FIZ Karlsruhe

Leibniz Institute for Information Infrastructure

ADVANCING SCIENCE

SUSTAINABILITY REPORT 2024

CONTENTS

»We want to present our commitment to social, ecological and economic sustainability in a robust and comprehensible way.«

Micaela Münter, Sustainability Officer

Dear readers,

You are reading our second sustainability report – another important step on the long road towards becoming a sustainable institute.

This report provides an overview of the status quo "Sustainability 2024" and presents the first measures implemented by FIZ Karlsruhe as well as new developments that serve, for example, to record and evaluate sustainability-relevant data and facts. Of particular note is the planning and construction of two photovoltaic systems with a total output of 124 kWp.

As in the previous year, we conducted a comprehensive status quo analysis in order to systematically record all existing sustainability-related activities – such as our social commitment, occupational health and safety and environmental protection. The latter includes energy and paper consumption, business trips and CO_2 emissions. We also reviewed compliance with regulations such as data protection and other compliance issues. We have continued to work on improving the information situation. Important information for future greenhouse gas accounting includes, for example, the exact number of business trips including the means of transport used, building-related parameters such as heat requirements and insulation thickness of the building envelope as well as ecological and social aspects of procurement. Overall, progress has been made. For example, it will be possible in the future to analyze electricity consumption broken down by energy-intensive consumers. It will also be possible to evaluate travel data in more detail – for example, according to the distance traveled, the means of transport used and the corresponding CO_2 emission factors.

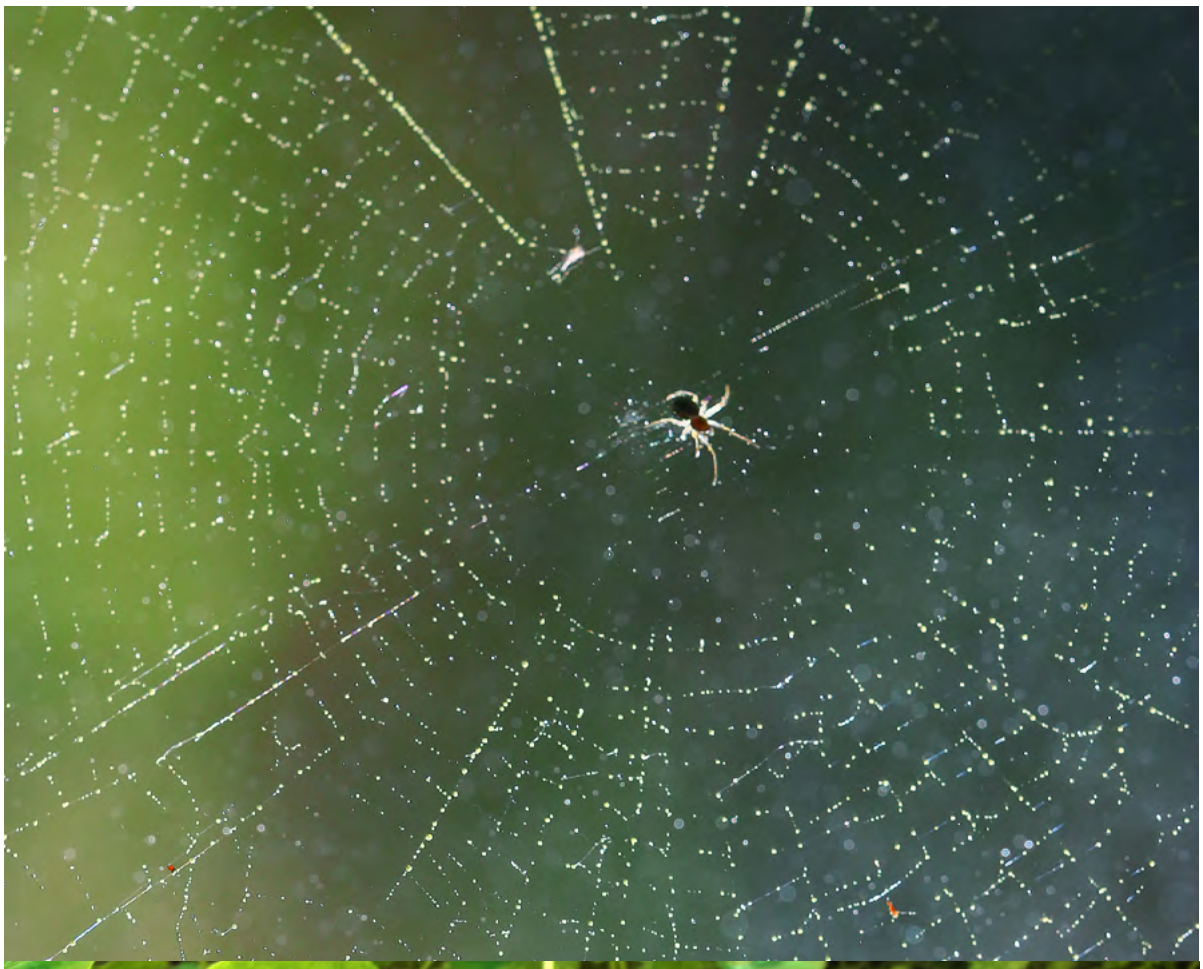
Overall, we see ourselves - even in the second year of sustainability reporting – at the beginning of a long-term process. Data availability and documentation must be further improved, for example with regard to our purchased goods, upstream chain emissions and waste. We are working on structures that allow for reliable documentation and evaluation of all relevant information. In this way, we are creating the basis for being able to draw on more reliable and meaningful data in the future.

We will continue to report annually on our sustainability activities, the targets we have set and the milestones we have achieved. We do this in order to present our commitment to social, environmental and economic sustainability in a reliable and comprehensible way.

Why are we so committed? We take the threat posed by the climate and environmental crisis very seriously and see it as our duty to align ourselves with the future. We attach great importance not only to climate and environmental protection, but also to social responsibility. We are aware that there are many challenges to overcome. We are confident that we will develop into a climate-neutral and sustainable institute in the long term.

We wish you an inspiring read.

Micaela Münter,
Sustainability Officer



THE CONCEPT OF SUSTAINABILITY

The fundamental idea of sustainable management is to use resources carefully and economically. In addition to energy, climate and other environmental issues, it also addresses social issues such as equal opportunities, human rights and economic issues like good governance, anti-corruption and good scientific practice. This shows that sustainability is an important cross-cutting issue that runs through all areas of our institute. At the same time, it is clear that our understanding of sustainability is comprehensive and holistic.

The term sustainability goes back to the Freiberg chief mining administrator Hans Carl von Carlowitz (1645-1714). He was the first to coin the term „sustainability" in relation to forestry: only as many trees should be removed from a forest, i.e. felled, as will grow back within a certain period of time. More than 250 years later, a UN commission convened in New York in 1987 to deal exclusively with the issue of sustainable development for the first time. The principle formulated at that time is still regarded as the guiding principle of sustainability today: „Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Since 2016, Germany has been guided by the UN's 17 Sustainable Development Goals[1] (SDG).

STRUCTURE OF OUR SUSTAINABILITY REPORT

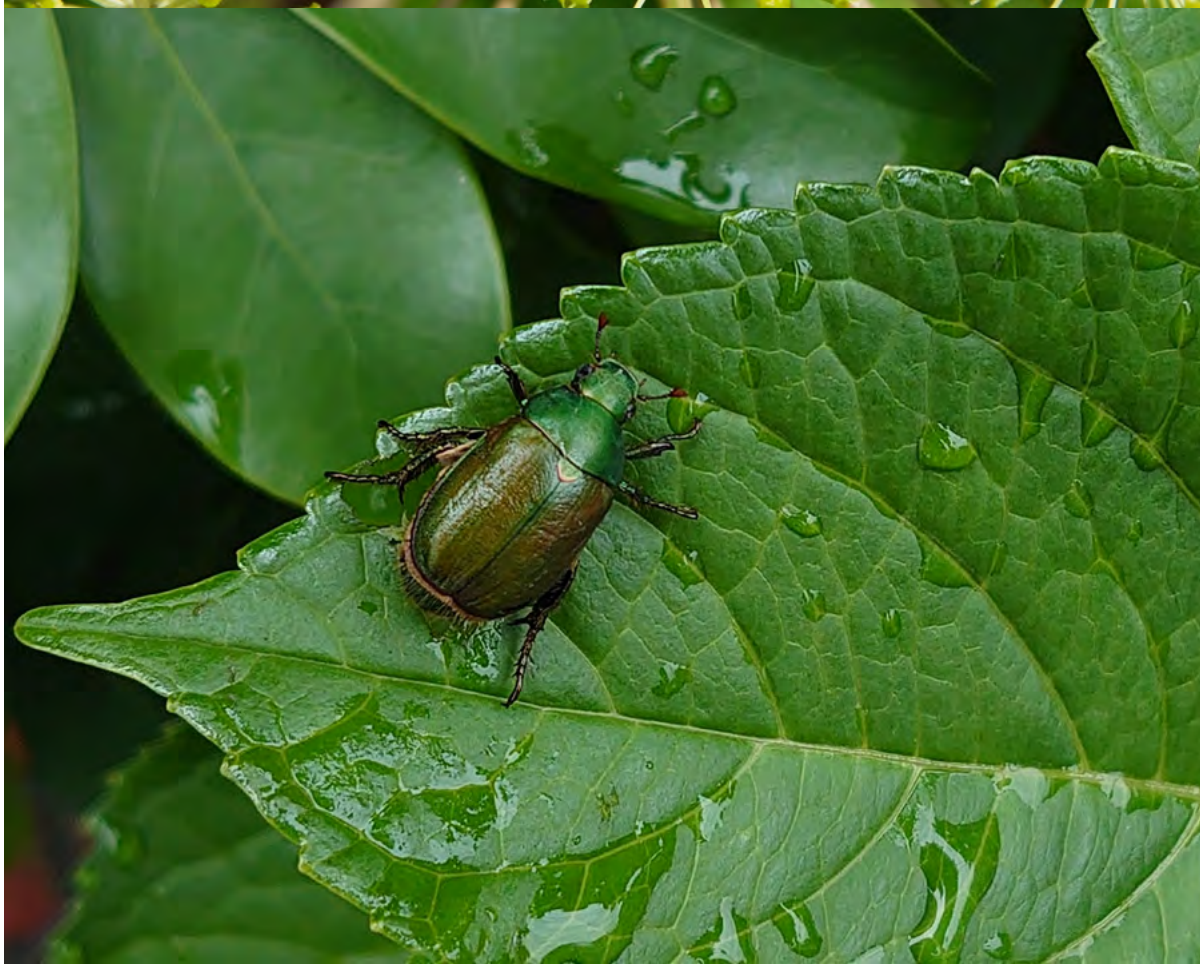
This Sustainability Report documents the Institute's activities relating to sustainability and covers the period from January 01, 2024 to December 31, 2024. We have comprehensively updated and supplemented the report and report on the key aspects of our sustainable activities in accordance with the Sustainability Management Guidelines for Non-University Research Institutions[2] (LeNa). These guidelines were developed as part of a joint project funded by the German Federal Ministry of Research, Technology and Space (BMFTR). Various institutes of the Fraunhofer-Gesellschaft, the Helmholtz Association and the Leibniz Association were involved.

With the orientation towards LeNa, we have also adopted the structure and topics of the guidelines and divided our sustainability report into the action areas of sustainability management, sustainable organizational management, research, personnel, buildings and infrastructures and supporting processes. This structure may not correspond to the common expectation that a sustainability report should begin with environmental issues. However, this way it can be better compared with other reports as it follows a uniform structure.

We see this report as a stocktaking of our institute in terms of sustainability. As part of our status quo analyses, we identify potential that forms the basis for the targeted planning and implementation of new developments, for example the installation of two photovoltaic systems, which are one of our highlights. In this way, each report provides a new starting point, from which we can demonstrate FIZ Karlsruhe's progress towards becoming a sustainable and climate-neutral institute in the long term.

1 https://sdgs.un.org/goals; accessed on May 23, 2025.

2 LeNa Guide to sustainability management in non-university research institutions; https://www.nachhaltig-forschen.de/en/lena/fields-of-action-for-sustainability-management; accessed on May 23, 2025.



1. ABOUT US

FIZ Karlsruhe – Leibniz-Institut für Informationsinfrastruktur GmbH is one of the largest non-university infrastructure facilities for scientific information. Our overall strategy aims to support the entire scientific value creation cycle. We research, develop and operate methods, processes and services for a sustainable information infrastructure and offer data, information and knowledge, software and services via open and legally compliant platforms.

FIZ Karlsruhe – Leibniz-Institut für Informationsinfrastruktur GmbH, hereinafter referred to as FIZ Karlsruhe, is a non-profit limited liability company and a large corporation. We have the public mission "to provide science and research with scientific information, to develop corresponding products and services in the field of scientific information infrastructure and to make them publicly accessible.[3]"

Our overall strategy aims to support the entire scientific value creation cycle – from the idea to data and analysis to the dissemination and enrichment of scientific information. It is supplemented by six sub-strategies:

- portfolio strategy
- research strategy
- agility strategy
- opening strategy
- cooperation strategy
- sustainability strategy

In our mission statement[4] , we have named values that guide our actions. We are committed to treating the environment and its resources with care ("Responsibility" value) and to applying the Public Corporate Governance Code of the Federal Government and the State of Baden-Württemberg ("Integrity" value). As a Leibniz Institute, we are guided by the sustainability mission statement of the Leibniz Association[5] and the handout "Sustainability management in non-university research institutions" (LeNa). Careful treatment of the environment and its resources is important to us. Accordingly, we have anchored sustainability in our overall strategy (see section 2.1).

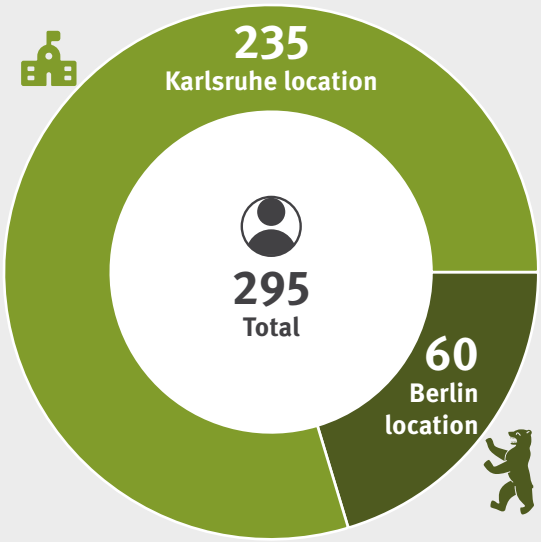
3 Excerpt from articles of association, Section 2 (1), as at July 28, 2017). We are a company in the legal form of a limited liability company with recognized non-profit status.

4 Our mission statement, https://www.fiz-karlsruhe.de/en/ueber-uns/unser-leitbild, accessed on May 23, 2025.

5 "Sustainability" mission statement of the Leibniz Association; https://www.leibniz-gemeinschaft.de/fileadmin/user_upload/Bilder_und_Downloads/%C3%9Cber_uns/Nachhaltigkeit/Leitbild_Nachhaltigkeit.pdf, accessed on May 23, 2025.

