



## **Welcome to the German Standardization Panel 2022 Survey!**

### **General information**

#### **What is the aim of the survey?**

**The goal of the German Standardization Panel is to record the standardization strategies of German companies. The survey serves as source of information for future decisions by both the standard-setting organizations and the stakeholders active in standardization and by companies that were not yet involved in standardization.**

**The German Standardization Panel also intends to collect long-term data, which will be available for standardization research. The annual survey always begins on October 14, World Standards Day.**

**The German Standardization Panel is conducted by the department of Innovation Economics at the Technical University of Berlin on behalf of DIN (German Institute for Standardization) and DKE (German Kommission for Electrical, Electronic and Information Technologies). It is under the patronage of the German Federal Ministry of Economics and Climate Protection (BMWK).**

### **Structure of the questionnaire**

**This year's questionnaire is structured as follows:**

**Importance of standards: Questions on the importance, use, and implementation of standards, as well as on other aspects of technical rules. Standards and the Sustainability Development goals of the United Nations Standards and access to affordable and renewable energy Standardization activities: Questions about the use of resources for standards and standardization activities General information: Questions about general characteristics of your organization, including, but not limited to, information that can be found in your annual report**

#### **What is your immediate benefit?**

**After completing the survey, the results will become available exclusively to the survey participants. Later, after we compared all your companies that responded to our survey, we organize a research report that will be openly available to a broader audience.**

### **Important Information**



## Section A: Information about the participating company of the person completing

Please specify whether your company is part of a group of companies and from which point of view you will be answering the following questions.

**A1. your point of view**

**A2. the company**

**A3. a typical company in your industry**

**A4.**

**A5. in the company**

**A6. you see**

**A7. a typical company in your industry**

**A8. of a typical company in your industry**

**A9. company success**

**A10. a typical company in your industry**

**A11. From which point of view will you be answering the following question?**

*This is a mandatory field as your answer affects the following questions and the evaluation of your answers. Please answer for your company or your business group if possible.*

The view of the company ☐

The view of the business group ☐

My expertise as an individual ☐

**A12. Does your company belong to a group of companies or an association of several companies?**

*Please choose one of the following answers*

Yes, a national business group with headquarters in Germany ☐

Yes, an international business group with headquarters in Germany ☐

Yes, an international business group with headquarters abroad ☐

No, an individual enterprise with headquarters in Germany ☐

No, an individual enterprise with headquarters abroad ☐

**A13. Which of the following applies to your business group?**

*Please choose one of the following answers*

national business group with headquarters in Germany ☐

international business group with headquarters in Germany ☐

international business group with headquarters abroad ☐

**A14. In which country are your headquarters located?**

Afghanistan ☐

Åland Islands ☐

Albania ☐

Algeria ☐





- American Samoa ☐
- Andorra ☐
- Angola ☐
- Anguilla ☐
- Antarctica ☐
- Antigua And Barbuda ☐
- Argentina ☐
- Armenia ☐
- Aruba ☐
- Australia ☐
- Austria ☐
- Azerbaijan ☐
- Bahamas ☐
- Bahrain ☐
- Bangladesh ☐
- Barbados ☐
- Belarus ☐
- Belgium ☐
- Belize ☐
- Benin ☐
- Bermuda ☐
- Bhutan ☐
- Bolivia ☐
- Bosnia And Herzegovina ☐
- Botswana ☐
- Bouvet Island ☐
- Brazil ☐
- British Indian Ocean Territory ☐
- Brunei Darussalam ☐





- Bulgaria ☐
- Burkina Faso ☐
- Burundi ☐
- Cambodia ☐
- Cameroon ☐
- Canada ☐
- Cape Verde ☐
- Cayman Islands ☐
- Central African Republic ☐
- Chad ☐
- Chile ☐
- China ☐
- Christmas Island ☐
- Cocos (Keeling) Islands ☐
- Colombia ☐
- Comoros ☐
- Congo ☐
- Congo, The Democratic Republic Of The ☐
- Cook Islands ☐
- Costa Rica ☐
- Cote D'ivoire ☐
- Croatia ☐
- Cuba ☐
- Cyprus ☐
- Czechia ☐
- Denmark ☐
- Djibouti ☐
- Dominica ☐
- Dominican Republic ☐





