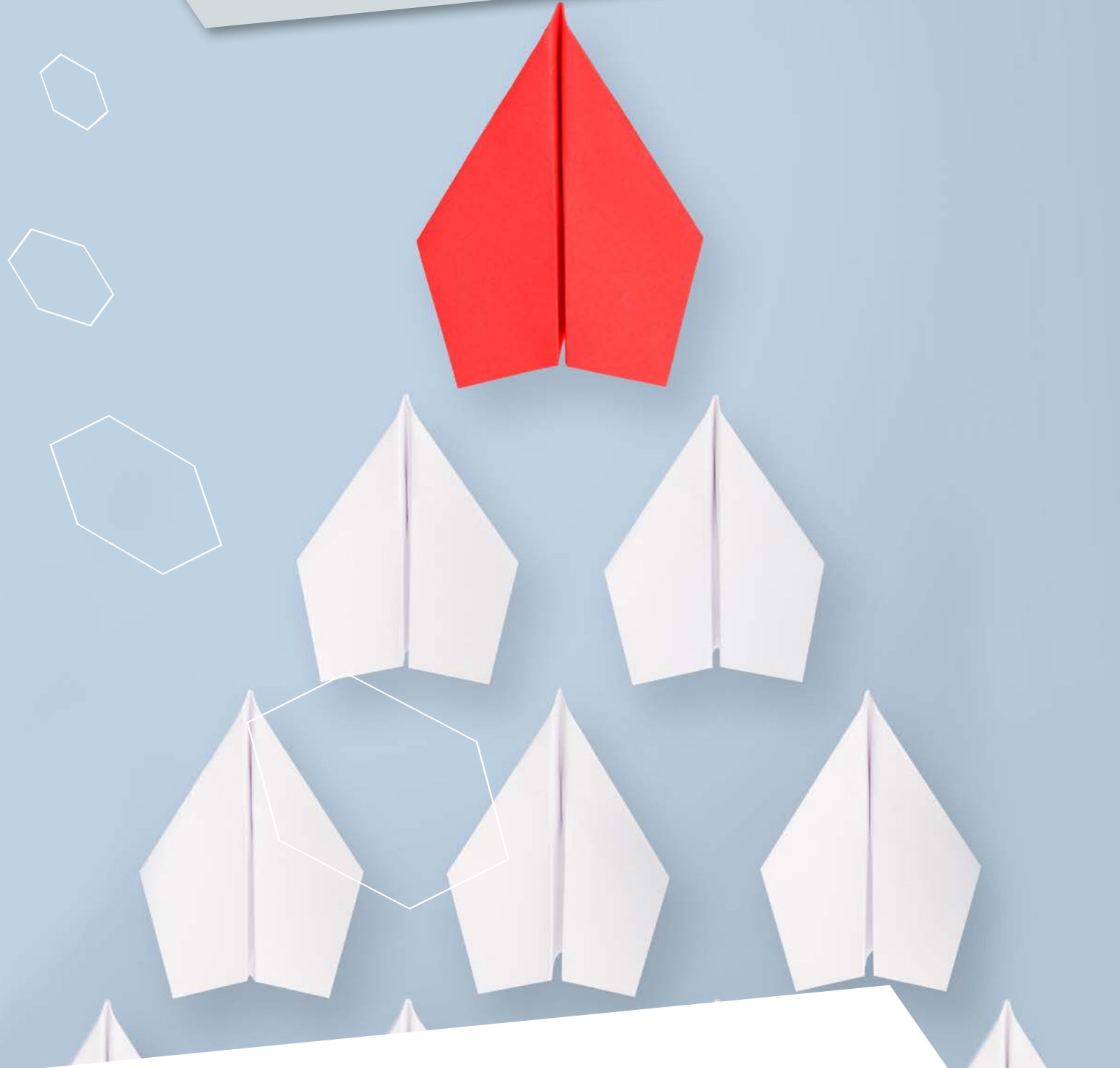


DISCUSSION PAPER



Draft of a

“Charter for Work and Learning in Industry 4.0”

A paper from the Working Group “Work and Training”

Imprint

Publisher

Federal Ministry for Economic Affairs and Climate Action (BMWK)
Public Relations
11019 Berlin
www.bmwk.de

Editorial responsibility

Plattform Industrie 4.0
Bülowsstraße 78
10783 Berlin

Status

April 2024

This publication is available for download only.