For us, corporate responsibility means taking sustainability into account in all business processes, from program planning and personnel management to operational processes and research activities.

1.1 FIZ KARLSRUHE IN FIGURES



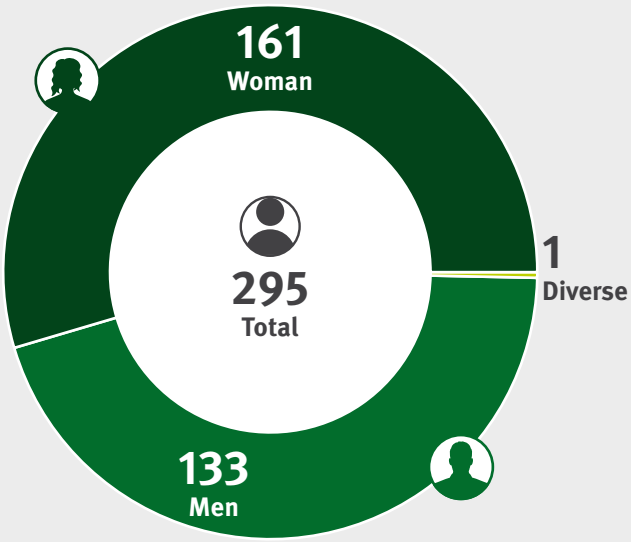


Figure 1: Number of employees in 2024, total and broken down by male, female, diverse

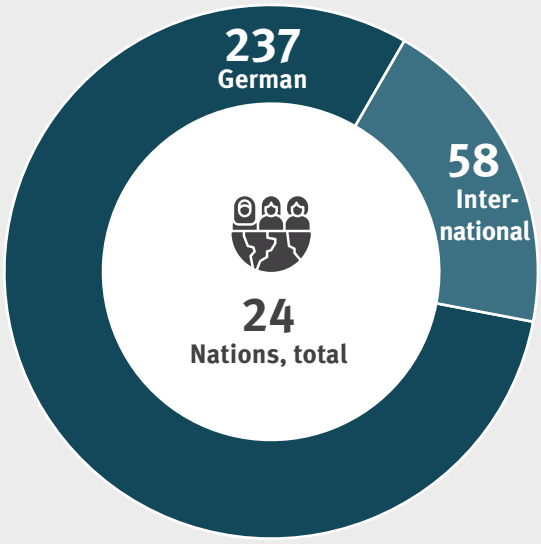


Figure 2: We are becoming increasingly international. As at Dec 31, 2024, our team consisted of 24 different nationalities, including our German colleagues.

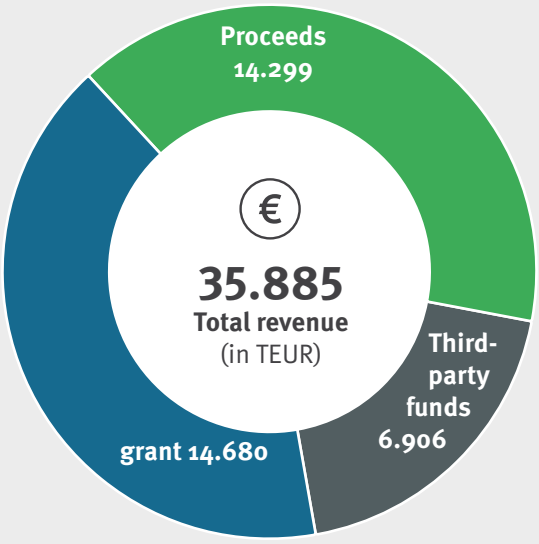


Figure 3: Total income 2024, broken down by grants, revenue and third-party funds (in EUR thousand)

Electricity and heat consumption

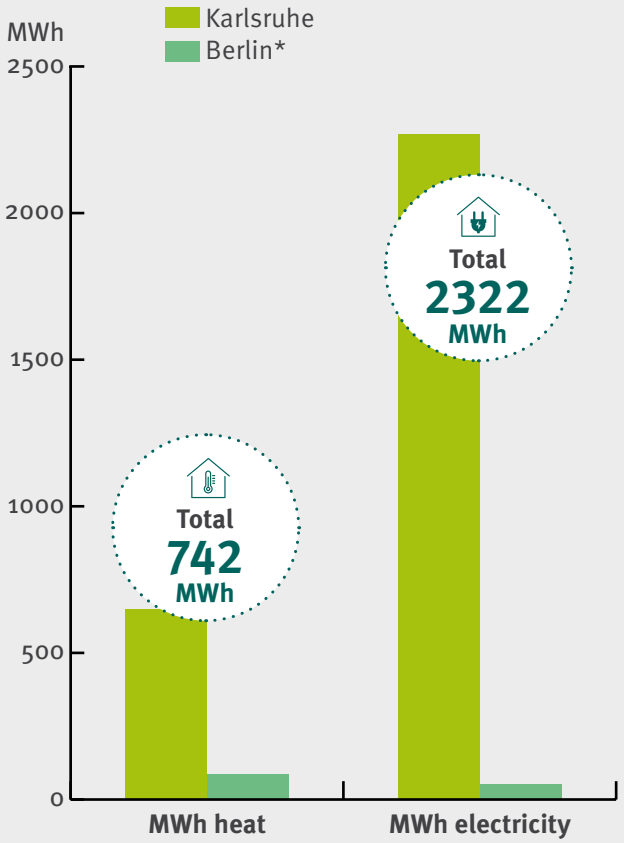


Figure 4: Electricity and heat consumption at FIZ Karlsruhe in 2024
** based on calculations according to the energy certificate*

Carbon dioxide emissions: Heating - electricity - business trips

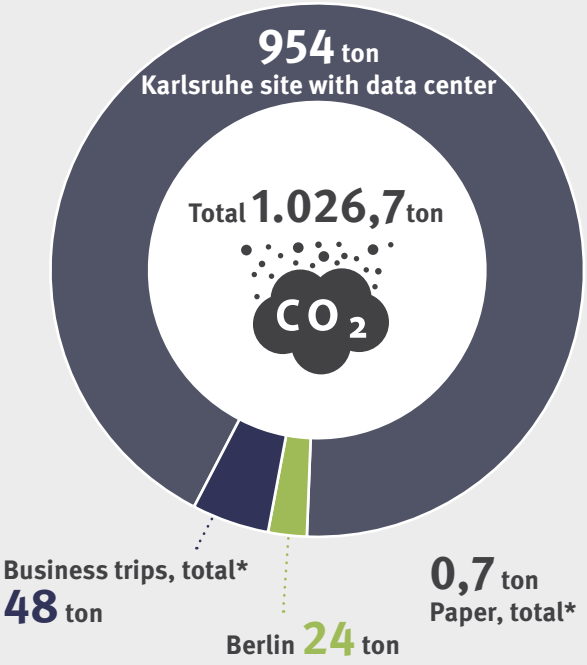


*Figure 5: FIZ Karlsruhe's CO2 emissions: heating and electricity consumption including data center at the Karlsruhe site, business travel (plane, train, car) and paper used; * calculated with the BWIHK-ECOCOCKPIT tool[6]*

Figure 6: FIZ Karlsruhe - Leibniz Institute for Information Infrastructure GmbH, one of our office buildings on the North Campus of the Karlsruhe Institute of Technology (KIT)

6 Climate assessment tool "BWIHK-ECOCOCKPIT"; https://ecocockpit-bw.de, accessed on May 23, 2025.

»We see sustainability as a joint task and an integral part of our daily work. Only together can we bring about change.«

Prof. Dr. Wolfram Horstmann, President & CEO of FIZ Karlsruhe

2. SUSTAINABILITY MANAGEMENT

Successful sustainability management requires the consistent implementation of effective measures throughout the entire organization. This also includes a clear commitment to sustainable action by all employees at all levels. The prerequisite for effective measures is a comprehensive analysis of the current status. Because only when you know where you stand can you decide how to proceed. Accordingly, in this chapter we present the most important findings of our further analyses and the need for action derived from them.

2.1. STRATEGIC ANALYSIS AND MANAGEMENT PROCESSES

In November 2023, FIZ Karlsruhe adopted a sustainability sub-strategy to emphasize the importance of sustainable corporate development both externally and internally. It reads: "FIZ Karlsruhe is committed to the basic principles of sustainability. We use material and non-material resources responsibly. We take sustainability into account in our decision-making processes. We are evolving into a climate-neutral institute."

Our strategic guidelines with regard to sustainability are

- Sustainability in organizational development: We establish developments in structures, procedures and management processes which are sustainable, i.e. effective in the longer run.
- Sustainability in research and development processes: We research, develop and operate methods, processes and services for a sustainable information infrastructure.
- Sustainability in human resources management: We promote equal opportunities, appreciation of diversity and the compatibility of work and caring responsibilities as well as the voluntary commitment of our employees.
- Sustainability in the operation of buildings and infrastructure as well as procurement and mobility: We optimize energy consumption in buildings and infrastructure and pursue a sustainable procurement policy. Where possible, we try to replace business trips with virtual meetings; otherwise, we ensure that our mobility is as climate-friendly as possible with a low CO_2 footprint.

Our full-time sustainability officer, Micaela Münter, coordinates sustainability-related plan-

ning and communication activities and anchors sustainability in the structure of FIZ Karlsruhe. She is part of the management team and reports directly to the President & CEO. Among other things, she develops a sustainability concept tailored to FIZ Karlsruhe, proposes suitable measures and continuously supports their implementation in day-to-day work. She is the organization's the central point of contact for sustainability issues and is responsible for sustainability reporting at institute level.

She is supported by the Sustainability Committee (see section 3.1). The committee began its work in January 2024. The members represent all areas of the institute and thus anchor sustainability as a cross-cutting issue across all organizational units. In the first year, we focused on two central topics: preparing our first Sustainability Report 2023 and evaluating the status quo analysis. On this basis, we defined initial areas of action and measures.

2.2. KEY AREAS OF ACTION AND OBJECTIVES

2.2.1. FIZ Karlsruhe's status quo analysis

In 2023, we started with an initial comprehensive analysis of the entire institute based on the LeNa guidelines. We update this analysis annually to determine the current status and highlight progress and areas where action is needed, and we are gradually adding additional data to it. The analysis forms the basis for our further activities. The key performance indicators, which document the development within the respective topics, are derived from the main areas of action and objectives. The results give us an overview of previous sustainability activities and shortcomings, energy consumption, investments and supporting processes such as procurement and mobility. At the same time, we identified the key fields of action/topics for sustainability management.

The most important result of the first status quo analysis was that we have already taken extensive measures with regard to social issues and corporate governance to ensure that the institute acts sustainably (see chapter 5). For example, FIZ Karlsruhe is taking measures to reconcile work and family life and to fulfill its duty of care (see chapter 5.4). On the other hand, we still need to significantly expand our measures on ecological issues such as climate and environmental protection.

The key areas of action we identified in 2023 have not changed as a result of the 2024 analysis and can still be assigned to the following topics

1. efficient and resource-conserving use of energy
2. buildings and infrastructure
3. IT and data center
4. procurement and waste disposal
5. mobility and business trips

In these areas, we see particularly great potential for contributions to sustainable corporate development at FIZ Karlsruhe.

We review the importance of the areas of action on an annual basis and adjust them or add new topics as required. A comprehensive review will take place in 2025 as part of the double materiality analysis.

In 2024, we began developing a sustainability concept tailored to FIZ Karlsruhe in order to define short, medium and long-term goals and measures. The results of the double materiality analysis will be incorporated into the concept to be developed. For example, the use of renewable energies is important to us in order to reduce our CO2 emissions. In 2024, we therefore installed two photovoltaic systems on suitable roof surfaces as a short-term measure – the system is now in operation (see chapter 7, Highlights).

2.3. GREENHOUSE GAS BALANCING

Germany has set itself the goal of reducing greenhouse gas emissions by 65% by 2030 compared to 1990 levels and becoming climate-neutral by 2045. FIZ Karlsruhe would also like to make an active contribution to this. As part of our sustainability strategy, we are pursuing the long-term goal of becoming a climate-neutral institute.

Since 2023, we have been preparing an annual greenhouse gas balance sheet using the "BWI-HK-ECOCOCKPIT" climate balance tool to check our GHG emissions (see Fig. 5). We now have the necessary data for Scope 1 (direct emissions, e.g. heating fuels from our own boilers) and Scope 2 (indirect emissions from externally generated energy sources). Scope 3 (other emissions) with a total of 15 categories[7] includes indirect emissions resulting from the procurement of services and products by third parties, such as raw materials and supplies, business travel and services used. Other categories such as waste, water consumption and employee commuting are also included in the Scope 3 calculations. Eight categories are particularly relevant for research institutions, for example Scope 3.1 Purchased goods and services, Scope 3.2 Capital goods, Scope 3.3 Upstream chain emissions, Scope 3.5 Waste, Scope 3.6 Business travel, Scope 3.7 Employee commuting and Scope 3.4 and Scope 3.9 Transportation and distribution (upstream and downstream).

2.4. COMMUNICATION AND STAKEHOLDER PARTICIPATION

The most important internal stakeholders for sustainable action include employees, while external stakeholders include suppliers, contractors, customers, donors and committees (Supervisory Board, Shareholders' Meeting and Scientific Advisory Board).

On the intranet, we inform our employees about FIZ Karlsruhe's activities via the "Sustainability" topic page. Colleagues can also find in-depth information and tips on the topic of sustainability, for example from the Leibniz Association and the state of Baden-Württemberg, the German Sustainability Code and on certificates and laws. To raise awareness of the issue, we regularly create blog posts on individual topics, such as saving energy at the workplace. We also regularly publish articles on sustainability issues in our employee magazine fiz.forum.

FIZ Karlsruhe regularly submits planning and reporting papers to its committees, e.g., the Supervisory Board, the Shareholders' Meeting and the Scientific Advisory Board. In recent years, the topic of sustainability has been prominently anchored in all key committee documents such as the annual report, the management report, which includes a risk assessment, as well as the planning document "Program Budget"[8] (see chapter 3.1) and its accounting.

7 https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporing-Standard_041613_2.pdf, abgerufen am 23.05.2025

8 See chapter 3.1.

»Our commitment to ecological, social and economic responsibility is an integral part of our corporate strategy and shapes our actions.«

Andreas Schwartz, Vice President Administration

3. SUSTAINABILITY WITHIN THE ORGANIZATION

For us, sustainable corporate governance means that we manage, control and monitor FIZ Karlsruhe holistically and integratively. It serves people, respects the environment and at the same time maintains our institute as a productive and long-term effective institution. Important aspects include the organizational form, business ethics and corporate culture - both internally and externally.

3.1. PARTICIPATORY ORGANIZATIONAL DEVELOPMENT

FIZ Karlsruhe is a limited liability company (GmbH) recognized as a non-profit organization and a large corporation. Its bodies are the shareholders' meeting and the Supervisory Board. The shareholders are the federal government, the state of Baden-Württemberg, as well as major scientific societies and associations. In addition, the Scientific Advisory Board advises the management and the Supervisory Board on all technical, scientific and political issues. FIZ Karlsruhe has no influence on the composition of the shareholders' meeting and the Supervisory Board. The Scientific Advisory Board currently consists of four female and six male members. We aim to achieve gender parity in the future.