Ecuador	<input type="checkbox"/>
Egypt	<input type="checkbox"/>
El Salvador	<input type="checkbox"/>
Equatorial Guinea	<input type="checkbox"/>
Eritrea	<input type="checkbox"/>
Estonia	<input type="checkbox"/>
Ethiopia	<input type="checkbox"/>
Falkland Islands (Malvinas)	<input type="checkbox"/>
Faroe Islands	<input type="checkbox"/>
Fiji	<input type="checkbox"/>
Finland	<input type="checkbox"/>
France	<input type="checkbox"/>
French Guiana	<input type="checkbox"/>
French Polynesia	<input type="checkbox"/>
French Southern Territories	<input type="checkbox"/>
Gabon	<input type="checkbox"/>
Gambia	<input type="checkbox"/>
Georgia	<input type="checkbox"/>
Ghana	<input type="checkbox"/>
Gibraltar	<input type="checkbox"/>
Greece	<input type="checkbox"/>
Greenland	<input type="checkbox"/>
Grenada	<input type="checkbox"/>
Guadeloupe	<input type="checkbox"/>
Guam	<input type="checkbox"/>
Guatemala	<input type="checkbox"/>
Guernsey	<input type="checkbox"/>
Guinea	<input type="checkbox"/>
Guinea-bissau	<input type="checkbox"/>

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|----------------------------------------|--------------------------|
| Guyana                                 | <input type="checkbox"/> |
| Haiti                                  | <input type="checkbox"/> |
| Heard Island And Mcdonald Islands      | <input type="checkbox"/> |
| Holy See (Vatican City State)          | <input type="checkbox"/> |
| Honduras                               | <input type="checkbox"/> |
| Hong Kong                              | <input type="checkbox"/> |
| Hungary                                | <input type="checkbox"/> |
| Iceland                                | <input type="checkbox"/> |
| India                                  | <input type="checkbox"/> |
| Indonesia                              | <input type="checkbox"/> |
| Iran, Islamic Republic Of              | <input type="checkbox"/> |
| Iraq                                   | <input type="checkbox"/> |
| Ireland                                | <input type="checkbox"/> |
| Isle Of Man                            | <input type="checkbox"/> |
| Israel                                 | <input type="checkbox"/> |
| Italy                                  | <input type="checkbox"/> |
| Jamaica                                | <input type="checkbox"/> |
| Japan                                  | <input type="checkbox"/> |
| Jersey                                 | <input type="checkbox"/> |
| Jordan                                 | <input type="checkbox"/> |
| Kazakhstan                             | <input type="checkbox"/> |
| Kenya                                  | <input type="checkbox"/> |
| Kiribati                               | <input type="checkbox"/> |
| Korea, Democratic People's Republic Of | <input type="checkbox"/> |
| Korea, Republic Of                     | <input type="checkbox"/> |
| Kuwait                                 | <input type="checkbox"/> |
| Kyrgyzstan                             | <input type="checkbox"/> |
| Lao People's Democratic Republic       | <input type="checkbox"/> |
| Latvia                                 | <input type="checkbox"/> |





