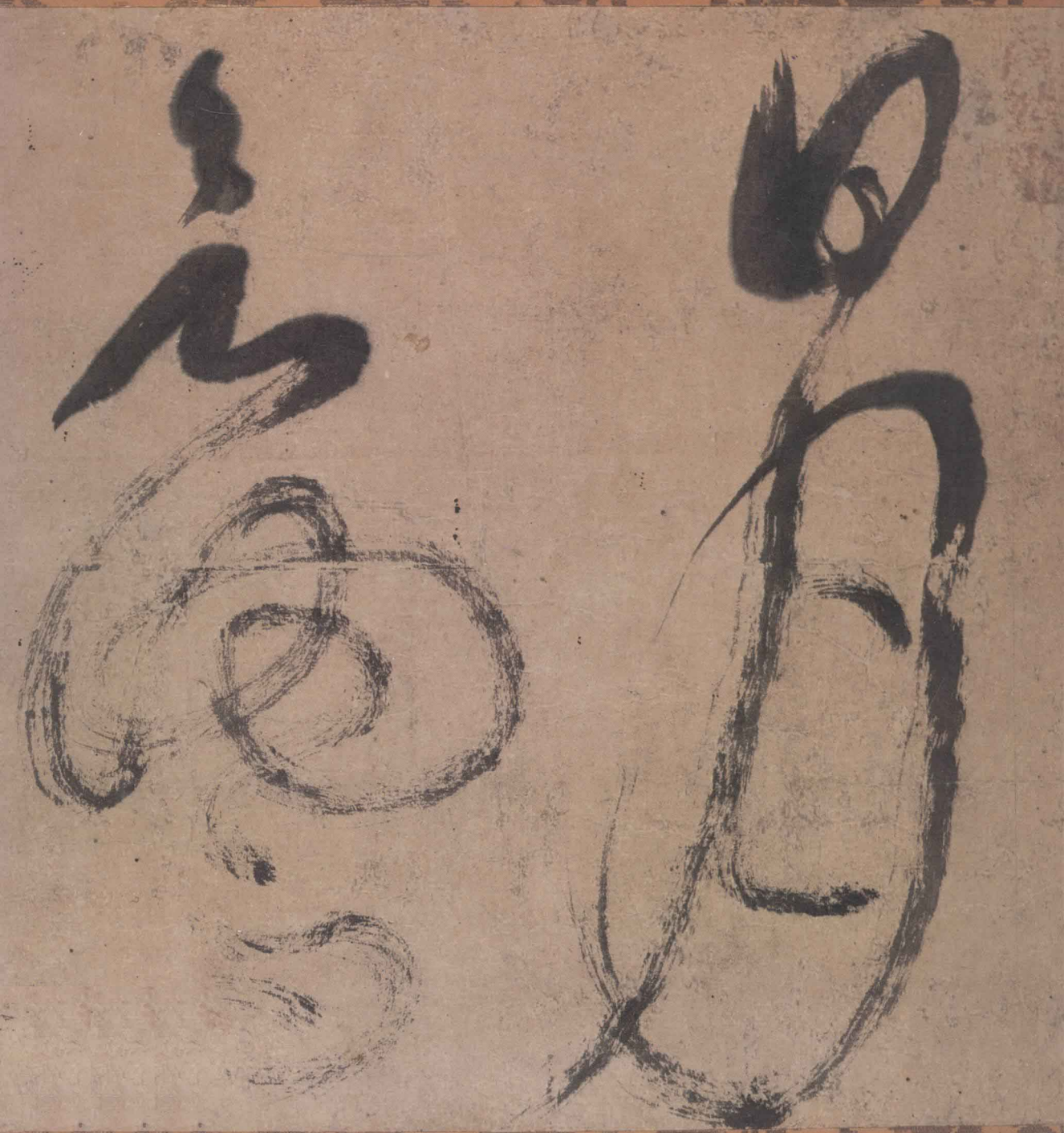
High Tech in Japan



High Tech in Japan

High Tech Research Institute

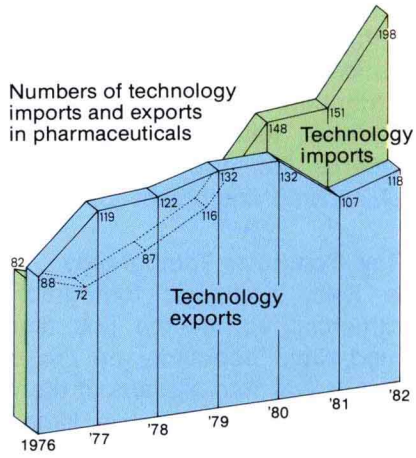
What is Needed Now is the Mind of Service to Mankind, the Right Perspective for Extended Life Span.