FIZ Karlsruhe is organized into six unis: four program units and two service units (see organizational chart). The management structure of FIZ Karlsruhe is made up of the President & CEO and the Executive Management Team, which, in addition to the President & CEO, includes all Vice Presidents, the head of the Human Resources/ Infrastructure department and, as a permanent guest, the legal advisor. The President & CEO determines the guidelines for corporate policy and defines the corporate objectives in consultation with the members of the Executive Management Team. Responsibility for operational implementation lies with the Executive Management Team. We still see a need for action with regard to gender parity and greater diversity (see chapter 5).

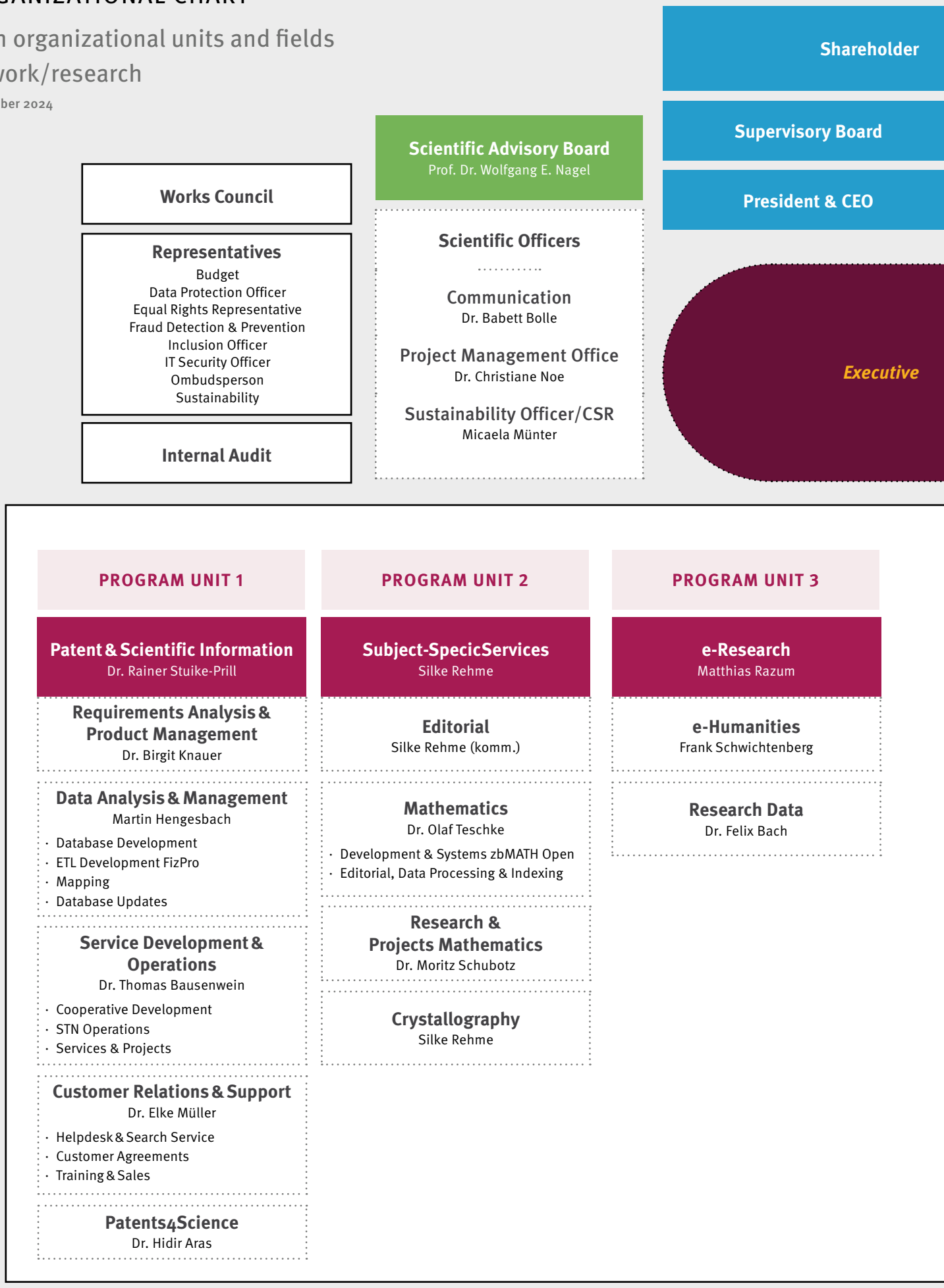
In order to strengthen the participatory management culture, we have set up a total of four committees[9] since 2022, which support the management level in cross-divisional strategy, planning and decision-making processes. The committees make these processes transparent, enable corrections to be made to the respective

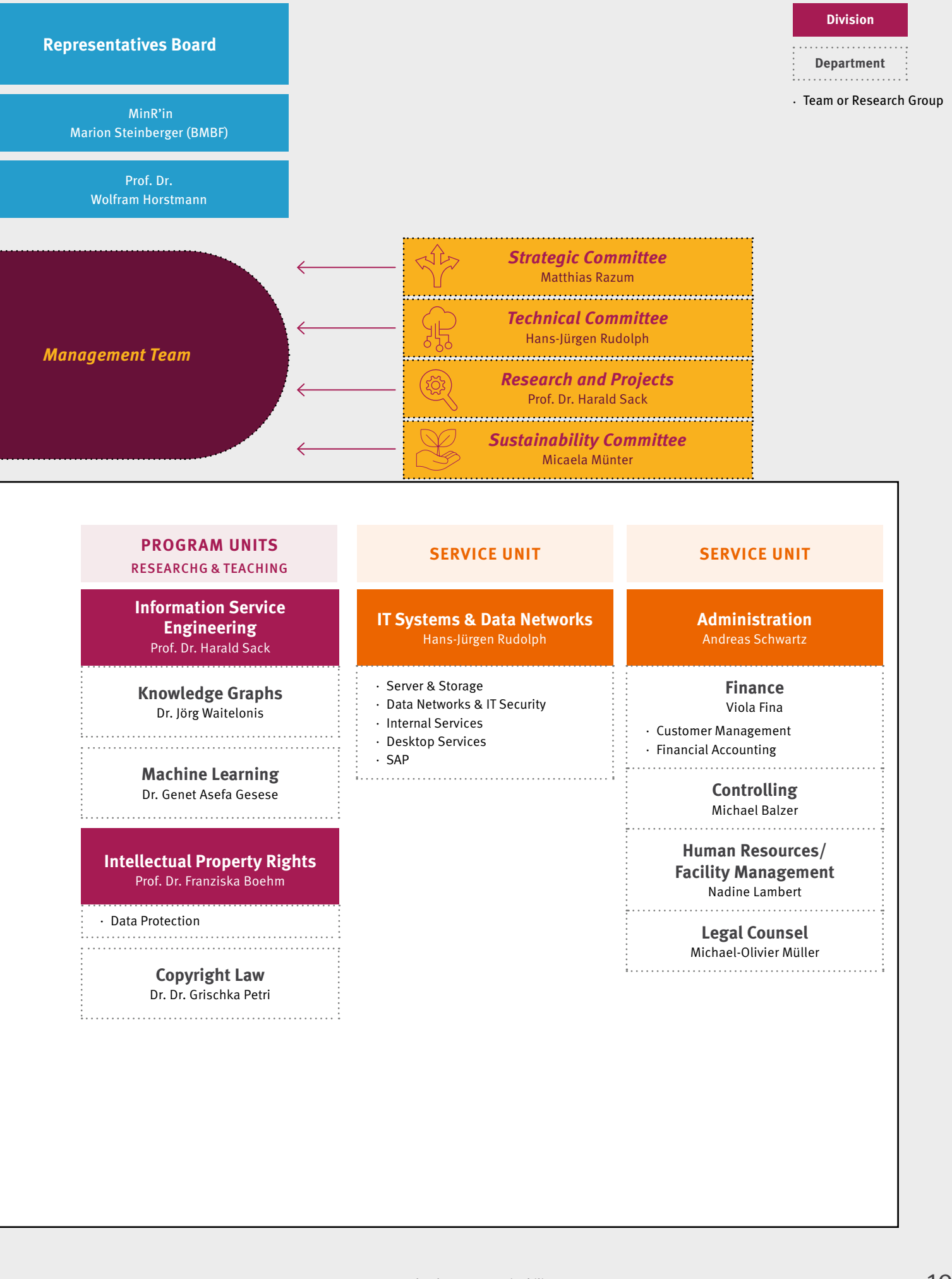
9 In addition to the Sustainability Committee, committees have been established for the areas of strategy, research and projects and technology.

ORGANIZATIONAL CHART

with organizational units and fields of work/research

December 2024




Division
Department
· Team or Research Group
Representatives Board
MinR'in
Marion Steinberger (BMBF)
Prof. Dr.
Wolfram Horstmann
Management Team
Strategic Committee
Matthias Razum
Technical Committee
Hans-Jürgen Rudolph
Research and Projects
Prof. Dr. Harald Sack
Sustainability Committee
Micaela Münter
PROGRAM UNITS
RESEARCHG & TEACHING
SERVICE UNIT
SERVICE UNIT
Information Service Engineering
Prof. Dr. Harald Sack
Knowledge Graphs
Dr. Jörg Waitelonis
Machine Learning
Dr. Genet Asefa Gesese
Intellectual Property Rights
Prof. Dr. Franziska Boehm
· Data Protection
Copyright Law
Dr. Dr. Grischka Petri
IT Systems & Data Networks
Hans-Jürgen Rudolph
· Server & Storage
· Data Networks & IT Security
· Internal Services
· Desktop Services
· SAP
Administration
Andreas Schwartz
Finance
Viola Fina
· Customer Management
· Financial Accounting
Controlling
Michael Balzer
Human Resources/ Facility Management
Nadine Lambert
Legal Counsel
Michael-Olivier Müller

tasks where necessary and support agile management. The committees have equal gender representation; all areas and hierarchy levels are also represented.

If necessary, we set up internal working groups for overarching issues, particularly those requiring codetermination. Examples include employee surveys, mission statement development, future work and working time recording. In 2024, a survey was conducted on the topic of "Mental stress in the workplace". The results did not indicate any need for action. We are planning another questionnaire survey in the medium term.

The targets are planned and the measures required to achieve them are defined as part of the annual program budget. It is ultimately addressed to the funding bodies (for FIZ Karlsruhe: the federal government and the state of Baden-Württemberg) and has the character of a target agreement. The program budget statement serves to review the target agreement. With the 2024 program budget (created in 2022), we have included a section on our sustainability measures as an integral part of the planning document.

3.2. COMPLIANCE

FIZ Karlsruhe has to comply with a wide range of legal regulations and organization-specific standards of conduct. Accordingly, our work is governed by a comprehensive compliance catalog focusing on data protection, corruption prevention, IT security, occupational health and safety/safety and risk management. They make a significant contribution to sustainable corporate governance.

3.2.1. Public Corporate Governance Code

In terms of responsible corporate governance, FIZ Karlsruhe is committed to the Public Corporate Governance Code (PCGK) of the federal government[10]. The Code contains key provisions for the management and supervision of affiliated companies of the federal government as well as internationally and nationally recognized standards of good and responsible corporate governance. It aims to make corporate management and monitoring more transparent and comprehensible and to clarify the role of shareholders. Since 2010, we have published an annual corporate governance report on our website,[11] , which also includes a section on sustainable corporate governance.

3.2.2. Prevention of corruption

Corruption can cause considerable financial and immaterial damage in both companies and public institutions. The latter are difficult to measure, but have a major impact. Preventing and combating corruption is therefore a high priority. Accordingly, the UN's Sustainable Development Goals call for[12] to "substantially reduce corruption and bribery in all their forms" (Goal 16.5).[13] The Federal Government's Public Corporate Governance Code (PCGK) emphasizes the prevention of corruption as a central task of management.

FIZ Karlsruhe has had its own guideline on corruption prevention since June 2013 (updated in May 2023). It forms the basis for the protection and sensitization of all employees and at the same time provides guidance and assistance in the fight against corruption. We appointed an anti-corruption officer as a central point of contact back in April 2012. Since 2024, a female employee has held this position for the first time. She supports the President & CEO in implementing anti-corruption measures and regularly informs

10 https://www.bundesfinanzministerium.de/Content/DE/Standardartikel/Themen/Bundesvermoegen/Privatisierungs_und_Beteiligungspolitik/Beteiligungspolitik/grundsaetze-guter-unternehmens-und-aktiver-beteiligungsfuehrung.html, accessed on May 23, 2025.

11 https://www.fiz-karlsruhe.de/en/ueber-uns/corporate-governance-bericht-2024, accessed on May 23, 2025.

12 https://sdgs.un.org/goals, accessed on May 23, 2025.

13 https://sdgs.un.org/goals/goal16, accessed on May 23, 2025.

them about ongoing activities and cases of suspected corruption.[14] In addition, she reviews a functional area or organizational unit annually in consultation with the President & CEO and administrative management and carries out a risk analysis to identify potential risks and possible misuse.

3.2.3. Responsible handling of risks

Every organization is exposed to risks that can cause material and immaterial damage to the company and its employees. In extreme cases, risks that occur can jeopardize the continued existence of the organization. Appropriate handling of risks is therefore a core task of management and appropriate risk management and control is an important part of sustainable corporate governance.

We systematically analyze potential risks and regularly communicate our assessment to the Supervisory Board and in the management report as part of the annual financial statements.

3.2.4. Cybersecurity and data protection

Almost all business processes at FIZ Karlsruhe are digital and therefore rely heavily on IT services. They significantly determine the perception of FIZ Karlsruhe by our stakeholders, the quality of the results and our reputation. Information technology is therefore a constitutive factor for FIZ Karlsruhe and the provision of the IT resources required for our employees, services and projects is crucial to our success. At the same time, the threat of cyberattacks is constantly increasing and therefore represents a significant risk. Not only the IT systems and data networks department, but the entire organization must therefore increasingly operate in a field of tension between cybersecurity and openness. In 2024, FIZ Karlsruhe appointed an external IT security officer. With his expertise and experience from other projects, the assessment and implementation of necessary measures to defend against cyberattacks has been significantly improved. In addition, we have made considerable investments in hardware and staff training to defend against cyberattacks in recent years and will continue to do so in the future.

An important goal of cybersecurity is the protection and security of data. This applies to personal data as well as confidential data that partners entrust to us as part of cooperation projects or that we generate ourselves. However, sustainable access to publicly available data also plays a role here, both in terms of availability and data integrity (see chapter 4). With the entry into force of the European General Data Protection Regulation (GDPR) in May 2018, data protection has become significantly more important. Responsibility for data protection lies with the employees and the management. We have had a data protection officer since 1995, who advises the management and employees on data protection issues and monitors compliance with data protection regulations. In order to raise our employees' awareness of data protection issues, we organize mandatory annual online training courses. In these, we convey the relevant legal regulations and recommended courses of action. In 2024, for example, a training course was held on the topic of "Information security for employees".