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|--------------------------------------------|--------------------------|
| Lebanon                                    | <input type="checkbox"/> |
| Lesotho                                    | <input type="checkbox"/> |
| Liberia                                    | <input type="checkbox"/> |
| Libyan Arab Jamahiriya                     | <input type="checkbox"/> |
| Liechtenstein                              | <input type="checkbox"/> |
| Lithuania                                  | <input type="checkbox"/> |
| Luxembourg                                 | <input type="checkbox"/> |
| Macao                                      | <input type="checkbox"/> |
| Macedonia, The Former Yugoslav Republic Of | <input type="checkbox"/> |
| Madagascar                                 | <input type="checkbox"/> |
| Malawi                                     | <input type="checkbox"/> |
| Malaysia                                   | <input type="checkbox"/> |
| Maldives                                   | <input type="checkbox"/> |
| Mali                                       | <input type="checkbox"/> |
| Malta                                      | <input type="checkbox"/> |
| Marshall Islands                           | <input type="checkbox"/> |
| Martinique                                 | <input type="checkbox"/> |
| Mauritania                                 | <input type="checkbox"/> |
| Mauritius                                  | <input type="checkbox"/> |
| Mayotte                                    | <input type="checkbox"/> |
| Mexico                                     | <input type="checkbox"/> |
| Micronesia, Federated States Of            | <input type="checkbox"/> |
| Moldova, Republic Of                       | <input type="checkbox"/> |
| Monaco                                     | <input type="checkbox"/> |
| Mongolia                                   | <input type="checkbox"/> |
| Montenegro                                 | <input type="checkbox"/> |
| Montserrat                                 | <input type="checkbox"/> |
| Morocco                                    | <input type="checkbox"/> |
| Mozambique                                 | <input type="checkbox"/> |





- Myanmar ☐
- Namibia ☐
- Nauru ☐
- Nepal ☐
- Netherlands ☐
- Netherlands Antilles ☐
- New Caledonia ☐
- New Zealand ☐
- Nicaragua ☐
- Niger ☐
- Nigeria ☐
- Niue ☐
- Norfolk Island ☐
- Northern Mariana Islands ☐
- Norway ☐
- Oman ☐
- Pakistan ☐
- Palau ☐
- Palestinian Territory, Occupied ☐
- Panama ☐
- Papua New Guinea ☐
- Paraguay ☐
- Peru ☐
- Philippines ☐
- Pitcairn ☐
- Poland ☐
- Portugal ☐
- Puerto Rico ☐
- Qatar ☐







- Reunion ☐
- Romania ☐
- Russian Federation ☐
- Rwanda ☐
- Saint Helena ☐
- Saint Kitts And Nevis ☐
- Saint Lucia ☐
- Saint Pierre And Miquelon ☐
- Saint Vincent And The Grenadines ☐
- Samoa ☐
- San Marino ☐
- Sao Tome And Principe ☐
- Saudi Arabia ☐
- Senegal ☐
- Serbia ☐
- Seychelles ☐
- Sierra Leone ☐
- Singapore ☐
- Slovakia ☐
- Slovenia ☐
- Solomon Islands ☐
- Somalia ☐
- South Africa ☐
- South Georgia And The South Sandwich Islands ☐
- Spain ☐
- Sri Lanka ☐
- Sudan ☐
- Suriname ☐
- Svalbard And Jan Mayen ☐





- Swaziland ☐
- Sweden ☐
- Switzerland ☐
- Syrian Arab Republic ☐
- Taiwan, Province Of China ☐
- Tajikistan ☐
- Tanzania, United Republic Of ☐
- Thailand ☐
- Timor-leste ☐
- Togo ☐
- Tokelau ☐
- Tonga ☐
- Trinidad And Tobago ☐
- Tunisia ☐
- Turkey ☐
- Turkmenistan ☐
- Turks And Caicos Islands ☐
- Tuvalu ☐
- Uganda ☐
- Ukraine ☐
- United Arab Emirates ☐
- United Kingdom ☐
- United States ☐
- United States Minor Outlying Islands ☐
- Uruguay ☐
- Uzbekistan ☐
- Vanuatu ☐
- Venezuela ☐
- Viet Nam ☐





- Virgin Islands, British ☐
- Virgin Islands, U.S. ☐
- Wallis And Futuna ☐
- Western Sahara ☐
- Yemen ☐
- Zambia ☐
- Zimbabwe ☐

**A15. Please state the main business activity (industry) of your company in 2021. If you answer as private person please indicate the sector of your main occupation, i.e. for which industry your answers are representative.**

