analyses will show a dramatic increase in the future.

Looking into the future is always an enterprise fraught with risks but nevertheless a certain extrapolation may be dared. In addition to the further development of the current version of ASKA, a well planned, completely redesigned ASKA is now in its final stages of design. Some of the more basic modules have been completed and show great promise in respect of increased efficiency and dependability as well as allowing of a tremendous reduction in the amount of tedious low-level programming required for implementation of other procedures.