3.2.5. Whistleblower Protection Act

Whistleblowers make an important contribution to uncovering wrongdoing in companies. The Whistleblower Protection Act (HinSchG)[15], which came into force in mid-2023, aims to prevent disadvantages for whistleblowers and give them legal certainty.

14 https://www.fiz-karlsruhe.de/en/ueber-uns/ueber-uns#anti-corruption+policy, accesed on May 23, 2025.

15 https://www.gesetze-im-internet.de/hinschg/BJNR08C0B0023.html, accessed on May 23, 2025.

It is important to us that we learn about potential legal violations that could occur within our company in a timely manner and are able to respond to them. It is also part of our self-image that a person who draws our attention to such a grievance will not suffer any reprisals, regardless of the nature of the legal violation they bring to our attention. With the Whistleblower Protection Act (HinSchG), which transposes the EU Whistleblower Directive into German law, such protection is now also enshrined in law. FIZ Karlsruhe has implemented the Whistleblower Protection Act through an external service provider. Employees can submit anonymous reports of possible violations on an independent and neutral[16] platform. It is located outside our own IT infrastructure.

3.3. RELATIONSHIP WITH SUPPLIERS

In our values statement, we promise to treat our partners fairly and respectfully. This also applies to our suppliers. We have transparent purchasing conditions with fair payment terms.

3.4. POLITICAL CONSULTING

We see policy advice as an important task of our institute. In our area of research in particular, we have proven expertise that is readily available at state, federal and EU level. We also participate in studies and statements that are ultimately aimed at the political level. We see it as part of sustainable corporate management to make our activities transparent in terms of policy advice and transfer to the public, for example in our annual report.[17] We regularly evaluate our activities against the background of the Lobby Register Act (LobbyRG).[18]

16 https://www.fiz-karlsruhe.de/en/ueber-uns/ueber-uns#whistleblowing+system, accessed on May 23, 2025.

17 https://www.fiz-karlsruhe.de/en/ueber-uns/jahresberichte, accessed on May 23, 2025.

18 https://www.gesetze-im-internet.de/lobbyrg/index.html#BJNR081800021BJNE000802311, retrieved on May 23, 2025.

»Sustainability and data protection are closely linked, as responsible use of resources is only possible if privacy and security are protected.«

Prof. Dr. Franziska Boehm, Vice President Intellectual Property Rights

4. SUSTAINABILITY IN THE RESEARCH PROCESS

What does it mean to combine sustainability with research processes? As a non-university research institution, we consider and reflect on the entire research process to ensure that we maintain a sustainable approach to research data, results and processes. Awareness of the social responsibility that goes hand in hand with our research also plays a major role here. We also ensure that a sustainable transfer of knowledge from our research is guaranteed and consider what impact our research results have on the environment and society.

4.1. GOOD SCIENTIFIC PRACTICE

Sustainability in processes, in research data management and in dealing with the possible consequences of research results is an important element of scientific integrity. FIZ Karlsruhe has anchored scientific integrity as a value in its mission statement. As a scientific institution, we understand scientific integrity and good scientific practice as a responsibility of our institute as well as of all our employees – and we are committed to complying with appropriate standards. Our guideline "Good Scientific Practice"[19] is an institute-specific specification of the "Leibniz Code of Good Scientific Practice"[20].

4.1.1. Ombudsperson

FIZ Karlsruhe provides an independent ombudsperson in accordance with the above-mentioned guideline, to whom all employees and, if necessary, third parties can turn to in questions of good scientific practice and in questions of suspected scientific misconduct. In the event of concerns of bias or if the ombudsperson is unable to act, FIZ Karlsruhe provides a deputy who comes from a different organizational unit than the ombudsperson. To ensure that employees are aware of the ombudsperson and their deputy, we provide regular information on this via our intranet and corresponding blog entries.

4.2. RESEARCH DATA POLICY[21]

We consider research data to be data that is generated in the course of scientific projects, for example through observations, experiments, simulations, surveys, interviews, source research, recordings, digitization or evaluations. We also include algorithms and (research) software. Research data management begins with the plan-

19 https://www.fiz-karlsruhe.de/sites/default/files/FIZ/Dokumente/richtlinie-wiss-praxis-en.pdf, accessed on May 23, 2025.

20 https://www.leibniz-gemeinschaft.de/fileadmin/user_upload/Bilder_und_Downloads/%C3%9Cber_uns/Gute_wissenschaftliche_Praxis/Leibniz-Kodex_gute_wissenschaftliche_Praxis.pdf, accessed on May 23, 2025.

21 https://www.fiz-karlsruhe.de/en/forschung/forschung#research+data+policy, accessed on May 23, 2025.

ning of a project and only ends after the data has been deleted after an appropriate retention period.

Where legally and ethically possible, research data should be published in suitable repositories for reasons of transparency, traceability and connectivity of research and offered for reuse. FIZ Karlsruhe supports the principles of FAIR[22]- and CARE[23]. FIZ Karlsruhe also offers the RADAR repository[24], which we and other institutions can use to archive and publish digital research data. It thus contributes to the sustainable availability and reusability of research data.

As part of our research data policy, a research data management team (RDM team) was established at FIZ Karlsruhe in July 2024. The RDM team advises and supports individual research data management projects from planning to data transfer to archives and repositories. Other tasks include the development of guidelines and recommendations for handling research data throughout its entire data life cycle and providing needs-based support with regard to training and courses on the topic of RDM (internal or external).

4.3. OPEN ACCESS

Open Access stands for unrestricted and free digital access to quality-checked scientific information. By removing technical, financial and legal barriers, Open Access helps to accelerate scientific innovation processes, improve the visibility of research results and thus promote the sustainable use of these results[25], as they are permanently freely available. FIZ Karlsruhe is therefore actively committed to Open Access. In doing so, it follows the "Berlin Declaration on Open Access to Knowledge in the Sciences and Humanities"[26], the Open Access Strategy of the Federal Ministry of Education and Research[27], the e-Science Strategy of the Ministry of Science, Research and the Arts Baden-Württemberg[28] and the "Guideline on Open Access in the Leibniz Association"[29]. In 2021, FIZ Karlsruhe adopted an Open Access Policy[30] and thus made a clear commitment to open standards in science. In September 2024, FIZ Karlsruhe signed the Barcelona Declaration[31], which commits a growing number of research institutions to the promotion of open research information.

FIZ Karlsruhe has set itself the goal of publishing predominantly in quality-assured organs. We strive to make our results available in Open Access wherever possible, be it through the selection of Open Access journals, through the assumption of APC (Article Processing Charge) costs, through secondary publication in institutional repositories and through our participation in DEAL[32].

We have also appointed an Open Access Officer to advise and support FIZ employees who are researching and publishing. Employees can find extensive information about Open Access and

22 FAIR stands for "Findable, Accessible, Interoperable, Re-Usable". https://www.go-fair.org/fair-principles, accessed on May 23, 2025.

23 CARE stands for "Collective Benefit, Authority to Control, Responsibility, Ethics". https://www.gida-global.org/care, accessed May 23, 2025.

24 https://www.fiz-karlsruhe.de/de/produkte-und-dienstleistungen/radar, accessed on May 23, 2025.

25 For example, zbMATH Open for Mathematics, https://zbmath.org, accessed on May 23, 2025.

26 https://openaccess.mpg.de/Berliner-Erklaerung, retrieved on May 23, 2025.

27 https://www.bmftr.bund.de/SharedDocs/Publikationen/DE/FS/772970_Open_Access_in_Deutschland_en.html, accessed on May 23, 2025.

28 https://mwk.baden-wuerttemberg.de/de/forschung/forschungslandschaft/e-science, accessed on May 23, 2025.

29 https://www.leibniz-gemeinschaft.de/fileadmin/user_upload/Bilder_und_Downloads/Forschung/Open_Science/Open_Access_Policy_web.pdf, accessed on May 23, 2025.

30 https://www.fiz-karlsruhe.de/en/forschung/forschung#open+access+policy, accessed on May 23, 2025.

31 https://barcelona-declaration.org, accessed on May 23, 2025.

32 https://deal-konsortium.de, retrieved on May 23, 2025.

contact details for the officer on the intranet. An internal budget is also available to employees for Open Access publications.

4.4. RESEARCH WITH SOCIAL RESPONSIBILITY

In our research strategy, we specify selection criteria for planned research activities with regard to topics, cooperation partners, funding opportunities and required research equipment. In doing so, we always take sustainability aspects into account by actively following the rules of good scientific practice and also considering the field of action "research with social responsibility". Sustainability, based on the three dimensions of economy, ecology and social responsibility, is a fundamental principle for FIZ Karlsruhe, which is taken into account in all phases of the research process, from the identification of topics to implementation and documentation to the subsequent transfer, in order to achieve long-term positive effects.

4.5. FUNDING BODIES

When selecting funding providers, we strive to achieve a diversification between national, regional and international as well as public and private funding institutions and thus to be as broadly positioned as possible. In the case of contract research, we always pay attention to the scientific usability of the research results.

4.6. KNOWLEDGE DISSEMINATION AND TRANSFER

Strengthening knowledge transfer between science, civil society, politics and business as well as social stakeholders is an important concern for us. Stakeholders in the science and innovation system should have reliable access to all relevant digital information and tools at any time and from anywhere. To this end, we offer data, information and knowledge, software and services via open and legally compliant [FB1] platforms. We are developing our products into open, networked platforms and strengthening our open policy (open access/open source/open science) (see chapter 4.3).

FIZ Karlsruhe is involved in working groups and committees on issues relating to scientific information infrastructures at national and international level, for example in the Research Data Alliance[33] (RDA): Since July 2024, Prof. Wolfram Horstmann has been a member of the Board of the RDA Association AISBL (RDA Europe) and of the Committee for Scientific Libraries and Information Systems[34] (AWBI) of the German Research Foundation (DFG). Other key areas of policy advice are data (protection) law and copyright law.

33 https://www.rd-alliance.org, accessed on May 23, 2025.

34 https://www.dfg.de/en/research-funding/funding-opportunities/programmes/infrastructure/lis/awbi, accessed on May 23, 2025.

We are actively involved in teaching and promoting young academics through our two professorships in Information Service Engineering (Prof. Dr. Harald Sack) and Intellectual Property Rights (Prof. Dr. Franziska Boehm) as well as several deputy professorships held by our employees and the honorary professorship of our Managing Director (Prof. Dr. Wolfram Horstmann).

Science communication reports on FIZ Karlsruhe's tasks, achievements and work results. We also make relevant information available to the general public via various internal and external communication formats, for example our website, press releases and social media. During the reporting period, we were able to strengthen the science communication team with another colleague.

»We specifically promote work-life balance in order to increase the satisfaction, loyalty and productivity of our employees and contribute to diversity and equal opportunities.«

Nadine Lambert, Head of Human Resources and Infrastructure

5. SUSTAINABLE PERSONNEL MANAGEMENT

Our employees are our most important resource. Accordingly, FIZ Karlsruhe as an employer is always aware of its responsibility and duty of care towards all employees. Sustainability in HR management concerns occupational health and safety, occupational health management, equal opportunities, the promotion of diversity and work-life balance. For us, the sustainable promotion of our employees means: opportunities for further training, support for individual career development and respectful treatment as part of our corporate culture.

In terms of sustainable HR management, we focused in particular on efficiency, i.e., the targeted use of existing resources, and comprehensive health management in 2024. We have also started to design a holistic HR management system that will map all HR processes in a flexible tool in the future.

5.1. PERSONNEL DEVELOPMENT

On December 31, 2024, a total of 295 people were employed at FIZ Karlsruhe, 235 of whom at the Karlsruhe site and 60 at the Berlin site (see figure 1). We hired a total of 23 employees in 2024, nine of whom were scientists. Recruitment, particularly of specialists from abroad, is successfully supported by the Future Work concept (see 5.4.1). Personnel development, adequate training paths and in-house further training are important measures for building up the necessary know-how. Appropriate training courses are offered in line with FIZ Karlsruhe's focus and the qualifications required.[35]

5.2. INTEGRATION OF NEW EMPLOYEES

We involve team members from the relevant departments in our selection processes for vacancies. When onboarding and training new employees, we rely on a comprehensive onboarding process that welcomes new employees, quickly familiarizes them with their working environment and promotes their integration. For foreign employees, we also offer language courses, information about working and living in Germany and support in dealing with the authorities.

35 In cooperation with the Baden-Wuerttemberg Cooperative State University (DHBW), Karlsruhe - apprenticeships for (1) the degree program "Computer Science" and (2) the degree program "Business Administration - Digital Business Management". In cooperation with the Department of Media at Darmstadt University of Applied Sciences, training places are offered for postgraduate trainees to become scientific documentarians or information specialists (two-year training course).

2024

30 | 50%
employees female Berlin

131 | 56%
employees female Karlsruhe

88 | 44%
full-time female

73 | 73%
part-time female

30 | 62%
Scientists

18 | 38%
academic staff female

10 | 36%
managers female

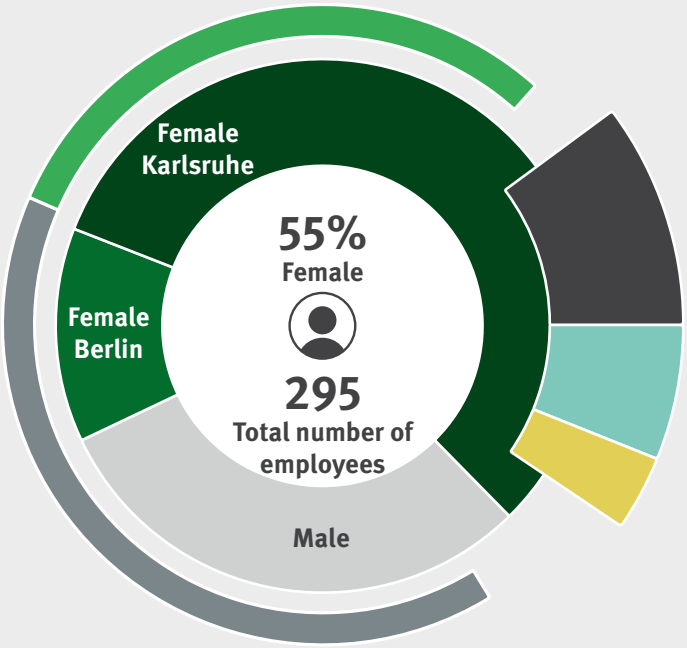
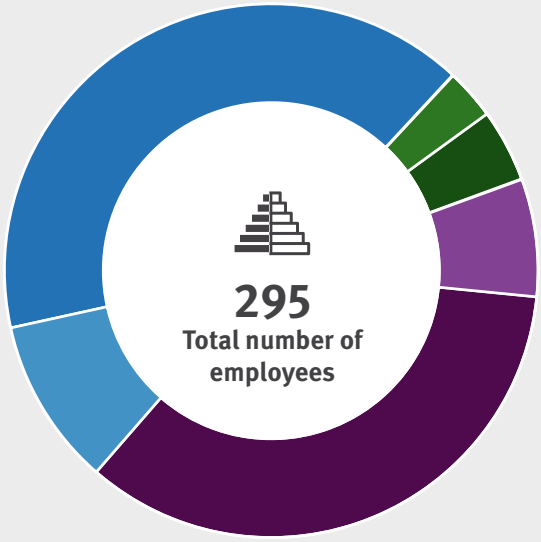


Figure 7: Number of female employees and their share of scientific staff and their share of all managers as at Dec 31, 2024



9
under 30 years Berlin

13
under 30 years Karlsruhe

119
30-50 years Karlsruhe

30
30-50 years Berlin

21
over 50 years Berlin

103
over 50 years Karlsruhe

Figure 8: Age distribution of FIZ Karlsruhe employees as at December 31, 2024. 42 % of our employees are aged 50 and over.