*Please choose one of the following answers*

- Agriculture, forestry and fishing ☐
- Mining and quarrying ☐
- Consumer Goods Production ☐
- Chemical and Pharmaceutical Industry ☐
- Metal Production ☐
- Electrical Engineering ☐
- Medical Engineering ☐
- Optics ☐
- Mechanical Engineering ☐
- Plant construction ☐
- Automotive Engineering ☐
- Manufacture of other non-metallic mineral products ☐
- Energy, Water, and Oil ☐
- Construction ☐
- Wholesale and retail trade; repair of motor vehicles and motorcycles ☐
- Transporting and storage ☐
- Information and Communication ☐
- Professional and scientific activities ☐
- Certification and testing ☐



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Technical rules or specification for National Level



	-3 (very unimportant)	-2	-1	0	+1	+2	+3 (very important)
Informal consortia standards for National Level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De-facto standards for National Level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**B2. How important are the following types of standards established on European level for a typical company in your industry?**

*Assessment on a scale from -3 (very unimportant) to +3 (very important) (various standard types are explained in the help text above)*

	-3 (very unimportant)	-2	-1	0	+1	+2	+3 (very important)
Formal standards for European Level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technical rules or specification for European Level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Informal consortia standards for European Level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De-facto standards for European Level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**B3. How important are the following types of standards established on international level for a typical company in your industry?**

*Assessment on a scale from -3 (very unimportant) to +3 (very important) (various standard types are explained in the help text above)*

	-3 (very unimportant)	-2	-1	0	+1	+2	+3 (very important)
Formal standards for International Level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technical rules and specifications for International Level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Informal consortia standards for International Level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Da-facto standards for International Level	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**B4. How important are internal and external company standards for a typical company in your industry?**

*Assessment on a scale from -3 (very unimportant) to +3 (very important)*

	-3 (very unimportant)	-2	-1	0	+1	+2	+3 (very important)
Internal company standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External company standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**B5. Please indicate the number of standards utilized by a typical company in your industry in 2021.**

	0	1 - 10	11 - 100	101 - 1.000	> 1.000
Formal standards (e.g. DIN, VDE, DIN EN, CEN, CENELEC, ISO, IEC, ETSI, ITU)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technical rules or specifications (e.g. Guidelines issued by VDE, VDMA or VDI or specifications like DIN SPEC)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Informal consortia standards (e.g. standards of consortia like W3C or OASIS)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



	0	1 - 10	11 - 100	101 - 1.000	> 1.000
De-facto standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internal company standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External company standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**B6. Please indicate whether or not a typical company in your industry was certified according to the following ISO standards in 2021.**

	Yes	No	No Answer
ISO 9001 (Quality management system standard)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ISO 14001 (Environmental management system standard)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ISO/IEC 27001 (Information security management system standard)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ISO 500001 (Energy management system standard)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**B7. In which year did a typical company in your industry first receive the ISO 9001 certification?**

**B8. Is a typical company in your industry planning on completing the ISO 9001 certification?**

*Please choose one of the following answers*

Yes ☐

No ☐

**B9. In which year did a typical company in your industry first receive the ISO 14001 certification?**

*Please enter the year of initial certification*

**B10. Is a typical company in your industry planning on completing the ISO 14001 certification?**

*Please choose one of the following answers*

Yes ☐

No ☐

**B11. In which year did a typical company in your industry first receive the ISO/IEC 27001 certification?**

*Please enter the year of initial certification*

Please choose one of the following answers

No ☐

Please enter the year of initial certification

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Please choose one of the following answers

No

Other

[illegible]



## Section C: Special section: standards and the SDGs

In 2012, the member states of the United Nations (UN) resolved to pursue 17 goals for sustainable development at the economic, ecological, and social levels (the so-called "Sustainable Development Goals", SDGs). These goals are targeted on a global scale and are planned to be pursued and achieved until 2030.

