The digital factor – How Germany benefits from smart technologies

The economic and societal potential of AI

**EUR 330 billion**
That’s how much generative artificial intelligence (AI) could contribute to gross value added (GVA) in the future. This would require the use of AI in at least 50 percent of companies. Over the next few years, the deployment of AI will be decisive in securing the long-term competitiveness of German businesses. Generative AI tools could save an employee in Germany an average of 100 hours per year in the future. In order to realize this potential value, the time saved needs to be used for other, more productive activities.

**600,000 companies** in Germany (17 percent) are already using AI

**31 percent** of industrial companies

**16 percent** of service companies

**Most frequent areas where AI is used in companies today**

- **Writing documents**: 34%
- **Analysing data**: 27%
- **Gathering information** (e.g. internet research with AI): 25%
- **Optimising marketing and sales activities**: 21%
- **Automating repetitive tasks**: 21%

**Value creation potential through AI in German federal states** (GVA in billions of euros)

- **Germany**: 330.0*
- **North Rhine-Westphalia**: 67.8
- **Bavaria**: 61.2
- **Berlin**: 15.0
- **Baden-Wuerttemberg**: 49.7
- **Hamburg**: 29.2
- **Mecklenburg-Western Pomerania**: 4.5
- **Lower Saxony**: 27.9
- **Saxony**: 6.0
- **Saxony-Anhalt**: 6.2
- **Hesse**: 3.3
- **Rhineland-Palatinate**: 15.0
- **Saarland**: 3.3
- **Saxony**: 6.2
- **Bremen**: 3.1
- **Schleswig-Holstein**: 9.6
- **Brandenburg**: 7.2
- **Thuringia**: 6.0

Learn more
The results presented here are excerpts from the study “Der digitale Faktor” (“The Digital Factor”) by IW Consult, commissioned by Google, and from the business and population surveys conducted during this study. Information on the methodology and further results can be found at: der-digitale-faktor.de

1) Based upon Goldman Sachs’ identification of the types of tasks exposed to automation by generative AI (Briggs/Kodani, 2023), Public First produced new estimates of the potential improvement in labour productivity. Further information on assumptions and prerequisites that must be fulfilled in order to leverage the potential can be found in the study „Der digitale Faktor“ by IW Consult commissioned by Google.
Companies and workers see productivity potential through AI

The economy is already benefiting from the use of AI

Companies that are already actively using AI applications show positive performance indicators:

<table>
<thead>
<tr>
<th></th>
<th>Companies using AI</th>
<th>Companies not using AI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Realised revenue growth in 2022</td>
<td>33%</td>
<td>27%</td>
</tr>
<tr>
<td>Realised workforce growth in 2022</td>
<td>19%</td>
<td>6%</td>
</tr>
</tbody>
</table>

The use of AI technologies is strongly linked to innovative business models

Already using AI today:

<table>
<thead>
<tr>
<th></th>
<th>Innovators</th>
<th>Non-innovating businesses</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>31%</td>
<td>10%</td>
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Tackling social challenges with AI tools

The potential offered by AI also has a significant role to play within society itself. For many people in Germany, AI is seen as an opportunity to develop targeted solutions to social challenges. As a share of the population, the use of AI is supported by:

- 53% to reduce carbon emissions
- 67% to improve protection from extreme weather events
- 41% to monitor and track their medical records
- 58% to research and develop innovative new medicines
- 56% to ensure food availability

2) In this business survey, innovators are classed as those companies that have been able to demonstrate at least one product or service innovation since 2020. Innovation is defined as the introduction of a completely new or significantly improved product or service.