

TABLE OF CONTENTS

I. Shoes and Composites

Sensory robotics related to shoe manufacture

P.J. Perkins.....3

Automated application of soles to shoes

I. Gibson, G.E. Taylor, P.M. Taylor.....15

Round table discussion

Sensory robotics for shoes: Trends and future needs.....31

Robotic handling and lay-up of advanced composite materials - an overview

M. Sarhadi.....33

II. Garment manufacturing

A challenge to develop fully automated garment manufacture

H.A. Seesselberg.....53

Limp materials research at North Carolina State University

T.G. Clapp, D.R. Buchanan.....69

Sensory robotics: Identifying sewing problems

S.C. Harlock, D.W. Lloyd, G. Stylios.....85

Progress towards automated garment manufacture

P.M. Taylor, G.E. Taylor.....97

Projects for the garment industry at the Fraunhofer Institute for Manufacturing Engineering and Automation (IPA), Stuttgart

H. Nollek.....111

Analysis of a ply-separation gripper

F. Vercreaene, P. Esquirol.....127

Round table discussion

Sensory robotics in garment manufacture: Trends and future needs.....137

III. Sensing

2D vision techniques for the handling of limp materials

R.B. Kelley.....141

3D sensing for robot vision

J. Domey, M. Rioux, F. Blais.....159

An expandable multimicroprocessor system for visual inspection

A.J. Padilha, A.J. Campilho.....193

Tactile sensors: Application assessment for robotic handling of limp materials

F.W. Paul, E. Torgerson.....227

Round table discussion

Sensing: Trends and future research.....239

IV. Planning and Control

Trajectory planning and obstacle avoidance

B. Gasmí, C. Reboulet.....243

Planning and sensing tradeoffs in robotics

M.S. Kamel, P. Kaufmann.....263

Analysis of a probabilistic framework for an intelligent workcell

P.M. Taylor, G.E. Taylor, I. Halleron, X.K. Song.....275

Adaptive control

P.E. Wellstead.....299

Fault tolerant microprocessor systems for industrial control

C. Preece.....327

Round table discussion

Planning and control: Trends and future research.....335

V. Round-up

Final round table discussion.....	339
List of speakers.....	341
List of participants.....	343