

Chinese Academy of Sciences

Ke Lu Lidong Chen Tianbai He Qing Yan

## Advanced Materials Science & Technology in China: A Roadmap to 2050

With 13 figures





## Contents

Abstract 1	
1	An Overview on Material Science and Engineering
	1.1 Materials Classification 5
	1.2 Basic Notions and Elements in Material Science and Engineering
	1.3 The Roles of Materials Technology in Human Society
	1.4 Milestones in MSE Development 8
2	Analysis and Exposition Regarding Advanced Materials in the National Program
3	The Status Quo of Material Science in China 14
	3.1 Basic Domestic Situation14
	3.2 Development Status of Some Kinds of Materials
4	Demands Analysis of China's Economic and Social Development on Advanced Materials 31
	4.1 Forecast of the Basic Trends in China's Social and Economic Development
	4.2 The Overall Demand for Materials
	4.3 The Demand Analysis and Development Status of Advanced Materials in Some Key Areas 33

5	Development Targets and Possible Breakthroughs from Now to 2050
	5.1 Developing Trends Concerning Demands on Advanced Materials
	5.2 Developing Trends Concerning Advanced Materials
	5.3 The Development of Content of Materials Research
	5.4 Core Technology Problems ······68
	5.5 Overall Development Goals of Advanced Materials in China75
	5.6 Emphasized Development Goals and Breakthroughs of Key Technologies
6	Roadmap of Development
7	Policy Suggestions 118
Rø	119 <b>Terences</b>
[End	loove