There has been a remarkable progress in the standard of living in Japan during the past two to three decades. Nowadays, the lifespan of the nation has become the longest one in the world. No one can overlook great contribution of pharmaceutical products to the national health and well-being. This nation's dream could have come true only through major achievements by the industry.

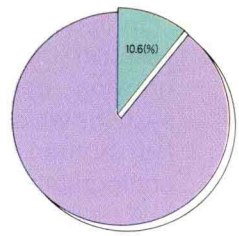
Our pharmaceutical industry has extended enormous efforts in R&D and constant supply of quality pharmaceutical products. In particular, recent progress in biotechnology, electronics and medical sciences is astounding which offers us the next break-through in pharmaceuticals.

Under the circumstance, the Japan's pharmaceutical industry has developed so far several prominent ethical products which have attracted attention from medical professions worldwide.

The Japan Pharmaceutical Manufacturers Association is composed of 80 leading manufacturers of ethical products. All the member firms, as typical "knowledge-intensive" and "resource-saving" industries, have been extending intensive efforts under our supreme motto "HUMANISM."



Research and development of a new drug requires astounding amount of investment along with a longer time. Average expense of R&D at 20 leading companies accounts for 10 billion yen per company annually which represents approximately 10% of sales turnover.



Science With Humanity

Japan Phamaceutical Manufacturers Association

Amakasu Building, 3, Nihonbashi Honcho 3-chome, Chuo-ku, Tokyo Tel: 03-241-0326

High Tech Research Institute
5th Floor, Tama Bldg., 1-3-18, Akasaka, Minato-ku, Tokyo, Japan
Tel: 03-583-8880

First published August 1985

Produced and Printed by Three "I" Publications, Ltd., Tokyo
Kamakuracho Parking Bldg., 1-5-16, Uchikanda, Chiyoda-ku, Tokyo 101, Japan
Tel: 03-291-3761

Printed in Japan

"The passage of time is swift,
The sun, the moon, go round and round the heavens;
But only drifting clouds are mindful of this." (Ton'a)

Ton'a (1289-l372) was one of the most famous poets during the Kamakura period (1192-1333). He became a Buddhist monk at the age of 24. Ton'a and three other poets, Keiun, Kenkō and Jōben, were known as the "Four Devas of Waka (a traditional form of Japanese poetry)." His works were elegant and simple. Ton'a was also a leading caligrapher.

Preface

I would like to take this opportunity to thank the many people whose help and cooperation have made possible the publication of "HIGH TECH IN JAPAN."

Japanese technology is currently involved in a wide variety of areas. However, it is essential that we pursue a policy which takes a world view and stresses international scientific and technological exchanges in every field, from the creative basic research which will be the foundation of life in the 21st century to large-scale international projects.

With this book, we have put together a single volume which introduces, from a perspective of trends for the future, Japan's latest technology and those international enterprises responsible for its development. It is my sincere hope that this book will allow its readers to gain a broad understanding of science, technology and industry in contemporary Japan.