Design

PRpetuum GmbH, Munich

Image credits

phototechno – iStock (title)
industryview – iStock (p. 2, 4)
akinbostanci – iStock (p. 5)
AlotOfPeople – iStock (p. 6)
AndreyPopov – iStock (p. 7)
xavierarnau – iStock (p. 8)

Central ordering service for publications of the Federal Government:

Email: publikationen@bundesregierung.de

Tel.: +49 30 182722721

Fax: +49 30 18102722721

This publication is issued by the Federal Ministry of Economic Affairs and Climate Action as part of its public relations work. The publication is available free of charge. It is not for sale and may not be used by political parties or groups for electoral campaigning.



Preamble



Innovative working arrangements are key to a competitive manufacturing industry. Lifelong learning, confidence in dealing with technical and social change and a modern leadership culture are important levers of the digital transformation of industry.

Agile working methods offer new forms of flexible cooperation across sectors. They also pose new challenges to workers and company structures. It is important to shape these standards proactively – through collective dialogue premised on social partnership.

The Charter for Work and Learning in Industry 4.0 expresses the shared values of the Working Group “Work and Training” of the Plattform Industrie 4.0. Based on the three central pillars of **people, organisation and technology**, it aims at the sustainable design of work and training.

Through the Charter, the Plattform reaffirms its commitment to social sustainability, as already set out in its Mission Statement 2030.

We are designing a digitalised world of work that has people at its heart. We are committed to safe, fair and self-determined work and to a digital transformation that is fit for the future and able to withstand crisis.

In so doing, we respect and safeguard fundamental principles and rights at work. We endorse diversity in teams and boardrooms as well as participation and social dialogue.

Charter for Work and Learning in Industry 4.0

The Charter

People, organisation and technology: the interplay between these three pillars forms the basis of a strong industry 4.0, guaranteeing growth, progress and prosperity in the global economy.

The authors of the Charter are convinced of the following five core statements:

- 1. Working in industry 4.0 is characterised by the greater autonomy and participation of the workforce in change processes and by the preservation and cultivation of workers' capacity to learn and act.*
- 2. Agile companies react flexibly and directly to the demands of the digital transformation. New forms of work and learning culture support workers in dealing successfully with the dynamics of industry 4.0.*
- 3. The participation of employees and their representatives contributes to more value creation, innovation and economic progress in companies. Social partnership in companies promotes employability and job security.*
- 4. New technologies have an impact on an innovative and competitive industry 4.0. They are to be used in a socially, ecologically and economically sustainable manner, having due regard to occupational health and safety.*
- 5. A corporate culture based on openness and tolerance makes a significant contribution to a company's commercial success in national and international competition – not least for (skilled) workers. Diversity, and teams with a diverse composition, have a positive impact on innovative activities. Creativity thrives where all the employees can feed in their own perspectives and experience.*

