

Executive Summary

Strategy Paper
Robotics and Automation 2028
Key Technology for Germany



Robotics and Automation 2028 - Key Technology for Germany

Robotics and automation is crucial for the **productivity** and **sovereignty** of Germany as a business location.

With its automation solutions, the industry is **paving the way** not only for the development of innovative **future technologies** in Germany, but also for their production: **Photovoltaics, heat pumps, fuel cells** and **electrolysers** can be produced faster and cheaper with the help of robotics and automation. **Collaborative robots** and **Artificial Intelligence** in areas such as laboratories, hospitality and care enable a high quality of life despite the **dramatically worsening shortage of skilled workers**. Simple operating concepts also allow the technology to be used in **SMEs and skilled trades**. Robotics and automation paves the way for the implementation of the EU **Net Zero Industry Act**.

At the same time, we are competing intensively with other leading industrial nations. This competition and industrial policy interventions lead to significant **cost disadvantages** that massively **threaten** the sovereignty and resilience of our **production capacities** in **Germany** and **Europe**.

Strengthening our key technology 2028

Therefore, it is necessary to **massively accelerate** the **expansion of robotics and automation** as a key technology for a safe, environmentally sound and economically successful future. The Robotics + Automation Association has defined the following goals:

1. **Industrial robotics** is growing faster than the global market.
2. **Service robotics** is scaling successfully in application fields such as transport and logistics, laboratory automation, the hotel industry and professional cleaning.

As the VDMA Robotics and Automation Association, we are committed to these goals, but we also need support.

Recommendations for action to promote robotics and automation

The following **recommendations for action** have been developed in order to promote the expansion of robotics and automation in a targeted manner.

1. Creativity through talent

Strengthening our innovative power through better education and recruitment of talent. We demand:

- **Compulsory** subject "**technology**" and compulsory **STEM subjects** in schools
- **Doubling** the number of **courses** in robotics and automation at universities
- Continuous **training and further education opportunities** in companies
- **Simplified** and accelerated **immigration** of skilled workers

2. Innovation is key

Strengthening cutting-edge research and its successful application and scaling by SMEs.

We demand:

- Ambitious **expansion of national research programmes** (e.g. robot safety, human-robot collaboration, artificial intelligence).
- Establishment of a **federated data space** in the framework of **Manufacturing-X**
- Establishment of “**robotopes**” in **3-5 application fields** and successful scaling up (e.g. laboratory automation, fuel cell production and serial house construction)
- Expansion of low-threshold **funding instruments for SMEs** (e.g. Central Innovation Programme for SMEs (ZIM), joint industrial research, voucher systems)
- Establishment of a **unit** for robotics and automation at the German **Federal Ministry for Economic Affairs and Climate Action**.

3. Quality through standards

Strengthening user-friendly and streamlined regulation and harmonisation of standards at the global level. We call for:

- **Lean and practical** certification and **approval procedures**
- Use of **self-certification** wherever possible
- Establishment of “**regulatory sandboxes**” to accelerate scaling
- Promoting **global** rather than regional **standards**

4. Sovereignty and global competition

Create equal competitive conditions and cost structures in global competition in order to maintain and expand production capacities in Germany.

For **providers** of robotics and automation, we are calling for more favourable financing conditions and better access to venture capital:

- **Special programmes** of the Kreditanstalt für Wiederaufbau (KfW)
- **Expansion of support programmes** such as the **DeepTech & Climate Fund (DTCF)**
- German **R&D tax incentives** to be no longer limited to 1 million euro ceiling
- Besides Deep Tech, also stronger funding of **state-of-the-art technologies**

For **users** of robotics and automation, we demand a level playing field and cost structures:

- **Investment incentives** for robotics and automation for **domestic producers**
- Investment incentives such as **depreciation using the diminishing balance method** (“degressive AfA”) and **immediate depreciation at 100%**.

As a **VDMA trade association**, we stand for a **focused** and **accelerated expansion** of robotics and automation as a key technology for Germany. We would like to evaluate the effectiveness of our recommendations for action in an **annual review** with **policymakers** and refine them as necessary.

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The strategy paper (complete document) can be found here:

www.vdma.org/rua2028