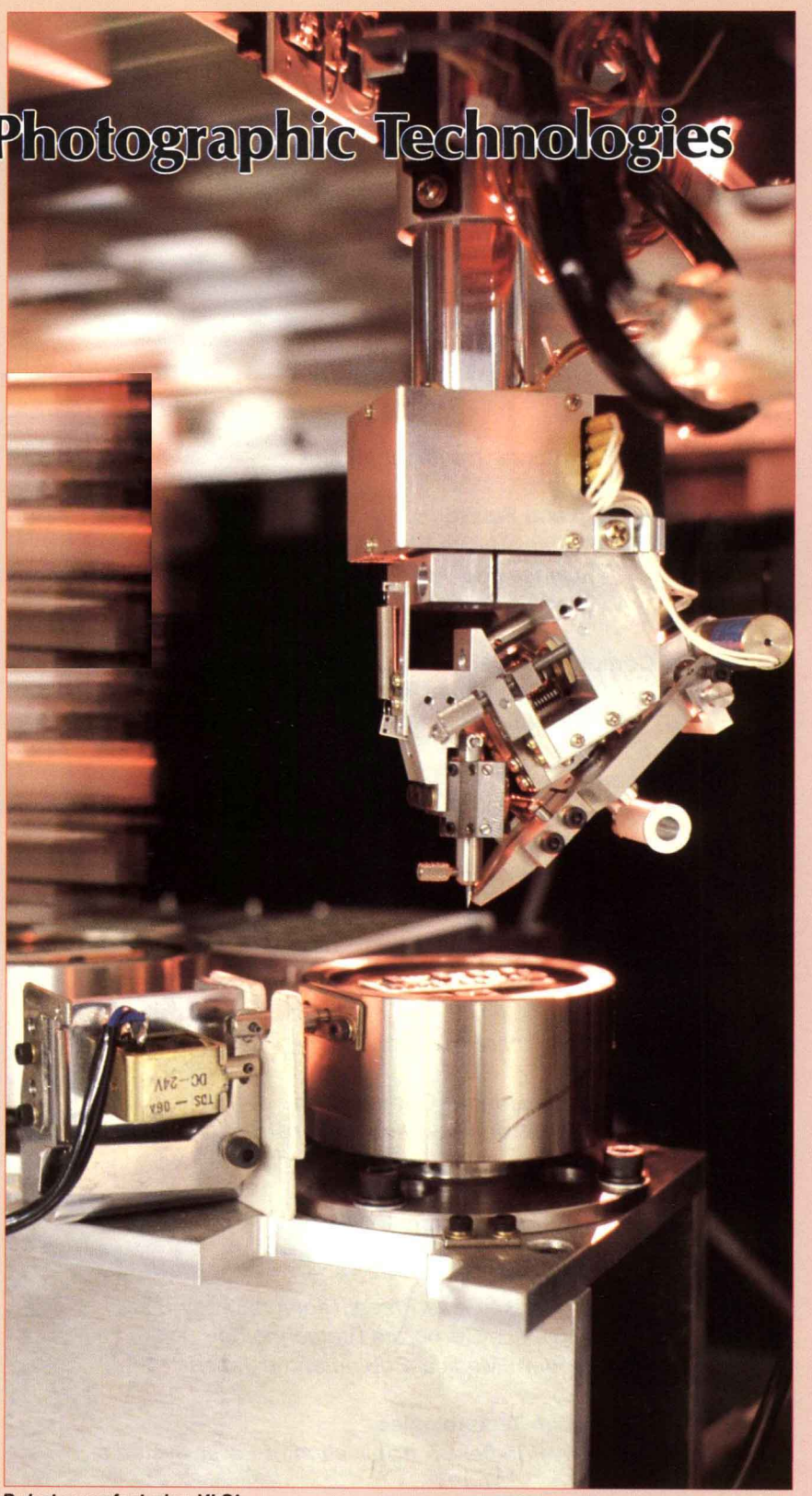
小宮山重四郎

Jushiro Komiyama

A Member of the House of Representatives
Secretary-General Science & Technology
Parliamentary Federation of Japan
Former-Minister Ministry of Posts & Telecommunications

