**PROCEEDINGS OF THE
TWENTY-THIRD INTERNATIONAL
MACHINE TOOL DESIGN AND RESEARCH
CONFERENCE**

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CONFERENCE**

*held in Manchester
14th-15th September 1982*

Edited by

B. J. DAVIES

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Manchester*

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FOREWORD

BY CONFERENCE CHAIRMAN

It gives me great pleasure to preface the proceedings of the latest conference in a long line of international forums. The presentation of papers and exchange of information and views by eminent researchers and industrialists has continued unabated for twenty-three years. Many of the young engineers who now attend as delegates or even submit papers were not born when the conference series started in 1960. During the early years the majority of papers came from the UK with countries in Europe a close second. Since those days, design, manufacturing and supply of machine tools and associated equipment has become increasingly international and competitive. Such internationalism is exemplified by the fact that 45 of the 63 contributing papers for 1982 come from 21 different countries outside the UK. This year Japan, and last year the Peoples Republic of China, head the list of overseas contributors whom we are pleased to welcome to Manchester.

The trend from specific design studies to the wider theme of manufacturing engineering has been natural and welcomed by both delegates and those who subsequently read and study the proceedings. It acknowledges that manufacturing industry is the most important creator of wealth within developed countries and that a sound industrial base is a vital element in enhancing the standard of living in countries still developing.

Perhaps because of my own special area of interest, I particularly note the increasing growth of research and development in Integrated Manufacturing Systems. Topics in this area include CAD, FMS and Robotics, all of which are demonstrably efficient and economical ways of manufacturing batches of capital goods. The manufacture of machine tools themselves is utilising these methods and stands as an example and warning to all who are not prepared or able to innovate.

Despite its pioneering role with System 24 the UK has been slow to install Flexible Manufacturing Systems, but it is a pleasure to be able to report that we now have 16 systems at various stages of development, most with the assistance of DoI. The £60M FMS programme announced by the Minister for Information and Technology in June is particularly welcome. Through this programme UK companies can recover 50% of the cost of consultancy from DoI up to £50,000, and up to a third of the total capital cost. Parallel developments in the SERC are assisting universities to carry out essential related research.

This conference contributes to a wider understanding of the problems and opportunities in this field and it does so without losing sight of the fundamental aspects of design and process analysis upon which new technologies depend.

Professor B. J. Davies