In addition to the political dimension, implementation at the corporate level is of critical importance. Thus, the impact of norms and standards is crucial to achieving the SDGs. In the following questions, we would like to ask you to provide your assessments of the UN Sustainable Development Goals in general and the reference to norms and standards in particular.

Further information on the 17 goals.

### C1. Which Sustainable Development Goals are most relevant for your company or industry?

*The goals can be relevant, for example, by the fact that*

*your company or industry contributes to the achievement of these objectives, or changes in your company or industry have an impact on the achievement of these goals. Please rank the most relevant goals in the green box (most relevant goal first). The elements can be moved with the mouse. Double-click to move one element to the other list. Please select a maximum of 5 goals.*

No Poverty	<input type="text"/>
Zero Hunger	<input type="text"/>
Good Health and Well-being	<input type="text"/>
Quality Education	<input type="text"/>
Gender Equality	<input type="text"/>
Clean Water and Sanitation	<input type="text"/>
Affordable and Clean Energy	<input type="text"/>
Decent Work and Economic Growth	<input type="text"/>
Industry, Innovation and Infrastructure	<input type="text"/>
Reduced Inequality	<input type="text"/>
Sustainable Cities and Communities	<input type="text"/>
Responsible Consumption and Production	<input type="text"/>
Climate Action	<input type="text"/>





Life Below Water

Life on Land

Peace, Justice and Strong Institutions

Partnerships to achieve the Goal

## Section D: Special section 2: Query on the current situation

Without energy and electricity, life, as we live it today, would come to a standstill. Standards ensure that everything related to energy reliably and safely functions - from providing everyday energy to our household electrical equipment to almost all industrial production processes.

Germany agreed to the energy turnaround with the Renewable Energy Sources Act (EEG). By 2050 at least 80% of the electricity should be produced by renewable sources. However, the expansion of renewable energies in Germany was already faltering and stagnated even more due to the Ukraine war and the accompanying energy crisis in Germany. This fall, we expect electricity prices in Germany to rise due to the gas shortage. Unrestricted access to affordable, reliable, and modern energy services can no longer be taken for granted by the German industry and households.

Given the forecasted consequences of this crisis on the German business landscape, in the 2022 edition of the German Standardization Panel, we included a special section dedicated to the relationship between access to energy, the expansion of renewable energies, and the increase in energy efficiency with standards and standardization. In this section, we will explore the questions of whether standards are already fulfilling their full potential in the expansion of renewable energies and increase in energy efficiency, how much standards help to ensure secure and reliable access to energy supply, and how the standardization process could be improved to address the energy transition.

**D1. Was a typical company in your industry affected by energy shortages in 2022?**

Yes ☐

No ☐

**D2. To what extent was a typical company in your industry affected by energy shortages in 2022?**

**D3. Did a typical company in your industry have an energy contingency plan in place in 2022?**

Yes ☐

No ☐



**D4. Have you created or modified this contingency plan based on the 2022 energy shortage?**

Created ☐

Modified ☐

**D5. Please describe the contingency plan in more detail.**

**D6. Does a typical company in your industry already produce and use renewable energy (e.g., solar or wind energy)?**

Yes ☐

No ☐

**D7. If so, how does a typical company in your industry produce them and how are they used?**

**D8. Does a typical company in your industry already purchase renewable energy (e.g., green electricity)?**

Yes ☐

No ☐

**D9. If so, what types of renewable energy are purchased by a typical company in your industry?**

The seventh United Nations Sustainable Development Goal is to "Ensure access to affordable, reliable, sustainable and modern energy for all by 2030." The goal is divided into three sub-areas: (a) public access to affordable, reliable, and modern energy services, (b) increasing the share of renewable energies, and (c) increasing energy efficiency. In the following questions, we want to determine how companies were affected in these three sub-aspects in 2022.