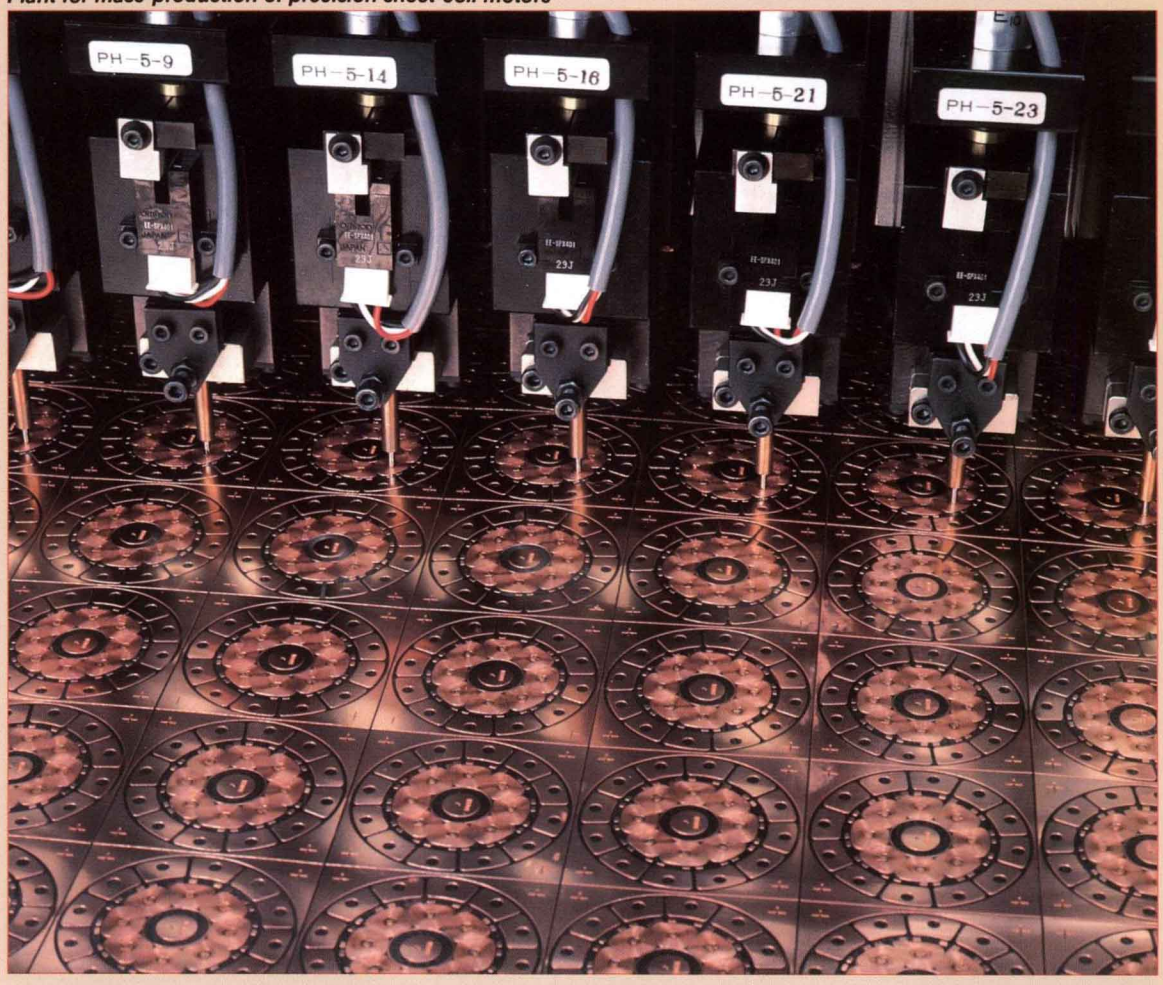
Contents

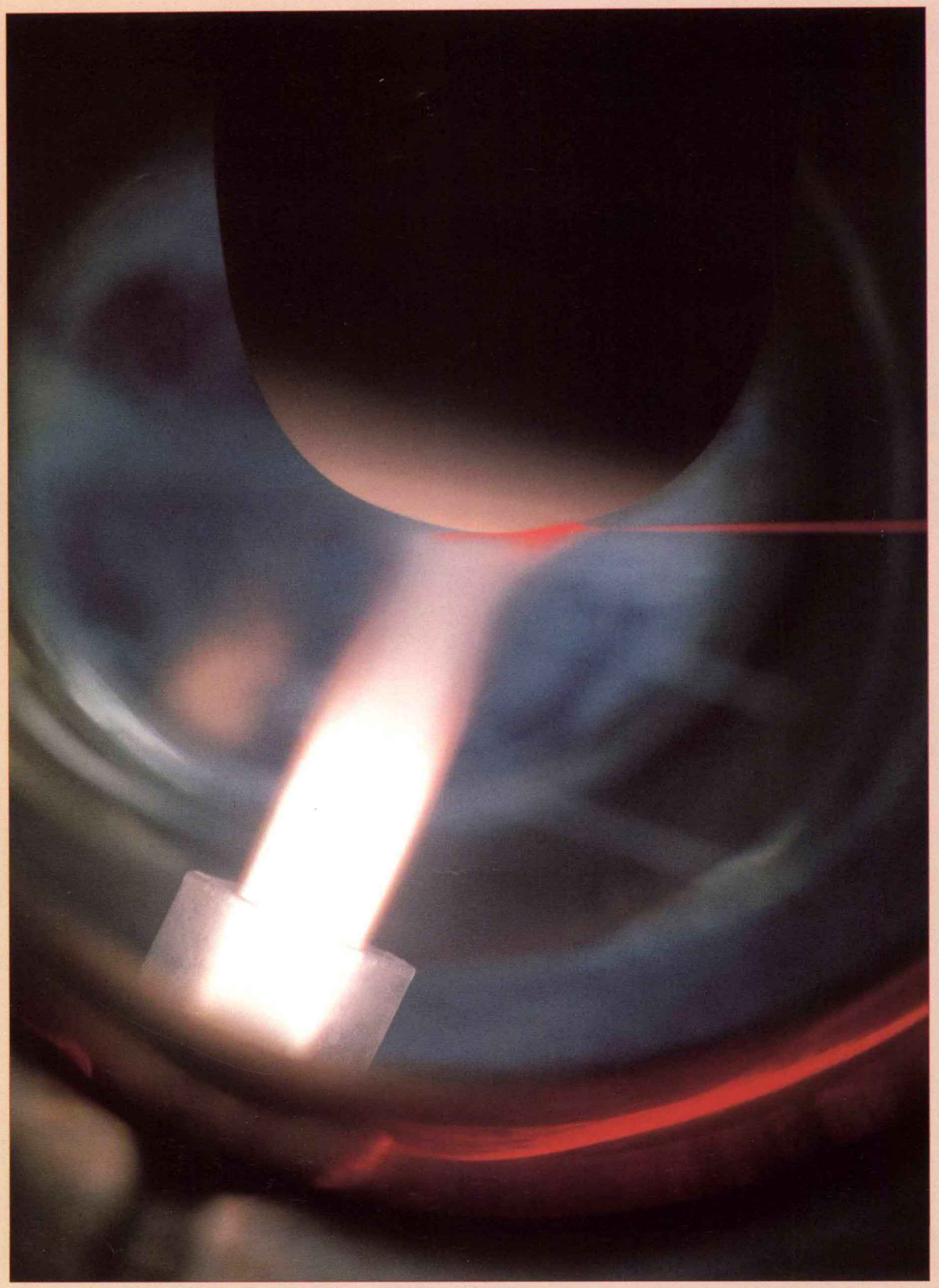
New Photographic Technologies



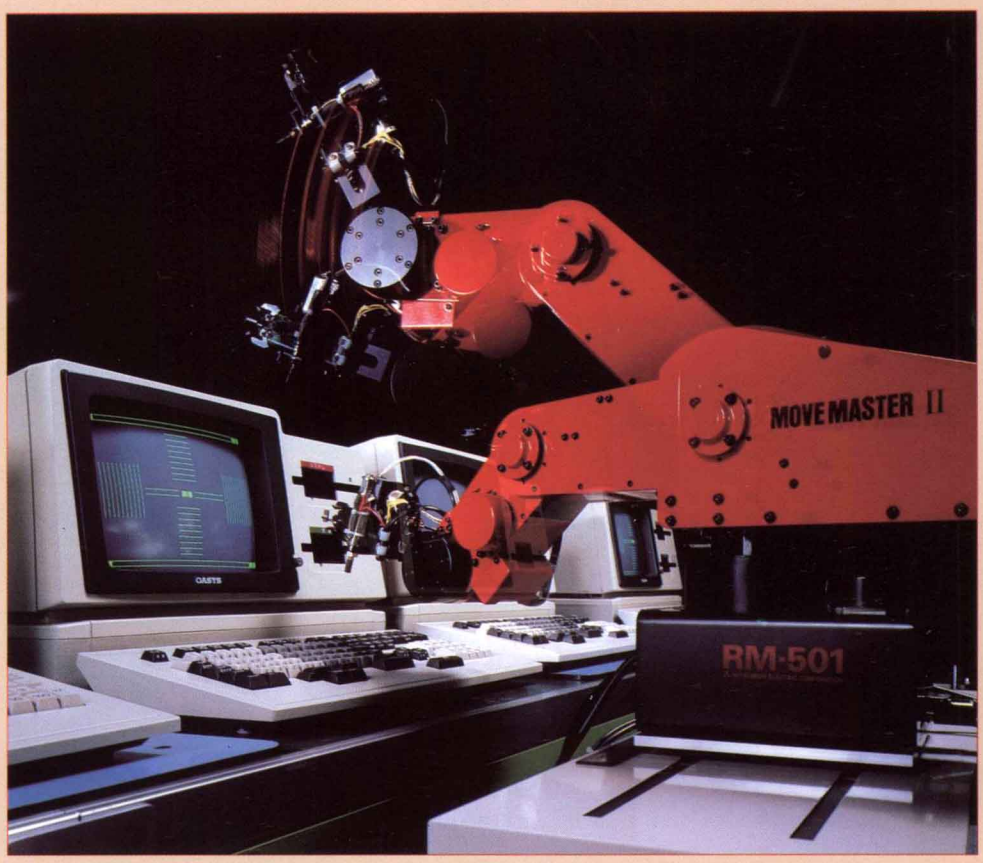
