## Preface by the Editor for the Chinese Edition

The English language version of this book has been published first in 1997. We were in the position to offer some detailed insight in various novel concepts which are still valid when this version of the book appears. This is of course completely true for the physical phenomena, but also for the economical background of discussing a new thrust toward high speed transport. We witnessed the recent first disaster with a Concorde aircraft with the inevitable reaction - even when it was not the fault of Concorde technology - that a pubicized focus on the critical question about the standards of high speed flight was formed. Some of the topics in this book present the background for certification and economic realization in a rapidly changing world.

Pre-design studies for a new generation of SST aircraft presently take place only on a small scale in the major aerospace industries. Notable efforts are made presently in Japan, though, with working on a project aiming at the development and flight verification of unmanned, scaled supersonic experimental airplanes.

During the past few years rapid progress in computational technology was continuing to change the options for simulation in the engineering sciences. Quite a few chapters in the book are treating concepts and computational realizations of design and optimization strategies in general. These technologies have become of paramount importance for many interdisciplinary design efforts, we are pleased to see these concepts outlined well in the book.

Many research organizations and universities have picked up our results for an Oblique Flying Wing transport aircraft, as a test case for the adaptation of optimization software to novel configuration concepts. The more detailed description of this concept seems to be a suitable introduction to thinking of innovative and alternate concepts for the new generation of SST.

Summarizing, I would like to point out three reasons why this book has an increasing rather than fading value for the information, motivation and education in a fascinating field of air transport technology:

1. The ongoing and even increasing importance to have a new longe range plan to carry out new (= innovative) high speed transport conceptual studies, especially when looking upon the past Concorde disaster, showing how vulnerable present aircraft for such operation is.

2. The importance of a general focusing on a multidisciplinary design approach in present and future aerospace design research and development, which this book tries, though it is applied here only to the special field of Supersonic Transport concepts.

3. For the young new generation of Chinese aerospace engineers, it should be animation and challenge to develop own creativity applied to innovative concepts which have not been there before, so it is not so much learning by copying, but creating own new ideas,

though based on our basic knowledge base. The book focuses on topics with different degree of advancement from the basic knowledge in flow and flight phenomena, via the tools to improve computational optimization technology, to applied aircraft engineering and economics. So it should attract a span of several semesters if being used to support text books in classroom courses.

Sadly we have to report that one of the authors of this book, Dr. Richard Seebass, has passed away in fall of 1999. He was a great mentor of innovative air transport concepts, the aerospace community owes him very much. His pioneering work in aeroacoustics and aerodynamics will have a long-lasting impact on our work.

The editor is happy and proud of being able to address the young generation of Chinese students in the aerospace ingineering sciences with the fascinating prospect of contributing to the development of new technologies in aircraft engineering.

Helmut Sobieczky
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