*Please select on a rating scale from -3 (less) to +3 (more)*

[illegible]

Please select on a rating scale from -3 (less) to +3 (more)

[illegible]



	-3 (not at all)	-2	-1	0 (neutral)	+1	+2	+3 (very much)
Existing standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**E4. Please describe how standards have impacted energy efficiency gains in a typical company in your industry.**

**E5. In 2022, how have the following factors affected the procurement of affordable energy in a typical company in your industry?**

*Please select on a rating scale from -3 (less) to +3 (more)*

	-3 (not at all)	-2	-1	0 (neutral)	+1	+2	+3 (very much)
Political measures related to the expansion of renewable energies (e.g. obligation to use a proportion of renewable energies, reduction in the provision of fossil energies)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increasing customer demand (e.g. for products made with renewable energy)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Increasing costs (e.g. due to the switch to renewable energies in the entire supply chain resulting in higher procurement costs or costs for installing solar panels or similar)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Direct effects of switching to renewable energies (e.g. disposal costs of old lines?)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Existing standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**E6. Please describe how standards have affected the procurement of energy in a typical company in your industry.**



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We understand the energy crisis as the current situation of electricity or gas shortages and the accompanying increased prices for these goods, which have resulted as a consequence of the events since the beginning of the Ukrainian war.

Please select on a rating scale from 0 (not at all) to 6 (very much)

[illegible]

Please select on a rating scale from 0 (not at all) to 6 (very much)

Please assess the impact of standards on various factors relevant to {A2RDcalcERF}.

Assessment on a scale from -3 (very negative) to +3 (very positive)

*Assessment on a scale from -3 (very negative) to +3 (very positive)*

[illegible]

Internal company standards

External company standards

**H3. Please assess the impact of various standards on the realization of technical interoperability.**

*Assessment on a scale from -3 (very negative) to +3 (very positive)*

[illegible]

**H4. Please assess the impact of various standards on the increase in productivity (including cost reduction).**

Assessment on a scale from -3 (very negative) to +3 (very positive)

[illegible]

**H5. Please assess the impact of various standards on the improvement of quality.**

Assessment on a scale from -3 (very negative) to +3 (very positive)

[illegible]



Figure 1 shows a horizontal Likert scale ranging from -3 (very negative) to +3 (very positive), with 0 (no impact) in the center. The scale is used to rate the impact of standards on the environment. Three rows are shown: 'De-facto standards', 'Internal company standards', and 'External company standards'. Each row has a box for each point on the scale, connected by a dotted line.

**H6. Please assess the impact of various standards on the competitiveness regarding direct business rivals.**

Assessment on a scale from -3 (very negative) to +3 (very positive)

[illegible]

**H7. Please assess the impact of various standards on the optimization of research, development, and innovation activities.**

*Assessment on a scale from -3 (very negative) to +3 (very positive)*

[illegible]

**H8. Please assess the impact of various standards on the bargaining position regarding suppliers and customers.**

*Assessment on a scale from -3 (very negative) to +3 (very positive)*

Figure 1 shows a horizontal Likert scale ranging from -3 (very negative) to +3 (very positive), with 0 (no impact) in the center. The scale is used to rate the impact of formal standards and technical rules or specifications on the development of the circular economy. The scale is represented by a series of eight empty boxes connected by a dashed line. The labels are: -3 (very negative), -2, -1, 0 (no impact), +1, +2, +3 (very positive), and Not applicable.

[illegible]

**H9. Please assess the impact of various types of standards on the success at public tenders.**

*Assessment on a scale from -3 (very negative) to +3 (very positive)*

[illegible]

**H10. Please assess the impact of various types of standards on the organizational resilience.**

*Assessment on a scale from -3 (very negative) to +3 (very positive)*

*Organizational resilience is the ability of a company to withstand external shocks or upheavals in the social, economic, or political environment and to adapt to new conditions (Gabler Wirtschaftslexikon, 2022).*

[illegible]



## H11. Please assess the impact of various types of standards on organisational sustainability.

Assessment on a scale from -3 (very negative) to +3 (very positive)

	-3 (very negative)	-2	-1	0 (no impact)	+1	+2	+3 (very positive)	Not applicable
Formal standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Technical rules or specifications	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Informal consortia standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
De-facto standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internal company standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
External company standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Section I: 3. Standardization activities

The following section contains questions regarding the resource input necessary for standardisation work.