Robot manufacturing VLSI

Plant for mass-production of precision sheet-coil motors





The production of optical fiber by vapor-phase axial deposition process

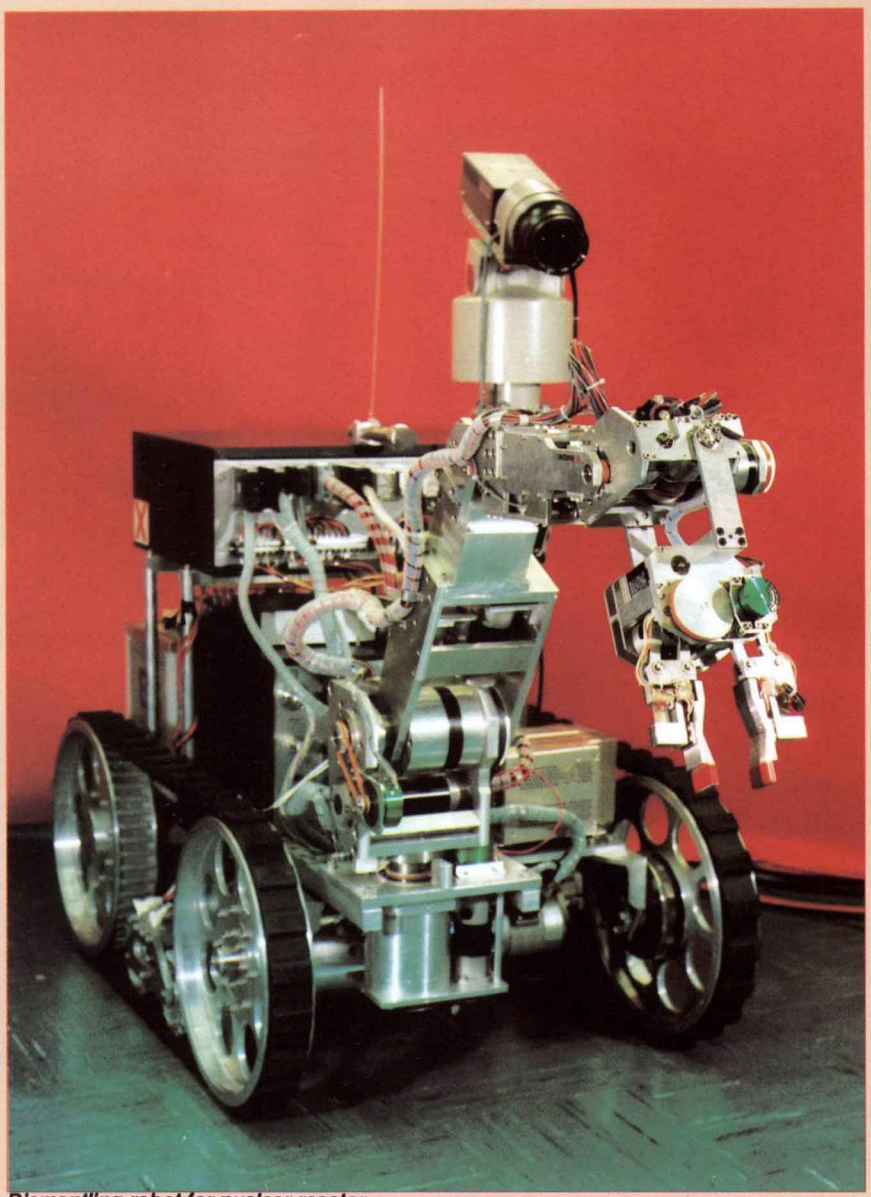


Robot performing operational testing on a word processor

