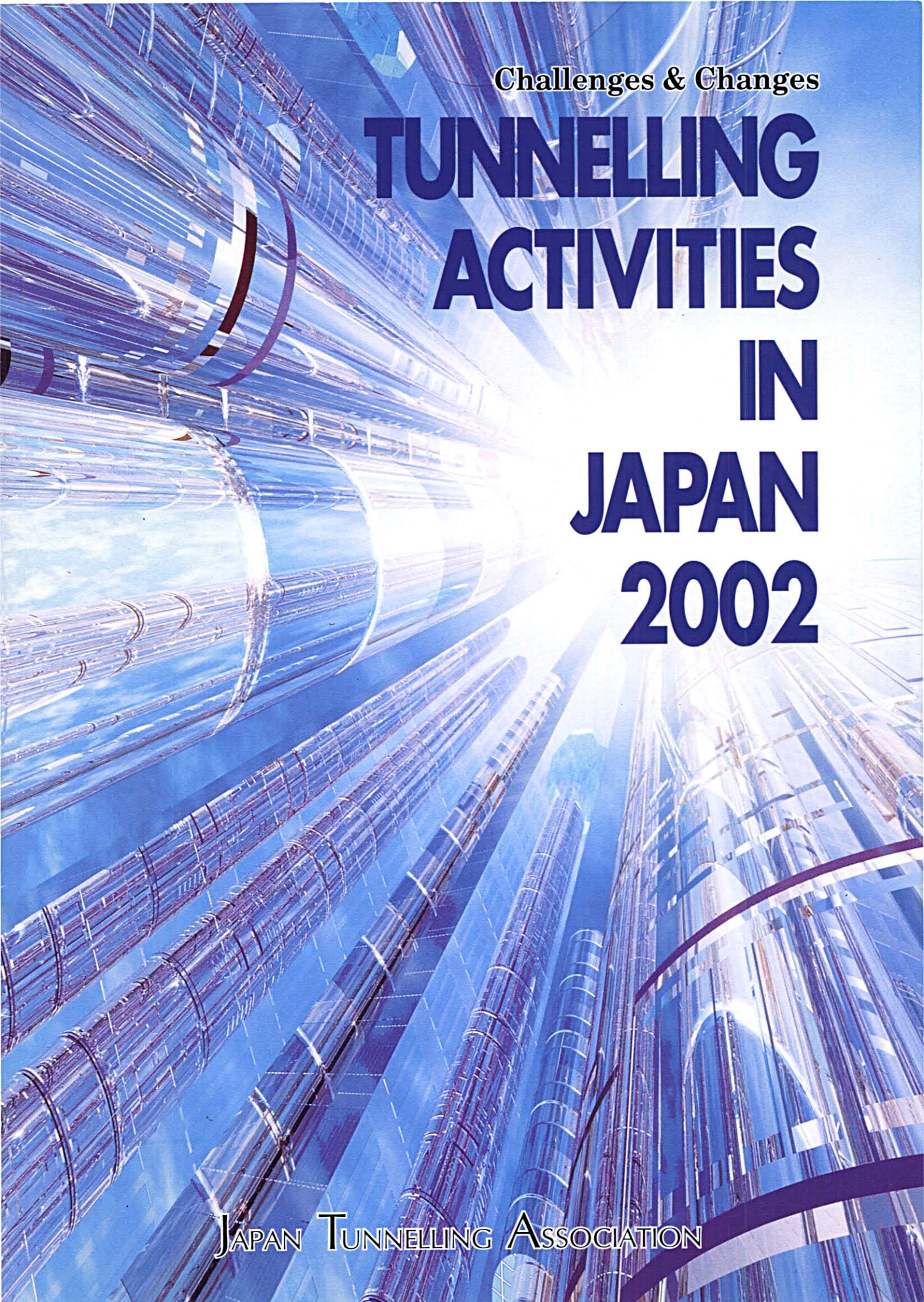

Challenges & Changes

TUNNELLING ACTIVITIES IN JAPAN 2002

JAPAN TUNNELLING ASSOCIATION

CONTENTS

PREFACE

Hiroshi Hagiwara

Hiroshi HAGIWARA

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It is my great pleasure to have this opportunity to greet tunnel engineers throughout the world on this occasion of the publication of the 2002 edition of this biennial booklet of the Japan Tunnelling Association (JTA).

Due to the mountainous topography of Japan, its railways, from their early beginnings, have penetrated through mountain regions by tunnels to form the railway network. Highways too, especially expressways, have followed that example and constructed tunnels one after another.

On the other hand, having a small inhabitable land area, and especially due to the concentration of population into large urban areas, urban facilities such as subways, water supply and sewer systems have depended largely on underground utilization.

Further, having a complex geological structure, which also includes much spring water, Japan has been compelled to develop diverse methods of construction while advancing its construction projects.

JTA supports this technical development and has provided diverse technical information through its participation in the International Tunnelling Association.

From among numerous recent construction projects and items of information on technical development, representative examples have been selected for presentation in this 2002 edition of *Tunnelling Activities in Japan*.

I will be pleased if these articles will be useful to the tunnel engineers of the world.

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