### I1. In which standardization organizations was a typical company in your industry represented in 2021?

Please indicate in how many committees of the following institutions {A2RDcalcNOMAKK} was active in 2021.

	0	1	2 - 5	6 - 10	> 10
DIN (German Institute for Standardization e. V.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DKE (German Commission for Electrical, Electronic & Information Technologies of DIN and VDE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CEN (European Committee for Standardization)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CENELEC (European Committee for Electrotechnical Standardization)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ETSI (European Telecommunications Standards Institute)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ISO (International Organization for Standardization)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IEC (International Electrotechnical Commission)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ITU (International Telecommunication Union)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

### I2. In which standardization organizations is a typical company in your industry currently represented ?

Please indicate in how many committees of the following institutions {A2RDcalcNOMAKK} has been active since the beginning of the year.

	0	1	2 - 5	6 - 10	> 10
DIN (German Institute for Standardization e. V.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DKE (German Commission for Electrical, Electronic & Information Technologies of DIN and VDE)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



	0	1	2 - 5	6 - 10	> 10
CEN (European Committee for Standardization)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CENELEC (European Committee for Electrotechnical Standardization)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ETSI (European Telecommunications Standards Institute)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ISO (International Organization for Standardization)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
IEC (International Electrotechnical Commission)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ITU (International Telecommunication Union)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**I3. Was a typical company in your industry represented in standardization consortia in 2021?**

*Please state in how many consortia {A2RDcalcNOMAKK} was active at various regional levels in 2021.*

	0	1	2 - 5	6 - 10	> 10
National consortia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
European consortia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
International consortia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**I4. Is a typical company in your industry currently represented in standardization consortia?**

*Please state in how many consortia {A2RDcalcNOMAKK} was active at various regional levels since the beginning of this year.*

	0	1	2 - 5	6 - 10	> 10
National consortia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
European consortia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
International consortia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**I5. In which specific standardization consortia was a typical company in your industry represented in 2021?**

*You can state the specific names of the consortia in which {A2RDcalcNOMAKK} was represented in the text boxes.*

**I6. Please assess the influence of the following criteria on the decision of a typical company in your industry to participate in consortia compared to formal standardization committees.**

	major advantage consortia	minor advantage consortia	neutral / co mplementar y	minor advantage formal standardization	major advantage formal standardization
Reputation of the consortium	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



	major advantage consortia	minor advantage consortia	neutral / co mplementar y	minor advantage formal standardization	major advantage formal standardization
Personnel costs of participation (time)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Costs for documents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Speed of the processes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Decision-making (majority instead of consensus)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Participants (competitors, customers or suppliers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Number of users of standards	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Type of the users of the standards (e.g., government, large customers)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regulation on patents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regulation on copyright	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of open source mechanisms	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Use of open source contents	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Positive experiences in the past	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personal contacts to other members	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Impact on government regulation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Monitoring of the expertise of the other participants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Capability to solve technical problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**I7. Did a typical company in your industry maintain a standardization department in 2020?**

Yes ☐

No ☐

**I8. Does a typical company in your industry currently maintain a standardization department?**

Yes ☐

No ☐

**I9. Please choose the tasks and authority of this department.**

☐



Other



Other

**I10. Please state the number of employees in the standardization department of a typical company in your industry in 2021.**

**I11. Please state the current number of employees in the standardization department of a typical company in your industry.**

**I12. Change in number compared to 2020.**

Increased ☐

No change ☐

Decreased ☐

No answer ☐

**I13. Please estimate the approximate total costs of all standardization activities of a typical company in your industry in 2020 and the change in total costs compared to 2019.**

*Total personnel and travel costs including miscellaneous costs, e.g. membership fees.*

