

## Preface

The multiple facets of modern sheet metal manufacturing techniques are applied throughout a wide spectrum of economy, ranging from the automotive industry and machine manufacturing to electrical engineering and electronics. This wide range of applications means that sheet metal manufacturers produce parts from a few grams up to 1000 kg and more — from electro-technical parts up to components in automotive industry — as well as batch sizes ranging from just a few pieces to mass production. Worldwide, around 12,300 companies employing 600,000 workers produce sheet metal goods worth over 732 billion US dollars. These are impressive numbers for sheet metal manufacturing, to which forming processes are central, but also for cutting and joining technologies with their increasing importance. All of these processes have developed dynamically in the recent past, and this trend will no doubt continue. The automotive industry is the main impetus worldwide for new developments as is seen in its efforts to optimise lightweight constructions. Basic research at universities has been instrumental in promoting new developments through a better understanding of materials and processes. As we are standing at the very beginning of a new millennium, a new achievement profile for the sheet metal industry is emerging which will foster a fast and economical product development process.

One such interdisciplinary arena is promoting the close cooperation between material scientists, technologists, manufacturing engineers and computer scientists in academia and industry. This cooperation is supported by the SheMet conference series, which was founded in Birmingham, UK,

in 1993, and since has been hosted in yearly rotation by the University of Central England in Birmingham, the University of Ulster at Jordanstown, Northern Ireland, and the University of Twente in the Netherlands. The Chair of Manufacturing Technology at the University of Erlangen-Nuremberg has been entrusted to coordinate this prestigious conference this year for the first time. In this collection, we present you a selection from more than 70 papers from industry and university presented in the 1999 conference. The presented papers have been selected for this issue because of their quality and the fact that they cover a broad range of the conference scope. If you are already working in the fascinating world of sheet metal processing, we hopefully are able to cover your interest as well, if you are new to this material, we sincerely hope to get you interested in sheet metal processing. In any case, enjoy reading this collection and we would be glad to welcome you as a guest or a contributor to one of the future SheMet conferences.

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