

# Contents

<b>Foreword</b>	<b>5</b>
<b>Executive Summary</b>	<b>7</b>
<b>Project</b>	<b>8</b>
<b>1 Introduction</b>	<b>10</b>
<b>2 Objective and methodology</b>	<b>13</b>
2.1 Methodological approach	13
2.2 The acatech Industrie 4.0 Maturity Index	14
<b>3 Design of the acatech Industrie 4.0 Maturity Index</b>	<b>15</b>
3.1 Value-based development stages	15
3.1.1 Stage one: Computerisation	15
3.1.2 Stage two: Connectivity	16
3.1.3 Stage three: Visibility	16
3.1.4 Stage four: Transparency	17
3.1.5 Stage five: Predictive capacity	18
3.1.6 Stage six: Adaptability	18
3.2 General model design	18
<b>4 Industrie 4.0 capabilities for businesses</b>	<b>20</b>
4.1 Resources	20
4.1.1 Digital capability	21
4.1.2 Structured communication	22
4.1.3 Conclusion	24
4.2 Information systems	24
4.2.1 Selflearning information processing	25
4.2.2 Information system integration	26
4.2.3 Conclusion	27
4.3 Organisational structure	28
4.3.1 Organic internal organisation	28
4.3.2 Dynamic collaboration within the value network	30
4.3.3 Conclusion	31
4.4 Culture	32
4.4.1 Willingness to change	33
4.4.2 Social collaboration	34
4.4.3 Conclusion	35

<b>5</b>	<b>Functional areas in the business</b>	<b>36</b>
5.1	Development	36
5.2	Production	38
5.3	Logistics	39
5.4	Services	40
5.5	Marketing & Sales	42
<b>6</b>	<b>Application of the acatech Industrie 4.0 Maturity Index</b>	<b>44</b>
6.1	Principles of application	44
6.2	Quantify the benefits	47
6.3	Example application in a company	49
<b>7</b>	<b>Conclusion</b>	<b>51</b>
	<b>References</b>	<b>52</b>