Explanatory notes on the core statements

Statement 1

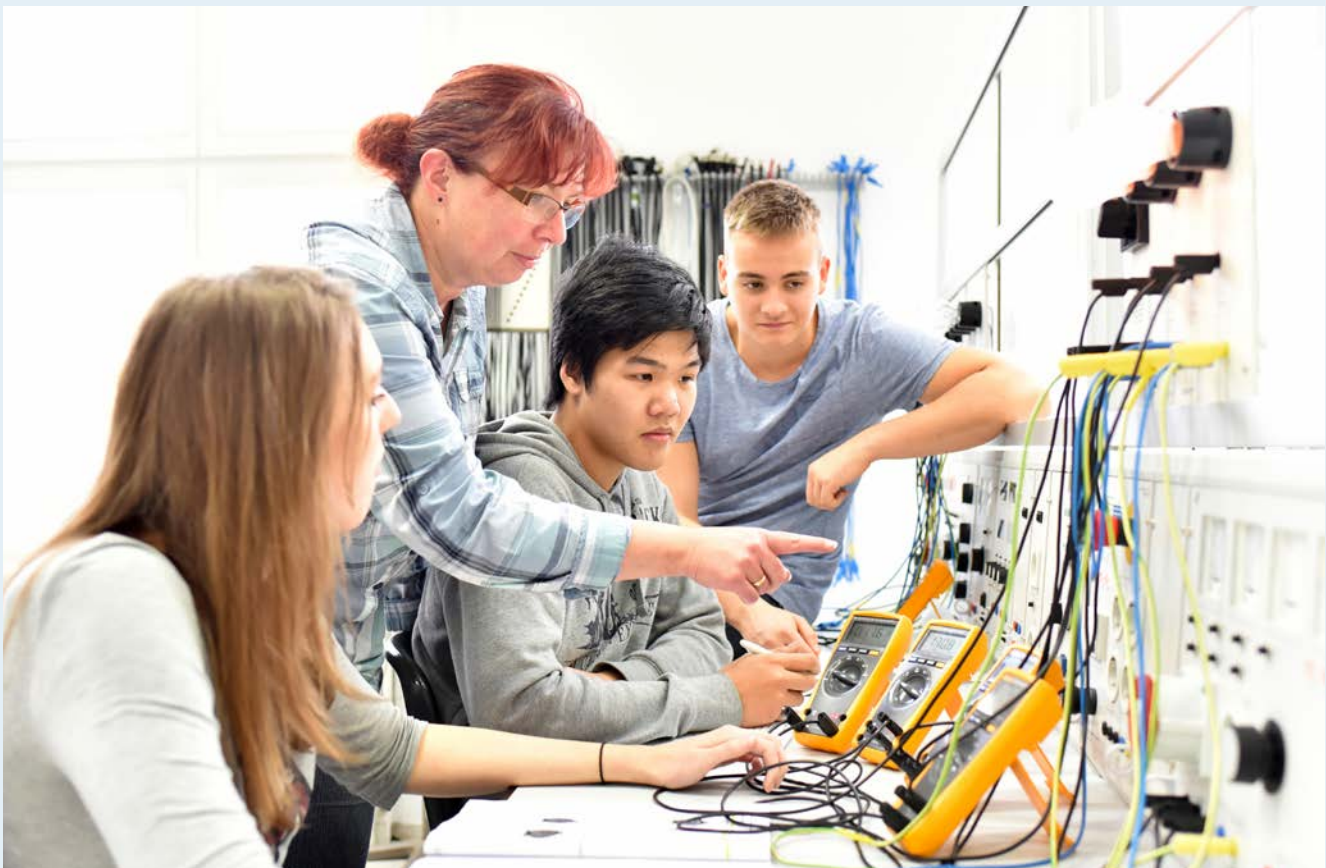
Working in industry 4.0 is characterised by the greater autonomy and participation of the workforce in change processes and by the preservation and cultivation of workers' capacity to learn and act.

Work is, to a large extent, a source of personal identity. It guarantees participation in social life. Digitalisation is significantly changing workers' needs and their demands from gainful employment. Successful companies will adapt to these developments and organise work so that it leads to greater autonomy and independence in learning and taking action.

This change is driven by a willingness to experiment with different ways of organising work. For example, a stronger culture of trust and the freedom to make mistakes strengthen employee loyalty. Mobile working, the demands for more personal responsibility and flexibility, or preserving and cultivating the capacity to learn and perform in later life all create new challenges for professionals and managers.

The most important resource of every company is and will remain the capacity of its staff to innovate. Ensuring staff employability is a matter of sustainability. Consequently, modern companies must treat the further training of their staff as an ongoing task. Increasingly, training is taking place through flexible access to up to date learning content ("learning on demand") or through learning on the job.

Modern further training systems enable lifelong learning – particularly when digitalisation forces workplaces to undergo fundamental change or even threatens their very existence. Alongside the acquisition of technical and methodological skills, the cultivation of social skills is particularly important.



Statement 2

Agile companies react flexibly and directly to the demands of the digital transformation. New forms of work and learning culture support workers in dealing successfully with the dynamics of industry 4.0.