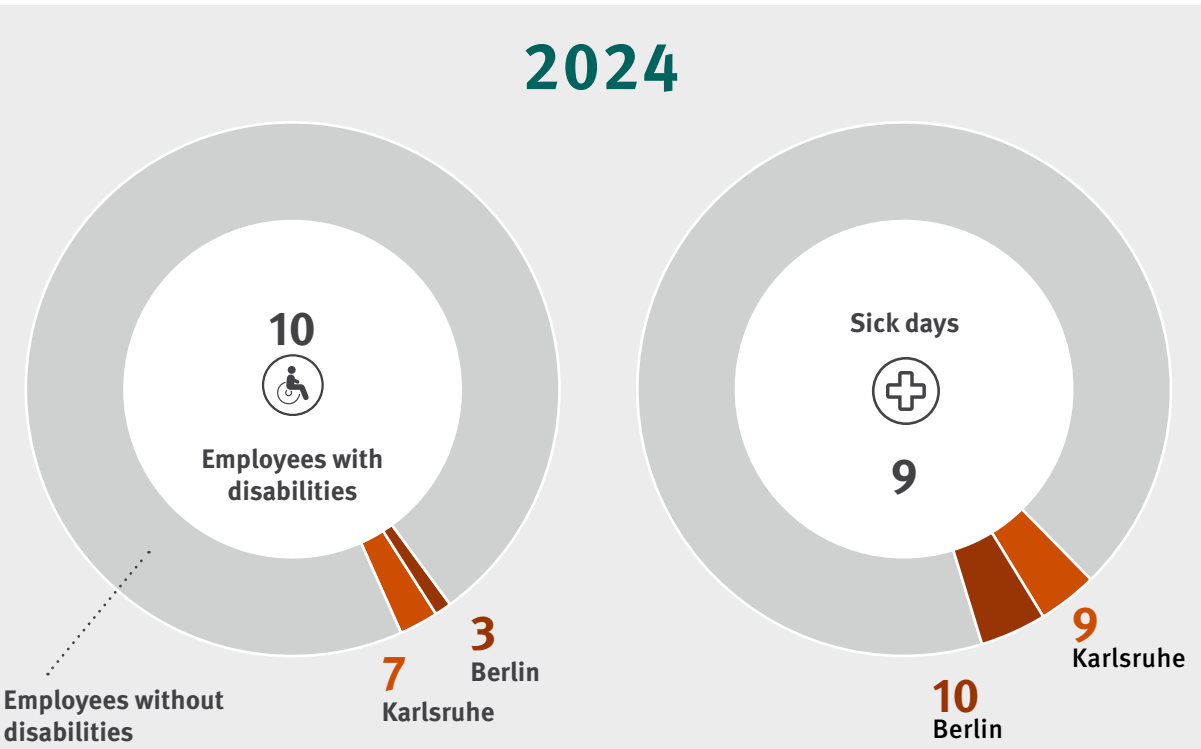


Figure 9: Number of employees with disabilities as at December 31, 2024 FIZ Karlsruhe deutlich unter dem bundesweiten Figure 11:

Figure 10: With an average number of 9 sick days per employee in 2024, FIZ Karlsruhe is well below the national average of 15.1 days (2023). Source: Federal Statistical Office[36]

Figure 11: Fluctuation at FIZ Karlsruhe in 2024

5.3. CONTRACTUAL SITUATION

Among many other factors, the contract situation and remuneration are decisive for our employees' sense of belonging to their employer. These factors also have an impact on their overall psychosocial situation. FIZ Karlsruhe is a member of the Municipal Employers' Association (KAV) for Baden-Württemberg. This means that employment contracts are concluded with employees in accordance with the collective bargaining law for the public sector. Academic staff are initially employed on a temporary basis. The same applies to the employment of employees whose work is temporary and financed (for example, for training and projects). Temporary employment contracts can be turned into permanent employment if funding is available for permanent employment. FIZ Karlsruhe has a comparatively low fixed-term employment rate, with only 17 percent of all employment

36 https://www.destatis.de/DE/Themen/Arbeit/Arbeitsmarkt/Qualitaet-Arbeit/Dimension-2/krankenstand.html. accessed on May 23, 2025.

relationships being fixed-term (see Table 1). The employment of non-scientific staff, particularly in the two service units of administration and ITS, is generally open-ended.

Fixed-term employment contracts	2024	2024	Permanent employment contracts
Total number	49	14	Total number
Percentage of all employment relationships	17%	29%	Percentage of all fixed-term employment contracts
Academic staff	26	6	Scientific staff
Ratio of academic staff	54%	23%	Percentage of academic staff

Table 1: Number of fixed-term employment contracts and terminations in 2024 in relation to all employees and proportion of fixed-term employment contracts and terminations in relation to academic staff as at December 31,2024

5.4. FAMILY-FRIENDLY WORKING CONDITIONS

5.4.1. Future Work

An important step towards sustainable corporate development was taken with the General Works Agreement (GBV) "Mobile Working (Future Work)". Employees have the opportunity to work up to 80 percent of their working hours from home or other places within Germany. In individual cases, FIZ Karlsruhe also allows mobile working abroad. In this way, we promote and support the compatibility of work, family and caring obligations and at the same time help to reduce environmentally harmful emissions caused by commuting.

Following an initial positive evaluation of the GBV in 2023, we established a project group in 2024 consisting of members of the Berlin and Karlsruhe works councils, the HR department head and the occupational safety specialist. The aim of the project group is to identify and implement necessary adjustments in order to create the conditions for the GBV to be made permanent. An employee survey on the topics of satisfaction, feasibility and improvements with a separate section for managers is planned for 2025.

5.4.2. Work-life balance

Wherever possible, we take into account the individual needs of employees to reconcile work and family life; this applies not only to raising children, but also to caring for relatives in old age or in the event of illness. Flexible working time arrangements and the option of mobile working are important building blocks in this respect. Reductions in working hours do not lead to a reduction in career opportunities. For example, part-time employees at FIZ Karlsruhe are also entrusted with management responsibilities

5.4.3. Work and family audit

In 2022, the company was re-certified as a partner of the "audit berufundfamilie"[37]. We have already implemented various measures as part of the three-year target agreement until the end of 2024.

In future, employees will be able to determine their own daily working hours (maximum 10 hours per day) within the following limits: Monday to Friday, starting at 6:00 a.m. at the earliest, ending at 9:00 p.m. at the latest. To ensure a good work-life balance, meetings should take place from Monday to Thursday between 9:00 a.m. and 3:00 p.m.

37 Zertifikat Audit berufundfamilie, https://www.fiz-karlsruhe.de/sites/default/files/FIZ/Dokumente/berufundfamilie-zertifikat-und-kurzportrait.pdf, abgerufen am 23.05.2025.

FIZ Karlsruhe carried out a risk assessment on mental stress in the workplace. The anonymous survey was carried out using the "Well-designed working conditions" tool from the VBG administrative employers' liability insurance association[38]. Despite the overall positive results, specific measures were developed in close cooperation with the works councils at both sites, the occupational health management team and the management in order to further develop working conditions in the long term.

For example, one goal was to improve the lighting situation and to make it more energy-efficient, and to improve the indoor climate. As a result, all offices are gradually being equipped with LED lights. In addition, all offices in Karlsruhe have had energy-efficient air conditioning units since 2024 (see also section 6.2).

5.5. ROOM CONCEPTS SUPPORT HYBRID WORKING

In order to motivate our employees to work on site more often despite the high proportion of mobile work and thus strengthen collaboration and cooperation, we have modernized further premises and equipped them specifically for hybrid and modern working. New meeting facilities, desk-sharing workstations and a soundproofed room-in-room solution for video conferencing were the largest conversion measures. When planning the renovation and selecting the materials, we naturally focused on sustainability and aspects and used regional products.

Figure 12: Impressions of hybrid room concepts and workspaces

38 https://www.vbg.de/cms, accessed on May 23, 2025.

5.6. CORPORATE HEALTH MANAGEMENT

As part of occupational health management (OHM), the Occupational Safety and Health Management Officer also addresses the issue of maintaining health in the home office. OHM encompasses all measures that help to improve the health of our employees and their quality of life at work. There are legal requirements in this regard, such as occupational health and safety, which aims to prevent accidents in the workplace and protect employees' health, or occupational integration management (BEM), which helps employees to get back to work after a long period of illness. The so-called "Hamburg model" is one way of supporting reintegration. The aim is to find individual solutions that prevent employees from being unable to work again. The plan for the coming year is to revise the existing GBV "Betriebliches Eingliederungsmanagement" in consultation with the BEM team.

In addition to the statutory requirements, FIZ Karlsruhe offers a range of voluntary services, such as flexible working hours, the "Mobile Working (Future Work) , and health-promoting workplace equipment. Since 2023, we have been gradually equipping workstations with height-adjustable desks with electric drives that support working while standing. All workstations at the Berlin site have had such desks since the end of 2024. A health day was held at the Karlsruhe site in spring 2024. In addition to presentations on first aid (followed by practical exercises) and mental health, we offered our employees a vaccination check and a bike fitting, i.e., a check of the ergonomic settings of their bicycles.

Company runs are a popular event where the focus is not on athletic performance, but on the

Figure 13: Impressions of the Health Day 2024

community experience and the idea of health. In 2024, some of our employees took part in the B2Run company run in Karlsruhe and the Berlin company relay in Berlin.

5.6.1. Mental health in the workplace

The topic of mental health is attracting increasing attention. The most common clinical pictures include anxiety disorders, depression and disorders caused by alcohol or drug abuse. FIZ Karlsruhe is addressing this issue and will provide first aiders in this area in the future. In 2024, two employees took part in the "Mental Health First Aid" training course[39]. We are also planning a survey among the workforce on the topic of mental health.

39 https://www.mhfa-ersthelfer.de/de retrieved on May 23, 2025.

5.7. EQUAL OPPORTUNITIES & DIVERSITY

5.7.1. Equal opportunities

Equal opportunities are anchored as a value in FIZ Karlsruhe's mission statement[40], and the implementation of the Equal Opportunities Implementation Agreement (AV-Glei) is a continuous structural goal of our institute. As a member of the Leibniz Association, we have been very successfully implementing the DFG's "Research-oriented equality standards"[41] for years. Cooperative behavior is anchored in our values. The Equal Opportunities Officer and her deputy are involved in all relevant measures, for example when filling positions.

The European Union has stipulated a Gender Equality Plan (GEP) as an eligibility criterion for Horizon Europe funding. Since March 2022, we have defined the key points of "Equality at FIZ Karlsruhe"[42] within a Gender Equality Plan (GEP)[43] and published them on our homepage. FIZ Karlsruhe updated the Gender Equality Plan in 2024.

As at December 31, 2024, the proportion of female employees – counted by person – was 55%; the proportion of women in management positions[44] was 36% (unit, department and team managers).

FIZ Karlsruhe is actively committed to ensuring that people with disabilities are not disadvantaged. The representative body for severely disabled employees, which is elected in accordance with the German Social Security Code, is involved in all measures affecting severely disabled employees. The workplace equipment and building infrastructure are accessible and barrier-free. If required, FIZ Karlsruhe provides a workplace in the employee's home for severely disabled employees. FIZ Karlsruhe has had an inclusion officer since December 2023.

The implementation of the federal and state of Baden-Württemberg laws on equal opportunities for people with disabilities (BGG and L-BGG) is a goal that is continuously pursued and achieved. As part of the redesign of FIZ Karlsruhe's website in 2020, the requirements of BITV 2.0[45] were implemented in accordance with Section 10 of the State Disability Equality Act (L-BGG). Further information can be found in our declaration on accessibility,[46] as of January 2025. When designing the user interfaces of our electronic products and services and the FIZ homepage, we implement accessibility measures wherever possible. In cooperative projects, we actively work towards implementing barrier-free solutions there, too.

5.7.2. Diversity

We understand diversity in a professional context to mean more than just the presence of different people: It is about creating an inclusive and fair working environment for these people in which everyone feels they belong – regardless of ethnic origin and nationality, gender and gender identity, physical and mental abilities, religion and ideology, sexual orientation, social background and age. These topics form the diversity core dimensions. Our quota of severely disabled employees is 3%. We would like to increase this rate, for example by pointing out in job advertisements that we give preference to severely disabled applicants with equal qualifications.

40 https://www.fiz-karlsruhe.de/en/ueber-uns/unser-leitbild, accessed on September 03, 2024.

41 https://www.dfg.de/en/news/facts-figures/evaluation-studies-monitoring/studies/study-research-standards, accessed on September 03, 2024.

42 https://www.fiz-karlsruhe.de/sites/default/files/FIZ/Dokumente/Gleichstellung.pdf, retrieved on May 23, 2025.

43 https://www.fiz-karlsruhe.de/sites/default/files/FIZ/Dokumente/gender-equality-plan-fiz-karlsruhe-2024en.pdf, accessed on May 23, 2025.

44 Including non-scientific employees.

45 https://www.gesetze-im-internet.de/bitv_2_0/BITV_2.0.pdf, accessed on May 23, 2025.

46 https://www.fiz-karlsruhe.de/en/ueber-uns/erklaerung-zur-barrierefreiheit, accessed on May 23, 2025.

FIZ Karlsruhe signed the Diversity Charter[47] in January 2024 to send a clear signal for diversity and tolerance and an appreciative and unprejudiced working environment. We ensure that the provisions of the General Equal Treatment Act (AGG) are complied with.

Diversity is anchored as a value in FIZ Karlsruhe's mission statement. Our employees come from 24 different nations. The active integration of foreign employees is an integral part of diversity management (see chapter 5.2).

5.8. QUALIFICATION, TRAINING AND FURTHER EDUCATION

Sustainable personnel development means strengthening our attractiveness as an employer in such a way that staff turnover is kept to a minimum. Healthy fluctuation rates are between 8 and 12 percent. In 2024, our staff turnover rate was only 8.8 percent (see figure 12). Personnel development measures at FIZ Karlsruhe include regular feedback discussions between employees and their superiors, as well as further and advanced training. In 2024, we financed 57 events with a total of 104 participants to develop and promote the professional, personal and social skills of our employees. The events were mainly attended online. We also offer all employees online training on occupational health and safety and two training courses on "data protection" and "data protection in HR". Since 2023, external language courses have also been offered in addition to in-house courses.