Saijo photovoltaic power experimental plant (ultimate capacity: 1,000 kW)

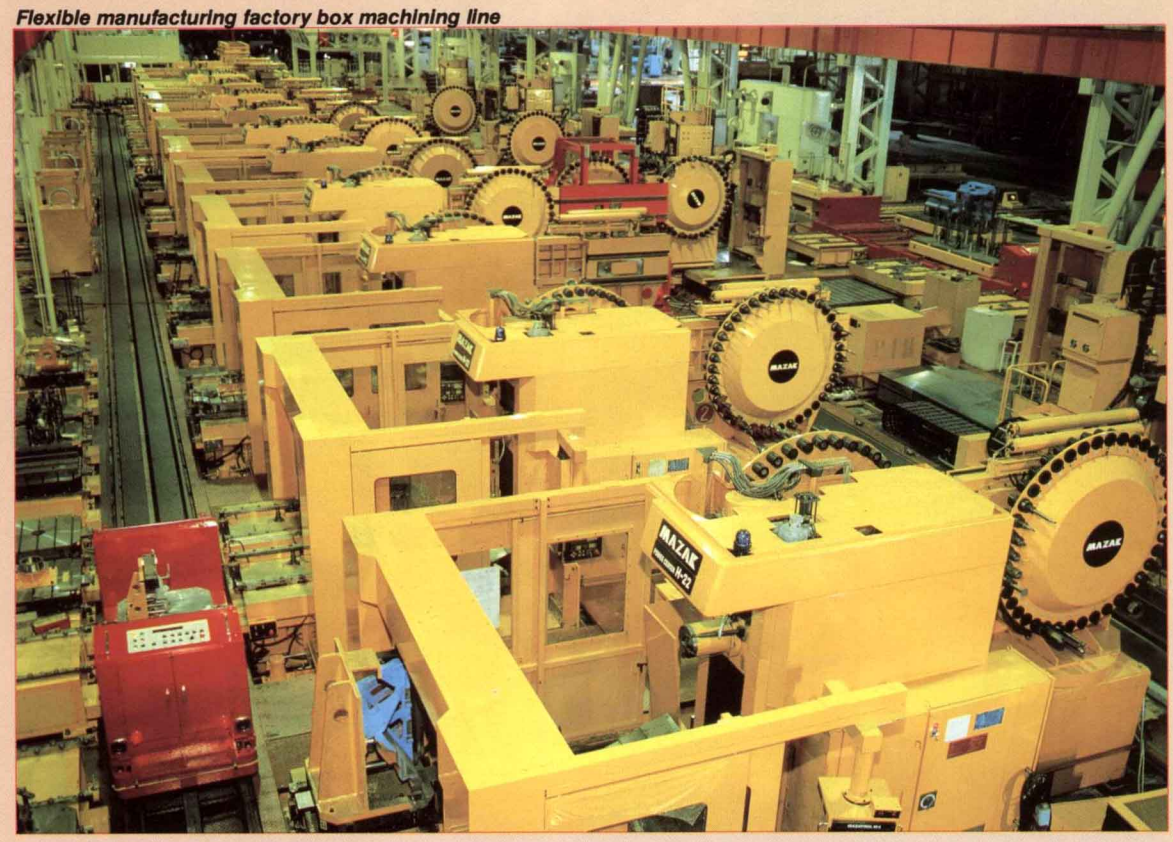
Fukushima Daiichi nuclear power station (BWR 4,696 MW)