Agile working offers a proactive and creative response to constantly changing economic conditions. Agile organisations can react more quickly to changes in customer requirements, the market and technology, while offering a more stable and secure future for their staff. A vibrant corporate culture enhances the sense of identity, motivation, loyalty and solidarity of its staff.

Agile employees contribute to the design of their work processes and the need for change within their organisation. Working in teams, they are involved in the development and testing of new design solutions for the digital working world, based on actual practice.

Employees and managers alike also benefit from a strong culture of learning. With the support of self-directed learning, above all through digitalised offerings, learning can be individualised and flexibly integrated into everyday working life. In particular, ways of working that promote learning, participation in development, experimental and creative problem-solving and cross-functional thinking contribute to a sustainable learning culture. A modern learning culture is supported by mobile learning and a more intensive transfer of knowledge.



Statement 3

The participation of employees and their representatives contributes to more value creation, innovation and economic progress in companies. Social partnership in companies promotes employability and job security.

Workforce participation is crucial for the successful design of company change processes. In Germany, cooperation between the social partners has stood the test of time – particularly as a successful crisis management tool. This constructive cooperation is essential for a successful digital transformation in the interest of employees and companies. Taking on board innovative ideas from the workforce can contribute significantly to greater productivity and innovation in a company.

Agile enterprises require modern forms of constructive cooperation and communication. These may be characterised by direct participation or an increased assumption of social responsibility by the workforce and its participation structures.

The transformation of industry is an opportunity – for employees and employers alike. The close cooperation between management, human resources and works councils helps to ensure that working practices centred around people and their needs are considered at an early stage.



Statement 4

New technologies have an impact on an innovative and competitive industry 4.0. They are to be used in a socially, ecologically and economically sustainable manner, having due regard to occupational health and safety.

Artificial intelligence, virtual reality, augmented reality, big data analytics, the use of avatars and assistance systems and their application in modern production processes lead to closer and completely new forms of interaction between humans and machines.

Modern technologies are intended to make people's everyday work much easier. For example, exoskeletons can facilitate physically demanding activities and smart wearables can reduce the risk of injury.

Modern assistance systems can also make work more attractive by taking over routine tasks. By using data glasses, for example, low-skilled workers can be enabled to perform more complex tasks. Speech, visual and hearing

aids can also promote the inclusion of people with disabilities in the world of work. Possible stress caused by multi-tasking or higher drop-out rates can be avoided by preventive technology and method evaluation.

Industry 4.0 manufacturing systems also offer considerable potential for improvement in the context of energy efficiency. For example, energy-orientated data analyses and energy-efficient components can be used to dynamically control and optimise machines and processes in terms of energy requirements.

The focus is not simply on what is technically feasible, but on what makes technical sense for people. The active involvement of those affected in the introduction of new technologies creates acceptance among all those involved, promotes skills development and thus also strengthens the success of a company.



Statement 5

A corporate culture based on openness and tolerance makes a significant contribution to a company's commercial success in national and international competition – not least for (skilled) workers. Diversity, and teams with a diverse composition, have a positive impact on innovative activities. Creativity thrives where all the employees can feed in their own perspectives and experience.

The future viability of German industry is rooted in openness to the world and international trade. A strong welcoming culture not only strengthens industry in Germany, but also boosts the country's prosperity. The employees reflect our diverse society. Here, diversity embraces age, ethnic origin and nationality, physical and mental capabilities, religion and world-view, sexual orientation and gender identity, and social origin. Diversity experienced in companies and places of work opens up valuable scope for a

range of approaches and solutions. Diverse teams tend to display greater innovation, productivity and agility. The basic preconditions for this are respectful conduct, openness and tolerance. We vigorously reject all forms of racism.



AUTHORS

Andreas Becker, Works Council, Merck | Julia Görlitz, Industrial Union of Metalworkers (IG Metall) | Sebastian Henke, Director of Human Resources, OPTIMA packaging group GmbH | Markus Lecke, Senior Manager, Education Policy, Deutsche Telekom AG

The authors would like to express their gratitude to the rest of the Working Group “Work and Training” of the Plattform Industrie 4.0 for their valuable support and comments on earlier drafts of this Charter.

