

*Exploratory Workshop on the Social  
Impacts of Robotics: Summary and Issues*

February 1982

NTIS order #PB82-184862

**Exploratory Workshop  
on the  
Social Impacts  
of Robotics**

**Summary and Issues**

**A Background Paper**



CONGRESS OF THE UNITED STATES  
Office of Technology Assessment  
Washington, D. C. 20540

Library of Congress Catalog Card Number 82-600515

For sale by the Superintendent of Documents,  
U.S. Government Printing Office, Washington, D.C. 20402

# Preface

Advanced computer and communication technology is providing a wide assortment of new tools for improving industrial productivity by automating manufacturing. Robotics technology is an important component of modern automation technology, one in which U.S. industry is vitally interested.

On July 31, 1981, the Office of Technology Assessment held an exploratory workshop to examine the state of robotics technology and possible public policy issues of interest to Congress that may arise from its use. The workshop participants included researchers in robotics technology, representatives from robot manufacturing firms, and representatives from firms that use robotics technology. The principal goals of the workshop were the following:

- assess the state of robotics technology;
- examine the structure of the robotics market;
- determine the relationship of robotics to other new automation technology; and
- determine whether significant Federal policy issues were likely to be raised.

This report contains a summary of the results of the workshop along with copies of four background papers that were used as starting points for the discussion. The workshop was exploratory in nature, and OTA does not at this point take any position on the merits of the issues discussed or on their worthiness for future assessment.



JOHN H. GIBBONS  
*Director*

# Workshop Participants

Roy Amara  
*Institute for the Future*

Paul Aron  
*Daiwa Securities America, Inc.*

James K. Bakken  
*Ford Motor Co.*

Donald C. Burnham  
*Westinghouse Electric Corp.*

Laura Conigliaro  
*Bache Halsey Stuart Shields, Inc.*

Robert W. Duffy  
*Honeywell, Inc.*

Joseph Engelberger  
*Unimation Corp. & Consolidated Control Corp.*

Donald F. Ephlin  
*International Union United Auto Workers*

Bela Gold  
*Case Western Reserve University*

Margaret Graham  
*Harvard Business School*

John Kendrick  
*George Washington University*

Robert B. Kurtz  
*General Electric Co.*

Ronald L. Larsen  
*National Aeronautics and  
Space Administration*

Alvin P. Lehnerd  
*Black & Decker Manufacturing Co.*

Eli S. Lustgarten  
*Paine Webber Mitchell Hutchins, Inc.*

Reginald Newell  
*International Association of Machinists*

Gordon I. Robertson  
*Control Automation, Inc.*

Bernard M. Sallott  
*Robot Institute of America*

Harley Shaiken  
*Massachusetts Institute of Technology*

Ken Susnjara  
*Thermwood Corp.*

# OTA Robotics Staff

John Andelin, *Assistant Director, OTA  
Science, Information and Natural Resources Division*

Sam Hale, *Interim Program Manager  
Communications and Information Technology Program*

Frederick W. Weingarten    Marjory Blumenthal  
Zalman Shaven    Charles Kimzey\*

## **Administrative Staff**

Elizabeth Emanuel, *Administrative Assistant*  
Jeanette Contee    Shirley Gayheart

## **Contractors and Consultants**

James Albus, *National Bureau of Standards*  
Paul Aron, *Diawa Securities*  
Bela Gold, *Case Western Reserve University*  
Eli Lustgarten, *Paine Webber Mitchell Hutchins*

# OTA Publishing Office

John C. Holmes, *Publishing Officer*  
John Bergling    Kathie S. Boss    Debra M. Datcher    Joe Henson

\*On detail from the Department of Commerce.