47 Diversity Charter: https://www.charta-der-vielfalt.de, accessed on May 23, 2025.

»With two new photovoltaic systems, we will generate climate-neutral electricity in future – an important step towards reducing our CO_2 emissions.«

Martina Meier, Facility Management

6. SUSTAINABILITY MANAGEMENT OF BUILDINGS AND INFRASTRUCTURE

The sustainability management of buildings has a significant impact on energy consumption and the resulting CO_2 emissions. The energy quality of buildings, the building technology used, the energy sources used and the materials used in refurbishment projects play a key role here. FIZ Karlsruhe is pursuing the goal of significantly reducing carbon dioxide emissions over the next ten years and using renewable energies. In 2024, our focus was on identifying potential savings, planning targeted measures and successfully implementing initial projects such as our two photovoltaic systems.

FIZ Karlsruhe has two locations in Germany: Eggenstein-Leopoldshafen (near Karlsruhe) and Berlin. The head office is located on the North Campus of the Karlsruhe Institute of Technology (KIT). At the Berlin location, we use rented office space in the immediate vicinity of the Technical University.

As part of the status quo analysis, we also recorded the condition of the buildings we use, the building technology, and our energy consumption. This information forms the basis for deriving specific measures such as energy-efficient refurbishments and selecting suitable material for structural changes. The 2023 analysis revealed that many data on the buildings, building technology and energy requirements were not available. For this reason, our work in 2024 focused on identifying missing data and planning measuring equipment. We also researched other building parameters in order to identify appropriate energy-efficient refurbishment measures and to use the available financial resources as effectively as possible. We also focused on the energy requirements of our major consumers (cooling, elevators, information technology, heating pumps).

6.1. INITIAL SITUATION OF THE OFFICE BUILDINGS IN KARLSRUHE AND BERLIN

6.1.1. Karlsruhe

Until mid-2024, we had four buildings for traditional office operations at our main site (buildings 238, 240, 241, 444), which date back to the 1950s, 1970s and 1980s. We have not used building 444 with 938 m2of net floor area (GFA) since the end of 2023 and handed it over to KIT in summer 2024. The GFA according to DIN 277 of the buildings used in 2024 amounts to a total of 10,182 m2. There are currently no energy performance certificates for the buildings; only a few meaningful energy performance indicators are available. Ventilation is provided by the windows, most of which have external and/or internal shading/glare protection.

KIT acts as an energy supplier on the North Campus. We are therefore supplied with electricity, heating and drinking water via the KIT supply network. Heat is transferred to our buildings from the district heating network via heat transfer stations. At the moment, the flow temperatures in the entire district heating network are between 95 and 75°C. From 2025/26, KIT will refurbish part of its district heating and reduce the flow (VL) and return (RL) temperatures in the southern district heating line to a level of 50/35°C. This more energy-efficient mode of operation is made possible by newly installed gas condensing boilers and heat pumps (Low-Ex technology). Due to the lower temperature level, the heat transfer station in building 240 needs to be replaced. Our heating surfaces in the building are sufficient to heat the building adequately despite the lower flow temperatures. FIZ Karlsruhe draws electrical energy from the KIT's 20 kV network (kilovolt network) via a KIT-owned transformer station.

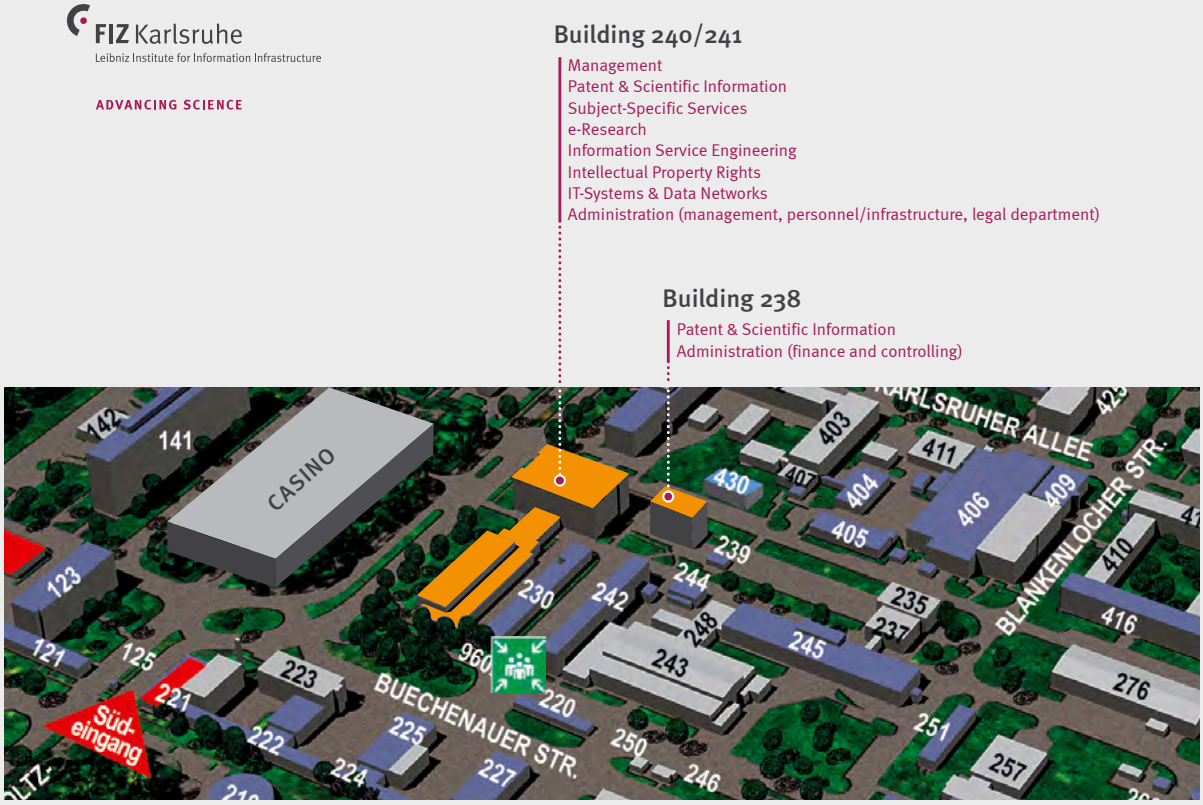


Figure 14: FIZ Karlsruhe site plan at the North Campus location

RENTED OFFICE SPACE BERLIN

Description of rented office space in Berlin, as at Dec 31, 2024

Year of construction: 1865-1910
Year of construction of heat generator: 1992-2014
Construction method: Solid construction
Net floor area (NGF) according to DIN 277: 842 m²
Barrier-free: yes
Energy consumption certificate: yes
Air conditioning server room 1+2:
Electrical power 5 kW

Electricity:
Energy supplier: Vattenfall
Share of renewable energies: 58.9 %
CO_2 emission factor: 258.6 g/kWh
Energy source: District heating
Energieträger: Gas
CO_2 emission factor: 119 g/kWh
Hot water supply: decentralized, electric

6.1.2. Berlin

The rented office space is located in a mixed-use building (office, warehouse, production), built between 1865 and 1910. The net floor area of the office space we use is 842 m². The building is heated by district heating; hot water is heated decentrally and electrically. Two server rooms for the locally operated IT infrastructure are each cooled with an air conditioning split unit.

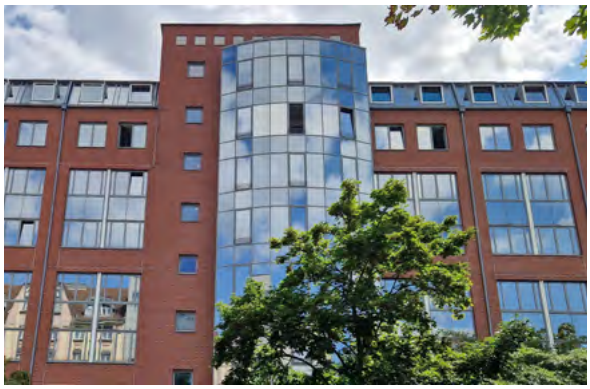


Abbildung 15: Außenansicht des Bürogebäudes in Berlin

6.2. REFURBISHMENT AND ENERGY SAVING

In recent years, we have already taken initial measures to improve the energy quality of the buildings, reduce energy consumption and create pleasant working conditions for our employees. These measures are documented in detail in the Sustainability Report 2023. In this report, we will therefore focus on FIZ Karlsruhe's activities in the past 2024 financial year.

Due to the high-capacity utilization of our buildings, all modernization and refurbishment work is carried out during ongoing operations. We take care to provide our employees with a pleasant working environment that meets occupational health and safety requirements even during this work.

KARLSRUHE LOCATION

Description of existing buildings in Karlsruhe, as at Dec 31, 2024

Building 238

Year of construction: 1985
Construction method: Solid construction
Net floor area according to DIN 277:
1.330 m²

Building 240

Year of construction: 1976-1978
Construction method: Solid construction
Net floor area according to DIN 277:
6.509 m²

Daniel Vieser. Architekturfotografie, Karlsruhe, www.dv-a.de

All Buildings

Low barrier: Yes
Energy consumption certificate: no
Energy supply via the KIT
Electricity: enercity AG
Share of renewable energies: 49.1 %
CO_2 emission factor: 392 g/kWh
Heat supply (heating/hot water): District heating
Energy source: Gas
CO_2 emission factor: 99 g/kWh

Data center in Building 240

Emergency power supply: Batteries and Emergency diesel power, 820 kVA
Data center air conditioning: 3 coolers
Total cooling capacity: 810 kW
Electrical power: 270 kW

Building 241

Year of construction: before 1960
Construction method:
Lightweight construction
Net floor area according to 277:
2.343 m²

- LED lighting
  In 2024, we continued the replacement of light sources with energy-efficient LED lighting in building 240. The replacement will gradually follow in other buildings. The switch to LED requires extensive technical adjustments in building 241. The work is planned for 2025. We are replacing defective light sources directly with LEDs.
- Radiator replacement and thermostatic valves
  Replacing old radiators not only ensures the functionality of the heating system but also increases its efficiency, as radiator technology has improved significantly in recent years. Due to their lower water content, modern radiators have a faster response time and therefore work more efficiently.
  In our offices in Karlsruhe, both radiators and thermostatic valves are outdated and largely date back to the construction phase of the buildings. We have therefore started installing new radiators in building 240 and will complete the replacement in 2025. We are planning new thermostatic valves for 2025.
- Roof domes
  On the 5th floor of building 240, two large roof domes provide additional daylight to the stairwell and corridors. As the existing domes were leaking and no longer state of the art, we have replaced them with modern glass domes with significantly improved thermal insulation.
- Energy refurbishment of building 238
  FIZ Karlsruhe is planning a comprehensive energy refurbishment of the entire façade of the office building, built in 1985, including windows and ventilation concept. Both the façade and the old windows are no longer state of the art. The old, uninsulated façade (U-value approx. 2.5 W/m²K) is no longer up to date in terms of energy efficiency. A holistic refurbishment is therefore planned, which will include replacing the outdated radiators as well as the façade and windows. The planning work started in 2024 and the construction work is scheduled for 2025/2026.
- In summer, the room temperatures regularly exceed the maximum temperatures recommended for offices. We have therefore decided to install modern and energy-efficient air conditioning systems (split air conditioning units). The offices in the main building 240 have had air conditioning units since 2023. Buildings 238 and 241 followed in 2024, meaning that the entire office space at the Karlsruhe site will be air-conditioned by the end of 2024. We regularly inform our employees about energy-saving measures.

6.3. ENERGY AUDIT

As a large corporation, FIZ Karlsruhe is legally obliged to carry out an energy audit in accordance with DIN EN 16247-1 and to repeat it every four years. We brought forward the mandatory audit by one year and carried it out in 2024 in order to intensify our energy-saving activities. The reporting period covered the calendar year 2023. The aim of the energy audit was to record the main energy consumers (e.g. air conditioning technology, heating pumps, data center) in order to derive energy-saving measures and evaluate implementation potential, cost-effectiveness and energy results.

6.3.1. Measures derived

FIZ Karlsruhe currently has five electricity meters, one each for buildings 238 and 241 as well as for the "general electricity" 240, the "EDP" data center and the "cooling" data center. Additional sub-meters to record large consumers (office air conditioning, elevator, heating pumps and other pumps) are not yet available, so we do not know yet which electricity meters are used to record these. We assume that the "cooling" meter is used for other large consumers.

During the energy audit, it became clear that the existing electricity meters are not sufficient to precisely analyze specific energy consumption by consumers such as the cooling system, the data center or the heating system. We will therefore initially develop and install a sub-metering concept for additional electricity meters in the coming year 2025. This will enable us to record and specifically analyze the consumption of building technology and large consumers and identify potential savings.

The evaluation of the recorded data has shown that electricity consumption accounted for around 77% of FIZ Karlsruhe's total energy consumption in 2023, the year under review. The largest share of this is attributable to the operation of the data center, especially its cooling. We therefore want to identify measures to both increase the energy efficiency of the cooling systems and reduce the consumption of fossil fuels.

As a first step, we want to precisely determine the energy requirements for cooling the data center in order to improve the energy efficiency of the cooling supply. To do this, we record the cooling requirements over an entire year. We will then check which consumers are currently running via the "cooling" electricity meter. We started planning back in 2024 and implementation will take place in 2025.

6.4. ENERGY CONSUMPTION

From a climate protection perspective, it is essential to significantly reduce the consumption of non-renewable resources - such as fossil fuels - in order to make a positive contribution towards climate neutrality and save costs at the same time. We therefore started by analyzing electricity consumption in recent years using the five meters currently available.

FIZ Karlsruhe has been using KIT's new energy management system since the beginning of 2024. This gives us a much better control and overview of our energy and water consumption. The system also makes it possible to integrate additional electricity meters and record the PV electricity fed into the grid.