- keine Angabe -	0 - 1.000 €	1.001 - 10.000 €	10.001 - 100.000 €	100.001 - 1 Million €	> 1 Million - 10 Millionen €	> 10 Millionen €
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Total costs of standardization activities

**I14. Change in total costs compared to 2020.**

Increased ☐

No change ☐

Decreased ☐

No answer ☐

**I15. Did a typical company in your industry contribute to any open source projects in 2021?**

Yes ☐

No ☐



**I16. Please describe your involvement in open source projects.**

*E.g. Which open source organizations are you active at? (Apache Software Foundation, Eclipse Foundation etc.)*

**I17. Did a typical company in your industry work in any energy-related standardization committee in 2022?**

Yes ☐

No ☐

**I18. In which standardization committee related to energy did you work exactly?**

*Notice: In the following section, you will be asked general questions about {A2RDcalcNOMAKK} . Please answer all questions regarding the same reference. The gathered data is treated confidentially and is anonymized for statistical analyses.*

Education, training	
Procurement, materials management	
Export	
Finance, Accounting	
Research, Development	
Executive management, plant manager	
IT, data processing	
Construction	
Logistics, storage, transportation	
Marketing	
Standardization	
Human resources, social affairs	
Production, manufacturing	
Quality management	
Services, technical support	
Miscellaneous	
Distribution, sales	
Administration, organization	

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[illegible]





**J4. How many employees currently work in a typical company in your industry?**

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**J5. Change in number compared to 2020.**

Increased ☐

No change ☐

Decreased ☐

No answer ☐

**J6. Please divide the total export share of a typical company in your industry in 2020 into exports to Europe, Asia, and USA .**

*The total must match your entry from the previous question. Example: Total {(A44)}% revenue from exports: {round((A44)/4)}% of which is within Europe, {round((A44)/4)}% to Asia, {round((A44)/4)}% to the U.S., and {(A44)-(round((A44)/4)\*3)}% to the rest of the world.*

Share within Europe

--	--	--	--	--	--	--	--	--	--

Share to Asia

--	--	--	--	--	--	--	--	--	--

Share to the USA

--	--	--	--	--	--	--	--	--	--

Share to rest of the world

--	--	--	--	--	--	--	--	--	--

**J7. Please estimate a typical company in your industry's total sales, total costs, and total profit in 2021.**

*Total personnel and material costs including miscellaneous costs. (Figures expressed in THOUSAND EUROS)*

Total sales

--	--	--	--	--	--	--	--	--	--

Total costs

--	--	--	--	--	--	--	--	--	--

Total profit

--	--	--	--	--	--	--	--	--	--

**J8. What percentage of a typical company in your industry's sales was generated by exports in 2021?**

*Example: 1,000,000 total sales, 300,000 of which are generated by exports, is equivalent to a 30% share in total sales.*

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**J9. Has a typical company in your industry introduced new or significantly improved products or services (product innovations) to the market or introduced new or significantly improved processes (process innovations) in 2021? Did the research and development activities of a typical company in your industry take place internally and/or in cooperation with external partners?**

Yes No

Product innovation ☐ ..... ☐

Process innovation ☐ ..... ☐

Internal research ☐ ..... ☐

Yes No

☐ ☐

**J10. How often did a typical company in your industry cooperate in research and development activities with the following national organisations in 2021?**

Assessment on a scale from -3 (very rarely) to +3 (very frequently)

[illegible]

**J11. How often did a typical company in your industry cooperate in research and development activities with the following international organisations in 2021?**

Assessment on a scale from -3 (very rarely) to +3 (very frequently)

[illegible]



**We thank you very much for your cooperation and support!**

**If you have any further questions, please do not hesitate to contact us at [dnp@inno.tu-berlin.de](mailto:dnp@inno.tu-berlin.de).**

**Visit [normungspanel.de](http://normungspanel.de) for news, results of previous years' surveys, and further information on the German Standardization Panel.**