

# Contents

<b>1</b>	<b>Introduction</b> . . . . .	1
1.1	AI at a Turning Point . . . . .	1
1.2	AI Leaves the Lab and Enters Society . . . . .	3
1.3	Technology and Public Values . . . . .	5
1.4	A Historical Perspective . . . . .	7
1.5	Overarching Tasks for the Societal Integration of AI . . . . .	7
1.6	The Five Tasks . . . . .	9
1.7	Structure of the Report . . . . .	11
	References . . . . .	12
 <b>Part I Building Blocks: Introducing and Interpreting AI as a New System Technology, Similar to Electricity and the Internal Combustion Engine</b>		
<b>2</b>	<b>Artificial Intelligence: Definition and Background</b> . . . . .	15
2.1	Definitions of AI . . . . .	15
2.2	AI Prior to the Lab . . . . .	20
2.3	AI in the Lab . . . . .	28
	References . . . . .	39
<b>3</b>	<b>AI Is Leaving the Lab and Entering Society</b> . . . . .	43
3.1	Momentum from Lab to Society . . . . .	43
3.2	The Practical Application of AI . . . . .	49
3.3	AI as a Phenomenon in Society . . . . .	59
3.4	The Future of the Lab . . . . .	71
	References . . . . .	79
<b>4</b>	<b>AI as a System Technology</b> . . . . .	85
4.1	Classification of Technologies . . . . .	86
4.2	The Societal Integration of System Technologies . . . . .	96
4.3	Overarching Task 1: Demystification . . . . .	101
4.4	Overarching Task 2: Contextualization . . . . .	106

- 4.5 Overarching Task 3: Engagement ..... 111
- 4.6 Overarching Task 4: Regulation ..... 118
- 4.7 Overarching Task 5: Positioning ..... 125
- References..... 132

**Part II Five Tasks: Discussion of the Tasks for Embedding AI Into Society**

- 5 Demystification** ..... 137
  - 5.1 Behind the Myths About AI..... 137
  - 5.2 Contemporary Myths About AI..... 143
  - 5.3 In Conclusion..... 174
  - References..... 175
- 6 Contextualization** ..... 179
  - 6.1 The Technical Ecosystem ..... 182
  - 6.2 The Social Ecosystem ..... 194
  - 6.3 In Conclusion..... 206
  - References..... 207
- 7 Engagement** ..... 211
  - 7.1 Resistance ..... 216
  - 7.2 Monitoring..... 223
  - 7.3 Co-operation ..... 232
  - 7.4 In Conclusion..... 237
  - References..... 238
- 8 Regulation** ..... 241
  - 8.1 Government Standardization of AI ..... 243
  - 8.2 AI Regulation and the Digital Living Environment..... 261
  - 8.3 In Conclusion..... 279
  - References..... 280
- 9 International Positioning** ..... 287
  - 9.1 AI and Competitive Advantages ..... 289
  - 9.2 AI and National Security ..... 307
  - 9.3 In Conclusion..... 325
  - References..... 326

**Part III Agenda: Conclusions and Recommendations for AI Policy in the Netherlands**

- 10 Policy for AI as a System Technology** ..... 333
  - 10.1 Five Tasks as Lessons from the Past ..... 334
  - 10.2 Transition 1: From Fiction to Facts ..... 342
  - 10.3 Transition 2: From Abstraction to Application ..... 347
  - 10.4 Transition 3: From Monologue to Dialogue ..... 352

10.5 Transition 4: From Reaction to Action ..... 357

10.6 Transition 5: From Nation to Network..... 363

10.7 From Instruments to a Policy Infrastructure ..... 367

10.8 In Conclusion – The Internal Combustion Engine  
of the Twenty-First Century..... 372

References..... 375

**Appendix: Examples of AI Applications in the Netherlands..... 377**

**Glossary..... 379**

**Bibliography..... 385**