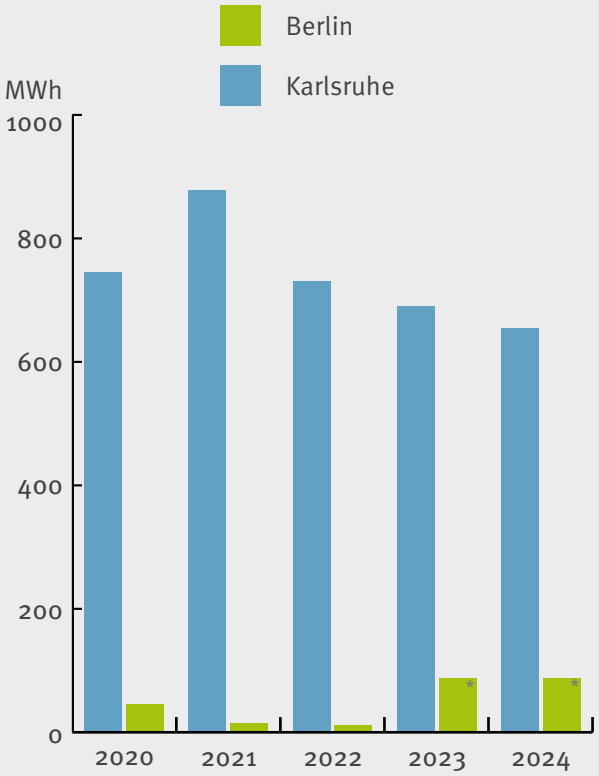


*Figure 16: Heat consumption in megawatt hours (MWh) at the Karlsruhe and Berlin locations, *calculated on the basis of the energy performance certificate*

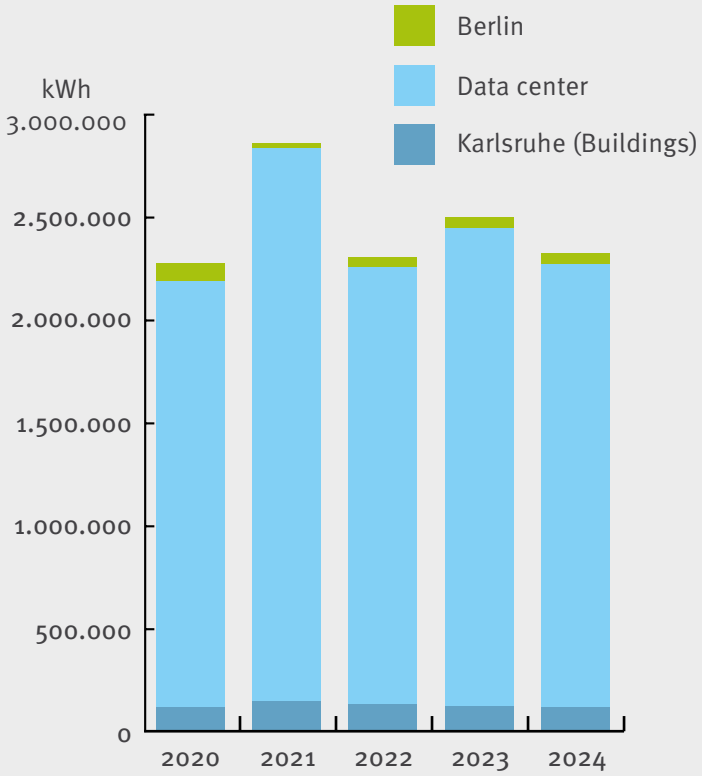


Figure 17: FIZ Karlsruhe electricity consumption across all buildings and the data center at the Berlin and Karlsruhe sites

6.4.1. Heat consumption

Heat consumption is calculated separately for each building and for the rented office space. Figure 16 shows the total consumption for the Karlsruhe and Berlin locations. At the time of reporting, the statement of operating costs at the Berlin location for the years 2023 and 2024 was not yet available. We therefore decided to calculate consumption on the basis of the energy certificate. We assume that the actual demand is lower.

In 2024, the heat consumption for our office buildings at the Karlsruhe site per square meter of net floor area and year was 67 kWh/m²a and is below the reference value for non-residential buildings[48] of 110 kWh/m²a. It should be noted that the offices are not used on a daily basis. Due to the change in attendance times as a result of the coronavirus pandemic, heat consumption has decreased compared to 2019. After the end of the pandemic, FIZ Karlsruhe introduced a flexible working location concept (“Future Work”), which enables mobile working for up to 80 percent of monthly working hours (see section 5.4). This arrangement is used intensively by our employees. As a result, heat consumption has not risen again, even after the coronavirus pandemic.

6.4.2. Electricity consumption

Electricity consumption can currently only be recorded separately for buildings, the “cooling” data center and the “IT” data center using five electricity meters (see section 6.3.).

48 Energy consumption index for the non-residential building stock from the Federal Gazette “BAnz AT 21.05.2015 B3” - Annex 2, Table 2.1 Number 9.2 Office buildings tempered and ventilated.

Figure 17 shows the total consumption across all buildings plus the data center. At 16 kWh/m²a, our consumption in 2024 is well below the reference value for non-residential buildings of 85 kWh/m²a . As with heat consumption, the high proportion of mobile employees must be taken into account. In addition, the buildings have no ventilation systems and were previously only partially air-conditioned.

The data center requires considerable amounts of energy. In 2024, electricity consumption amounted to a total of 2.15 gigawatt hours. This corresponds to 94.7 % of our total electricity requirements. The data center's air conditioning accounts for the largest share of this. For sustainable and economic reasons and due to regulatory requirements (e.g. the Energy Efficiency Act), we want to and must identify potential here to reduce energy consumption in the short term. To this end, we have been pursuing the IT transformation project since mid-2024. The aim is to consolidate our IT infrastructure and outsource large parts of it to external, energy-efficient data centers (co-location). As a result, we want to significantly reduce the area to be air-conditioned and introduce modern, needs-based cooling.

In 2024, electricity consumption at the Karlsruhe site fell by 7.4 % compared to 2023. The exact reasons for this decrease cannot be determined with the electricity meters currently available.

6.4.3. Greenhouse gas emissions, energy consumption

For the greenhouse gas evaluation, only the emission of CO_2 is considered via the purchase of final energy for the years 2023 and 2024. The emission factor available to us at the time of publication of the Sustainability Report is taken into account. The calculations are based on the following emission factors:

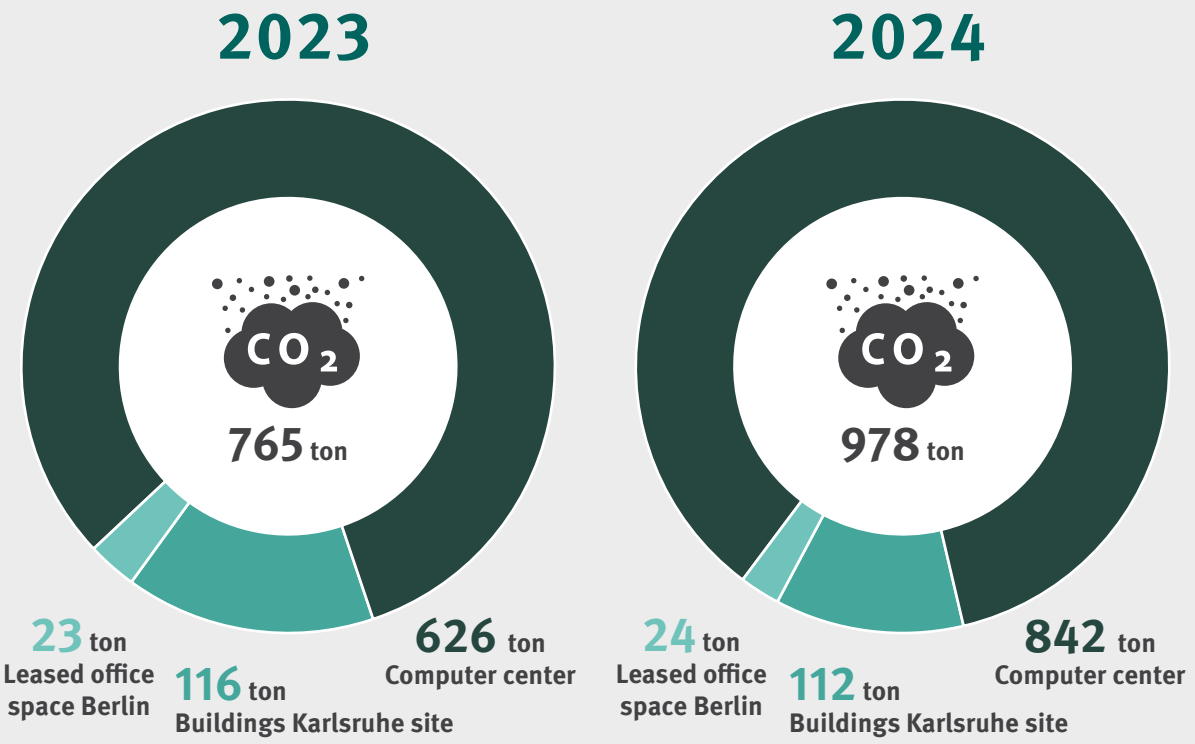


Figure 18: CO_2 balance in tons of electricity and heat consumption (buildings and data center), calculated with emission factors (provided by KIT and Vattenfall). The CO_2 emission factor "Electricity Karlsruhe" has increased compared to 2023.

- District heating Karlsruhe
  2023: 119,0 g/kWh
  2024: 99,21 g/kWh
- Electricity in Karlsruhe
  2023: 269,0 g/kWh (as of October 2022)
  2024: 392,0 g/kWh (as at March 2024)
- District heating Berlin
  2023: 119.0 g/kWh
  2024: 119.0 g/kWh
- Electricity in Berlin
  2023: 258.6 g/kWh
  2024: 258.6 g/kWh

We are aware that the Institute's total greenhouse gas emissions are significantly higher, for example due to the CO_2 footprint of procurements, upstream and downstream supply chains or employee travel to and from the Institute. However, we are currently unable to measure these values reliably. In addition, we do not yet have the measured heating consumption at the Berlin site for the years 2023 and 2024.

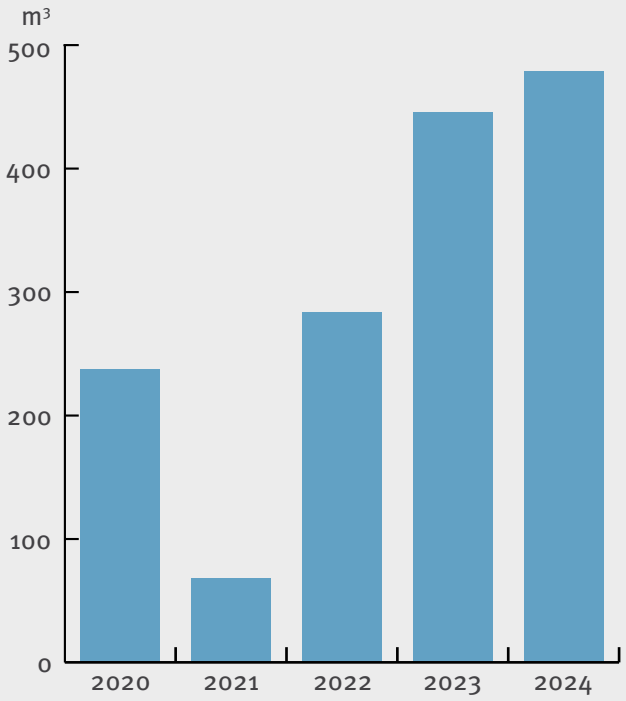


Figure 19: Water consumption at the Karlsruhe site

6.5. DRINKING WATER CONSUMPTION

Water consumption at the Karlsruhe site cannot be recorded separately for cold water and hot water. We therefore only have the total consumption available (see figure 19). Since the winter of 2022, we have not used hot water in the toilet facilities in order to reduce energy consumption.

We are unable to determine water consumption at the Berlin site. There are no water meters available.

7. OUR HIGHLIGHTS IN 2024

RENOVATION OF THE FLAT ROOF OF BUILDING 241

In recent years, there have been repeated leaks on the flat roof of building 241 and on the intermediate roof to building 240. This damage required extensive and cost-intensive maintenance. For this reason, we decided not only to replace the entire roof area, but also to renovate it to make it more energy-efficient - with the aim of saving heating energy in future.

Figure 20: Renovation of the large roof area of building 241

With an area of around 750 m2 this was a cost-intensive project that required careful planning. The planning phase took place in 2023. The complex work began in spring 2024, initially with the erection of scaffolding and crane systems. We were able to successfully complete the project in late summer.

The coming winters will show whether heating consumption will actually be reduced compared to previous years. Originally, we wanted to green the roof. However, as the planned photovoltaic system causes additional loads, this idea could not be implemented for structural reasons.

.

PHOTOVOLTAIC SYSTEMS INSTALLED ON TWO BUILDINGS

One of our sustainability goals is to reduce CO_2 emissions and increase the proportion of renewable energy in our electricity and heat consumption. For this reason, our declared aim was to install photovoltaic systems on suitable areas of our buildings as early as 2023.

Installing a photovoltaic system directly after a roof renovation offered the opportunity to exploit synergies and reduce costs – for example by continuing to use scaffolding and cranes. We therefore started planning the project at the beginning of 2024 in order to install the photovoltaic system immediately after completion of the roof renovation. The contracted company completed the exterior work at the end of 2024. Work on the grid connection for both photovoltaic systems followed in spring 2025.

In addition to the large system on the renovated roof of building 241 (output 99.44 kWp), we also installed a photovoltaic system on the flat roof of building 238 (output 26.4 kWp). Although the area is significantly smaller, it is also well suited.

Both systems have a total of 286 modules and are grid-connected: we feed electricity that we cannot consume directly on site into the public grid, which in our particular case is the KIT supply grid. The modules are elevated to the east and west with an inclination of 10 percent. We are now looking forward to the coming year and the actual electricity yields.

We will make the generation data of the PV systems visible to all employees via the intranet.

	Building 241	Building 238
Climate data	Karlsruhe, DEU (1995 – 2012)	Karlsruhe, DEU (1995 – 2012)
PV generator output	99.44 kWp	26.4 kWp
Specific annual yield	878 kWh/kWp	1.003 kWh/kWp
Yield reduction due to shading	14 %	0.7 %
PV generator area	441.3 m²	117.2 m²
Number of modules	226	60
Nominal power	440 watts	440 watts
Number of inverters	2	1
Avoided CO_2 emissions	41,027 kg/year	12,447 kg/year

Table 2: Data for grid-connected photovoltaic systems. Yields, yield reduction due to shading and avoided CO_2 emissions are based on the climate data mentioned.

Figure 21: Impressions of our photovoltaic systems installed in fall 2024

Figure 22: In the fall of 2024, we were able to green the roof of the transition to building 241 and the previously sealed inner courtyard of building 241. The first plant growth was already visible in spring 2025.

GREEN ROOFS

Green roofs are an investment in the future. They improve the local microclimate, retain rainwater, bind pollutants and create additional habitats for insects. Especially in the locations chosen by FIZ Karlsruhe, the green roof can act as a heat shield. The green surfaces heat up significantly less, which means that the offices adjacent to the roof and the inner courtyard are exposed to noticeably less heat radiation. We greened both a previously completely sealed inner courtyard with an area of around 107 m² and the roof of the connecting structure between buildings 240 and 241 with an area of around 285 m². Extensive, low-maintenance planting with flat-balled perennials – a combination of various sedum species, grasses and herbs – was used.

»The operation of our IT infrastructure contributes significantly to our CO_2 emissions. Changing this during ongoing operations is a task that is as challenging as it is exciting.«

Hans-Jürgen Rudolph, Vice President IT Systems and Data Networks

8. SUPPORTING PROCESSES

Sustainable developments always consist of a structure of many large and small processes that interlock and complement each other as smoothly as possible. In addition to the major issues mentioned above, such as building infrastructure and electricity, sustainability also plays an important role in the IT infrastructure and in our data center, as well as in smaller processes such as the procurement and disposal of equipment or the organization and execution of business trips. In this chapter, we take a special look at this and show which criteria are relevant in the area of supporting processes, where we are already acting sustainably and where there is still a need for action.