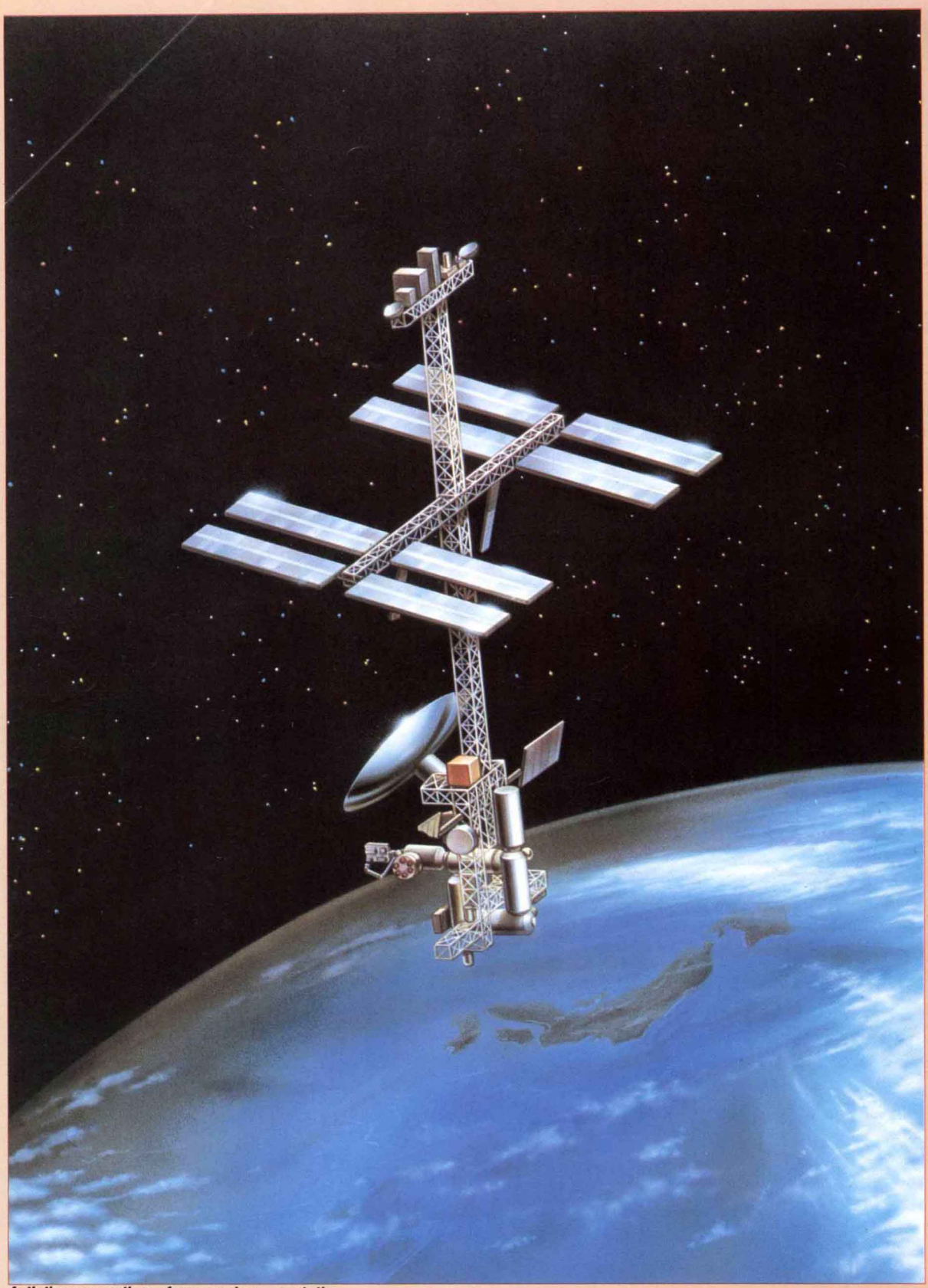
Higashi Niigata power station (2,290 MW) and LNG storage tanks



Dismantling robot for nuclear reactor

Flexible manufacturing factory box machining line





Artist's conception of manned space station

Semi-submerged catamaran "Kaiyo"