8.1. IT INFRASTRUCTURE AND DATA CENTER

FIZ Karlsruhe develops innovative information services and operates them in an IT infrastructure in its own data center in Karlsruhe in combination with cloud services. The IT systems and applications are the technical basis for our digital offerings and services as well as for the implementation of cooperative projects. The IT systems and data networks division provides the necessary IT infrastructure for the operation of workstation, server, storage and network systems.

FIZ Karlsruhe's data center (RZ) is located on the first floor and basement of the main building 240, where we currently operate 327 physical servers, 40 of which are used for virtualization. They are currently running 549 virtual machines. We have a total of 639 terabytes of hard disk and flash memory and 30 drives for tape backups. We switched off our mainframe technology in March 2024. This was due to the new distribution of roles between our partner CAS and FIZ Karlsruhe in the operation of STN®. The IBM mainframe was the central IT component of the STN infrastructure, which is now no longer needed.

Consistent air conditioning is of great importance for the data center to ensure secure and uninterrupted operation. We therefore work with redundant systems. A ventilation system in conjunction with a cooling system consisting of three chillers air-conditions the rooms of the data center. In 2007, we integrated a free cooling system into the system, which uses cool (and free) outside air to transfer heat between the ambient air and the cold water used for cooling. If the outside temperature falls just a few degrees Celsius below the flow temperature to be reached by the cooling systems, we can use free cooling instead of the much less energy-efficient compressors of the chillers. Free cooling reduces the need for electrical power and thus increases energy efficiency. We took the high electricity consumption for cooling the data center as an opportunity to examine this more closely in order to determine

	2023	2024
Number of physical servers	over 361	over 327
thereof for virtualization	46	40
Virtual machines	522	549
Hard disk and flash memory	617 Terabyte	639 Terabyte
Drives for tape backups	46	30
Mainframe	1	0

Table 3: FIZ Karlsruhe data center equipment

the actual cooling requirements. We have been measuring cooling consumption since the end of 2024 in order to identify potential energy savings. We are also checking the "cooling" electricity meter to rule out the possibility of other consumers being billed via this meter. We expect the first results in summer 2025.

Legal requirements such as the Energy Efficiency Act for the operation of data centers require further measures to reduce energy consumption. We are currently working on making the future operation of the data center for FIZ Karlsruhe more efficient.

8.2. PROCUREMENT

In 2022, we fundamentally revised our "Procurement Regulations" and added important sustainability aspects. Sustainability criteria must now be included in the specifications of all products or services to be procured, which we check during every procurement process.

Our long-term goal is to make our procurement socially and ecologically responsible by giving preference to environmentally friendly products manufactured in accordance with social standards or fair-trade products. Recognized seals and certificates for certain product groups, such as the Blue Angel[49] or the Fairtrade seal[50] , are very helpful in this regard. With these seals, independent third parties certify the products. The requirements criteria are also publicly available. In addition, the legally prescribed EU energy label and the EU energy consumption label help select energy-efficient products such as monitors.

We are currently developing criteria and creating structures to evaluate and document the sustainability of procurements. The aim is to regularly (annually or every six months) analyze which procured products have a seal, certificate or designated energy efficiency classes and how high the proportion of non-certified products is. We are also interested in why, in certain cases, no environmentally friendly alternative was procured. We are currently still in the initial phase of this process. A change in the procurement process will enable us to record relevant sustainability data from the 2025 financial year, such as seals and certificates, energy labels and CO_2 emission factors. It is now crucial that this data

49 https://www.blauer-engel.de/de, accessed on May 23, 2025.

50 https://www.fairtrade-deutschland.de, accessed on 03.09.2024.

is systematically recorded in order to enable a sound evaluation in future and promote sustainable procurement decisions.

8.2.1. Paper

FIZ Karlsruhe is participating in a Leibniz initiative for the joint procurement of paper. We have been procuring paper with the "Blue Angel" certificate through this channel since mid-2023. However, in 2024 we were still using residual stocks in FSC (Forest Stewardship Council) quality[51] (see figure 23 and table 4).

For sustainability reasons, we have not printed any reports, magazines or other brochures since 2022. The exception is the annual report, which was also printed in small quantities (100) in 2024. The paper is certified with the Blue Angel. We also send meeting documents to the Supervisory Board and the Scientific Advisory Board exclusively in electronic form. Since 2023, we have been documenting our annual paper consumption and tapping into further savings potential. For example, we will introduce an electronic personnel file. Our employees are encouraged to use paper sparingly and only print out documents when absolutely necessary.

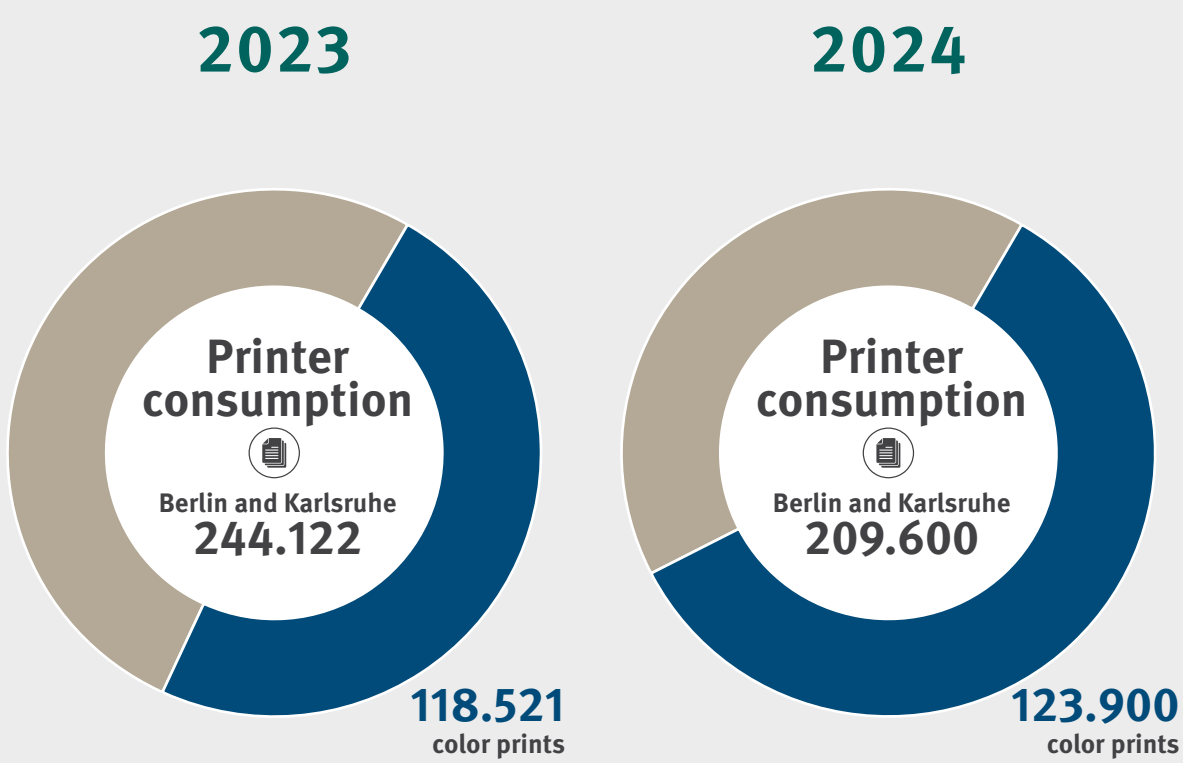


Figure 23: The consumption of A4 paper decreased in 2024 compared to 2023. Paper consumption in Berlin and Karlsruhe

51 International certification system for more sustainable forest management, https://www.fsc-deutschland.de, accessed on May 23, 2025.

Paper consumption in Berlin and Karlsruhe in 2024		
Paper consumption [sheets]		Proportion of color prints
A4 total	209.600	123.900
Proportion FSC certified	61.000	549
Proportion Blue Angel	148.600	
A3, FSC certified	11.500	10.300
Plotter rolls, FSC certified	12 rolls of 5.1 kg each	

Table 4: Paper consumption FIZ Karlsruhe (Berlin and Karlsruhe) 2024 supplemented by data on plotter rolls and DIN A3 paper

8.2.2. Cleaning agents

When cleaning public buildings, the cleaning agents used have great ecological potential, which we would like to exploit. For future tenders, we are therefore planning a new list of services that includes environmentally friendly cleaning agents that are verified by recognized certificates or meet the standards of these certificates.

8.2.3. IT equipment and accessories

Hardware such as notebooks, smartphones and desktop computers should be used for as long as possible, as the majority of climate-damaging emissions in the life cycle of the devices are generated during their production. Our aim is therefore to maximize the useful life of the devices. For example, we extend the service life of batteries by charging them carefully and, if necessary, only replace batteries and not the entire device.

Since 2023, the keyboards with which our workstations are equipped as standard have been awarded the Blue Angel certificate. We are constantly reviewing further measures for the sustainable use of IT devices and accessories.

8.3. MOBILITY MANAGEMENT

In the discussion about the CO2 emissions of a research organization, the indirect environmental impact, which is also influenced by the work-related mobility of employees, is coming into focus. During the coronavirus pandemic, the number of business trips fell sharply. Since then, however, there has been an increase in travel (see table 5).

8.3.1. Business trips

We continue to make intensive use of the video conferencing systems introduced during the coronavirus pandemic. In particular, virtual participation in meetings or conferences avoids long journeys. Even though video conferencing is not emission-free, it significantly reduces CO_2 emissions overall.

As a general rule, we encourage our employees to use public transport and trains for work-related travel and only fly in exceptional cases. Car and cab journeys are only permitted in justified exceptional cases. The number of business trips made in 2022 to 2024 is shown in table 5; cab journeys are not included. An evaluation with regard to CO_2emissions is shown in Figure 5 in Chapter 1.

Business trips	2022	2023	2024
Number of all trips*	200	451	379
Air travel	14	46	58
in relation to all trips	7 %	10 %	15 %
Intercontinental in relation to all air travel	4 29 %	16 35 %	14 24 %
Europe in relation to all air travel	9 64 %	27 59 %	43 74 %
Domestic in relation to all air travel	1 7 %	3 6 %	1 2 %
Rail travel	178	358	308
in relation to all trips	89 %	80 %	**
Germany Number in relation to all rail journeys	156 88 %	336 94 %	287 93 %
Europe Number in relation to all rail journeys	22 12 %	22 6 %	21 7 %
Traveling by car	8	47	40
in relation to all trips	4 %	10 %	**

*Table 5: Work-related travel by FIZ Karlsruhe (Berlin and Karlsruhe), *trips are return trips, **in some cases several means of transport were used for one trip, therefore no information possible. Journeys by train to the airport are not included in this table.*

8.3.2. Job Bike and Job Ticket

We offer the option of leasing a JobRad as well as purchasing a discounted JobTicket (Deutschlandticket).

Cycling can support health, contribute to well-being and help the environment. We therefore introduced the JobRad in 2022. Employees can lease both bicycles and e-bikes at low cost. As at December 31, 2023, 16 employees had taken advantage of the offer and one year later, 28 employees had already done so. We have been providing our employees with a free charging station on the FIZ Karlsruhe premises for several years now.

Figure 24: In 2024, our bicycle parking spaces were fitted with additional transparent side walls to protect the bikes from wind and weather.

Since November 2023, we have been offering our employees the Deutschlandticket as a JobTicket. As an employer, FIZ Karlsruhe covers half of the costs, currently 25 euros. As at December 31, 2023, 69 employees were using the offer, one year later already 94 employees.

9. CONCLUSION OF OUR SECOND SUSTAINABILITY REPORT

This second sustainability report shows that FIZ Karlsruhe successfully implemented further important measures in the area of social sustainability in 2024. One example is last year's Health Day, which was very well received. The topic of mental health was also actively addressed: Two employees were trained as "mental health first aiders" and have since been available as the first point of contact. Nevertheless, we still see potential for further development here - particularly in the areas of work-life balance and occupational health management. We will continue to examine and implement suitable measures for this in the future.

As part of the status quo analysis in 2023, it became clear that we need to significantly expand our activities in the area of climate and environmental protection in the future. For this reason, there was a particular focus on this area in 2024.

One important milestone was the construction of two photovoltaic systems with a total output of 126 kWp. We also extensively greened previously sealed roof areas - a concrete step towards the ecological upgrading of our buildings. We have also actively initiated the energy-efficient refurbishment of the exterior façades of building 238 and started planning. These are many small steps towards ecological sustainability.

Despite these efforts, there are still many challenges ahead of us in order to turn FIZ Karlsruhe into a climate-neutral and environmentally friendly institute in the long term.

Our work on this second sustainability report has shown us that we are on the right track. Initial processes have been established and awareness of sustainable action is growing. Now we need to continue on this path consistently - with clear goals and concrete measures for the coming years.

We will continue to publish our goals, measures and results in an annual sustainability report.

CONTACT INFORMATION/ LEGAL NOTICES

Contact
Micaela Münter
Sustainability Officer
Phone: +49 7247 808 469
nachhaltigkeit@fiz-karlsruhe.de

Published by
FIZ Karlsruhe – Leibniz-Institut für Informationsinfrastruktur GmbH
Hermann-von-Helmholtz-Platz 1
76344 Eggenstein-Leopoldshafen
www.fiz-karlsruhe.de

Responsible for content
Prof. Dr. Wolfram Horstmann

Editing and overall coordination
Micaela Münter, Sustainability Officer
supported by the Sustainability Committee

Links to external websites
The FIZ Karlsruhe Sustainability Report contains links to third-party websites. These links to third-party websites do not constitute approval of their content. The respective provider or operator of the pages is always responsible for the content of the linked pages.

Stock media
Cover page: svf747/Shutterstock.com
Page 2 top: FabianJakobi - stock.adobe.com
Page 2 bottom: iycatcher - stock.adobe.com
Page 6 top: kichigin19- stock.adobe.com
Page 6 bottom: Steve Fossiant - stock.adobe.com
Page 8 top: Kanusommer - stock.adobe.com
Page 8 bottom: apoptosis - stock.adobe.com
Page 43 top: pavelgulea- stock.adobe.com
Page 60 top: sersme - stock.adobe.com
Page 60 bottom: Andrei Armiagov - stock.adobe.com

Picture creditse
Page 4, 12, 16, 24, 30, 35, 40, 53, 54, 59: Petra Schwarz, FIZ Karlsruhe
Page 11 bottom: Daniel Vieser. Architekturfotografie, Karlsruhe, www.dv-a.de
Page 36: FIZ Karlsruhe
Page 42: FIZ Karlsruhe
Page 43 bottom: Franziska Fodstad, FIZ Karlsruhe
Page 52: Andreas Schwartz, FIZ Karlsruhe
Page 53 left: FIZ Karlsruhe

FIZ Karlsruhe

Leibniz Institute for Information Infrastructure

ADVANCING SCIENCE

FIZ Karlsruhe – Leibniz-Institut für Informationsinfrastruktur GmbH · Hermann-von-Helmholtz-Platz 1 · 76344 Eggenstein-Leopoldshafen · Germany
Phone +49 7247 808 0 · contact@fiz-karlsruhe.de · www.fiz-karlsruhe.de